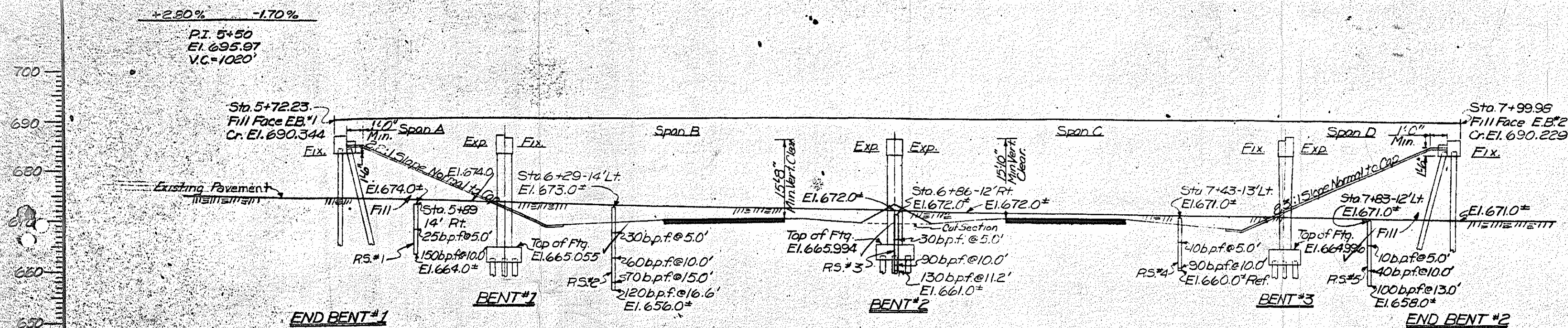
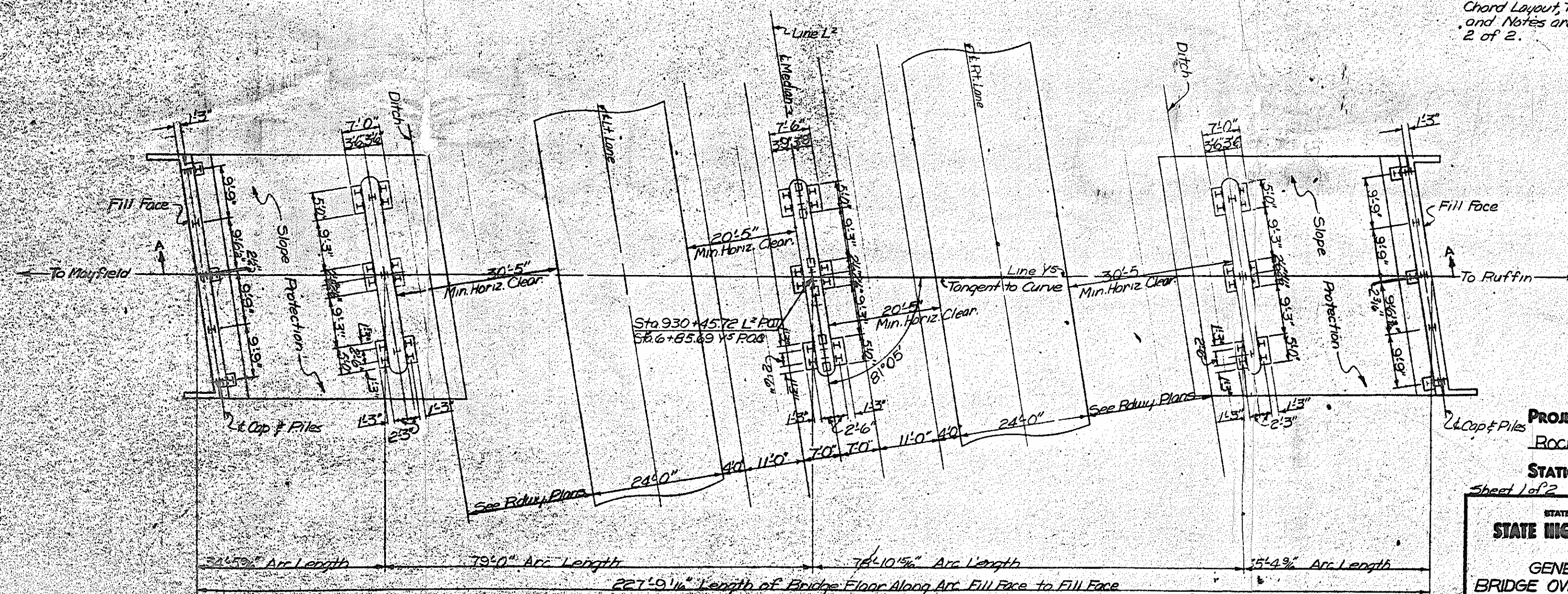


| FED. ROAD DIST. NO.   | STATE | PROJECT NO. |
|-----------------------|-------|-------------|
| 9                     | N.C.  | 81592802    |
| F.A. PROJECT F-51-118 |       |             |



SECTION ALONG & BRIDGE  
BENTS ALONG SECTION AA

Note: The Location Sketch, Long Chord Layout, Total Bill of Mat'l., and Notes are located on Sheet 2 of 2.



PLAN

PROJECT NO. 81592802

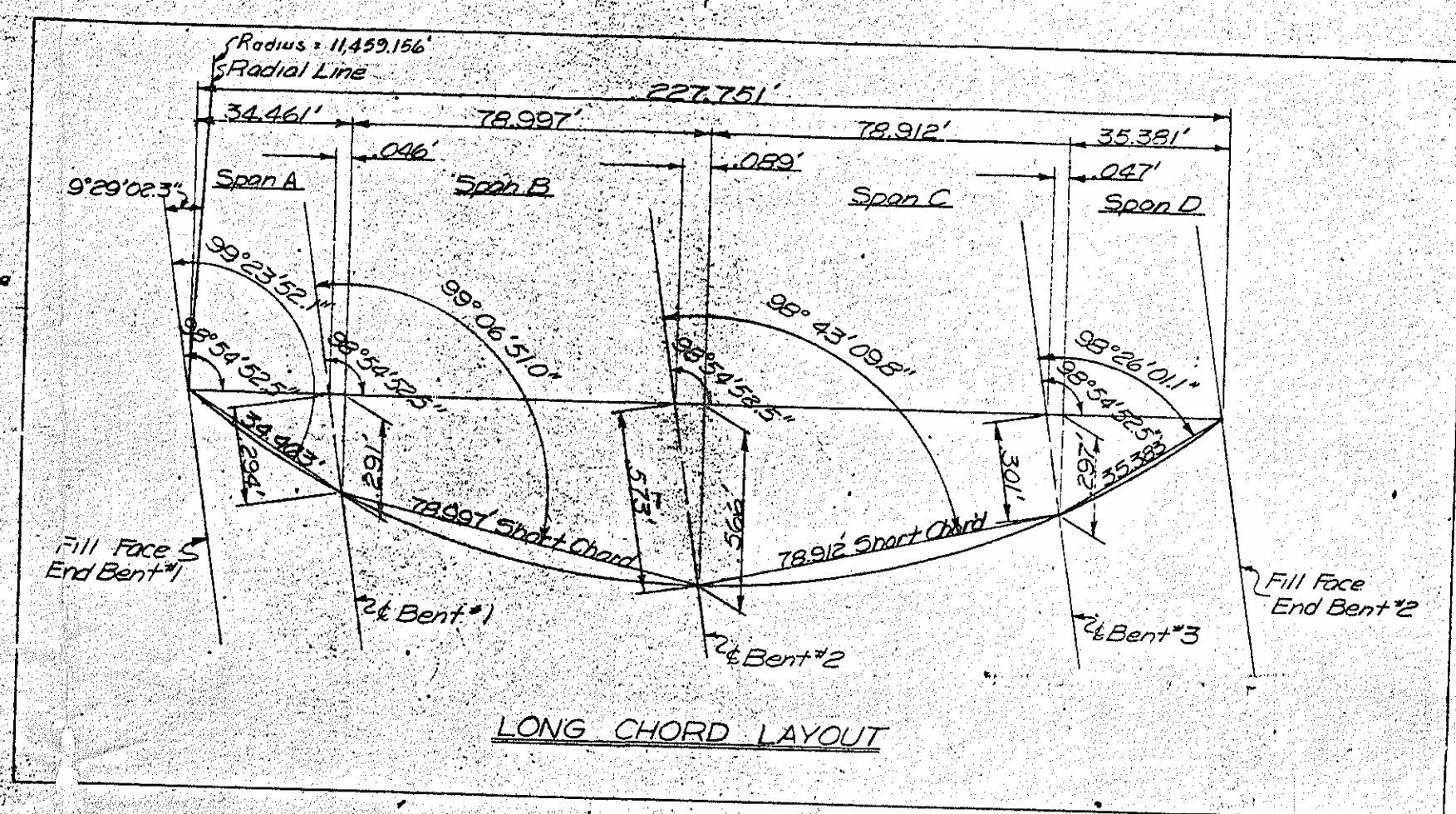
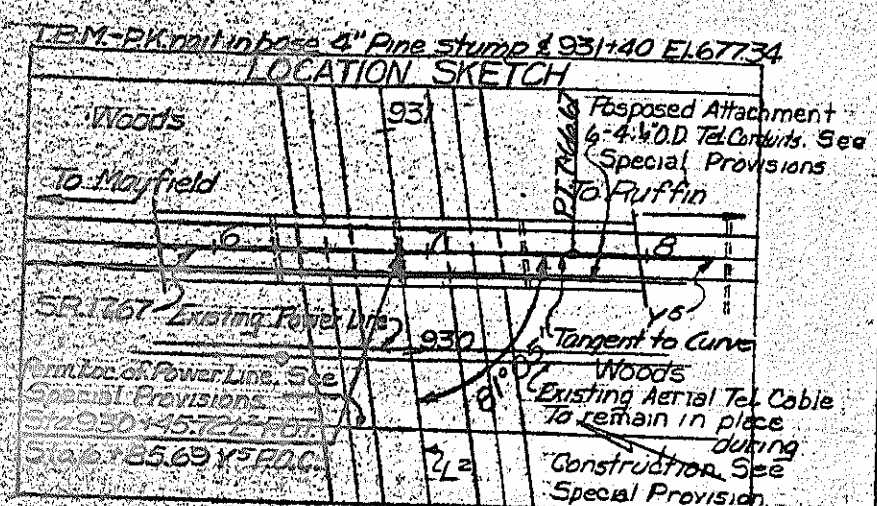
ROCKINGHAM COUNTY

STATION: 930+45.721<sup>st</sup> P.O.C.

Sheet 1 of 2 6+85.69 Y<sup>s</sup> P.O.C.

STATE OF NORTH CAROLINA  
STATE HIGHWAY COMMISSION  
RALEIGH  
GENERAL DRAWING  
BRIDGE OVER PROJECT LINE  
Y<sup>s</sup> BETWEEN MAYFIELD AND  
RUFFIN

| REV. | BY | DATE | NO. | BY | DATE |
|------|----|------|-----|----|------|
| 1    |    |      | 2   |    |      |
| 2    |    |      | 3   |    |      |



**Notes**

Assumed Live Load  
Assumed live load = HS15-44  
Reference to S-N Sheet  
For other design data and general note, see sheet S-N

Piles  
The contractor will be responsible for determining lengths of piles required. See Special Provisions.

Pile Capacities  
Piles for End Bents 1 and 2 and for Bents 1, 2, and 3 to be driven to a minimum bearing capacity of 30 tons each.

Excavate or Auger for Piles  
The contractor will be required to excavate completely through the fill at End Bent No 1 & 2 before driving piles. See Sheet S-N.

Excavation  
Work is not to be started on this bridge until after roadway section has been excavated by the roadway contractor.

Unclassified structure excavation for Bents 1, 2, & 3 to be measured from surface of roadway cut.

Linseed Oil Concrete Protection  
See Special Provisions for method of curing bridge deck and mixing and applying the linseed oil solution.

Class AA Concrete in Superstructure  
Class AA concrete shall be used in all superstructure and Class A concrete shall be used in all other portions of the structure. See Special Provisions and Specifications.

Construction Elevations  
Construction elevation for setting deck forms & girders will be furnished to the Resident Engineer by the Bridge Design Dept. before construction of the deck is begun.

Traffic  
Traffic shall be detoured on Ramp during construction of the proposed structure. See Special Provisions and Roadway Plans.

Note:  
The roadway contractor will be required to remove the existing pavement and scarify the roadbed to a minimum depth of 210' within the area of E. Bent Piles.

I HEREBY CERTIFY THAT THESE STRUCTURES WERE BUILT ACCORDING TO THE PLANS EXCEPT AS NOTED HEREIN.

SIGNED E.E. [Signature] Res. Eng.

\* See Page 42, Pay Record Book No. 11 For Change To Class "AA" Concrete

| TOTAL B.M. OF MATERIAL |                              |                             |                        |                               |                         |                |                                    |                                    |                           |                                      |
|------------------------|------------------------------|-----------------------------|------------------------|-------------------------------|-------------------------|----------------|------------------------------------|------------------------------------|---------------------------|--------------------------------------|
|                        | Class "AA" Concrete Cu. Yds. | Class "A" Concrete Cu. Yds. | Reinforcing Steel Lbs. | Structural Steel Approx. Lbs. | 12 H 53 Steel Piles No. | Lin. Ft.       | Unclassified Struc. Exca. Cu. Yds. | 4" Conc. Slope Protection Sq. Yds. | 1-Bar Metal Rail Lin. Ft. | Linseed Oil Conc. Protection Gallons |
| Span A                 | 41.4                         |                             | 8960                   | 22,100                        |                         |                |                                    |                                    |                           |                                      |
| Span B                 | 79.9                         |                             | 13,329                 | 81,400                        |                         |                |                                    |                                    |                           |                                      |
| Span C                 | 79.8                         |                             | 19,238                 | 80,200                        |                         |                |                                    |                                    |                           |                                      |
| Span D                 | 42.3                         |                             | 9,171                  | 22,600                        |                         |                |                                    |                                    |                           |                                      |
| End Bent #1            |                              | 17.5                        | 3,147                  |                               | 8                       | 440 W 31       |                                    | 173.25                             |                           |                                      |
| Bent #1                |                              | 40.7                        | 5,318                  |                               | 15                      | 450 H 150      | 100 74.5'                          | 235                                |                           |                                      |
| Bent #2                |                              | 40.0                        | 5,243                  |                               | 12                      | 540 H 150      | 100 52.5'                          |                                    |                           |                                      |
| Bent #3                |                              | 40.6                        | 5,286                  |                               | 15                      | 450 H 150      | 100 74.5'                          | 173.38                             |                           |                                      |
| End Bent #2            |                              | 17.2                        | 3,132                  |                               | 8                       | 360 W 31       |                                    | 235                                |                           |                                      |
| Curved Blocks          | 8                            |                             | 145                    |                               |                         |                |                                    |                                    |                           |                                      |
| <b>TOTAL</b>           | <b>241.2</b>                 | <b>156.0</b>                | <b>80,729</b>          | <b>206,300</b>                | <b>64</b>               | <b>1731.27</b> | <b>236.9</b>                       | <b>440.61</b>                      | <b>444.58</b>             | <b>22</b>                            |

**PROJECT No. 8.1592802**

**ROCKINGHAM COUNTY**

**STATION 930+45.721 ± P.O.T.**  
Sheet 2 of 2 6+85.69 Y<sup>5</sup> P.O.C.

STATE OF NORTH CAROLINA  
**STATE HIGHWAY COMMISSION**  
RALEIGH

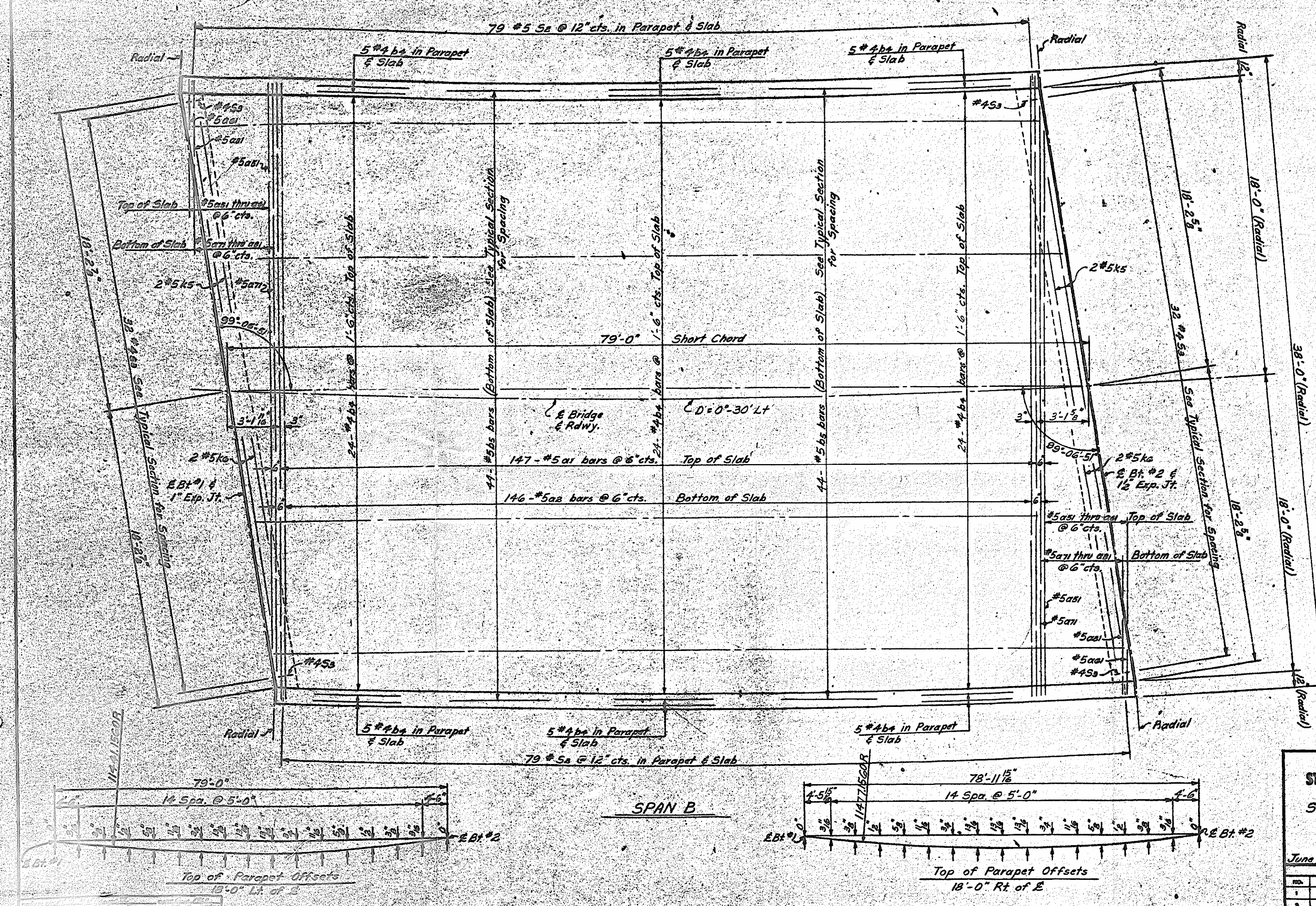
**GENERAL DRAWING**

| REVISIONS |    |      |     | 1963 |      |     |    |
|-----------|----|------|-----|------|------|-----|----|
| NO.       | BY | DATE | NO. | BY   | DATE | NO. | BY |
| 1         |    |      | 2   |      |      | 3   |    |
| 4         |    |      | 5   |      |      | 6   |    |
| 7         |    |      | 8   |      |      | 9   |    |
| 10        |    |      | 11  |      |      | 12  |    |

TOTAL SHEETS 156



|           |         |        |     |
|-----------|---------|--------|-----|
| PLAN      | SECTION | DATE   | BY  |
| 0         | R.C.    | 8/5/62 | 100 |
| F-51-1(2) |         |        |     |



PROJECT No. 81592802  
 ROCKINGHAM COUNTY  
 STATION 930+45.72 LR  
 G+85.69 Y5

|                          |    |      |     |
|--------------------------|----|------|-----|
| STATE OF NORTH CAROLINA  |    |      |     |
| STATE HIGHWAY COMMISSION |    |      |     |
| RALEIGH                  |    |      |     |
| SUPERSTRUCTURE           |    |      |     |
| SPAN B                   |    |      |     |
| June 1962                |    |      |     |
| REVISIONS                |    |      |     |
| NO.                      | BY | DATE | NO. |
| 1                        |    |      | 2   |
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| 3                        |    |      | 4   |
| 4                        |    |      | 5   |
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| 97                       |    |      | 98  |
| 98                       |    |      | 99  |
| 99                       |    |      | 100 |



Diagram 1 (Top):

- Slope: 35°-45°
- Top Width: 6'3"
- Base Width: 5'-0"
- Top of Parapet Offsets
- 10'-0" Ht. of E

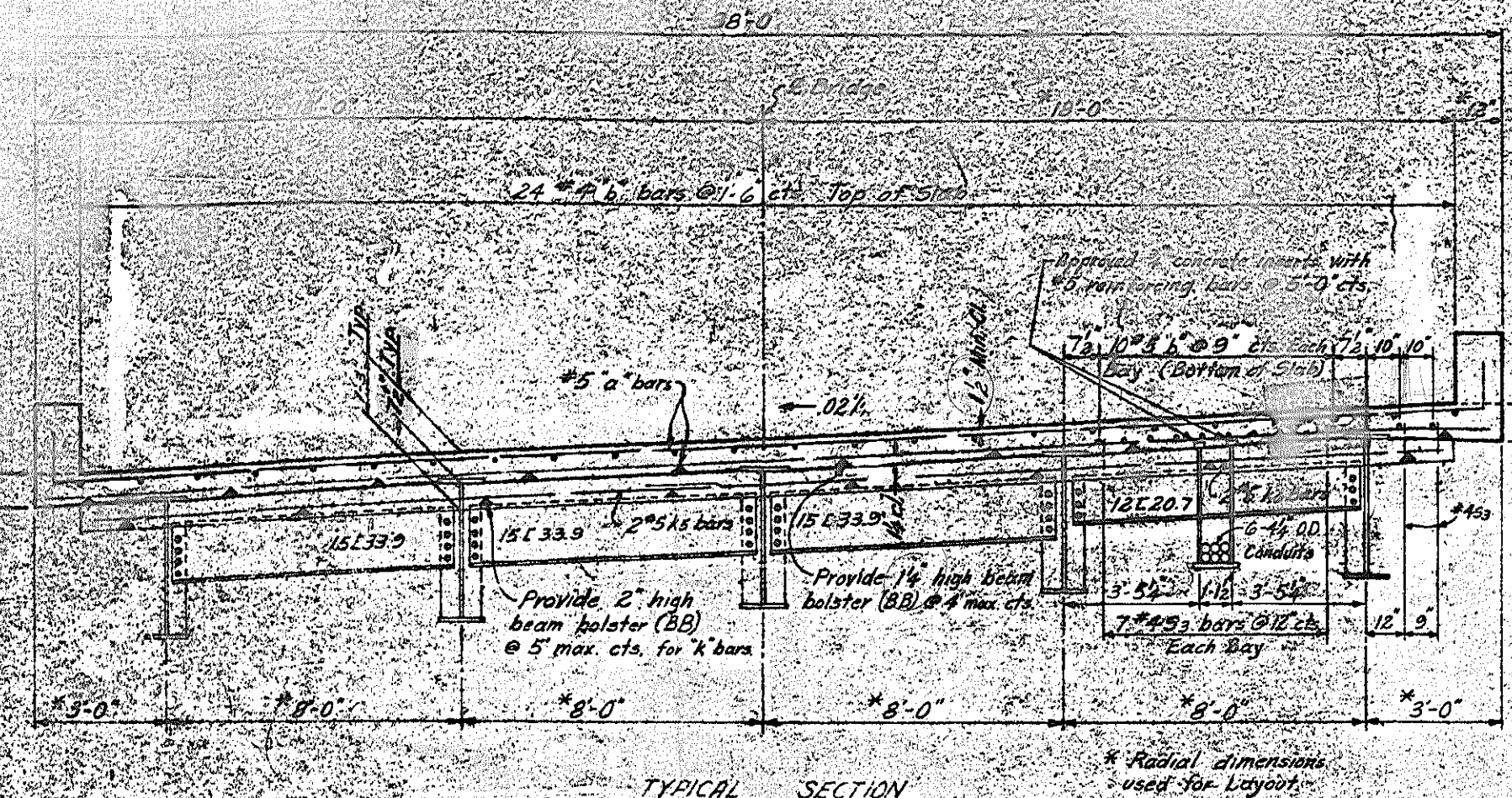
Diagram 2 (Bottom):

- Slope: 35°-45°
- Top Width: 6'3"
- Base Width: 5'-0"
- Top of Parapet Offsets
- 10'-0" Ht. of E

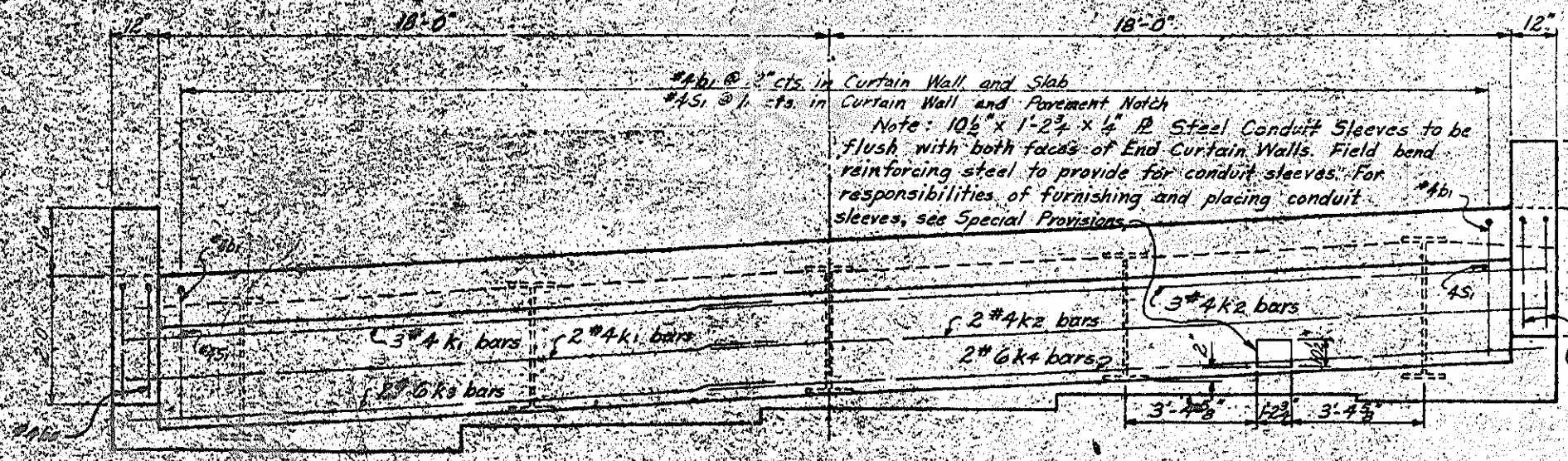
STATE OF NORTH CAROLINA  
**STATE HIGHWAY COMMISSION**  
 RALEIGH  
**SUPERSTRUCTURE**  
**SPAN D**

*June* *1968*

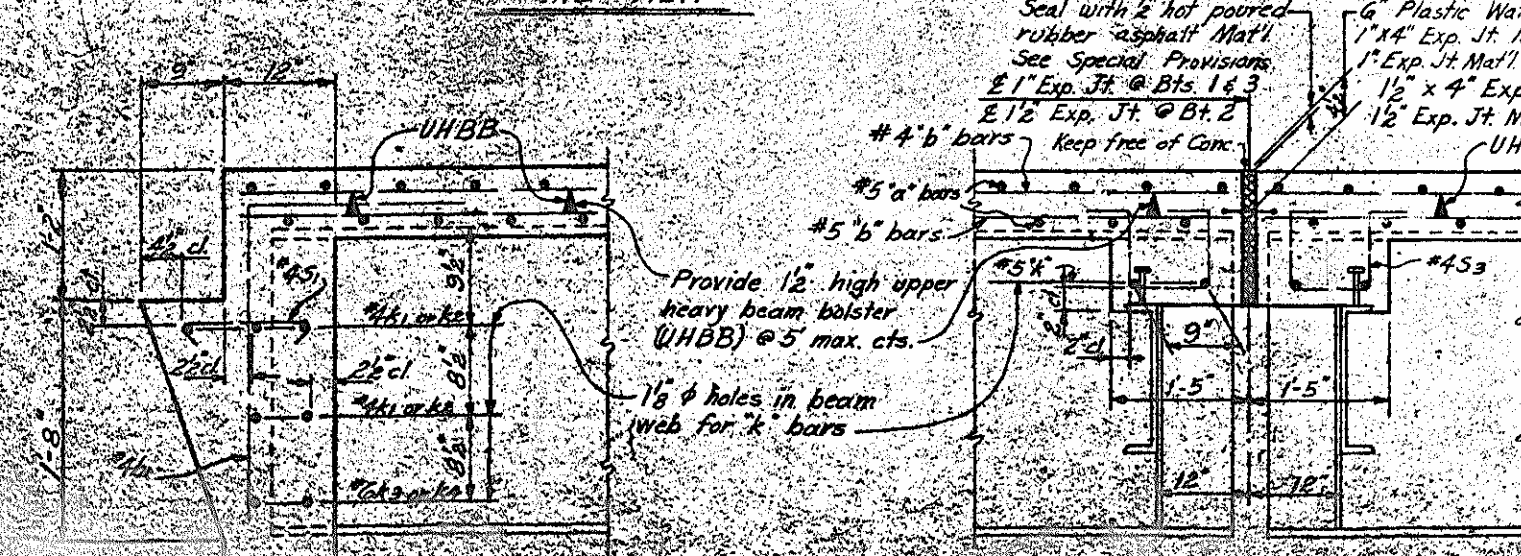
| REVISIONS |    |      |     |    |      | NUMBER<br>OF<br><b>S-440</b>  |
|-----------|----|------|-----|----|------|-------------------------------|
| NO.       | BY | DATE | NO. | BY | DATE | TOTAL<br>NUMBER<br><b>156</b> |
| 3.        |    |      | 3   |    |      |                               |
| 2.        |    |      | 4   |    |      |                               |



TYPICAL SECTION

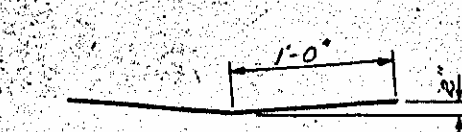


END VIEW



SECTION THRU CURTAIN WALL

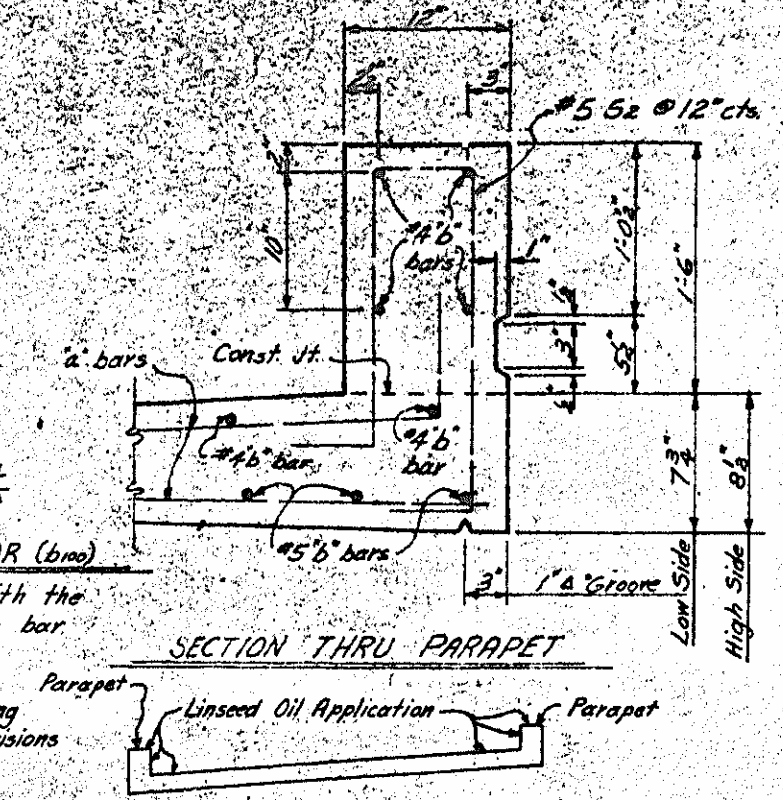
SEE MY RECORD BOOK #11 PAGE 42 FOR CHANGES IN CONCRETE.



DETAIL OF #5 REINFORCING BAR (bwo)

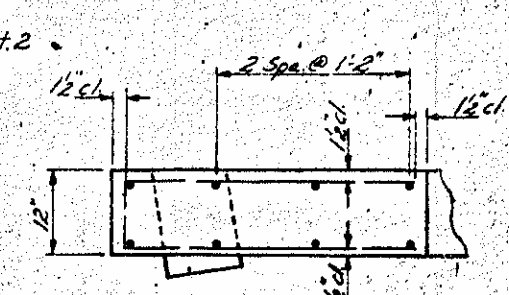
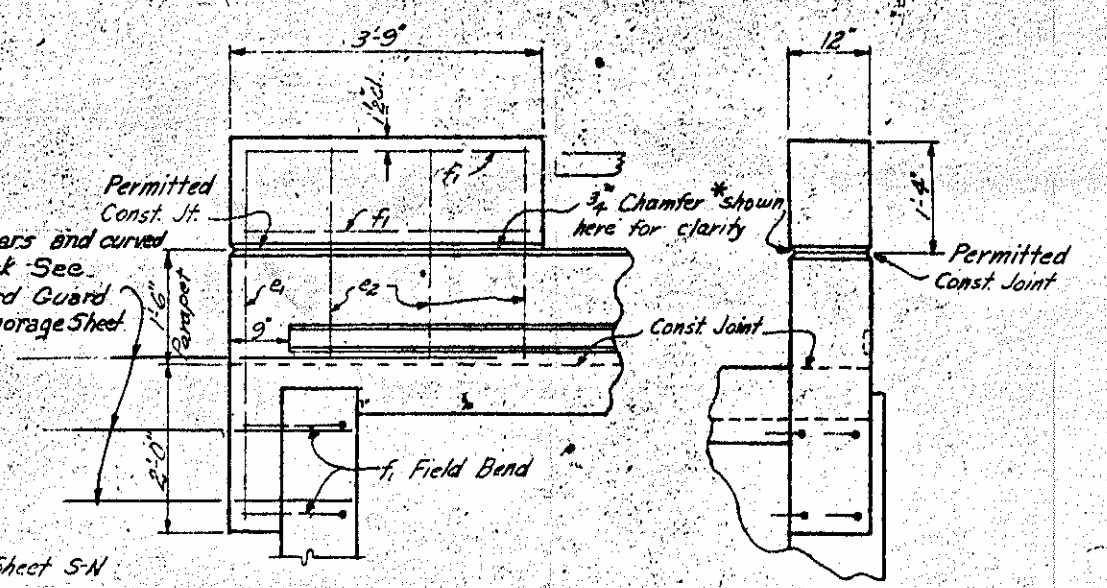
The #5 bar bwo is to be furnished with the inserts by the owner. Place the bwo bar perpendicular to "a" bars.

For details of responsibilities in placing the Telephone Line, see Special Provisions



SECTION THRU PARAPET

LINSEED OIL CONCRETE PROTECTION

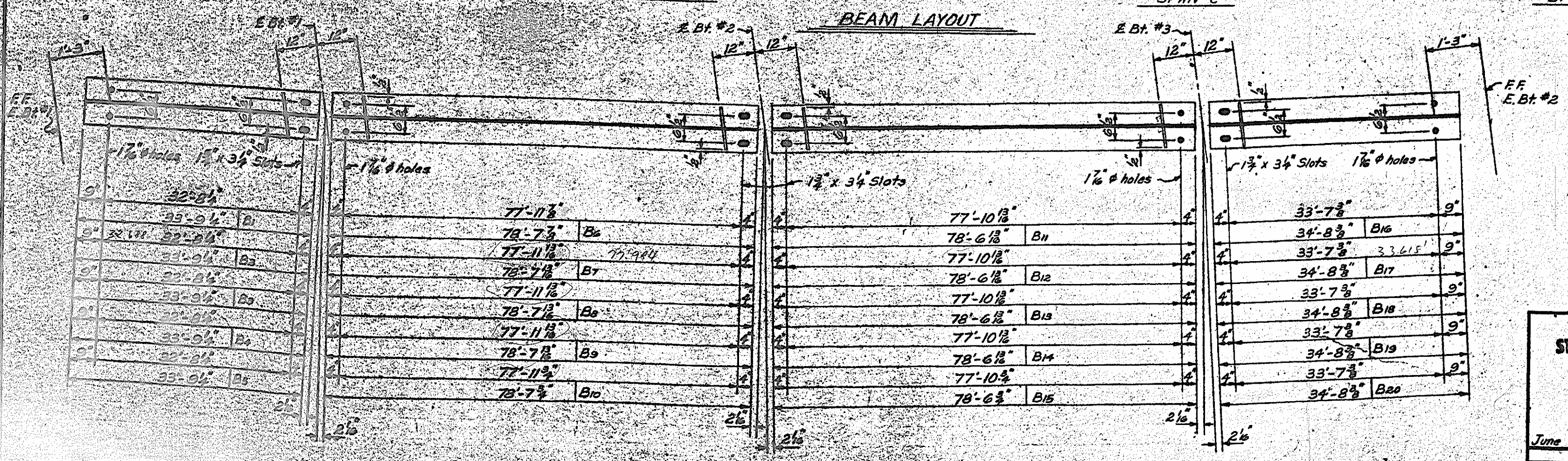
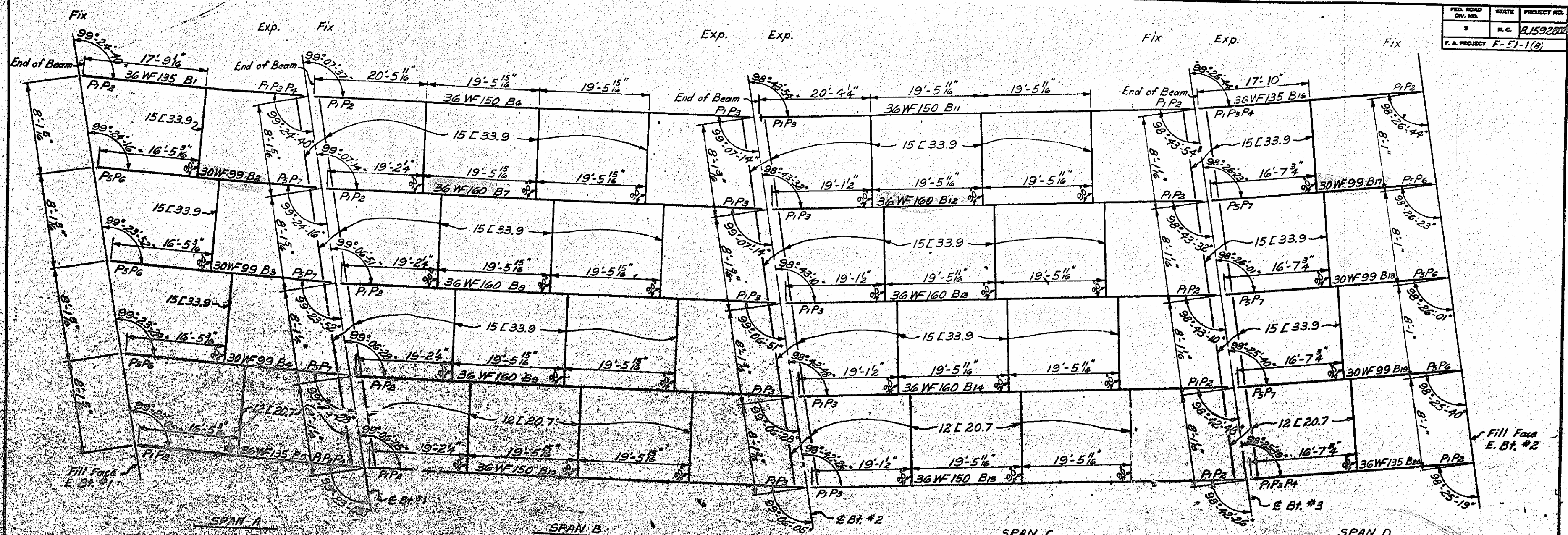


END POST DETAILS

\* 3/4" chamfer between end post and parapet will be required only if the permitted construction joint is used.

PROJECT No. 8.1592802  
ROCKINGHAM COUNTY  
STATION: 930+45.72  
6+85.69 Y5

| STATE OF NORTH CAROLINA  |      |    |       |
|--------------------------|------|----|-------|
| STATE HIGHWAY COMMISSION |      |    |       |
| RALEIGH                  |      |    |       |
| SUPERSTRUCTURE           |      |    |       |
| TYPICAL SECTION          |      |    |       |
| MAY 1968                 |      |    |       |
| NO.                      | DATE | BY | CHKD. |
| 1                        |      |    |       |
| 2                        |      |    |       |
| 3                        |      |    |       |
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| 9                        |      |    |       |
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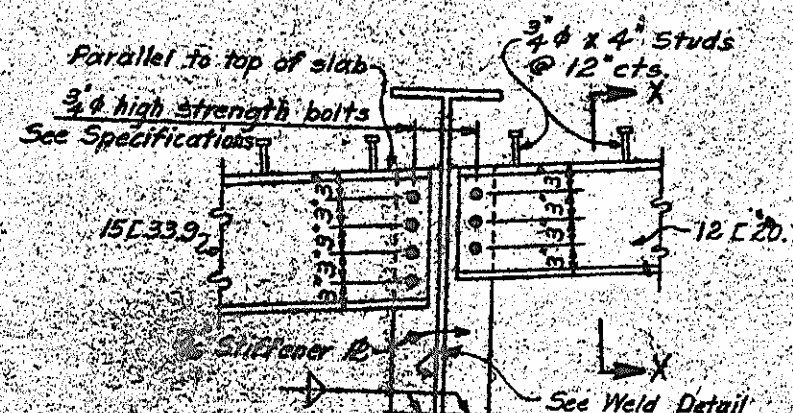
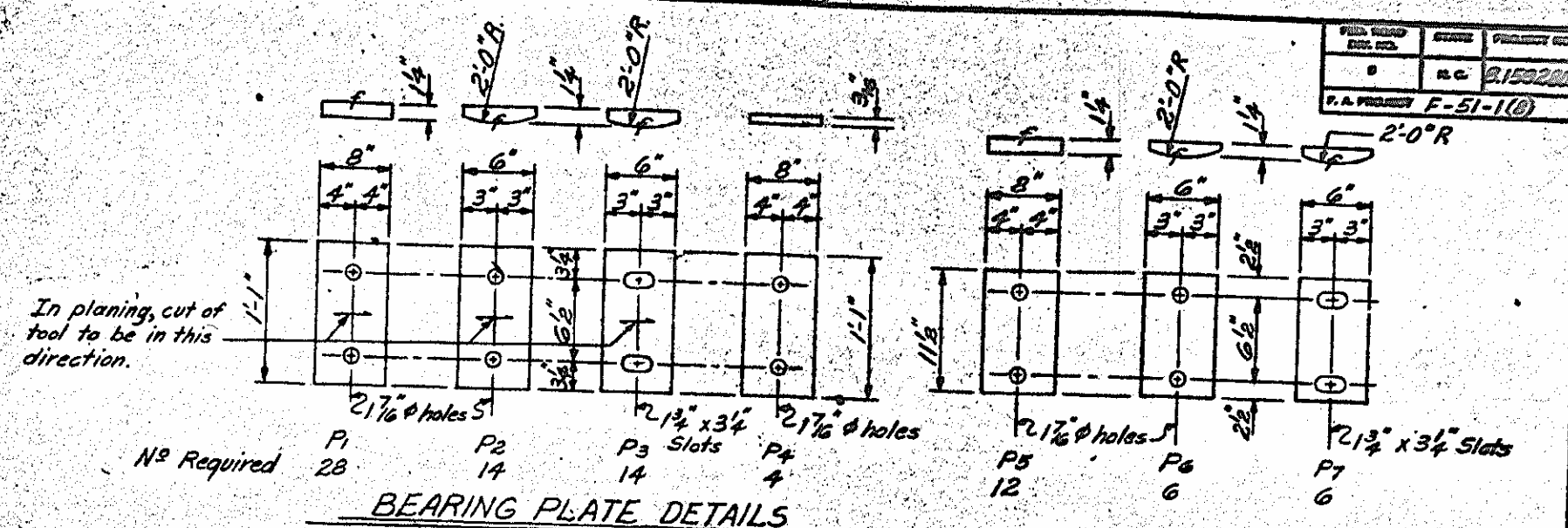


PROJECT No. 8.1592802  
 ROCKINGHAM COUNTY  
 STATION: 930+45.72 L2  
 6+85.69 Y5

STATE OF NORTH CAROLINA  
 STATE HIGHWAY COMMISSION  
 RALEIGH  
 STRUCTURAL STEEL  
 DETAILS

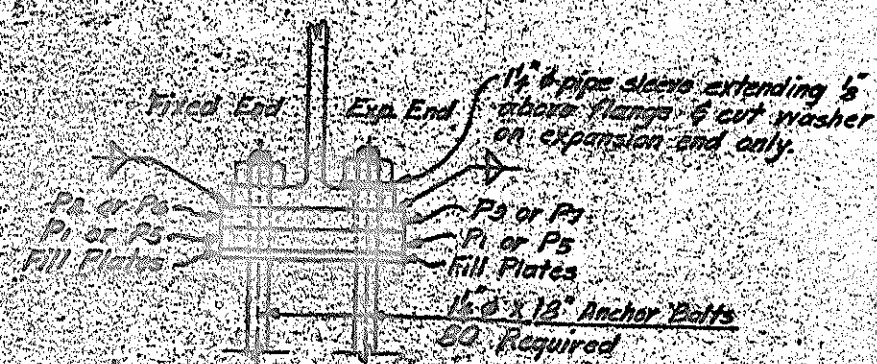
| REVISIONS |     |         |     | DATE |      |
|-----------|-----|---------|-----|------|------|
| NO.       | BY  | DATE    | NO. | BY   | DATE |
| 1         | JAP | 9-17-67 | 2   |      |      |
| 2         |     |         | 3   |      |      |

Red. All - corrected diaphragm dimensions. Spans C & D by JAP & B. 2/8/74

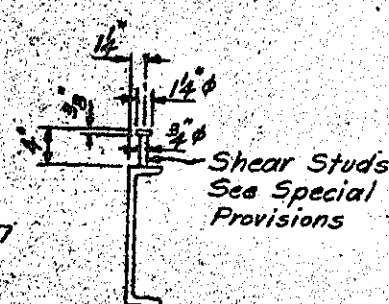


DETAIL OF CONNECTION  
AT BENT

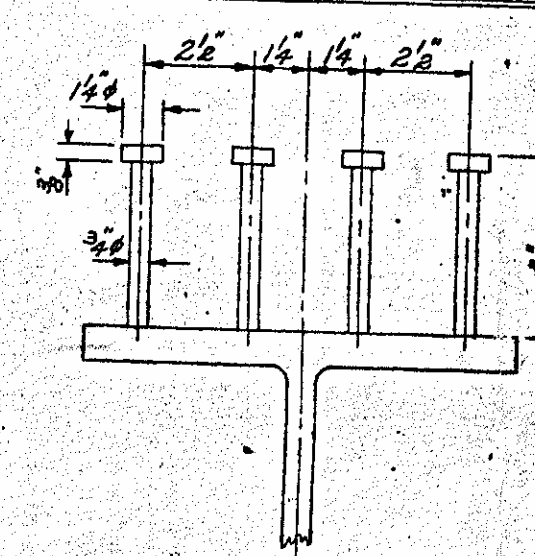
**NOTE:**  
All welds not shown are to be in accordance with the AWS Specifications.



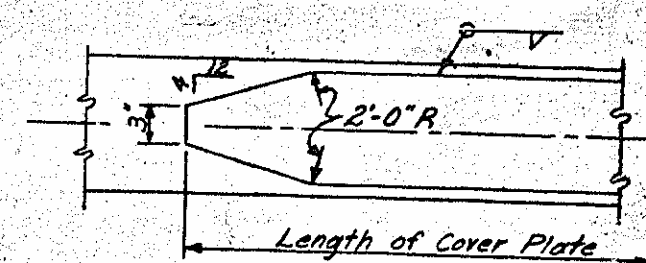
SECTION THRU BEAM



SECTION X-X



STUD DETAIL



COVER PLATE DETAIL

**NOTES**

All beams and cover plates shall be of ASTM A-36 grade structural steel. See sheet 5-N.

Stiffeners are not required on the end bent end of beams nor on the outside of exterior beams.

Stiffeners to be placed parallel to end of beams.

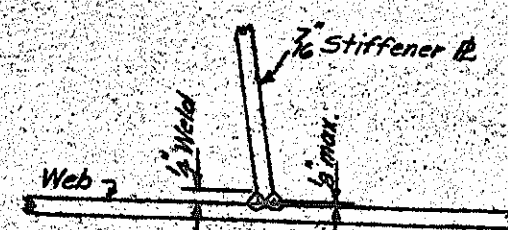
Field connections of diaphragms to beams shall be bolted using  $\frac{3}{4}$ " high strength bolts in accordance with the Specifications.

At the Contractors option he may substitute for the cover plates designated on the plans cover plates of equivalent area, provided these plates are at least  $\frac{1}{8}$ " in thickness and do not exceed a width equal to the flange width less 2" or a thickness equal to  $\frac{1}{2}$  times the flange thickness. The size of the weld for attaching these cover plates shall be in accordance with the AWS Specifications.

The Contractor may at his option but without change in the contract price of structural steel, use split 18W50 connections bolted to the beam web and welded to the channel diaphragm in lieu of the welded plate interior diaphragm connections shown.

In lieu of the welding procedure for shop and field welds indicated for the interior diaphragm connections, the Contractor may, at his option, shop weld the connector plates to the beam webs and field weld the channels to the connector plates. Special care in handling the beams must be observed if connector plates are shop welded to the beam webs.

For location of holes in beam webs for "k" bars see Superstructure Sections.



### WELD DETAIL

| DEAD LOAD DEFLECTION<br>AND BEAM CAMBER  | Span A  |         | Span B  |         | Span C  |         | Span D  |         |
|------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                          | Ext. Em | Int. Em | Ext. Em | Int. Em | Ext. Em | Int. Em | Ext. Em | Int. Em |
| Deflection due to weight of beam         | 0       | 0       | 1/8"    | 1/8"    | 1/8"    | 1/8"    | 0       | 0       |
| Deflection due to superimposed dead load | 5"      | 4"      | 1 7/8"  | 1 3/8"  | 1 1/2"  | 1 3/8"  | 1/2"    | 1/2"    |
| Total dead load deflection               | 1/8"    | 4"      | 2 1/8"  | 2 3/8"  | 2 3/8"  | 2 3/8"  | 1/2"    | 1/2"    |
| Vertical Curve Ordinates                 | 1/8"    | 1/8"    | 3/8"    | 2 3/8"  | 3/8"    | 3/8"    | 1/8"    | 1/8"    |
| Horizontal Curve Compensation            | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| Required Beam Camber                     | 0*      | 0*      | 2 3/8"  | 2 3/8"  | 2 1/2"  | 2 1/2"  | 0*      | 0*      |

COVER PLATE DETAIL

For location of holes in b  
Superstructure Sections.

2 Spa. @ 9" cts. = 1'-6"

17 Spa. @ 12" cts. = 17'-0"

8 Spa. @ 1'-6" cts. = 12'-0"

4 Spa. @ 2'-0" cts. = 8'-0"

63 groups (4 studs per group)  
252 studs per Beam B<sub>6</sub>, B<sub>10</sub>, B<sub>11</sub>, B<sub>13</sub> Ext. Beams

21 Spa. @ 8" cts. = 15'-9"

14 Spa. @ 12" cts. = 14'-0"

6 Spa. @ 1'-6" cts. = 9'-0"

83 groups (4 studs per group)  
332 studs per Beam B<sub>7</sub>, B<sub>8</sub>, B<sub>9</sub>, B<sub>12</sub>, B<sub>13</sub>, B<sub>14</sub> Int. Beams

Symmetrical about  
& between bearings

1'-8" Erg.

26'-0"

26'-9"

10" x 1 3/8" x 52'-0" R. B<sub>6</sub>, B<sub>10</sub>, B<sub>11</sub>, B<sub>13</sub> Ext. Beams

10" x 1 3/8" x 53'-6" R. B<sub>7</sub>, B<sub>8</sub>, B<sub>9</sub>, B<sub>12</sub>, B<sub>13</sub>, B<sub>14</sub> Int. Beams

STUD SPACING  
Spans B & C only

\*No lumber other than natural mill  
lumber required for beams in Spans A or D.

PROJECT NO. 8.1592802  
ROCKINGHAM COUNTY  
 STATION: 930 + 45.72 L<sup>2</sup>  
6 + 85.69 Y<sup>5</sup>

STATE OF NORTH CAROLINA  
STATE HIGHWAY COMMISSION  
RALEIGH  
SUPERSTRUCTURE  
STRUCTURAL STEEL  
DETAILS

|                  |           |             |            |           |             |                            |  |
|------------------|-----------|-------------|------------|-----------|-------------|----------------------------|--|
| <b>June</b>      |           |             |            |           |             | <b>1968</b>                |  |
| <b>REVISIONS</b> |           |             |            |           |             | NUMBER<br>OF<br><b>543</b> |  |
| <b>NO.</b>       | <b>BY</b> | <b>DATE</b> | <b>NO.</b> | <b>BY</b> | <b>DATE</b> | <b>TOTAL</b>               |  |
| 1                |           |             | 3          |           |             | <b>156</b>                 |  |
| 2                |           |             | 4          |           |             |                            |  |



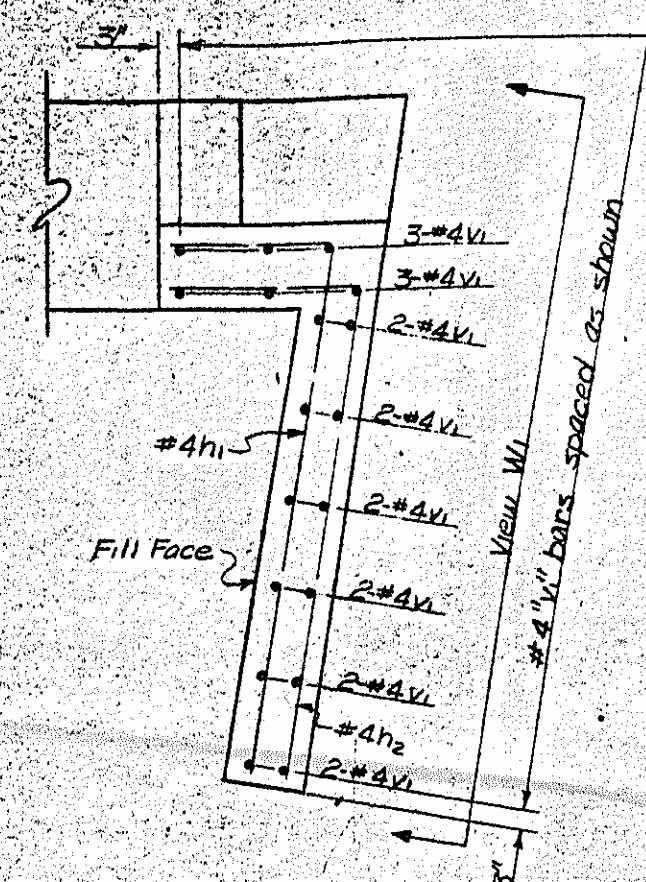
[illegible]

Hand-drawn structural drawing of a 12H53 Steel Pile. The drawing shows a cross-section of the pile with various dimensions and reinforcement details. Key dimensions include a total width of 2'-6" and a total height of 2'-3". Reinforcement includes 4 #11b2 or #11b3 bars at the top, 4 #4b1 bars at the bottom, and 4 #4b1 bars on the sides. The drawing also shows a 12H53 Steel Pile section and a 12H53 Steel Pile section.

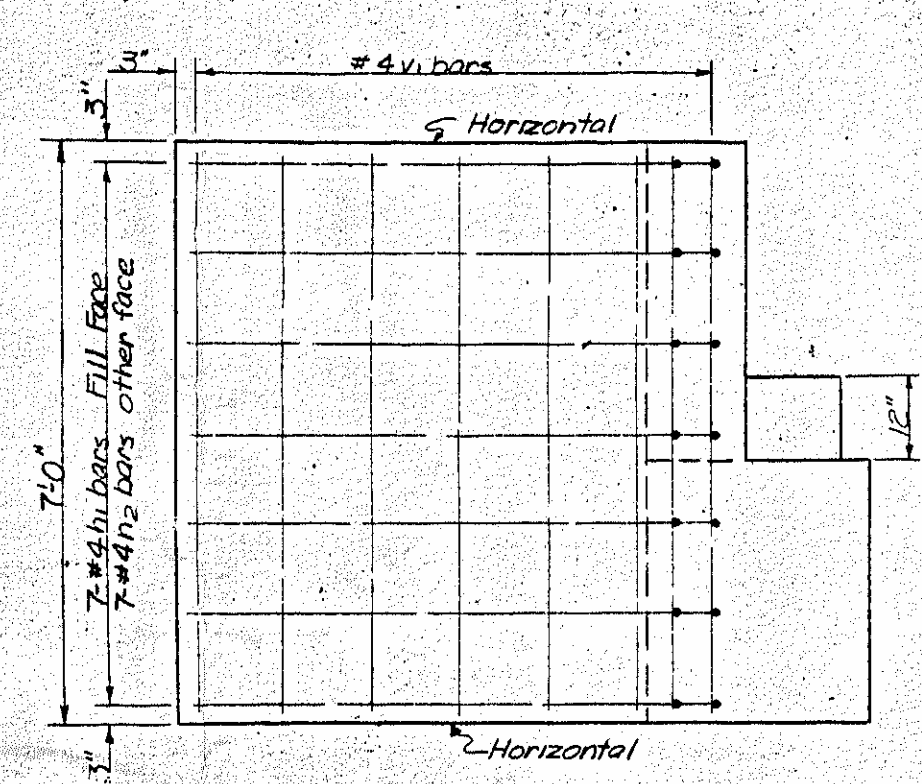
24'-0"   
 12" Exp. Jt. Mat'l.   
 3'-9"   
 4" Exp. Jt. Mat'l. on vertical face of all buildups.   
 EL. 686.279   
 EL. 686.924   
 EL. 687.090   
 EL. 687.256   
 EL. 686.942   
 12" Exp. Jt. Mat'l.   
 3'-10"   
 12"   
 4" #11b<sub>2</sub>   
 4" #11b<sub>3</sub>   
 4" #4b<sub>6</sub>   
 4" #4b<sub>4</sub>   
 4" #4s<sub>1</sub>   
 4" #4s<sub>2</sub>   
 4" #4b<sub>7</sub>   
 4" #4b<sub>8</sub>   
 2" #8b<sub>5</sub>   
 8" #4s<sub>1</sub> @ 1'-2" cts.   
 8" #4s<sub>2</sub> @ 1'-2" cts.   
 8" #4s<sub>2</sub> @ 1'-2" cts.   
 8" #4s<sub>2</sub> @ 1'-2" cts.   
 Provide 3" high beam bolsters (BB) @ 5'-0" max. cts.   
 9'-9"   
 9'-6"   
 12'-2"   
 9'-9"   
 9'-9"   
 12H53 Steel Piles   
 ELEVATION

| REVISIONS |    |      |     |    |      | DATE | BY |
|-----------|----|------|-----|----|------|------|----|
| NO.       | BY | DATE | NO. | BY | DATE |      |    |
| 1         |    |      | 2   |    |      |      |    |
| 3         |    |      | 4   |    |      |      |    |

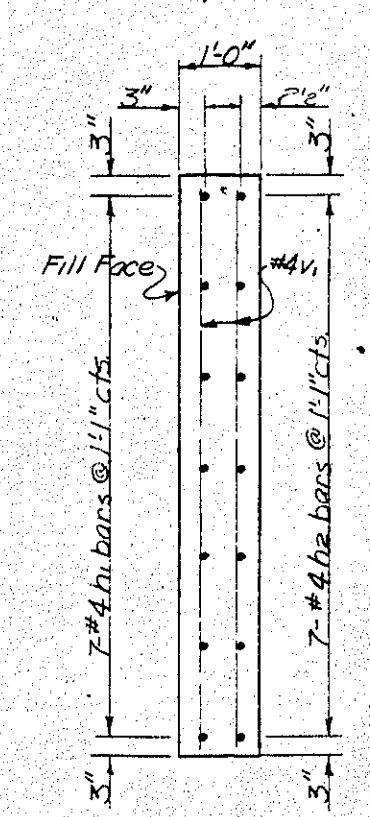
|       |    |      |  |     |    |           |  |              |  |       |  |      |  |
|-------|----|------|--|-----|----|-----------|--|--------------|--|-------|--|------|--|
| April |    |      |  |     |    | REVISIONS |  |              |  |       |  | 1968 |  |
| NO.   | BY | DATE |  | NO. | BY | DATE      |  | SHEET NO.    |  | 5-198 |  |      |  |
| 1     |    |      |  | 3   |    |           |  | TOTAL SHEETS |  | 156   |  |      |  |
| 2     |    |      |  | 4   |    |           |  |              |  |       |  |      |  |



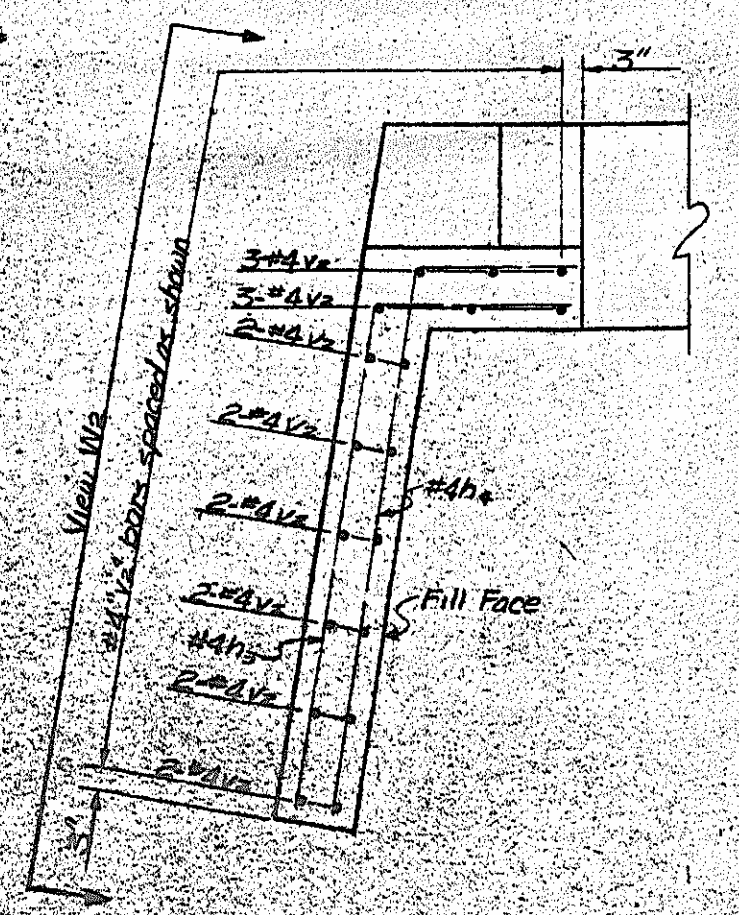
PART PLAN WING W1



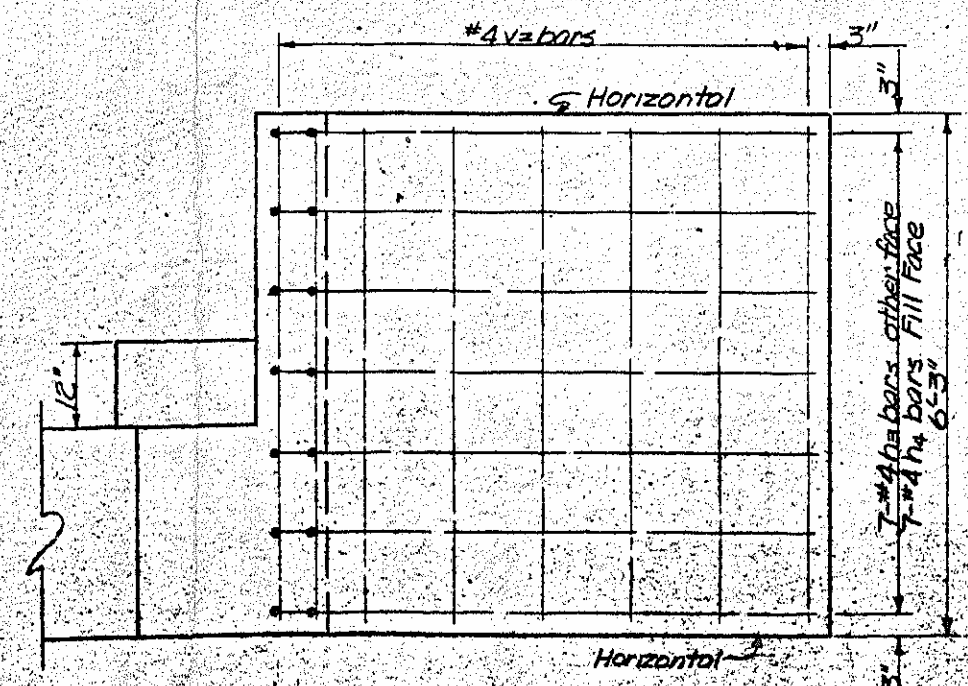
VIEW W1



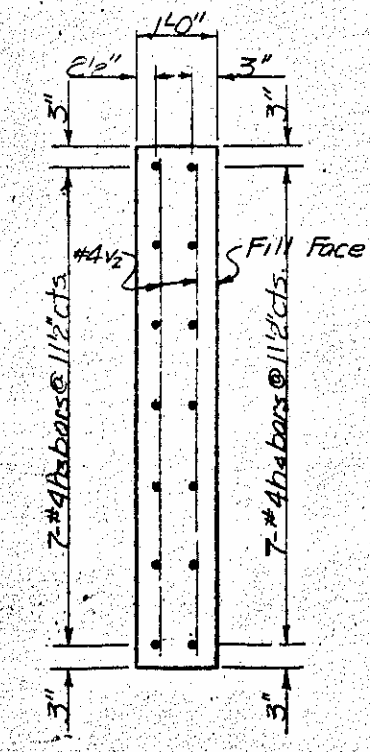
SECTION THRU WING W1



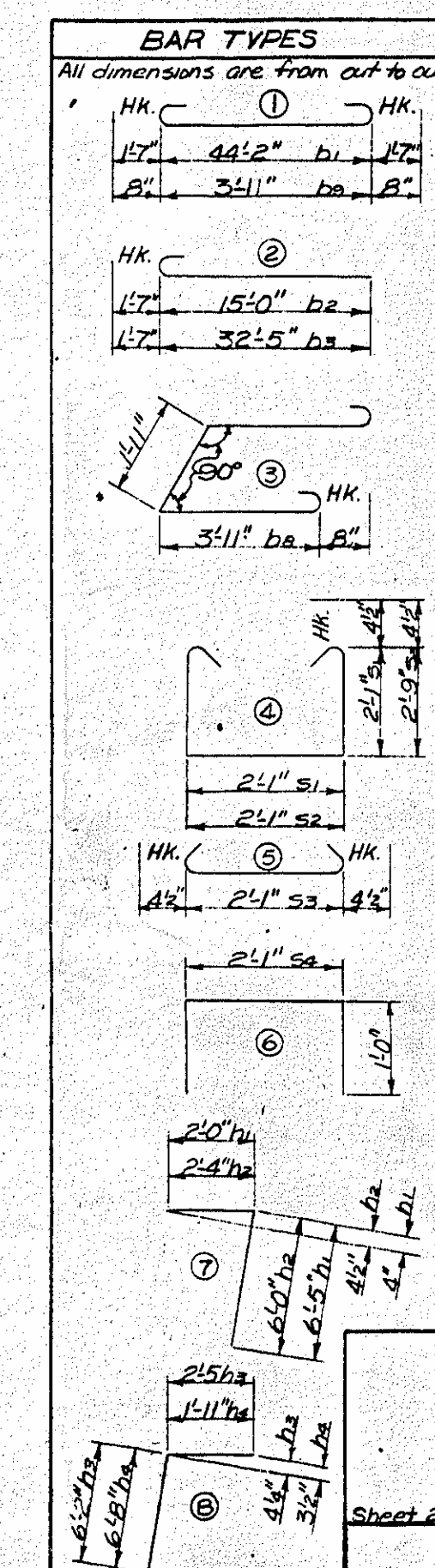
PART PLAN WING W2



VIEW W2



SECTION THRU WING W2



| BILL OF MATERIAL |     |      |      |        |        |
|------------------|-----|------|------|--------|--------|
| BAR NO.          | NO. | SIZE | TYPE | LENGTH | WEIGHT |
| b1               | 4   | #11  | 1    | 47'-8" | 1006   |
| b2               | 4   | #11  | 2    | 16'-7" | 352    |
| b3               | 4   | #11  | 2    | 34'-0" | 723    |
| b4               | 8   | #4   | Str  | 22'-3" | 122    |
| b5               | 2   | #8   | Str  | 44'-2" | 236    |
| b6               | 4   | #4   | Str  | 4'-6"  | 12     |
| b7               | 12  | #4   | Str  | 2'-2"  | 17     |
| b8               | 3   | #6   | 3    | 11'-1" | 50     |
| b9               | 9   | #6   | 1    | 5'-3"  | 71     |
| h1               | 7   | #4   | 7    | 8'-5"  | 39     |
| h2               | 7   | #4   | 7    | 8'-4"  | 39     |
| h3               | 7   | #4   | 8    | 8'-7"  | 40     |
| h4               | 7   | #4   | 8    | 8'-7"  | 40     |
| s1               | 10  | #4   | 4    | 7'-0"  | 47     |
| s2               | 26  | #4   | 4    | 8'-4"  | 145    |
| s3               | 36  | #4   | 5    | 2'-0"  | 62     |
| s4               | 4   | #4   | 6    | 4'-1"  | 11     |
| v1               | 18  | #4   | Str  | 6'-7"  | 79     |
| v2               | 18  | #4   | Str  | 5'-10" | 70     |

Reinforcing Steel lbs. 3167  
Class 'A' Conc. cu. yds. 175  
12H53 Steel Piles N<sup>o</sup> 8 in Ft. 440  
4x3.71

4" Conc. Slope Part - S.Y. - 19323

PROJECT NO. 81592802  
 ROCKINGHAM COUNTY  
 STATION 930+45.12 L<sup>2</sup>  
 6+85.69 Y<sup>s</sup>  
 Sheet 2 of 2

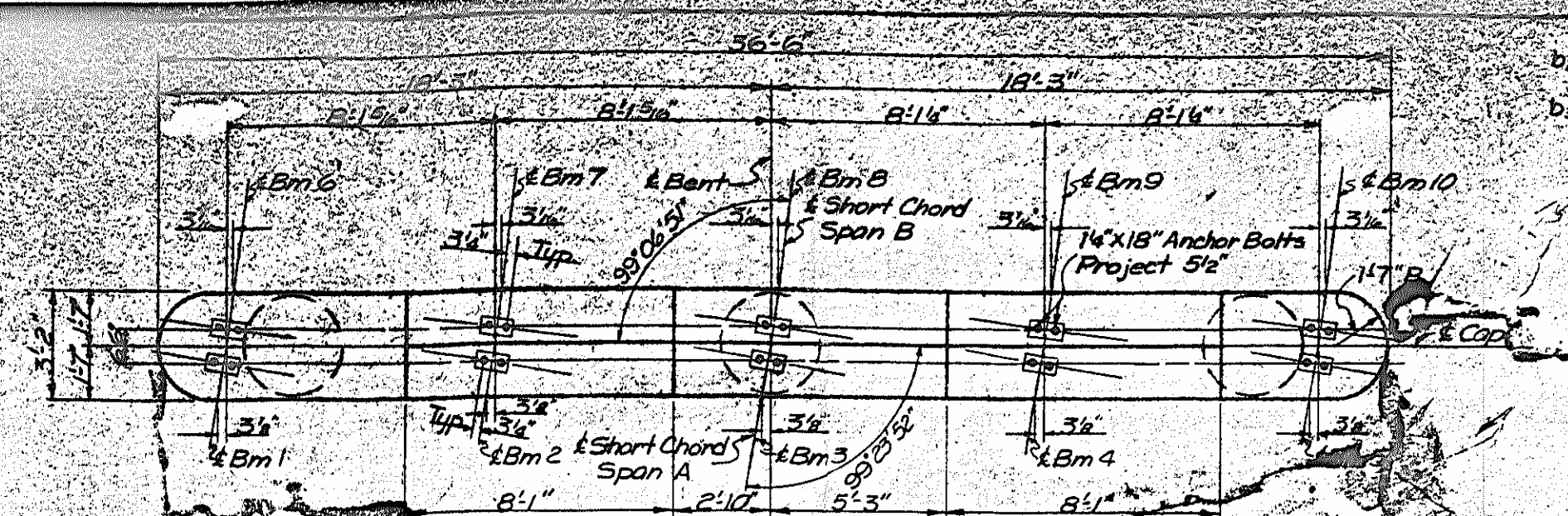
STATE OF NORTH CAROLINA  
 STATE HIGHWAY COMMISSION  
 RALEIGH

END BENT NO. 1

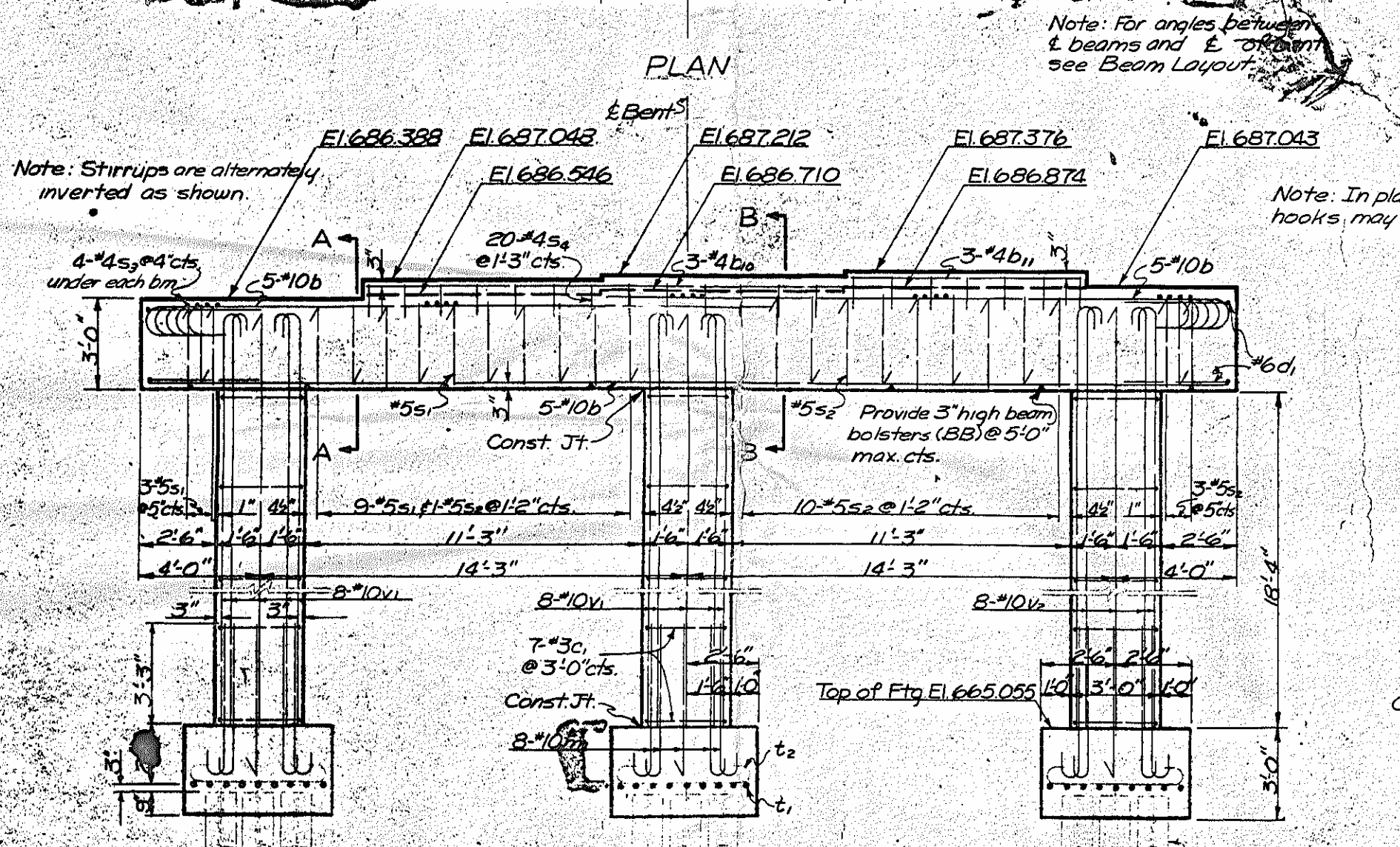
April 1968

| REVISIONS |    |      |     | REVISIONS |      |     |    |
|-----------|----|------|-----|-----------|------|-----|----|
| NO.       | BY | DATE | NO. | BY        | DATE | NO. | BY |
| 1         |    |      | 2   |           |      | 3   |    |
| 4         |    |      | 5   |           |      | 6   |    |

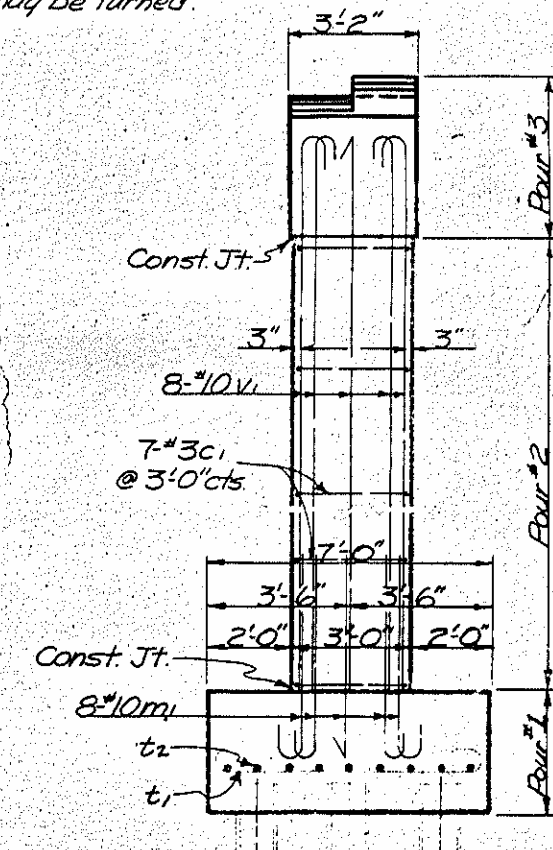
TOTAL SHEETS 156



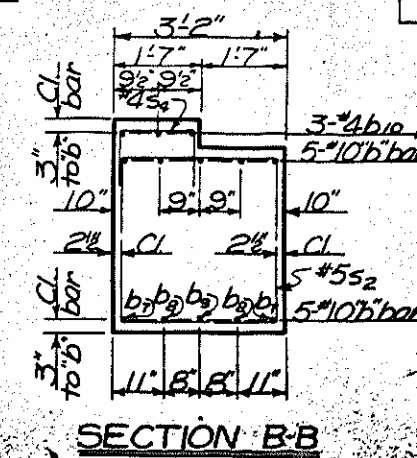
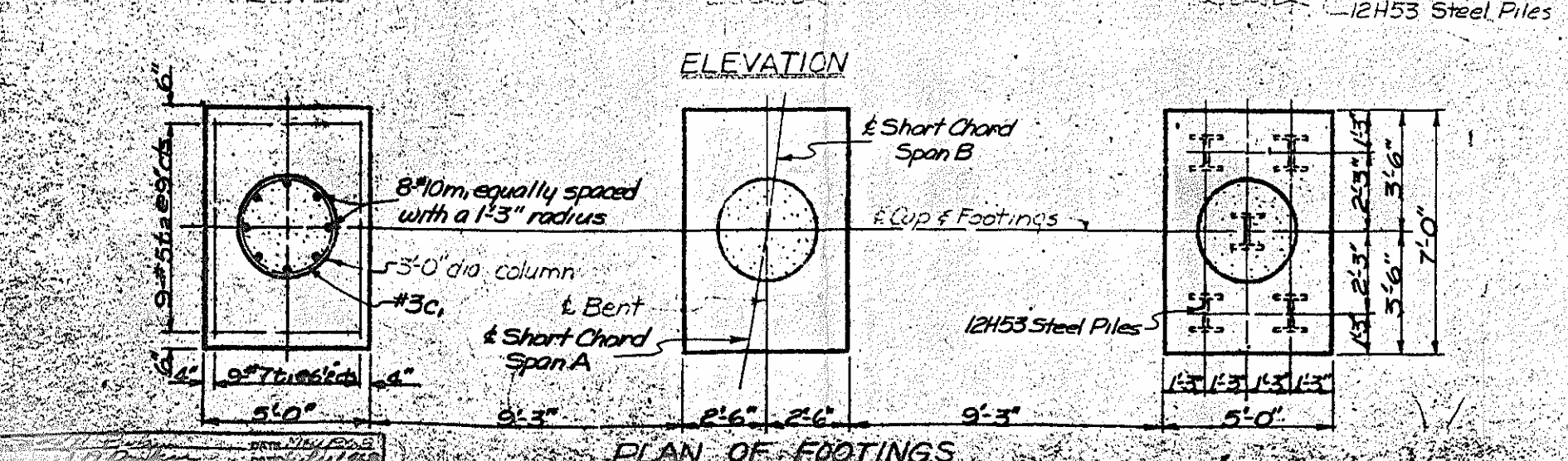
PLAN VIEW SHOWING PLACEMENT OF REINFORCING STEEL IN TOP OF CAP



SECTION A-A



LEFT END ELEVATION



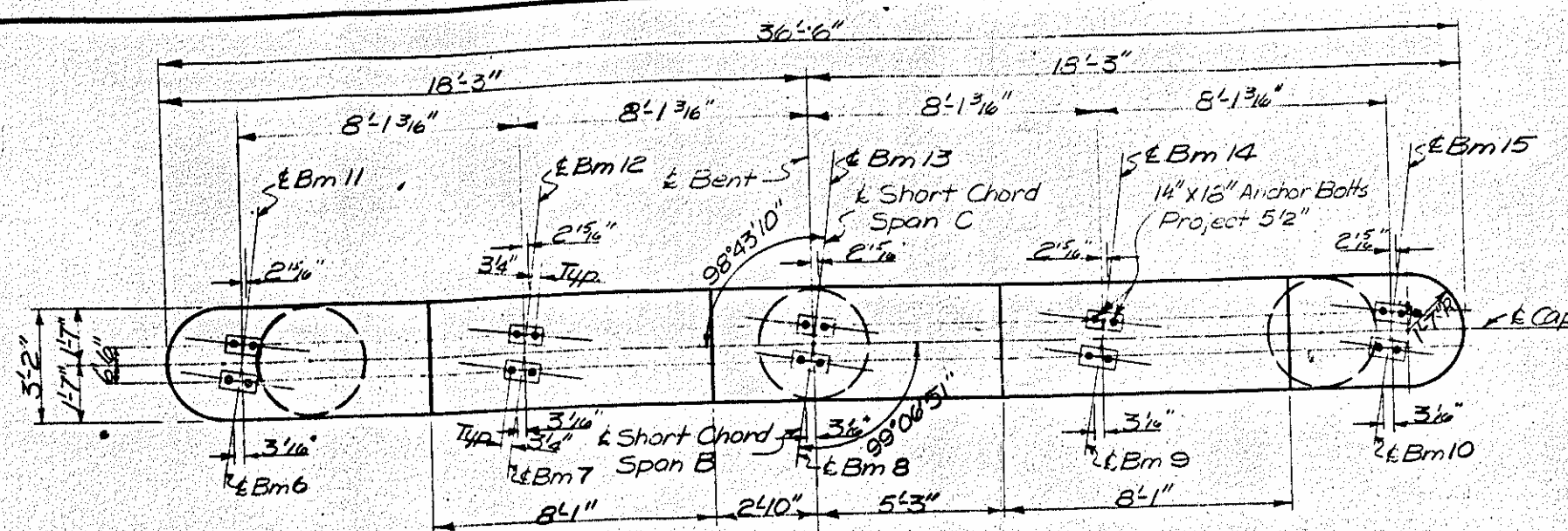
| FED. ROAD DIST. NO. | STATE | PROJECT NO. |
|---------------------|-------|-------------|
| 110                 | N.C.  | 81592802    |

| BILL OF MATERIAL |     |      |      |         |
|------------------|-----|------|------|---------|
| BAR              | NO. | SIZE | TYPE | LENGTH  |
| b1               | 2   | 10   | 2    | 21'-1"  |
| b2               | 2   | 10   | 2    | 21'-10" |
| b3               | 1   | 10   | 2    | 22'-0"  |
| b4               | 2   | 10   | 2    | 21'-4"  |
| b5               | 2   | 10   | 2    | 22'-0"  |
| b6               | 1   | 10   | 2    | 22'-2"  |
| b7               | 2   | 10   | Str. | 34'-6"  |
| b8               | 2   | 10   | Str. | 35'-10" |
| b9               | 1   | 10   | Str. | 36'-2"  |
| b10              | 3   | 4    | Str. | 17'-5"  |
| b11              | 3   | 4    | Str. | 7'-9"   |
| c1               | 21  | 3    | 7    | 9'-5"   |
| d1               | 4   | 6    | 6    | 8'-2"   |
| m1               | 24  | 10   | 2    | 6'-8"   |
| s1               | 12  | 5    | 3    | 8'-9"   |
| s2               | 14  | 5    | 3    | 9'-5"   |
| s3               | 20  | 4    | 4    | 3'-6"   |
| s4               | 20  | 4    | 5    | 3'-2"   |
| t1               | 27  | 7    | 1    | 8'-2"   |
| t2               | 27  | 5    | 1    | 5'-8"   |
| v1               | 16  | 10   | 2    | 22'-3"  |
| v2               | 8   | 10   | 2    | 22'-9"  |

Reinforcing Steel lbs. 5818  
Class A Concrete CY 40.7  
12H53 Steel Piles No. 15 Lb. Ft. 450  
Vul. Str. Equip. - C.Y. 41.50

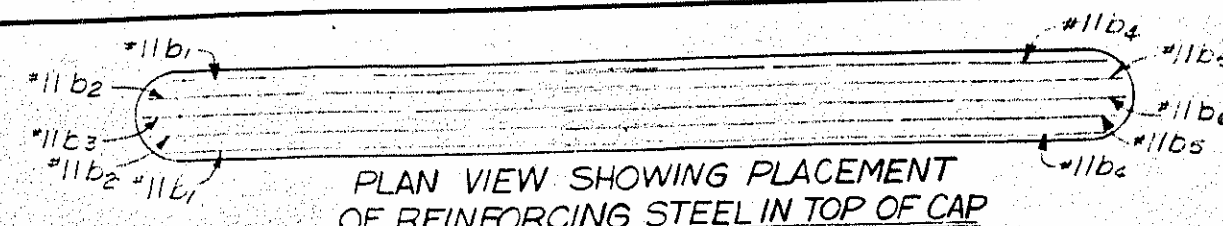
PROJECT No. 81592802  
ROCKINGHAM COUNTY  
STATION 650+45.12 POT  
6+85.69 Y<sup>s</sup> POC

| STATE OF NORTH CAROLINA<br>STATE HIGHWAY COMMISSION<br>RALEIGH |    |      |     |    |
|----------------------------------------------------------------|----|------|-----|----|
| BENT NO. 1                                                     |    |      |     |    |
| NO.                                                            | BY | DATE | NO. | BY |
| 1                                                              |    |      | 2   |    |

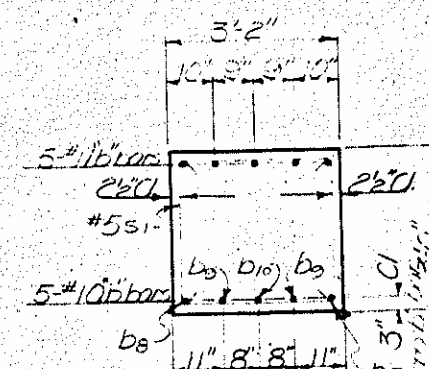


Note: For angles between beams and  $\frac{1}{2}$  of bent see Beam Layout.

PLAN OF CAP

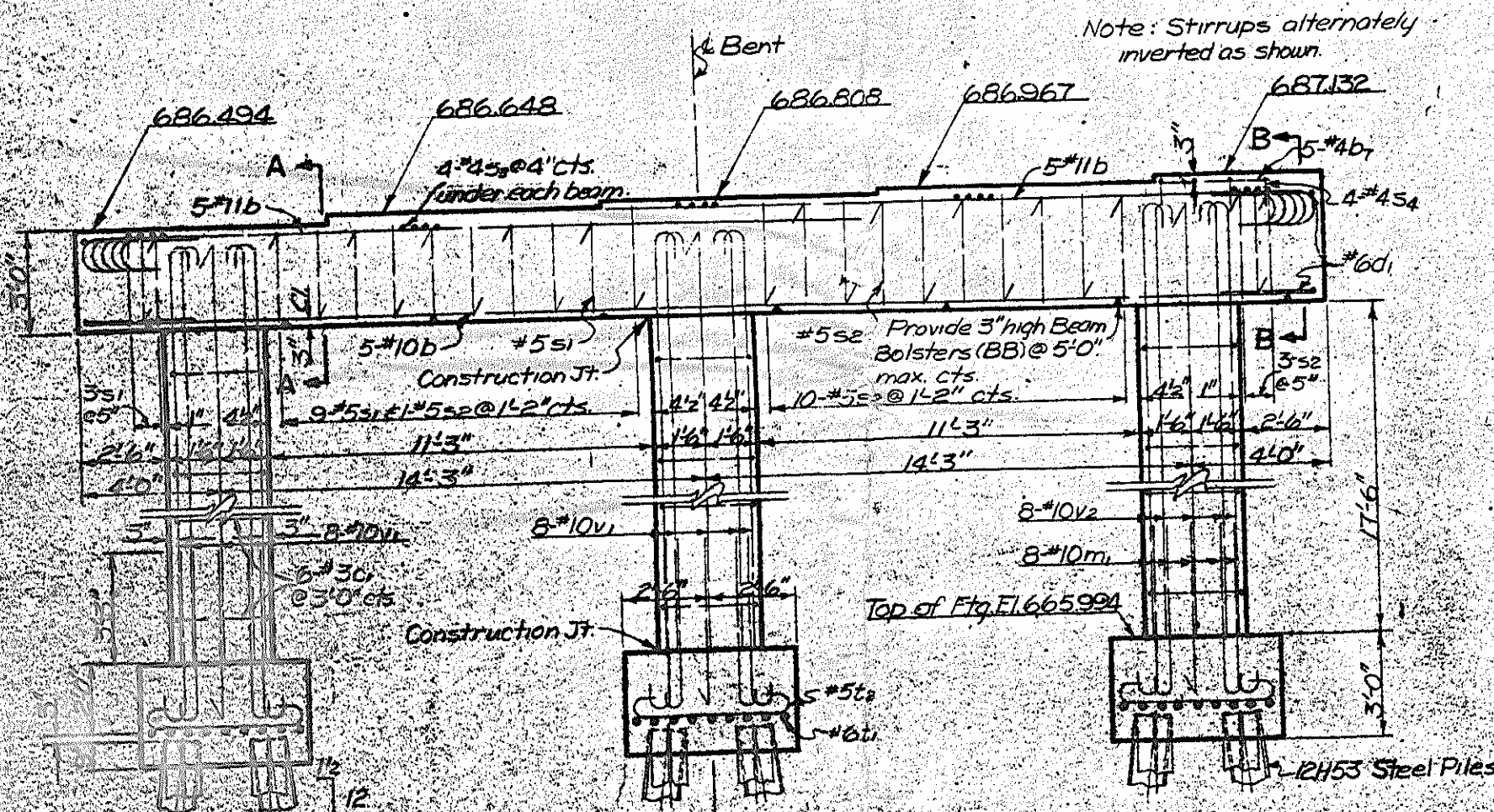


PLAN VIEW SHOWING PLACEMENT OF REINFORCING STEEL IN TOP OF CAP

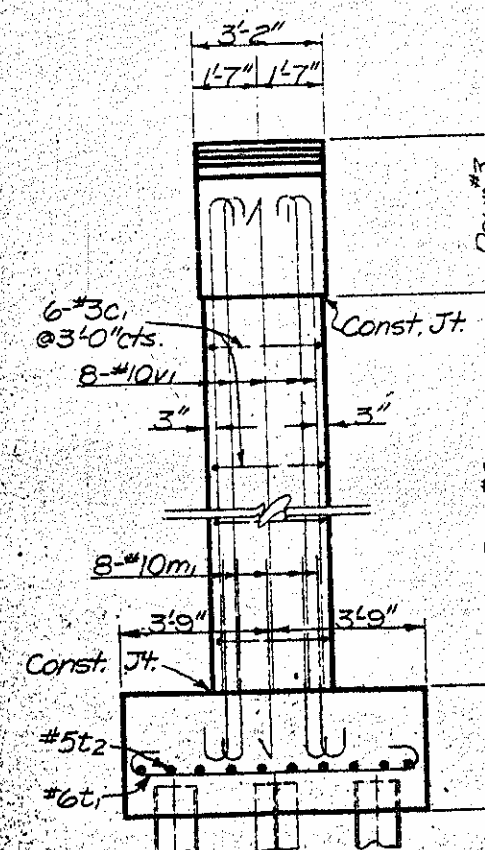


SECTION A-A

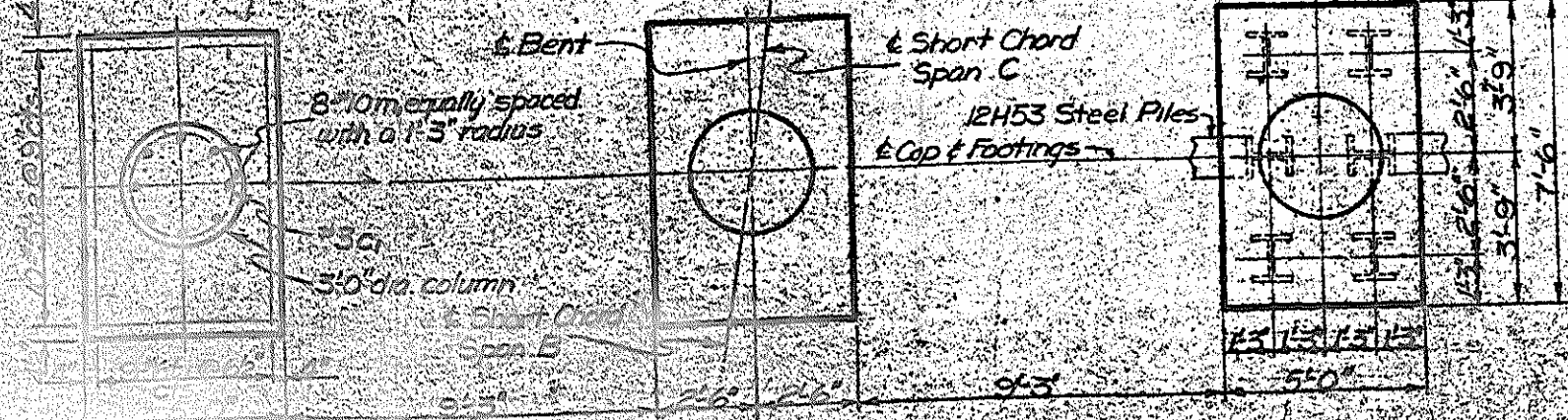
Note: In placing 'v' bars hooks may be turned.



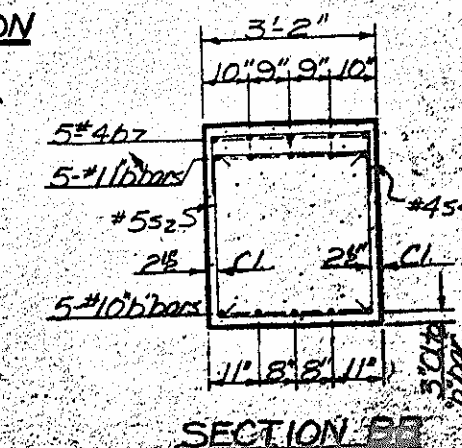
ELEVATION



LEFT END ELEVATION



PLAN OF FOOTINGS



SECTION B-B

| FED. ROAD DIV. NO. | STATE | PROJECT NO. |
|--------------------|-------|-------------|
| 3                  | N.C.  | 81592802    |

BILL OF MATERIAL

| BAR TYPES | BAR NO. | SIZE | TYPE | LENGTH | WEIGHT |
|-----------|---------|------|------|--------|--------|
| HK (1) HK | b1      | #11  | 2    | 23'9"  | 252    |
|           | b2      | #11  | 2    | 24'5"  | 259    |
|           | b3      | #11  | 2    | 24'8"  | 131    |
|           | b4      | #11  | 2    | 21'6"  | 228    |
|           | b5      | #11  | 2    | 22'2"  | 236    |
|           | b6      | #11  | 2    | 22'4"  | 119    |
| HK (2)    | b7      | #4   | 5    | 3'8"   | 12     |
|           | b8      | #10  | 5    | 3'4"   | 297    |
|           | b9      | #10  | 5    | 3'10"  | 308    |
|           | b10     | #10  | 5    | 3'6"   | 156    |
|           | c1      | #3   | 7    | 9'5"   | 64     |
|           | d1      | #6   | 4    | 8'2"   | 49     |
|           | m1      | #10  | 2    | 6'8"   | 688    |
|           | s1      | #5   | 3    | 8'9"   | 110    |
|           | s2      | #5   | 3    | 9'4"   | 136    |
|           | s3      | #5   | 4    | 3'6"   | 47     |
|           | s4      | #5   | 5    | 4'9"   | 13     |
|           | t1      | #6   | 1    | 8'4"   | 338    |
|           | t2      | #5   | 1    | 5'8"   | 177    |
|           | v1      | #10  | 2    | 21'5"  | 1474   |
|           | v2      | #10  | 2    | 21'9"  | 749    |

PROJECT No. 81592802  
ROCKINGHAM COUNTY  
STATION 9.30+45.121 POT  
6+85.69 POC Y5

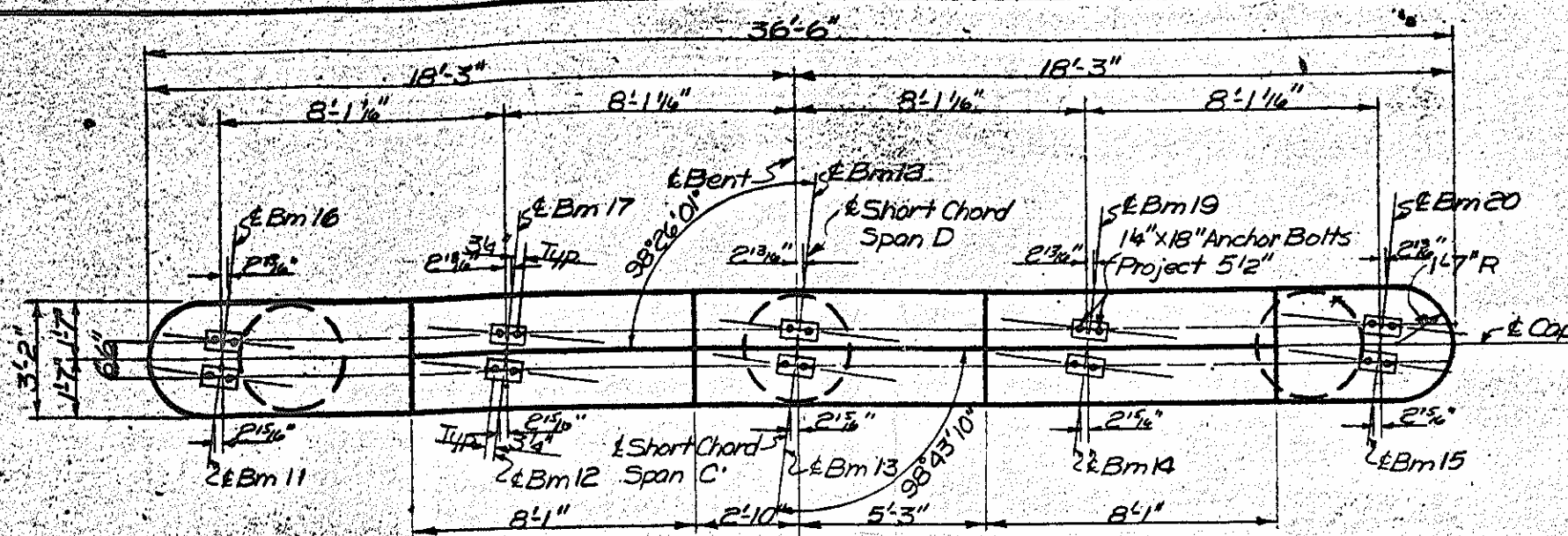
STATE OF NORTH CAROLINA  
STATE HIGHWAY COMMISSION  
RALEIGH

BENT NO. 2

| REV. | BY | DATE | REV. | BY | DATE |
|------|----|------|------|----|------|
| 1    |    |      | 2    |    |      |
| 3    |    |      | 4    |    |      |

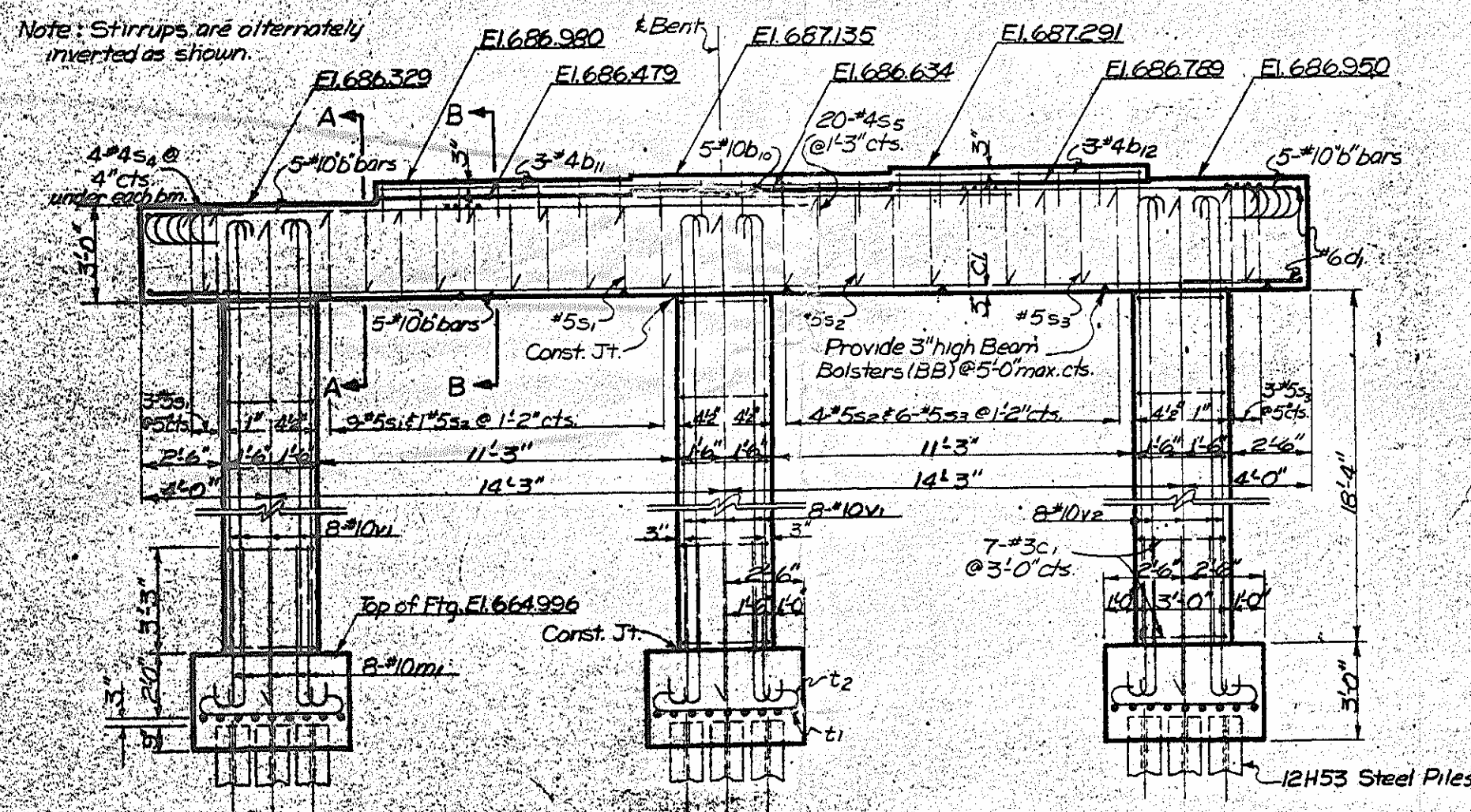
| Breakdown of Concrete |          |
|-----------------------|----------|
| Pour #1 (Ftq)         | 12.5 cy. |
| Pour #2               | 13.7 cy. |
| Pour #3               | 13.8 cy. |
| Total                 | 40.0 cy. |

Reinforcing Steel No. 5843  
Class 'A' Conc. Unit 400  
12H53 Steel Piles No. 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 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, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

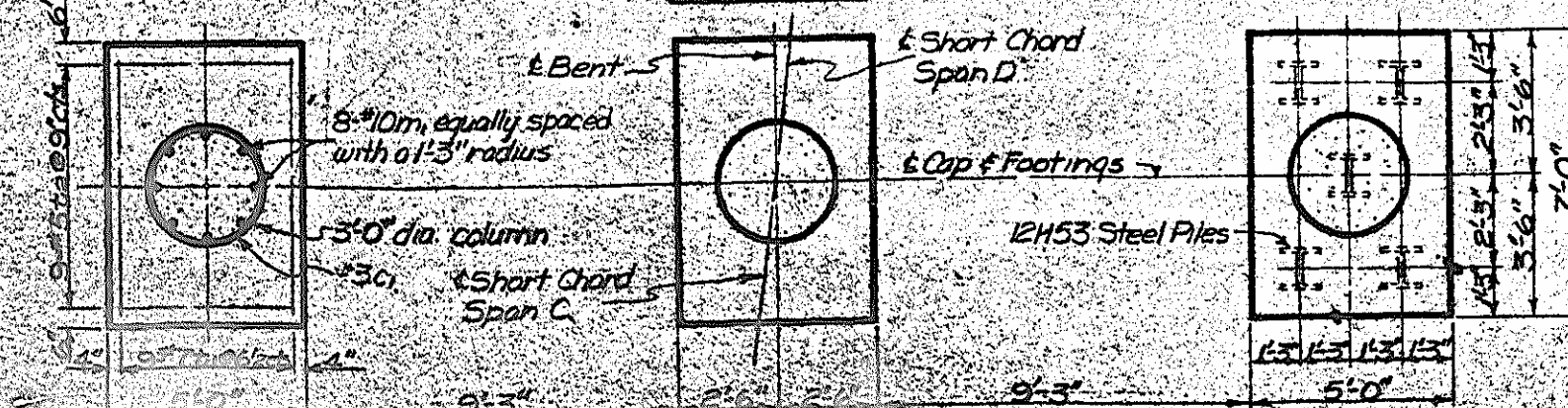


PLAN

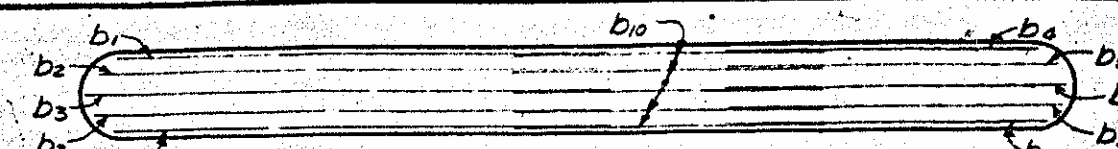
Note: For angles between beams and bent see Beam Layout.



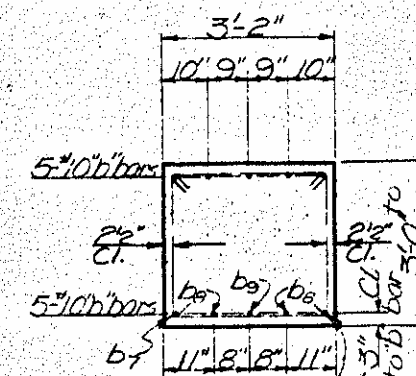
ELEVATION



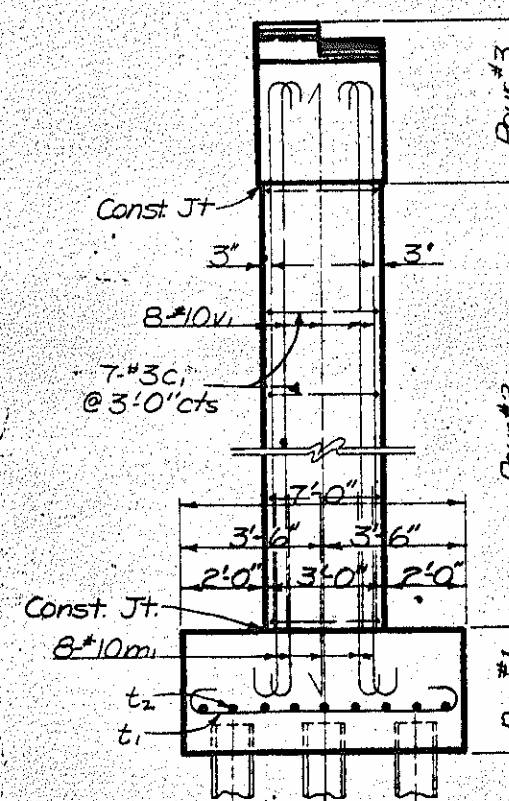
PLAN OF FOOTINGS



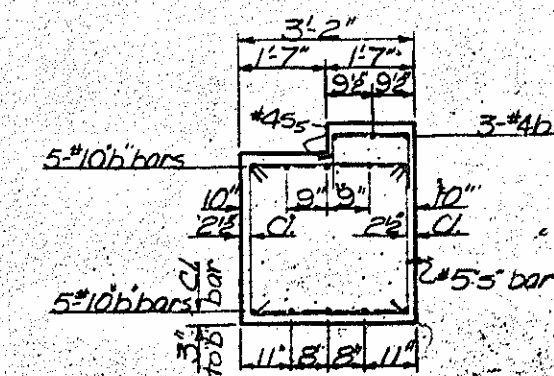
PLAN VIEW SHOWING PLACEMENT OF REINFORCING STEEL IN TOP OF CAP



SECTION A-A



LEFT END ELEVATION



SECTION B-B

| FED. ROAD<br>DIST. NO.  | STATE | PROJECT NO. |
|-------------------------|-------|-------------|
| 8                       | N.C.  | 81592802    |
| P. A. PROJECT F-51-1187 |       |             |

BILL OF MATERIAL

| BAR TYPES                                                                                                                                    |      | BAR  | NO.  | SIZE | TYPE | LENGTH | WEIGHT |        |      |
|----------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|------|------|--------|--------|--------|------|
| HK ①                                                                                                                                         | HK ① | b1   | 2    | #10  | 2    | 21'-1" | 181    |        |      |
|                                                                                                                                              |      | b2   | 2    | #10  | 2    | 21'-9" | 187    |        |      |
|                                                                                                                                              |      | b3   | 1    | #10  | 2    | 22'-0" | 95     |        |      |
|                                                                                                                                              |      | b4   | 2    | #10  | 2    | 13'-4" | 115    |        |      |
|                                                                                                                                              |      | b5   | 2    | #10  | 2    | 14'-0" | 120    |        |      |
| HK ②                                                                                                                                         | HK ② | b6   | 1    | #10  | 2    | 14'-2" | 61     |        |      |
|                                                                                                                                              |      | b7   | 2    | #10  | Str  | 34'-4" | 295    |        |      |
|                                                                                                                                              |      | b8   | 2    | #10  | Str  | 35'-0" | 305    |        |      |
|                                                                                                                                              |      | b9   | 1    | #10  | Str  | 36'-2" | 156    |        |      |
|                                                                                                                                              |      | b10  | 5    | #10  | Str  | 11'-4" | 244    |        |      |
| HK ③                                                                                                                                         | HK ③ | b11  | 3    | #4   | Str  | 17'-5" | 35     |        |      |
|                                                                                                                                              |      | b12  | 3    | #4   | Str  | 7'-9"  | 16     |        |      |
|                                                                                                                                              |      | c1   | 21   | #3   | 7    | 9'-5"  | 74     |        |      |
|                                                                                                                                              |      | d1   | 4    | #6   | 6    | 8'-0"  | 48     |        |      |
|                                                                                                                                              |      | m1   | 24   | #10  | 2    | 6'-8"  | 689    |        |      |
| HK ④                                                                                                                                         | HK ④ | s1   | 12   | #5   | 3    | 8'-9"  | 110    |        |      |
|                                                                                                                                              |      | s2   | 5    | #5   | 3    | 9'-4"  | 49     |        |      |
|                                                                                                                                              |      | s3   | 9    | #5   | 3    | 9'-8"  | 91     |        |      |
|                                                                                                                                              |      | s4   | 20   | #4   | 4    | 3'-6"  | 47     |        |      |
|                                                                                                                                              |      | s5   | 20   | #4   | 5    | 3'-2"  | 42     |        |      |
| t1                                                                                                                                           | t2   | HK ⑤ | HK ⑤ | t1   | 27   | #7     | 1      | 8'-2"  | 450  |
|                                                                                                                                              |      |      |      | t2   | 27   | #5     | 1      | 5'-8"  | 159  |
| v1                                                                                                                                           | v2   | HK ⑥ | HK ⑥ | v1   | 16   | #10    | 2      | 22'-3" | 1532 |
|                                                                                                                                              |      |      |      | v2   | 8    | #10    | 2      | 22'-9" | 783  |
|                                                                                                                                              |      |      |      |      |      |        |        |        |      |
|                                                                                                                                              |      |      |      |      |      |        |        |        |      |
| <p>Reinforcing Steel lbs. 5886</p> <p>Class A Code 7144406</p> <p>12H53 Steel Piles No. 15 L.F. 420</p> <p>Vinc. Str. Exch. - C.Y. - 901</p> |      |      |      |      |      |        |        |        |      |

All dimensions are out to out.

All dimensions are out to out.

| Breakdown of Concrete |           |
|-----------------------|-----------|
| Pour #1 (Fig.)        | 11.7 c.y. |
| Pour #2               | 14.4 c.y. |
| Pour #3               | 14.5 c.y. |
| Total                 | 40.6 c.y. |

PROJECT NO. 81592802

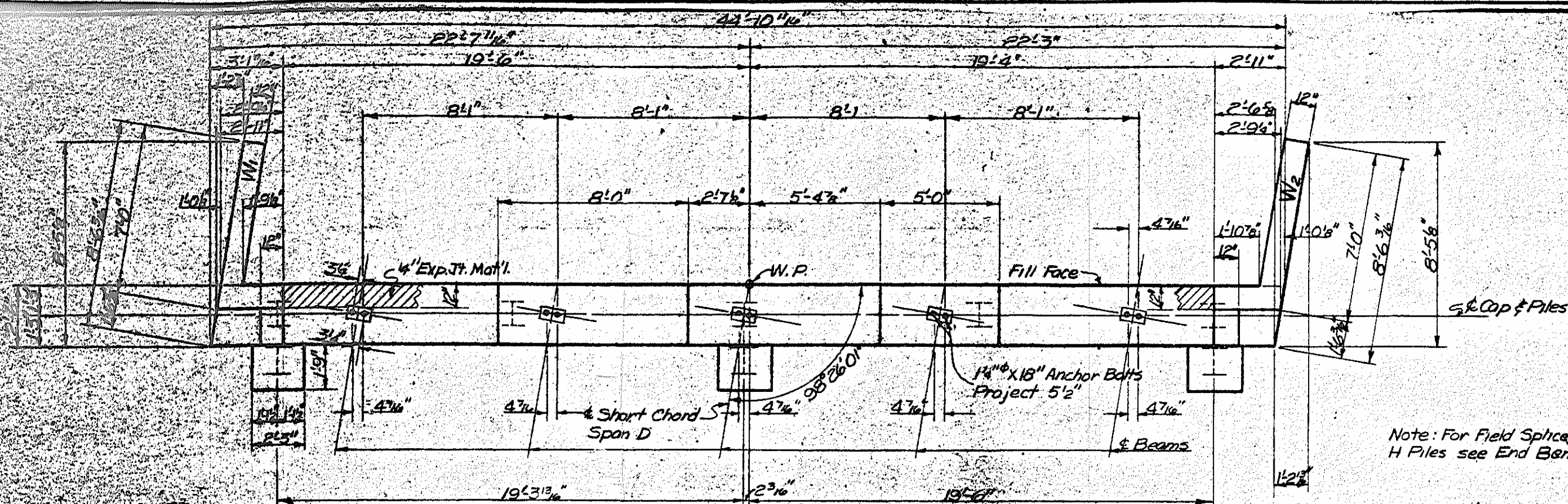
ROCKINGHAM COUNTY

STATION: 930+45.121<sup>2</sup> POT  
6+85.69 Y<sup>5</sup> POC

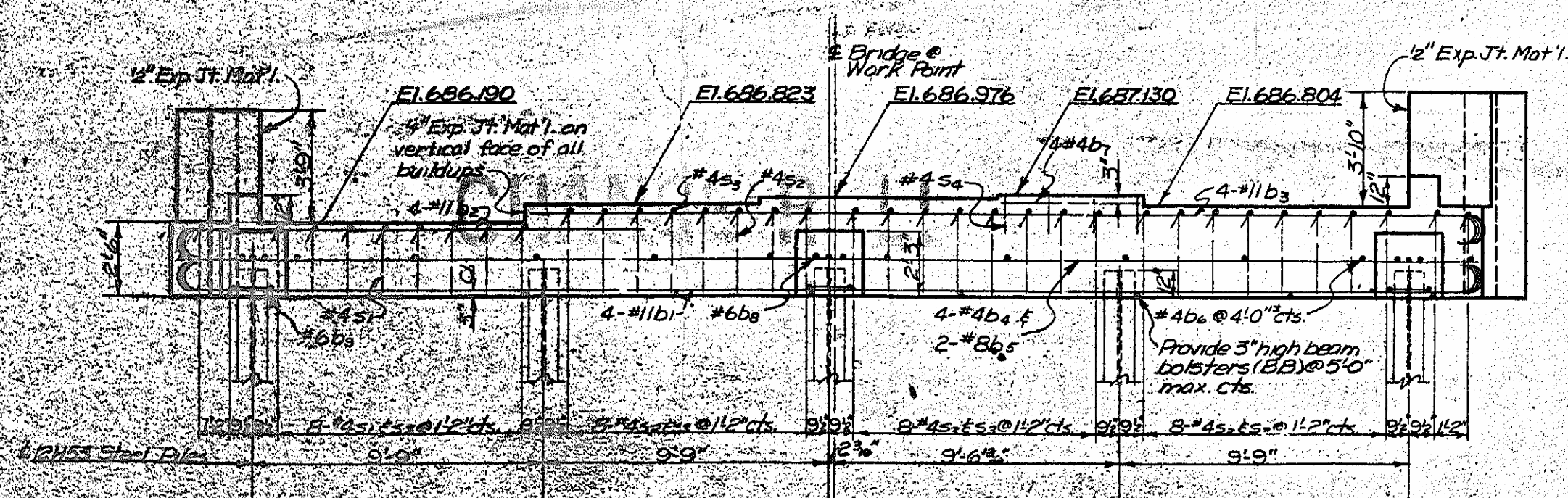
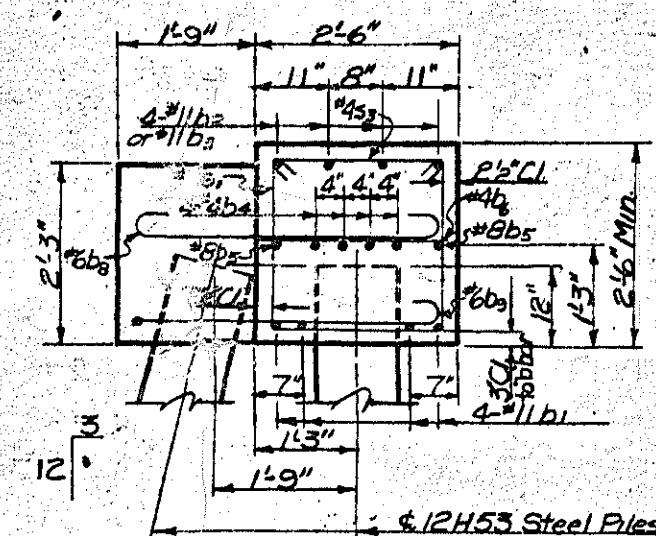
STATE OF NORTH CAROLINA  
STATE HIGHWAY COMMISSION  
RALEIGH

BENT NO. 3

| REVISIONS |    |      |         |
|-----------|----|------|---------|
| NO.       | BY | DATE | REMARKS |
| 1         |    |      |         |
| 2         |    |      |         |
| 3         |    |      |         |
| 4         |    |      |         |



Note: For Field Splice for Steel H Piles see End Bent No. 1



SECTION THRU CAP

PROJECT No. 8.1592802

ROCKINGHAM COUNTY

**STATION:** 930+45.12L<sup>e</sup>

6+85.69 Y5

Sheet 1 of 2

STATE OF NORTH CAROLINA  
**STATE HIGHWAY COMMISSION**  
RALEIGH

END BENT NO. 2

| REIMBURSEMENTS |    |      |     |    |      | SHEET<br>NO. <b>575</b> |
|----------------|----|------|-----|----|------|-------------------------|
| NO.            | BY | DATE | NO. | BY | DATE | TOTAL                   |
| 1              |    |      | 3   |    |      |                         |
| 2              |    |      | 4   |    |      |                         |