

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|---------|--------|--------------|-----------|
| 316 | * | LEE | 28 | 1 |

PROJECT ENGINEER: BOB WAGNER

SQUAD TECHNICIAN: LUCAS MEGLI (815) 284-5362

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 316 (IL26)
SECTION (102BR)M & (102BR-1)M-1

LEE COUNTY
C-92-015-06

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR STATE STANDARDS, SEE SHEET NO. 2

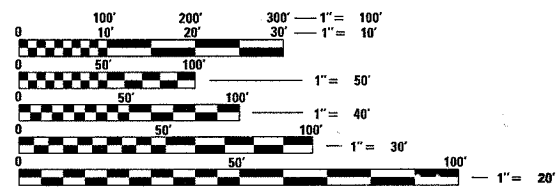
D-92-091-05



PROJECT LOCATION #2
STR. NO. 052-0025

PROJECT LOCATION #1
STR. NO. 052-0026

MARION TOWNSHIP SECTION - 21 & 22
EAST GROVE SECTION - 3 & 4



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

CONTRACT NO. 64B28

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 6-1 2007

James F. Brown
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Eric E. Horn
Interim ENGINEER OF DESIGN AND ENVIRONMENT

William R. See
June 29, 20 07
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------|---------|---------------------------|--------------|-----------|
| 316 | * | LEE | 28 | 2 |
| STA. | | TO STA. | | |
| FED. ROAD DIST. NO. | | ILLINOIS FED. AID PROJECT | | |

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS
- 2 STATE STANDARDS
- 3 SUMMARY OF QUANTITIES
- 4 GENERAL NOTES
- 5 - 6 SN 052-0026 DETAILS
- 7 SN 052-0025 DETAILS
- 8 - 20 EXISTING STRUCTURE PLANS FOR SN 052-0026
- 21 - 28 EXISTING STRUCTURE PLANS FOR SN 052-0025

STATE STANDARDS

- 701006 - 02 Off-Road Operations, 2L, 2W, More Than 4.5 m (15') Away
- 701201 - 02 Lane Closure, 2L, 2W, Day Only, for Speeds > 45 MPH
- 702001 - 06 Traffic Control Devices

| | | | | |
|---------------------|----------|------------------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 316 | * | LEE | 28 | 3 |
| STA. | | TO STA. | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

| CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY | 052-0026 | 052-0025 |
|-------------|--|-------|----------------|------------|------------|
| | | | | SFTY-2A | SFTY-2A |
| | | | | 100% STATE | 100% STATE |
| 50500405 | FURNISHING AND ERECTING STRUCTURAL STEEL | POUND | 46,590 | 22,360 | 24,230 |
| 67100100 | MOBILIZATION | L SUM | 1 | 0.5 | 0.5 |
| 70100450 | TRAFFIC CONTROL AND PROTECTION 701201 | L SUM | 1 | 0.5 | 0.5 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

* SPECIALTY ITEM

GENERAL NOTES

| ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------------------|---------|--------------|-----------|
| FAP 316 (IL 26) | (102BR)M & (102BR-1)M-1 | Lee | 28 | 4 |
| FED ROAD DIST. NO. | ILLINOIS | PROJECT | | |
| Contract #64B28 | | | | |

This structure will retain the same number 052-0025 & 052-0026.

The contractor shall submit four copies of the required shop drawings for review and approval to the Bureau of Bridges and Structures, 2300 South Dirksen Parkway, Springfield, IL 62764. After approval of initial submittal, the contractor shall submit one set of shop drawings to Dave Lippert, Engineer of Materials, 126 East Ash Street, Springfield, IL 62706, and eight (8) sets of shop drawings to be distributed to:

- District 2 District Engineer (1)
- Fabricator (1)
- Contractor (2)
- Resident Engineer (2)
- District 2 Bureau of Materials (2)

The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123. The following listed utilities located within the project limits or immediately adjacent to the project construction limits are members of JULIE:

- | | |
|-------------------------------|-------------------------|
| Gallatin River Communications | Commonwealth Edison Co. |
| Verizon | NICOR Gas Co. |

If any guardrail is removed, it shall be the responsibility of the contractor to replace at no cost to the Department.

COMMITMENTS

STREAM PERMITS

June 7, 2005

No Stream Permits have been procured for this project. None are required from the Regulatory Agencies as long as there is no debris falling or being placed into the stream. Any temporary fill in the stream or the compromising of the dike (if applicable) will not be allowed. If the contractor chooses to use an alternate/modified construction method from the aforementioned, they will be responsible for obtaining the proper permits. Absolutely no construction activities will take place without the proper permits being secured. No relief or compensation will be given for any delays, working days charged, or calendar days expired as a result of the re-submittal for the required permits due to the contractor's alternate/modified construction methods.

Program #5
(Arch. Size)
Enlarge
200%
Enlarge 107%

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | |
|-----------------------|---------|----------|--------|-------------------|
| ROUTE NO. | SECTION | COUNTY | SHEETS | SHEET NO. |
| 316 | Δ | Lee | 28 | 5 |
| FED. ROAD DIST. NO. 7 | | ILLINOIS | | FED. AID PROJECT- |

SHEET NO. 1
2 SHEETS

Contract Number: 64B28

*Other sections meeting the minimum section modulus shown may be used, subject to approval by the Bureau of Bridges and Structures. The maximum girder depth provided shall be 30'.

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

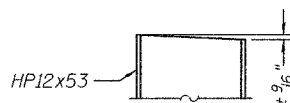
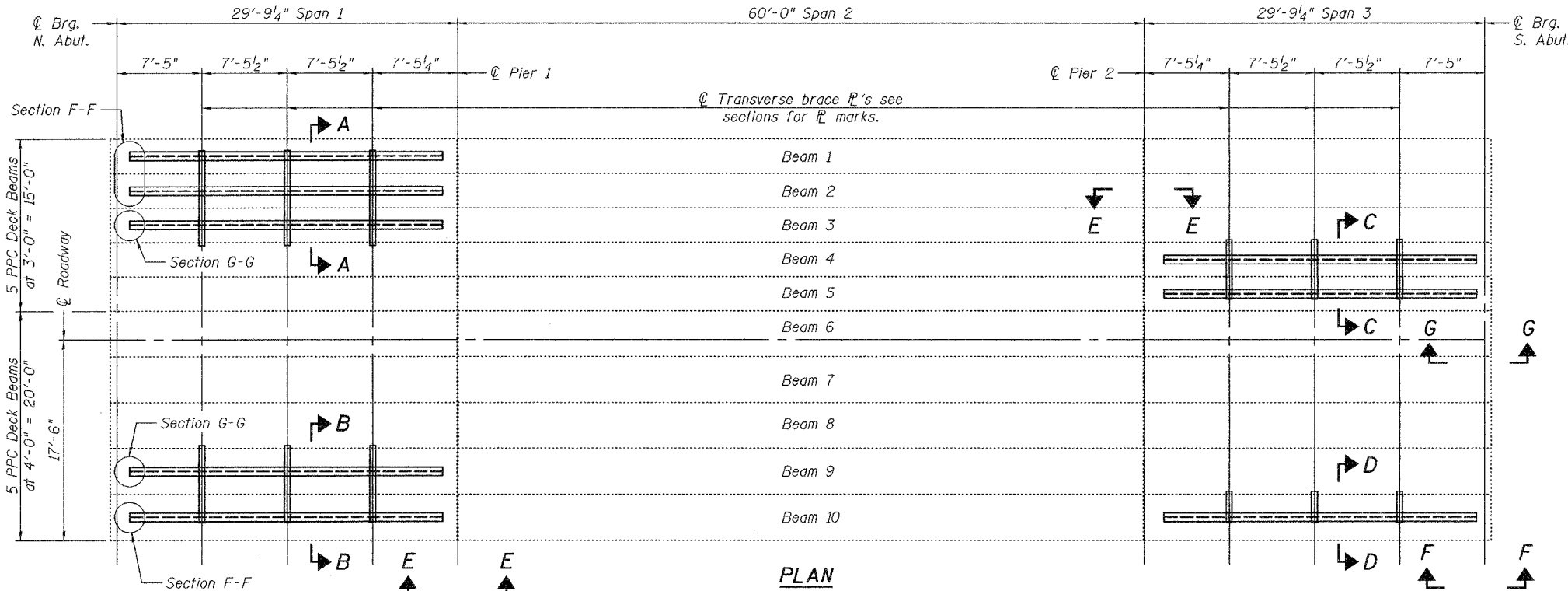
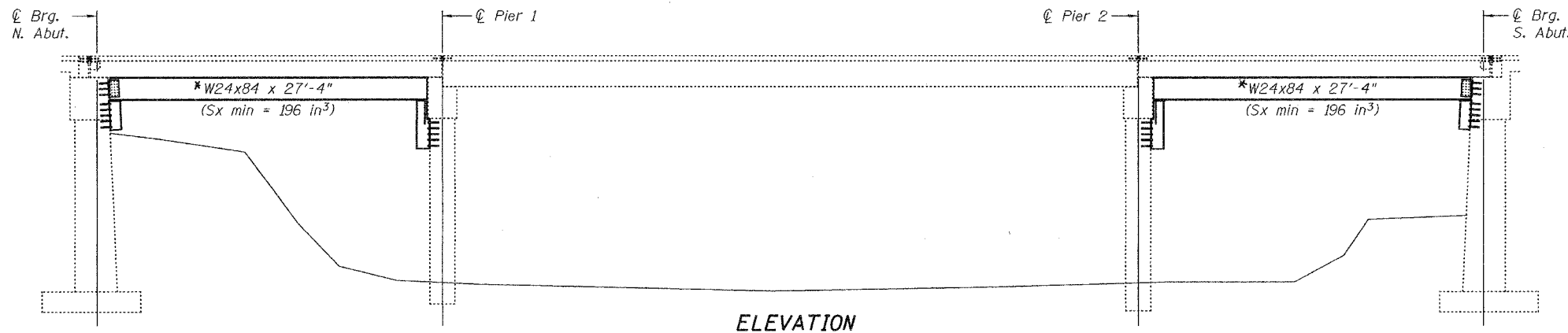
See Section 584 of the Standard Specifications for Epoxy Grouting of Threaded Rods.

The cost of epoxy grouting threaded rods shall be included with Furnishing and Erecting Structural Steel.

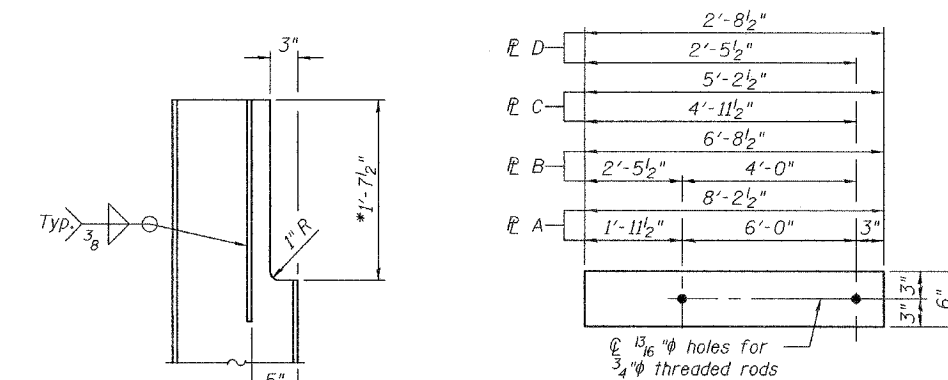
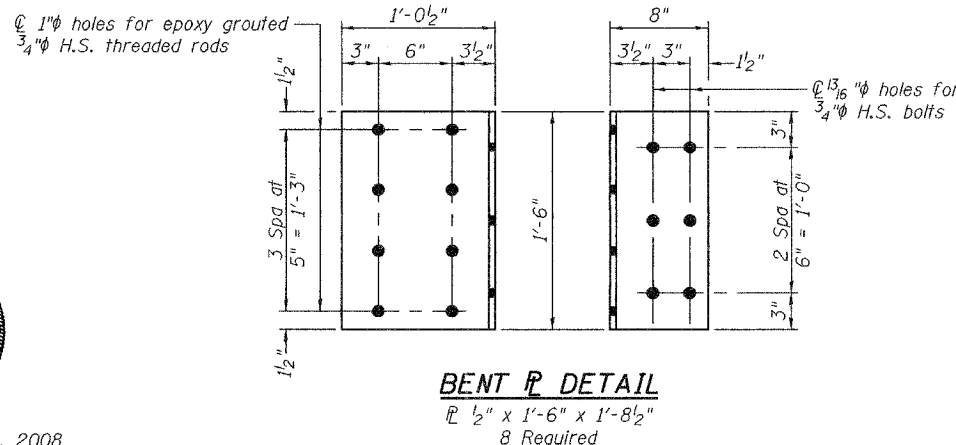
The Contractor has the option of using used steel. See special provisions.

The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures.

If the contractor's procedure for placement of beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams.



SLOPE CUT AT ABUTMENTS



NOTCH AND STIFFENER DETAIL

*This dimension can be reduced if existing field conditions allow it.

TOTAL BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Furnishing and Erecting Structural Steel | Pound | 23,360 |

PLAN AND ELEVATION

F.A.P. RT. 316
LEE COUNTY
SN 052-0026

| | |
|----------|----------------|
| DESIGNED | Victor H. Volz |
| CHECKED | [Signature] |
| DRAWN | [Signature] |
| CHECKED | VHV AJB |

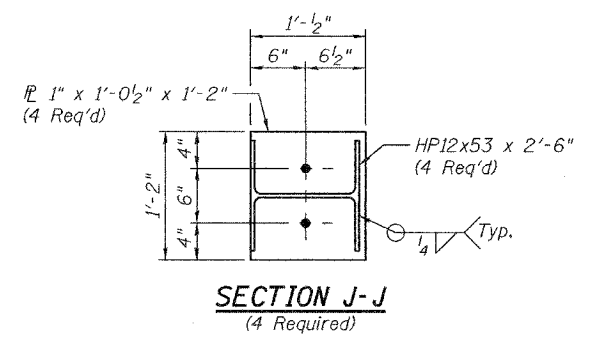
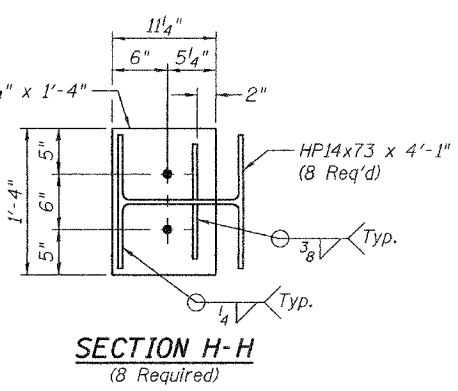
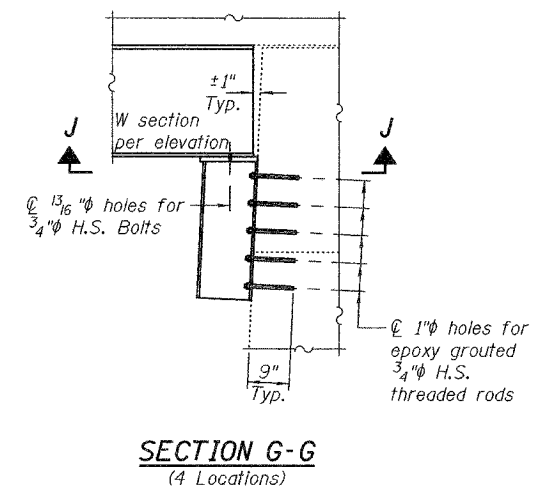
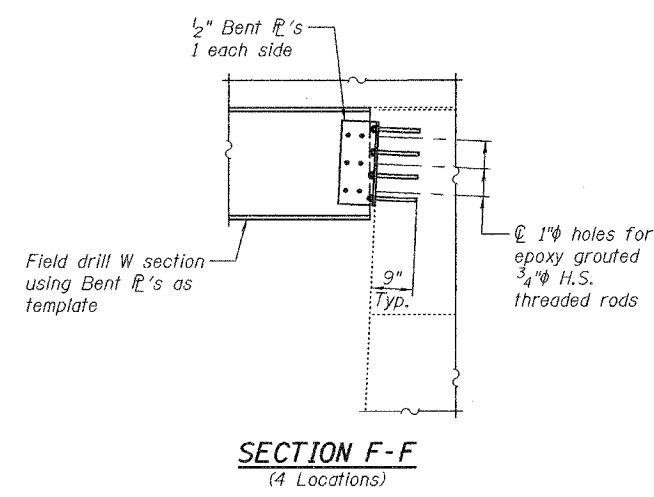
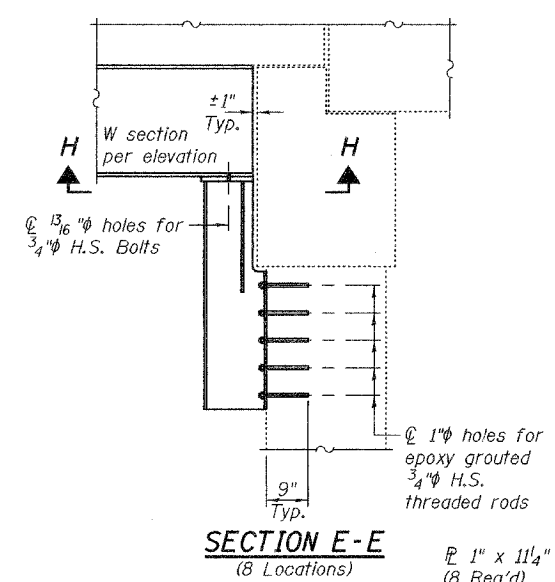
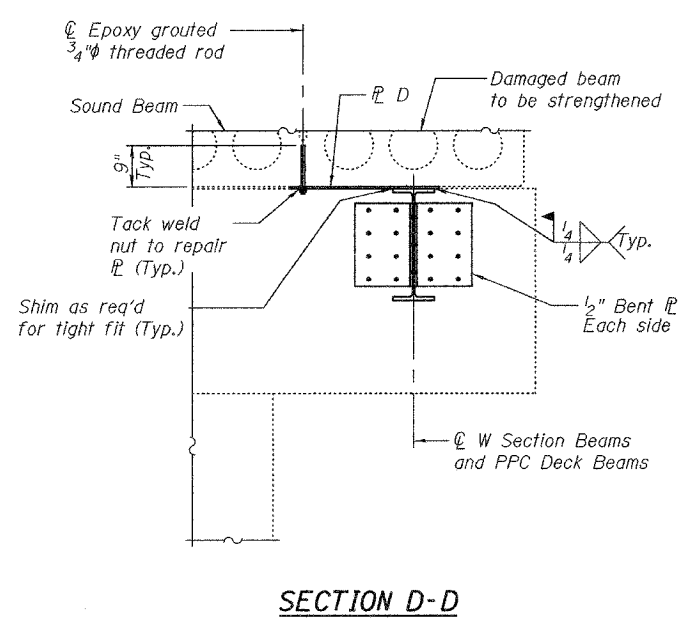
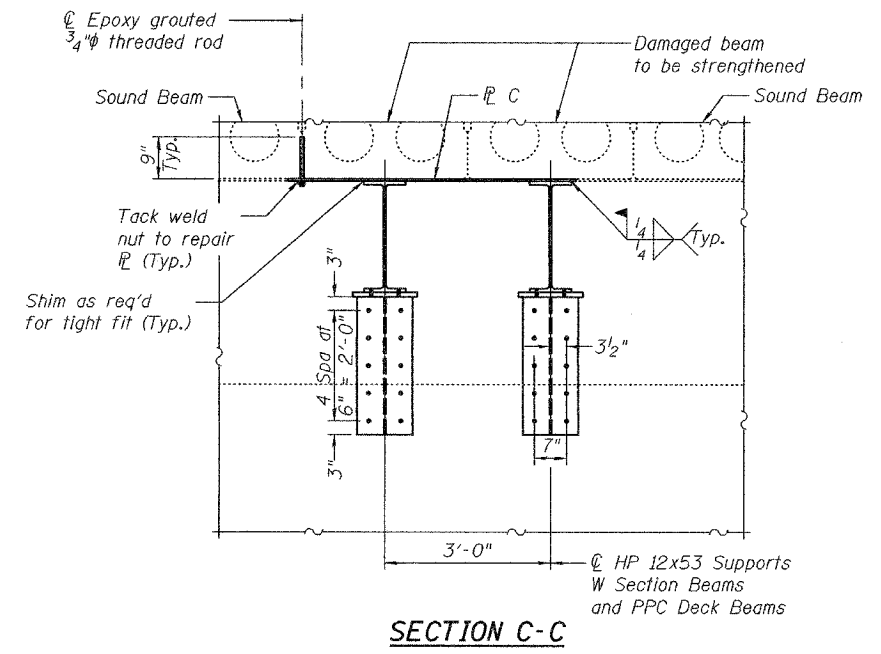
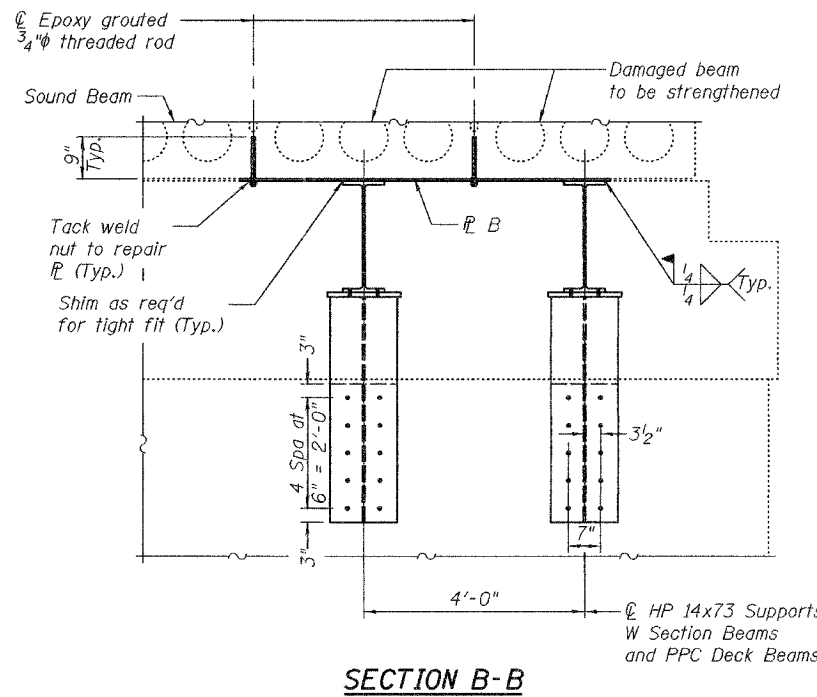
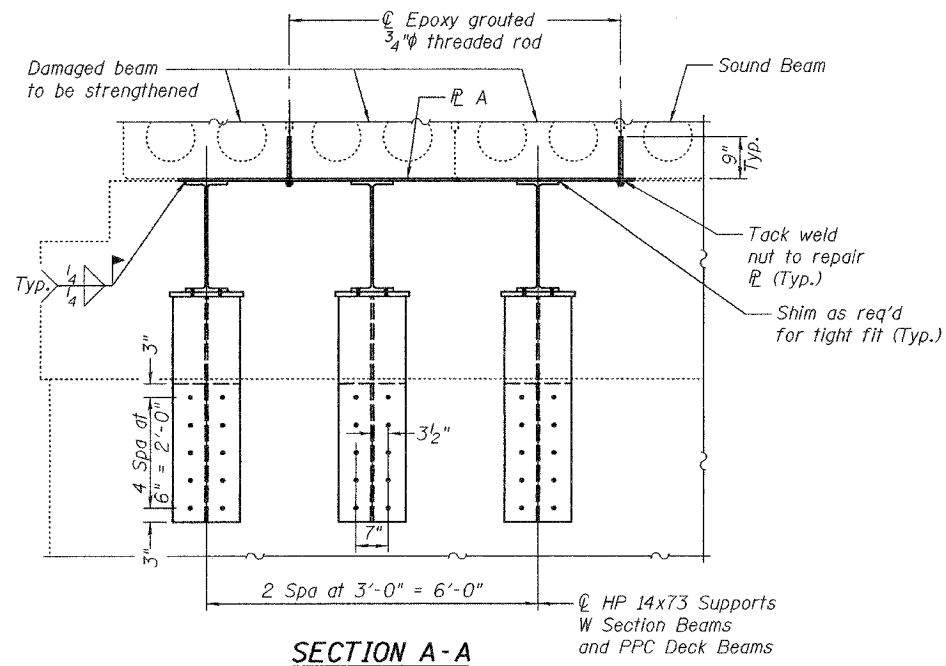
| | |
|----------|---------------|
| EXAMINED | June 21, 2007 |
| PASSED | [Signature] |



Expires: November 30, 2008

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | | |
|-----------------------|----------|------------------|------------------------|-----------|-------------------------|
| ROUTE NO. | SECTION | COUNTY | LENG. SHEETS | SHEET NO. | SHEET NO. 2 2 SHEETS |
| 316 | Δ | Lee | 28 | 6 | |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT | Contract Number: 64B28 | | |



| | |
|----------|------------------|
| DESIGNED | V.H.V. |
| CHECKED | A.J.B. |
| DRAWN | Drew Christopher |
| CHECKED | V.H.V. A.J.B. |

June 21, 2007
EXAMINED *Carl Hoover*
REPAIR PLANS UNIT CHIEF
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

REPAIR DETAILS
F.A.P. RT. 316
LEE COUNTY
SN 052-0026

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

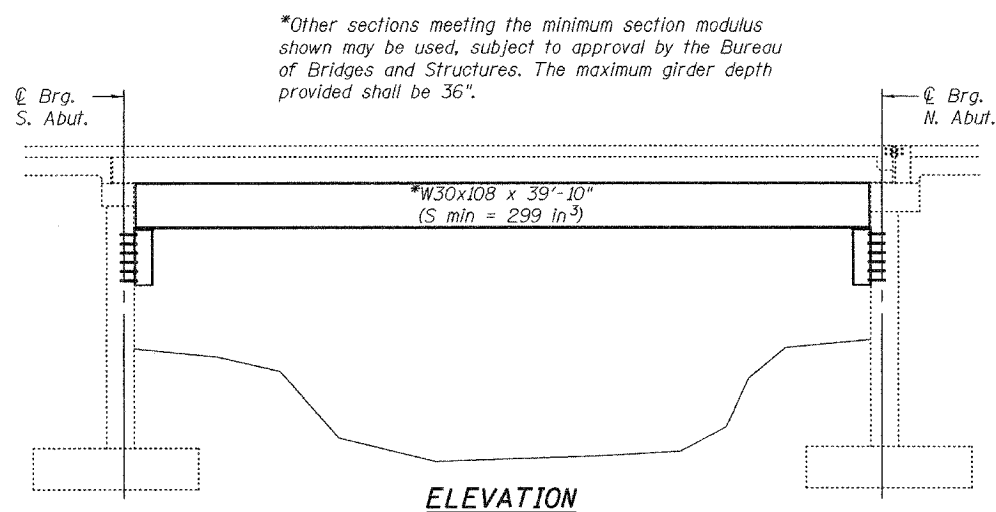
| | | | | |
|-----------------------|---------|----------|------------------|-----------|
| ROUTE NO. | SECTION | COUNTY | SHEETS | SHEET NO. |
| 316 | Δ | Lee | 28 | 7 |
| FED. ROAD DIST. NO. 7 | | ILLINOIS | FED. AID PROJECT | |

SHEET NO. 1
1 SHEETS

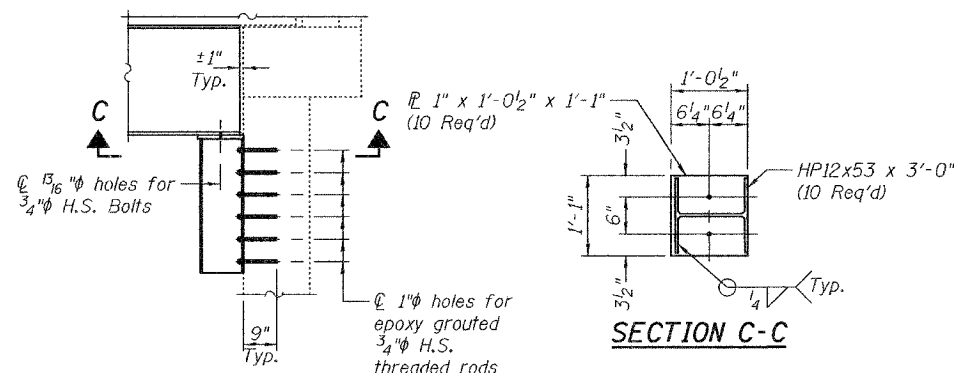
Contract Number: 64B28

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
See Section 584 of the Standard Specifications for Epoxy Grouting of Threaded Rods.
The cost of epoxy grouting threaded rods shall be included with Furnishing and Erecting Structural Steel.
The Contractor has the option of using used steel. See special provisions.
The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures.
If the contractor's procedure for placement of beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams.

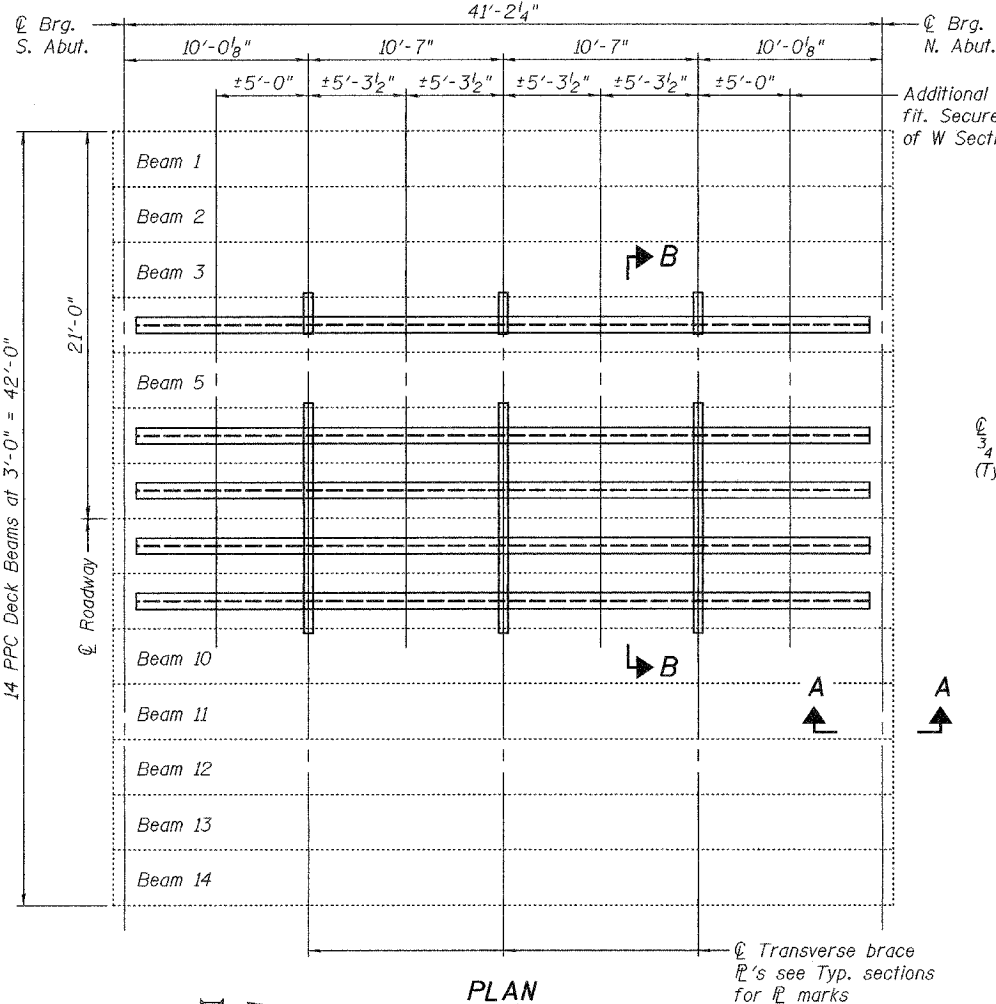


ELEVATION

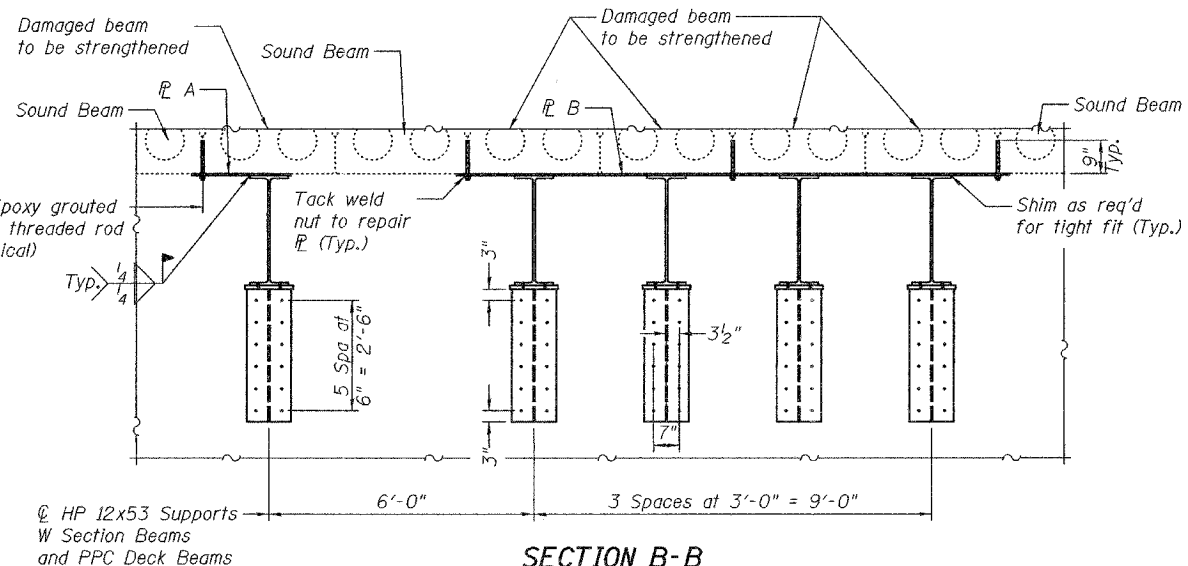


SECTION A-A

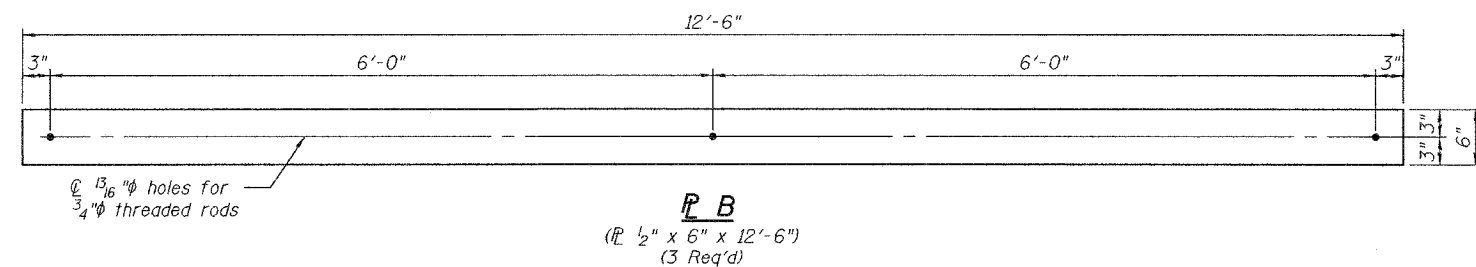
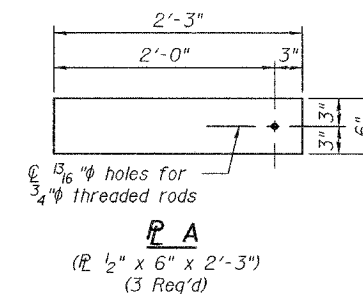
SECTION C-C



PLAN



SECTION B-B



TOTAL BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Furnishing and Erecting Structural Steel | Pound | 24,230 |

PLAN AND ELEVATION

F.A. RT. 38
LEE COUNTY
SN 052-0025

| | |
|----------|-----------------|
| DESIGNED | Victor H. Veliz |
| CHECKED | [Signature] |
| DRAWN | [Signature] |
| CHECKED | VHV AJO |

| | | |
|----------|-------------|---------------|
| EXAMINED | [Signature] | June 21, 2007 |
| PASSED | [Signature] | |



Expires: November 30, 2008

B.M. Chiseled square on S.W. wingwall of bridge 15' Rt. Sta. 602+56 Elev. 695.49
 Existing Structure #052-0026 Built as S.B.I. Rt. 26, Sec. 102 B+C, at Sta. 598+65
 in the year 1927. The existing 120'-0" long by 23'-2" wide steel truss shall
 be removed and the existing R.C. closed Abuts. rebuilt and two new concrete
 enclosed pile bent piers built to accommodate a new P.P.C. Deck Beam
 Superstructure. Traffic shall be detoured.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

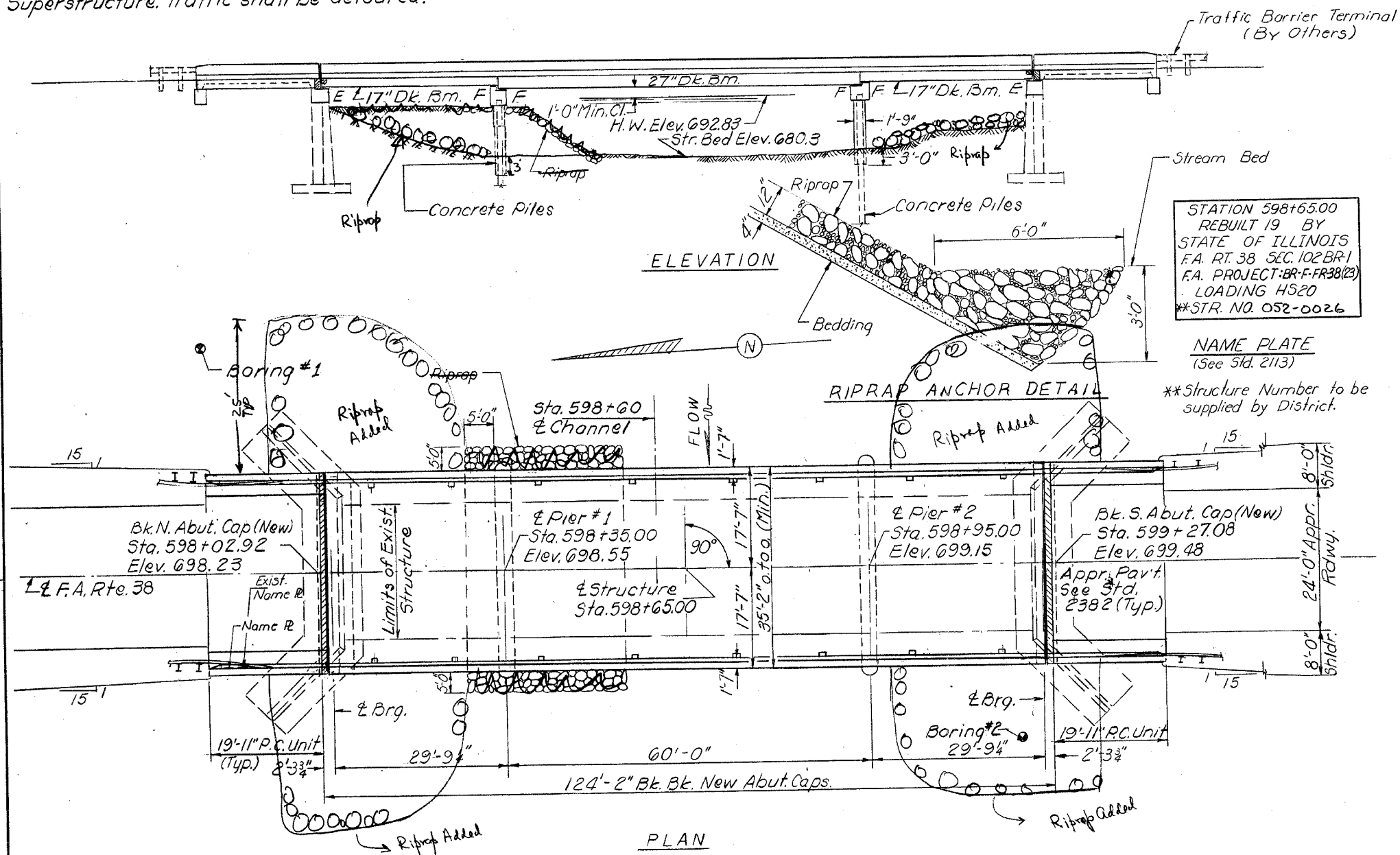
FOR INFORMATIONAL
 PURPOSES ONLY

| | | | |
|-------------|---------|-----------|--------------|
| PROJECT NO. | SECTION | SHEET NO. | TOTAL SHEETS |
| 052-0026 | BRIDGE | 13 | 13 |

SHEET NO. 1
 13 SHEETS

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.
 See Proposal for Boring Data.
 All structural steel shall be shop painted with two coats of basic lead silico chromate paint.
 Expansion guards which are not cast in the precast unit shall be fabricated and erected in accordance with Article 503.07(c) of the Standard Specifications and are included in quantity of structural steel.
 The contractor shall drive one concrete test pile in a permanent location at Pier 1 as directed by the Engineer before ordering the remainder of piles.
 Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of 4".
 Limits of Waterproofing Membrane System shall be from toe to toe of parapets and end to end of deck beams.
 Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
 Shoulder transition to wingwall shall be shaped with broken concrete. Cost incidental.



STATION 598+65.00
 REBUILT BY
 STATE OF ILLINOIS
 F.A. RT. 38 SEC. 102 BR-1
 F.A. PROJECT BR-F-FR38(23)
 LOADING HS20
 **STR. NO. 052-0026

NAME PLATE
 (See Std. 2113)
 **Structure Number to be supplied by District.

TOTAL BILL OF MATERIAL

| Item | Unit | Super | Sub | Total |
|---|----------|-------|-------|-------|
| Bituminous Concrete Surface Course, Class I | Tons | 50 | | 50 |
| Removal of Existing Superstructures | Each | 1 | | 1 |
| Concrete Removal | Cu. Yd. | | 18 | 18 |
| Structure Excavation | Cu. Yd. | | 83 | 83 |
| Stone Riprap | Sq. Yd. | 130 | | 130 |
| Protective Coat | Sq. Yd. | 42.4 | 110.9 | 153.3 |
| Class X Concrete | Cu. Yd. | 299 | | 299 |
| Precast Concrete Bridge Slab | Sq. Ft. | 2122 | | 2122 |
| Precast Prestressed Concrete Deck Beams (17" Depth) | Sq. Ft. | 2097 | | 2097 |
| Precast Prestressed Concrete Deck Beams (27" Depth) | Sq. Ft. | 4620 | | 4620 |
| Structural Steel | Pound | 4200 | 9150 | 13350 |
| Reinforcement Bars | Pound | 1480 | | 1480 |
| Reinforcement Bars (Epoxy Coated) | Pound | | 563 | 563 |
| Concrete Piles | Lin. Ft. | | 1 | 1 |
| Test Piles Concrete | Each | 1 | | 1 |
| Name Plates | Lin. Ft. | 70 | | 70 |
| Preformed Joint Seal 2 1/2" | Lin. Ft. | 1085 | | 1085 |
| Portland Cement Mortar Faring Course | Sq. Yd. | 429 | | 429 |
| Waterproofing Membrane System | | | | |

WATERWAY INFORMATION

Drainage Area 235 Sq. Mi. Low Grade Elev. @ Sta.

| Flood | Freq. Yrs. | Q C.F.S. | Opening Sq. Ft. Exist. | Prop. | Nat. H.W.E. | Head Ft. Exist. | Prop. | Headwater El. Exist. | Prop. |
|------------|------------|----------|------------------------|-------|-------------|-----------------|-------|----------------------|--------|
| Design | 50 | 6400 | 990 | 990 | 692.83 | 0 | 0 | 692.83 | 692.83 |
| Base | 100 | 7250 | 990 | 990 | 693.3 | 0 | 0 | 693.3 | 693.3 |
| Max. Calc. | 500 | 9135 | 990 | 990 | 693.3 | 0 | 0 | 693.3 | 693.3 |

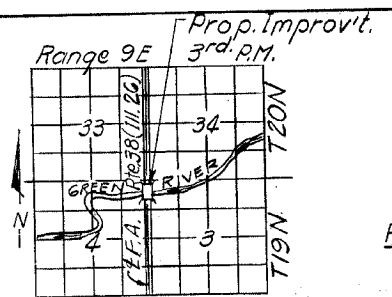
*Estimated Discharges
 Note: Proposed Opening over the Green River is one opening of a total of (3) located in the Green River floodplain. A total opening 1328 Sq. Ft. is provided below design Highwater.

DESIGN STRESSES

FIELD UNITS PRECAST UNITS
 $f'_c = 3500 \text{ p.s.i.}$ $f'_c = 4500 \text{ p.s.i.}$
 $f_y = 60,000 \text{ p.s.i. (Reinf.)}$ $f'_c = 1800 \text{ p.s.i.}$
 $f_s = 20,000 \text{ p.s.i. (Struct.)}$ $f_s = 20,000 \text{ p.s.i.}$

PRECAST PRESTRESSED UNITS

$f'_c = 5000 \text{ p.s.i.}$
 $f_{ci} = 4000 \text{ p.s.i.}$
 $f_s = 270,000 \text{ p.s.i. (2" Strands)}$
 $f_{si} = 189,000 \text{ p.s.i. (2" Strands)}$
 Design Specifications 1977 AASHTO 1978, 1979 & 1980 Interim Specs. as applicable
 Allow 25#/sq. ft. for future Wearing Surface
 LOADING HS20-44 (New Structure)



GENERAL PLAN
 F.A. RTE. 38 OVER GREEN RIVER
 F.A. RTE. 38 (ILL. RT. 26) SEC. 102 BR-1
 LEE COUNTY
 STA. 598+65.00

PROPOSED PROFILE GRADE

Sta. 597+59 Elev. 697.80
 +0.99% Grade Sta. Increase

| | |
|----------|----------|
| DESIGNED | EXAMINED |
| CHECKED | PASSED |
| DRAWN | APPROVED |
| CHECKED | |

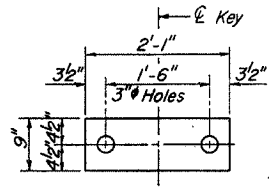
FEBRUARY 24 1981

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

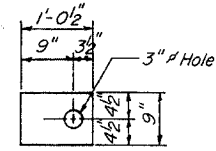
FOR INFORMATIONAL
PURPOSES ONLY

| | | | |
|-------------|---------|-----------|--------------|
| ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS |
| 316 | 1 | LEE | 28 |
| PROJECT NO. | SECTION | SHEET NO. | |
| | | 13 | |

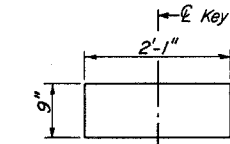
SHEET NO. 2
13 SHEETS



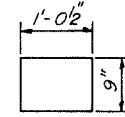
FABRIC BEARING PAD
(Interior)
(36" Beams)



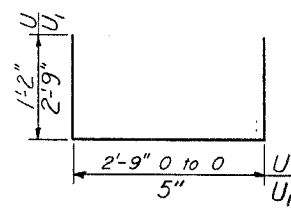
FABRIC BEARING PAD
(Exterior)
(36" Beams)



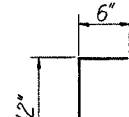
GRAPHITED ASBESTOS BEARING PAD
(Interior)
(36" Beams)



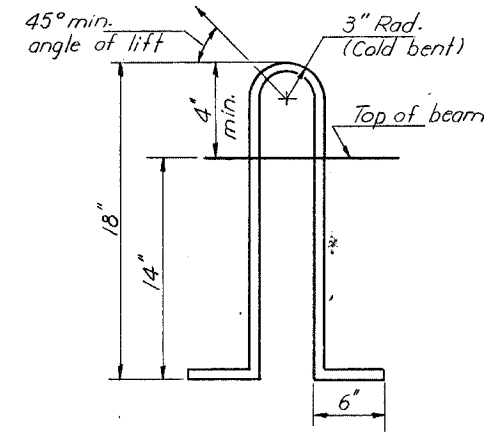
GRAPHITED ASBESTOS BEARING PAD
(Exterior)
(36" Beams)



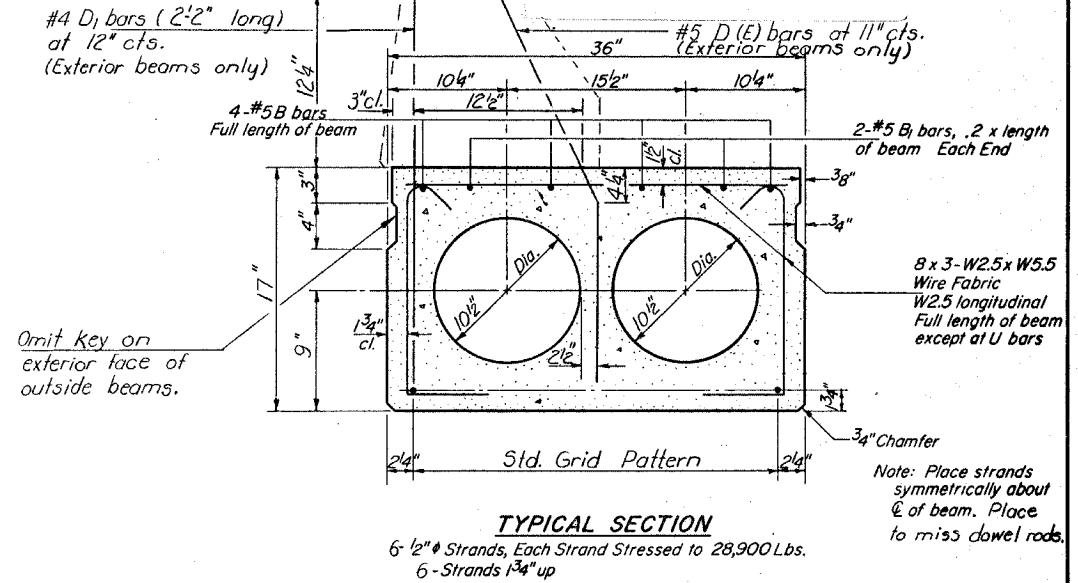
U & U1 BARS



D2 BAR

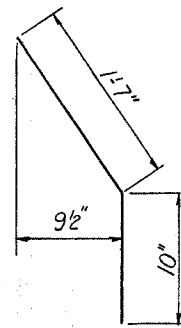


DETAIL OF LIFTING LOOP FOR 270 KSI STRANDS

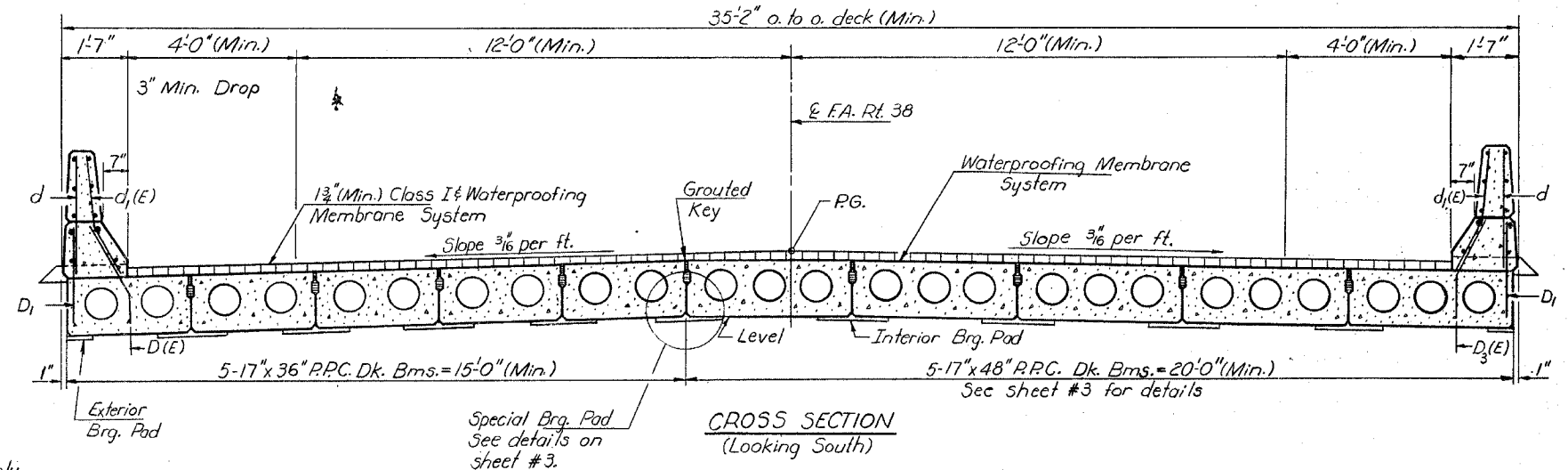


TYPICAL SECTION

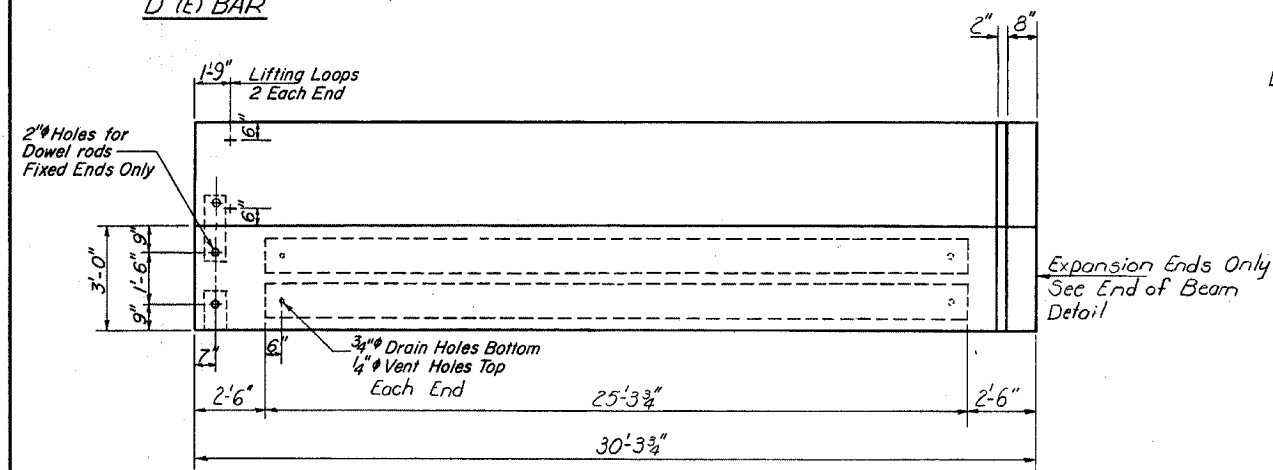
6-1/2" Strands, Each Strand Stressed to 28,900 Lbs.
6-Strands 1 3/4" up



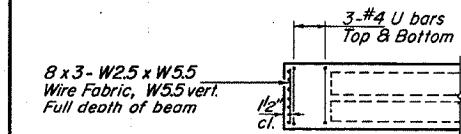
D (E) BAR



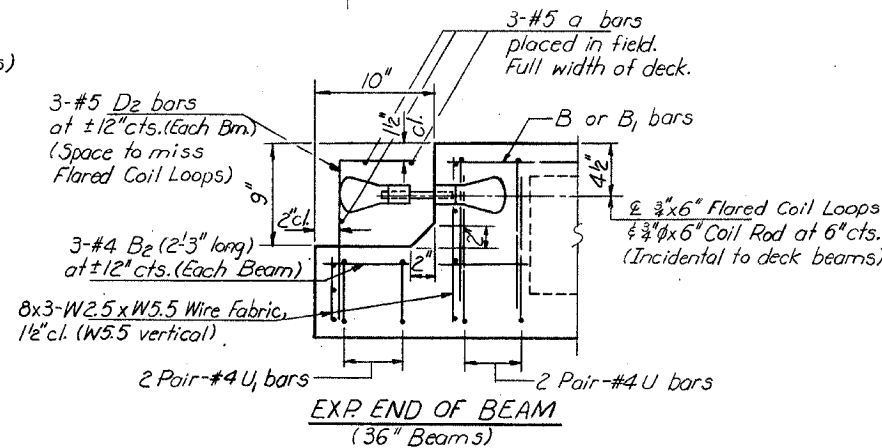
CROSS SECTION (Looking South)



PLAN (36" Beams)



FIXED END PLAN (36" Beams)



EXP. END OF BEAM (36" Beams)

NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 1/2" diameter, 6x25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 21,000 lbs. or 2-1/2" #270 ksi strands as shown.

Reinforcement bars shall conform to AASHTO: M-31 or M-53, Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

For Sec. Thru Parapet and Drain Detail see sheet #3. Reinforcement bars for expansion pocket and parapets and Class X Concrete are billed on sheet #8. For Detail of D3(E) bar see sheet #3.

BILL OF MATERIAL

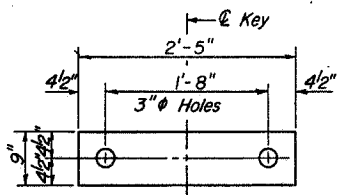
| Item | Unit | Total |
|---|---------|-------|
| * Precast Prestressed Concrete Deck Beams (17" Depth) | Sq. Ft. | 909 |

* For 36" Beams. See sheet #3 for Bill of Material for 48" beams.

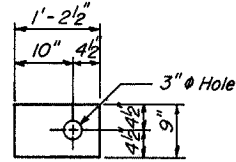
| | |
|-----------------------------|-----------------------------|
| DESIGNED <i>[Signature]</i> | EXAMINED <i>[Signature]</i> |
| CHECKED <i>M. Ryan</i> | PASSED <i>[Signature]</i> |
| DRAWN <i>R. Doty</i> | APPROVED <i>[Signature]</i> |
| CHECKED <i>MR</i> | DIRECTOR OF HIGHWAYS |

SUPERSTRUCTURE SPANS 1 & 3
F.A. RT. 38 SEC. 102 BR-1
LEE COUNTY
STA. 598+65.00

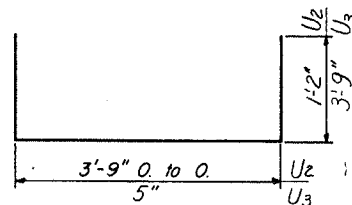
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



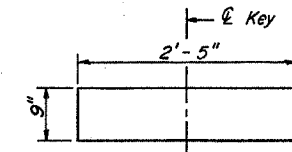
FABRIC BEARING PAD
(Interior)
(48" Beams)



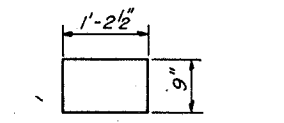
FABRIC BEARING PAD
(Exterior)
(48" Beams)



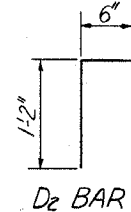
U₂ & U₃ BARS



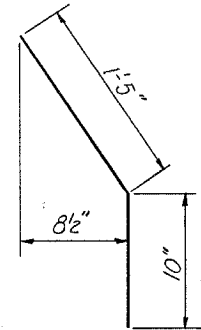
GRAPHITED ASBESTOS BEARING PAD
(Interior)
(48" Beams)



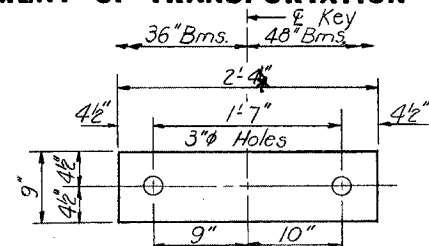
GRAPHITED ASBESTOS BEARING PAD
(Exterior)
(48" Beams)



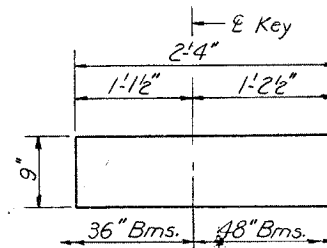
D₂ BAR



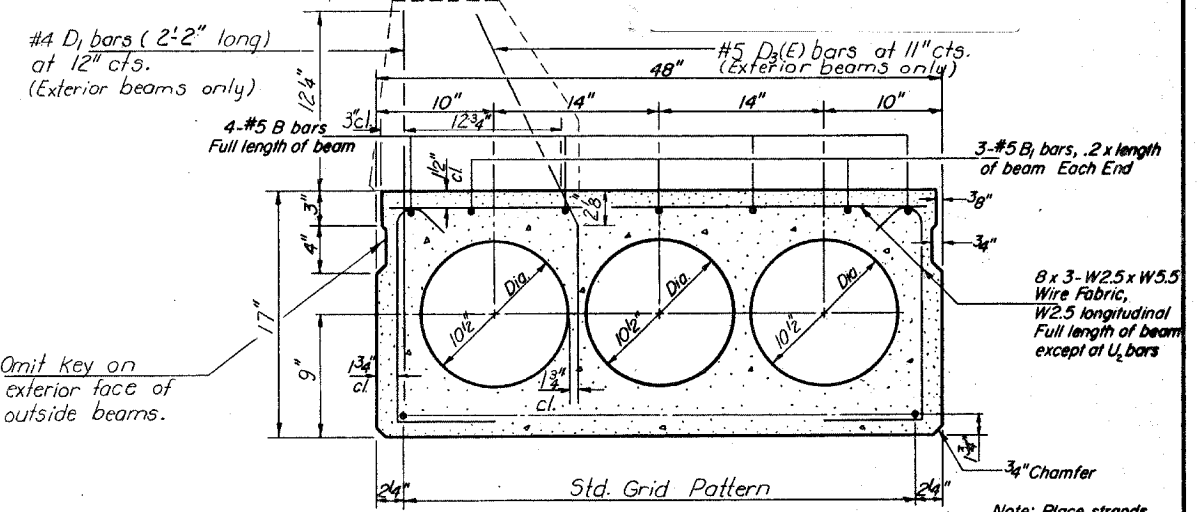
D₃ (E) BAR



SPECIAL FABRIC BEARING PAD

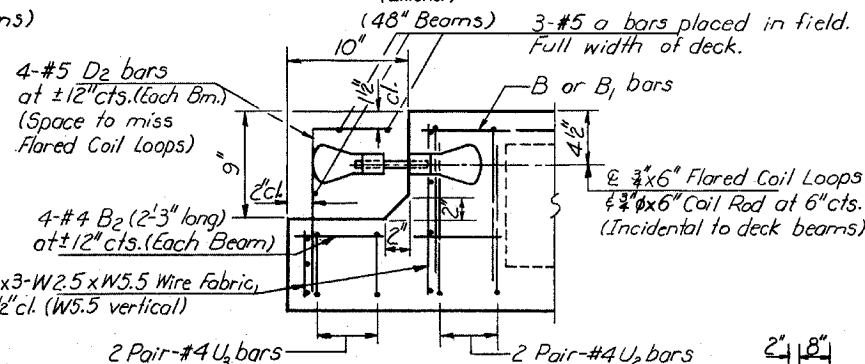


SPECIAL GRAPHITED ASBESTOS BEARING PAD

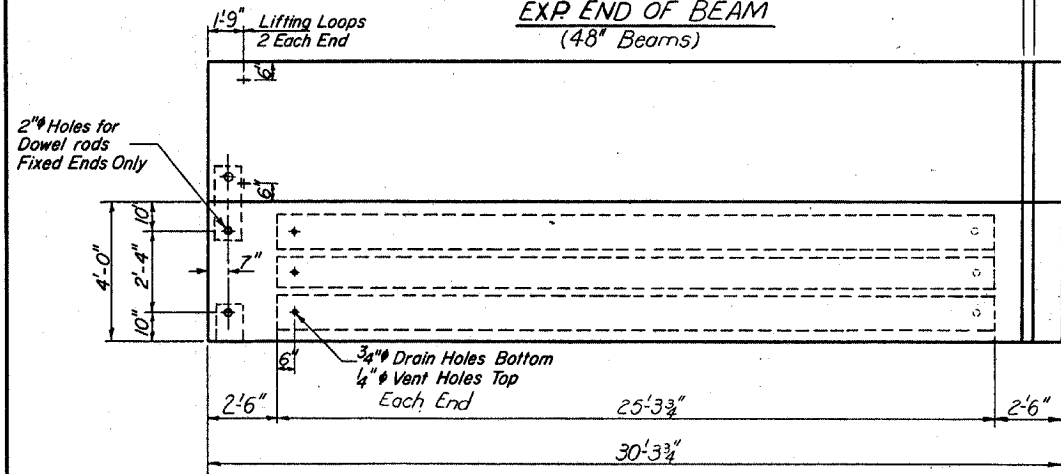


TYPICAL SECTION
8-1/2" Strands, Each Strand Stressed to 28,900 Lbs.
8-Strands 1 3/4" up

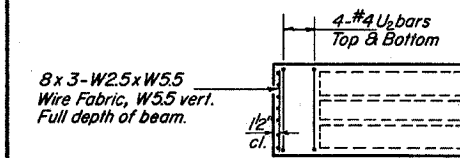
Note: Place strands symmetrically about center of beam. Place to miss dowel rods.



EXP END OF BEAM
(48" Beams)



PLAN
(48" Beams)

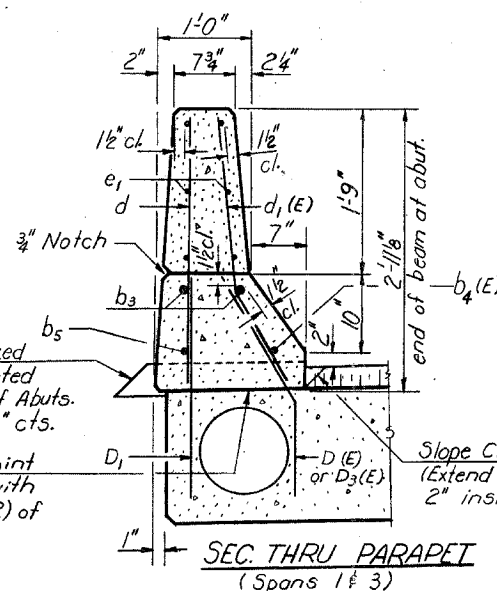


FIXED END PLAN
(48" Beams)

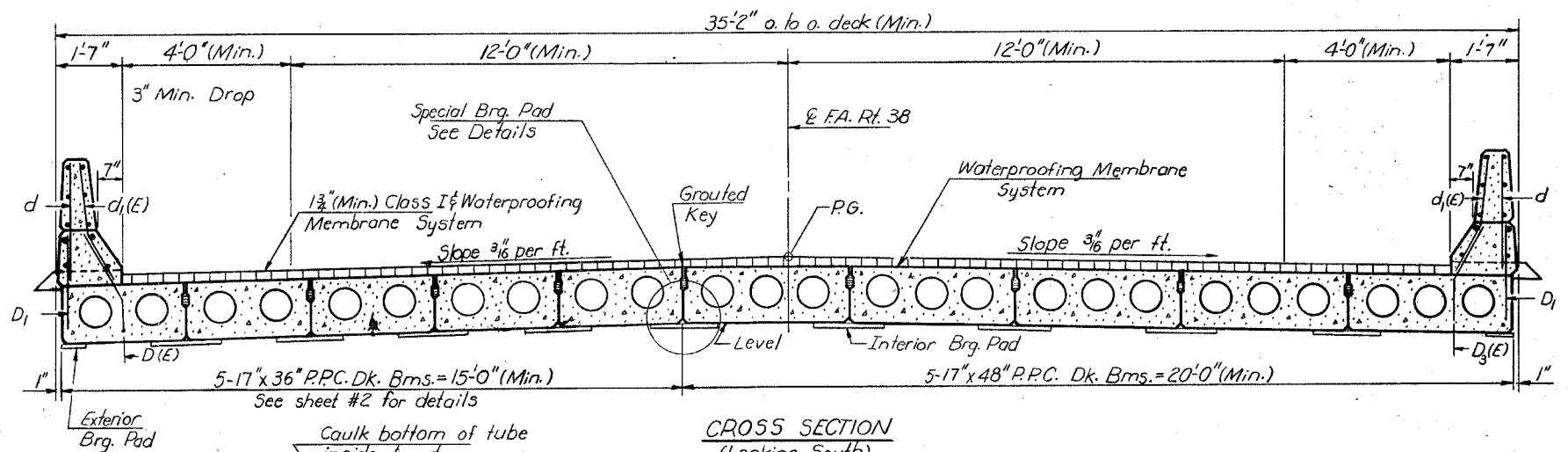
| | |
|----------|--------------------|
| DESIGNED | <i>[Signature]</i> |
| CHECKED | <i>M. Ryan</i> |
| DRAWN | <i>R. Doty</i> |
| CHECKED | <i>MR</i> |

| | | |
|----------|--------------------|--------------|
| EXAMINED | <i>[Signature]</i> | FEB. 24 1981 |
| PASSED | | |
| APPROVED | | |

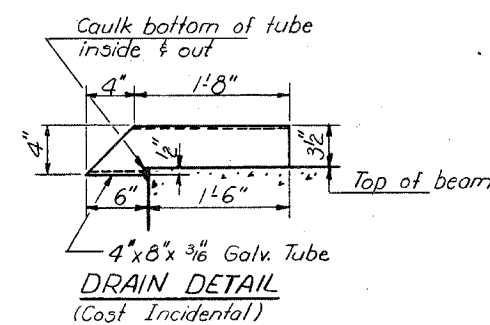
4"x8"x 3/16 Galvanized Drain Tubes located 10'-0" from Bk. of Abuts. & spaced @ 15'-0" cts.
Bonded Const. Joint in accordance with Article 504.13(a)(2) of the Std. Specs.



SEC. THRU PARAPET
(Spans 1 & 3)



CROSS SECTION
(Looking South)



DRAIN DETAIL
(Cost Incidental)

NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 1/2" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 21,000 lbs or 2-1/2" - 270 ksi strands as shown on sheet #2.

Reinforcement bars shall conform to AASHTO-M-31 or M-53, Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

Reinforcement bars for expansion pocket and parapets and Class X Concrete are billed on sheet #8. For Detail of D (E) bar see sheet #2.

Slope Class I 2:1 at drains (Extend deck waterproofing 2" inside drain)

BILL OF MATERIAL

| Item | Unit | Total |
|---|---------|-------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| * Precast Prestressed Concrete Deck Beams (17" Depth) | Sq. Ft. | 12/3 |

* For 48" Beams. See sheet #2 for Bill of Material for 36" bms.

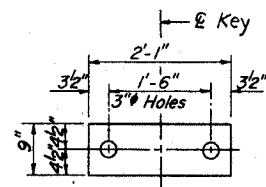
SUPERSTRUCTURE
SPANS 1 & 3
F.A. RT. 38 SEC. 102BR-1
LEE COUNTY
STA. 598+65.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

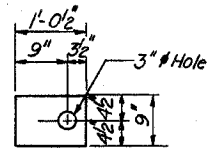
FOR INFORMATIONAL
PURPOSES ONLY

| | | | |
|-------------|-----------|--------|--------------|
| PROJECT NO. | SHEET NO. | COUNTY | TOTAL SHEETS |
| 316 | 4 | LEE | 13 |

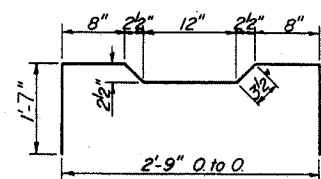
SHEET NO. 4
13 SHEETS



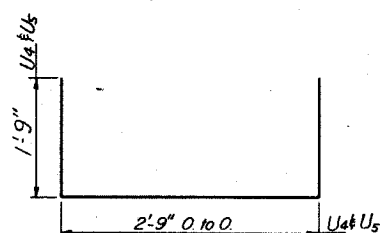
FABRIC BEARING PAD
(Interior)
(36" Beams)



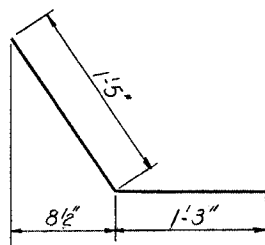
FABRIC BEARING PAD
(Exterior)
(36" Beams)



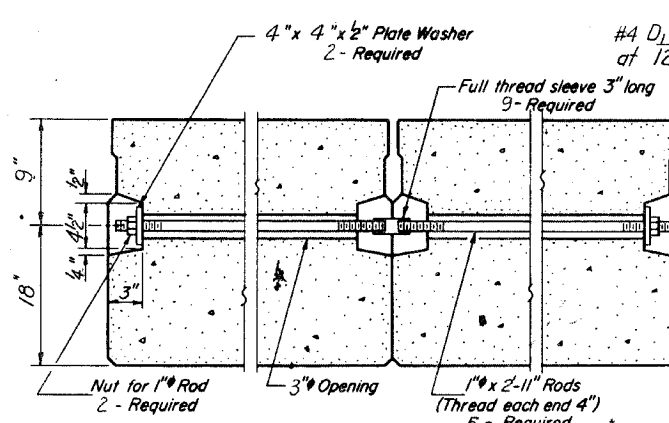
A1 BAR



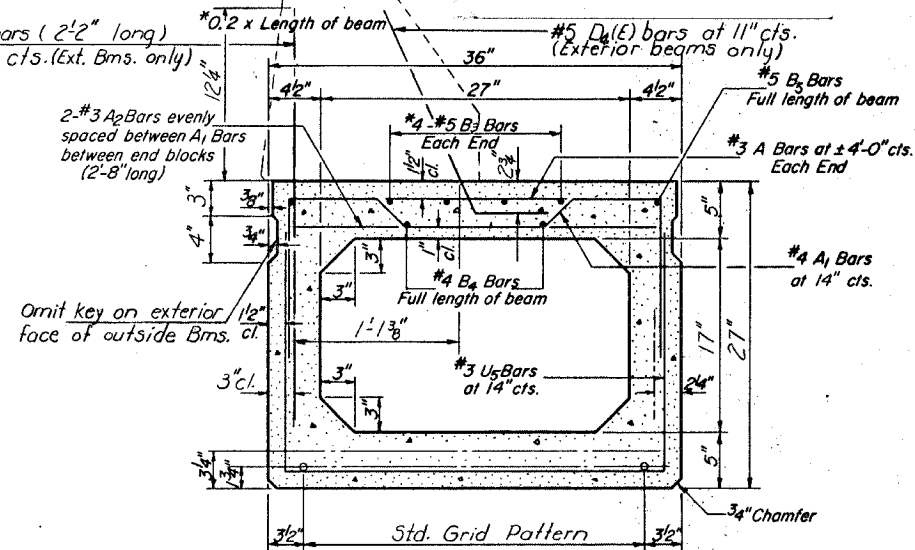
U4 & U5 BARS



D4(E) BAR



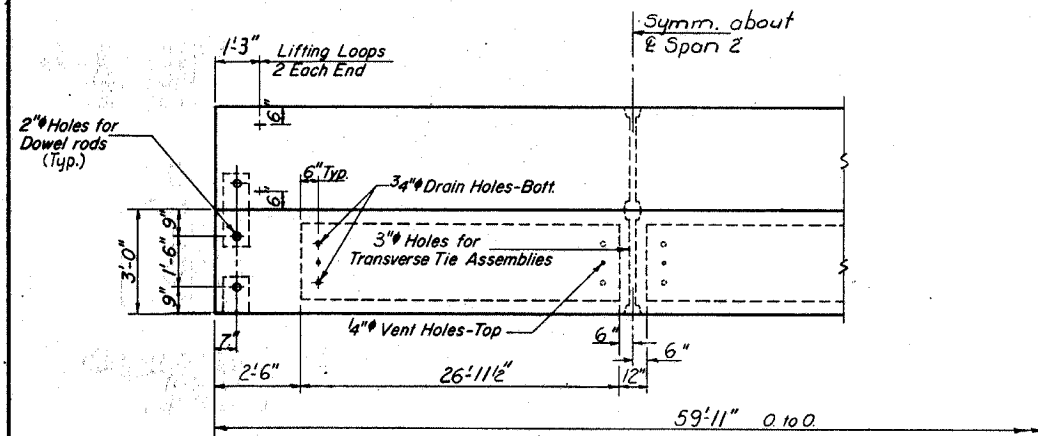
TYPICAL TRANSVERSE TIE ASSEMBLY
(36" Beams)



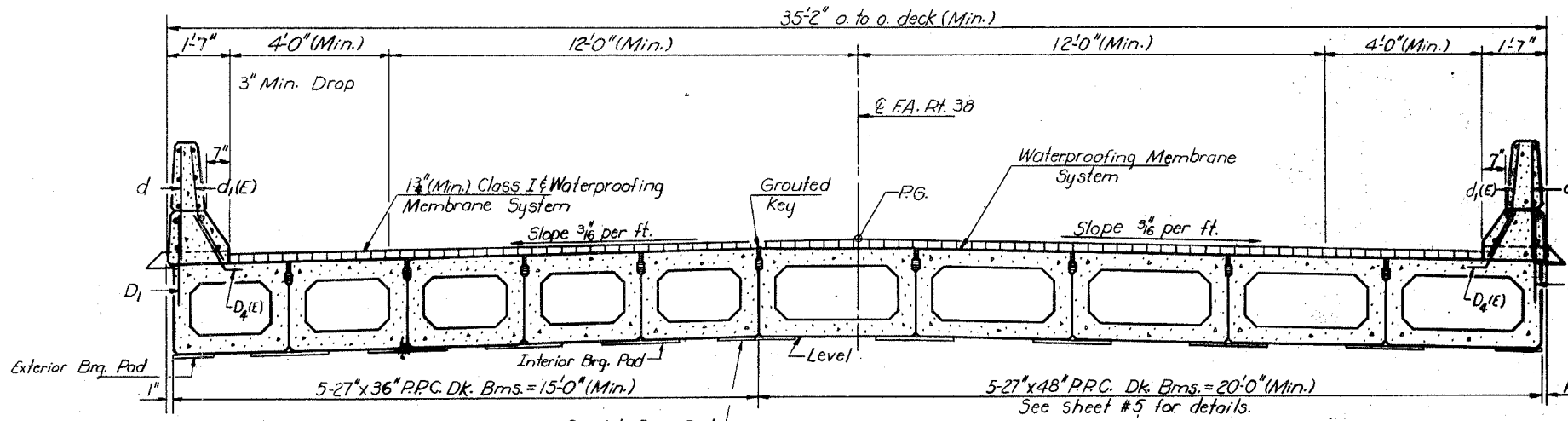
TYPICAL SECTION

13- 1/2" Strands Each Strand Stressed to 28,900 Lbs.
9 - Strands 3/4" up, 4 - Strands 3/4" up,

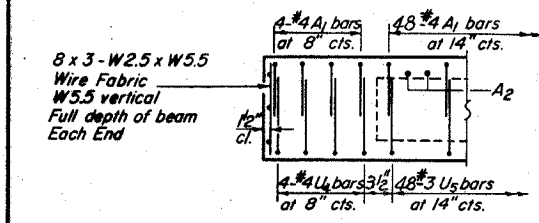
Note: Place strands symmetrically about centerline of beam. Place to miss dowel rods.



HALF PLAN
(36" Beams)



CROSS SECTION
(Looking South)



END ELEVATION
(36" Beams)

| | |
|-------------------------|-----------------------------|
| DESIGNED <i>M. Ryan</i> | EXAMINED <i>[Signature]</i> |
| CHECKED <i>M. Ryan</i> | PASSED |
| DRAWN <i>R. Doty</i> | APPROVED |
| CHECKED <i>MR</i> | DIRECTOR OF HIGHWAYS |

PD-5-S 8-1-78

NOTES

- Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- Lifting loops shall be 1/2" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 21,000 lbs. or 2- 1/2" - 270 ksi strands shown on sheet #2.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
- The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.
- Reinforcement bars shall conform to AASHTO: M-31 or M-53, Grade 60.
- For Sec. Thru Parapet see sheet #5.
- Parapet reinforcement and Class X Concrete are billed on sheet #8.
- For Drain Detail see sheet #3.

BILL OF MATERIAL

| Item | Unit | Total |
|---|---------|-------|
| * Precast Prestressed Concrete Deck Beams (27" Depth) | Sq. Ft. | 899 |

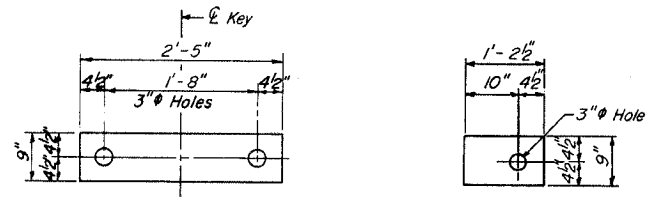
* For 36" Beams.
See sheet #5 for Bill of Material for 48" bms.

SUPERSTRUCTURE
SPAN 2
F.A. RT. 38 SEC. 102 BR-1
LEE COUNTY
STA. 598+65.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

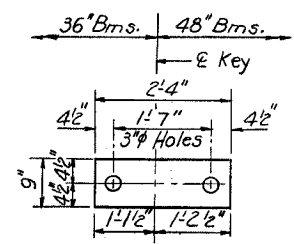
FOR INFORMATIONAL
PURPOSES ONLY

PROJECT NO. 102BR-1
COUNTY LEE
SHEET NO. 5
13 SHEETS

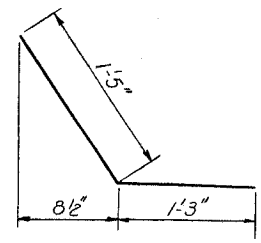


FABRIC BEARING PAD
(Interior)
(48" Beams)

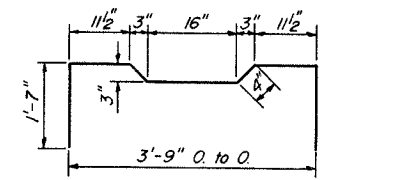
FABRIC BEARING PAD
(Exterior)
(48" Beams)



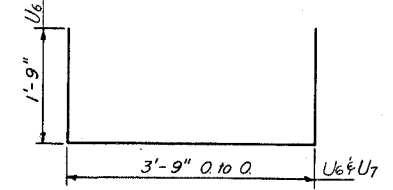
SPECIAL FABRIC BRG. PAD



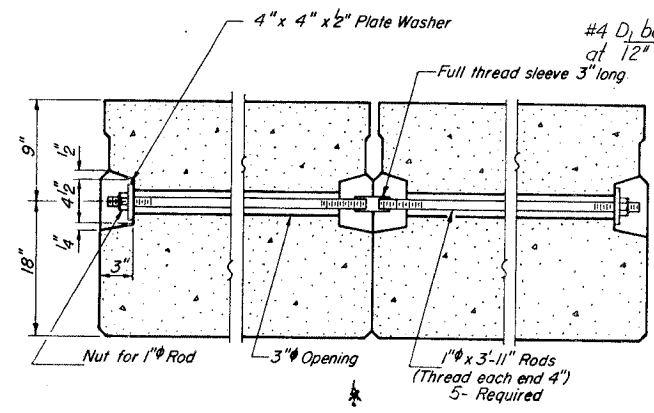
D4(E) BAR



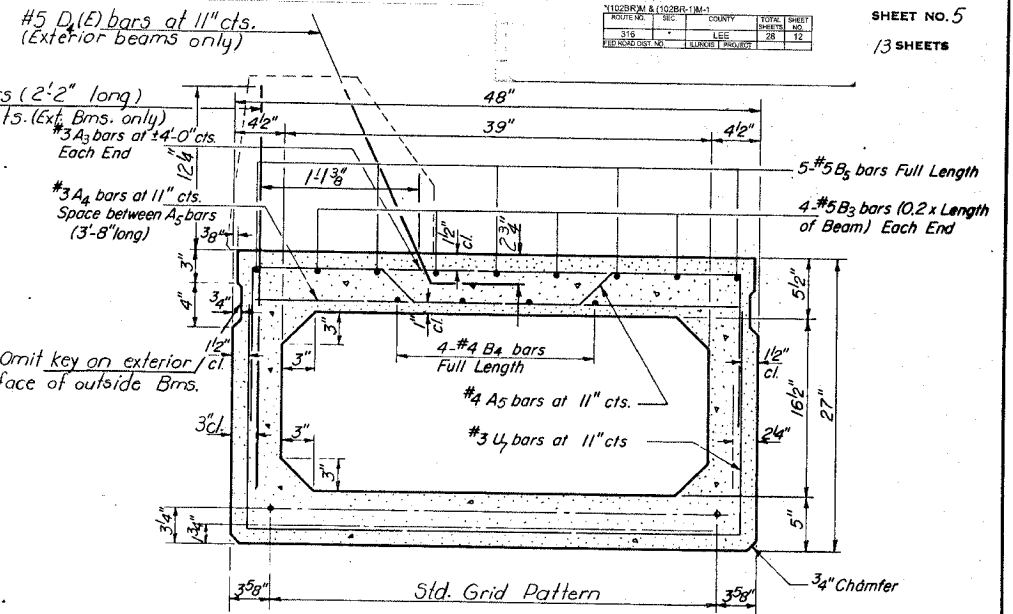
A5 BAR



U6 & U7 BARS



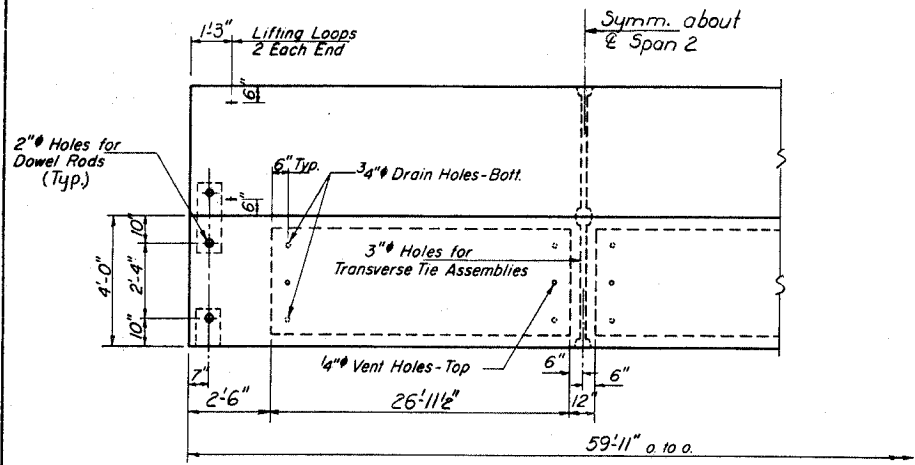
TYPICAL TRANSVERSE TIE ASSEMBLY
(48" Beams)



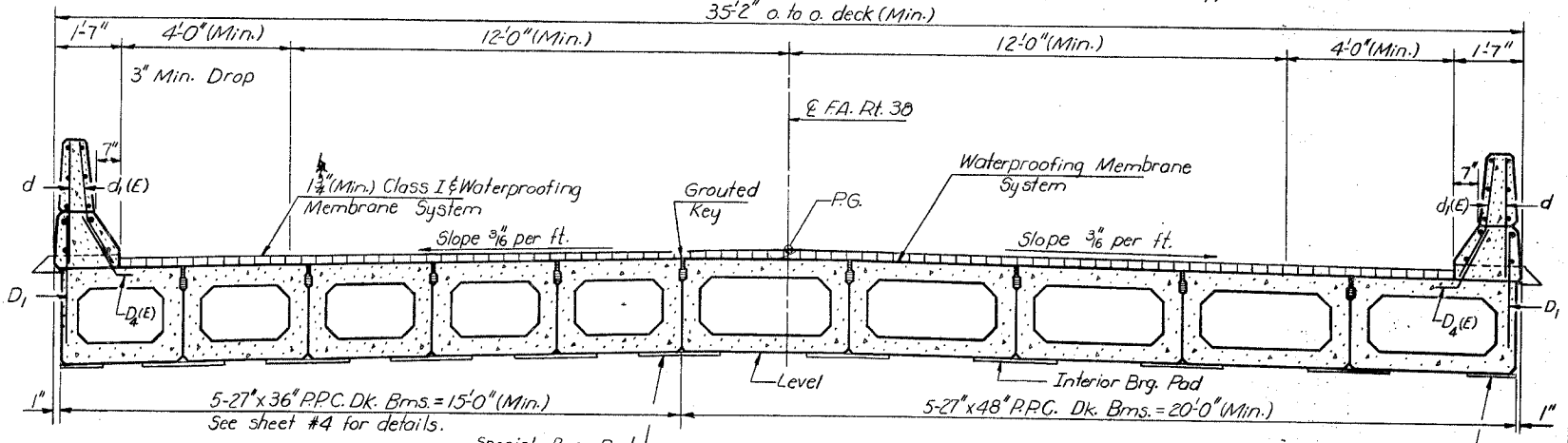
TYPICAL SECTION

16-1/2" Strands Each Strand Stressed to 28,900 Lbs.
14-Strands 13/4" up, 2-Strands 3/4" up,

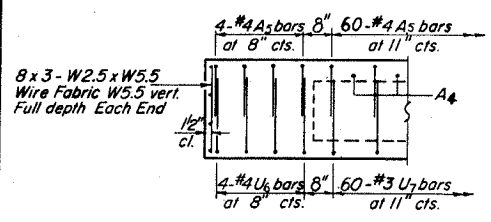
Note:
Place strands symmetrically
about center beam. Place to
miss dowel rods.



HALF PLAN
(48" Beams)



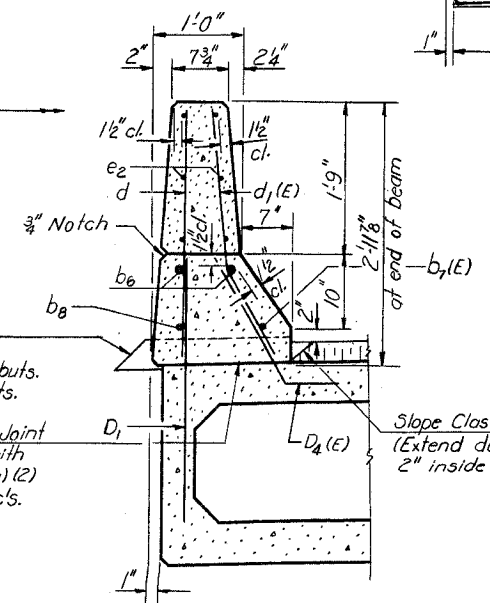
CROSS SECTION
(Looking South)



END ELEVATION
(48" Beams)

4" x 8" x 3/8" Galvanized
Drain Tubes located
10'-0" from Bk. of Abuts.
1/4" spaced at 15'-0" cts.

Bonded Const. Joint
in accordance with
Article 504.13 (a) (2)
of the Std. Spec's.



SEC. THRU PARAPET
(Span 2)

NOTES
Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 3/8" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 33,000 lbs. or 2-1/2" A-270 ksi strands as shown on sheet #2. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
Reinforcement bars shall conform to AASHTO M-31 or M-53, Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.
Parapet reinforcement and Class X Concrete are billed on sheet #8. For Drain Detail see sheet #3.

BILL OF MATERIAL

| Item | Unit | Total |
|---|---------|-------|
| | | |
| | | |
| | | |
| | | |
| | | |
| * Precast Prestressed Concrete Deck Beams (27" Depth) | Sq. Ft. | 1198 |

* For 48" Beams.
See sheet #4 for Bill of Material for 36" Bms.

SUPERSTRUCTURE
SPAN 2
FA. RT. 38 SEC. 102 BR-1
LEE COUNTY
STA. 598+65.00

DESIGNED *[Signature]*
CHECKED *M. Ryan*
DRAWN *R. Doty*
CHECKED *MR*

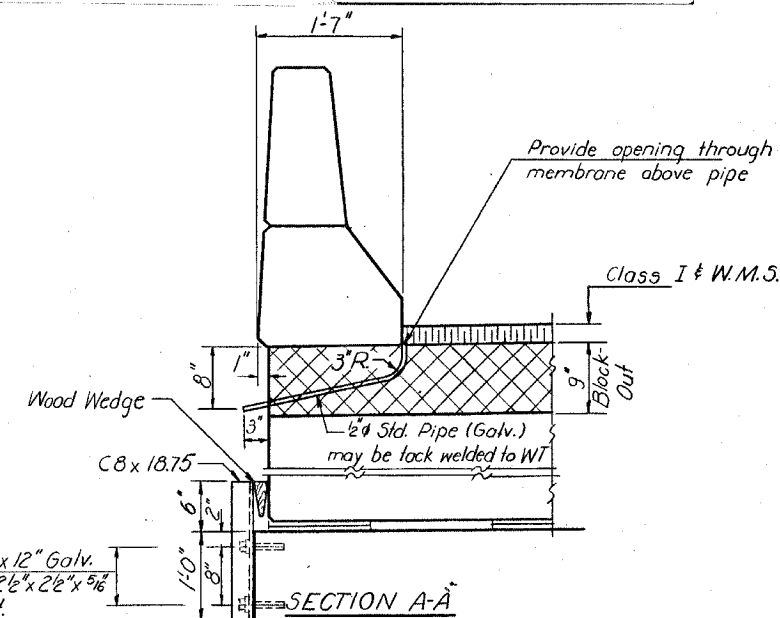
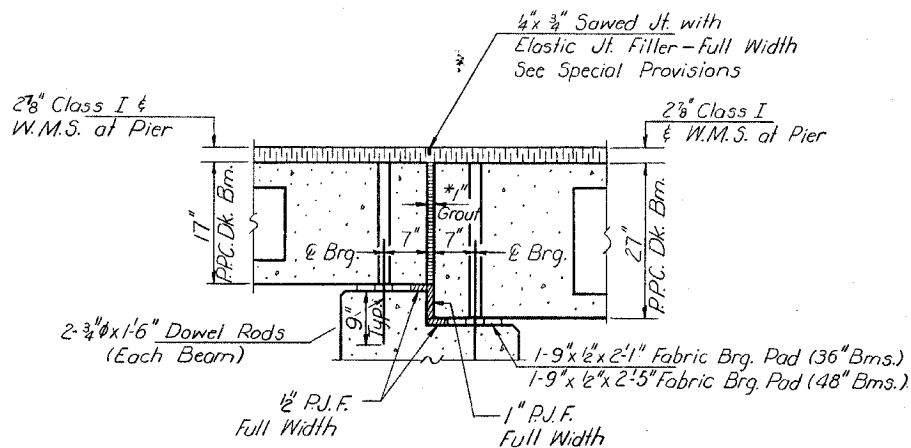
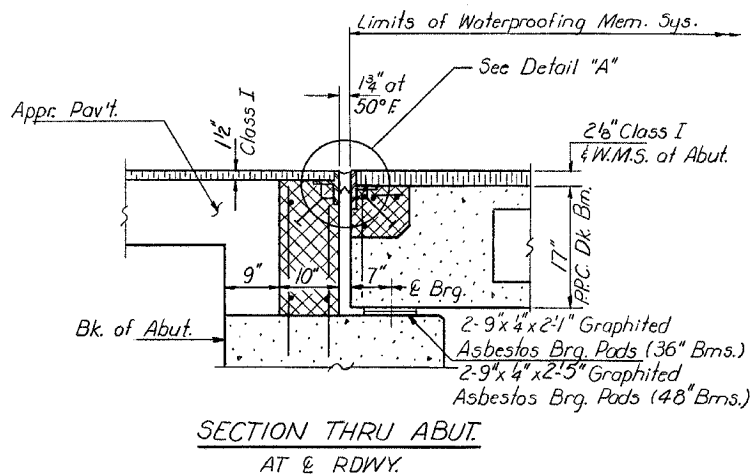
EXAMINED *[Signature]*
PASSED
APPROVED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATIONAL
PURPOSES ONLY

| | | | |
|-------------|------------------|--------|--------------|
| ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS |
| 316 | | LEE | 28 |
| PROJECT NO. | ILLINOIS PROJECT | | 13 |

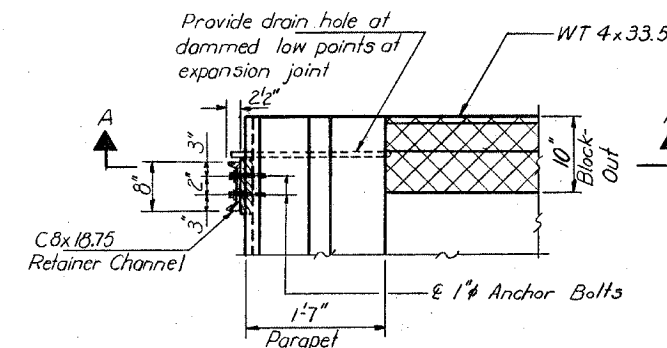
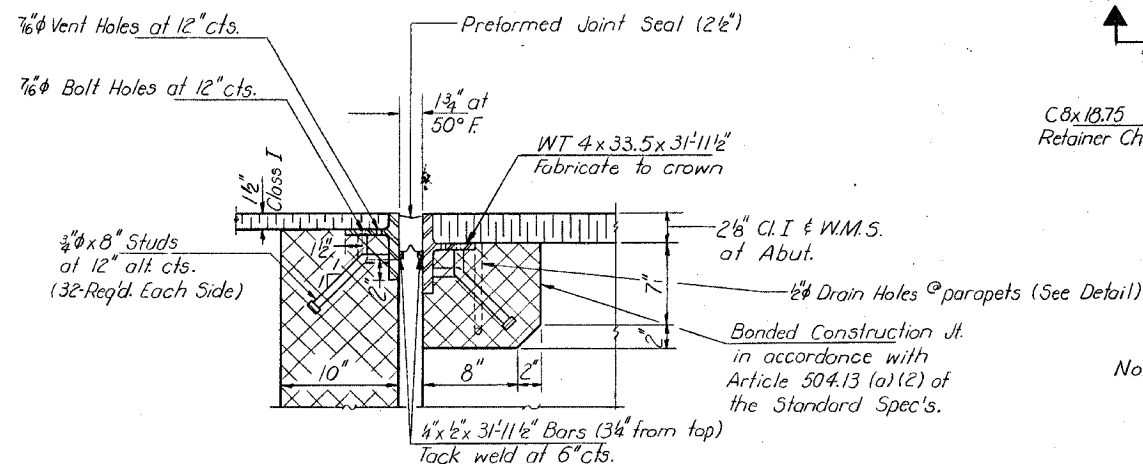
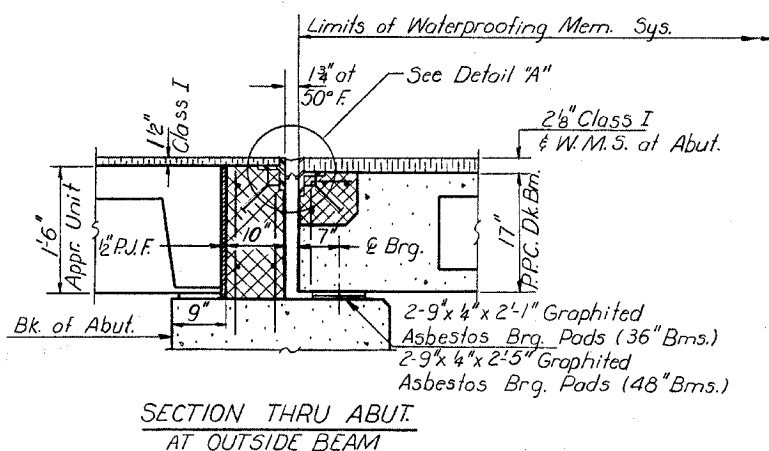
SHEET NO. 6
13 SHEETS



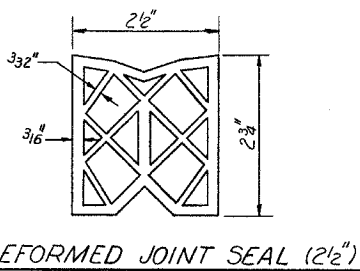
SECTION THRU PIER
PIER 1 LOOKING EAST
PIER 2 LOOKING WEST
*1" Joint shall be packed with a very dry mix of 2:1 sand and P.C. mortar. This dimension may vary plus or minus to accommodate tolerance in beam lengths.
Note:
After beams are in place, holes shall be drilled into the bridge seat and the dowel rods grouted in place prior to grouting shear keys.

* & 1/4" Holes for 1"x12" Galv. Anchor Bolts with 2 1/2"x2 1/2"x 3/8" R washer under nut.

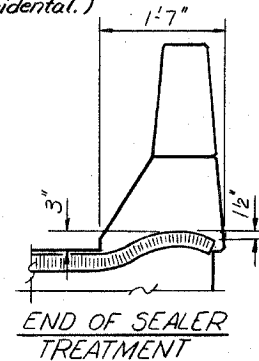
*Anchor bolts may be cast into the masonry or placed in drilled holes and grouted in place. Cost including Retainer Channel and Accessories Incidental to Beams.



PLAN-DRAIN HOLES & RETAINER CHANNEL AT EXPANSION JOINT
Note: After block-outs are poured and cured the retainer channels shall be removed. Anchor bolts may be left in place. (Cost for removal of retainer channels shall be incidental.)



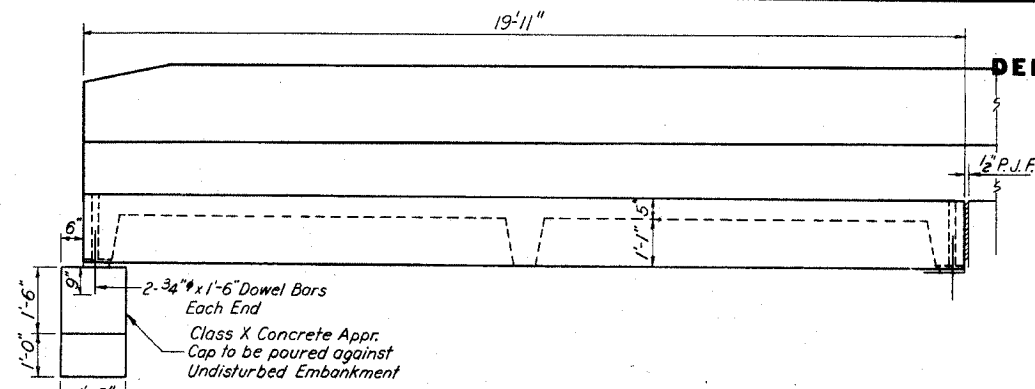
NOTES: Dimensions are at right angles. Cross hatched areas to be poured after beams have been erected and joints grouted. Quantity of Class X Concrete included with superstructure on sheet #8. Ends of beams shall be aligned at the expansion joints. Any lineal variation in the beam lengths shall be placed at the fixed ends. See End of Beam Detail on sheets #2 & #3 for reinforcement.



| | |
|----------|----------------------|
| DESIGNED | <i>Joseph Romano</i> |
| CHECKED | <i>M. Ryan</i> |
| DRAWN | <i>R. Doty</i> |
| CHECKED | <i>MR</i> |

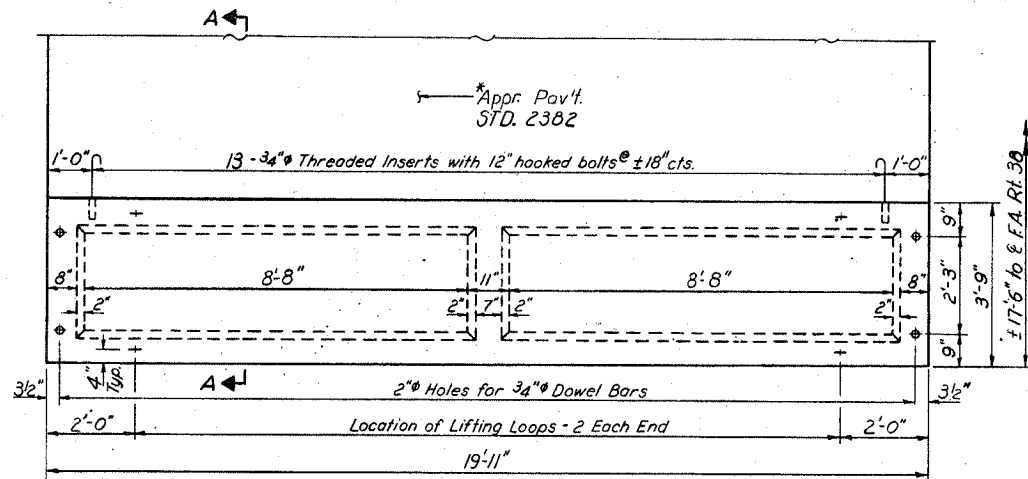
| | | |
|----------|--------------------|--------------|
| EXAMINED | <i>[Signature]</i> | FEB. 24 1981 |
| PASSED | | |
| APPROVED | | |

SUPERSTRUCTURE DETAILS
F.A. RT. 38 SEC. 102 BR-1
LEE COUNTY
STA. 598+65.00

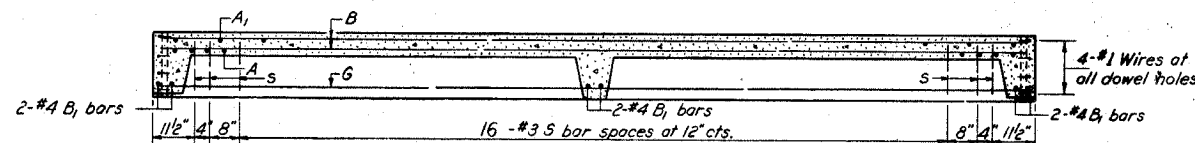


ELEVATION

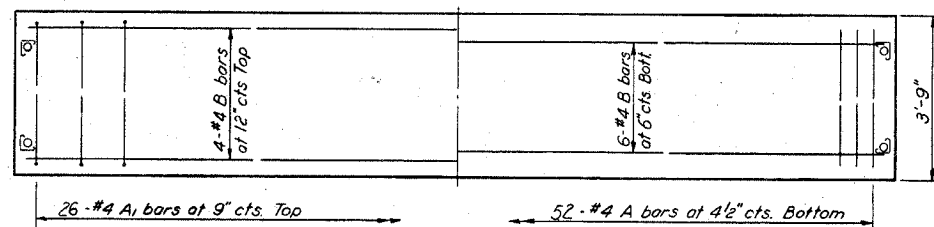
Note: Furnish 2 Right Hand Units & 2 Left Hand Units
See sheet #8 for parapet joint spacing.



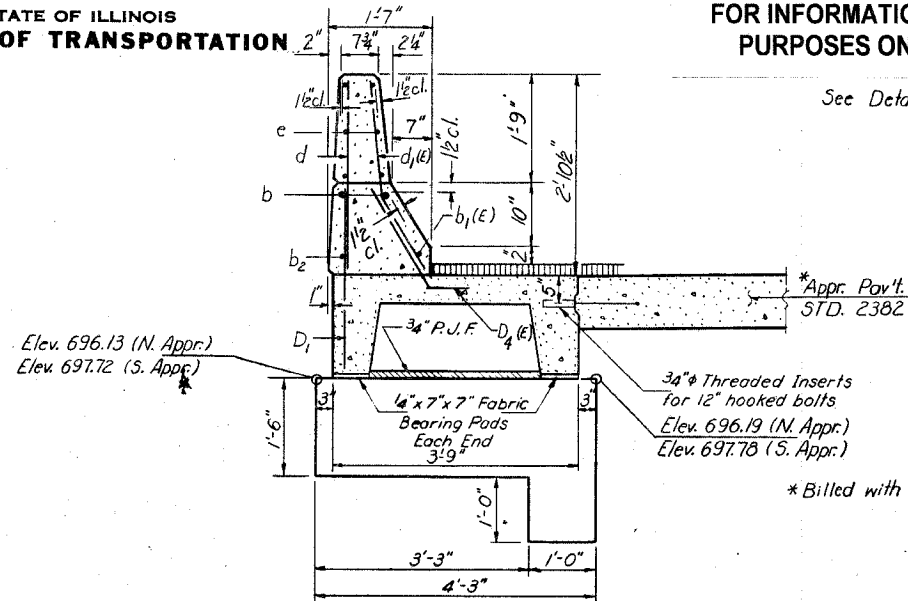
PARTIAL PLAN OF APPROACH



LONGITUDINAL SECTION

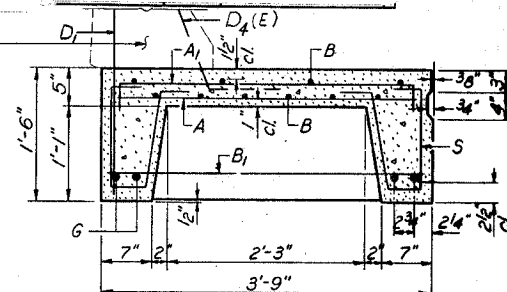


SLAB REINFORCEMENT



SECTION A-A

*Billed with Roadway Plans.



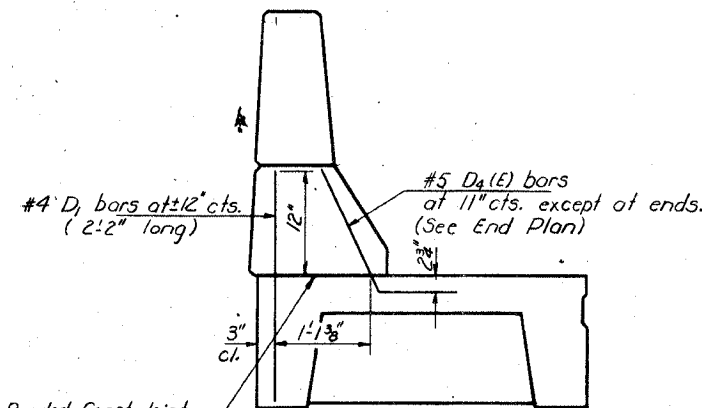
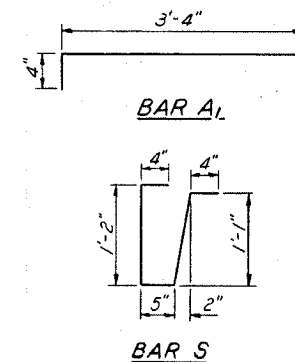
SECTION THRU PRECAST UNIT

BAR LIST - ONE UNIT

Reinforcement to be cast into slab

| Bar | No | Size | Length | Shape |
|--------------------|----|------|--------|-------|
| A | 52 | #4 | 3'-3" | |
| A ₁ | 26 | #4 | 4'-0" | |
| B | 10 | #4 | 19'-6" | |
| B ₁ | 6 | #4 | 3'-6" | |
| D ₁ | 21 | #4 | 2'-2" | |
| D ₄ (E) | 19 | #5 | 2'-8" | |
| D ₅ (E) | 3 | #5 | 2'-6" | |
| G | 4 | #10 | 19'-6" | |
| S | 42 | #3 | 3'-4" | |

Reinforcement bars designated (E) shall be Epoxy Coated. See Special Provisions.



DETAIL "A"

Bonded Const. Joint in accordance with Article 504.13(a)(2) of the Std. Spec's.

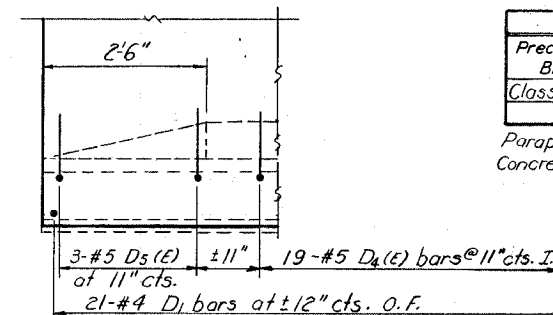
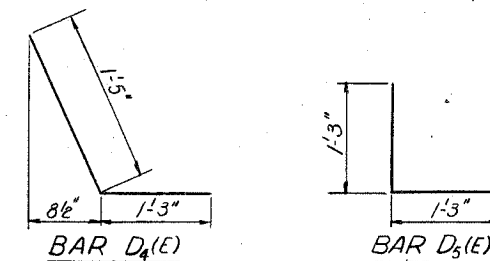
NOTES

Unless otherwise approved by the Engineer, lifting loops shall be 1/2" 6x25 class wire rope with fiber core and shall have a minimum ultimate strength of 21,000 lbs. or 2-1/2" - 270 ksi strands as shown on sheet #2. Holes shall be drilled and anchor dowels grouted in place. Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor dowels and 3/4" hooked bolts is included in Unit bid price for "Precast Concrete Bridge Slab." The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.

BILL OF MATERIAL

| Item | Unit | Quantity |
|------------------------------|---------|----------|
| Precast Concrete Bridge Slab | Sq. Ft. | 299 |
| Class X Concrete | Cu. Yd. | 1.6 |

Parapet reinforcement and Class X Concrete are billed on sheet #8.



APPROACH DETAILS
F.A. RT. 38 SEC. 102 BR-1
LEE COUNTY
STA. 598+65.00

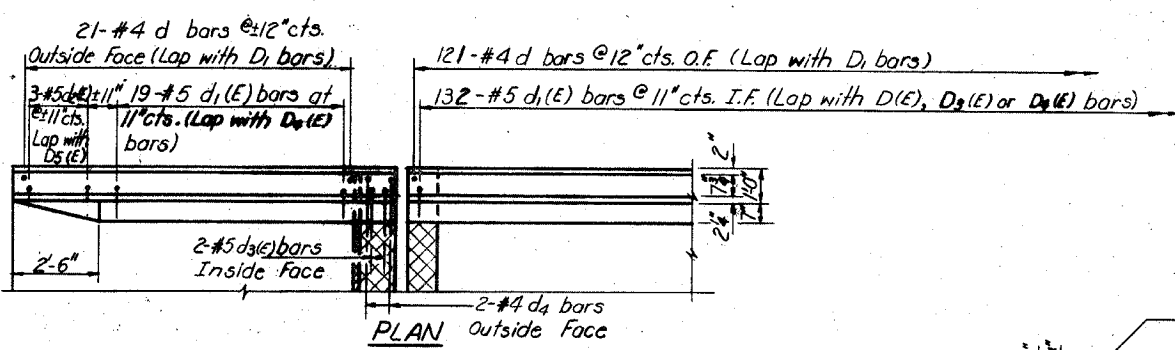
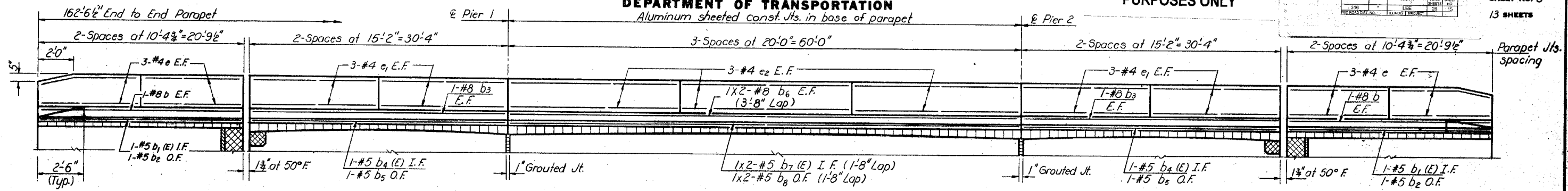
| | | | |
|----------|---------------------|----------|--------------------|
| DESIGNED | <i>John Romanos</i> | EXAMINED | <i>Feb 24 1981</i> |
| CHECKED | <i>M. Ryan</i> | PASSED | <i>[Signature]</i> |
| DRAWN | <i>R. Doty</i> | APPROVED | <i>[Signature]</i> |
| CHECKED | <i>MR</i> | | |

DIRECTOR OF HIGHWAYS

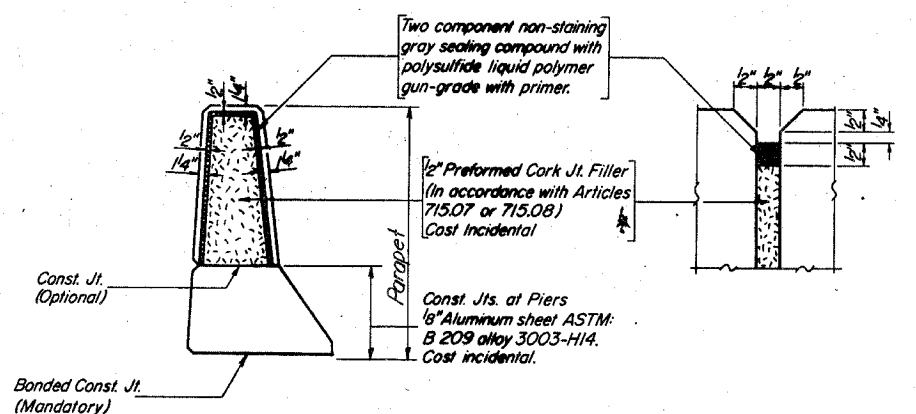
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
Aluminum sheeted const. jts. in base of parapet

FOR INFORMATIONAL
PURPOSES ONLY

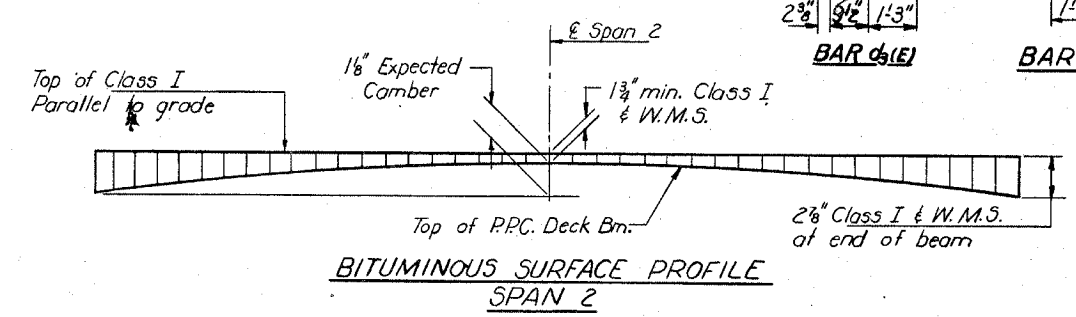
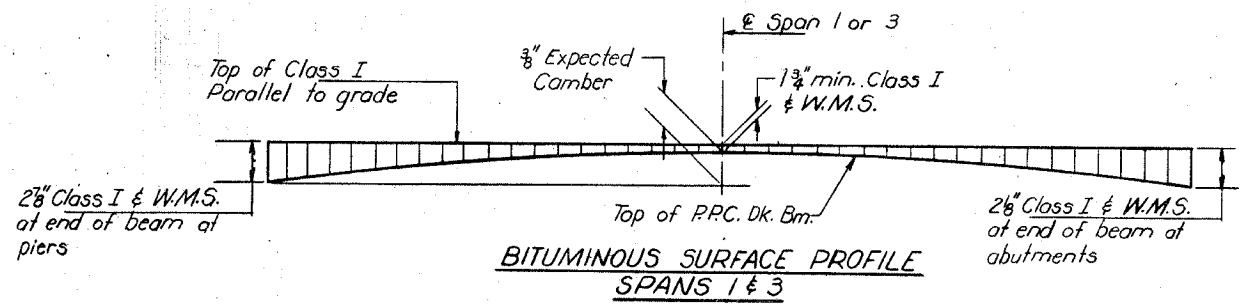
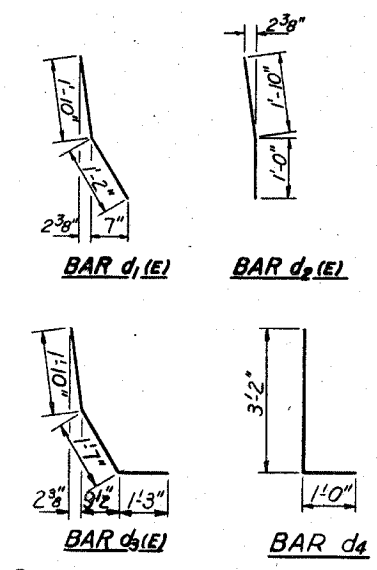
SHEET NO. 8
13 SHEETS



INSIDE ELEVATION OF PARAPET



PARAPET JOINT DETAILS



SUPERSTRUCTURE
BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|-----------------------------------|-----|----------|---------|-------|
| a | 6 | #5 | 35'-2" | |
| b | 8 | #8 | 20'-6" | |
| b1(E) | 4 | #5 | 20'-6" | |
| b2 | 4 | #5 | 20'-6" | |
| b3 | 8 | #8 | 30'-1" | |
| b4(E) | 4 | #5 | 30'-1" | |
| b5 | 4 | #5 | 30'-1" | |
| b6 | 8 | #8 | 31'-9" | |
| b7(E) | 4 | #5 | 30'-9" | |
| b8 | 4 | #5 | 30'-9" | |
| d | 326 | #4 | 2'-8" | |
| d1(E) | 340 | #5 | 3'-0" | |
| d2(E) | 12 | #5 | 2'-10" | |
| d3(E) | 8 | #5 | 4'-8" | |
| d4 | 8 | #4 | 4'-2" | |
| e | 48 | #4 | 10'-2" | |
| e1 | 48 | #4 | 14'-11" | |
| e2 | 36 | #4 | 19'-9" | |
| Reinforcement Bars | | Lbs. | 4200 | |
| Reinforcement Bars (Epoxy Coated) | | Lbs. | 1480 | |
| Class X Concrete | | Cu. Yds. | 40.8 | |

Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.

DESIGNED *[Signature]*
CHECKED *M. Ryan*
DRAWN *R. Doty*
CHECKED *MR*

EXAMINED *[Signature]* FEB 24 1981
PASSED
APPROVED *[Signature]*
DIRECTOR OF HIGHWAYS

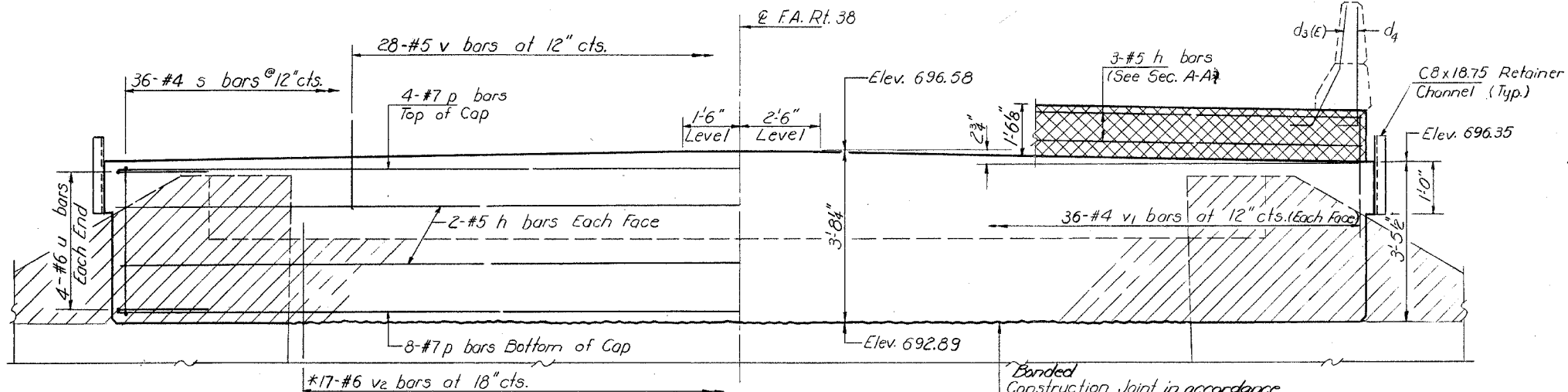
PARAPET DETAILS
FA. RT. 38 SEC. 102 BR-1
LEE COUNTY
STA. 598+65.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATIONAL
PURPOSES ONLY

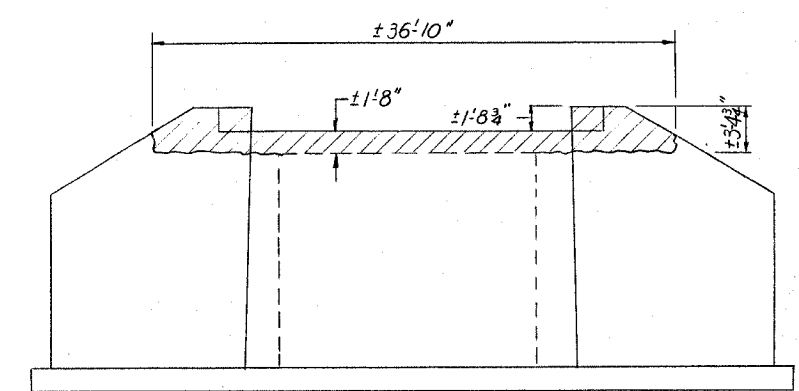
| | | | |
|-------------|-----------------|--------|--------------|
| ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS |
| 316 | LEE | LEE | 26 |
| PROJECT NO. | ALPUB 7 PROJECT | | |

SHEET NO. 9
13 SHEETS

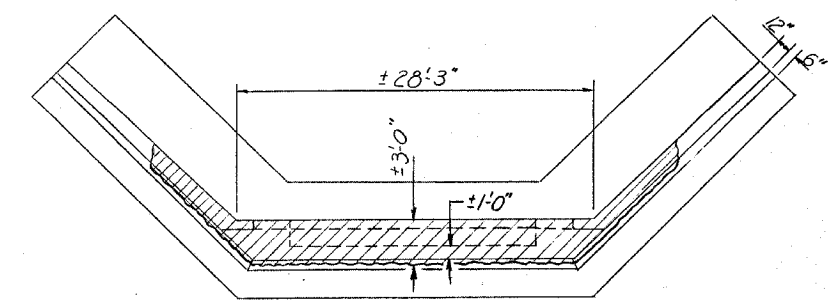


ELEVATION
LOOKING NORTH

*Drill 1" x 1'-0" hole. Fill half full with epoxy before placement of v2 bars. See Special Provisions for Epoxy Grout.

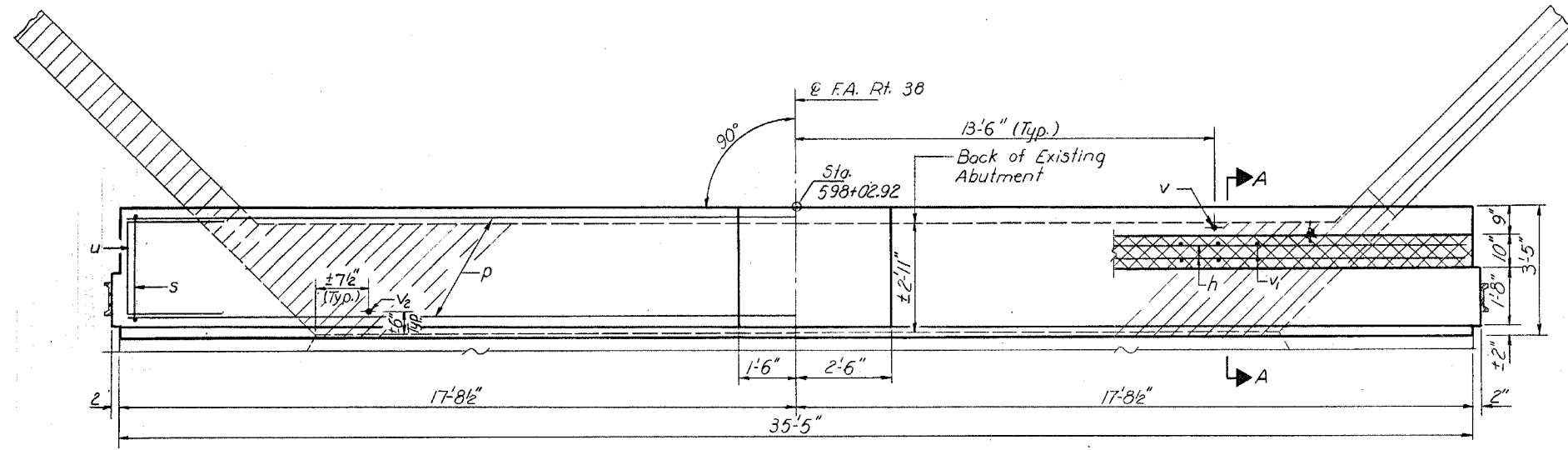


ELEVATION

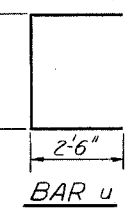
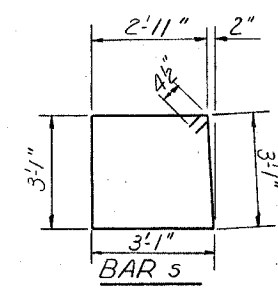


PLAN

CONCRETE REMOVAL DETAILS



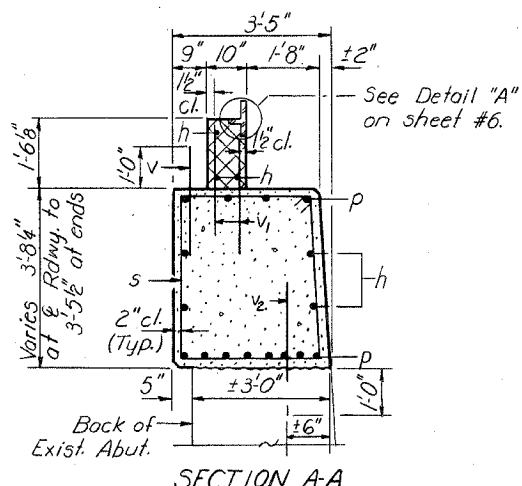
PLAN



BILL OF MATERIAL

| Bar | No. | Size | Length | Shape | |
|--------------------|-----|------|---------|---------|------|
| h | 7 | #5 | 35'-2" | — | |
| p | 12 | #7 | 35'-2" | — | |
| s | 36 | #4 | 12'-11" | □ | |
| u | 8 | #6 | 7'-10" | □ | |
| v | 28 | #5 | 2'-6" | — | |
| v1 | 72 | #4 | 2'-6" | — | |
| v2 | 17 | #6 | 2'-6" | — | |
| Concrete Removal | | | | Cu. Yd. | 9 |
| Class X Concrete | | | | Cu. Yd. | 15.7 |
| Reinforcement Bars | | | | Pound | 1780 |

NOTES:
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
Cross hatched area shall be poured after beams are in place. Quantity of Class X Concrete included with superstructure on sheet #8.
Reinforcement bars for parapet are billed and detailed on sheet #8.
All edges shall have standard 3/8" chamfers except as noted. See sheet #6 for detail of Retainer Channel.



SECTION A-A

DESIGNED: *[Signature]*
CHECKED: *M. Ryann*
DRAWN: *R. Doty*
CHECKED: *MR*

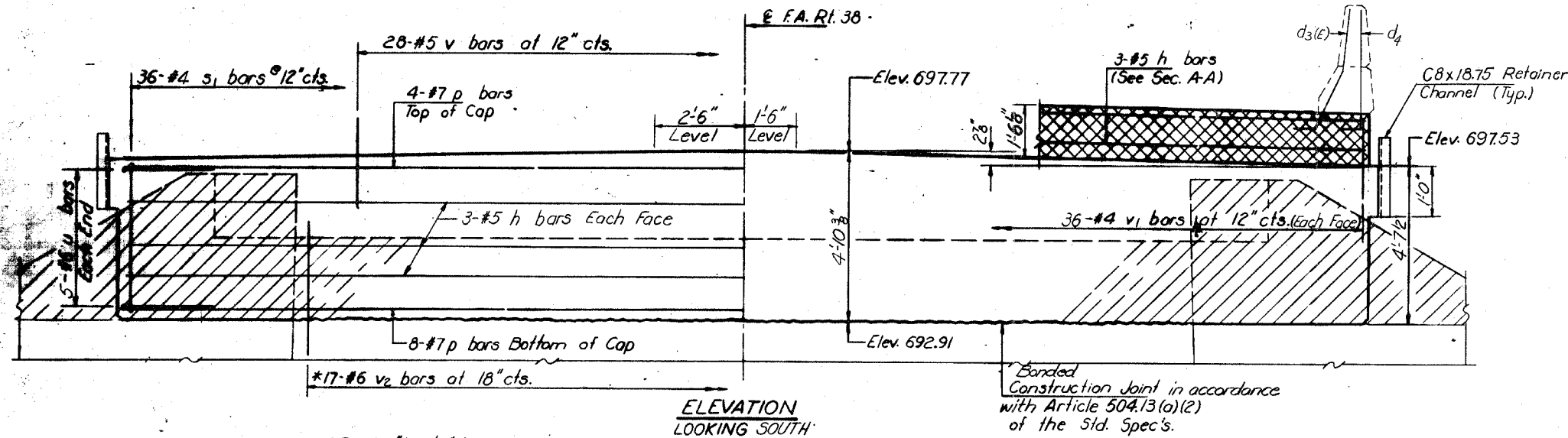
EXAMINED: *[Signature]* FEB 24 1981
PASSED
APPROVED: *[Signature]*
DIRECTOR OF HIGHWAYS

NORTH ABUTMENT
FA. RT. 38 SEC. 102BR-1
LEE COUNTY
STA. 598+6500

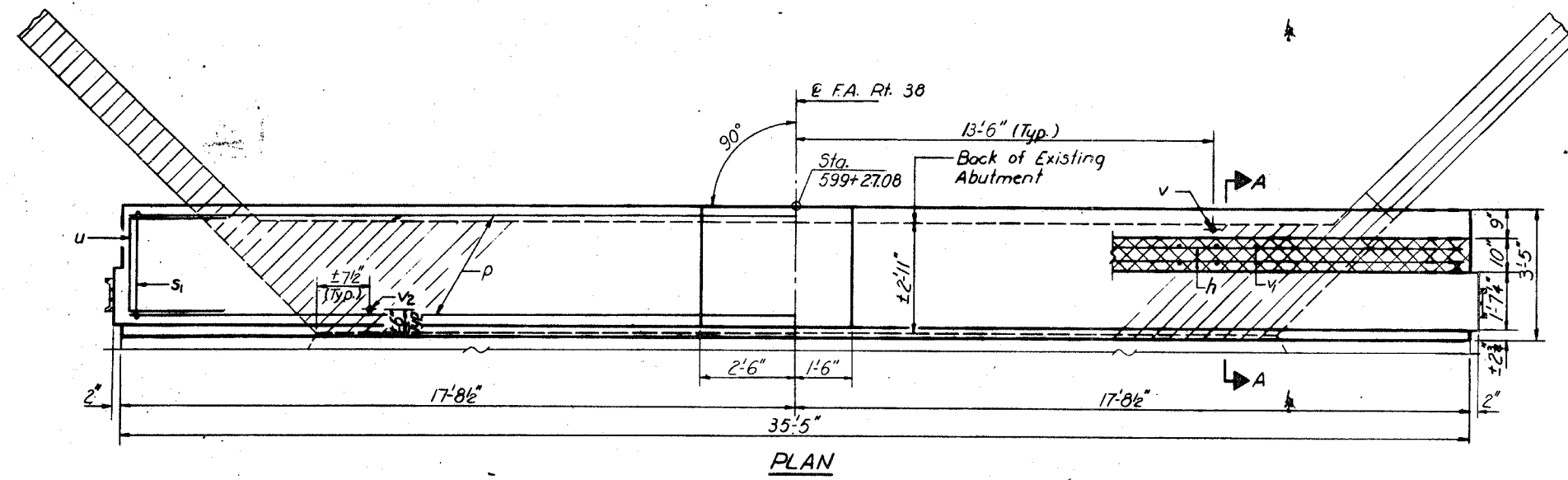
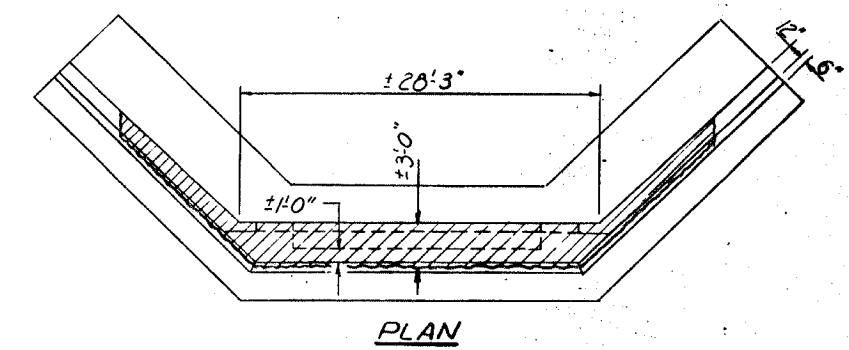
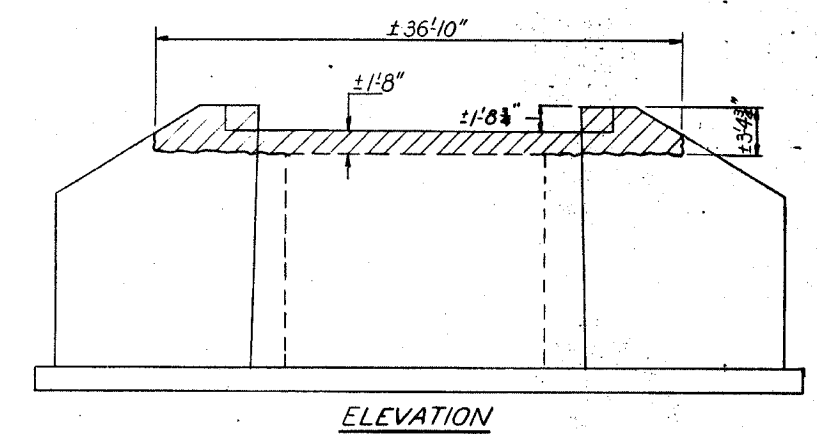
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATIONAL
PURPOSES ONLY

| | | | |
|-------------|------|--------|-------------|
| ROUTE NO. | SEC. | COUNTY | TOTAL SHEET |
| 318 | --- | LEE | 28 |
| PROJECT NO. | | | 13 |



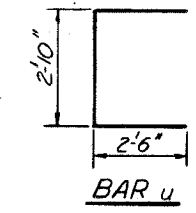
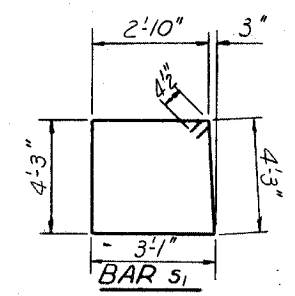
*Drill 1" x 1'-0" hole. Fill half full with epoxy before placement of v2 bars. See Special Provisions for Epoxy Grout.



CONCRETE REMOVAL DETAILS

BILL OF MATERIAL

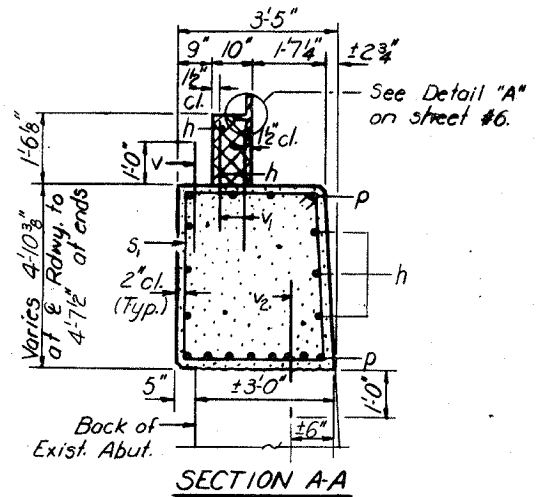
| Bar | No | Size | Length | Notes |
|--------------------|----|------|--------|--------------|
| h | 9 | #5 | 35'-2" | |
| p | 12 | #7 | 35'-2" | |
| s1 | 36 | #4 | 15'-2" | |
| u | 10 | #6 | 7'-10" | |
| v | 23 | #5 | 2'-6" | |
| v1 | 72 | #4 | 2'-6" | |
| v2 | 17 | #6 | 2'-6" | |
| Concrete Removal | | | | Cu. Yd. 9 |
| Class X Concrete | | | | Cu. Yd. 20.6 |
| Reinforcement Bars | | | | Pound 1930 |



NOTES:
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
Cross hatched area shall be poured after beams are in place. Quantity of Class X Concrete included with superstructure on sheet #8.
Reinforcement bars for parapet are billed and detailed on sheet #8.
All edges shall have standard 3/8" chamfers except as noted. See sheet #6 for detail of Retainer Channel.

DESIGNED: *[Signature]*
CHECKED: M. Ryan
DRAWN: R. Doty
CHECKED: MR

EXAMINED: *[Signature]*
PASSED:
APPROVED:

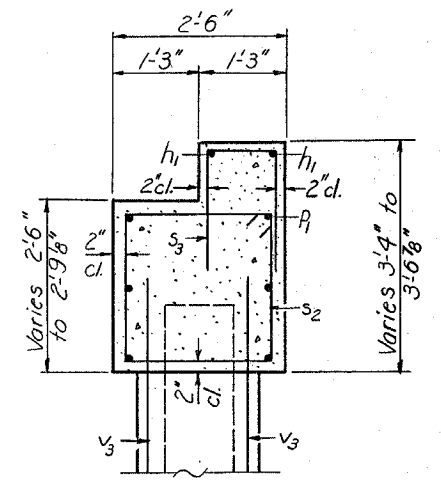
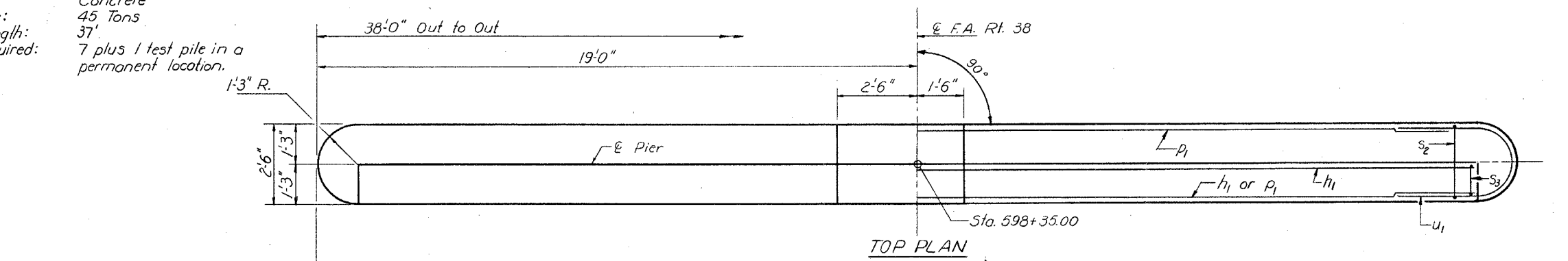


SOUTH ABUTMENT
F.A. RT. 38 SEC. 102 BR-1
LEE COUNTY
STA. 598+6500

| | | | |
|----------|---------|-------|---------|
| DESIGNED | CHECKED | DRAWN | CHECKED |
| | | | |

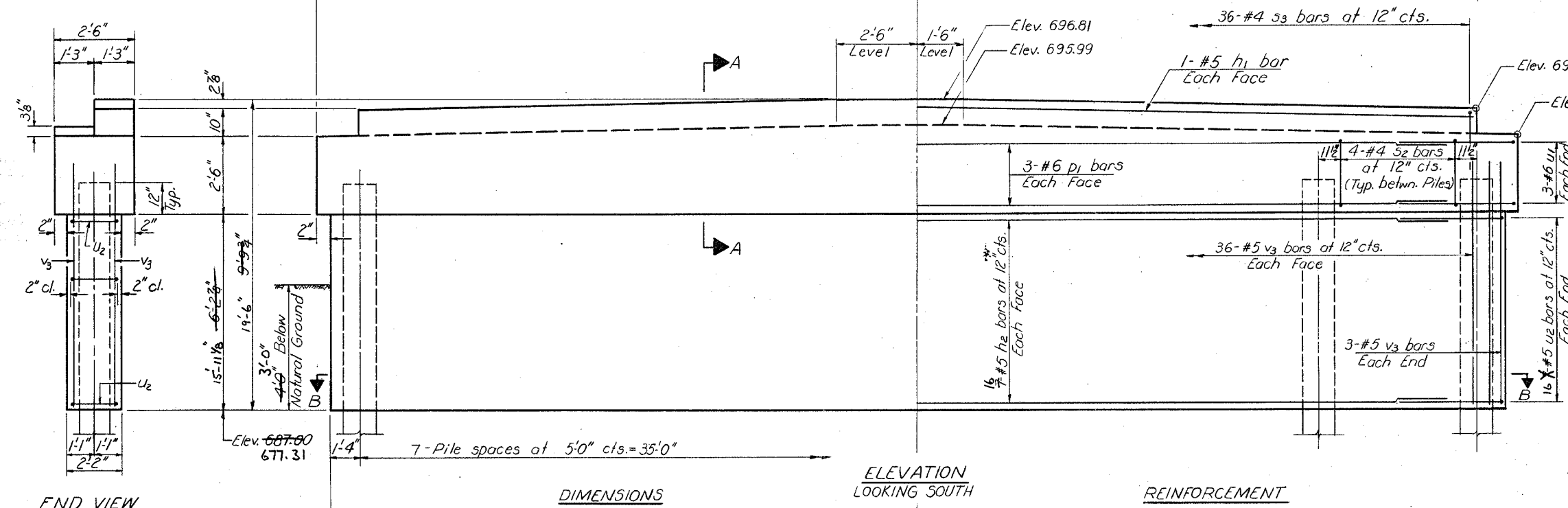
PILE DATA

Type: Concrete
Capacity: 45 Tons
Est. Length: 37'
No. Required: 7 plus 1 test pile in a permanent location.



SECTION A-A

Note: All edges shall have standard 3/8" chamfers.



ELEVATION
LOOKING SOUTH

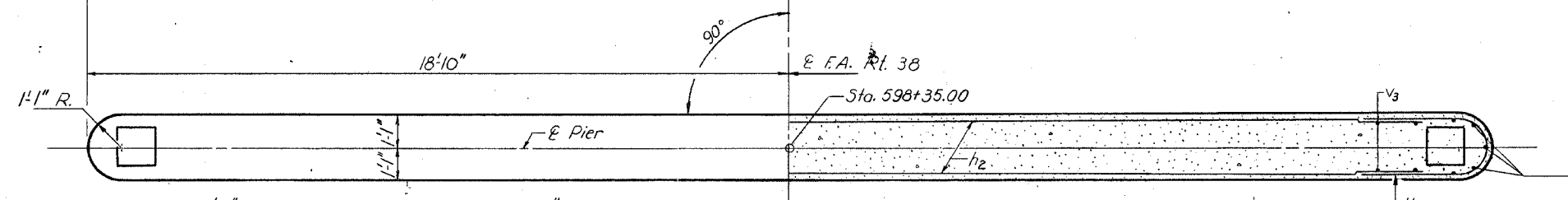
END VIEW

DIMENSIONS

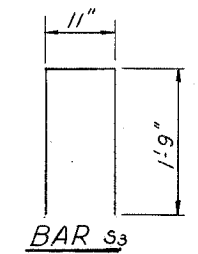
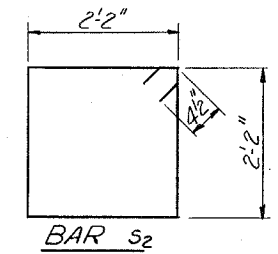
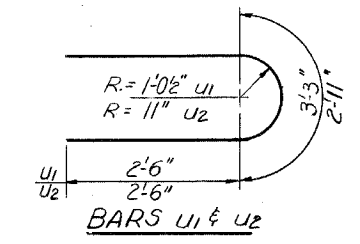
REINFORCEMENT

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|---------------------|-------|----------|--------|-------|
| h1 | 2 | #5 | 35'-3" | — |
| h2 | 32-14 | #5 | 33'-6" | — |
| p1 | 6 | #6 | 34'-8" | — |
| s2 | 28 | #4 | 9'-5" | □ |
| s3 | 36 | #4 | 4'-5" | □ |
| u1 | 6 | #6 | 8'-3" | — |
| u2 | 32-14 | #5 | 7'-11" | — |
| v3 | 78 | #5 | 7'-9" | — |
| Class X Concrete | | Cu. Yd. | 26.2 | 51.2 |
| Reinforcement Bars | | Pound | 1980 | 3550 |
| Concrete Piles | | Lin. Ft. | 259 | |
| Test Piles Concrete | | Each | 1 | |



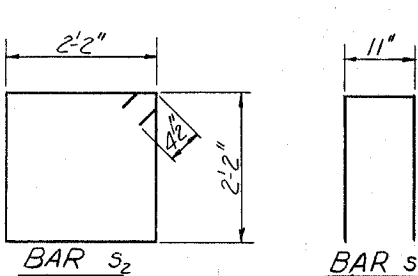
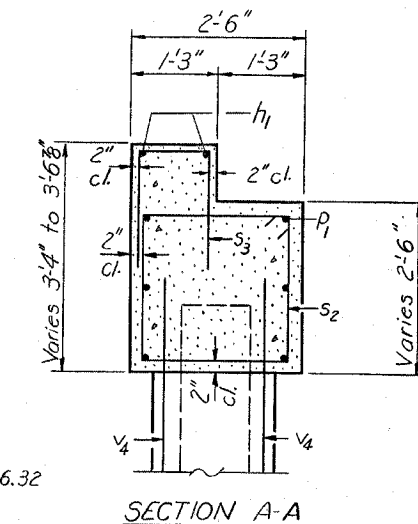
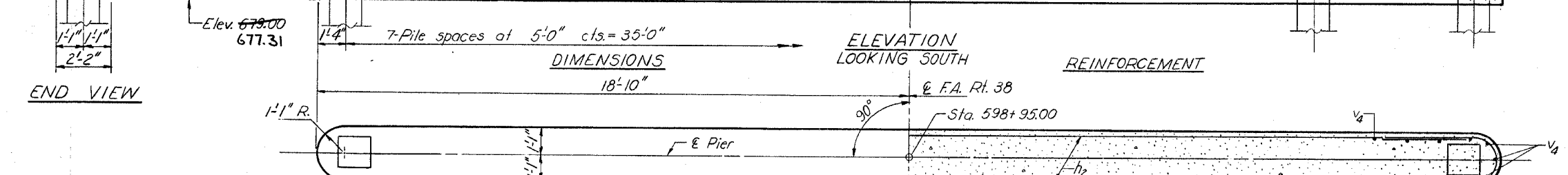
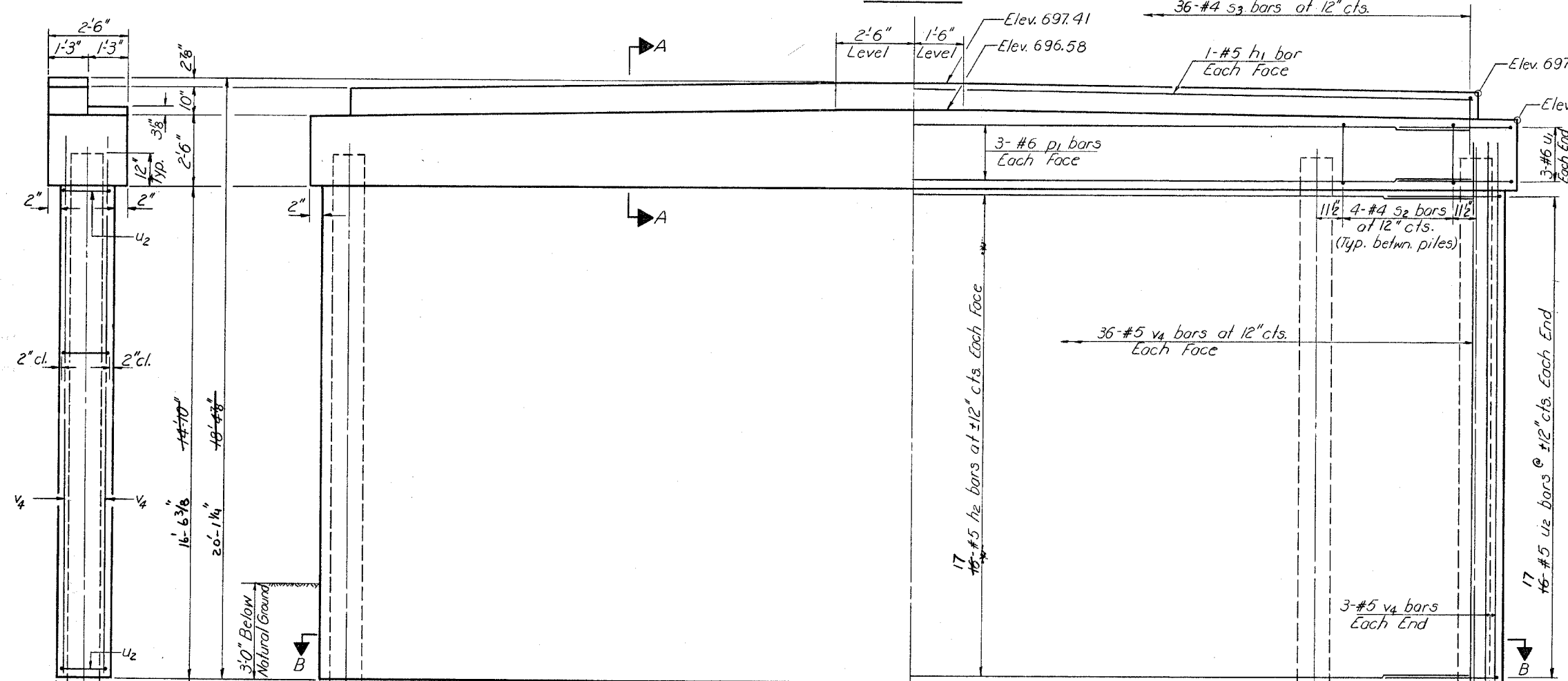
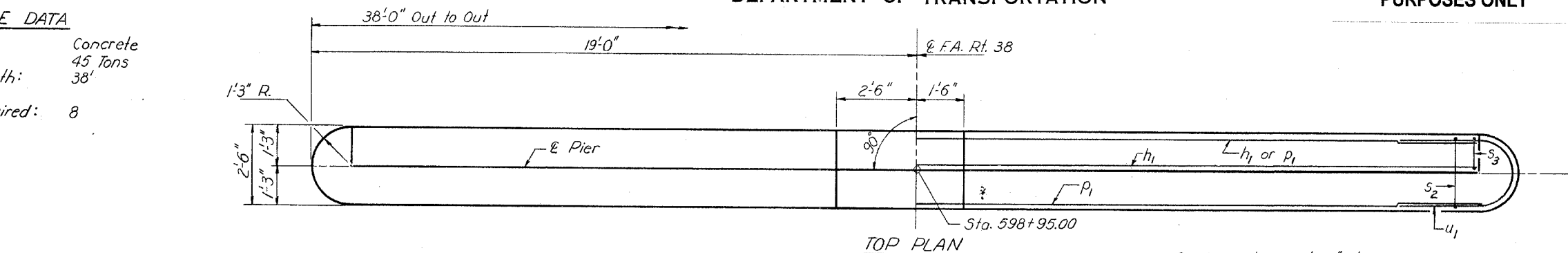
SECTION B-B



| | | |
|----------|-------------|--------------|
| DESIGNED | EXAMINED | DATE |
| M. Ryan | [Signature] | Feb 24, 1981 |
| CHECKED | PASSED | |
| R. Doty | [Signature] | |
| DRAWN | APPROVED | |
| mR | [Signature] | |

PIER 1
F.A. RT. 38 SEC. 102 BR-1
LEE COUNTY
STA. 598+65.00

PILE DATA
Type: Concrete
Capacity: 45 tons
Est. Length: 38'
No. Required: 8



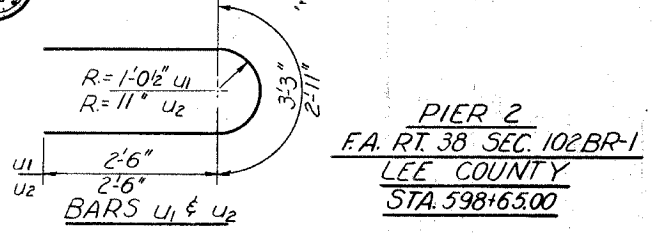
BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|--------------------|------|----------|--------|-------|
| h1 | 2 | #5 | 35'-3" | — |
| h2 | 3234 | #5 | 33'-6" | — |
| p1 | 6 | #6 | 34'-8" | — |
| s2 | 28 | #4 | 9'-5" | □ |
| s3 | 36 | #4 | 4'-5" | □ |
| u1 | 6 | #6 | 8'-3" | U |
| u2 | 3234 | #5 | 7'-11" | U |
| v4 | 78 | #5 | 18'-0" | — |
| | | | 16'-5" | — |
| Class X Concrete | | Cu. Yd. | 48.4 | 52.7 |
| Reinforcement Bars | | Pound | 3460 | 3680 |
| Concrete Piles | | Lin. Ft. | 304 | |

DESIGNED *Erwin R. Doty*
CHECKED *M. Ryan*
DRAWN *R. Doty*
CHECKED *MR*

EXAMINED *[Signature]* FEB 24 1981
PASSED
APPROVED

Note:
All edges shall have standard $\frac{3}{8}$ " chamfers.



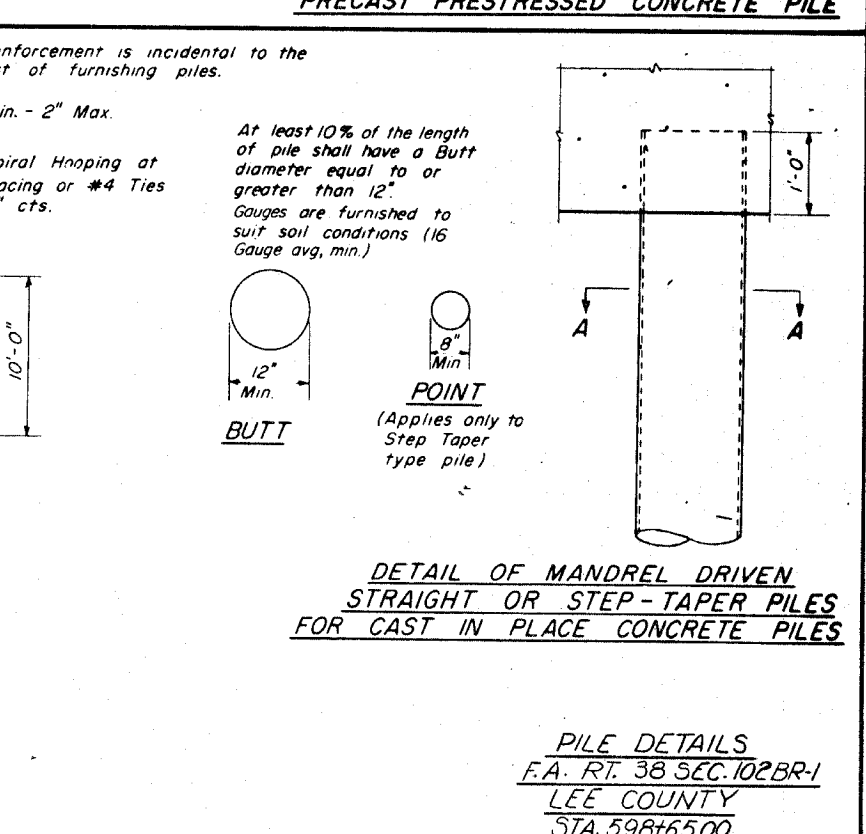
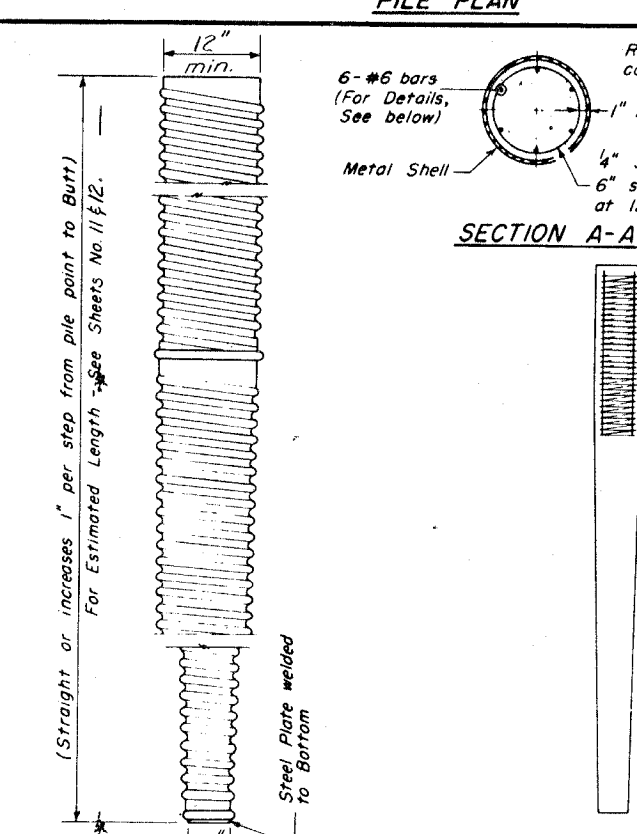
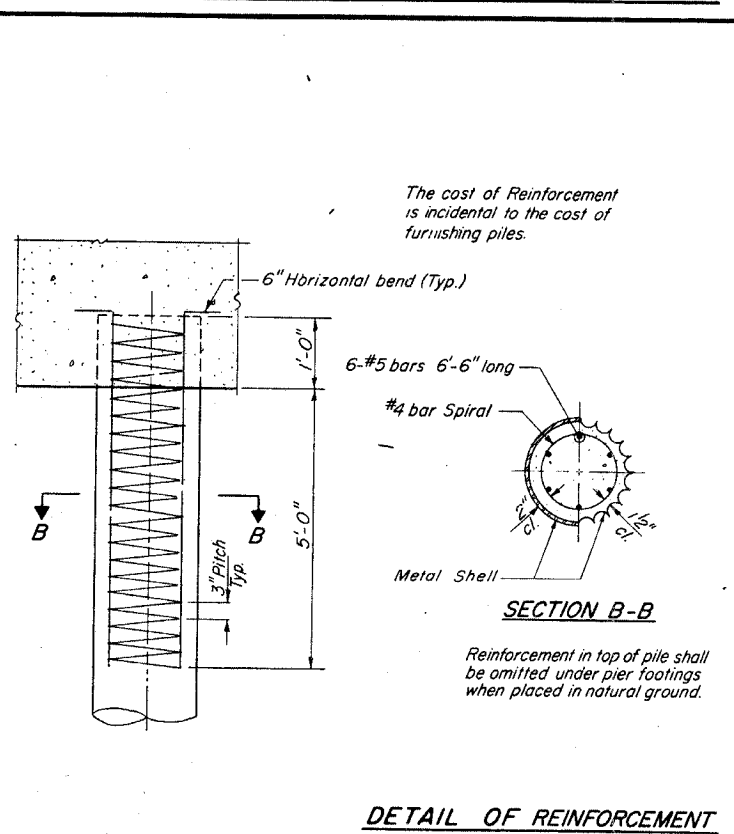
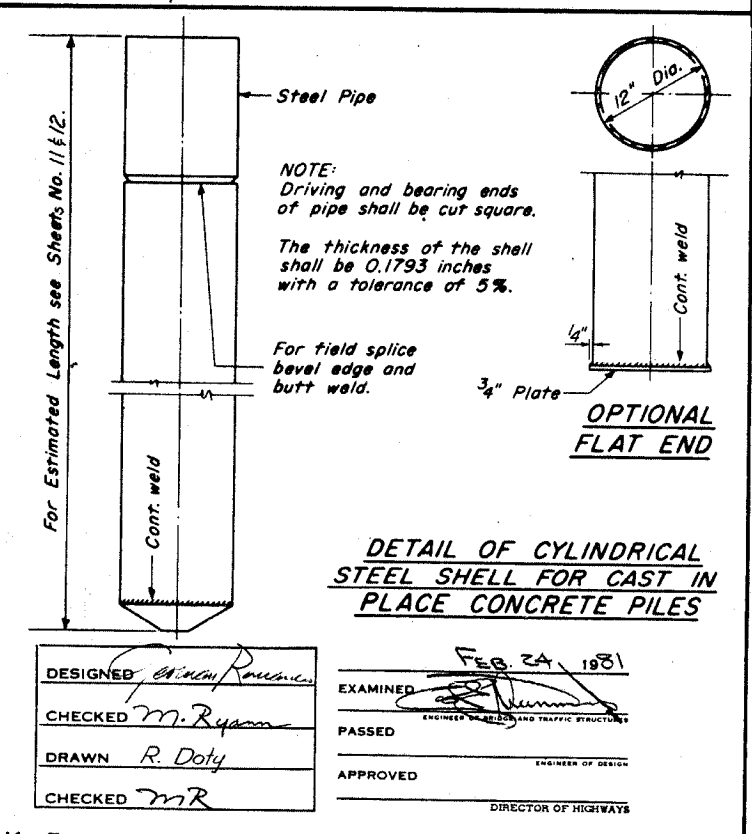
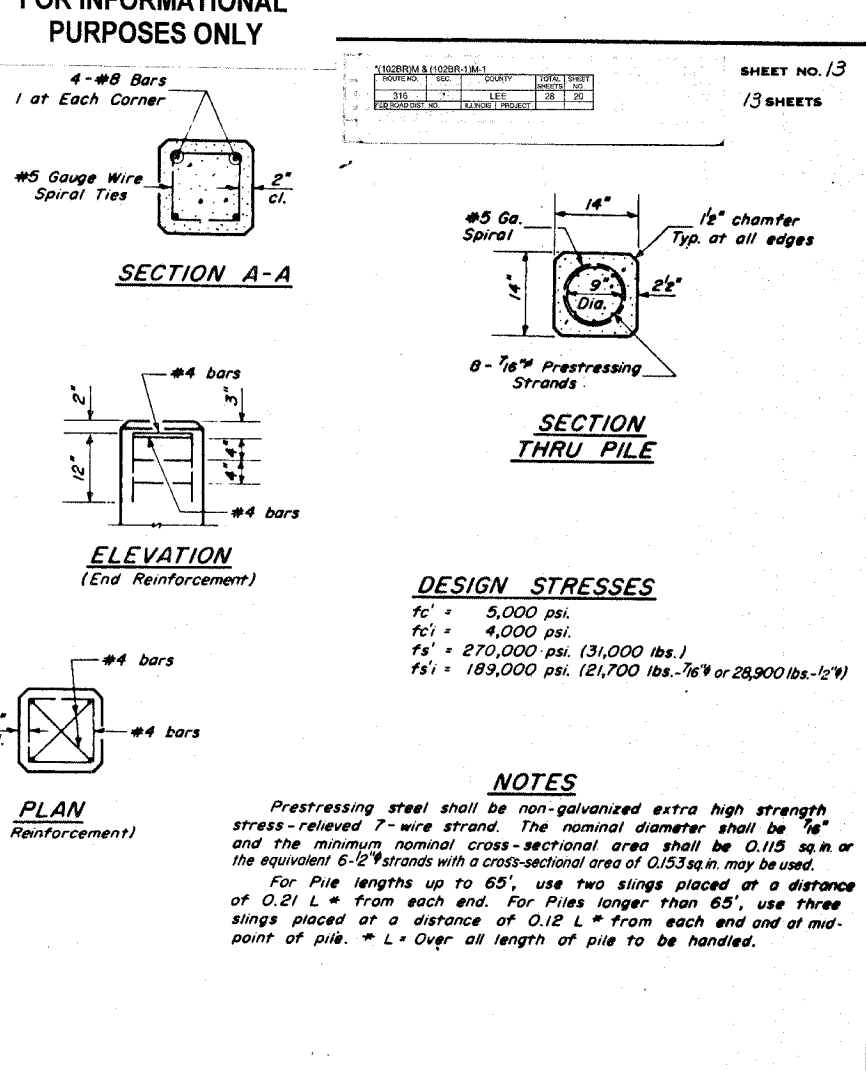
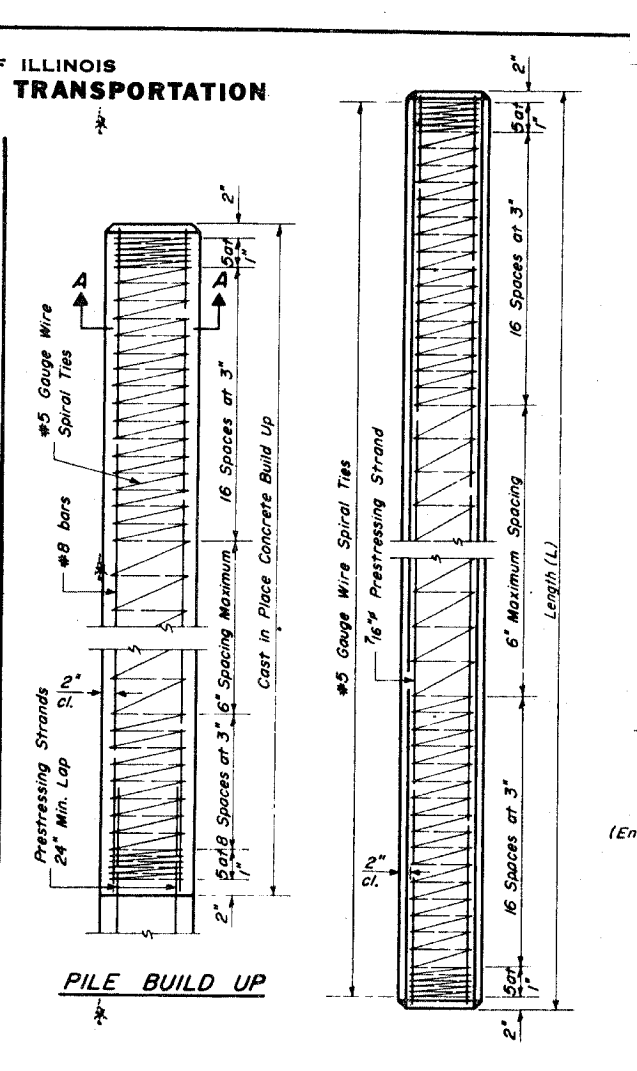
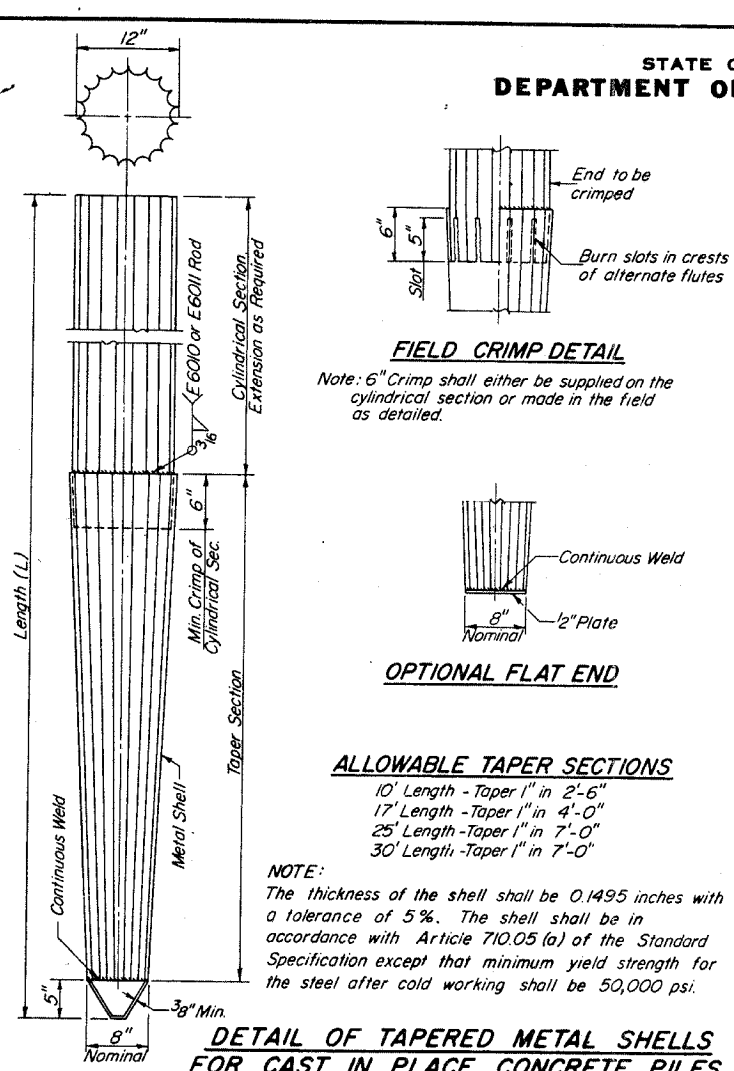
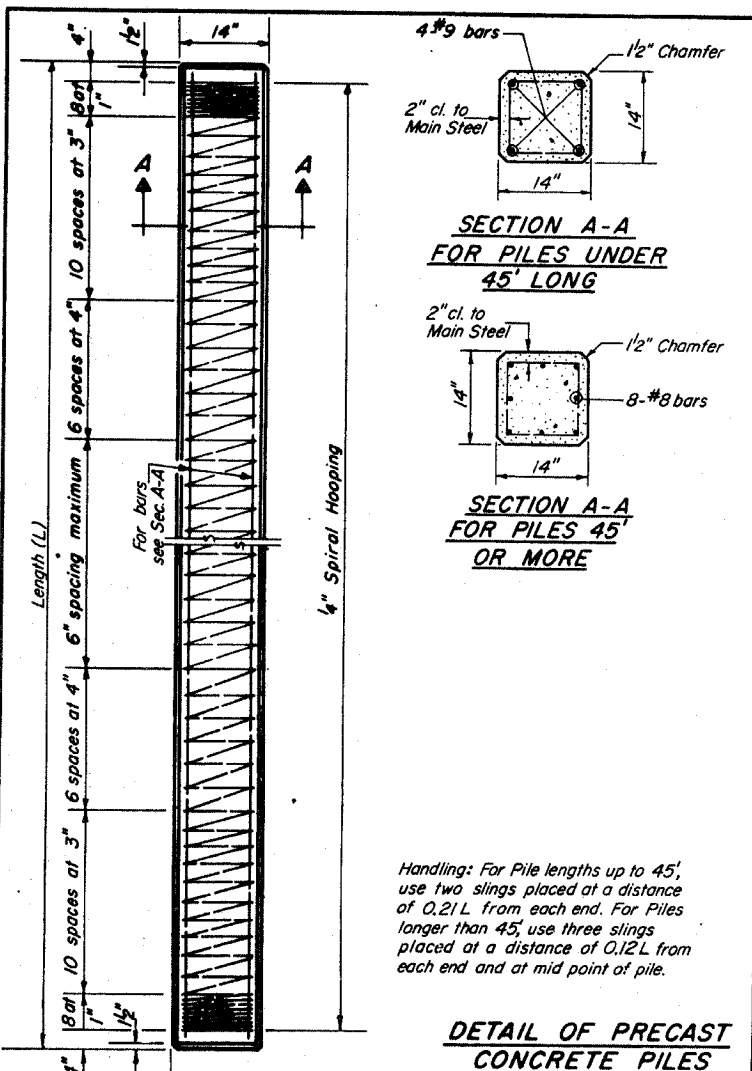
PIER 2
F.A. RT. 38 SEC. 102BR-1
LEE COUNTY
STA. 598+65.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATIONAL
PURPOSES ONLY

| | | | | | |
|--------------|-------------|---------|----|-------|----|
| PROJECT NO. | 310 | SECTION | 28 | SHEET | 20 |
| DATE | FEB 24 1981 | | | | |
| PROJECT NAME | LEE COUNTY | | | | |

SHEET NO. 13
13 SHEETS



DESIGNED: [Signature]
CHECKED: M. Ryan
DRAWN: R. Doty
CHECKED: MR

EXAMINED: [Signature]
PASSED: [Signature]
APPROVED: [Signature]
DIRECTOR OF HIGHWAYS

FEB 24 1981

PILE DETAILS
F.A. RT. 38 SEC. 102 BR-1
LEE COUNTY
STA. 598+65.00

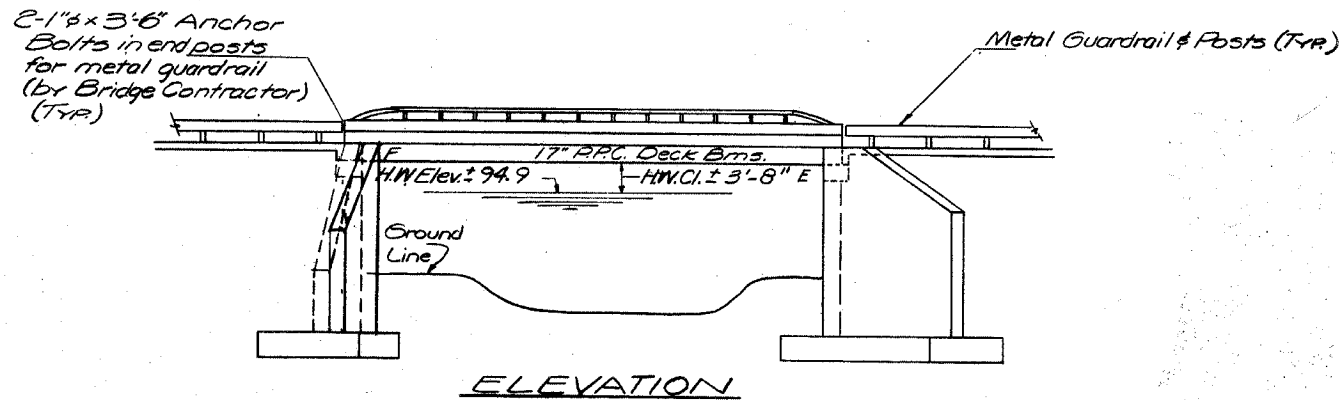
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

FOR INFORMATIONAL
PURPOSES ONLY

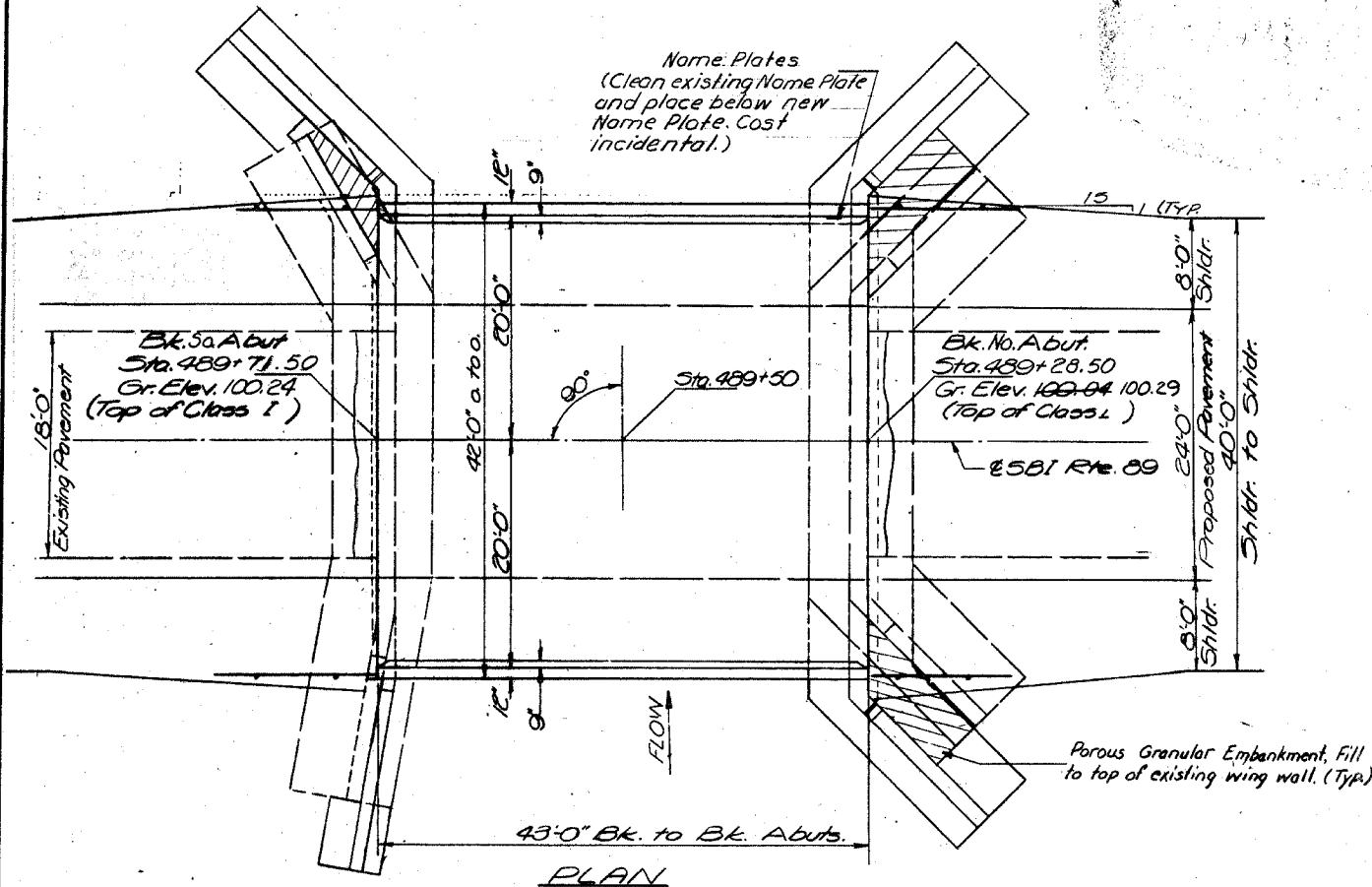
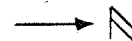
| | | | |
|-------------|-------|--------|--------------|
| ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS |
| 318 | 102-B | LEE | 28 |
| PROJECT NO. | | | 21 |

SHEET NO. 1
8 SHEETS

B.M.: Top of northwest wingwall-existing bridge. Elev. 100.00
Existing Structure: Built as S.B.I. 89 Sec. 102-B Sta. 489+50
in 1929. Superstr. is RC Deck Girder. Substr. is
RC Closed Abut.
Superstructure to be removed in stages by Bridge
Contr. No. Salvage.



ELEVATION



PLAN

FIELD UNITS

f_c : 1400 psi (Super) (Sub)
 f_s : 20000 psi (Reinf.)
 v_c : 75 psi (Footng)
 n : 10

PRECAST PRESTRESSED UNITS

f_c : 5000 psi.
 f_{ci} : 4000 psi.
 f_s : 270,000 psi.
 f_{si} : 189,000 psi.

LOADING HS20-44

STATION 489+50
REBUILT BY
STATE OF ILLINOIS
S.B.I. RT. 89 SEC. 102-BR

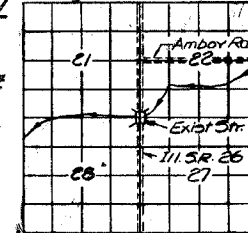
LOADING HS20

NAME PLATE
See Std. 2113

WATERWAY INFORMATION

Drainage Area, 17.45 sq. Mi.
Character, Rolling, sand, wooded
Present Opening 360.5 sq. Ft.
Road Opening 360.5 sq. Ft.
Proposed Opening 360.5 sq. Ft.
Q(50) 1821 cfs.

Range 9E 3rd. P.M.



LOCATION SKETCH

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
All structural steel shall be shop painted with 2 coats of basic lead silico chromate paint.
It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.
For Waterproofing Membrane System see Special Provisions.

The concrete rail section above deck beam shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.
Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

Expansion bolts shall consist of self drilling expansion anchors and 3/4" ϕ x 9" hooked bolts.

Back surface of the new abutment and wing walls shall be waterproofed above the top of the footings.

Expansion guards which are not cast in the precast unit shall be fabricated and erected in accordance with Article 503.07(c) of the Standard Specifications and are included in quantity of structural steel.

The top surfaces of the beams shall be finished in accordance with Art. 505.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.

TOTAL BILL OF MATERIAL

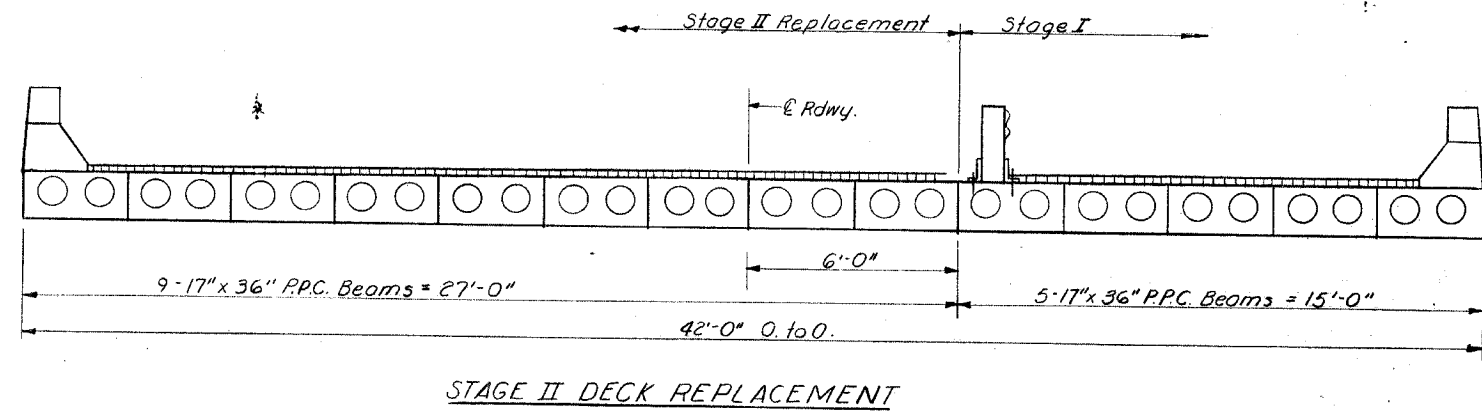
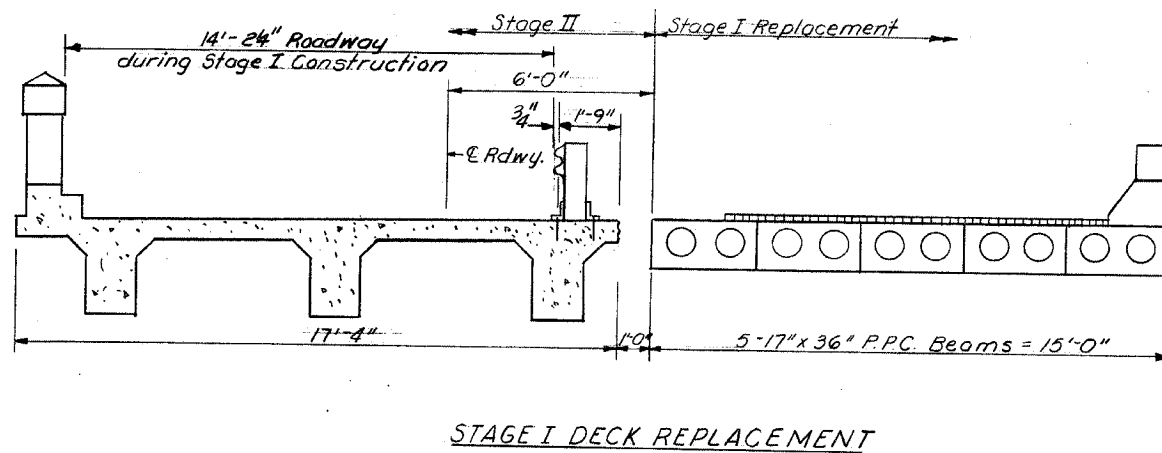
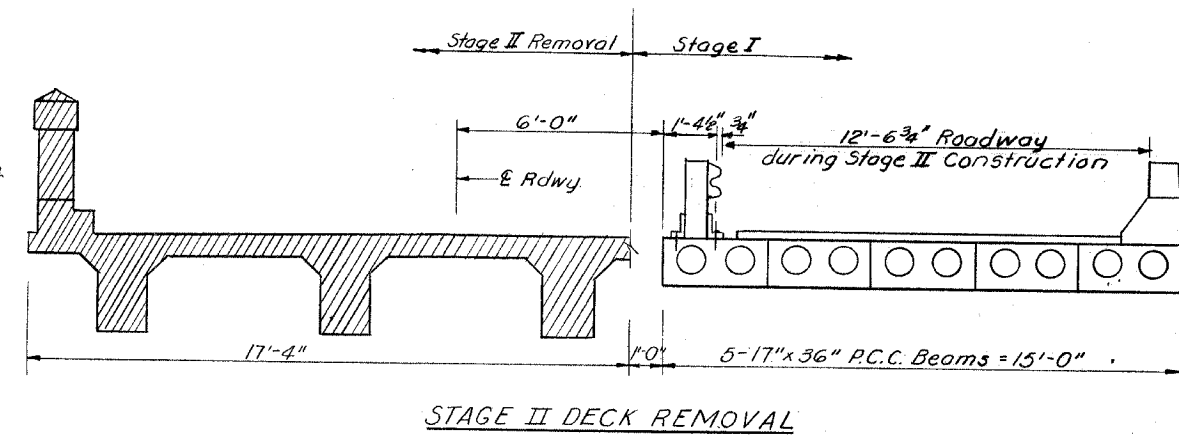
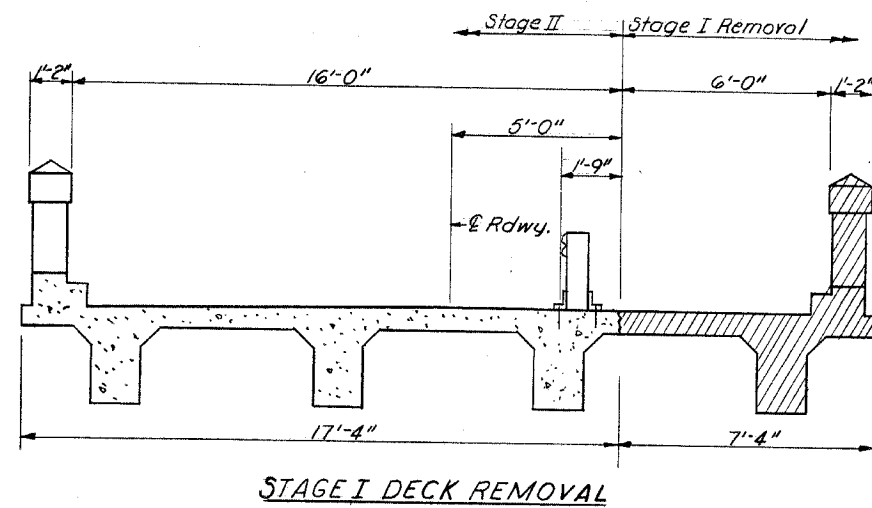
| Item | Unit | Super | Sub | Total |
|---|----------|-------|-------|-------|
| Removal of Existing Superstructure | Each | 1 | | 1 |
| Concrete Removal | Cu. Yds. | | 5 | 5 |
| Class X Concrete | Cu. Yds. | 12.9 | 113.9 | 126.8 |
| Aluminum Railing | Lin. Ft. | 80 | | 80 |
| Reinforcement Bars | Lbs. | 1500 | 11240 | 12600 |
| Portland Cement Mortar fairings | Lin. Ft. | 551 | | 551 |
| Waterproofing Memb. Syst. | Sq. Yds. | 194 | | 194 |
| Preformed Jt. Sealer | Lin. Ft. | 45 | | 45 |
| Part. Removal and P.C.C. | | | | |
| Replacement Type I (10") | Sq. Yds. | 8 | | 8 |
| Precast Prestressed Concrete Deck Beams (17") | Sq. Ft. | 1779 | | 1779 |
| Protective Coat | Sq. Yds. | 32 | | 32 |
| Expansion Bolts 3/4" ϕ | Each | | 155 | 155 |
| Temporary Guardrail | Lin. Ft. | 43 | | 43 |
| Structural Steel | Lbs. | 2800 | | 2800 |
| Name Plates | Each | 1 | | 1 |
| Bituminous Concrete Surface Course Class I | Tons | 23 | | 23 |
| Untreated Piles (up to 30') | Lin. Ft. | | 660 | 660 |
| Test Pile (Timber) | Each | | 1 | 1 |
| Porous Granular Embankment | Cu. Yds. | | 60 | 60 |

GENERAL PLAN & ELEVATION
SBI RT. 89 SEC. 102-B
LEE COUNTY
STA. 489+50

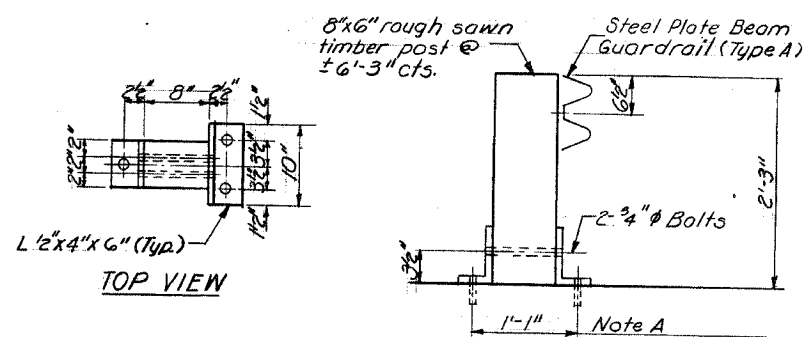


| | |
|----------|--------------|
| DESIGNED | J. M. Patel |
| CHECKED | J. B. Nelson |
| DRAWN | FERRANDO |
| CHECKED | J. BN |

NOVEMBER 24 1971
EXAMINED
PASSED
APPROVED



ALL SUPERSTRUCTURE VIEWS LOOKING NORTH

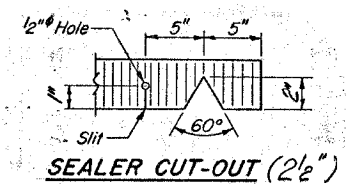
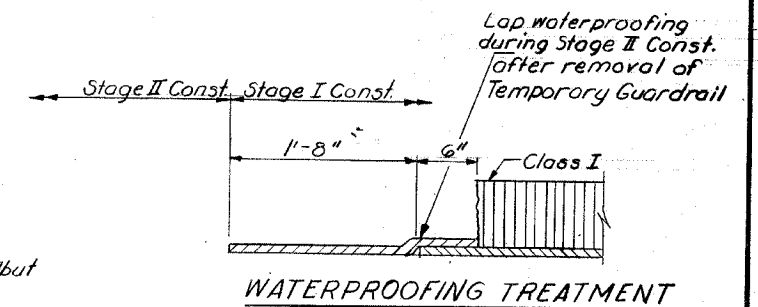
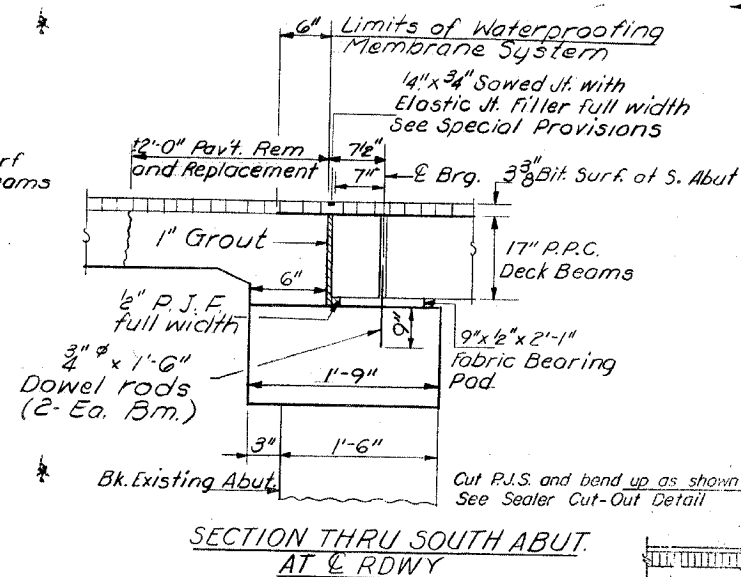
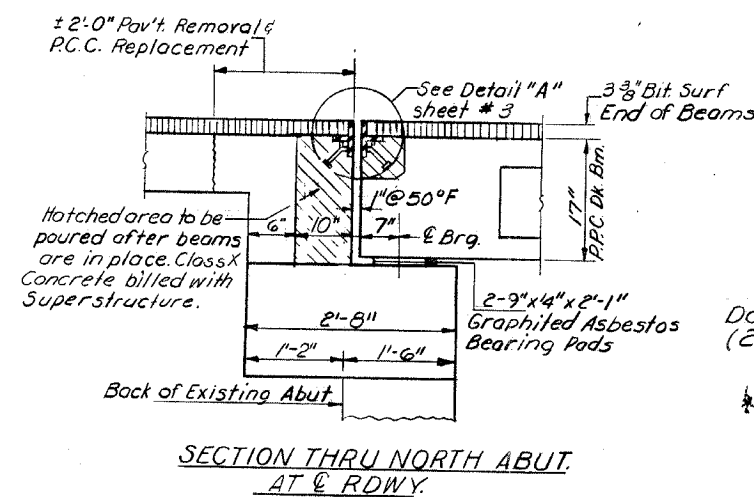


Note A: Temporary Guardrail Anchors
Stage I: 3-3/4" Self-drilling expansion bolts in existing deck.
Stage II: 3-3/4" x 6" bolts cast in deck beam. Burn flush after guardrail removal.

TEMPORARY GUARDRAIL DETAIL
See Special Provisions

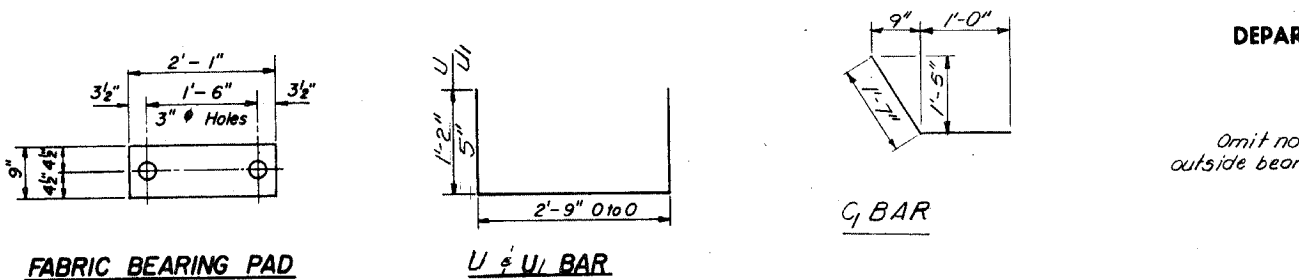
| | |
|----------|--------------|
| DESIGNED | J. M. Pate |
| CHECKED | J. B. Nelson |
| DRAWN | Bev Robinson |
| CHECKED | J. B. N. |

EXAMINED
PASSED
APPROVED
Nov. 24 1971
Richard H. Meeterman



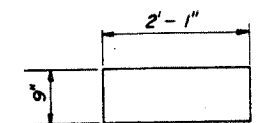
STAGE CONSTRUCTION & SUPERSTRUCTURE DETAILS
SBI. RT. 89 SEC. 102-BR
LEE COUNTY
STA. 489 +50

END OF SEALER TREATMENT

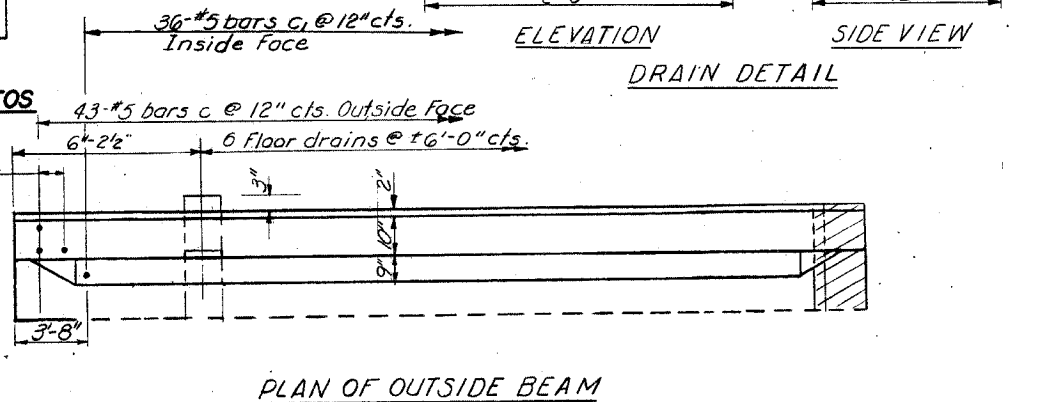


FABRIC BEARING PAD

U & U BAR



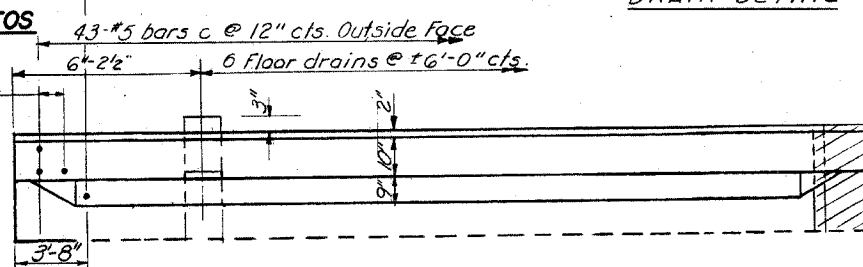
GRAPHITED ASBESTOS BEARING PAD



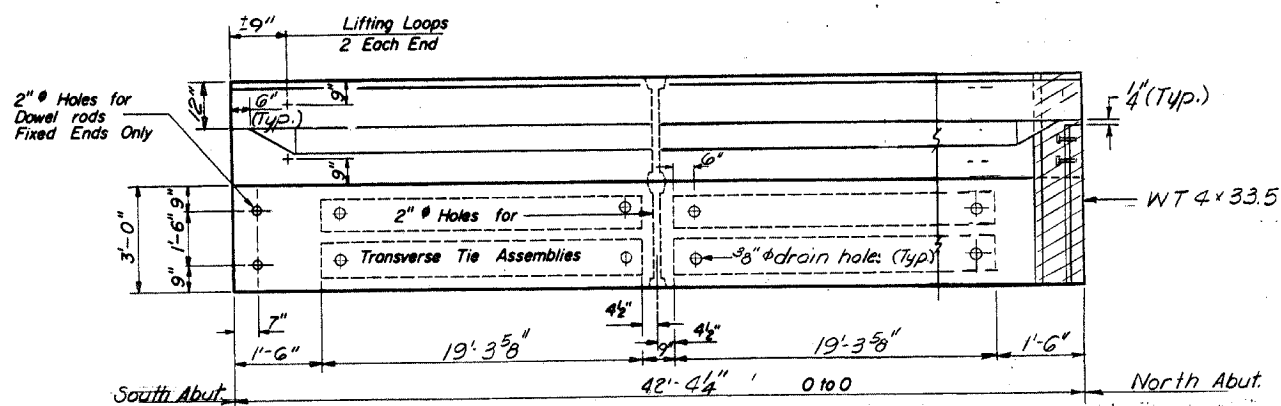
ELEVATION

SIDE VIEW

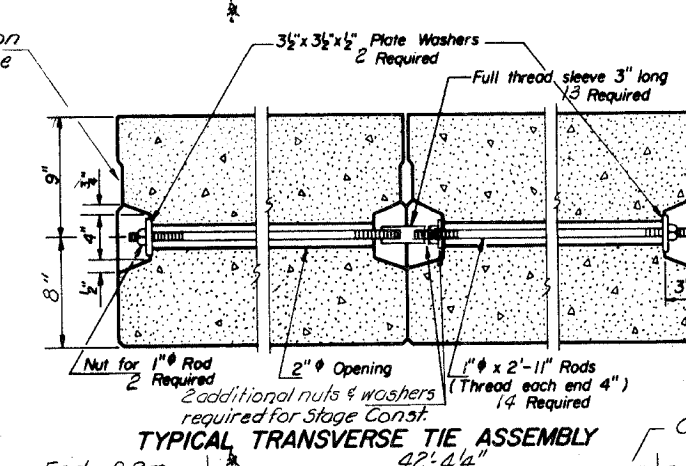
DRAIN DETAIL



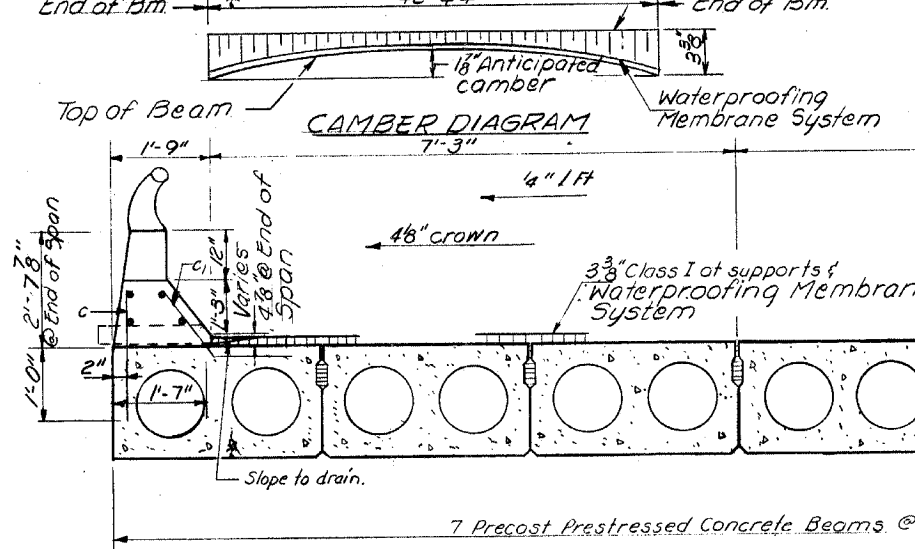
PLAN OF OUTSIDE BEAM



PLAN

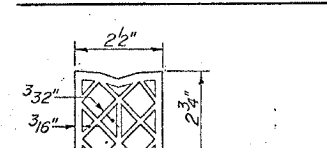


TYPICAL TRANSVERSE TIE ASSEMBLY

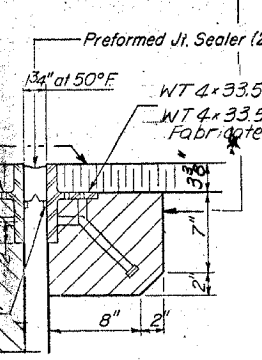


CAMBER DIAGRAM

HALF CROSS SECTION



DBAR



DETAIL "A"

PREFORMED JOINT SEALER (2 1/2")

GENERAL NOTES

Pressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 7/16 and the nominal cross-sectional area shall be 0.175 sq. in. Lifting loops shall be 1/2" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 21,000 lbs. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside beam shall be filled with grout after transverse tie assembly is in place. Longitudinal shear keys shall be packed with a very dry mix of 2:1 sand and P.C. mortar. After beams have been erected, holes for the dowel anchors shall be drilled into the sub-structure and the anchor dowels shall be grouted in place. Dowel rods shall be AASHTO M227 or AASHTO M31. Transverse tie rods shall be AASHTO M227 Grade 70-80. After fabrication the transverse tie assemblies (tie rods, nuts, washers and sleeves) shall be hot-dipped galvanized in accordance with AASHTO Designation M222. Cost of reinforcement and accessories cast into the beam, of bearing pads, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Deck Beams". Drains shall be of Aluminum sheets welded ASTM: B 209 alloy 6061-T6. Cost of drains shall be incidental to Class X Concrete.

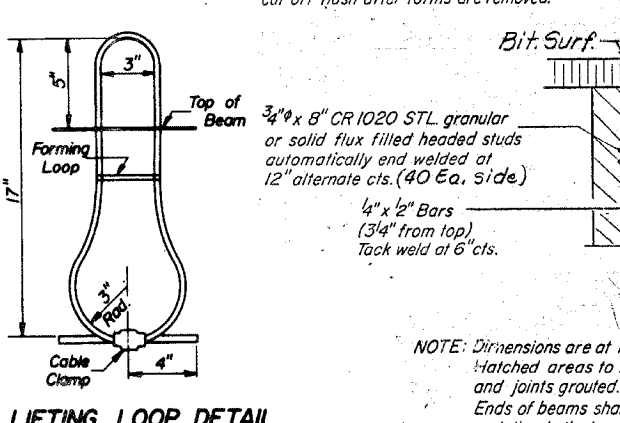
BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|---|-----|----------|--------|-------|
| b | 3 | #5 | 15'-9" | — |
| b1 | 3 | #5 | 27'-9" | — |
| Precast Prestressed Concrete Deck Beams (17") | | Sq. Ft. | 1779 | |
| Class X Concrete | | Cu. Yds. | 3.5 | |
| Reinforcement Bars | | Lbs. | 140 | |

for Curb & parapet details and quantities see Sheet #4.

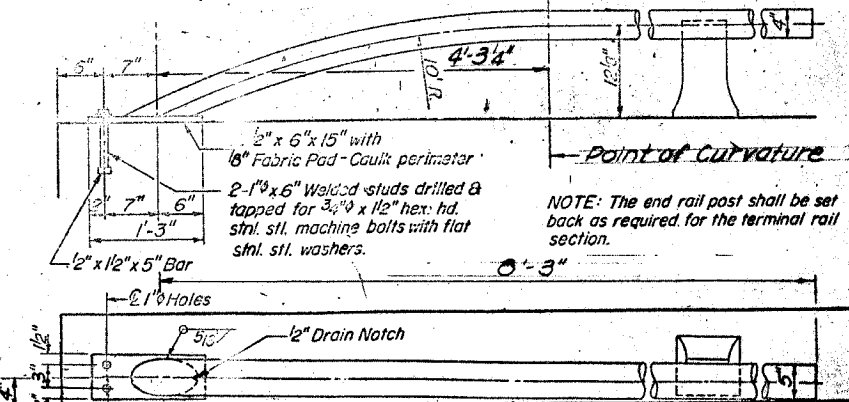
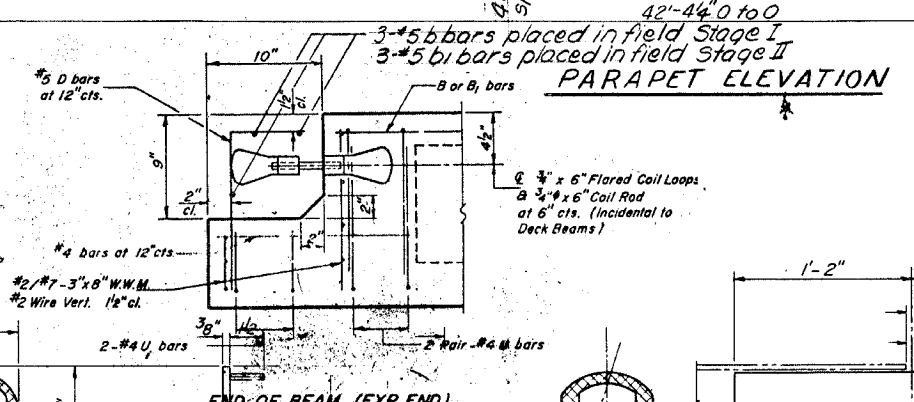
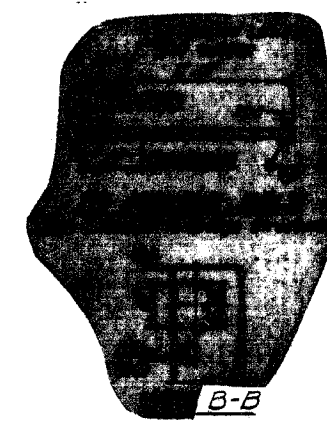
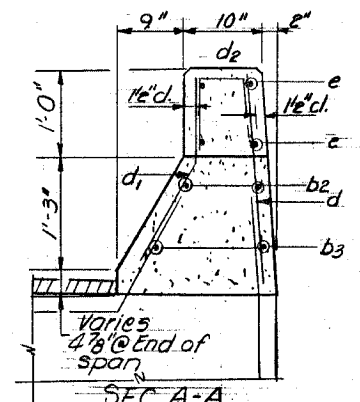
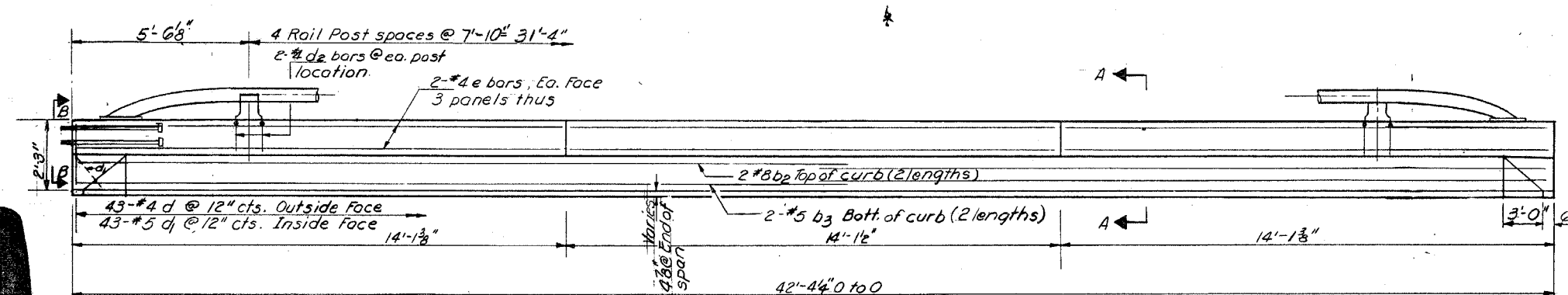
SUPERSTRUCTURE
S.B.I. RT. 89 SEC. 102-BR
LEE COUNTY
STA. 489+50

| | | | |
|----------|-----------------|----------|----------------------|
| DESIGNED | J. M. Patel | EXAMINED | [Signature] |
| CHECKED | J. B. Nelson | PASSED | H. E. Baumann |
| DRAWN | JAMES R. CARMAN | APPROVED | Richard H. Holterman |
| CHECKED | J. B. N. | | |

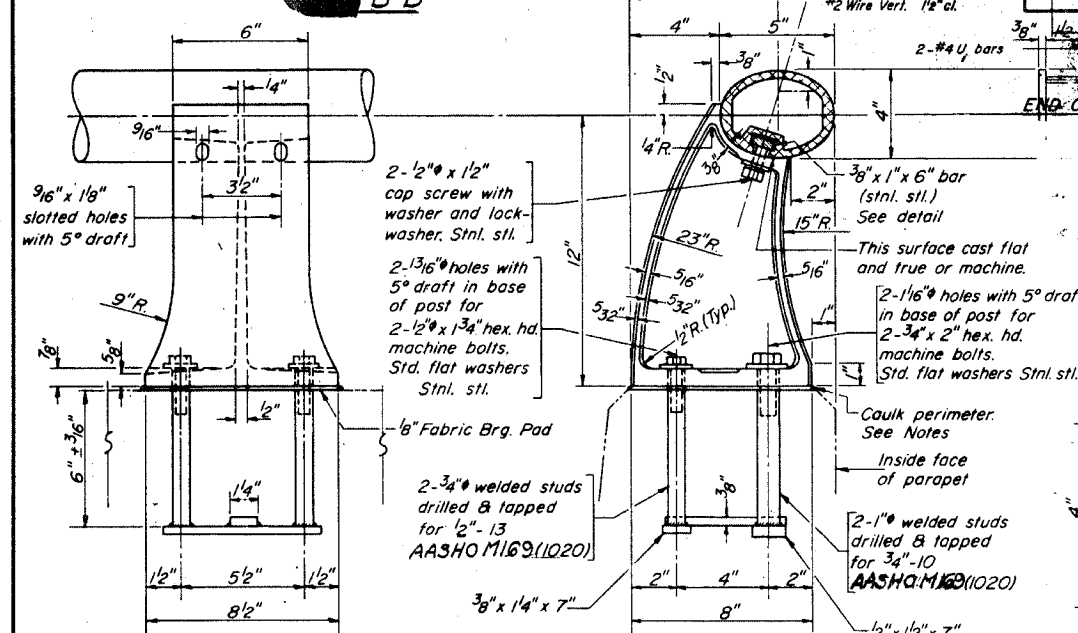


LIFTING LOOP DETAIL

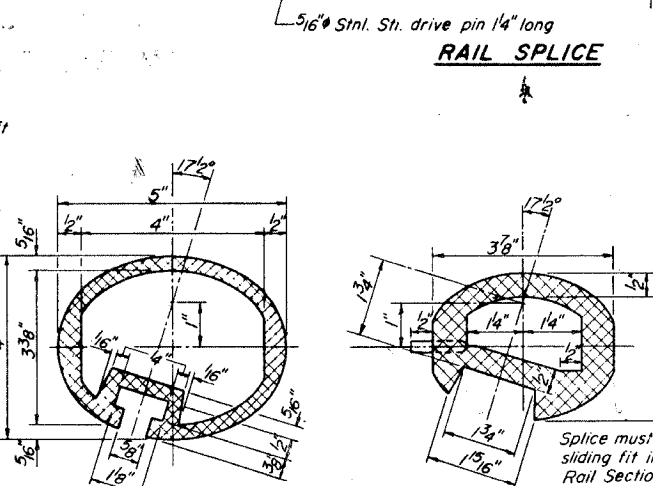
NOTE: Dimensions are at right angles. Hatched areas to be poured after beams have been erected and joints grouted. Ends of beams shall be aligned at the expansion joints. Any lineal variation in the beam lengths shall be placed at the fixed joint. See End of Beam Detail for reinforcement. Sheet #4.



NOTE: The end rail post shall be set back as required for the terminal rail section.

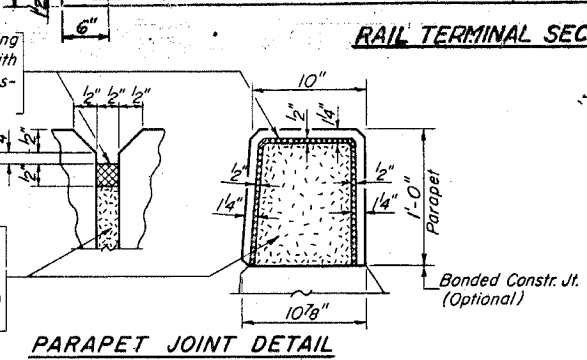


RAIL POST DETAILS



SEC. THRU ELLIPTICAL RAIL SECTION

SEC. THRU SPLICE



PARAPET JOINT DETAIL

Stainless steel machine bolts or cap screws shall be in accordance with Article 710.37(a) of the Standard Specifications except Grade B8 or B8M may be furnished.

NOTES:
All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.
All joints in rail shall be spliced per detail.
Provide 1-1/8" and 2-1/16" Aluminum Shims for 25% of the Posts. Rail element shall be parallel to Grade - high spots shall be ground and low spots shimmed.
Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.
Aluminum alloy rail shall conform to ASTM B221 alloy 6061-T6 or 6351-T5 with min. yield 35 ksi, min. tensile 38 ksi, and elongation of 10% in 2 inches.

RAIL TERMINAL SECTION PARAPETS & RAILS
BILL OF MATERIAL

| Bar No. | Size | Length | Shape |
|--------------------|----------|---------|-------|
| b2 | #8 | 22'-9" | — |
| b3 | #5 | 21'-9" | — |
| d | #4 | 2'-4" | — |
| d1 | #5 | 2'-3" | — |
| d2 | #4 | 2'-1" | — |
| e | #4 | 13'-10" | — |
| | | | |
| Reinforcement Bars | Lbs. | 1240 | |
| Class X Concrete | Cu. Yds. | 9.4 | |
| Aluminum Railing | Lin. Ft. | 80 | |

ALUMINUM RAILING
S.B.I. R. 89 SEC. 102-BR
LEE COUNTY
STA. 489+50

DESIGNED J. M. Patel
CHECKED B. Robinson
DRAWN Bev Robinson
CHECKED BA.

EXAMINED Nov. 24 1971
PASSED H. B. Bammann
APPROVED Richard H. Hollerman

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

FOR INFORMATIONAL
PURPOSES ONLY

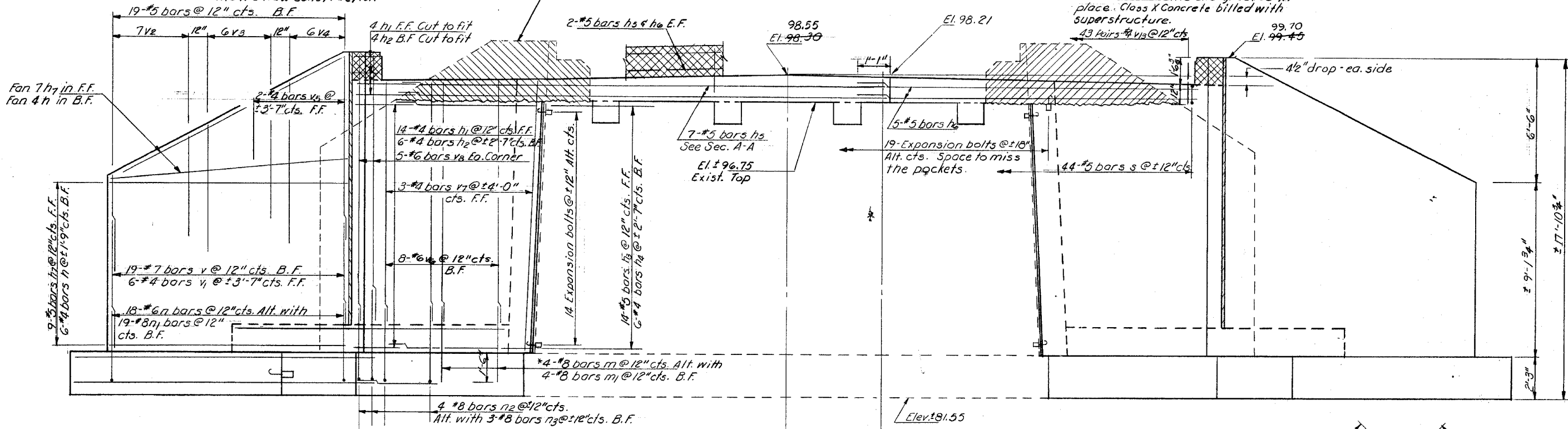
| | |
|--------------|----|
| TOTAL SHEETS | 25 |
| SHEET NO. | 5 |

SHEET NO. 5

8 SHEETS

Hatched area indicates concrete removal.
Note A: Existing reinforcement which will extend into new concrete shall be cleaned and incorporated into the new construction

Note:
Cross-hatch area to be poured after deck beams are grouted in place. Class X Concrete filled with superstructure.

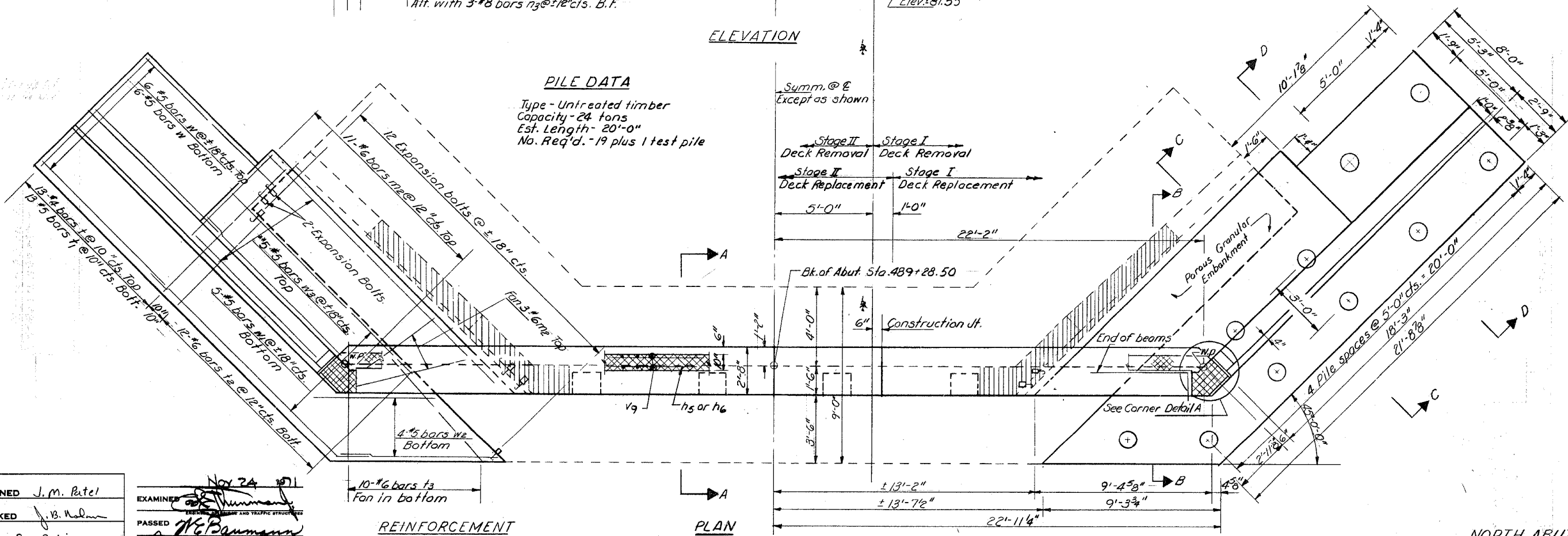


ELEVATION

PILE DATA

Type - Untreated timber
Capacity - 24 tons
Est. Length - 20'-0"
No. Req'd. - 19 plus 1 test pile

Summ. @ E
Except as shown



REINFORCEMENT

PLAN

OUTLINES

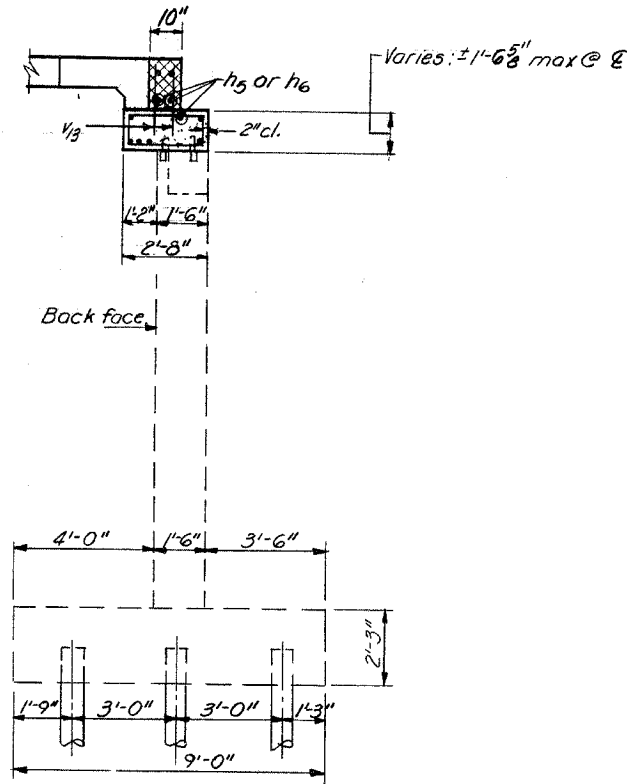
DESIGNED J. M. Patel
CHECKED J. B. Nelson
DRAWN Bev Robinson
CHECKED J. B. N.

EXAMINED
PASSED
APPROVED

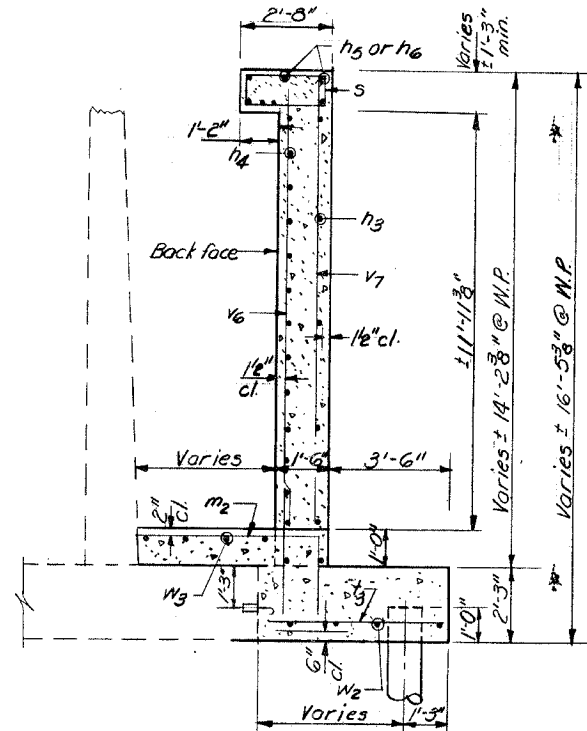
* m & m1 bars drilled & grouted into existing footing. See sheet #6 for Bar Details, Sections, & Bill of Material.
** Order w3 bars full length, cut to fit, & use balance of bars in opposite end.

NORTH ABUTMENT
S.B.I. RT. 89 SEC. 102 - BR
LEE COUNTY
STA. 489 + 50

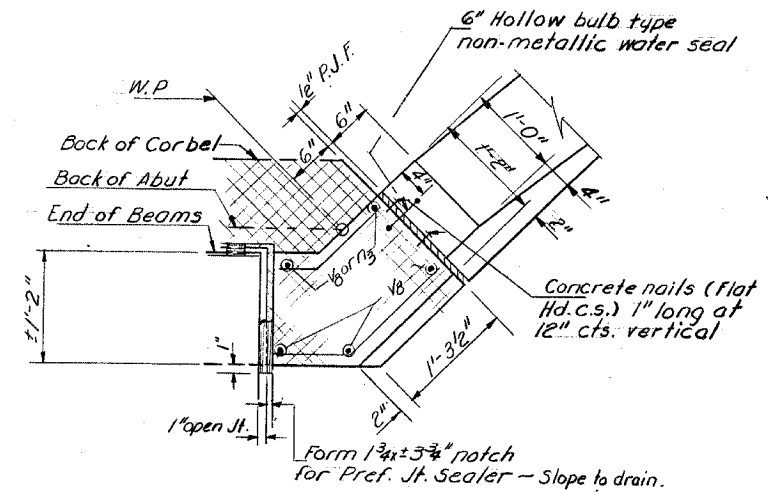
| ROUTE NO. | | SEC. | COUNTY | TOTAL SHEETS |
|-----------------|--------------|------|--------|--------------|
| 318 | 2 | | LEE | 28 |
| PROJ. DIST. NO. | 112018-100-1 | | 28 | 28 |



SECTION A-A

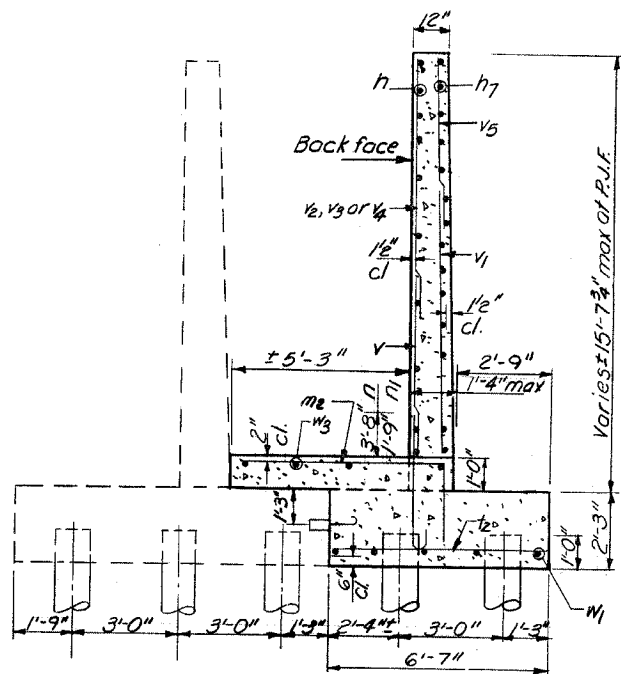


SECTION B-B

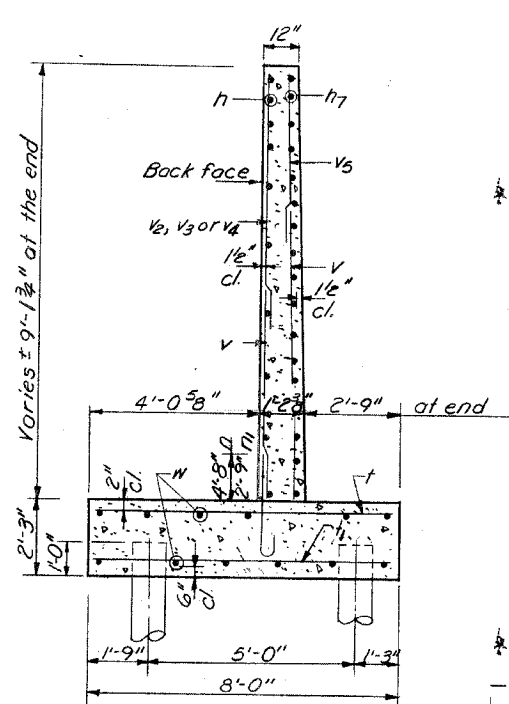


CORNER DETAIL A

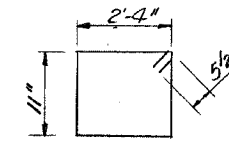
Note:
Cross-hatched portion to be poured after beams are in place. Quantity billed with superstructure.



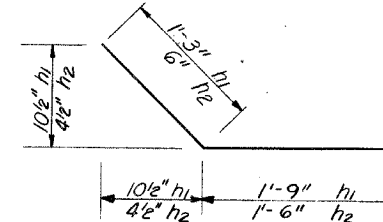
SECTION C-C



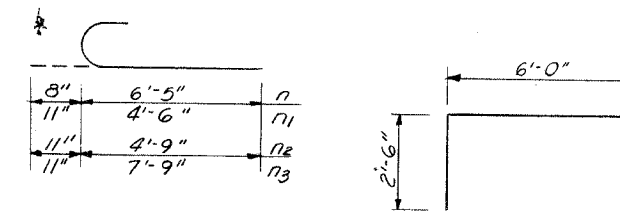
SECTION D-D



BAR S



BARS h1 & h2



BARS n, n1, n2 & n3

BAR m2

NORTH ABUTMENT
BILL OF MATERIAL

| Bar No. | Size | Length | Shape | Bar No. | Size | Length | Shape |
|---------|-------|--------|-------|---------|-------|--------|-------|
| h | 20 #4 | 18'-0" | ┌ | | | | |
| h1 | 36 #4 | 3'-0" | ┌ | t9 | 20 #6 | 7'-0" | ┌ |
| h2 | 20 #4 | 2'-0" | ┌ | | | | |
| h3 | 28 #5 | 9'-0" | ┌ | | | | |
| h4 | 12 #4 | 7'-3" | ┌ | v | 38 #7 | 6'-3" | ┌ |
| h5 | 11 #5 | 28'-0" | ┌ | v1 | 12 #4 | 12'-0" | ┌ |
| h6 | 11 #5 | 17'-0" | ┌ | v2 | 14 #5 | 6'-3" | ┌ |
| h7 | 32 #5 | 18'-0" | ┌ | v5 | 12 #6 | 7'-3" | ┌ |
| | | | | v4 | 12 #5 | 9'-6" | ┌ |
| | | | | v5 | 4 #4 | 5'-0" | ┌ |
| m | 8 #8 | 4'-6" | ┌ | v6 | 16 #6 | 13'-1" | ┌ |
| m1 | 8 #8 | 7'-6" | ┌ | v7 | 6 #4 | 13'-1" | ┌ |
| m2 | 28 #6 | 8'-6" | ┌ | v8 | 10 #6 | 14'-6" | ┌ |
| | | | | v13 | 86 #4 | 2'-2" | ┌ |
| | | | | | | | |
| n | 36 #6 | 7'-1" | ┌ | | | | |
| n1 | 38 #8 | 5'-5" | ┌ | w | 24 #5 | 9'-9" | ┌ |
| n2 | 8 #8 | 5'-8" | ┌ | w1 | 10 #5 | 14'-6" | ┌ |
| n3 | 6 #8 | 8'-8" | ┌ | w2 | 8 #5 | 8'-9" | ┌ |
| | | | | w3 | 5 #5 | 24'-6" | ┌ |
| s | 44 #5 | 7'-5" | ┌ | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

DESIGNED J.M. Patel
CHECKED J.B. Nelson
DRAWN Bev Robinson
CHECKED J.B.N.

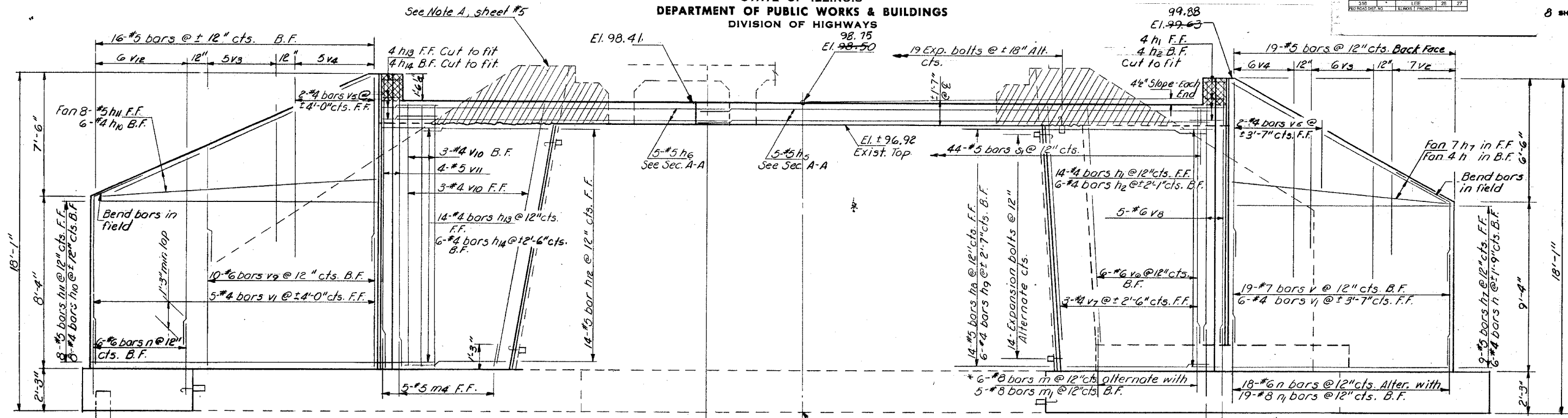
Nov. 24 1971
EXAMINED *[Signature]*
PASSED *[Signature]*
APPROVED *[Signature]*
CHIEF HIGHWAY ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

FOR INFORMATIONAL
PURPOSES ONLY

| | | | |
|-----------------------|---------|-------------|-----|
| 1100BRM & 1100BR-1M-1 | | TOTAL SHEET | |
| ROUTE NO. | SECTION | DATE | NO. |
| 318 | | 26 | 27 |
| RED BOUND. NO. | SCALE | PROJECT | |

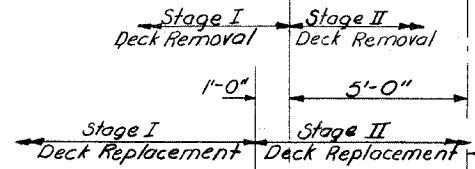
SHEET NO. 7
8 SHEETS



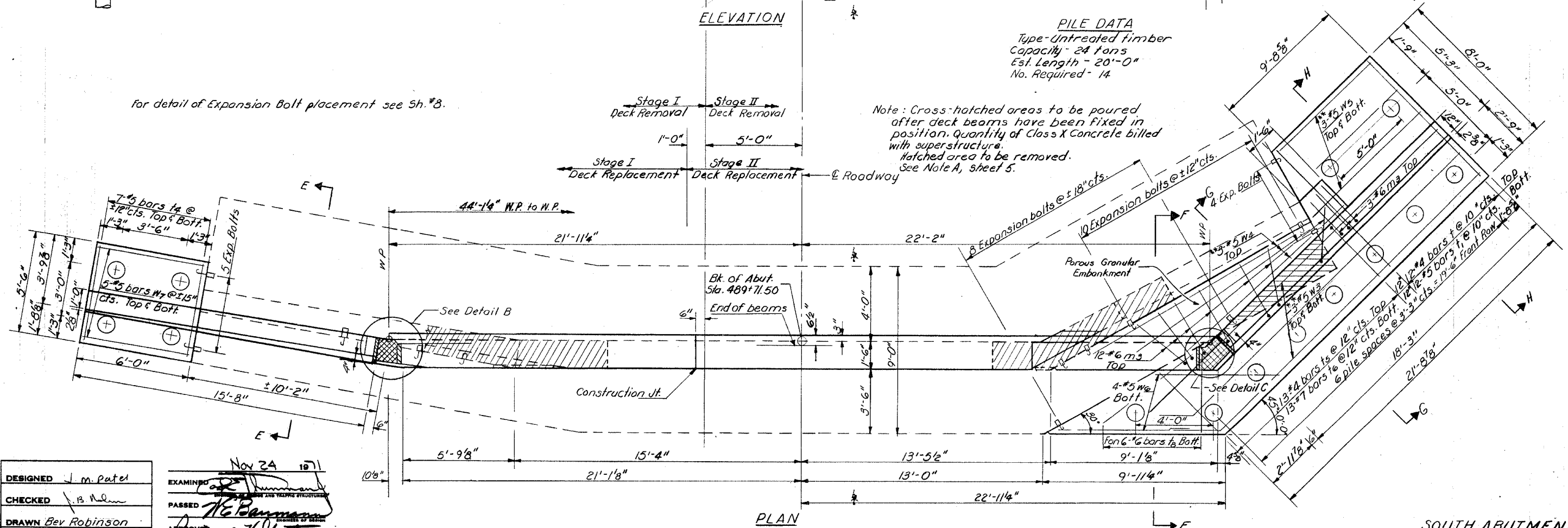
ELEVATION

PILE DATA
Type - Untreated timber
Capacity - 24 tons
Est. Length - 20'-0"
No. Required - 14

For detail of Expansion Bolt placement see Sh. #8.



Note: Cross-hatched areas to be poured after deck beams have been fixed in position. Quantity of Class X Concrete billed with superstructure. Hatched area to be removed. See Note A, sheet 5.



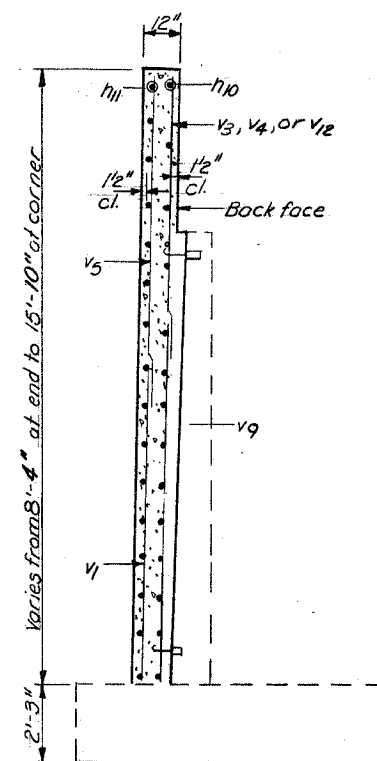
PLAN

For Sections E-E, F-F, G-G, H-H, Details B & C & Bill of Material see sh. #6.
* Bars m₁, m₂, m₃ drilled & grouted into existing footing
** Bend in field.

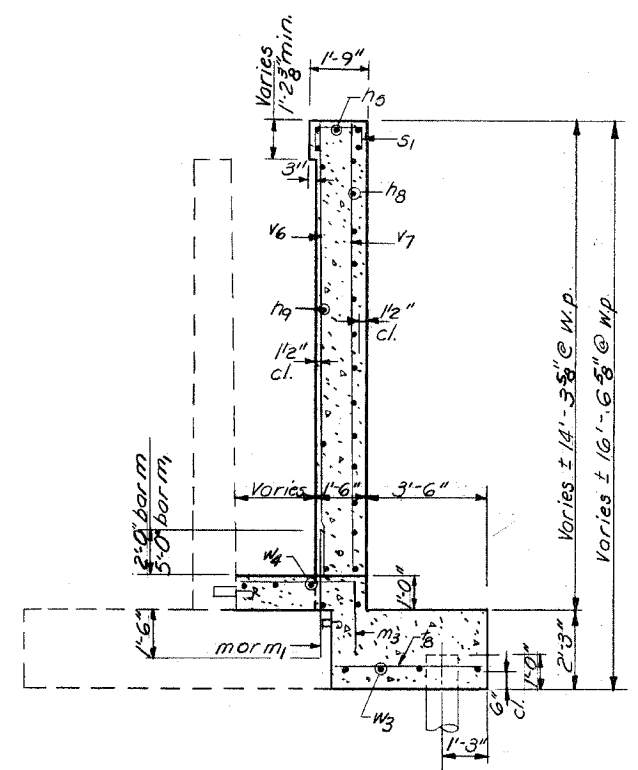
| | |
|----------|--------------|
| DESIGNED | J. M. Patel |
| CHECKED | J. B. Nelson |
| DRAWN | Bev Robinson |
| CHECKED | J. B. A. |

Nov 24 1971
EXAMINED
PASSED
APPROVED

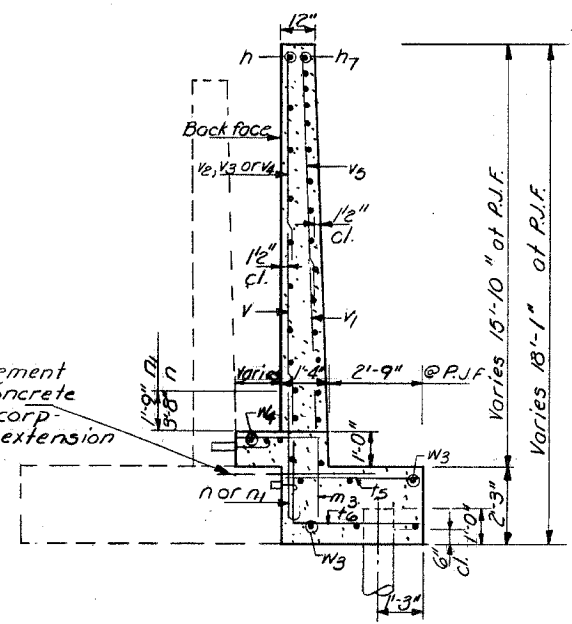
SOUTH ABUTMENT
S.B.T. RT. 89 SEC. 102-PD
LEE COUNTY
STA. 489+50



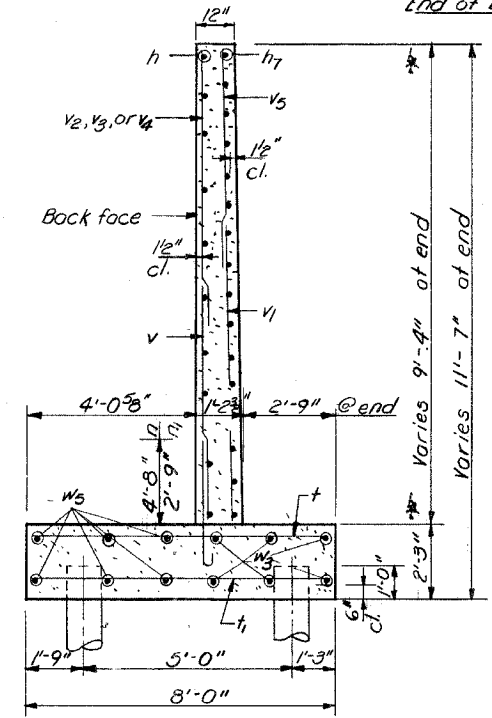
SECTION E-E



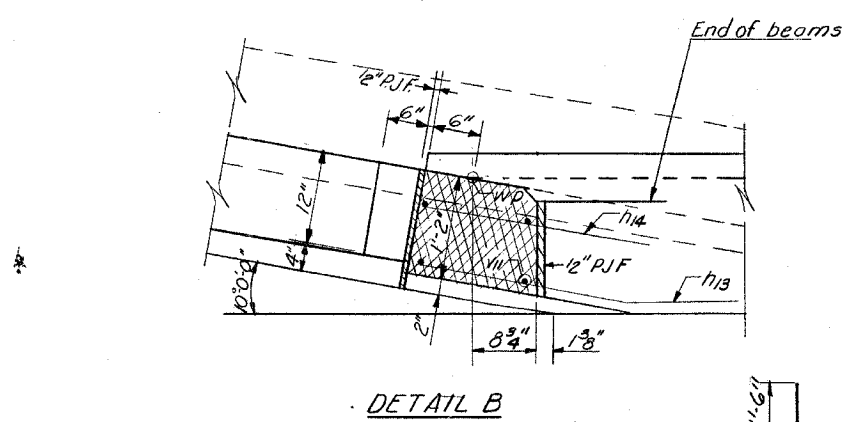
SECTION F-F



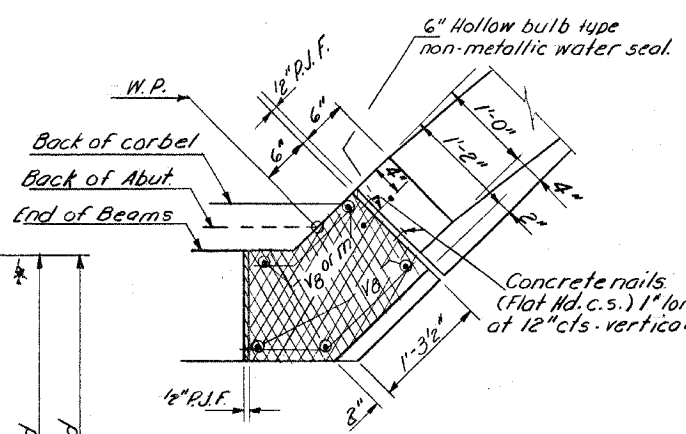
SECTION G-G



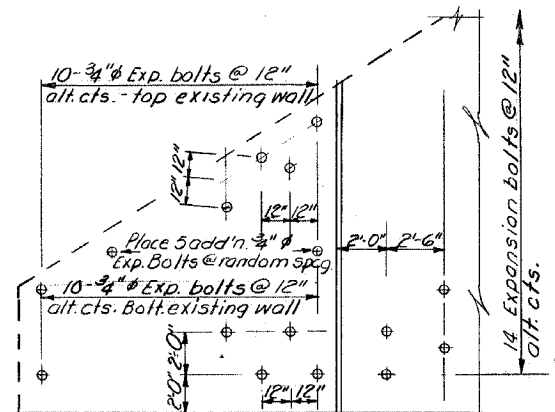
SECTION H-H



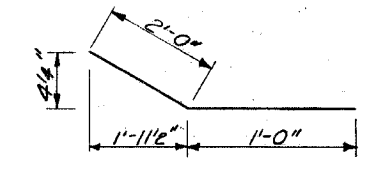
DETAIL B



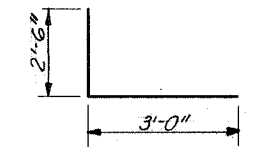
DETAIL C



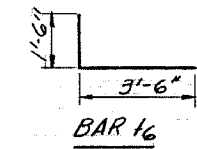
EXPANSION BOLT PLACEMENT - S.W. CORNER



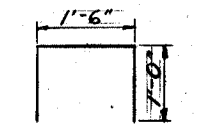
BAR h13



BAR m13



BAR t6



BAR s1

SOUTH ABUTMENT
BILL OF MATERIAL

| Bar | No. | Size | Length | Shape | Bar | No. | Size | Length | Shape |
|--------------------|-----|------|--------------|-------|-------------------|-----|------|---------------|-------|
| h | 10 | #4 | 18'-0" | | h | 12 | #5 | 7'-9" | |
| h1 | 18 | #4 | 3'-0" | | h1 | 14 | #5 | 5'-3" | |
| h2 | 10 | #4 | 2'-0" | | h2 | 13 | #4 | 3'-9" | |
| h3 | 5 | #5 | 28'-0" | | h3 | 16 | #7 | 5'-0" | |
| h4 | 5 | #5 | 17'-0" | | h4 | 6 | #6 | 5'-0" | |
| h5 | 16 | #5 | 18'-0" | | | | | | |
| h6 | 14 | #5 | 8'-3" | | | | | | |
| h7 | 6 | #4 | 6'-9" | | v | 19 | #7 | 6'-3" | |
| h8 | 14 | #4 | 15'-5" | | v1 | 11 | #8 | 12'-0" | |
| h9 | 16 | #5 | 15'-5" | | v2 | 7 | #5 | 6'-3" | |
| h10 | 14 | #5 | 5'-6" | | v3 | 11 | #5 | 7'-3" | |
| h11 | 18 | #4 | 3'-0" | | v4 | 11 | #5 | 9'-6" | |
| h12 | 10 | #4 | 2'-9" | | v5 | 4 | #4 | 5'-0" | |
| | | | | | v6 | 6 | #6 | 13'-1" | |
| m | 8 | #8 | 4'-6" | | v7 | 3 | #8 | 13'-1" | |
| m1 | 5 | #8 | 7'-6" | | v8 | 5 | #6 | 14'-6" | |
| | | | | | v9 | 10 | #6 | 7'-3" | |
| m4 | 5 | #5 | 2'-6" | | v10 | 6 | #8 | 14'-0" | |
| m13 | 15 | #6 | 5'-6" | | v11 | 4 | #5 | 15'-0" | |
| | | | | | v12 | 6 | #5 | 8'-0" | |
| n | 24 | #6 | 7'-1" | | w3 | 6 | #5 | 28'-6" | |
| n1 | 19 | #8 | 5'-5" | | w4 | 3 | #5 | 10'-0" | |
| | | | | | w5 | 6 | #5 | 10'-9" | |
| s1 | 44 | #5 | 3'-6" | | w6 | 4 | #5 | 9'-3" | |
| | | | | | w7 | 10 | #5 | 5'-9" | |
| t | 12 | #4 | 7'-9" | | | | | | |
| Concrete Removal | | | Cu. Yds. 3 | | Class. X Concrete | | | Cu. Yds. 26.3 | |
| Untreated Piles | | | Lin. Ft. 280 | | Expansion Bolts | | | #8 Ea. 99 | |
| Reinforcement Bars | | | Lbs. 4330 | | | | | | |

DESIGNED J.M. Patel
CHECKED J.B. Nelson
DRAWN Bev Robinson
CHECKED J.B.A.

EXAMINED [Signature]
PASSED [Signature]
APPROVED [Signature]

SOUTH ABUTMENT DETAILS
S.B.I. RT. 89 SEC. 102-10
LEE COUNTY
STA. 289+50