

PROJECT NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ITS LATEST REVISIONS, AND THE CONTRACT SPECIAL PROVISIONS.
2. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY LIMITS. THE RIGHT-OF-WAY FOR ALL HIGHWAYS OTHER THAN I-89 SHALL BE ASSUMED TO BE A MINIMUM OF 3 RODS UNLESS SHOWN OTHERWISE ON REFERENCE PLANS.
3. VTRANS WILL REVIEW CONSTRUCTION STAGING AREAS FOR ADEQUACY AND EXISTING CONDITIONS. THESE STAGING AREAS SHALL BE RESTORED TO ORIGINAL CONDITION. EROSION CONTROL MEASURES SHALL BE INCORPORATED FOR ALL DISTURBED AREAS AND PAID FOR UNDER ITEMS 649.51 AND 653.20.
4. ALL COSTS ASSOCIATED WITH EXTENDING OR FILLING THE DRAIN TUBES SHALL BE INCIDENTAL TO ITEM 900.645, SPECIAL PROVISION (QC/QA CLEAN AND PAINT EXISTING STEEL STRUCTURES, BARE STEEL).
5. THE LENGTHS OF BEAMS OR GIRDERS TO BE GREASE COATED (AT THE ENDS) SHALL BE EQUAL TO THE END DEPTH OF THE MEMBER INCLUDING ALL EXPOSED SURFACE AREAS OF MEMBER AND ATTACHMENTS, SUCH AS CROSS MEMBERS, WITHIN THIS DISTANCE.
6. STAGING AND CONTAINMENT STRUCTURES SHALL NOT BE ANCHORED INTO PIERS. ANCHORING INTO THE ABUTMENTS IS ALLOWED AS APPROVED BY THE ENGINEER. CONTRACTOR SHALL PROVIDE A DETAILED PLAN FOR CLEANING AND PAINTING BEARING DEVICES IF ANCHOR CABLES ARE PLACED AROUND BEARING PLATES. PAYMENT WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 900.645 SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES.)
7. UTILITIES THAT ARE PRESENT ON THE STRUCTURES SHALL NOT BE BLASTED OR PAINTED. THESE UTILITIES MUST BE PROTECTED.
8. CONTRACTOR SHALL VERIFY, THROUGH LOAD CALCULATIONS, THE CAPACITY OF THE EXISTING BRIDGE IF THE VACUUM RECYCLER UNIT TRUCK IS PLACED ON THE BRIDGE.
9. THE CONTRACTOR SHALL NOT IMPEDE THE TOWN CONTROLLED PORTION OF THE RIGHT OF WAY WITH EQUIPMENT OR ANY STAGING MATERIALS FOR STRUCTURES CARRYING TOWN HIGHWAYS OVER THE INTERSTATE.
10. WORK OUTSIDE THE SEASONAL LIMITATIONS WILL NOT BE ALLOWED UNLESS BY SPECIAL PERMISSION GRANTED BY THE PROJECT MANAGER. WORK OUTSIDE THE SEASONAL LIMITATION WILL ONLY BE ALLOWED FOR A SHORT PERIOD OF TIME IF GIVEN, TO FINALIZE TOUCHUPS OR OTHER REPAIRS. NO LONG TERM OUT OF SEASON WORK WILL BE ALLOWED OR CONSIDERED.

TRAFFIC CONTROL:

1. THE CONTRACTOR SHALL SUBMIT SITE SPECIFIC TRAFFIC CONTROL PLANS DEPICTING EACH PHASE OF THE PLANNED WORK FOR ANY WORK ON I-89 AND OTHER ROADWAYS. THE DESIGN SHALL ENSURE STATE-REGULATED WIDE LOADS CAN BE ACCOMMODATED DURING THE LANE CLOSURES. PLANS SHALL BE SUBMITTED IN ACCORDANCE WITH SECTION 641 AND SUBSECTION 105.03 AND SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN AN APPROPRIATE DISCIPLINE IN THE STATE OF VERMONT.
2. THE CONTRACTOR SHALL OBTAIN THE MOST CURRENT TRAFFIC VOLUMES FOR I-89 AND CROSS ROADS FOR USE IN THE SPECIFIC TRAFFIC CONTROL PLANS.

| TOWN       | I-89<br>BRIDGE No | I-89 2011 AADT |            | CROSSROAD           | CROSSROAD<br>2011 AADT<br>SUM OF BOTH DIRECTIONS |
|------------|-------------------|----------------|------------|---------------------|--------------------------------------------------|
|            |                   | NORTHBOUND     | SOUTHBOUND |                     |                                                  |
| RICHMOND   | 52S               | N/A            | 6500       | STAGE ROAD          | 400                                              |
| MILTON     | 80                | 9900           | 9900       | W.MILTON ROAD       | 1800                                             |
| MILTON     | 82                | 9900           | 9900       | LAKE ROAD           | 1400                                             |
| GEORGIA    | 84N&84S           | 9900           | 9900       | BALLARD ROAD        | NOT AVAILABLE                                    |
| GEORGIA    | 85                | 9400           | 11300      | US 7                | 7400                                             |
| ST. ALBANS | 89                | 6000           | 6000       | VT 36               | 3500                                             |
| ST. ALBANS | 90                | 6000           | 6000       | VT 104              | 4800                                             |
| ST. ALBANS | 91                | 6000           | 6000       | VT 105              | 3600                                             |
| HIGHGATE   | 99                | 1600           | 1600       | CARTER HILL<br>ROAD | 680                                              |
| HIGHGATE   | 101               | 1600           | 1600       | US 7                | 540                                              |

3. THE TRAFFIC CONTROL PLANS SHALL SHOW ALL RAMPS AND I-89 ACCELERATION LANES AND DECELERATION LANES.
4. UNIFORMED TRAFFIC OFFICERS ARE REQUIRED FOR THE TRAFFIC CONTROL ON I-89.
5. THE TRAFFIC CONTROL DEVICES SHOWN ON THESE PLANS ARE FOR ILLUSTRATIVE PURPOSES AND DO NOT RELIEVE THE CONTRACTOR FROM ADHERING TO ALL VTRANS TRAFFIC CONTROL STANDARDS, REQUIREMENTS AND SPECIFICATIONS. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE 2009 MUTCD AND ITS LATEST REVISIONS. WHERE CONFLICTS EXIST BETWEEN AOT STANDARDS AND MUTCD, THE MUTCD SHALL GOVERN.

BRIDGE NOTES:

RICHMOND, BRIDGE 52S - I-89 OVER STAGE ROAD

1. REMOVE GREASE COATING ON ALL STEEL BEAMS, CROSS MEMBERS AND BEARINGS ARE COVERED IN GREASE
2. REPAIR AND CLEAN BRIDGE DRAINS
3. CLEAN AND PAINT EXISTING STEEL
4. EXTEND BRIDGE DRAIN WEEPERS
5. REMOVE AND DISPOSE OF BRUSH, INCIDENTAL TO ITEM 900.645, SPECIAL PROVISION (QC/QA CLEAN AND PAINT EXISTING STEEL STRUCTURES, BARE STEEL)
6. ALL WORK SHALL BE PERFORMED FROM LOCAL ROAD

MILTON, BRIDGE 80 - W. MILTON ROAD OVER I-89

1. REMOVE GREASE COATING ON ENDS OF STEEL BEAMS, END CROSS MEMBERS AND BEARINGS
2. CLEAN AND PAINT EXISTING STEEL
3. EXTEND BRIDGE DRAIN WEEPERS
4. UTILITY LOCATED BETWEEN GIRDER LINES 1 & 2 (REFER TO PROJECT NOTE 7 ON THIS SHEET)

MILTON, BRIDGE 82 - LAKE ROAD OVER I-89

1. REMOVE GREASE COATING ON ENDS OF STEEL BEAMS, END CROSS MEMBERS AND BEARINGS
2. CLEAN AND PAINT EXISTING STEEL
3. REPAIR AND CLEAN BRIDGE DRAINS
4. EXTEND BRIDGE DRAIN WEEPERS
5. UTILITY LOCATED BETWEEN GIRDER LINES 1 & 2 (REFER TO PROJECT NOTE 7 ON THIS SHEET)

GEORGIA, BRIDGE 84N&S - I-89 OVER BALLARD ROAD

1. REMOVE GREASE COATING ON ENDS OF STEEL BEAMS, END CROSS MEMBERS AND BEARINGS
2. CLEAN AND PAINT EXISTING STEEL
3. EXTEND BRIDGE DRAIN WEEPERS
4. UTILITIES LOCATED ON SOUTH SIDE OF BRIDGE (REFER TO PROJECT NOTE 7 ON THIS SHEET)

GEORGIA, BRIDGE 85 - US ROUTE 7 OVER I-89

1. REMOVE GREASE COATING ON ENDS OF STEEL BEAMS, END CROSS MEMBERS AND BEARINGS
2. CLEAN AND PAINT EXISTING STEEL
3. EXTEND BRIDGE DRAIN WEEPERS

ST. ALBANS, BRIDGE 89 - VT ROUTE 36 OVER I-89

1. REMOVE GREASE COATING ON ALL STEEL BEAMS, CROSS MEMBERS, AND BEARINGS.
2. CLEAN AND PAINT EXISTING STEEL
3. EXTEND BRIDGE DRAIN WEEPERS
4. REPAIR OR REPLACE DRAIN AT EXPANSION END
5. UTILITIES LOCATED BETWEEN GIRDERS 1 & 2 (REFER TO PROJECT NOTE 7 ON THIS SHEET)

ST. ALBANS, BRIDGE 90 - VT ROUTE 104 OVER I-89

1. REMOVE GREASE COATING ON ENDS OF STEEL BEAMS, END CROSS MEMBERS AND BEARINGS
2. CLEAN AND PAINT EXISTING STEEL
3. EXTEND BRIDGE DRAIN WEEPERS
4. REPAIR BRIDGE DRAINS

ST. ALBANS, BRIDGE 91 - VT ROUTE 105 OVER I-89

1. REMOVE GREASE COATING ON ENDS OF STEEL BEAMS, END CROSS MEMBERS AND BEARINGS
2. CLEAN AND PAINT EXISTING STEEL
3. EXTEND BRIDGE DRAIN WEEPERS

HIGHGATE, BRIDGE 99 - CARTER HILL ROAD OVER I-89

1. REMOVE GREASE COATING ON ENDS OF STEEL BEAMS, END CROSS MEMBERS AND BEARINGS
2. CLEAN AND PAINT EXISTING STEEL
3. EXTEND BRIDGE DRAIN WEEPERS
4. REPAIR BRIDGE DRAINS
5. REMOVE LOOSE PAINT FROM UTILITY BETWEEN GIRDER LINES 4 AND 5, DO NOT RECOAT (REFER TO PROJECT NOTE 7 ON THIS SHEET)

HIGHGATE, BRIDGE 101 - US ROUTE 7 OVER I-89

1. REMOVE GREASE COATING ON ENDS OF STEEL BEAMS, END CROSS MEMBERS AND BEARINGS
2. CLEAN AND PAINT EXISTING STEEL
3. EXTEND BRIDGE DRAIN WEEPERS

PROJECT NOTES

PROJECT NAME: RICHMOND - HIGHGATE  
PROJECT NUMBER: IM BPNT (9)

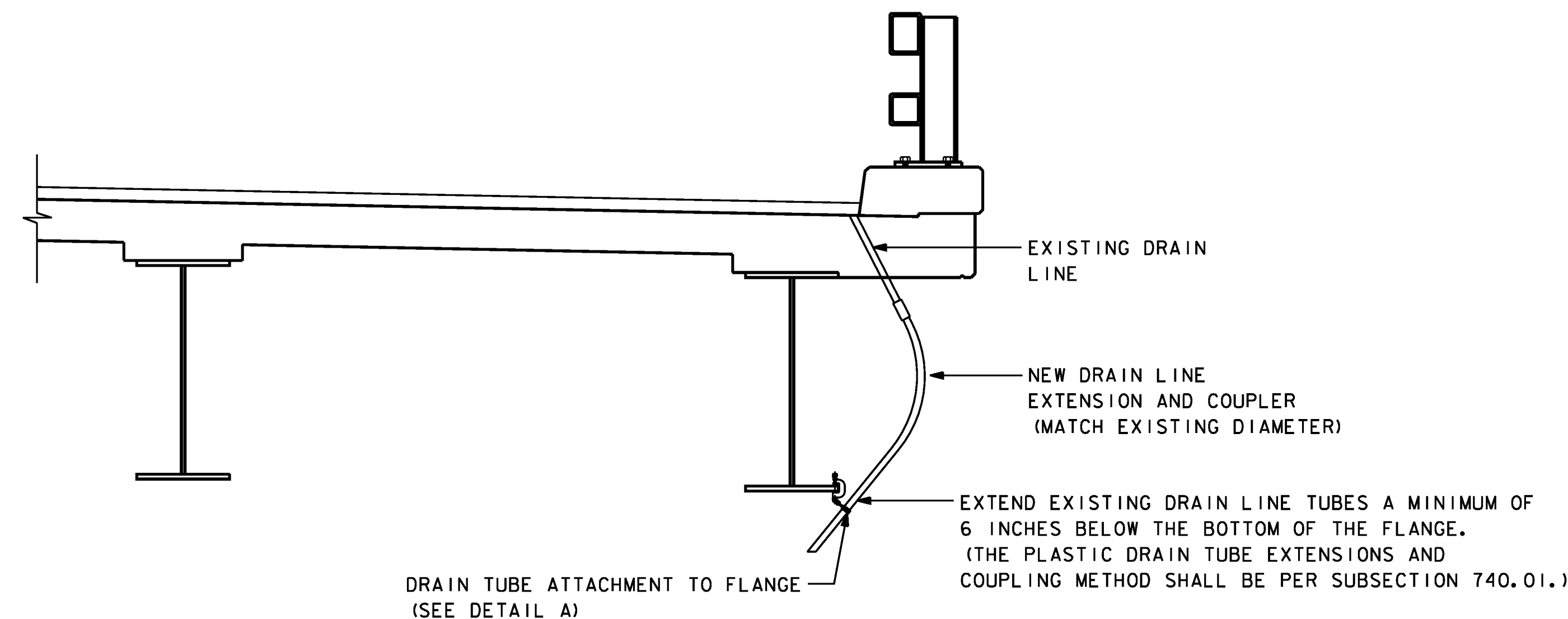
FILE NAME: I09180/str/z109180det.dgn  
PROJECT LEADER: G.K.DONINGTON  
DESIGNED BY: A.STOCKIN  
det.dgn

PLOT DATE: 24-JAN-2012  
DRAWN BY: W.GERHOLD  
CHECKED BY: D.SARGENT  
SHEET 2 OF 30

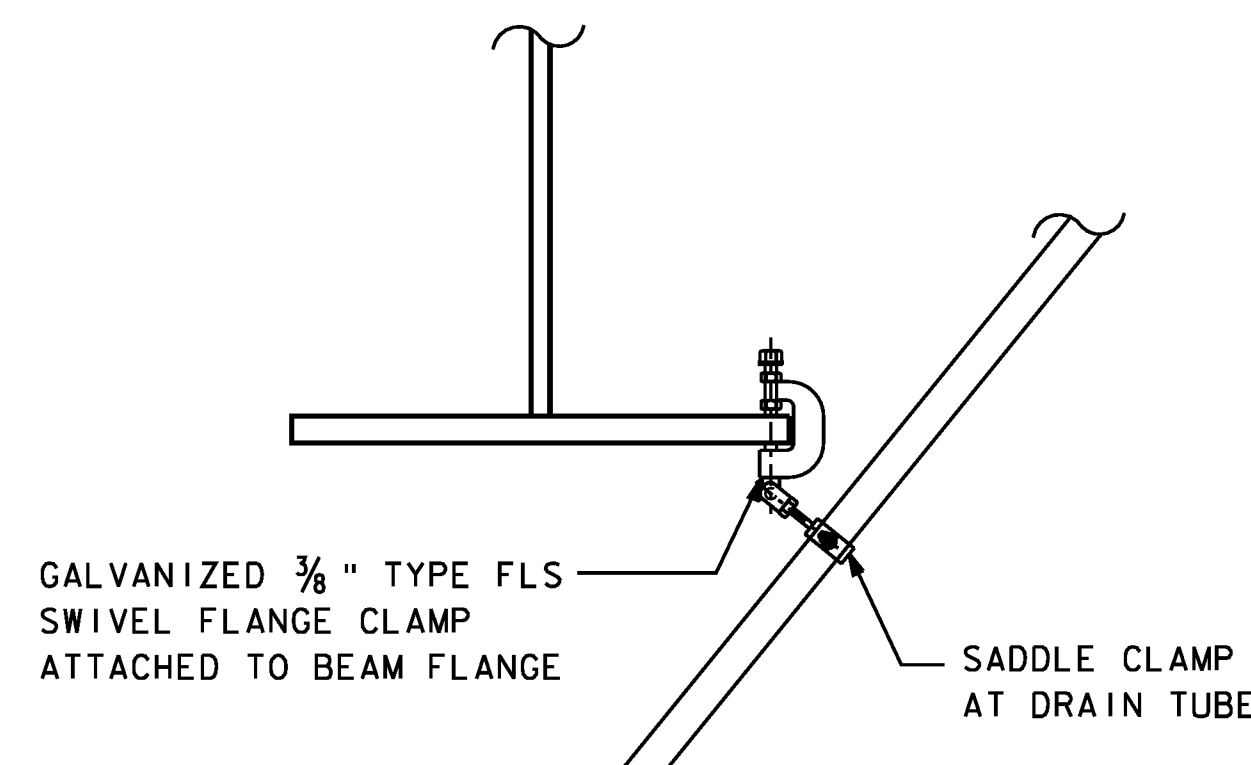


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DRAIN TUBE EXTENSION DETAIL  
NOT TO SCALE



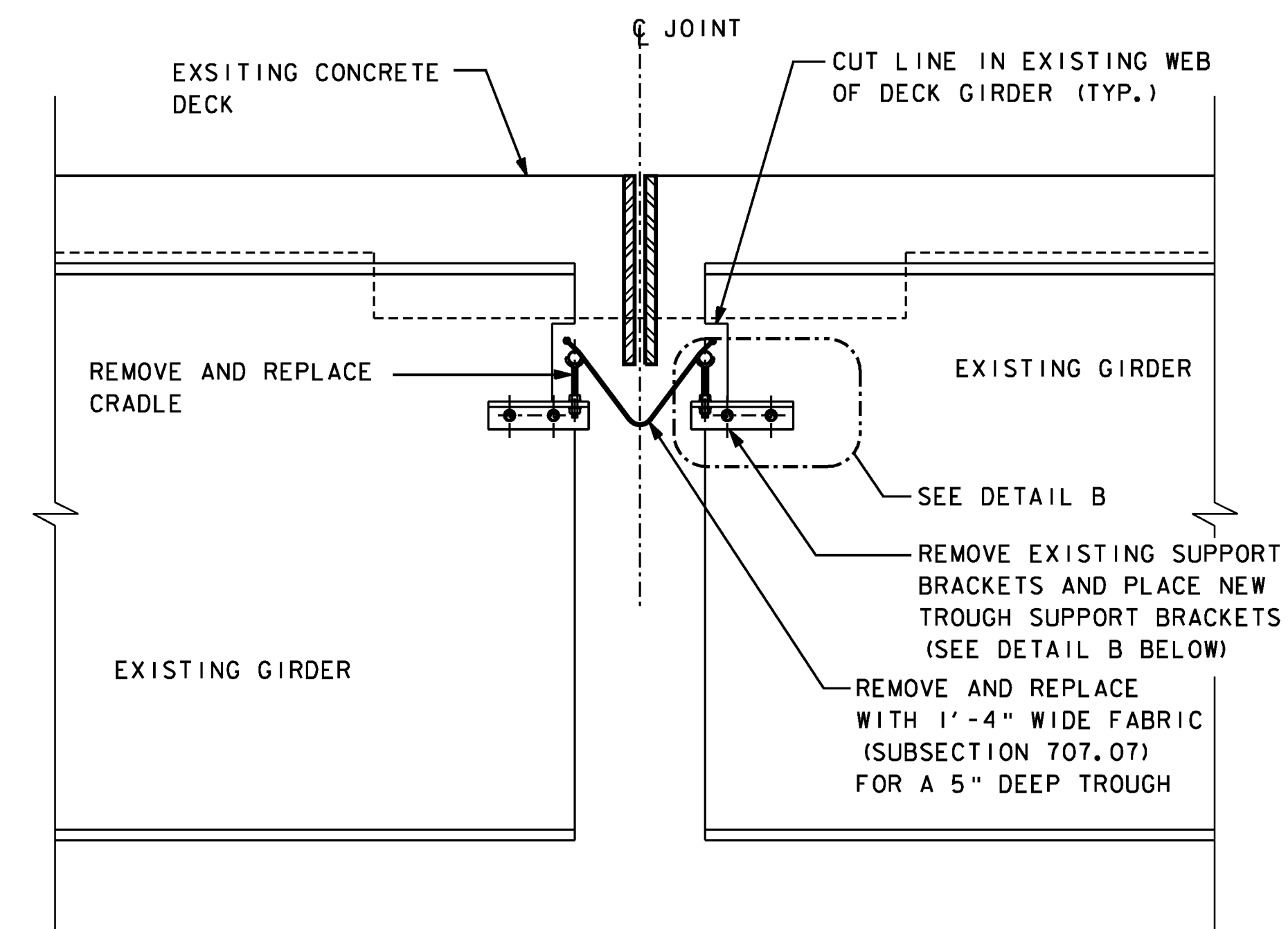
DETAIL A  
NOT TO SCALE

NOTES:

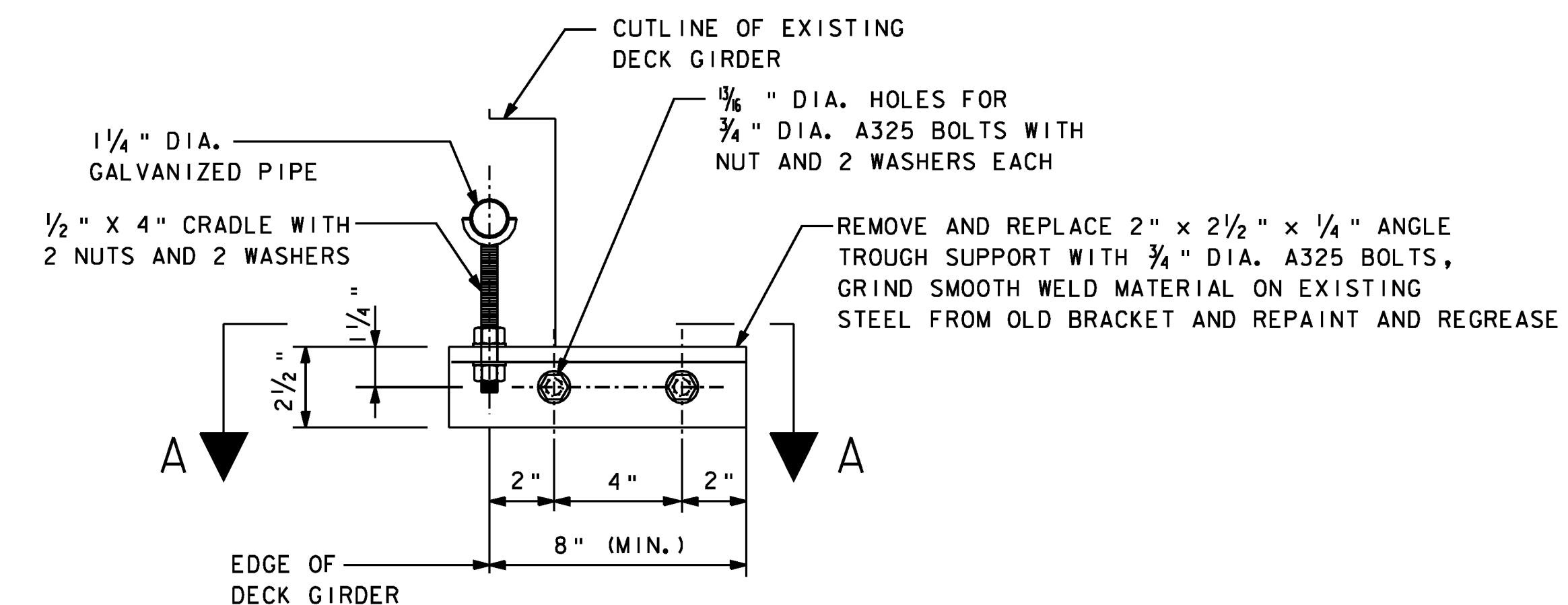
- IF EXISTING DRAIN TUBE IS TOO SHORT TO PROVIDE ADEQUATE CONNECTION, THE CONTRACTOR SHALL COMPLETELY FILL THE TUBE WITH POLYURETHANE SEALANT CONFORMING TO SUBSECTION 707.05. TUBES TO BE FILLED WITH POLYURETHANE SEALANT SHALL BE APPROVED BY THE ENGINEER PRIOR TO BEING FILLED.

DIAPER DRAIN REPAIR NOTES:

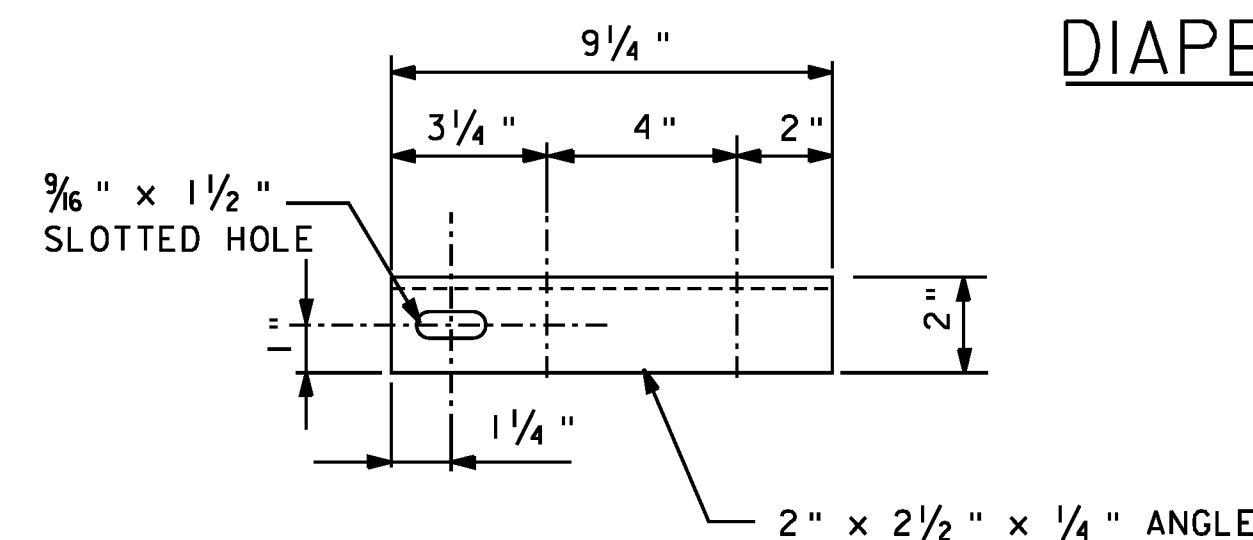
- TROUGH SUPPORT BRACKETS SHALL NOT BE WELDED TO GIRDER WEB.
- STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM-500 OR ASTM-501 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AFTER FABRICATION. ALL PLATES, CRADLES, BARS AND ANGLES SHALL CONFORM TO ASTM A-36 AND SHALL ALSO BE GALVANIZED IN ACCORDANCE WITH ASTM-123 AFTER FABRICATION.
- THE  $\frac{1}{4}$ " (NOMINAL DIAMETER) GALVANIZED STEEL PIPE, PREFORMED FABRIC MATERIAL, CRADLES AND RELATED HARDWARE, TAP SCREWS, CUTTING OF THE EXISTING STRUCTURAL STEEL AS REQUIRED, REMOVAL AND DISPOSAL OF THE EXISTING DRAIN TROUGH SYSTEM AND FLUSHING OF ALL PIER CAPS SHALL BE PAID UNDER ITEM 506.75, STRUCTURAL STEEL.
- THESE DETAILS ARE ILLUSTRATED AS AN EXAMPLE. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL.



TYPICAL SECTION AT EXISTING DIAPER DRAIN  
SCALE: 1" = 1'-0"



DETAIL B  
3" = 1'-0"  
DIAPER DRAIN REPAIR DETAILS



TROUGH SUPPORT BRACKET DETAIL A  
PLAN VIEW  
3" = 1'-0"

# PROJECT STANDARD DETAILS

PROJECT NAME: RICHMOND - HIGHGATE  
PROJECT NUMBER: IM BPNT (9)

FILE NAME: I0a180/s+r/z10a180det.dgn  
PROJECT LEADER: G.K.DONINGTON  
DESIGNED BY: A.STOCKIN  
det2.dgn

PLOT DATE: 24-JAN-2012  
DRAWN BY: W.GERHOLD  
CHECKED BY: D.SARGENT  
SHEET 3 OF 30



| STATE OF VERMONT<br>AGENCY OF TRANSPORTATION |                    |                   |               |               |                   |               |               |                    |                   | QUANTITY SHEET 1 |       |              |                                                        |                                                                                                   |         |                                |      |       |  |
|----------------------------------------------|--------------------|-------------------|---------------|---------------|-------------------|---------------|---------------|--------------------|-------------------|------------------|-------|--------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------|--------------------------------|------|-------|--|
| SUMMARY OF ESTIMATED QUANTITIES              |                    |                   |               |               |                   |               |               |                    |                   | TOTALS           |       | DESCRIPTIONS |                                                        |                                                                                                   |         | DETAILED SUMMARY OF QUANTITIES |      |       |  |
| ROADWAY                                      | EROSION<br>CONTROL | BRIDGE NO.<br>52S | BRIDGE NO. 80 | BRIDGE NO. 82 | BRIDGE NO.<br>84N | BRIDGE NO. 85 | BRIDGE NO. 89 | FULL C.E.<br>ITEMS | BRIDGE NO.<br>84S | GRAND TOTAL      | FINAL | UNIT         | ITEMS                                                  | ITEM NUMBER                                                                                       | ROUND   | QUANTITIES                     | UNIT | ITEMS |  |
| 1                                            |                    | 1                 |               | 1             |                   |               | 1             |                    |                   | 1                |       | LS           | STRUCTURAL STEEL (I-89 - BRIDGE NO. 52S)               | 506.75                                                                                            |         |                                |      |       |  |
|                                              |                    |                   |               |               | 1                 |               |               |                    |                   | 1                |       | LS           | STRUCTURAL STEEL (LAKE ROAD OVER I-89 - BRIDGE NO. 82) | 506.75                                                                                            |         |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               | 1             |                    |                   | 1                |       | LS           | STRUCTURAL STEEL (VT 36 OVER I-89 - BRIDGE NO. 89)     | 506.75                                                                                            |         |                                |      |       |  |
|                                              |                    |                   |               | 120           | 120               |               | 120           |                    |                   | 480              |       | HR           | TRUCK-MOUNTED ATTENUATOR                               | 608.45                                                                                            |         |                                |      |       |  |
|                                              |                    | 100               | 100           | 100           | 100               | 100           | 100           |                    | 100               | 700              |       | LF           | REMOVING AND RESETTNG FENCE                            | 620.50                                                                                            |         |                                |      |       |  |
|                                              |                    | 600               | 1170          | 1170          | 600               | 1000          | 1170          |                    | 600               | 6310             |       | LF           | TEMPORARY TRAFFIC BARRIER                              | 621.90                                                                                            |         |                                |      |       |  |
|                                              |                    | 300               | 300           | 300           | 300               | 300           | 300           |                    | 300               | 2100             |       | HR           | UNIFORMED TRAFFIC OFFICERS                             | 630.10                                                                                            |         |                                |      |       |  |
|                                              |                    | 300               | 300           | 300           | 300               | 300           | 300           |                    | 300               | 2100             |       | HR           | FLAGGERS                                               | 630.15                                                                                            |         |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               |               |                    | 1                 |                  | 1     |              | LS                                                     | FIELD OFFICE, ENGINEERS                                                                           | 631.10  |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               |               |                    | 1                 |                  | 1     |              | LS                                                     | TESTING EQUIPMENT, PROTECTIVE COATINGS                                                            | 631.18  |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               |               |                    | 3000              |                  | 3000  |              | DL                                                     | FIELD OFFICE TELEPHONE (N.A.B.I.)                                                                 | 631.26  |                                |      |       |  |
|                                              |                    |                   | 1             |               |                   |               |               |                    |                   |                  | 1     |              | LS                                                     | MOBILIZATION/DEMOBILIZATION                                                                       | 635.11  |                                |      |       |  |
|                                              |                    |                   |               |               |                   | 1             |               |                    |                   |                  | 1     |              | LS                                                     | TRAFFIC CONTROL (I-89 - BRIDGE NO. 52S)                                                           | 641.10  |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               |               |                    |                   |                  | 1     |              | LS                                                     | TRAFFIC CONTROL (I-89 - BRIDGE NO. 84N)                                                           | 641.10  |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               |               |                    |                   | 1                | 1     |              | LS                                                     | TRAFFIC CONTROL (I-89 - BRIDGE NO. 84S)                                                           | 641.10  |                                |      |       |  |
|                                              |                    |                   |               |               | 1                 |               |               |                    |                   |                  | 1     |              | LS                                                     | TRAFFIC CONTROL (LAKE ROAD OVER I-89 - BRIDGE NO. 82)                                             | 641.10  |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               | 1             |                    |                   |                  | 1     |              | LS                                                     | TRAFFIC CONTROL (US 7 OVER I-89 - BRIDGE NO. 85)                                                  | 641.10  |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               |               | 1                  |                   |                  | 1     |              | LS                                                     | TRAFFIC CONTROL (VT 36 OVER I-89 - BRIDGE NO. 89)                                                 | 641.10  |                                |      |       |  |
|                                              |                    |                   |               | 1             |                   |               |               |                    |                   |                  | 1     |              | LS                                                     | TRAFFIC CONTROL (W. MILTON ROAD OVER I-89 - BRIDGE NO. 80)                                        | 641.10  |                                |      |       |  |
|                                              |                    |                   |               | 30            | 30                |               | 30            | 30                 |                   |                  | 120   |              | DAY                                                    | PORTABLE CHANGEABLE MESSAGE SIGN RENTAL                                                           | 641.17  |                                |      |       |  |
|                                              |                    |                   |               | 3090          | 3090              |               | 6000          | 3090               |                   |                  | 15270 |              | LF                                                     | 6 INCH WHITE LINE                                                                                 | 646.214 |                                |      |       |  |
|                                              |                    |                   | 1200          |               |                   | 1200          |               |                    |                   | 1200             | 3600  |              | LF                                                     | TEMPORARY 4 INCH WHITE LINE, TYPE II TAPE                                                         | 646.601 |                                |      |       |  |
|                                              |                    |                   |               | 6180          | 6180              |               | 9090          | 6180               |                   |                  | 27630 |              | LF                                                     | TEMPORARY 6 INCH WHITE LINE, TYPE II TAPE                                                         | 646.621 |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               | 4000          |                    |                   |                  | 4000  |              | LF                                                     | TEMPORARY 12 INCH WHITE LINE, TYPE II TAPE                                                        | 646.661 |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               | 10            |                    |                   |                  | 10    |              | EACH                                                   | TEMPORARY LETTER OR SYMBOL                                                                        | 646.690 |                                |      |       |  |
|                                              |                    |                   |               | 100           | 100               |               | 100           | 100                |                   |                  | 400   |              | SF                                                     | PAVEMENT MARKING MASK                                                                             | 646.86  |                                |      |       |  |
|                                              |                    | 1100              |               |               |                   |               |               |                    |                   |                  | 1100  |              | SY                                                     | GEOTEXTILE FOR SILT FENCE                                                                         | 649.51  |                                |      |       |  |
|                                              |                    | 2200              |               |               |                   |               |               |                    |                   |                  | 2200  |              | SY                                                     | TEMPORARY EROSION MATTING                                                                         | 653.20  |                                |      |       |  |
|                                              |                    |                   | 1             |               |                   |               |               |                    |                   |                  | 1     |              | LS                                                     | SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES) (I89-BR. NO. 52S)    | 900.645 |                                |      |       |  |
|                                              |                    |                   |               | 1             |                   |               |               |                    |                   |                  | 1     |              | LS                                                     | SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES) (I89-BR. NO. 80)     | 900.645 |                                |      |       |  |
|                                              |                    |                   |               |               | 1                 |               |               |                    |                   |                  | 1     |              | LS                                                     | SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES) (I89-BR. NO. 82)     | 900.645 |                                |      |       |  |
|                                              |                    |                   |               |               |                   | 1             |               |                    |                   |                  | 1     |              | LS                                                     | SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES) (I89-BR. NO. 84N)    | 900.645 |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               |               |                    |                   | 1                | 1     |              | LS                                                     | SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES) (I89-BR. NO. 84S)    | 900.645 |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               | 1             |                    |                   |                  | 1     |              | LS                                                     | SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES) (I89-BR. NO. 85)     | 900.645 |                                |      |       |  |
|                                              |                    |                   |               |               |                   |               |               | 1                  |                   |                  | 1     |              | LS                                                     | SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES) (I89-BR. NO. 89)     | 900.645 |                                |      |       |  |
|                                              |                    |                   | 1             |               |                   |               |               |                    |                   |                  | 1     |              | LS                                                     | SPECIAL PROVISION (QC/QA CLEAN AND PAINT EXISTING STEEL STRUCTURES, BARE STEEL) (I89-BR. NO. 52S) | 900.645 |                                |      |       |  |

PARSONS BRINCKERHOFF

650 ELM STREET

MANCHESTER, NH 03101

PROJECT NAME:

RICHMOND - HIGHGATE

PROJECT NUMBER:

IM BPNT (9)

FILE NAME:

I0aI80/str/zI0aI80qs.dgn

PLOT DATE:

24-JAN-2012

PROJECT LEADER:

G.K.DONINGTON

DRAWN BY:

W.GERHOLD

DESIGNED BY:

A.STOCKIN

CHECKED BY:

D.SARGENT

qs-I.dgn

SHEET 4

OF 30

PROJECT NAME: RICHMOND - HIGHGATE

PROJECT NUMBER: IM BPNT (9)

FILE NAME: I0aI80/str/zI0aI80qs.dgn

PROJECT LEADER: G.K.DONINGTON

DESIGNED BY: A.STOCKIN

qs.l.dgn

PLOT DATE: 24-JAN-2012

DRAWN BY: W.GERHOLD

CHECKED BY: D.SARGENT

SHEET 4 OF 30



PARSONS BRINCKERHOFF  
650 ELM STREET  
MANCHESTER, NH 03101



# QUANTITY SHEET 2

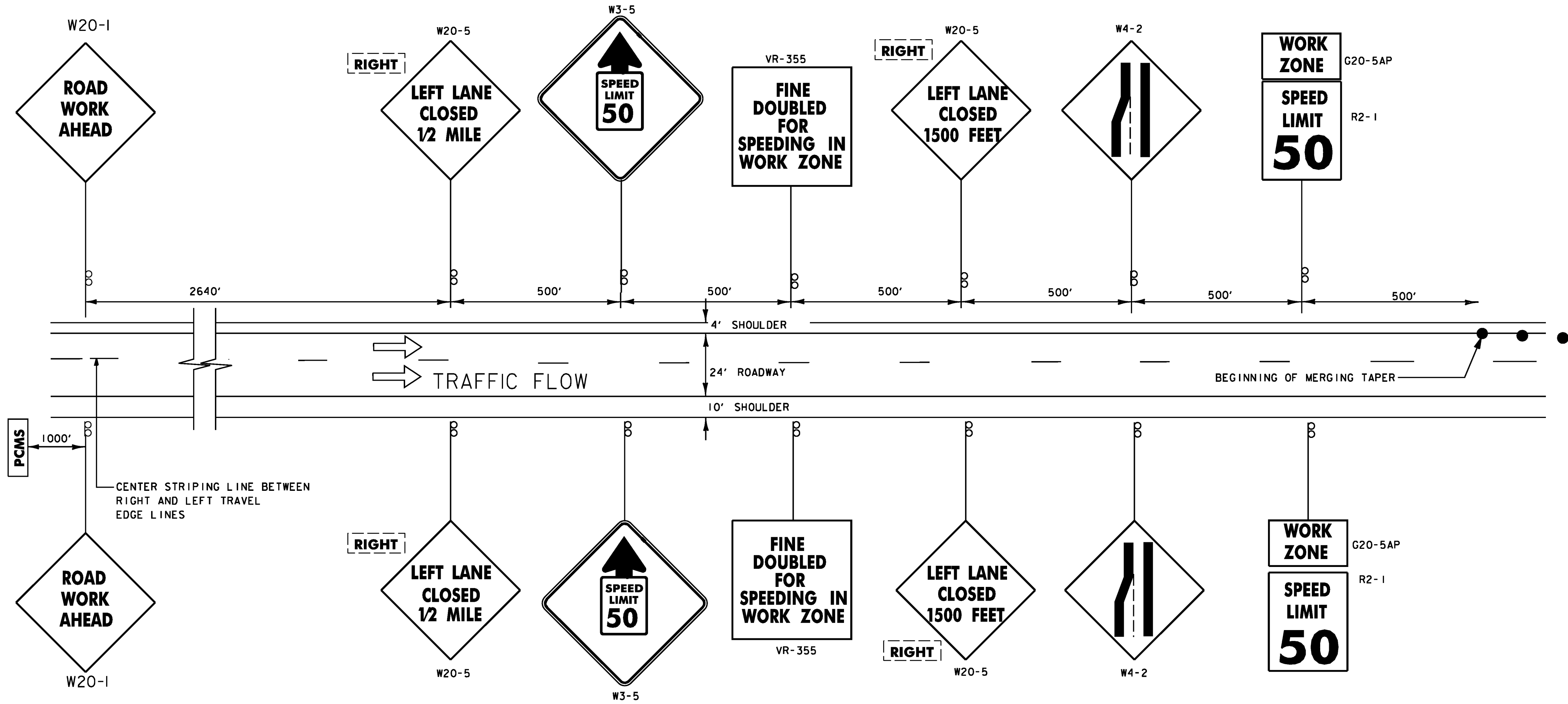
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|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
|  <b>PARSONS BRINCKERHOFF</b><br>650 ELM STREET<br>MANCHESTER, NH 03101 | PROJECT NAME: RICHMOND - HIGHGATE                          |
|                                                                                                                                                             | PROJECT NUMBER: IM BPNT (9)                                |
|                                                                                                                                                             | FILE NAME: I0a180/str/zl0a180qs.dgn PLOT DATE: 24-JAN-2012 |
|                                                                                                                                                             | PROJECT LEADER: G.K.DONINGTON DRAWN BY: W.GERHOLD          |
|                                                                                                                                                             | DESIGNED BY: A.STOCKIN CHECKED BY: D.SARGENT               |
|                                                                                                                                                             | qs_2.dgn SHEET 5 OF 30                                     |



# QUANTITY SHEET 3

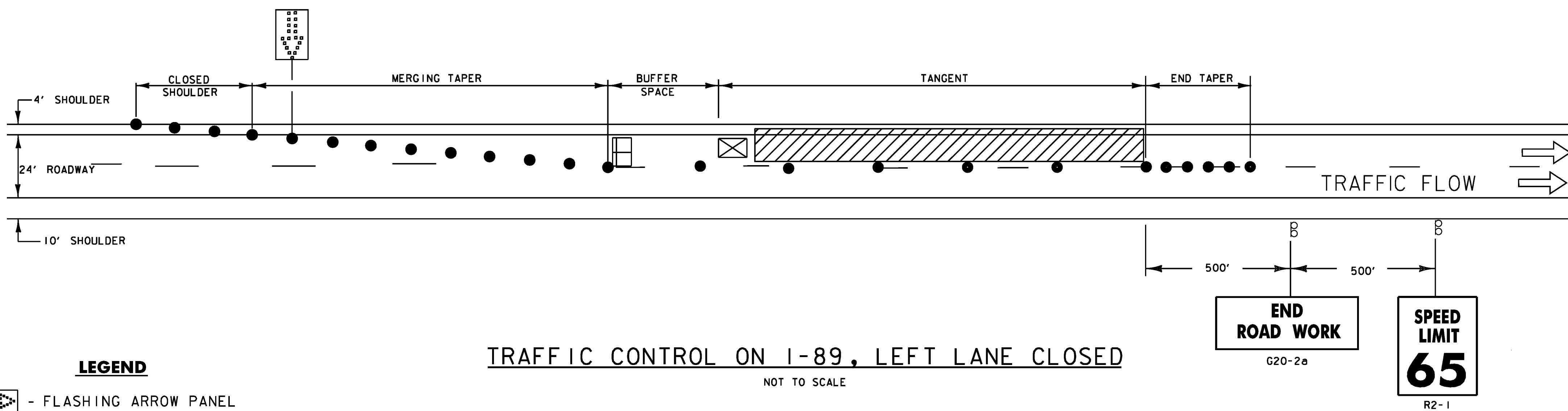
[illegible]





### CONSTRUCTION APPROACH SIGNING ON I-89, LEFT LANE CLOSED

NOT TO SCALE



### TRAFFIC CONTROL ON I-89, LEFT LANE CLOSED

NOT TO SCALE

#### LEGEND

- FLASHING ARROW PANEL
- REFLECTORIZED PLASTIC DRUM
- TYPE III BARRICADE
- TRUCK/TRAILER MOUNTED ATTENUATOR (OPTIONAL)
- PORTABLE CHANGEABLE MESSAGE SIGN
- WORK AREA

| POSTED<br>SPEED<br>LIMIT | TAPER LENGTHS<br>(FT) |                       | TANGENT<br>W= 12 FT<br>(L/2) | MINIMUM<br>BUFFER<br>SPACE<br>LENGTH (FT) | MAXIMUM CHANNELIZING<br>DEVICE SPACING<br>(FT) |         |
|--------------------------|-----------------------|-----------------------|------------------------------|-------------------------------------------|------------------------------------------------|---------|
|                          | SHOULDER<br>W= 10 FT  | MERGING<br>12 FT LANE |                              |                                           | TAPER                                          | TANGENT |
| ≤40                      | 90                    | 320                   | 160                          | 305                                       | 40                                             | 80      |
| 45                       | 150                   | 540                   | 270                          | 360                                       | 45                                             | 90      |
| 50                       | 170                   | 600                   | 300                          | 425                                       | 50                                             | 100     |
| 55                       | 185                   | 660                   | 330                          | 495                                       | 55                                             | 110     |
| 60                       | 200                   | 720                   | 360                          | 570                                       | 60                                             | 120     |
| 65                       | 215                   | 780                   | 390                          | 645                                       | 65                                             | 130     |

TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:

L = WS FOR POSTED SPEEDS OF 45 MPH OR GREATER  
L = WS<sup>2</sup>/60 FOR POSTED SPEEDS OF 40 MPH OR LESS

L = MINIMUM LENGTH OF TAPER  
W = WIDTH OF OFFSET IN FEET  
S = POSTED SPEED IN MPH



#### TRAFFIC CONTROL NOTES 1-89:

- THE TRAFFIC CONTROL PLAN SHOWN IS A SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN FOR BRIDGES 52S, 80, 82, 85, 89, 90, 91, 99 AND 101 TO VTRANS FOR APPROVAL. PAYMENT FOR PREPARING AND SUBMITTING THE TRAFFIC CONTROL PLAN, AND MAKING NECESSARY REVISIONS TO THE PLAN, WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.10 - TRAFFIC CONTROL. THE CONTRACTOR SHALL ALLOW TWO WEEKS FOR APPROVAL OF THE TRAFFIC CONTROL PLAN. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS AN APPROVED TRAFFIC CONTROL PLAN.
- THE EXISTING SPEED LIMIT FOR I-89 IS 65 MPH. THE SPEED LIMIT WILL BE REDUCED TO 50 MPH IN THE WORK ZONE FOR THIS PROJECT. ANY EXISTING SPEED LIMIT SIGNS WITHIN THE SPEED REDUCTION AREA SHALL BE COMPLETELY COVERED.
- CONSTRUCTION SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS.
- ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS" BOOK (SHS) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).
- ORANGE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) TYPE VII, VIII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED.
- ROLL UP SIGNS SHALL HAVE A RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM TYPE VI.
- SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES AND DURING PERIODS OF INACTIVITY. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMAN LIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
- FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE A LEAST SIX FEET OUTSIDE THE SHOULDER POINT OR FOUR FEET OUTSIDE THE GUARDRAIL.
- PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND A ONE FOOT MINIMUM HEIGHT ABOVE TRAVELED WAY. WHEN PLACED BEHIND THE GUARD RAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. PAYMENT FOR REMOVAL IS SUBSIDIARY TO THE RELATIVE WORK ITEMS.
- WHERE SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL BE "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 COMPLIANT. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POST(S). WHEN ANCHORS ARE INSTALLED STUB SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.
- THE CONTRACTOR SHALL HAVE SIGNS FOR CLOSURE OF LEFT AND RIGHT LANES INSTALLED BEFORE WORK COMMENCES.
- THE NUMBER OF CHANNELIZING DEVICES, TYPE III BARRICADES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR, CURVE ETC.). WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
- PLACE LAST CHANNELIZING DEVICE 100 FEET BEYOND THE ANTICIPATED WORK ZONE TERMINAL POINT EACH DAY AND START THE END TAPER. THE END TAPER SHALL BE CONSTRUCTED OF 5 ADDITIONAL RETROREFLECTIVE DRUMS SPACED AT 10 FEET ON CENTER.
- THE ARROW BOARD SHALL BE PLACED ON THE SHOULDER OF THE ROADWAY, OR, IF PRACTICAL, FURTHER FROM THE TRAVELED LANE AT THE END OF THE SHOULDER TAPER.
- THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED FOR I-89 LANE CLOSURES AND AT THE DISCRETION OF THE ENGINEER FOR LOCAL STREET LANE CLOSURES.
- TRAVEL LANE SHALL BE A MINIMUM OF 12 FEET WIDE.
- AT NO TIME WILL THE CONTRACTOR BE ALLOWED TO HAVE WORKERS' VEHICLES, CONSTRUCTION EQUIPMENT OR STOCKPILED MATERIALS WITHIN THE CLEAR ZONE OF INTERSTATE 89 OR THE LOCAL ROADWAYS WITHOUT POSITIVE PROTECTION. POSITIVE PROTECTION SHALL BE AS DIRECTED BY THE ENGINEER. THE CLEAR ZONES FOR INTERSTATE 89 ARE DEFINED AS FOLLOWS:  
INTERSTATE 89 - 34 FEET FROM THE TRAVELED WAY  
LOCAL ROADWAYS - 16 FEET FROM THE TRAVELED WAY

## TRAFFIC CONTROL SHEET (1)

PROJECT NAME: RICHMOND - HIGHGATE

PROJECT NUMBER: IM BPNT (9)

FILE NAME: I0d180/str/z10d180tc.dgn

PROJECT LEADER: G.K.DONINGTON

DESIGNED BY: C.CARNEY

tc.l.dgn

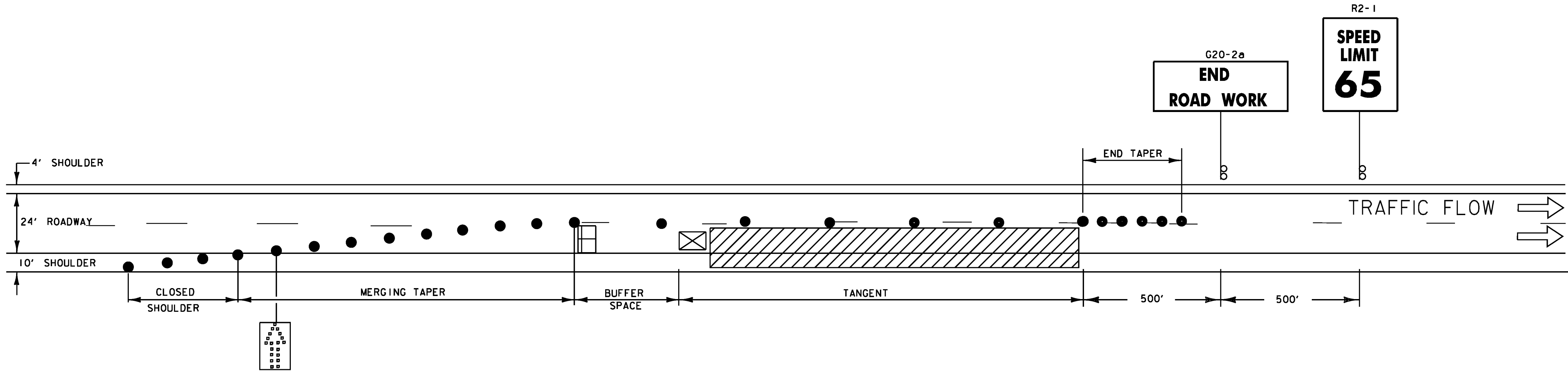
PLOT DATE: 24-JAN-2012

DRAWN BY: W.GERHOLD

CHECKED BY: R.BENJAMIN

SHEET 7 OF 30





TRAFFIC CONTROL ON I-89, RIGHT LANE CLOSED

NOT TO SCALE  
SEE TRAFFIC CONTROL SHEET 1 FOR SIGNING

LEGEND

- FLASHING ARROW PANEL
- REFLECTORIZED PLASTIC DRUM
- TYPE III BARRICADE
- TRUCK/TRAILER MOUNTED ATTENUATOR (OPTIONAL)
- PORTABLE CHANGEABLE MESSAGE SIGN
- WORK AREA

| POSTED<br>SPEED<br>LIMIT | TAPER LENGTHS<br>(FT) |                       | TANGENT<br>W= 12 FT<br>(L/2) | MINIMUM<br>BUFFER<br>SPACE<br>LENGTH (FT) | MAXIMUM CHANNELIZING<br>DEVICE SPACING<br>(FT) |         |
|--------------------------|-----------------------|-----------------------|------------------------------|-------------------------------------------|------------------------------------------------|---------|
|                          | SHOULDER<br>W= 10 FT  | MERGING<br>12 FT LANE |                              |                                           | TAPER                                          | TANGENT |
| ≤40                      | 90                    | 320                   | 160                          | 305                                       | 40                                             | 80      |
| 45                       | 150                   | 540                   | 270                          | 360                                       | 45                                             | 90      |
| 50                       | 170                   | 600                   | 300                          | 425                                       | 50                                             | 100     |
| 55                       | 185                   | 660                   | 330                          | 495                                       | 55                                             | 110     |
| 60                       | 200                   | 720                   | 360                          | 570                                       | 60                                             | 120     |
| 65                       | 215                   | 780                   | 390                          | 645                                       | 65                                             | 130     |

TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:  
 $L = WS$  FOR POSTED SPEEDS OF 45 MPH OR GREATER  
 $L = WS^2/60$  FOR POSTED SPEEDS OF 40 MPH OR LESS

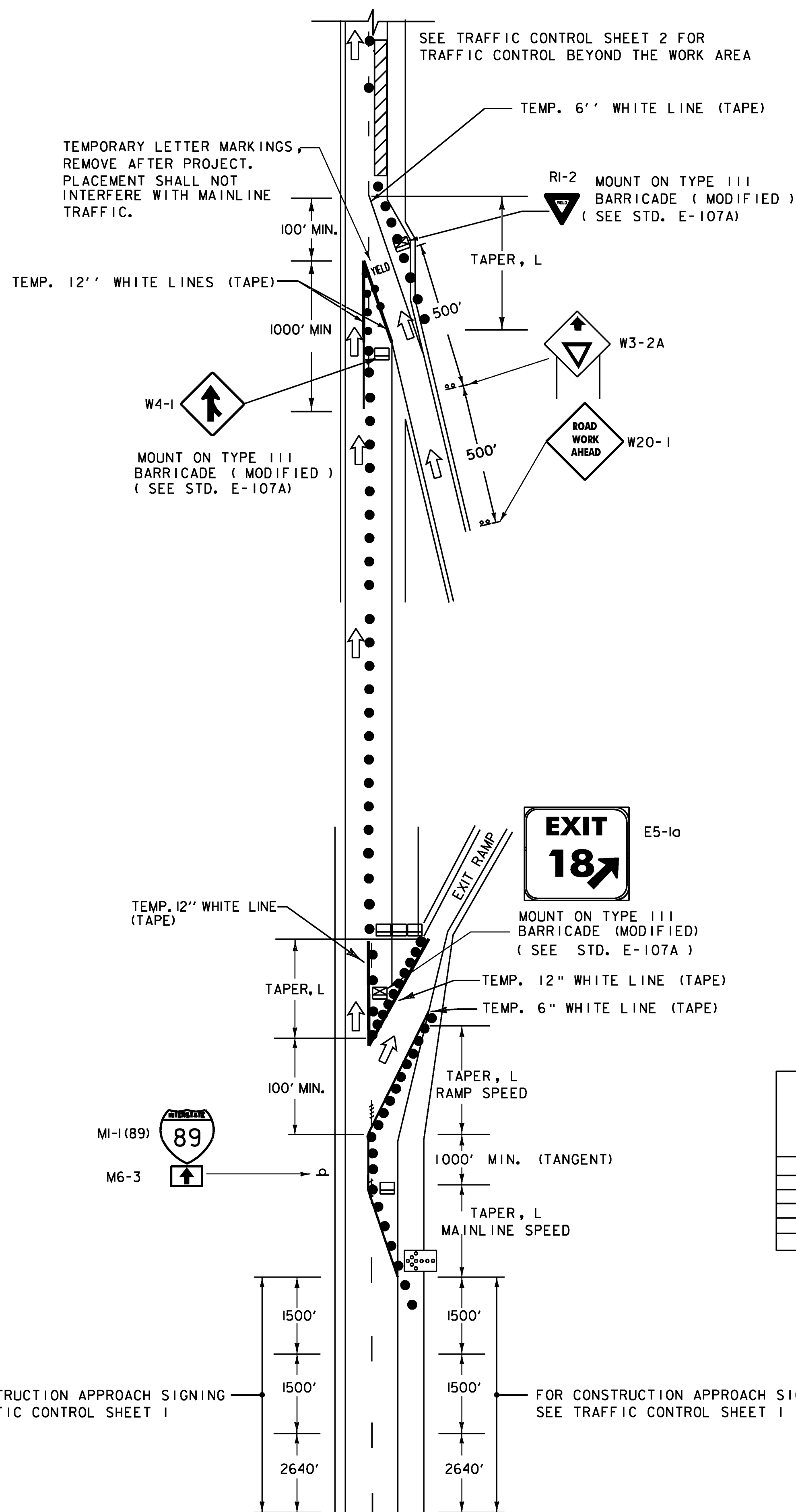
L = MINIMUM LENGTH OF TAPER  
W = WIDTH OF OFFSET IN FEET  
S = POSTED SPEED IN MPH

TRAFFIC CONTROL  
SHEET (2)

PROJECT NAME: RICHMOND - HIGHGATE  
PROJECT NUMBER: IM BPNT (9)

FILE NAME: I0d180/str/z10d180tc.dgn  
PROJECT LEADER: G.K.DONINGTON  
DESIGNED BY: C.CARNEY  
tc\_2.dgn  
PLOT DATE: 24-JAN-2012  
DRAWN BY: W.GERHOLD  
CHECKED BY: R.BENJAMIN  
SHEET 8 OF 30





#### TRAFFIC CONTROL NOTES:

1. THE TRAFFIC CONTROL PLAN SHOWN IS A SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN FOR BRIDGE #85 TO VTRANS FOR APPROVAL. PAYMENT FOR PREPARING AND SUBMITTING THE TRAFFIC CONTROL PLAN, AND MAKING NECESSARY REVISIONS TO THE PLAN, WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.10. THE CONTRACTOR SHALL ALLOW TWO WEEKS FOR APPROVAL OF THE TRAFFIC CONTROL PLAN. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS AN APPROVED TRAFFIC CONTROL PLAN.
2. ALL SIGNS SHALL BE MOUNTED ON FIXED POSTS (YIELDING TYPE) UNLESS OTHERWISE NOTED.
3. CHANNELIZING DEVICES SHALL BE PLACED AS FOLLOWS:  
TAPERS - DEVICES SHALL BE SPACED A MAXIMUM OF "S" (THE SPEED LIMIT IN FEET) APART.  
TANGENT - DEVICES SHALL BE SPACED 2 X "S" (THE SPEED LIMIT IN FEET) APART.
4. ALL DISTANCES ARE DESIRABLE MINIMUMS. FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT.
5. TAPER RATES ARE BASED ON THE POSTED MAINLINE AND EXIT SPEEDS.
6. TEMPORARY PAVEMENT MARKINGS ARE REQUIRED WHEN THE LAYOUT IS TO BE IN SERVICE FOR THREE DAYS OR MORE.
7. LANE CLOSURES AND TAPER LENGTHS, L, AS DETAILED ON THIS SHEET.
8. EXIT SIGN SHALL BE MOUNTED A MINIMUM OF 3' ABOVE THE GROUND AND HIGH ENOUGH TO BE SEEN ABOVE CHANNELIZING DEVICES.
9. AT NO TIME WILL THE CONTRACTOR BE ALLOWED TO HAVE WORKERS' VEHICLES, CONSTRUCTION EQUIPMENT OR STOCKPILED MATERIALS WITHIN THE CLEAR ZONE OF INTERSTATE 89 OR THE LOCAL ROADWAYS WITHOUT POSITIVE PROTECTION. POSITIVE PROTECTION SHALL BE AS DIRECTED BY THE ENGINEER. THE CLEAR ZONES FOR INTERSTATE 89 ARE DEFINED AS FOLLOWS:  
INTERSTATE 89 - 34 FEET FROM THE TRAVELED WAY  
LOCAL ROADWAYS - 16 FEET FROM THE TRAVELED WAY

| POSTED SPEED LIMIT | TAPER LENGTHS (FT) |                    | TANGENT W=12 FT (L/2) | MINIMUM BUFFER SPACE LENGTH (FT) | MAXIMUM CHANNELIZING DEVICE SPACING (FT) |         |
|--------------------|--------------------|--------------------|-----------------------|----------------------------------|------------------------------------------|---------|
|                    | SHOULDER W= 10 FT  | MERGING 12 FT LANE |                       |                                  | TAPER                                    | TANGENT |
| <40                | 90                 | 320                | 160                   | 305                              | 40                                       | 80      |
| 45                 | 150                | 540                | 270                   | 360                              | 45                                       | 90      |
| 50                 | 170                | 600                | 300                   | 425                              | 50                                       | 100     |
| 55                 | 185                | 660                | 330                   | 495                              | 55                                       | 110     |
| 60                 | 200                | 720                | 360                   | 570                              | 60                                       | 120     |
| 65                 | 215                | 780                | 390                   | 645                              | 65                                       | 130     |

TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:  
 $L = WS$  FOR POSTED SPEEDS OF 45 MPH OR GREATER  
 $L = WS^2/60$  FOR POSTED SPEEDS OF 40 MPH OR LESS

L = MINIMUM LENGTH OF TAPER  
W = WIDTH OF OFFSET IN FEET  
S = POSTED SPEED IN MPH

#### LEGEND

- FLASHING ARROW PANEL
- REFLECTORIZED PLASTIC DRUM
- TYPE III BARRICADE
- TRUCK/TRAILER MOUNTED ATTENUATOR (OPTIONAL)
- WORK AREA
- FLOW OF TRAFFIC

FOR CONSTRUCTION APPROACH SIGNING  
SEE TRAFFIC CONTROL SHEET 1

FOR CONSTRUCTION APPROACH SIGNING  
SEE TRAFFIC CONTROL SHEET 1

#### TRAFFIC CONTROL ON I-89 BRIDGE No 85, RIGHT LANE CLOSURE

NOT TO SCALE  
SEE STANDARD SHEET E-106 FOR ADDITIONAL INFORMATION,  
LEFT LANE CLOSURE SAME AS TRAFFIC CONTROL SHEET 1



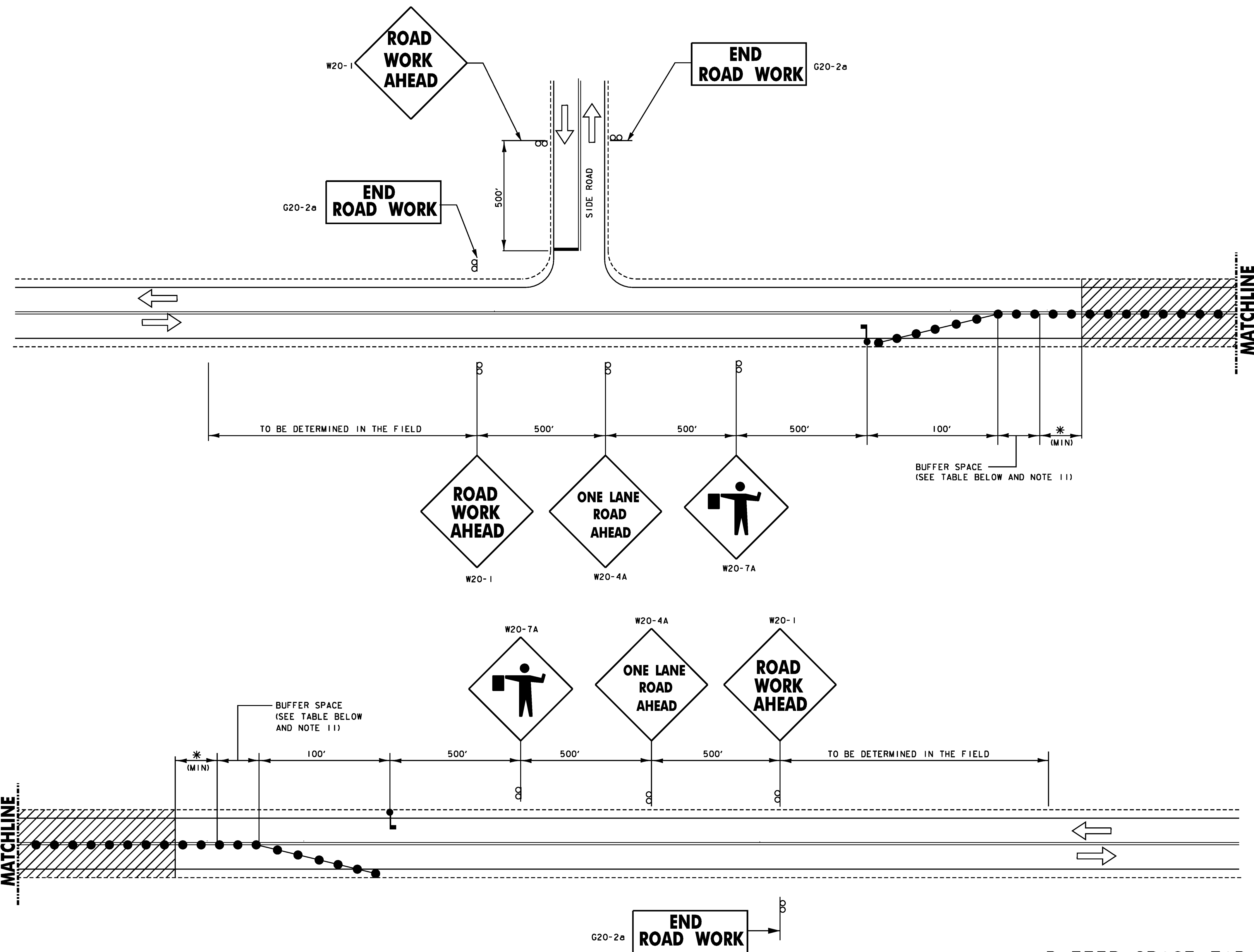
## TRAFFIC CONTROL SHEET (3)

PROJECT NAME: RICHMOND - HIGHGATE  
PROJECT NUMBER: IM BPNT (9)

FILE NAME: I0d180/st1r/z10d180tc.dgn  
PROJECT LEADER: G.K.DONINGTON  
DESIGNED BY: C.CARNEY  
tc\_3.dgn

PLOT DATE: 24-JAN-2012  
DRAWN BY: W.GERHOLD  
CHECKED BY: R.BENJAMIN  
SHEET 9 OF 30





- LEGEND**
- - FLOW OF TRAFFIC
  - ⌚ - FLAGGER
  - ▨ - WORK AREA
  - - REFLECTORIZED PLASTIC DRUM BARRIER

**TRAFFIC CONTROL ON LOCAL ROADS (EXCEPT STAGE ROAD)**  
NOT TO SCALE

\* - ACTUAL DIMENSION TO BE DETERMINED BY INDIVIDUAL BRIDGE SITE CONDITIONS AND TO BE SHOWN ON TRAFFIC CONTROL PLANS SUBMITTED BY THE CONTRACTOR

**BUFFER SPACE TABLE**

| POSTED SPEED LIMIT | MINIMUM BUFFER SPACE LENGTH (FT) |
|--------------------|----------------------------------|
| 30                 | 200                              |
| 35                 | 250                              |
| 40                 | 305                              |
| 45                 | 360                              |
| 50                 | 425                              |

**TRAFFIC CONTROL NOTES OTHER HIGHWAYS**

- THE TRAFFIC CONTROL PLAN SHOWN IS A SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN FOR BRIDGES 84N & 84S TO VTRANS FOR APPROVAL. PAYMENT FOR PREPARING AND SUBMITTING THE TRAFFIC CONTROL PLAN, AND MAKING NECESSARY REVISIONS TO THE PLAN, WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.10. THE CONTRACTOR SHALL ALLOW TWO WEEKS FOR APPROVAL OF THE TRAFFIC CONTROL PLAN. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS AN APPROVED TRAFFIC CONTROL PLAN.
- SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS OR CORNER SIGHT DISTANCE FROM TOWN HIGHWAYS OR DRIVES.
- ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS" BOOK (SHS) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).
- ORANGE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) TYPE VII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED.
- ROLL UP SIGNS SHALL HAVE A RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM TYPE VI.
- SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES AND DURING PERIODS OF INACTIVITY. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMAN LIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
- FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE A LEAST SIX FEET OUTSIDE THE SHOULDER POINT OR FOUR FEET OUTSIDE THE GUARDRAIL.
- PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND A ONE FOOT MINIMUM ABOVE TRAVELED WAY, ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND THE GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARD RAIL.
- WHERE SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL BE "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 COMPLIANT. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POST(S). WHEN ANCHORS ARE INSTALLED STUB SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.
- THE NUMBER OF CHANNELIZING DEVICES, TYPE III BARRICADES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY, THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR, CURVE ETC.). WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
- THE BUFFER SPACES SHOULD BE EXTENDED SO THAT THE TWO-WAY TRAFFIC TAPER IS PLACED BEFORE A HORIZONTAL (OR CREST VERTICAL) CURVE TO PROVIDE ADEQUATE SIGHT DISTANCE FOR THE FLAGGER AND A QUEUE OF STOPPED VEHICLES.
- AT NO TIME WILL THE CONTRACTOR BE ALLOWED TO HAVE WORKERS' VEHICLES, CONSTRUCTION EQUIPMENT OR STOCKPILED MATERIALS WITHIN THE CLEAR ZONE OF INTERSTATE 89 OR THE LOCAL ROADWAYS WITHOUT POSITIVE PROTECTION. POSITIVE PROTECTION SHALL BE AS DIRECTED BY THE ENGINEER. THE CLEAR ZONES FOR INTERSTATE 89 ARE DEFINED AS FOLLOWS:  
INTERSTATE 89 - 34 FEET FROM THE TRAVELED WAY  
LOCAL ROADWAYS - 16 FEET FROM THE TRAVELED WAY

# TRAFFIC CONTROL SHEET (4)

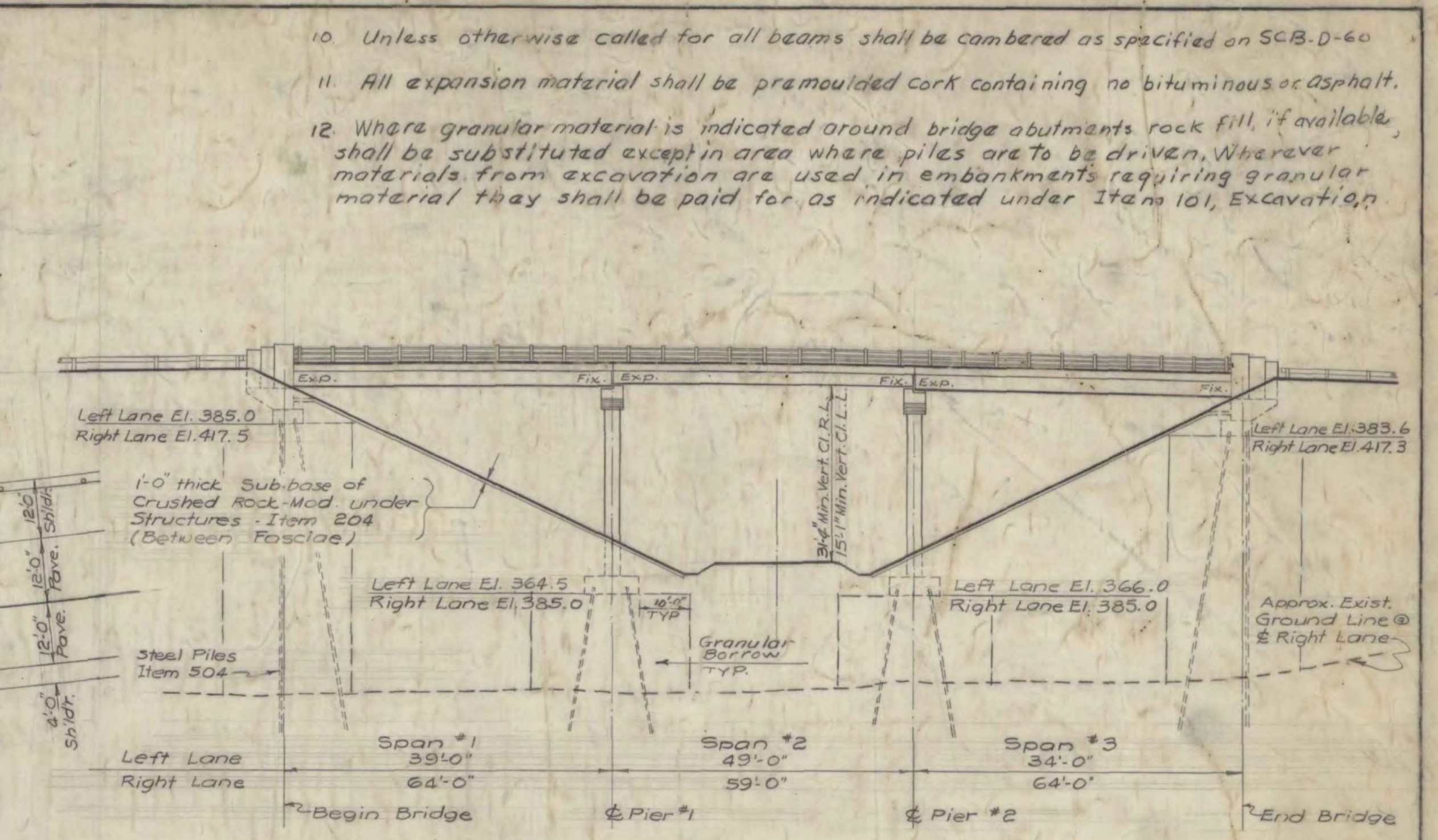
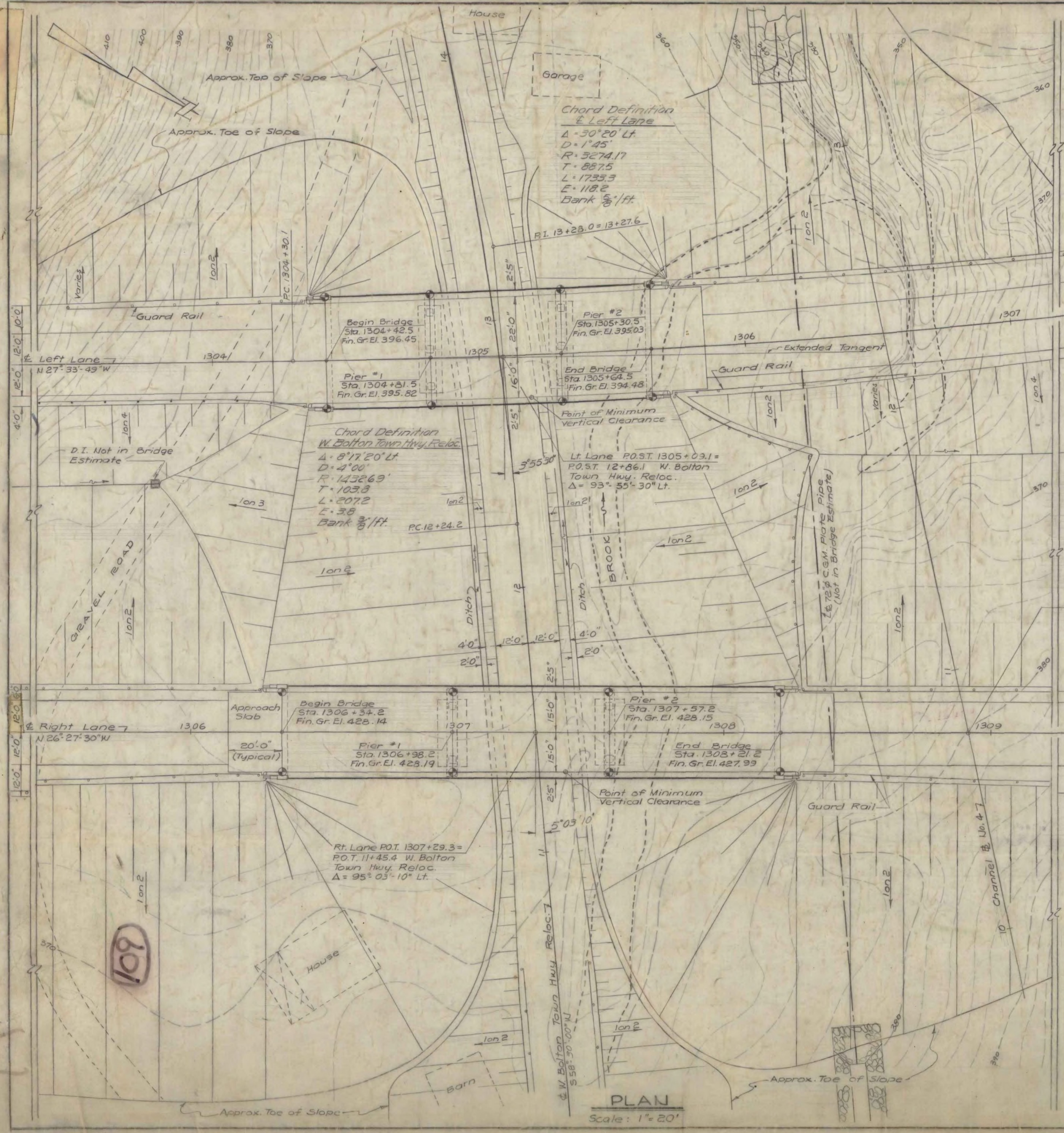
PROJECT NAME: RICHMOND - HIGHGATE  
PROJECT NUMBER: IM BPNT (9)

FILE NAME: I0d180/str/z10d180tc.dgn  
PROJECT LEADER: G.K.DONINGTON  
DESIGNED BY: C.CARNEY  
tc\_4.dgn

PLOT DATE: 24-JAN-2012  
DRAWN BY: W.GERHOLD  
CHECKED BY: R.BENJAMIN  
SHEET 10 OF 30



BOLTON-RICHMOND  
189-2-68  
189-2-68



- 1.** Materials and Construction shall conform to State of Vermont Department of Highways Standard Specifications for Highway and Bridge Construction, dated 1956.
- 2.** All design in accordance with A.A.S.H.O. Standard Specifications for Highway Bridges, dated 1957. Loading is HS20-S16-44 truck as modified for National System of Interstate Highways.
- 3.** Piers and abutments shall be supported on 12BP55 steel bearing piles, Item 504. Estimated pile length:
- | Location         | Estimated Pile Length |
|------------------|-----------------------|
| East Abut. - 60' |                       |
| Pier #1 - 20'    |                       |
| Pier #2 - 25'    |                       |
| West Abut. - 40' |                       |
- 4.** The final coat of field paint shall be green unless otherwise directed by the Engineer.
- 5.** All dimensions given are measured horizontally or vertically unless otherwise noted or shown.
- 6.** All dimensions given at 68°F.
- 7.** All reinforcement to have a clear cover of 2" unless otherwise noted.
- 8.** All exposed edges of concrete shall be chamfered 1" x 1" unless otherwise noted.
- 9.** Steel Bearing Piles shall be driven to ledge rock or refusal unless otherwise approved by the Engineer. When piles are driven in fill, the material shall be Granular Borrow, Item 102-A. (Fill to be brought to elev. at top of piles before driving - then excav. as 101.)

**INDEX OF DRAWINGS**

|        |                                                |
|--------|------------------------------------------------|
| Br. 1  | General Plan & Elevation                       |
| Br. 2  | Profiles & Sections                            |
| Br. 3  | Boring Logs                                    |
| Br. 4  | South Abutment - Left Lane                     |
| Br. 5  | North Abutment - Left Lane                     |
| Br. 6  | South Abutment - Right Lane                    |
| Br. 7  | North Abutment - Right Lane                    |
| Br. 8  | Piers, Framing Plan & Railing Plan - Left Lane |
| Br. 9  | Piers & Railing Plan - Right Lane              |
| Br. 10 | South Approach Slab - Left Lane                |
| Br. 11 | North Approach Slab - Left Lane                |
| Br. 12 | South Approach Slab - Right Lane               |
| Br. 13 | North Approach Slab - Right Lane               |
| Br. 14 | Reinforcement Sheet 1 of 3                     |
| Br. 15 | Reinforcement Sheet 2 of 3                     |
| Br. 16 | Reinforcement Sheet 3 of 3                     |

**PRELIMINARY INFORMATION SHEET FOR BRIDGES**

VERMONT  
STATE HIGHWAY DEPARTMENT  
TOWNS OF BOLTON - RICHMOND  
INTERSTATE ROUTE 89  
INTERSTATE BRIDGE OVER  
WEST BOLTON TOWN HIGHWAY  
GENERAL PLAN  
AND ELEVATION

McFARLAND-JOHNSON  
CONSULTING ENGINEERS  
BINGHAMTON NEW YORK

DESIGNED: H.B. CHECKED: H.B. DATE: 7-25-61  
DRAWN: R. J. IN CHARGE: H.B. SCALE: 1" = 20'

PROJECT NO. 189-2(5) SH 91 OF 328  
CONTRACT NO. 2 BRIDGE SHEET 1 OF 16







# GENERAL NOTES:-

1. Elevation datum is sea level based on nearest U. S. Government vertical control.
2. For additional notes see SCB-DI-65.

## LIST OF SHEETS:-

- BR. 100 - Plan and Elevation
- 101 - Bridge Quantity Sheet
- 102 - Preliminary Information Sheet
- 103 - Borings
- 104 - Girder Details
- 105 - Bracing Details and Bearing Devices
- 106 - Expansion Dam Details
- 107 - Abutment No. 1
- 108 - Abutment No. 2
- 109 - Pier
- BR. 110 - Reinforcing Steel Schedule

## STANDARD SHEETS

- G-3a
- SCB-DI-65
- SCB-D6-65
- SB-R1-64 Sh. 1 & 2 of 2
- SB-R2-65
- SCB-D4-65

RICHMOND-HIGHGATE  
IM BPNT(9)  
SHEET 13 OF 30  
BRIDGE 80  
FOR INFORMATION ONLY

BR. 100 OF 110

| ITEM NO. | ITEM                     | UNIT | NET | TOTAL | FINAL |
|----------|--------------------------|------|-----|-------|-------|
|          | CHAN. EXCAV. OF EARTH    | C.Y. |     |       |       |
|          | CHAN. EXCAV. OF ROCK     | C.Y. |     |       |       |
|          | UNCLAS. CHAN. EXCAV.     | C.Y. |     |       |       |
|          | STRUCT. EXCAV.           | C.Y. |     |       |       |
|          | CONC. CLASS AA (MOD.)    | C.Y. |     |       |       |
|          | CONC. CLASS B (MOD.)     | C.Y. |     |       |       |
|          | REINF. STEEL             | LBS. |     |       |       |
|          | ASPHALTIC-ASB. COATING   | S.Y. |     |       |       |
|          | TREATED TIMBER PILING    | L.F. |     |       |       |
|          | SPLICES FOR STEEL PILING | EA.  |     |       |       |
|          | STEEL PILING             | L.F. |     |       |       |
|          | UNTREATED TIMBER PILING  | L.F. |     |       |       |

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

PROJECT NAME COLCHESTER MILTON  
TOWN OF MILTON  
ROUTE No. 44 LOG STA.  
T.H. #44 OVER I-89 @ B. 57A 2752+21.87

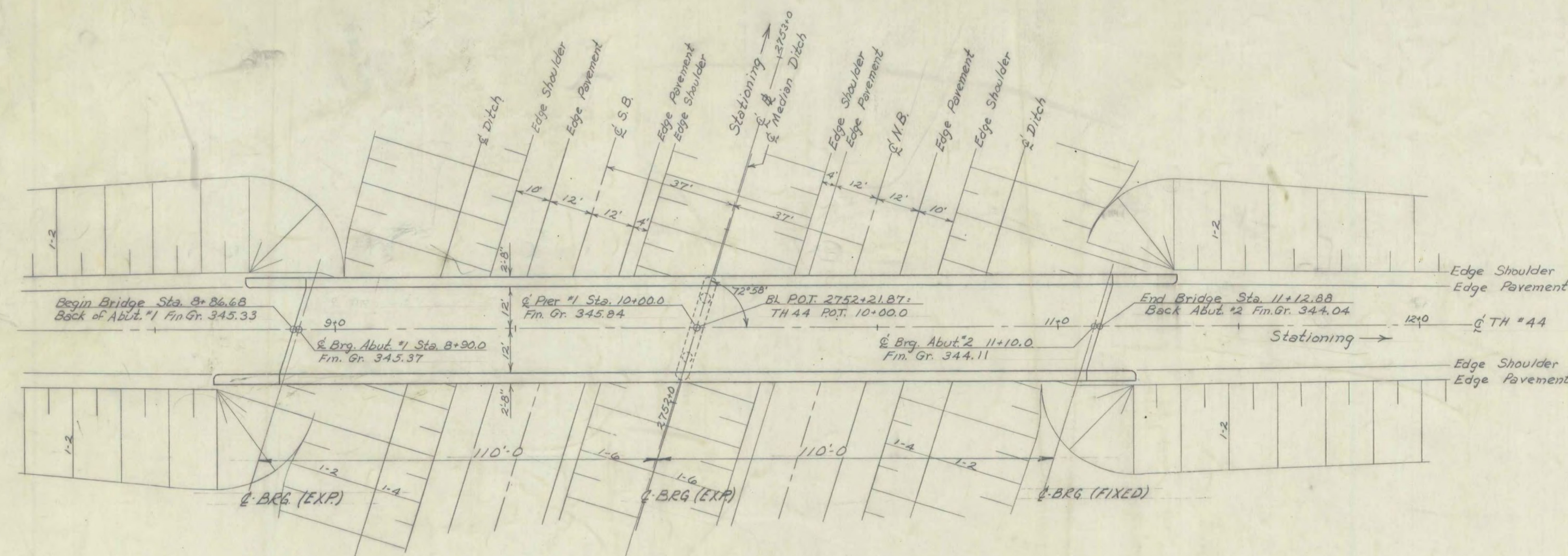
PLAN AND ELEVATION

SCALE As shown

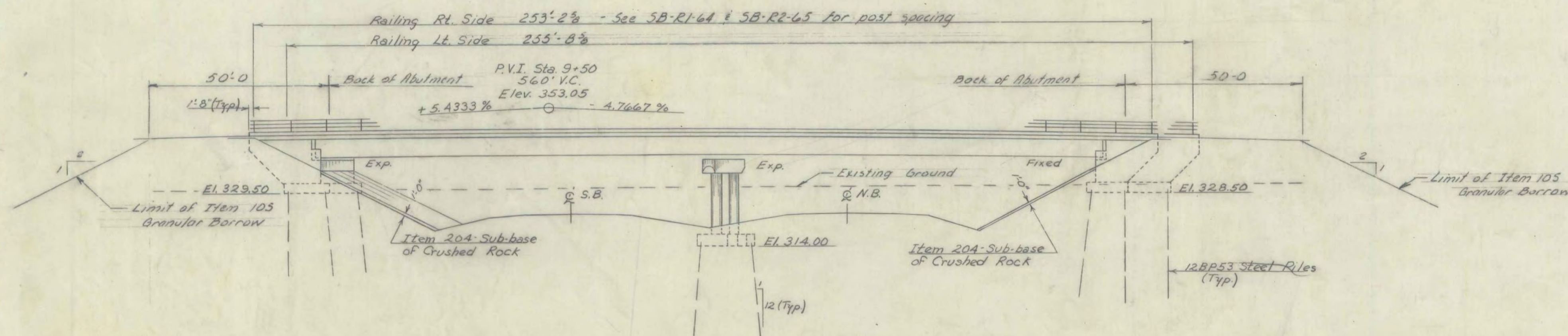
SURVEYED BY  
DRAWN BY WBT CHECKED BY RLO

PROJECT No. I-89-3(34)

SHEET 102 OF 419



Plan  
Scale: 1" = 20'

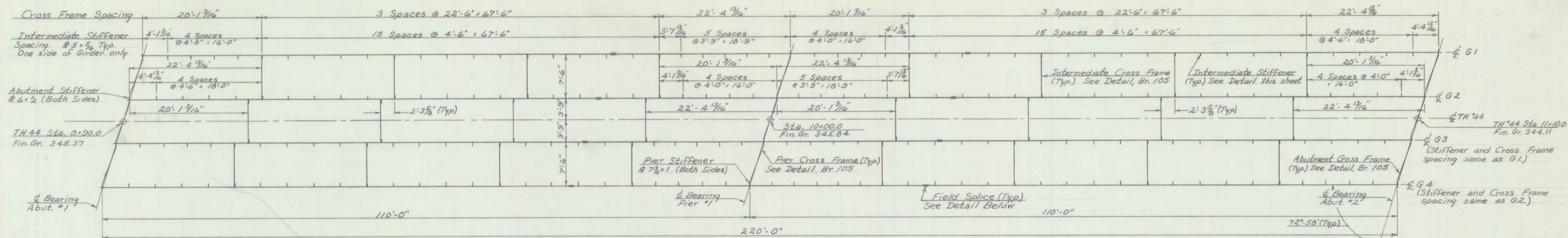


Elevation  
Scale: 1" = 20'

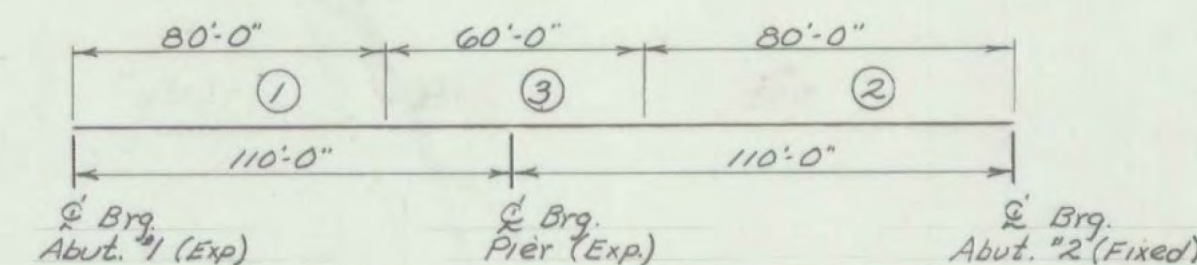
188-B

M

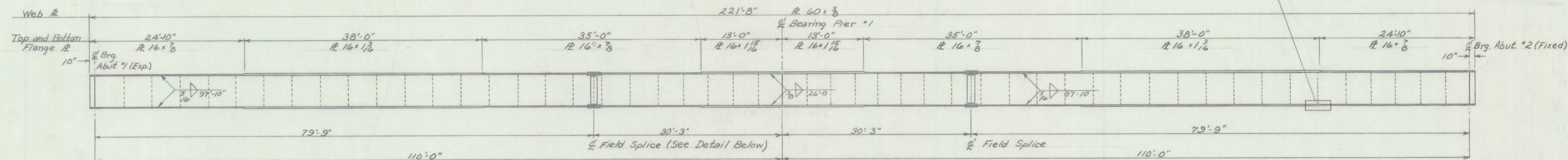




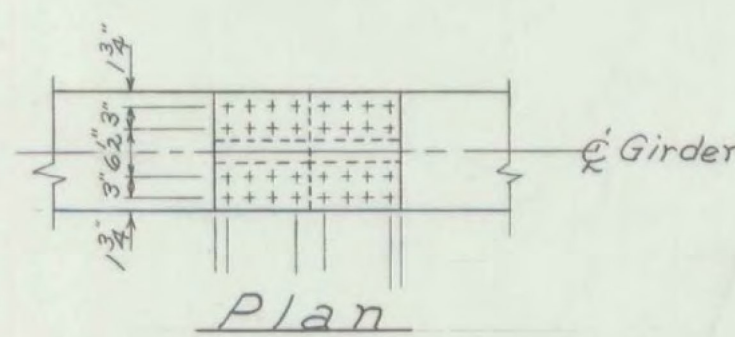
Framing Plan  
Scale:  $\frac{1}{8}'' = 1'-0''$



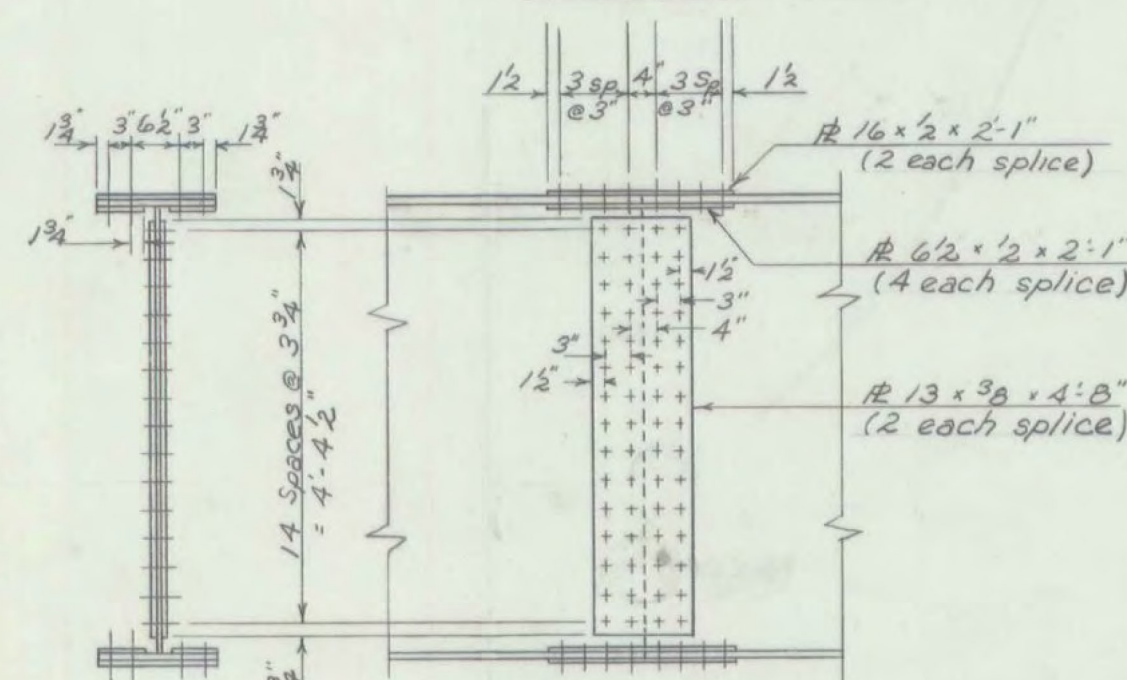
Slab Pour Sequence  
N.T.S.



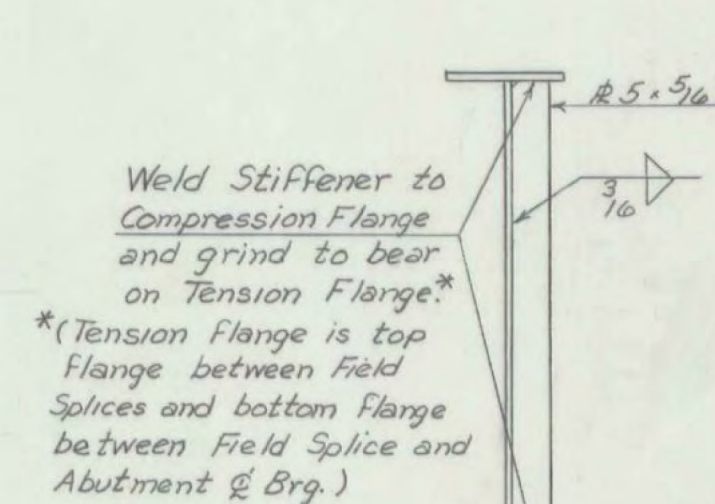
Elevation - G4  
Scale:  $\frac{1}{8}'' = 1'-0''$



Plan

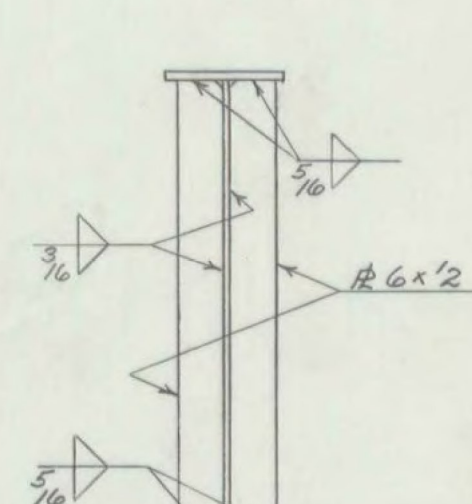


Section  
Elevation  
Field Splice Detail  
Scale:  $\frac{1}{2}'' = 1'-0''$

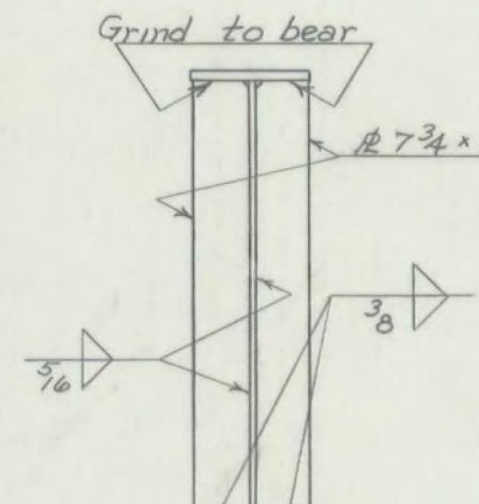


Weld Stiffener to  
Compression Flange  
and grind to bear  
on Tension Flange.\*  
\*(Tension Flange is top  
Flange between field  
Splices and bottom Flange  
between field Splice and  
Abutment & Brg.)

Intermediate



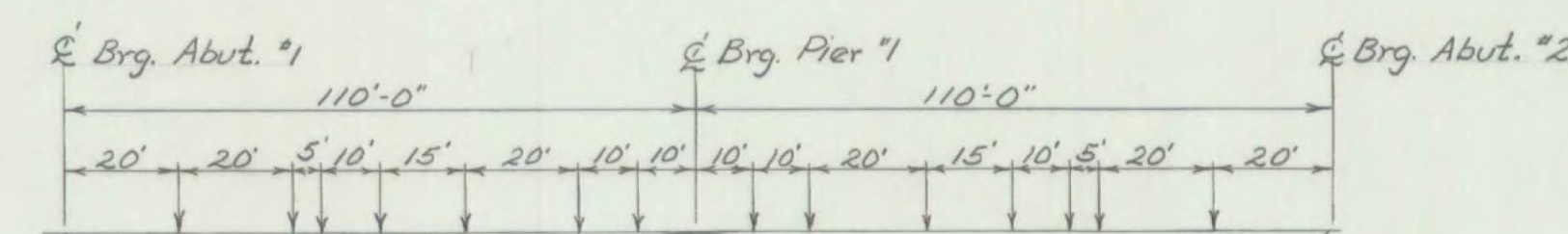
Abutment



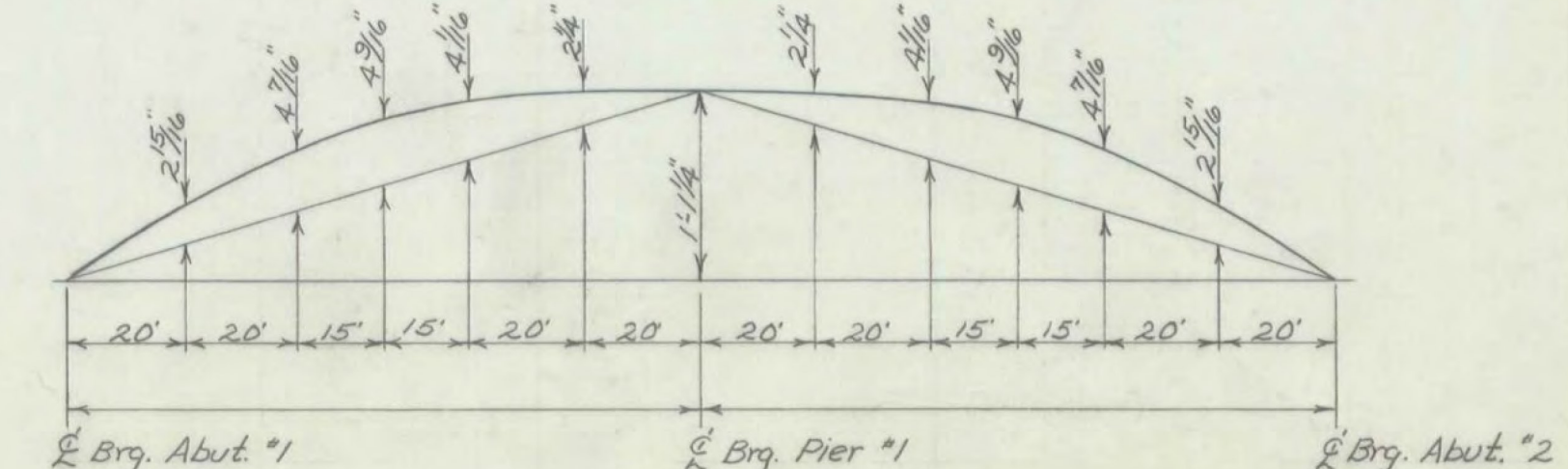
Pier

Note: Clip 1"x1" on inside corners of all stiffeners.

Stiffener Details  
Scale:  $\frac{1}{2}'' = 1'-0''$



Dead Load Deflection Diagram  
(Includes Girder & Slab)  
N.T.S.



Girder Camber Diagram  
N.T.S.

RICHMOND-HIGHGATE  
IM BPNT(9)  
SHEET 14 OF 30  
BRIDGE 80  
FOR INFORMATION ONLY

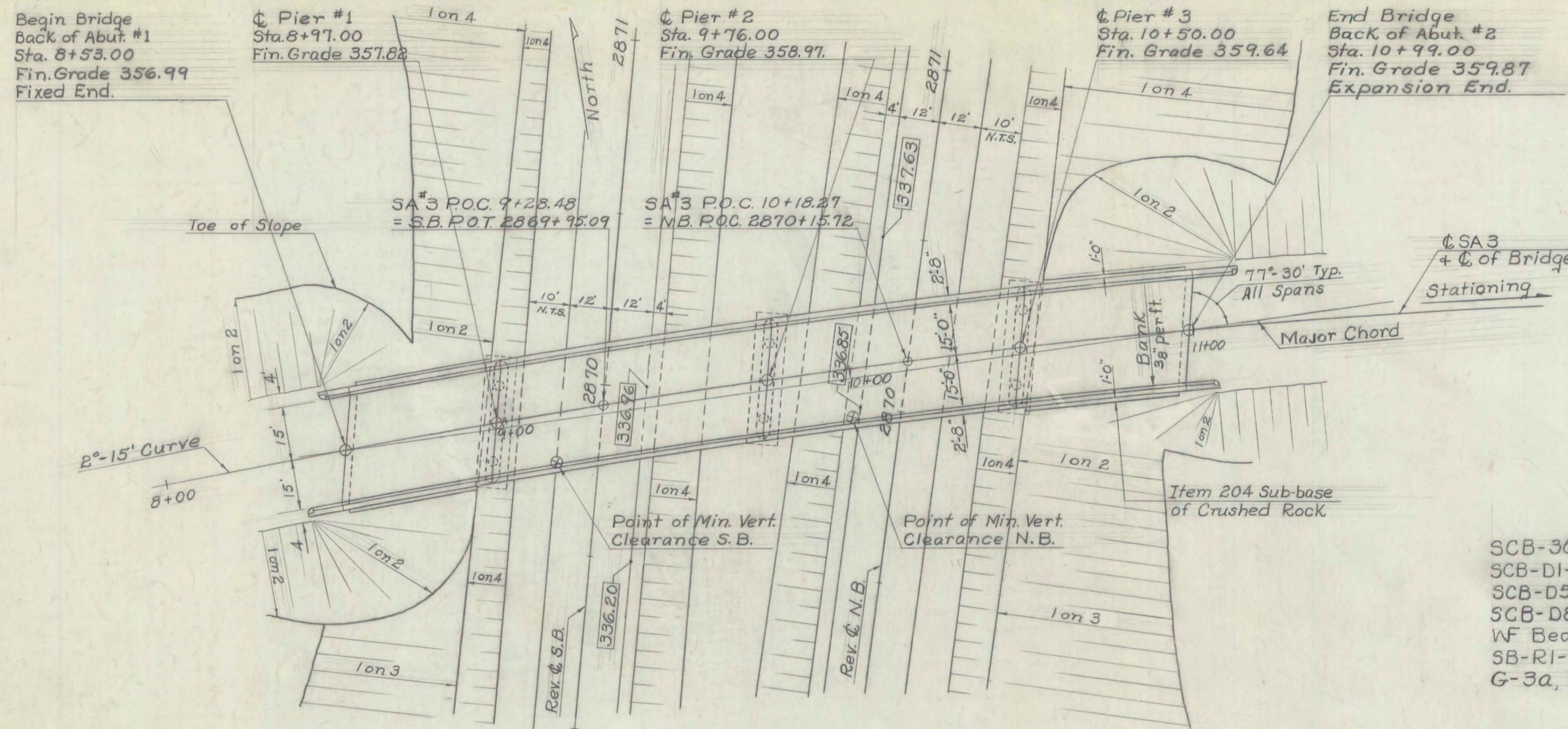
For notes see Br. 105

Br. 104 of 110

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

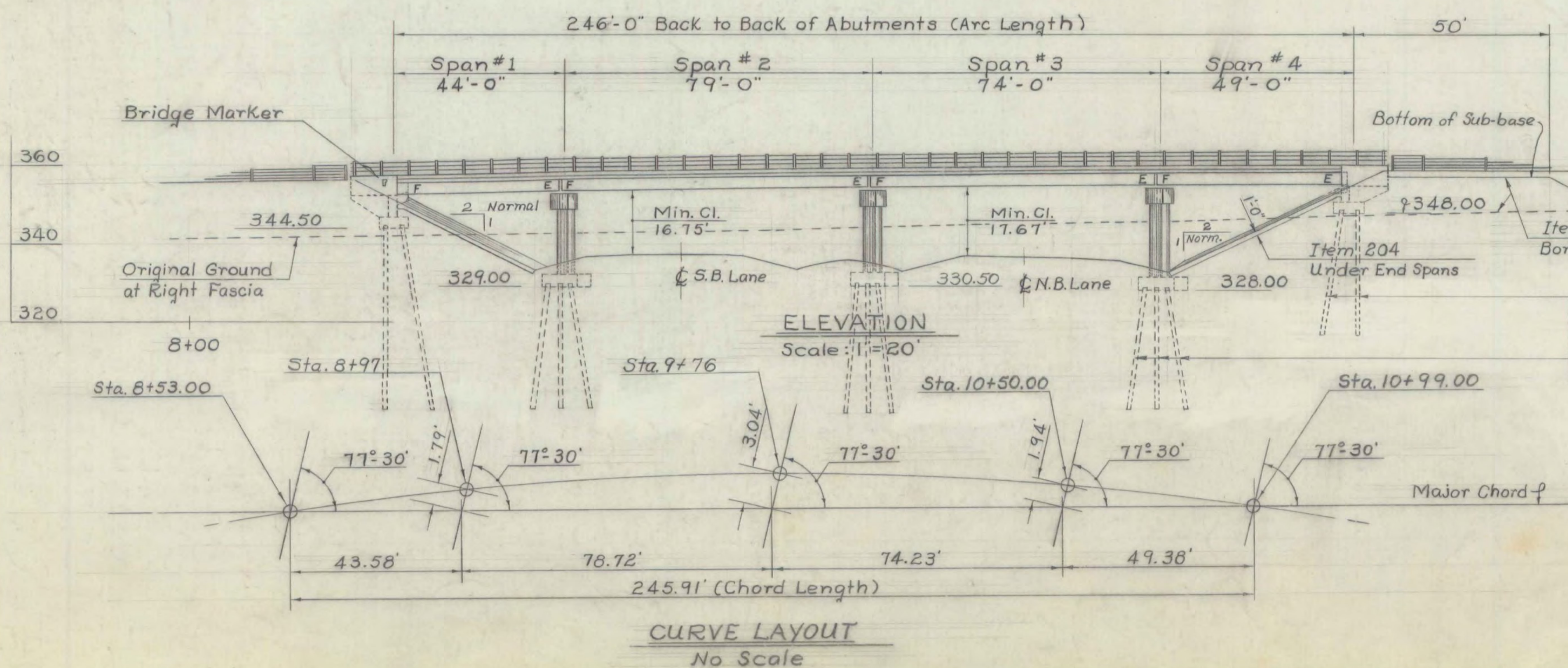
PROJECT NAME Colchester-Milton  
TOWN OF Milton BR 80  
Now Class 2 R 6  
ROUTE No. TH 44 LOG STA.  
TH 44 over I 89 @ Sta. 2752+21.87  
Superstructure - Girder Details  
SCALE As noted  
SURVEYED BY  
DRAWN BY WBT CHECKED BY RLO  
PROJECT No. I 89-3(34)  
SHEET 106 OF 419





Note:  
Bench Mark to be set in top of  
Curb above Bridge Marker.

PLAN  
Scale: 1" = 20'



CURVE LAYOUT  
No Scale

#### List of Bridge Sheets

- BR-300 General Plan and Elevation
- BR-301 Bridge Quantity Sheet
- BR-302 Preliminary Information Sheet
- BR-303 Boring Plan and Logs
- BR-304 Framing Plan, Railing & Granite Curb Layout and Joint Details.
- BR-305 Details of Abutment No.1
- BR-306 Details of Abutment No.2
- BR-307 Pier Layout Details
- BR-308 Pier Details
- BR-309 Pier Reinforcing Steel
- BR-310 Reinforcing Steel Schedule

#### Bridge Standards

SCB-30-65, Typical Section, Plan View and Quantities  
 SCB-D1-65, SCB-D2-65 (Details A,B+C), SCB-D3-65 (Details A,B,C,D+E),  
 SCB-D5-65, SCB-D6-65 (Details A,B+E), SCB-D7-65 (Details A,B,C,D+E),  
 SCB-D8-65 (Details A+B), SCB-D9-65 (Detail A), SCB-D4-65. Details of  
 WF Beam Bridges.  
 SB-R1-64, Sheets 1+2, SB-R2-65, Details of Bridge Railing.  
 G-3a, Dead End Anchorage at Bridge Approach.

#### Reference Sheets

Interstate Plan, (Scale: 1"=50'), N.B. and S.B. Sta. 2861+00 to Sta. 2876+00  
 Profile of Interstate, N.B. and S.B. Sta. 2861+00 to Sta. 2876+00  
 Plan and Profile SA#3, (Scale: 1"=50'), Sta. 1+00 to Sta. 17+50 (2 Sheets)  
 Interstate Sections, Southbound Sta. 2869+00 to Sta. 2873+50  
 Interstate Sections, Northbound Sta. 2868+50 to Sta. 2873+00  
 State Aid Road No.3 Sections, Sta. 5+50 to Sta. 12+50 (2 Sheets)

#### Notes

- ① For General Notes See Standard Drawing Sheet SCB-D1-65.
- ② For details of dead end anchorage at bridge approach see Standard Drawing Sheet G-3a.
- ③ Treated Timber Piling shall be driven to the designed brng. capacity of 20 tons.
- ④ Estimated allowable design load on treated timber piling is 20 Tons per pile.
- ⑤ Item 440 Water Repellent shall consist of furnishing and applying water repellent on exterior concrete surfaces including top of safety walks, fascia and back to the drip bead under the slab, sides, ends and bottoms of all pier caps, and exposed areas of abuts. not otherwise treated.

Treated Timber Piling typical at Piers and Abutments. To be driven to the designed bearing capacity of 20 tons per pile.

Item 505, Pile Loading Tests, shall be used for each substructure when called for by the Engineer.

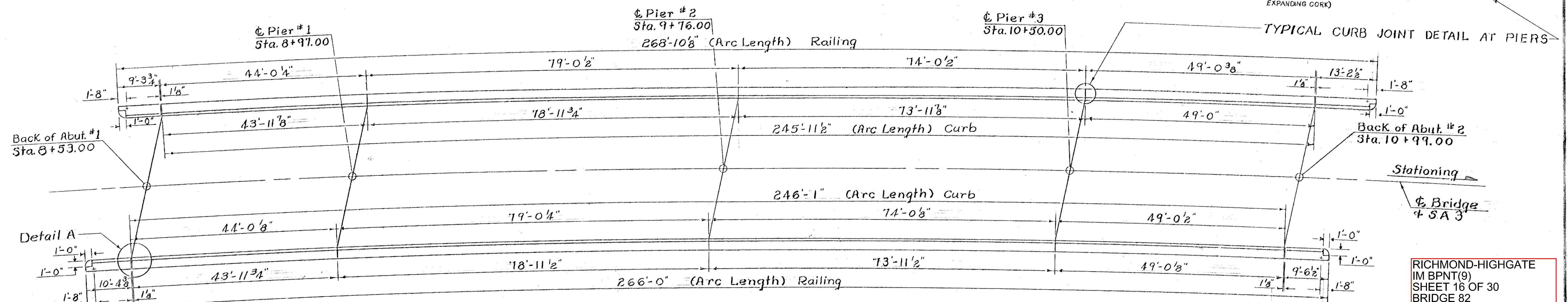
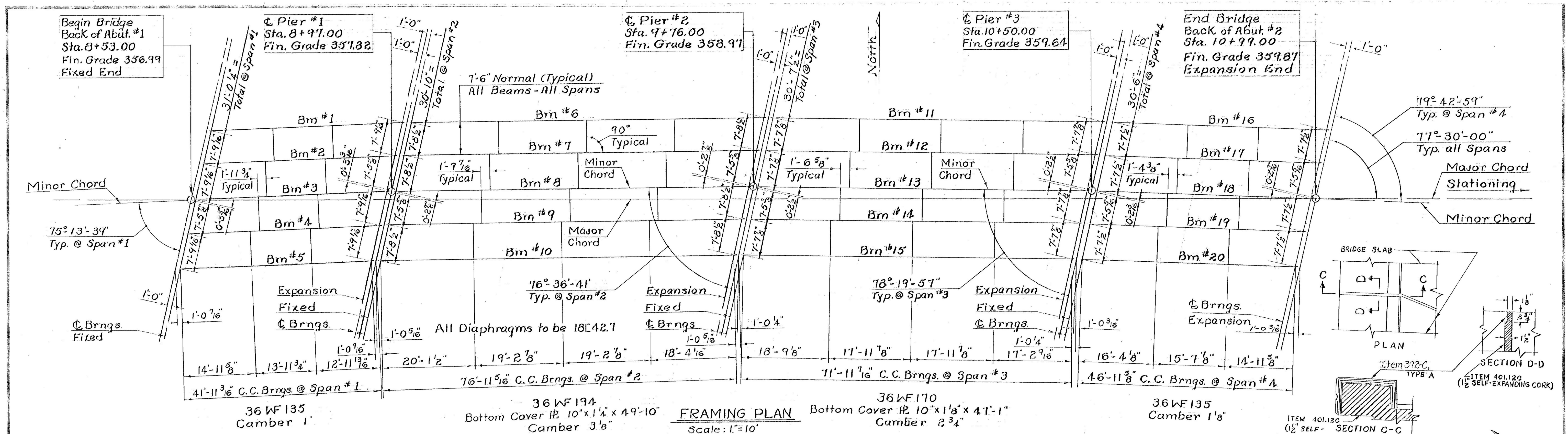
RICHMOND-HIGHGATE  
 IM BPNT(9)  
 SHEET 15 OF 30  
 BRIDGE 82  
 FOR INFORMATION ONLY

#### STATE OF VERMONT DEPARTMENT OF HIGHWAYS

TOWN OF Colchester-Milton **BR 82**  
 ROAD No. 189 BRIDGE No. S3-B5  
 General Plan & Elevation  
 SA#3 over 189  
 SCALE As Noted  
 SURVEYED BY Lavallee 5/63  
 DRAWN BY J.J.C. CHECKED BY J.W.  
 PROJECT No. 189-3(34)  
 S3-B5 SHEET 130 OF 419

BR-300





RAIL and GRANITE CURB LENGTHS

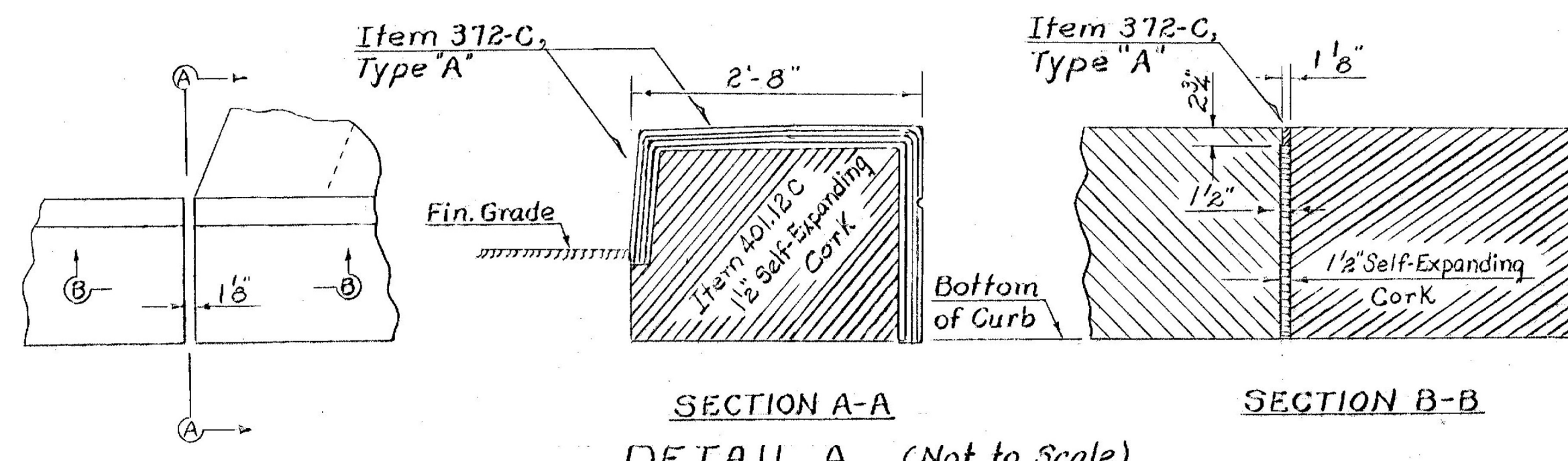
Scale: 1"=10'

Item 372-C Joint Sealer - Preformed, (Neoprene Rubber Joint Material)

Notes:

- For General Notes and design stresses refer to SCB-DI-65.
- For Details of Bridge Railing see Std. Dwgs. SB-R1-64, Sheets 1+2, +SB-R2-65.
- For Details of Granite Curb see Std. Dwg. SCB-D6-65, Detail A.
- For Details of shear connectors, pier expansion plates, diaphragms, cover plates, bearing devices, and other details not shown, refer to Std. Dwgs. SCB-D2-65, Details A, B+C; SCB-D3-65, Details A, B, C, D+E; SCB-D6-65, Detail A; SCB-D7-65, Details A, B, C, D+E; SCB-D8-65, Details A+B; SCB-D9-65, Detail A.

Type A Allow 1 1/2" width 2 3/4" depth for installation.



STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

TOWN of Colchester-Milton

ROUTE NO. 189 LOG STA.

Framing Plan, Railing+Granite Curb  
Layout+Joint Details SA 3 over 189

SCALE As Noted

SURVEYED BY Lavallee 5/63

DRAWN BY J.J.C. CHECKED BY J.W.

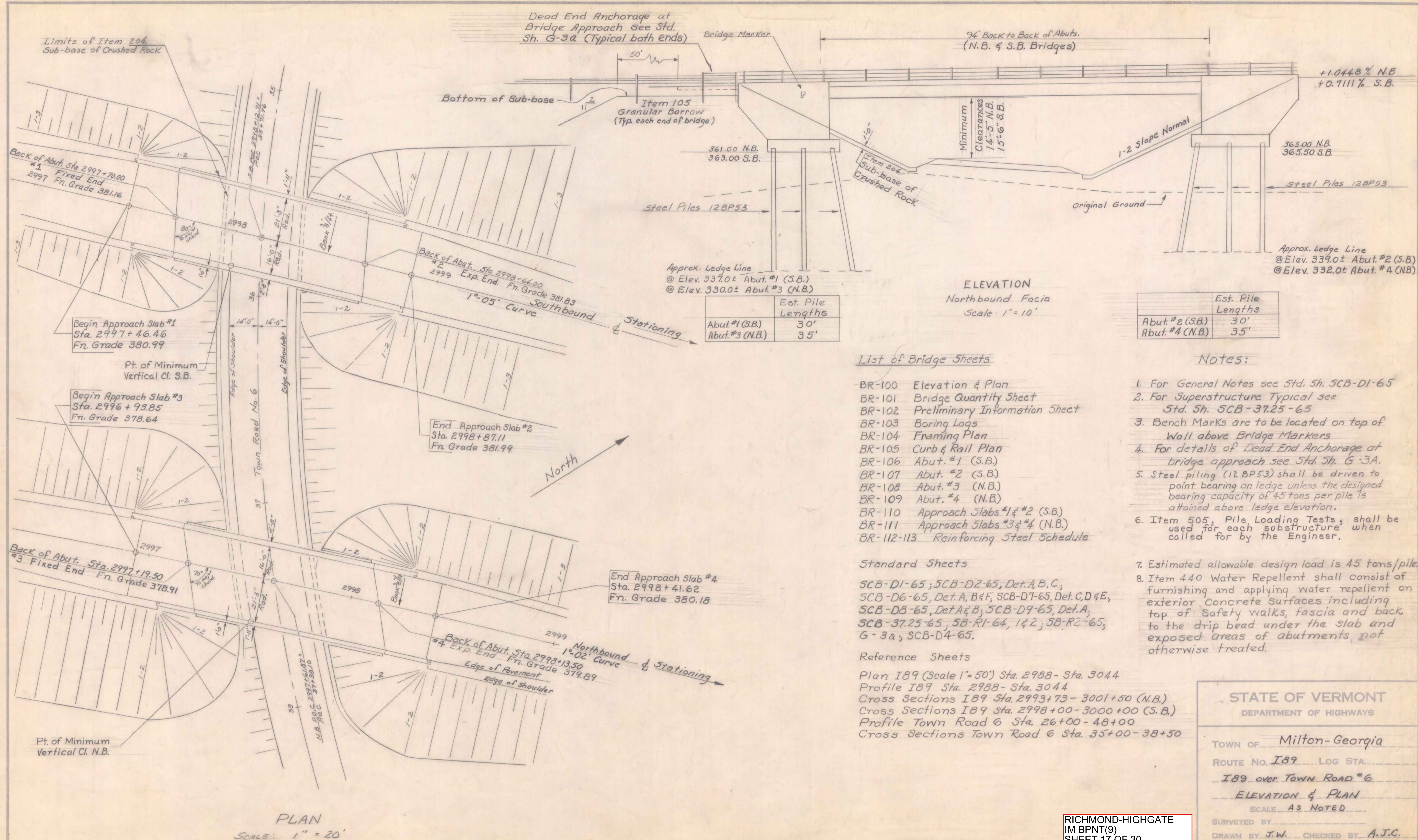
PROJECT NO. 189-3(34)

SHEET 134 OF 419

BR-30A

RICHMOND-HIGHGATE  
IM BPNT(9)  
SHEET 16 OF 30  
BRIDGE 82  
FOR INFORMATION ONLY





| Abut. #1 (S.B.) | Est. Pile Lengths |
|-----------------|-------------------|
| Abut. #3 (N.B.) | 30'               |
|                 | 35'               |

ELEVATION  
Northbound Facia  
Scale: 1" = 10'

| Abut. #2 (S.B.) | Est. Pile Lengths |
|-----------------|-------------------|
| Abut. #4 (N.B.) | 30'               |
|                 | 35'               |

#### List of Bridge Sheets

BR-100 Elevation & Plan  
BR-101 Bridge Quantity Sheet  
BR-102 Preliminary Information Sheet  
BR-103 Boring Logs  
BR-104 Framing Plan  
BR-105 Curb & Rail Plan  
BR-106 Abut. #1 (S.B.)  
BR-107 Abut. #2 (S.B.)  
BR-108 Abut. #3 (N.B.)  
BR-109 Abut. #4 (N.B.)  
BR-110 Approach Slabs #1 & #2 (S.B.)  
BR-111 Approach Slabs #3 & #4 (N.B.)  
BR-112-113 Reinforcing Steel Schedule

#### Standard Sheets

SCB-D1-65; SCB-D2-65, Det. A, B, C;  
SCB-D6-65, Det. A, B, F; SCB-D7-65, Det. C, D, E;  
SCB-D8-65, Det. A, B; SCB-D9-65, Det. A;  
SCB-37.25-65; SB-R1-64, 1 & 2; SB-R2-65;  
G-3a; SCB-D4-65.

#### Reference Sheets

Plan I89 (Scale 1" = 50') Sta. 2988 - Sta. 3044  
Profile I89 Sta. 2988 - Sta. 3044  
Cross Sections I89 Sta. 2993+73 - 3001+50 (N.B.)  
Cross Sections I89 Sta. 2998+00 - 3000+00 (S.B.)  
Profile Town Road 6 Sta. 26+00 - 48+00  
Cross Sections Town Road 6 Sta. 35+00 - 38+50

#### Notes:

- For General Notes see Std. Sh. SCB-D1-65
- For Superstructure Typical see Std. Sh. SCB-37.25-65
- Bench Marks are to be located on top of Wall above Bridge Markers
- For details of Dead End Anchorage at bridge approach see Std. Sh. G-3A.
- Steel piling (12BP53) shall be driven to point bearing on ledge unless the designed bearing capacity of 45 tons per pile is attained above ledge elevation.
- Item 505, Pile Loading Tests, shall be used for each substructure when called for by the Engineer.
- Estimated allowable design load is 45 tons/pile.
- Item 440 Water Repellent shall consist of furnishing and applying water repellent on exterior Concrete Surfaces including top of Safety walks, fascia and back to the drip bead under the slab and exposed areas of abutments not otherwise treated.

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

TOWN OF Milton-Georgia

ROUTE No. I89 LOG STA.

I89 over TOWN ROAD #6

ELEVATION & PLAN

SCALE AS NOTED

SURVEYED BY

DRAWN BY J.W. CHECKED BY A.J.C.

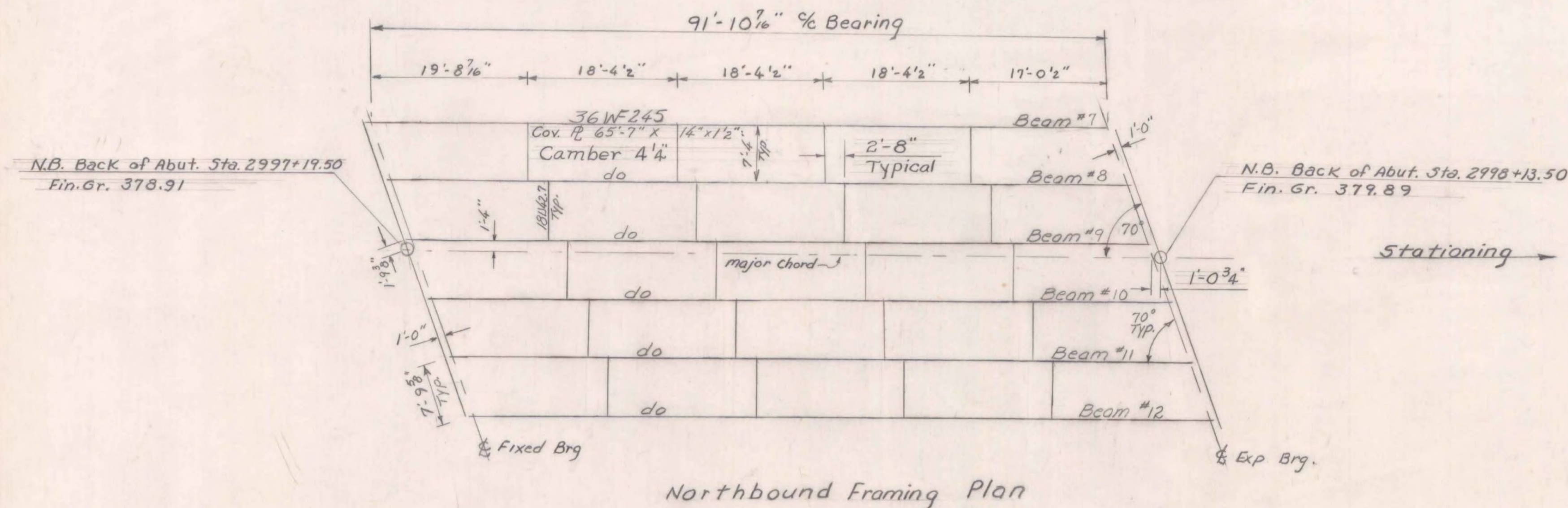
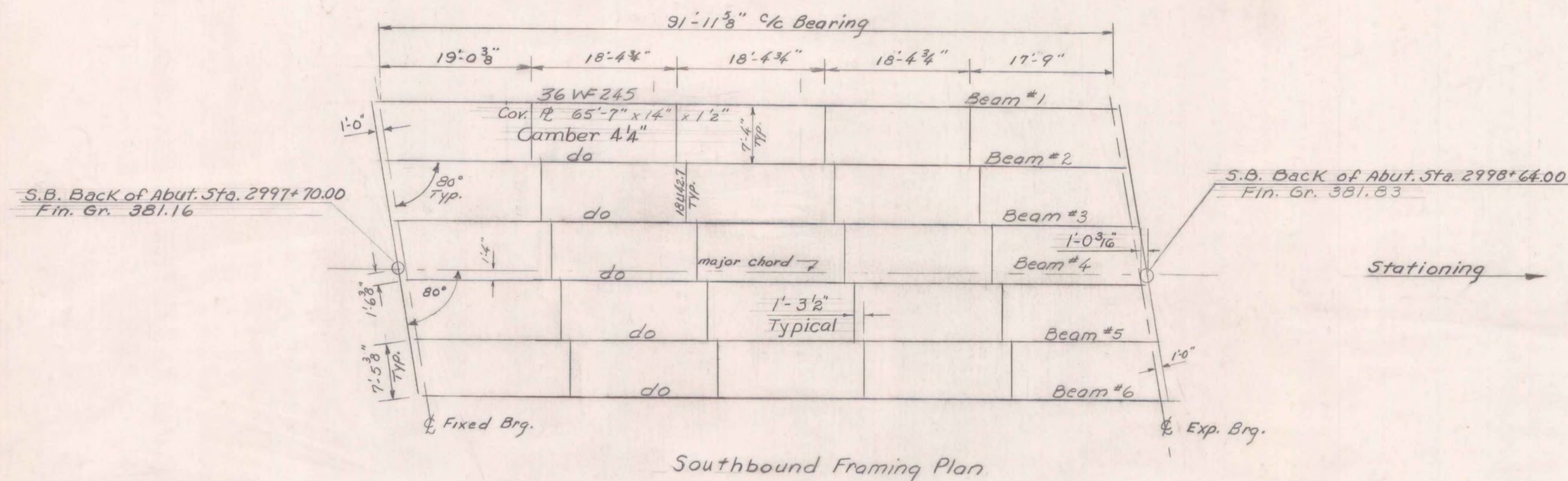
PROJECT No. 100-100

SHEET 08 OF 08 S3-B8

BR-100 Sheet 130 of 177 Sheets

RICHMOND-HIGHGATE  
IM BPNT(9)  
SHEET 17 OF 30  
BRIDGE 84 N/S  
FOR INFORMATION ONLY





**Notes:**

1. For General Notes & Design Stresses See Std. Sheet SCB-D1-65, Bridge Sheets BR-100 & BR-102.
2. For details of shear connectors see Std. Sh. SCB-D2-65, Detail B & General Notes Std. Sh. SCB-D1-65.
3. For cover plate details see Std. Sh. SCB-D7-65 Detail C.
4. For diaphragm details see Std. Sh. SCB-D7-65 Details D & E.
5. For bearing details see Std. Sh. SCB-D8-65 Details A & B, and SCB-D9-65, Detail A.
6. For Details of beam haunch See Std. Sh. SCB-D2-65, Detail C.

RICHMOND-HIGHGATE  
IM BPNT(9)  
SHEET 18 OF 30  
BRIDGE 84 N/S  
FOR INFORMATION ONLY

| ITEM NO. | ITEM                     | UNIT | NET | TOTAL | FINAL |
|----------|--------------------------|------|-----|-------|-------|
|          | CHAN. EXCAV. OF EARTH    | C.Y. |     |       |       |
|          | CHAN. EXCAV. OF ROCK     | C.Y. |     |       |       |
|          | UNCLASS. CHAN. EXCAV.    | C.Y. |     |       |       |
|          | STRUCT. EXCAV.           | C.Y. |     |       |       |
|          | CONC. CLASS AA (MOD.)    | C.Y. |     |       |       |
|          | CONC. CLASS B (MOD.)     | C.Y. |     |       |       |
|          | REINF. STEEL             | LBS. |     |       |       |
|          | ASPHALTIC-ASB. COATING   | S.Y. |     |       |       |
|          | TREATED TIMBER PILING    | L.F. |     |       |       |
|          | SPLICES FOR STEEL PILING | EA.  |     |       |       |
|          | STEEL PILING             | L.F. |     |       |       |
|          | UNTREATED TIMBER PILING  | L.F. |     |       |       |

**STATE OF VERMONT**  
DEPARTMENT OF HIGHWAYS

TOWN OF Milton - Georgia  
ROUTE No. I-89 LOG STA.           
I 89 over Town Road #6  
Framing Plan  
SCALE 1" = 10'  
SURVEYED BY           
DRAWN BY J.W. CHECKED BY A.J.C.  
PROJECT NO. I 89-3(39)  
SHEET 62 OF 278



Begin Bridge  
Back of Abut. #1  
Sta. 100+79.74  
Fin. Grade 399.78  
Fixed End.

☉ Pier #1  
Sta. 101+40.76  
Fin. Grade 400.75

☉ Pier #2  
Sta. 102+30.61  
Fin. Grade 402.19

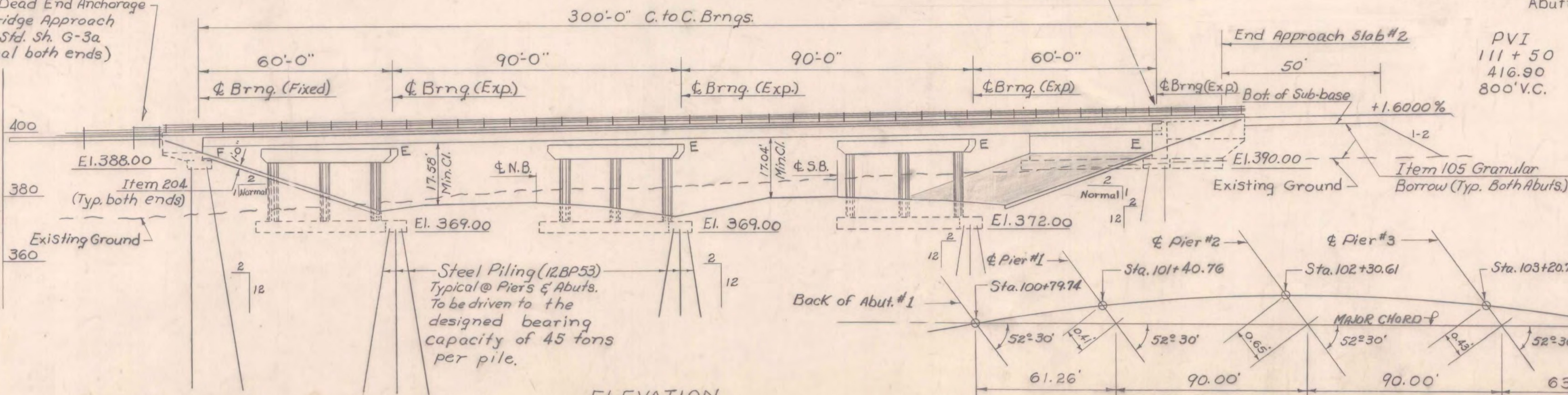
☉ Pier #3  
Sta. 103+20.75  
Fin. Grade 403.63

End Bridge  
Back of Abut. #2  
Sta. 103+85.00  
Fin. Grade 404.66  
Expansion End.

Begin Approach Slab #1  
Sta. 100+45.39  
Fin. Grade 399.23

Item 204 Sub-base of  
Crushed Rock  
(Typical both abutments)

For Dead End Anchorage  
at Bridge Approach  
see Std. Sh. G-3a.  
(Typical both ends)



ELEVATION  
Scale 1"=20'

CURVE LAYOUT No Scale

- List of Bridge Sheets
- BR-200 General Plan and Elevation
  - BR-201 Bridge Quantity Sheet
  - BR-202 Preliminary Information Sheet
  - BR-203 Boring Layout Sheet
  - BR-204 Casing Borings
  - BR-205 Auger Borings
  - BR-206 Framing Plan and Typical Section
  - BR-207 Curb and Rail Plan and Expansion Dam
  - BR-208 Rocker Bearings
  - BR-209 Superstructure Details
  - BR-210 Details of Abutment No.1
  - BR-211 Details of Abutment No.2
  - BR-212 Additional Abutment Details
  - BR-213 Pier Details
  - BR-214 Piers #1, #2 & #3 Reinforcing
  - BR-215 Details Approach Slab #1
  - BR-216 Details Approach Slab #2
  - BR-217-BR-218 Reinforcing Schedule

#### Bridge Standards

SCB-D1-65; SCB-D2-65 (Detail A); SCB-D4-65;  
SCB-D6-65 (Details A,B,F); SCB-D7-65 (Details A+D);  
SCB-D8-65 (Detail A); SCB-D9-65 (Detail A), Details  
of WF Beam Bridges. SB-R1-64, Sh. 1 & 2 and SB-R2-65, Details  
of Bridge Railing. G-3a, Dead End Anchorage  
at Bridge Approach. SCWPG-30-62 (Sh. 1 of 4 & Sh. 4 of 4),  
Details of Composite Welded Plate Girder Bridges.

#### Reference Sheets

Interstate Plan (Scale 1"=50'), Sta. 3036+00 to Sta. 3052+00 (Sh.)  
Profile of Interstate, N.B. and S.B., Sta. 3036+00 to Sta. 3052+00 (Sh.)  
Profile of Rte. U.S. 7, Sta. 88+00 to Sta. 120+00  
Interstate Sections, Sta. 3041+50 to Sta. 3046+50 (3 Sheets)  
U.S. Rte. 7 Sections, Sta. 99+50 to Sta. 106+50 (3 Sheets)

#### Notes

- For General Notes see Std. Dwg. SCB-D1-65.
- The Superstructure is of Continuous WF Beam  
Design for a 38-ft. Roadway.
- Bridge Seat elevations shown on these plans  
are for the centerline of bearings.
- All exposed edges of concrete in the superstructure,  
Abutments and Piers shall be chamfered 1"x1".
- Item 440 Water Repellent shall consist of  
furnishing and applying water repellent on  
exterior concrete surfaces on top of the safety  
walks, on the fascia and back to the drip bead  
under the slab, on the sides, ends and  
bottoms of all pier caps, and on the exposed  
areas of Abutments not otherwise treated.

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

TOWN OF Milton - Georgia  
Route No. I 89

General Plan & Elevation

U.S. 7 over I 89

SCALE As Noted

SURVEYED BY

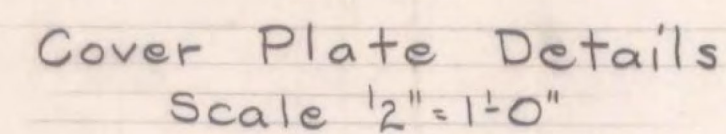
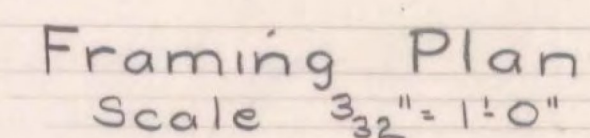
DRAWN BY J.J.C. CHECKED BY A.J.C.

PROJECT NO. 88-3(39)

SHEET 22 OF 28 S3-B9

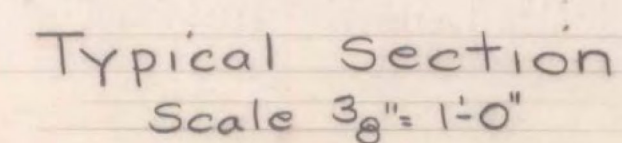
Sheet 141 of 177 Sheets BR-200 BR-300





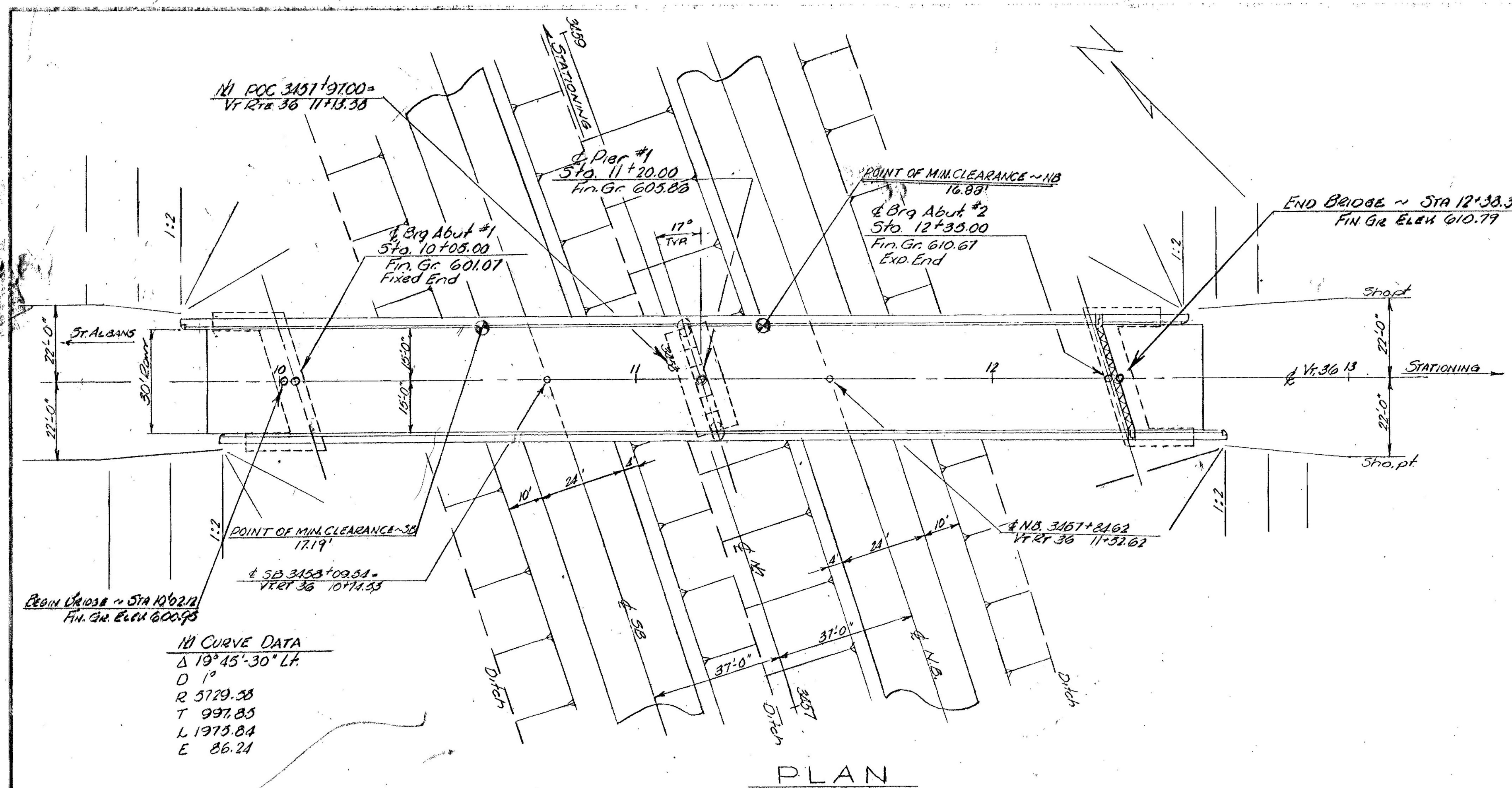
6. (cont.) welds and shall be continuous shop welds.

7. For details of beam haunch see sheet BR-209.

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

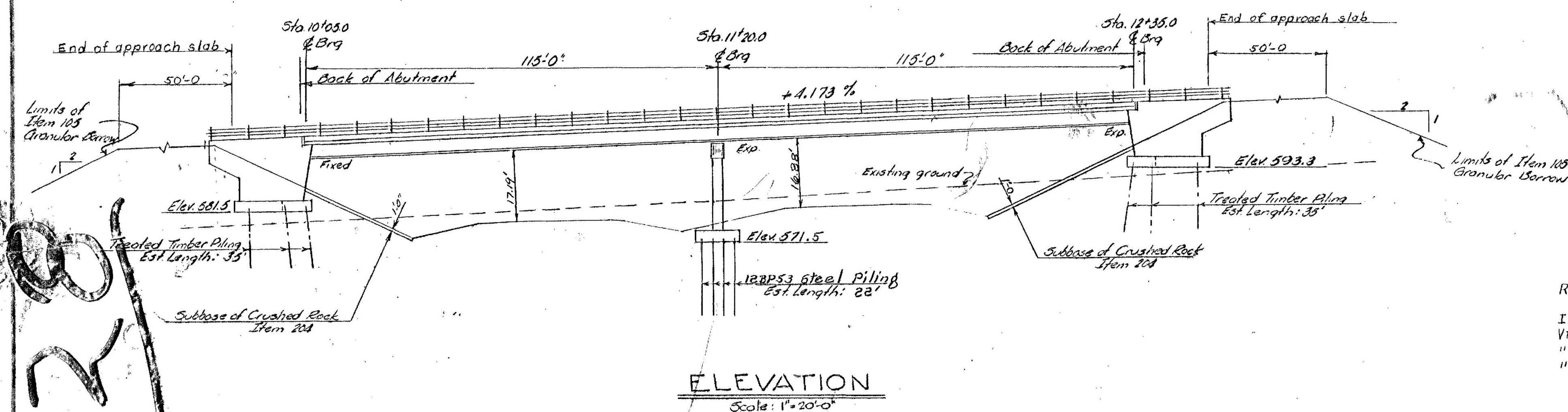
TOWN OF Milton - Georgia  
ROUTE NO. I 89 LOG STA. \_\_\_\_\_  
Framing Plan & Typical Section  
U.S. 7 over I 89  
SCALE As Noted  
SURVEYED BY \_\_\_\_\_  
DRAWN BY A.J.C. CHECKED BY J.J.C.  
PROJECT NO. I 89-3(39)  
SHEET 78 OF 273





111 CURVE DATA  
 Δ 19° 45' 30" L  
 D 1°  
 R 5729.38  
 T 997.85  
 L 1913.84  
 E 86.24

**PLAN**  
 Scale 1" = 20'-0"



**ELEVATION**  
 Scale 1" = 20'-0"

**GENERAL NOTES:-**

1. Elevation datum is sea level based on nearest U.S. Government vertical control.
2. For additional notes, see SCB-01-65 and detail sheets.
3. All piles are to be driven to design load as shown on abutment and pier sheets. All piling is to be driven a minimum of 10 ft into original ground.
4. Item 305 Pile Loading Tests shall be used only when ordered in writing by the Engineer.

**LIST OF SHEETS**

- BR. 100 - Plan & Elevation
- 101 - Bridge Quantity Sheet
- 102 - Preliminary Information Sheet
- 103 - Borings
- 104 - Girder Details
- 105 - Bracing Details & Bearing Devices
- 106 - Expansion Dam Details
- 107 - Abutment #1
- 108 - Abutment #2
- 109 - Pier
- 110 - Curb & Railing Detail
- 111 - Approach Slab #1
- 112 - Approach Slab #2
- BR. 113 - Reinforcing Steel Schedule

RICHMOND-HIGHGATE  
 IM BPNT(9)  
 SHEET 21 OF 30  
 BRIDGE 89  
 FOR INFORMATION ONLY

**STANDARD SHEETS**

- G-3a
- SCB-01-65
- SCB-04-65
- SCB-06-65
- SB-121-64 ~ Shls. #1 & #2
- SB-R2-65

**REFERENCE SHEETS**

- Roadway Plan Sheet Sta 3444+0 - 3460+0
- " Profile " Sta 3444+0 - 3460+0
- I 89 Sections Sta 3457+0 - 3460+0
- Vt Route 36 Plan Sh. Sta 1+0 - 16+0
- " " Profile Sh. Sta 1+0 - 16+0
- " " Sections Sta 7+0 - 16+0

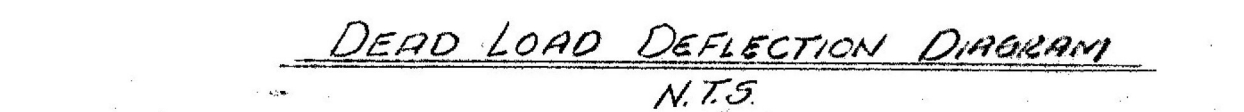
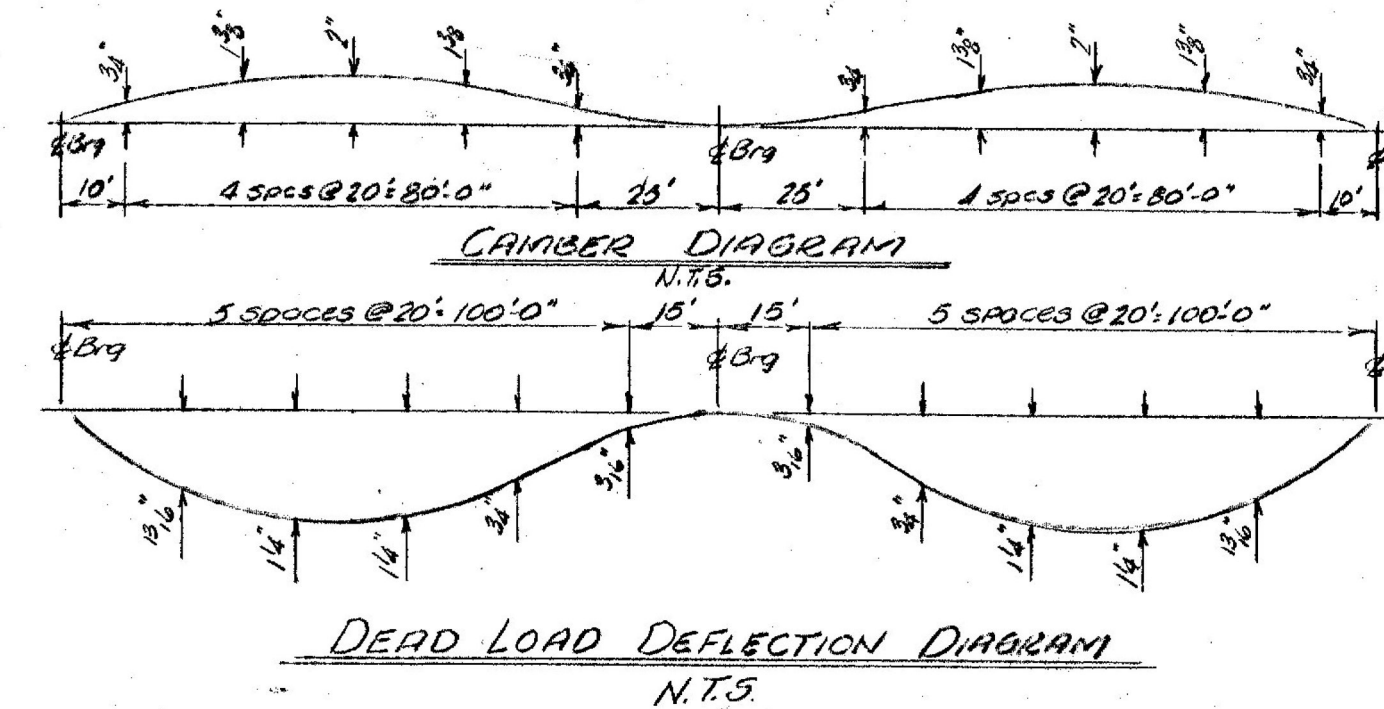
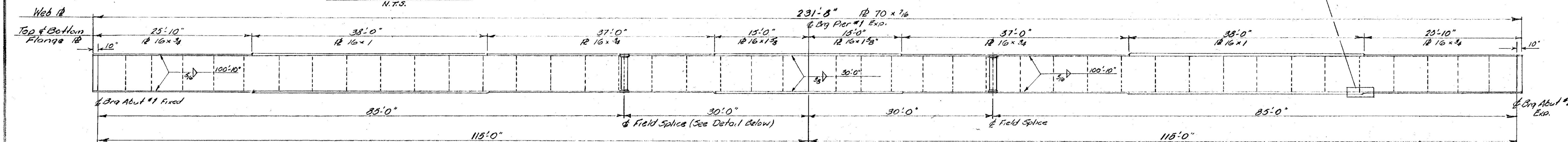
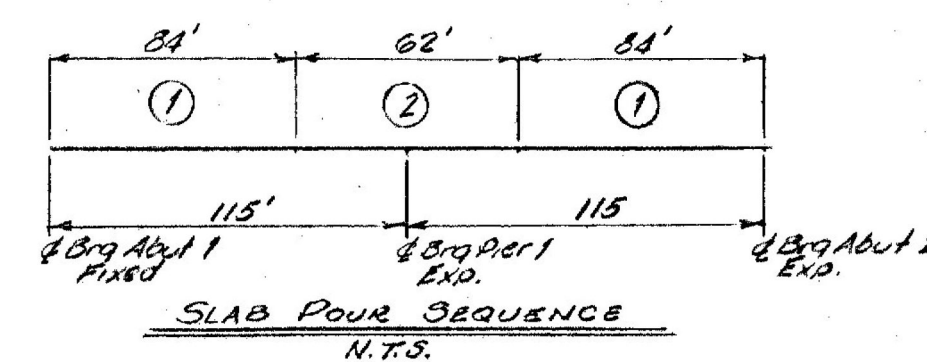
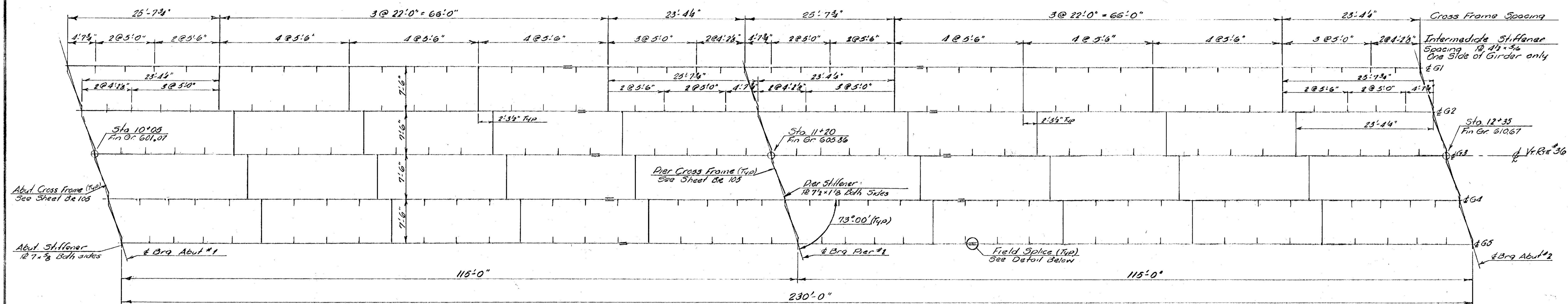
|                           |                                  |
|---------------------------|----------------------------------|
| REVISION 1                | TREATED TIMBER PILES CHANGED     |
| WMS 6/6/66                | TO 12BPS3 STEEL PILES UNDER PIER |
| BR. 100 OF 113 REV. SHEET |                                  |

STATE OF VERMONT  
 DEPARTMENT OF HIGHWAYS

TOWN OF ST. ALBANS - SWANTON  
 ROAD NO. VT. RTE 36 BRIDGE NO. 89  
VT. RTE 36 OVER I-89 @ STA 3457+97  
**PLAN & ELEVATION**  
 SCALE 1" = 20'-0"  
 SURVEYED BY SPANDLING  
 DRAWN BY W CHECKED BY AGC  
 PROJECT NO. I-89-3(36) 1(42)  
 SHEET 21 OF 21 153

22  
 22





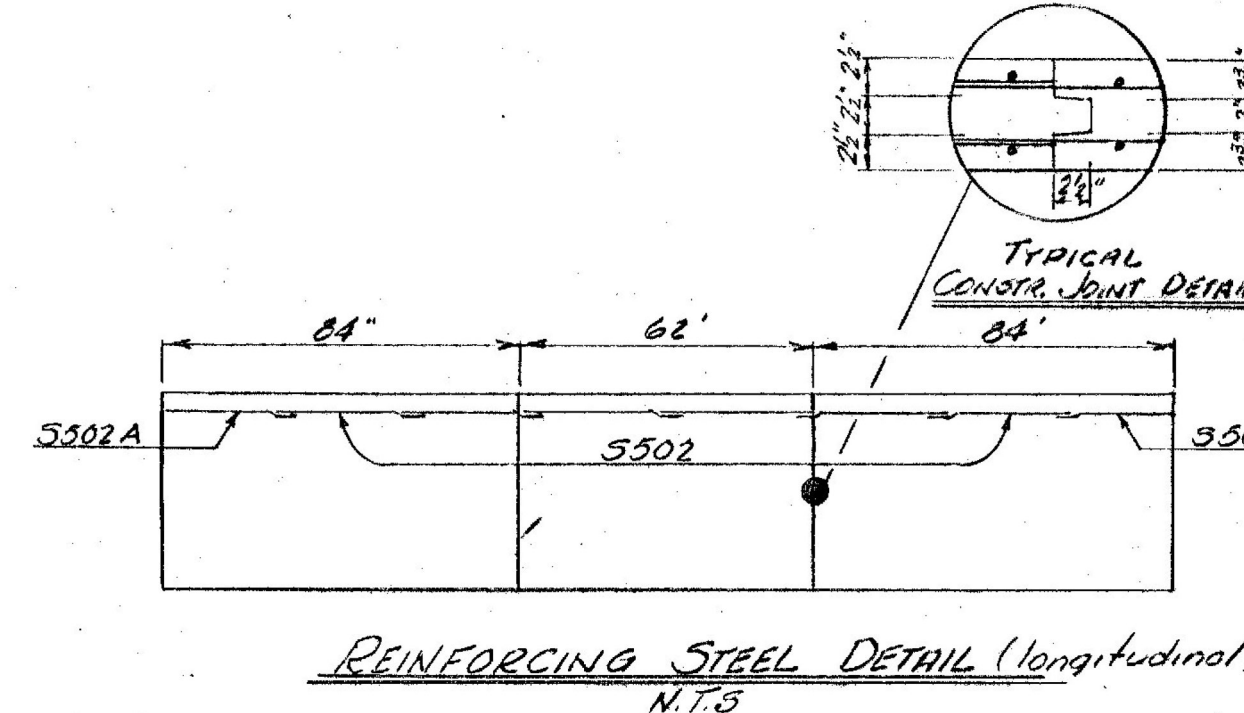
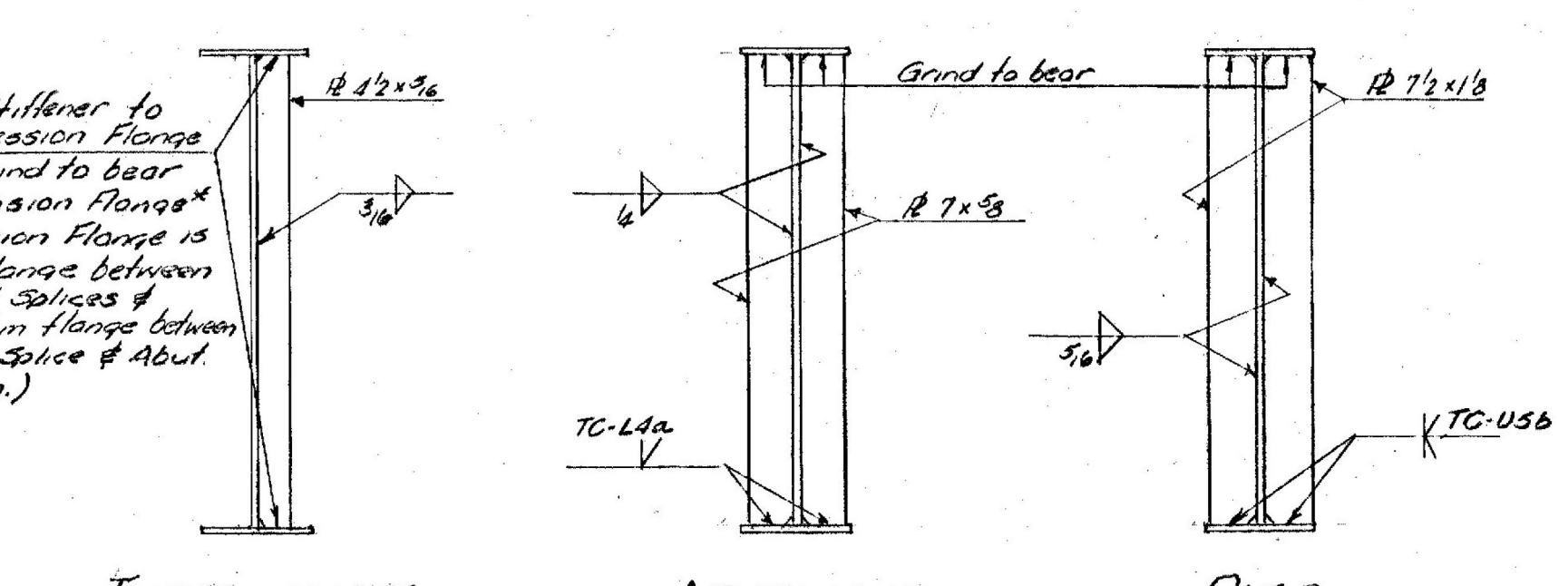
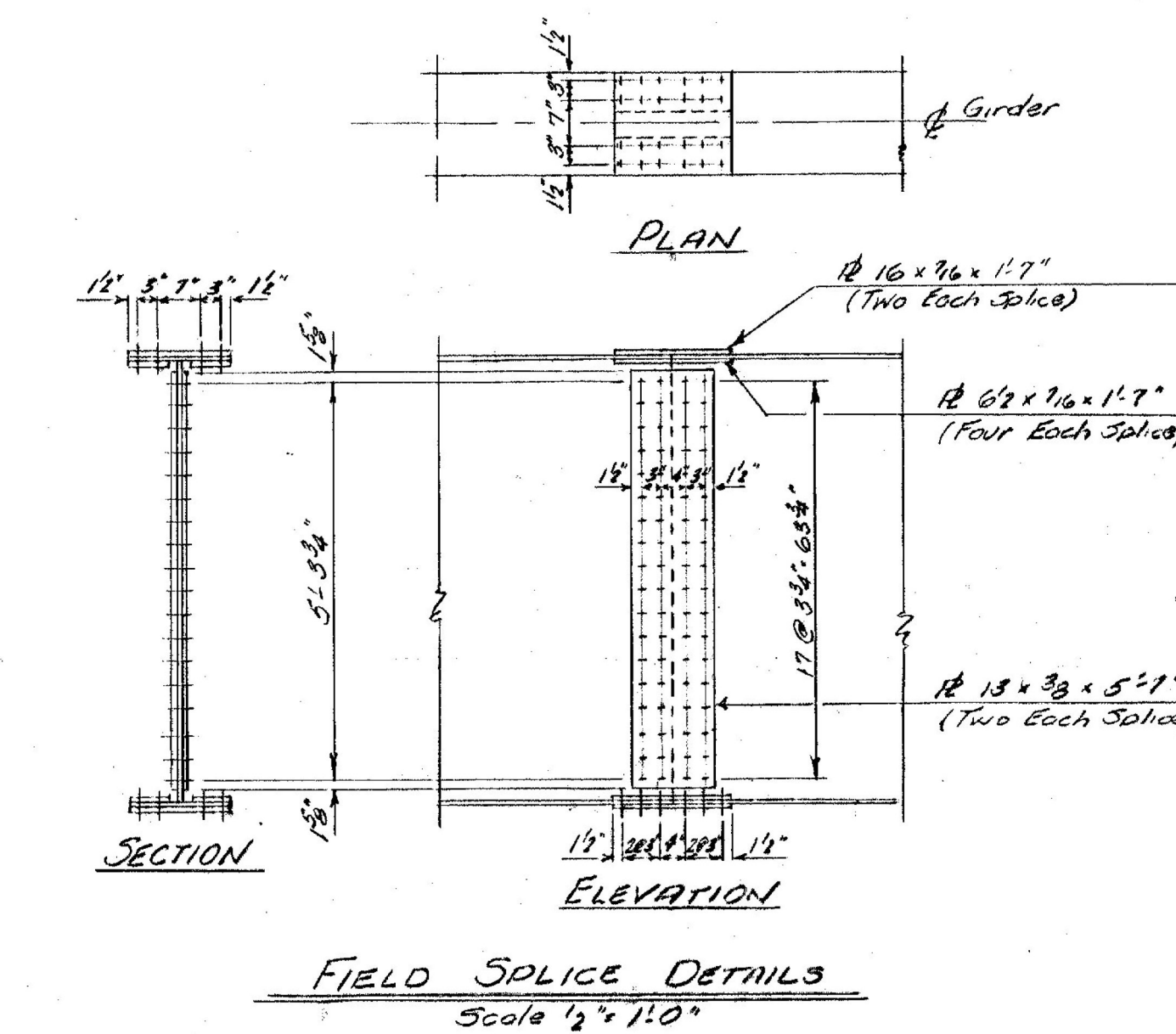
NOTES:-  
For additional notes see BR 105

RICHMOND-HIGHGATE  
IM BPNT(9)  
SHEET 22 OF 30  
BRIDGE 89  
FOR INFORMATION ONLY

BR 104 OF 113

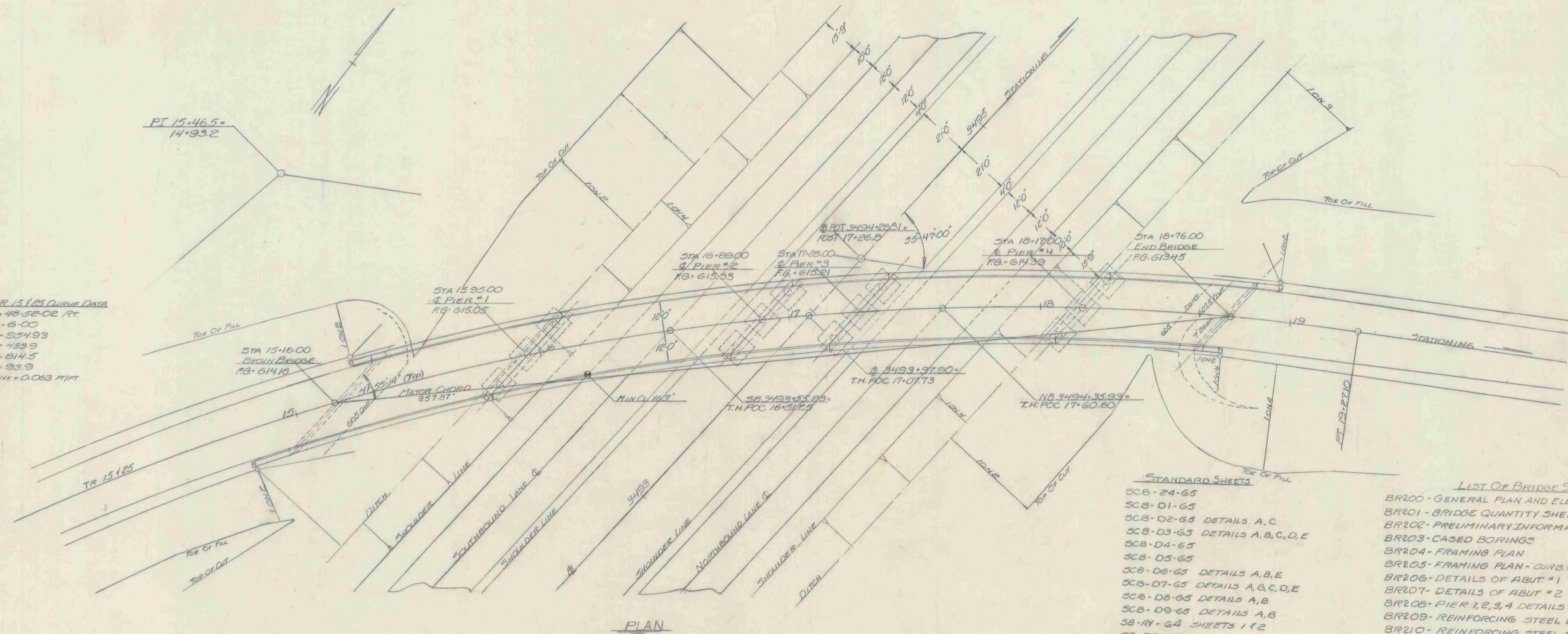
STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

TOWN OF ST ALBANS ~ SHANTON  
ROUTE NO. VERMONT Rte #36  
Vt. 36 OVER I-89 @ STA. 3451+91  
SUPERSTRUCTURE ~ GIRDER DETAILS  
SCALE: AS NOTED  
SURVEYED BY  
DRAWN BY W CHECKED BY AGC  
PROJECT NO. I-89-3(36) 4  
SHEET 65 OF 278



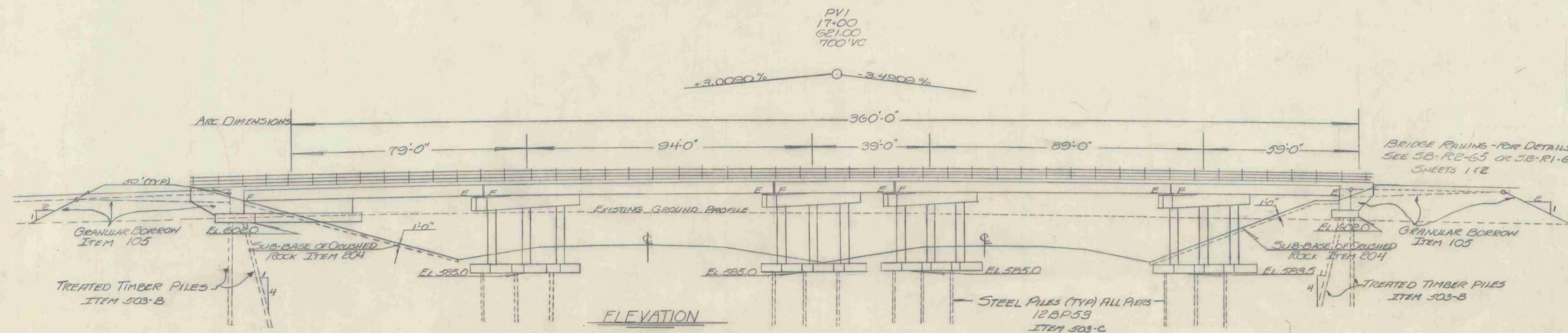


TR 15125 CURVE DATA  
 $\Delta = 48^\circ 52' 02''$  RT.  
 $D = 6.00'$   
 $R = 934.93'$   
 $T = 433.9'$   
 $L = 814.5'$   
 $E = 93.9'$   
 $BNK = 0.063$  FT/FT



STANDARD SHEETS  
 SCB-24-65  
 SCB-01-65  
 SCB-02-65 DETAILS A,C  
 SCB-03-65 DETAILS A,B,C,D,E  
 SCB-04-65  
 SCB-05-65  
 SCB-06-65 DETAILS A,B,E  
 SCB-07-65 DETAILS A,B,C,D,E  
 SCB-08-65 DETAILS A,B  
 SCB-09-65 DETAILS A,B  
 SB-R1-64 SHEETS 1 & 2  
 SB-R2-65

LIST OF BRIDGE SHEETS  
 BR200 - GENERAL PLAN AND ELEVATION  
 BR201 - BRIDGE QUANTITY SHEET  
 BR202 - PRELIMINARY INFORMATION SHEET  
 BR203 - CASED BORINGS  
 BR204 - FRAMING PLAN  
 BR205 - FRAMING PLAN - CURB & RAILING LENGTHS  
 BR206 - DETAILS OF ABUT. #1  
 BR207 - DETAILS OF ABUT. #2  
 BR208 - PIER 1, 2, 3, 4 DETAILS  
 BR209 - REINFORCING STEEL DETAILS  
 BR210 - REINFORCING STEEL DETAILS



RICHMOND-HIGHGATE  
 IM BPNT(9)  
 SHEET 23 OF 30  
 BRIDGE 90  
 FOR INFORMATION ONLY

STATE OF VERMONT  
 DEPARTMENT OF HIGHWAYS

TOWN OF ST. ALBANS-SWANTON  
 ROUTE NO. 189 LOG STA. \_\_\_\_\_  
PLAN & ELEVATION  
I-189 OVER I-89  
 SCALE 1"=20'  
 SURVEYED BY \_\_\_\_\_  
 DRAWN BY GII CHECKED BY SNA  
 PROJECT NO. 189-3 (42)  
 SHEET 23 OF 30 153

TREATED TIMBER PILING CHANGED  
 TO STEEL PILING (120P53) AT ALL PIERS  
 SPEC. 666  
 G.T.T.

BR-200



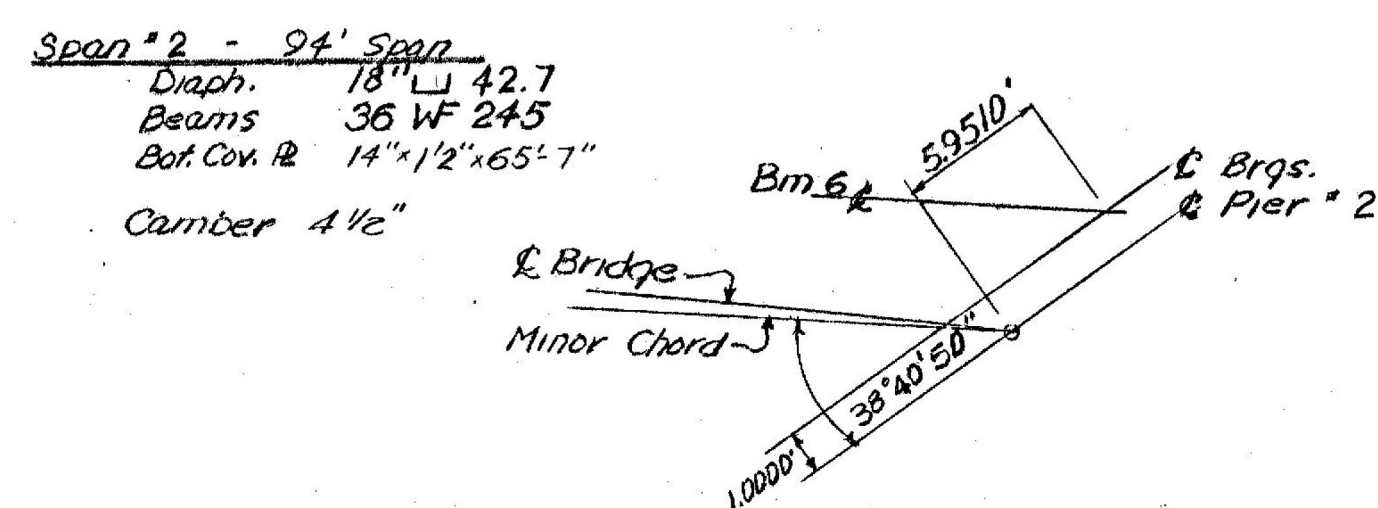
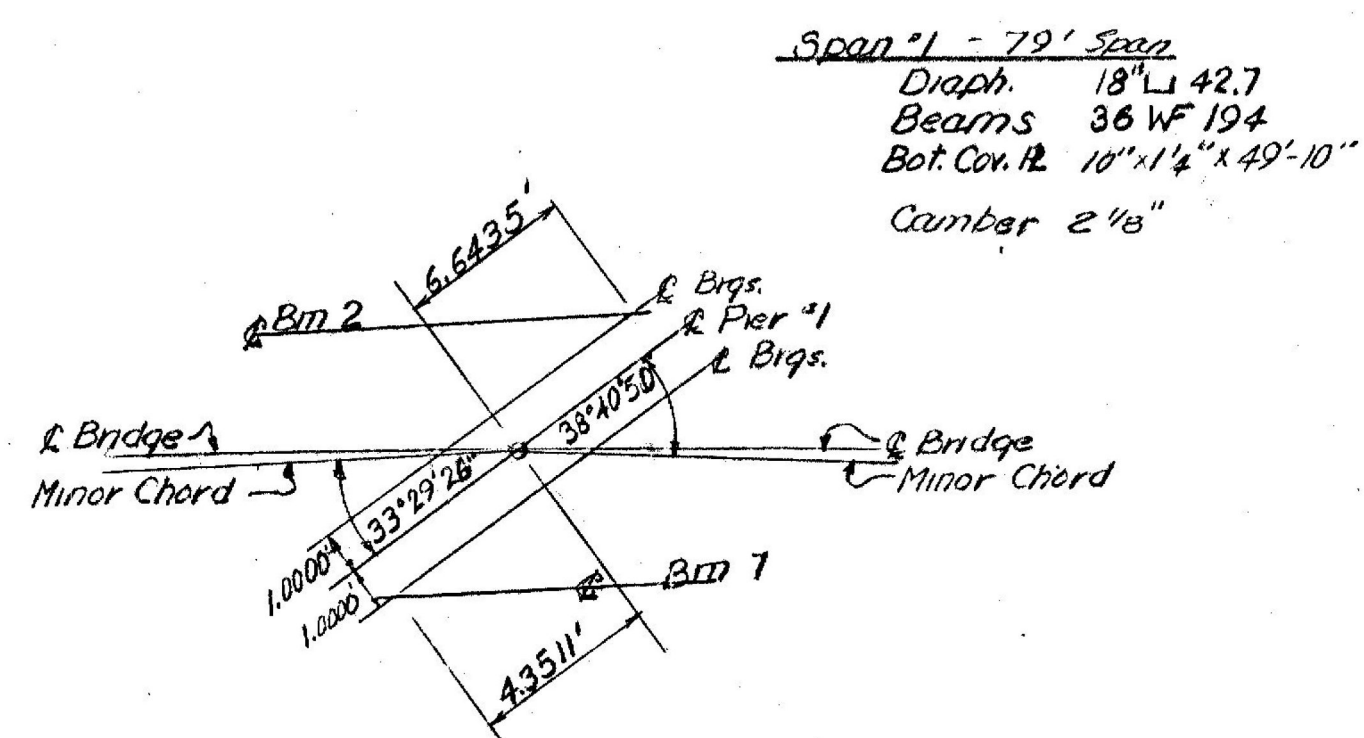
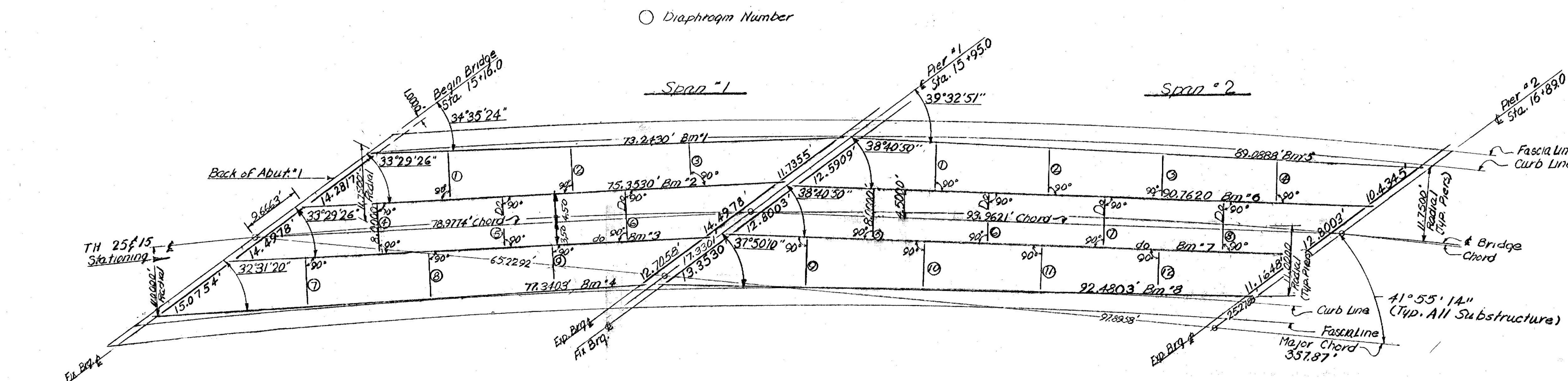
# GENERAL NOTES

- For General Notes see Standard Sheet SCB-DI-65.
- Construct embankment within area of abutments to 6" above footing elevation, prior to driving piling. Excavation of this material to be paid as Structure Excavation, Item 109.
- The abutments and piers are parallel to each other.
- Superstructure details shall be as per SCB-24-65 except Span #3 (39' span) is to have 36 WF 135 beams. Modify the standard details so as to eliminate the approach slab bracket. Modify superstructure details to provide 3/4" per foot super-elevation. No curbs are to be used on this bridge.
- Dimensions given at beams are horizontal dimensions from  $\epsilon$  bearing to  $\epsilon$  bearing.
- The two interior beams in each span are parallel to the minor chord.
- Dimensions given for diaphragms are horizontal dimensions from  $\epsilon$  beam to  $\epsilon$  beam.
- Minimum clearance from reinforcing steel to face of concrete shall be 3" in footings and 2" elsewhere, except where detailed otherwise.
- Water Repellent-Item 440 shall be applied to top of safety walks, fascia, and back to drip bead under the slab.

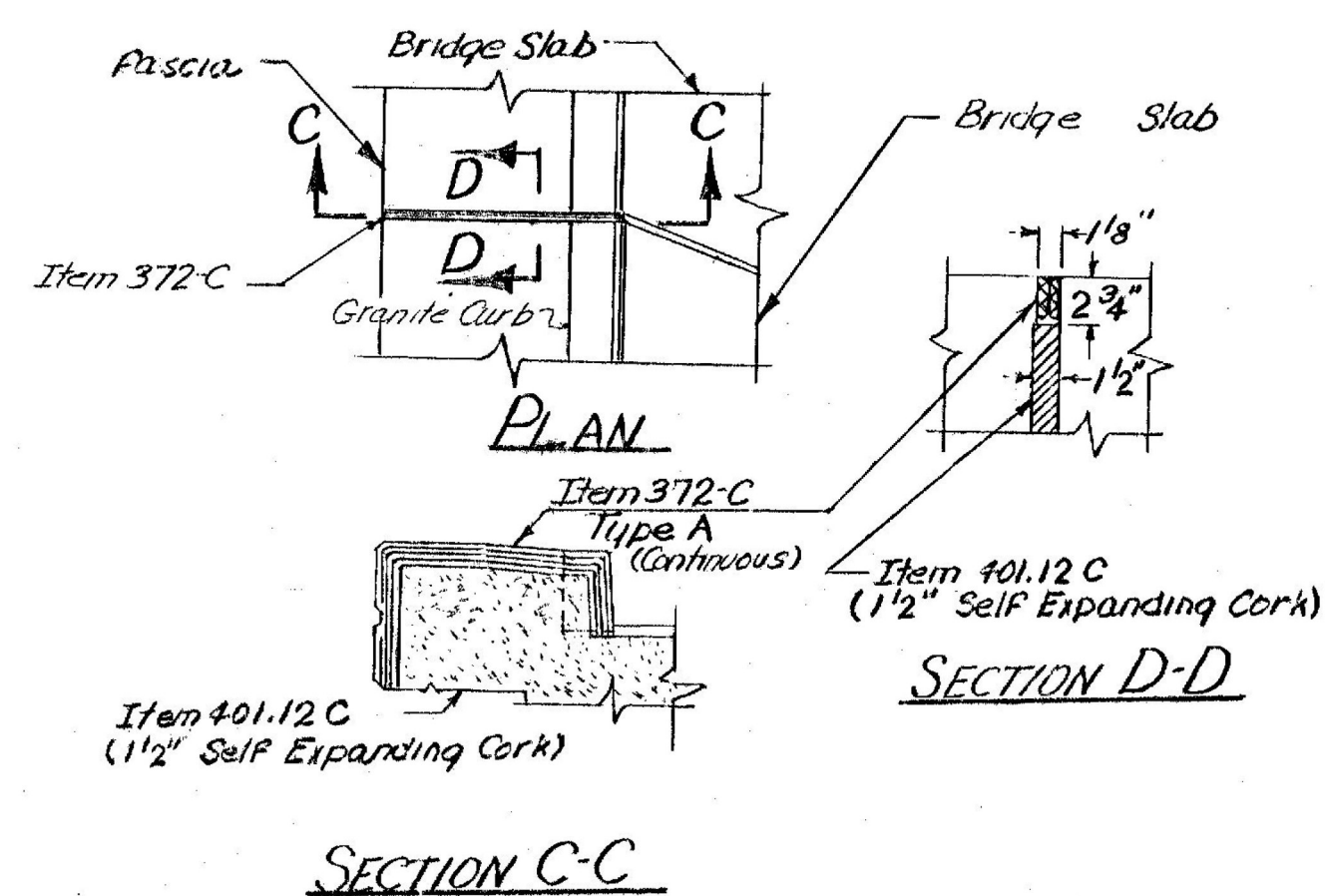
## INTERMEDIATE DIAPHRAGM DIMENSIONS

| DIAPH. NO.    | LENGTH $\epsilon$ BM TO $\epsilon$ BM | BM TO DIAPHRAGM ALONG $\epsilon$ BM |
|---------------|---------------------------------------|-------------------------------------|
| <b>SPAN 1</b> |                                       |                                     |
| 1             | 7.6333                                | 24.7929                             |
| 2             | 7.2720                                | 43.6311                             |
| 3             | 6.9106                                | 62.4692                             |
| 4             | 8.0000                                | 12.7929                             |
| 5             | 8.0000                                | 31.6312                             |
| 6             | 8.0000                                | 62.5001                             |
| 7             | 7.8882                                | 50.4693                             |
| 8             | 7.5695                                | 31.7219                             |
| 9             | 7.2508                                | 50.5601                             |
| <b>SPAN 2</b> |                                       |                                     |
| 1             | 7.6873                                | 23.1560                             |
| 2             | 7.3928                                | 41.3085                             |
| 3             | 7.1181                                | 59.4608                             |
| 4             | 5.8135                                | 77.6134                             |
| 5             | 8.0000                                | 13.1561                             |
| 6             | 8.0000                                | 41.3010                             |
| 7             | 8.0000                                | 59.4534                             |
| 8             | 8.0000                                | 77.6057                             |
| 9             | 7.9987                                | 13.1487                             |
| 10            | 7.7282                                | 31.3011                             |
| 11            | 7.4597                                | 49.4535                             |
| 12            | 7.1912                                | 67.6058                             |
| <b>SPAN 3</b> |                                       |                                     |
| 1             | 7.2200                                | 22.3506                             |
| 2             | 8.0000                                | 13.6840                             |
| 3             | 7.5350                                | 13.6957                             |
| <b>SPAN 4</b> |                                       |                                     |
| 1             | 7.5545                                | 20.9477                             |
| 2             | 7.3560                                | 38.1900                             |
| 3             | 7.1573                                | 55.4322                             |
| 4             | 6.9583                                | 72.6743                             |
| 5             | 8.0000                                | 13.4478                             |
| 6             | 8.0000                                | 30.6901                             |
| 7             | 8.0000                                | 47.9323                             |
| 8             | 8.0000                                | 72.7631                             |
| 9             | 7.8435                                | 13.5365                             |
| 10            | 7.6510                                | 30.7787                             |
| 11            | 7.4584                                | 48.0210                             |
| 12            | 7.2659                                | 65.2632                             |
| <b>SPAN 5</b> |                                       |                                     |
| 1             | 7.3449                                | 22.0602                             |
| 2             | 7.1721                                | 40.8653                             |
| 3             | 8.0000                                | 15.5602                             |
| 4             | 8.0000                                | 34.3653                             |
| 5             | 7.6019                                | 15.5500                             |
| 6             | 7.4105                                | 34.3551                             |

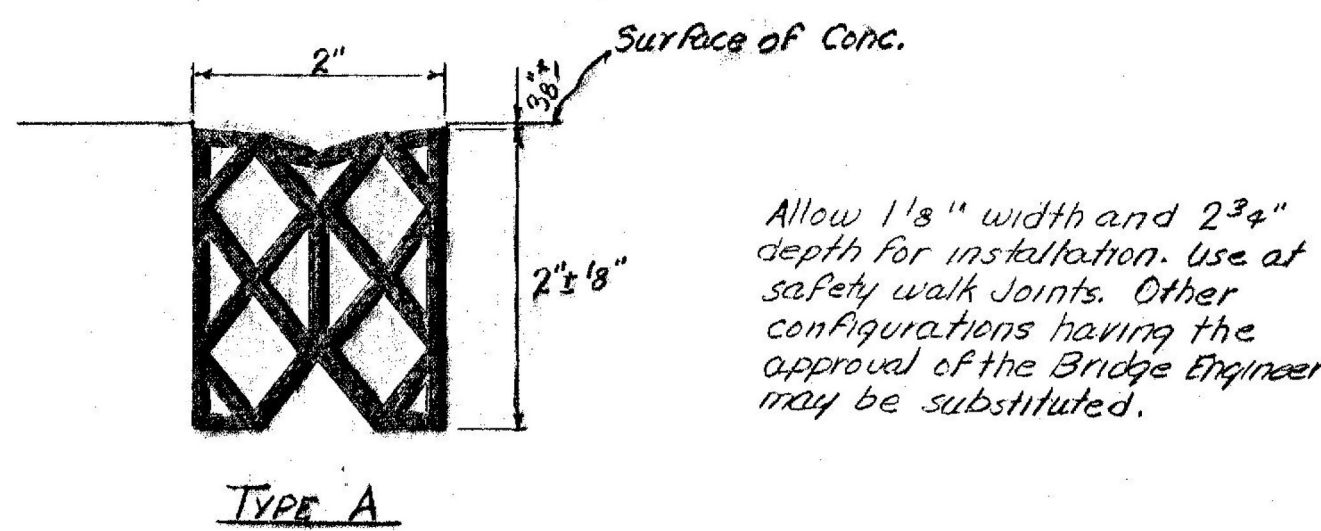
NOTE: For spans 3, 4 & 5 see sheet BR.205.



## FRAMING PLAN 1"=10.0'



## CURB JOINT DETAIL N.T.S.



## DETAILS - ITEM 372-C JOINT SEALER (PREFORMED) Material shall be premoulded Neoprene Rubber. N.T.S.

| ITEM NO. | ITEM                               | UNIT | SPAN #1 | SPAN #2 | FINAL |
|----------|------------------------------------|------|---------|---------|-------|
| 318      | TAR EMULSION FOR BRIDGE FLOORS     | GAL. | 84      | 100     |       |
| 361-B    | BITUMINOUS CONCRETE PAVEMENT       | TON  | 18      | 21      |       |
|          | DENSE GRADED TOP AND BOTTOM COURSE |      |         |         |       |
| 372-C    | JOINT SEALER (PREFORMED) (TYPE A)  | L.F. | 20      | 10      |       |
| 401AA    | CONC. CLASS AA                     | C.Y. | 77      | 86      |       |
| 402      | CONC. CLASS B (MOI)                | C.Y. |         |         |       |
| 402      | REINF. STEEL                       | LBS. | 16,860  | 19,460  |       |
|          | ASPHALTIC-ASB. COATING             | S.Y. |         |         |       |
| 403      | SHEAR CONNECTORS (No. 3-7/8)       | L.S. | Requ.   | Requ.   |       |
| 404-A    | STRUCTURAL STEEL                   | LBS. | 77,900  | 121,820 |       |
| 440      | WATER REPELLENT                    | GAL. | 9       | 11      |       |
| 536C     | GRANITE BRIDGE CURB                | L.F. | 185     | 189     |       |
| 572      | BRIDGE RAILING                     | L.F. | 185     | 189     |       |

RICHMOND-HIGHGATE  
IM BPNT(9)  
SHEET 24 OF 30  
BRIDGE 90  
FOR INFORMATION ONLY

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

TOWN OF ST. ALBANS-SWANTON

ROAD No. BRIDGE No.

FRAMING PLAN

TH #25F15 over I 89

SCALE 25' noted

SURVEYED BY

DRAWN BY CRO CHECKED BY RLM 10-21-15

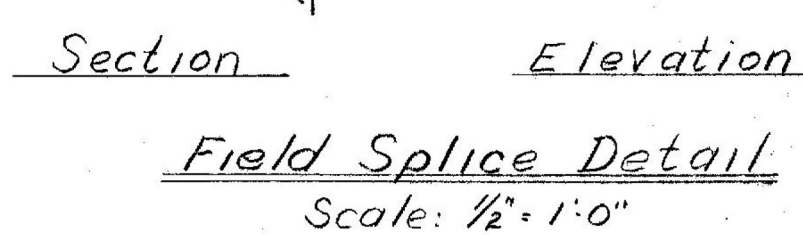
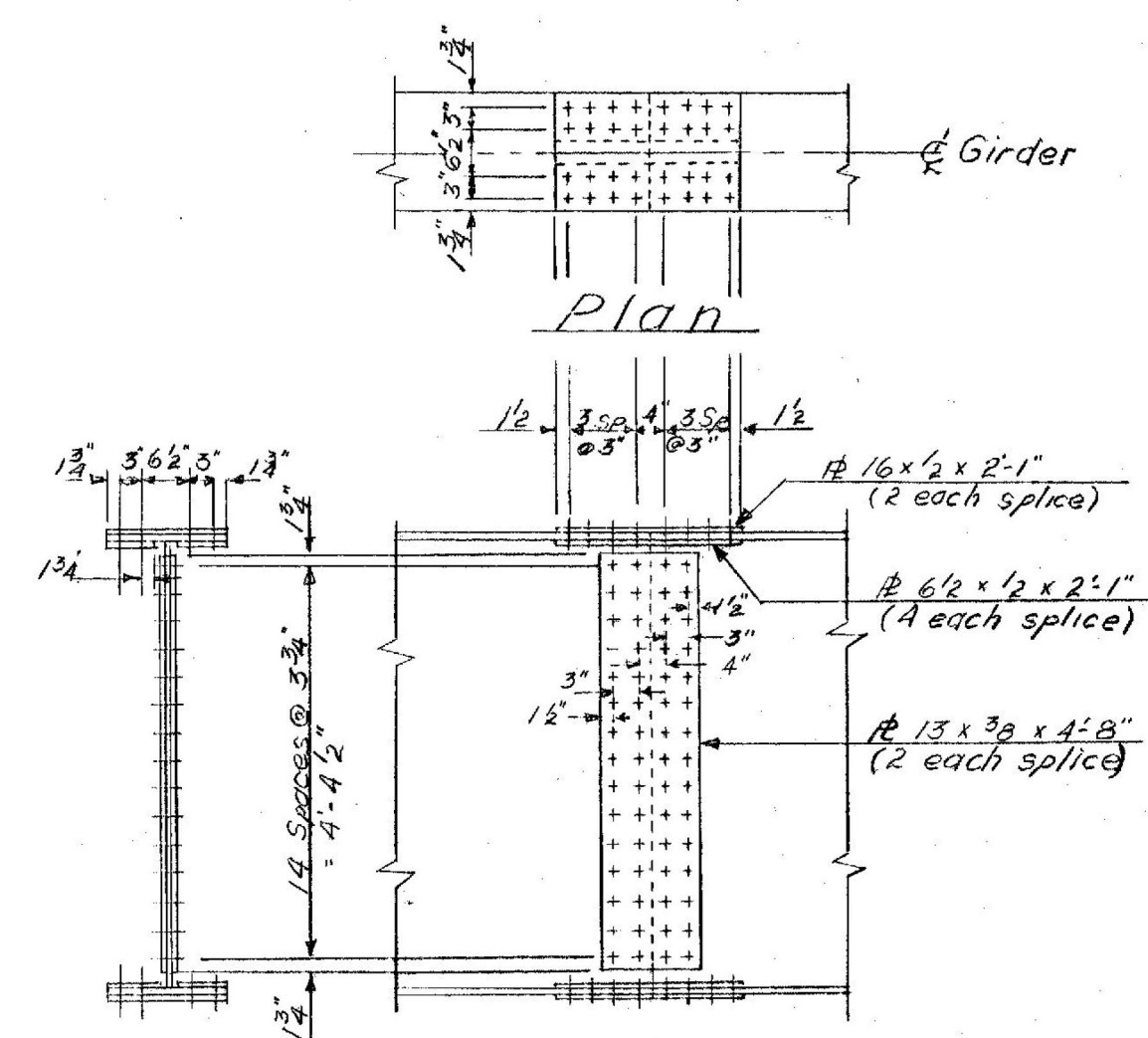
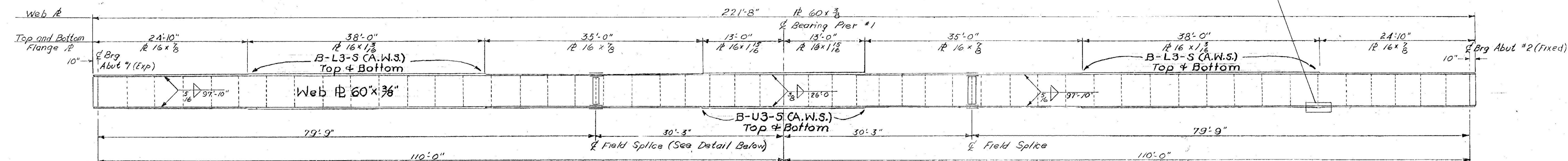
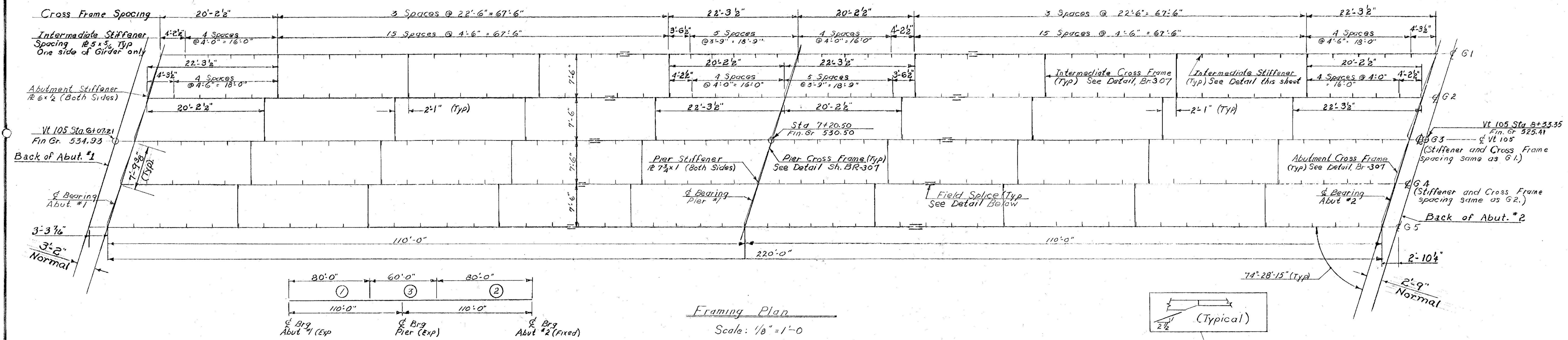
PROJECT No. I 89-3(36) Cont. 1

SHEET 79 OF 278

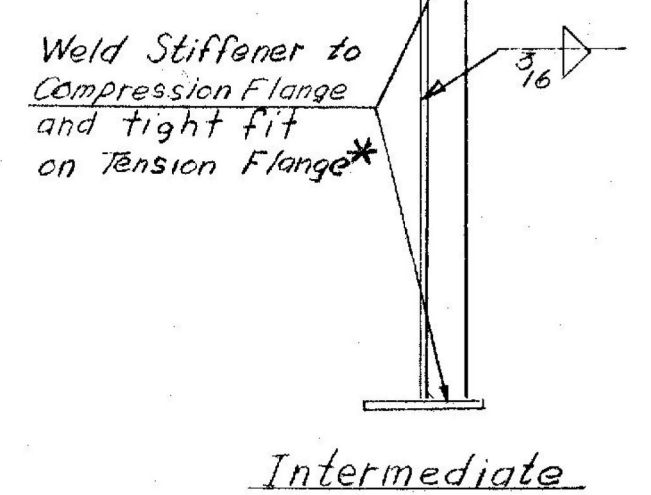






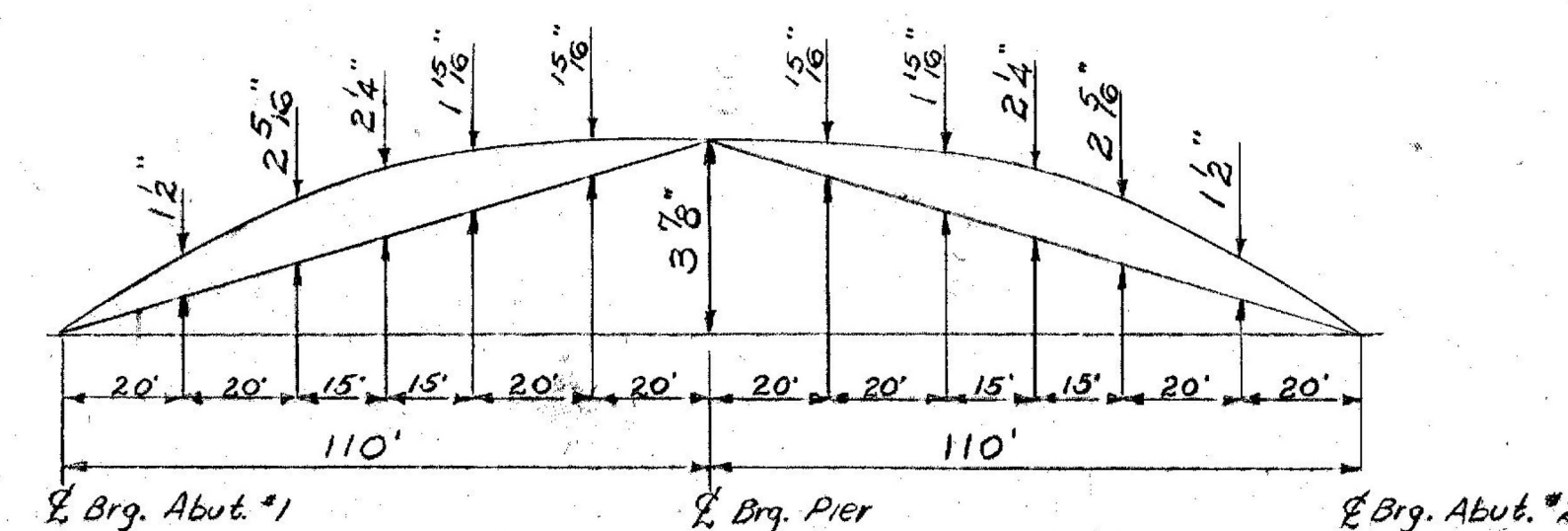
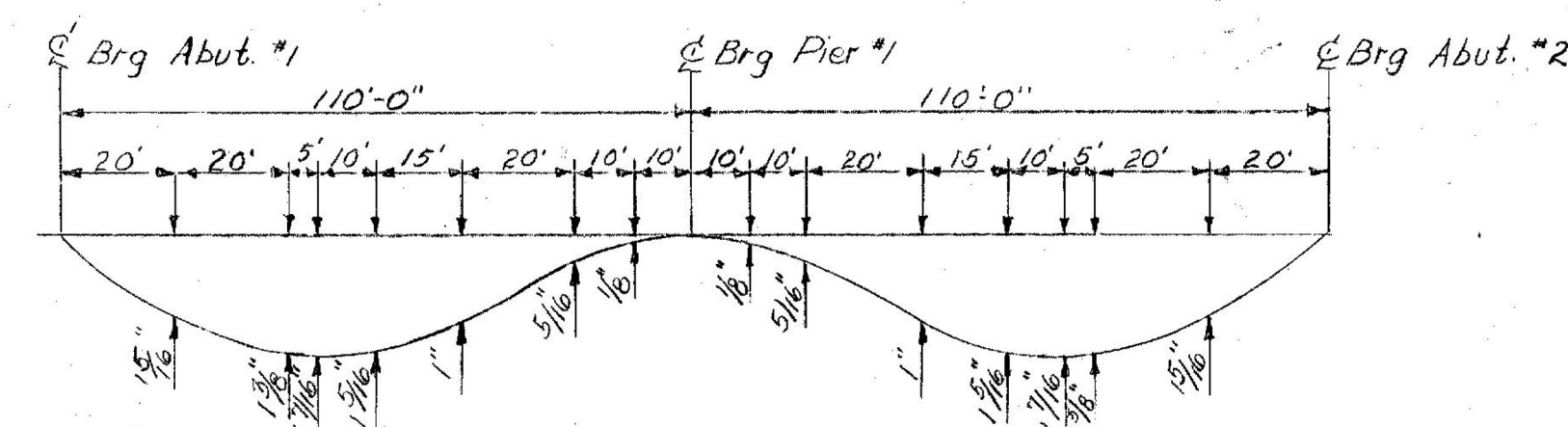


\* Top Flange is in tension between Field Splices. Bottom Flange is in tension between Field Splices and Abutments.



**Stiffener Details**  
**Scale:** 1/2" = 1'-0"

Note: Clip 1"x1" on inside corners of all stiffeners



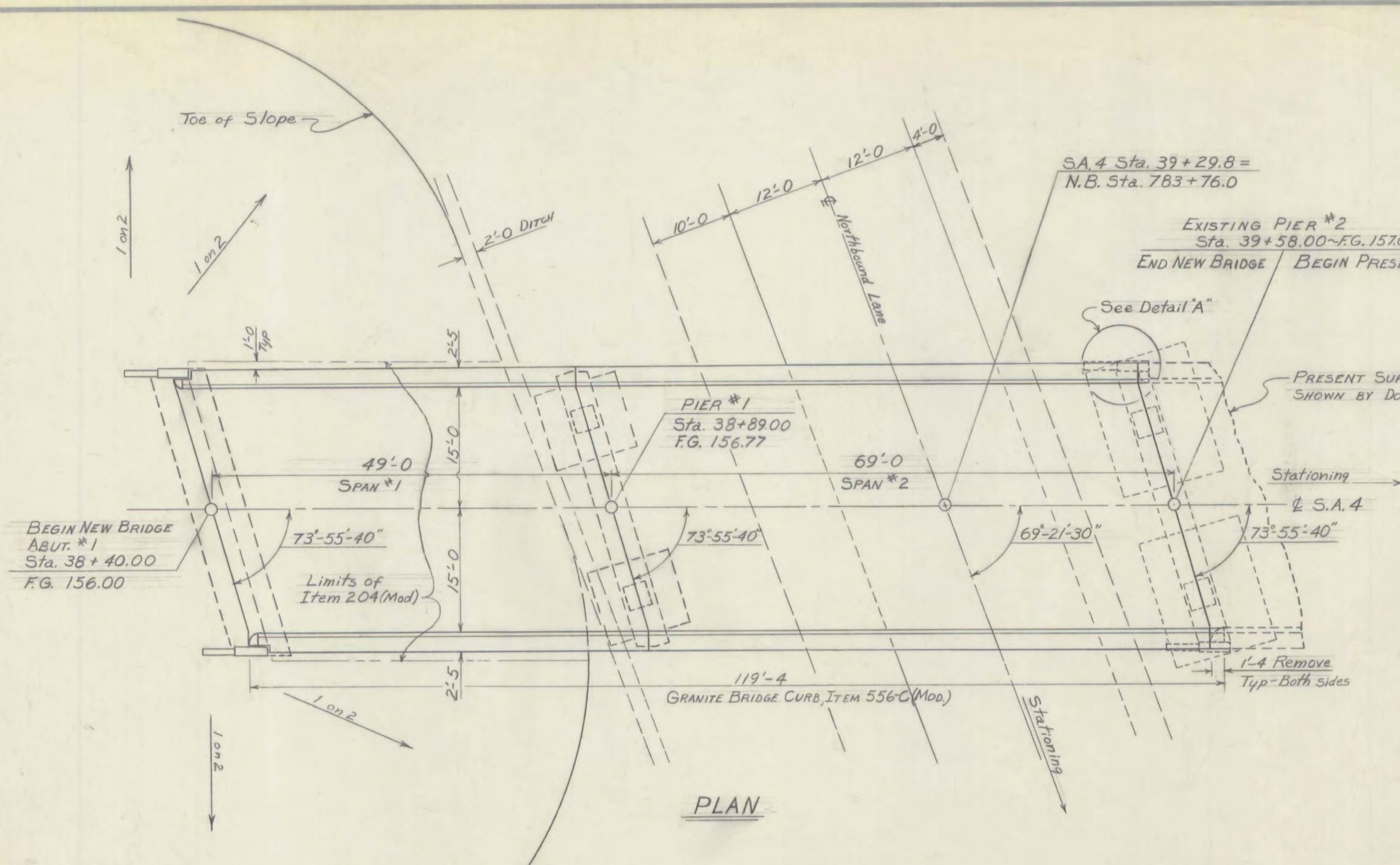
RICHMOND-HIGHGATE  
 IM BPNT(9)  
 SHEET 26 OF 30  
 BRIDGE 91  
 FOR INFORMATION ONLY

STATE OF VERMONT  
 DEPARTMENT OF HIGHWAYS

PROJECT NAME St Albans-Swanton  
 TOWN OF Swanton  
 ROUTE No. I 89  
Vt #105 over I 89 @ Sta 3546+92.66  
 Framing Plan & Girder Details  
 SCALE As noted  
 SURVEYED BY \_\_\_\_\_  
 DRAWN BY VF CHECKED BY A.J.C.  
 PROJECT No. I 89-3(38) Cont. #1  
 SHEET 21 OF 298

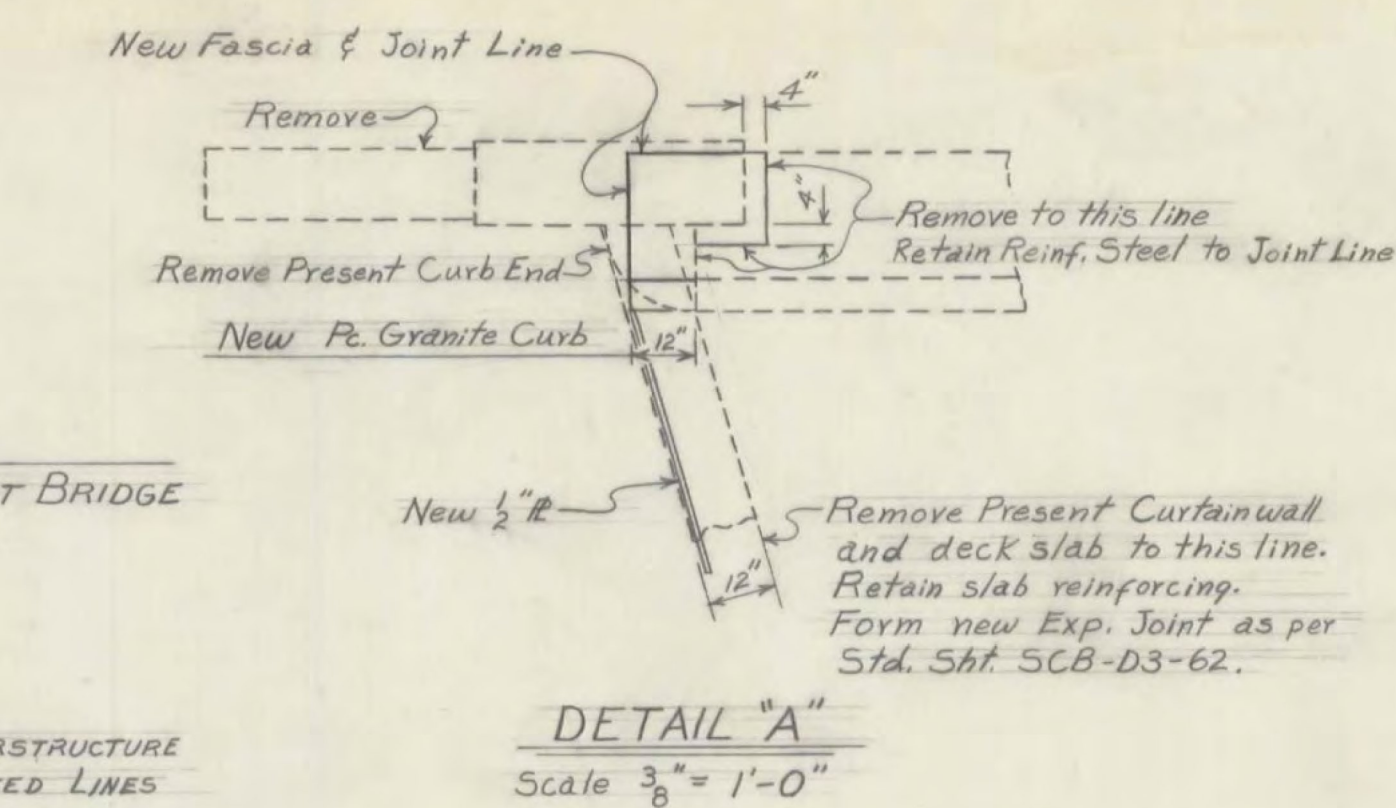
BR-305





FOR SUPERSTRUCTURE DETAILS SEE STD. SHT. SCB-30-62  
FOR CURB AND RAIL DETAILS SEE STD. SHTS. SB-56-62 Shts 1 & 2

+2.973% -5.000%  
PVI 40+0  
EL. 161.00  
420' V.C.

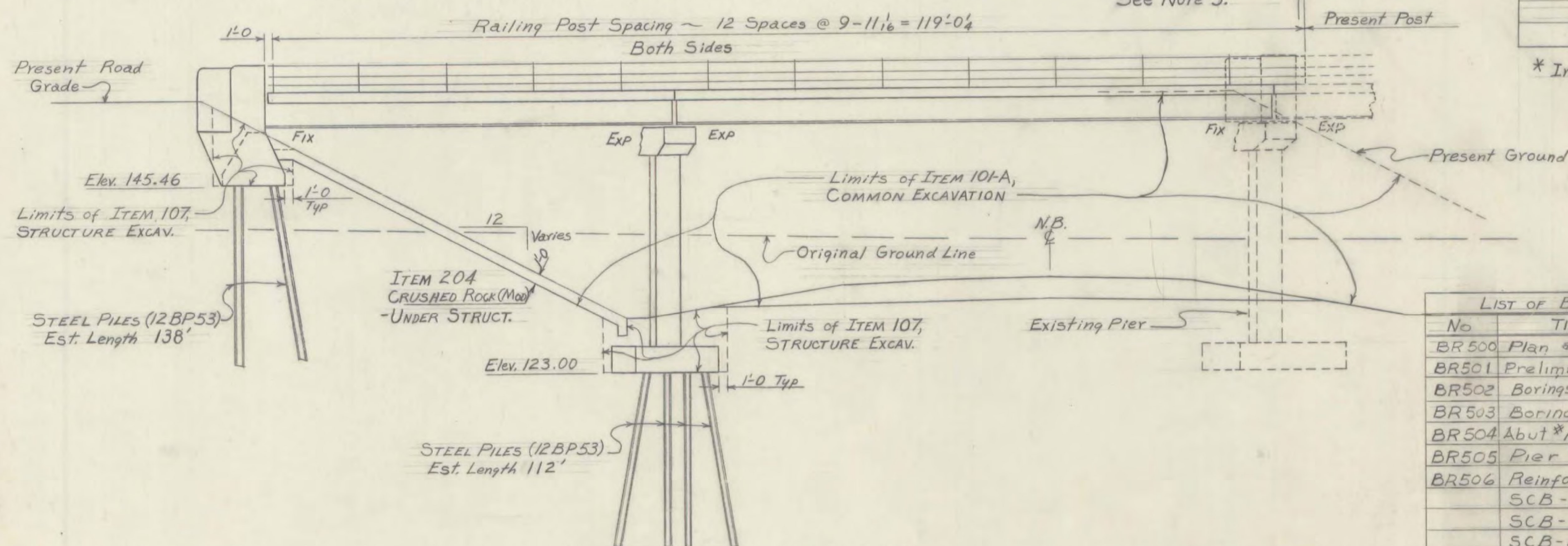


| QUANTITY SUMMARY |                                    |      |         |         |         |         |         |         |  |
|------------------|------------------------------------|------|---------|---------|---------|---------|---------|---------|--|
| ITEM NO.         | ITEM                               | UNIT | SUPER.  | ABUT #1 | PIER #1 | PIER #2 | TOTAL   | FINAL   |  |
| 101-A            | Common Excavation                  | C.Y. | 6000*   |         |         |         | 6000*   |         |  |
| 107              | Structure Excavation               | C.Y. |         | 88      | 80      |         | 168     | 187     |  |
| 204              | Crushed Rock (Mod.-Under Struct.)  | C.Y. |         | 63      |         |         | 63      | 59      |  |
| 222              | Gravel Backfill                    | C.Y. |         | 22      |         |         | 22      | 0       |  |
| 318              | Tar Emulsion for Bridge Floors     | GAL. | 158*    |         |         |         | 158*    |         |  |
| 361-B            | Bituminous Conc. Pnt. (Mod.)       | TON  | 38*     |         |         |         | 38*     |         |  |
| 373              | Rubber Joint Material              | L.F. | 22      |         |         |         | 22      | 21      |  |
| 401-AA           | Concrete, Class AA (Mod.)          | C.Y. | 134     |         |         |         | 134     | 132     |  |
| 401-B            | Concrete, Class B (Mod.)           | C.Y. | 48      | 56      |         |         | 104     | 105     |  |
| 402              | Reinforcing Steel                  | LBS. | 30,000  | 2,020   | 9,600   |         | 41,620  | 42,112  |  |
| 403              | Spiral Reinf. @ Sta 783+76 (4000*) | L.S. | 1 V     |         |         |         | 1 V     | 1       |  |
| 404-A            | Structural Steel                   | LBS. | 112,000 |         |         |         | 112,000 | 111,305 |  |
| 407              | Asphaltic-Asbestos Coating         | S.Y. |         | 4       | 16      |         | 20      | 19      |  |
| 501              | Furn. Equipment for Driving Piles  | L.S. |         | Reqd.   | Reqd.   |         | 4 V     | 4       |  |
| 503              | Splices for Steel Piling           | E.A. |         | 18      | 20      |         | 38      | 32      |  |
| 504              | Steel Piling (12BP53)              | L.F. |         | 1104    | 1792    |         | 2896    | 2710    |  |
| 556-C            | Granite Bridge Curb (Mod.)         | L.F. | 240 V   |         |         |         | 240 V   | 240     |  |
| 572              | Bridge Railing (Galv. Metal)       | L.F. | 238     |         |         |         | 238     | 235     |  |
|                  | Cut-offs @ 50% Unit Price          | L.F. |         |         |         |         |         | 180     |  |

\* Indicates quantity to be included in Roadway quantities.

#### GENERAL NOTES

- Elevation datum is sea level, based on nearest U.S. Government vertical control.
- Steel piles shall be driven to point bearing on ledge rock.
- Standard Structures Sheets are modified so as to eliminate the Approach Slab Bracket.
- The cost of removing present end posts, curtain wall, and bridge deck to the limits indicated on this sheet, or as directed by the Engineer, shall be included in the unit price bid for Concrete, Class AA, Item #01-AA (Mod.).
- Rearrange present bridge rails at Pier #2 to avoid splicing more than two rails in any rail span.
- Standard Structures Sheet SCB-D3-62, Detail (E) is modified to require Expansion Anchors for 1/2" bolts which are used to attach brackets for drains to existing Pier @ Sta. 39+58.0.
- Provide 1/2"x9"x10" shim PL under new bearings @ Pier #2.



ELEVATION

| LIST OF BRIDGE SHEETS |                          |
|-----------------------|--------------------------|
| No.                   | TITLE                    |
| BR 500                | Plan & Elevation         |
| BR 501                | Preliminary Information  |
| BR 502                | Borings                  |
| BR 503                | Borings                  |
| BR 504                | Abut #1 Details          |
| BR 505                | Pier #1 Details          |
| BR 506                | Reinforcing Steel Sched. |
| SCB-30-62             |                          |
| SCB-D1-62             |                          |
| SCB-D2-62             |                          |
| SCB-D3-62             |                          |
| SCB-D4-62             |                          |
| SCB-D5-62             |                          |
| SCB-D6-62             |                          |
| SCB-D7-62             |                          |
| SCB-D8-62             |                          |
| SCB-D9-62             |                          |
| SB-56-62 Sheet 1      |                          |
| SB-56-62 Sheet 2      |                          |

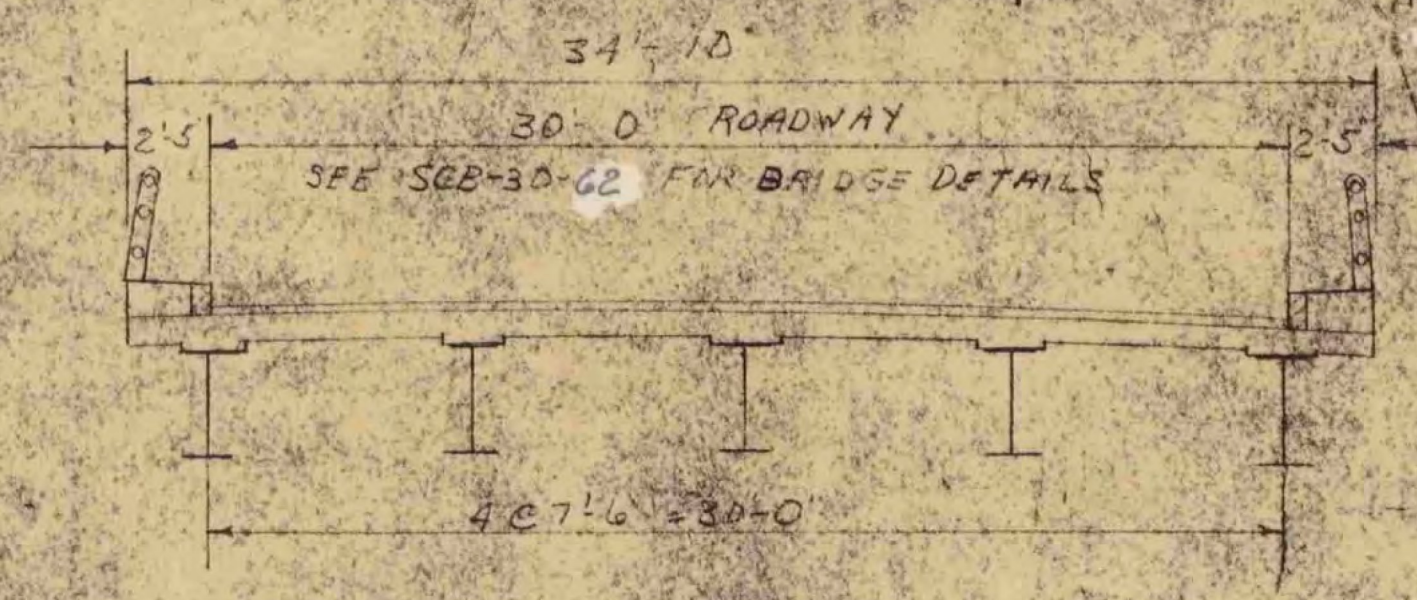
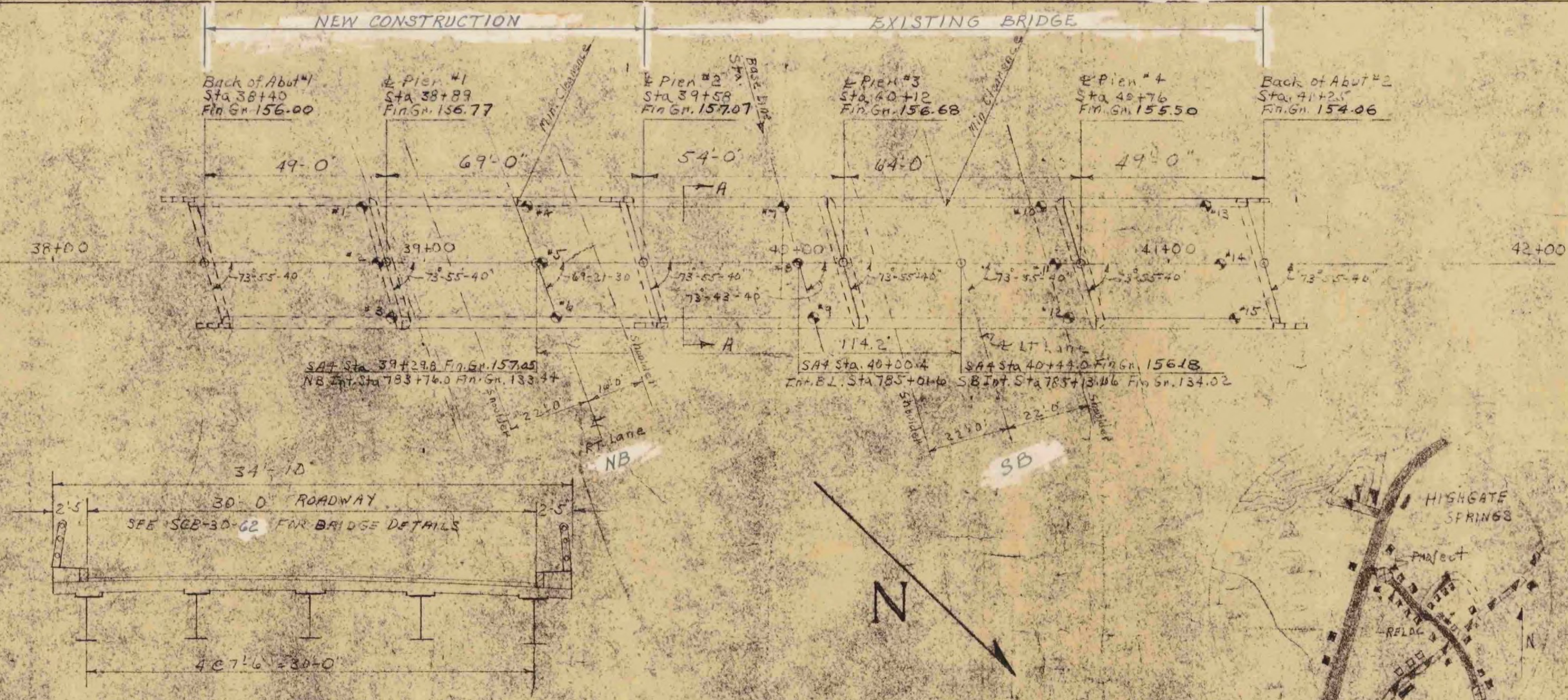
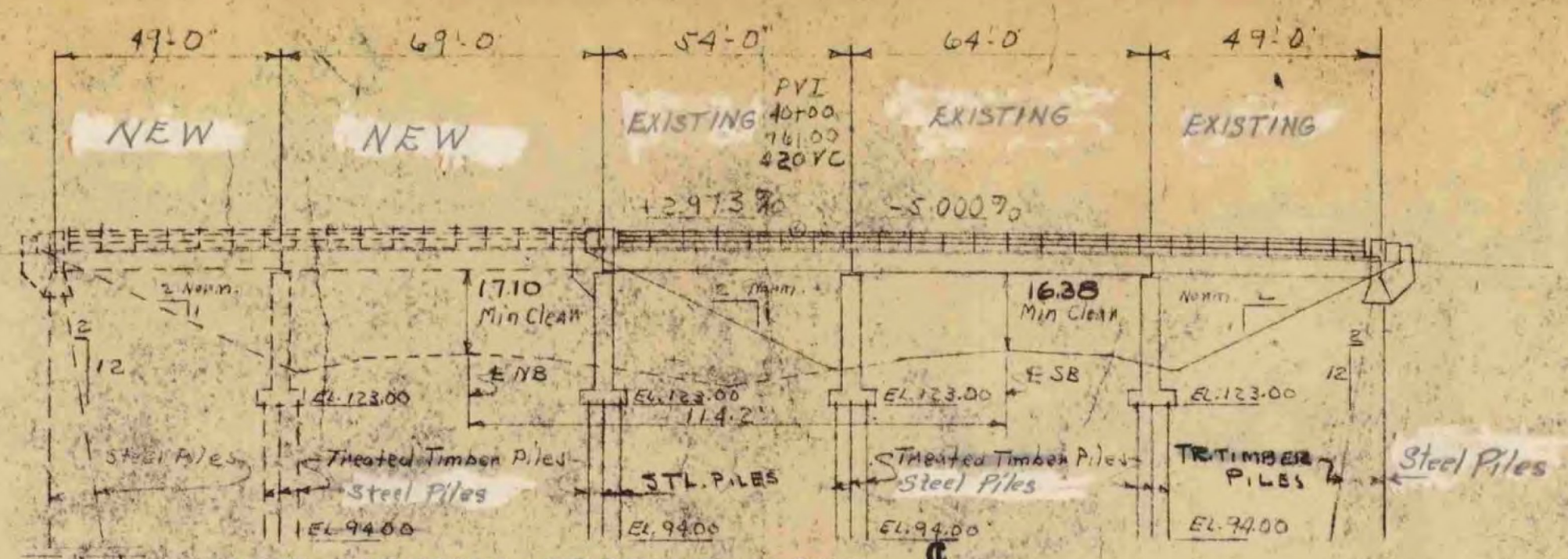
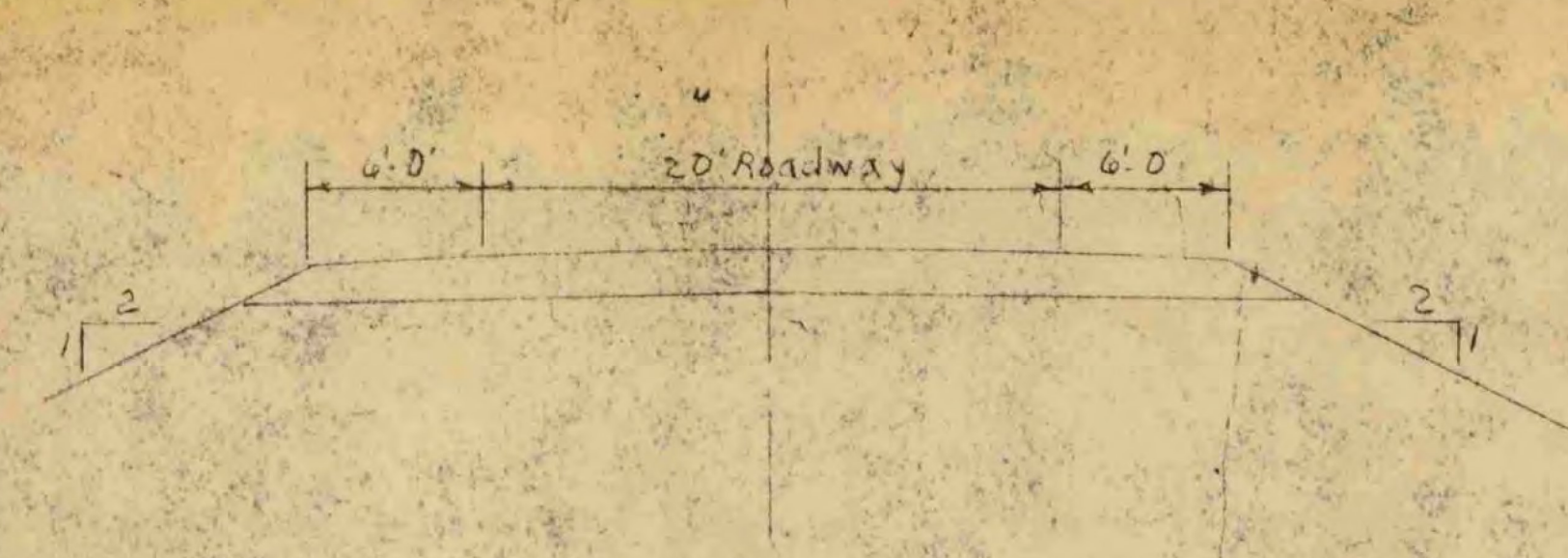
| SUPERSTRUCTURE QUANTITIES |                                 |      |                          |       |         |
|---------------------------|---------------------------------|------|--------------------------|-------|---------|
| ITEM NO.                  | ITEM                            | UNIT | NET                      | TOTAL | FINAL   |
| 101-A                     | Common Excavation               | C.Y. | 6,000                    |       | AB      |
|                           | CHAN. EXCAV. OF ROCK            | C.Y. |                          |       |         |
|                           | UNCLASS. CHAN. EXCAV.           | C.Y. |                          |       |         |
|                           | STRUCT. EXCAV.                  | C.Y. |                          |       |         |
| 401-AA                    | CONC. CLASS AA (MOD.)           | C.Y. | 134                      |       | 132     |
|                           | CONC. CLASS B (MOD.)            | C.Y. |                          |       |         |
| 402                       | REINF. STEEL                    | LBS. | See Reinforcing Schedule |       |         |
|                           | ASPHALTIC-ASB. COATING          | S.Y. |                          |       |         |
|                           | TREATED TIMBER PILING           | L.F. |                          |       |         |
|                           | SPLICES FOR STEEL PILING        | E.A. |                          |       |         |
| 318                       | Tar Emulsion for Bridge Floors  | GAL. | 158                      |       |         |
| 361-B                     | Bituminous Concrete Pnt. (Mod.) | TON  | 38                       |       |         |
| 373                       | Rubber Joint Material           | L.F. | 22                       |       | 21      |
| 403                       | Spiral Reinforcement (#4000*)   | L.S. | 1 V                      |       | 1       |
| 404-A                     | Structural Steel                | LBS. | 112,000                  |       | 111,305 |
| 556-C                     | Granite Bridge Curb (Mod.)      | L.F. | 240 V                    |       | 240     |
| 572                       | Bridge Railing (Galv. Metal)    | L.F. | 238                      |       | 235     |

RICHMOND-HIGHGATE  
IM BPNT(9)  
SHEET 27 OF 30  
BRIDGE 99  
FOR INFORMATION ONLY

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HIGHGATE  
ROUTE No. 189 STA. 783+76.0 NB  
HIGHGATE S.A. #4 OVER INTERSTATE  
NORTHBOUND  
PLAN AND ELEVATION CONSTRUCTION  
SCALE 1"=10'-0" & As Noted  
SURVEYED BY  
DRAWN BY RLM-10-56-62 CHECKED BY NBT  
PROJECT NO. 189-3(32)  
SHEET 151 OF 246 BR 500





PROFILE OF PROPOSED STREAM CHANNEL

HIGHWAY NO SA 4 NAME OF HIGHWAY FRANKLIN COUNTY FRANKLIN TOWN HIGHGATE

STRUCTURE NO I 89-3(1) LOCATION OVER INTERSTATE

PROJECT NO I 89-3(1)

**EXISTING STRUCTURE** NONE

1 RATED LOADING OF EXISTING STRUCTURE NONE

2 TYPE OF EXISTING STRUCTURE NONE

3 UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE NONE

4 WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE COST OF REMOVAL

5 SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE NO

6 SHOULD NEW TEMPORARY STRUCTURE BE BUILT NO

7 ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE WATERWAY TO ORDINARY H.W.

8 EXTREME HIGH WATER AT EXISTING STRUCTURE WATERWAY TO EXTREME H.W.

9 SPAN OF EXISTING BRIDGE UPSTREAM WATERWAY TO EXTREME H.W.

10 TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS WATERWAY TO EXTREME H.W.

11 DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE NO

12 IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED NO

13 ADDITIONAL WATERWAY AREA PROVIDED NO

**NEW STRUCTURE** WE COMPOSITE 49.67, 54.64, 49

1 RECOMMENDED TYPE OF STRUCTURE WE COMPOSITE 49.67, 54.64, 49

2 RECOMMENDED CLEAR SPAN OR SPANS 44.84 + 49.84 + 49.84

MEASURED PARALLEL TO NEW HIGHWAY 44.84 + 49.84 + 49.84

MEASURED AT RIGHT ANGLES TO STREAM 43.09 + 43.09 + 43.09

3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO NO

4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE 43.09

5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE 43.09

6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? NO

7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? IS ORDINARY RISE RAPID?

8 LOW WATER ELEVATION AT NEW STRUCTURE 43.09

9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE 43.09

10 IS STREAM EVER DRY? NO

11 VELOCITY OF STREAM AT HIGH WATER STAGE 43.09

12 AREA FULL OPENING 43.09

13 CHARACTER OF SCOUR DRIFT

14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE 43.09

15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION 43.09

16 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE NO

17 RECOMMENDED TYPE OF PAVEMENT BITUMINOUS CONCRETE

18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. ONE OR TWO WAYS

19 PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE 43.09

20 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES? NO

21 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 43.09

**FOUNDATION INFORMATION**

OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BOULDERS MAY BE ENCOUNTERED AT ANY PIER OR ABUTMENT LOCATION.

FOR BORINGS SEE BORING SHEET

RICHMOND-HIGHGATE  
IM BPNT(9)  
SHEET 28 OF 30  
BRIDGE 99  
FOR INFORMATION ONLY

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

SA4-OVERPASS IN THE TOWNS OF  
SWANTON-HIGHGATE

ROUTE NO. I 89 STA. NP 783+760

NORTH-BOUND CONSTRUCTION

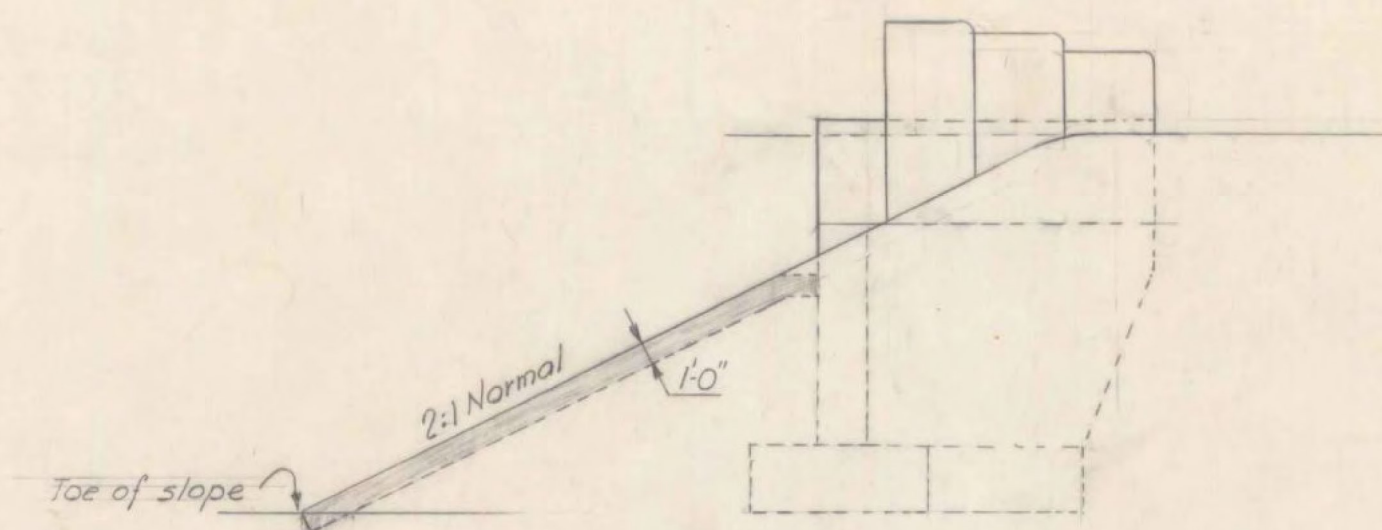
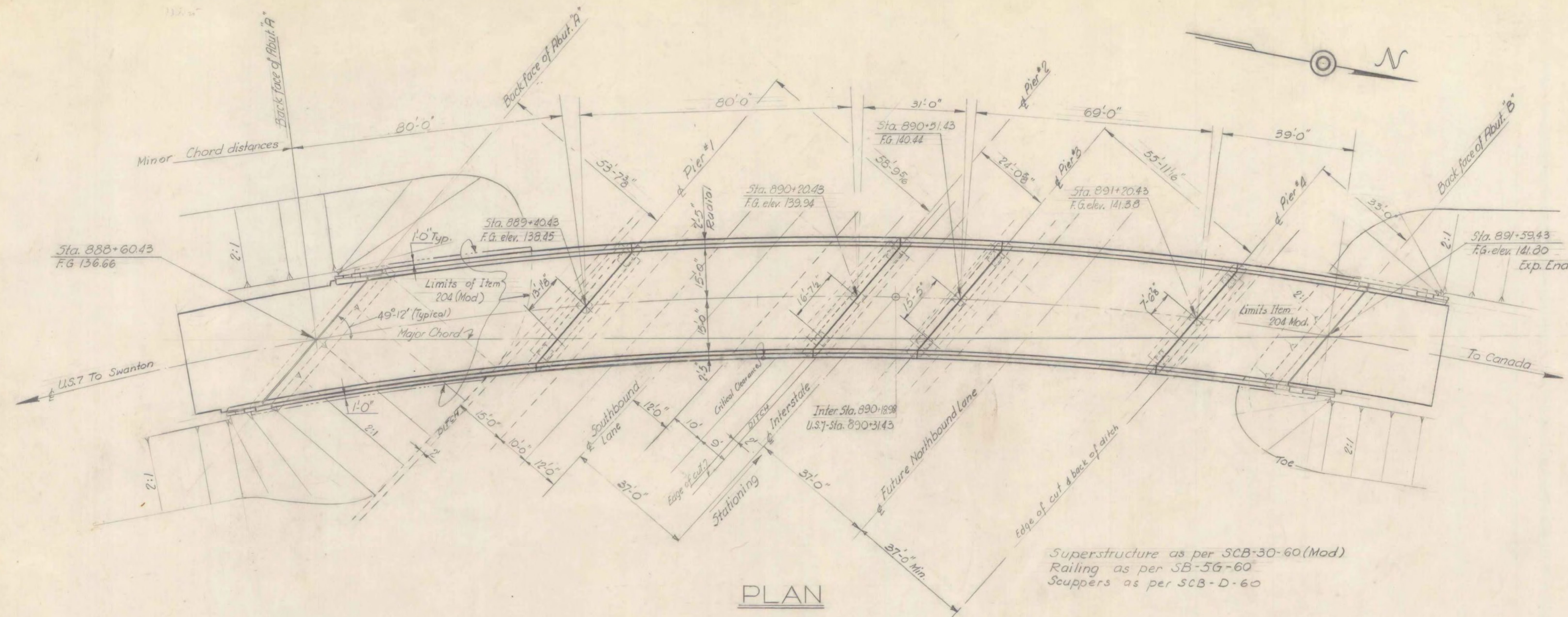
PRELIMINARY INFORMATION SHEET

SURVEYED BY W. J. R. CHECKED BY W. J. R. SCALE 1" = 20'

DRAWN BY W. J. R. IN CHARGE W. J. R. DATE 10/14/89

PROJECT NO I 89-3(1) SHEET 28 OF 246



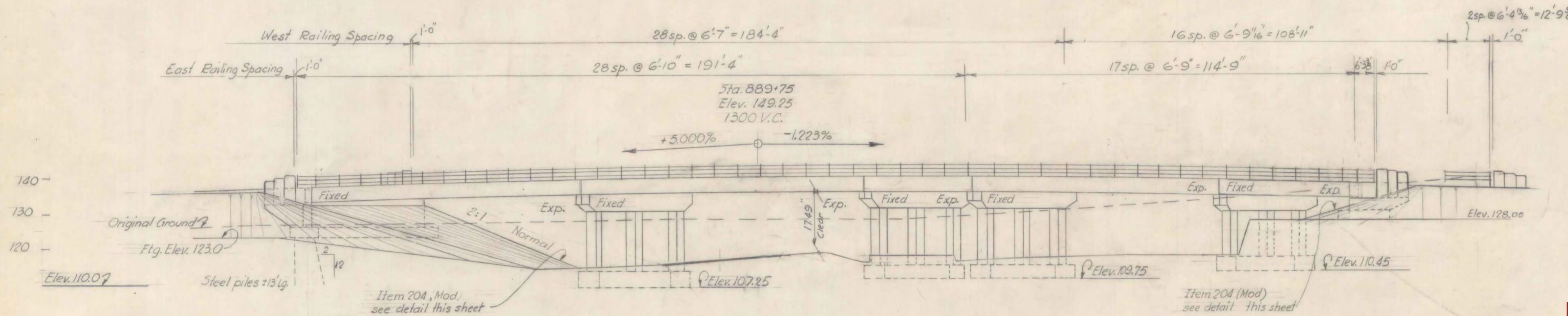


ITEM 204 (MOD)

Scale: None

#### General Notes:

- All materials and construction shall conform to the State of Vermont Department of Highways, Standard Specifications for Road & Bridge Construction dated Jan. 1958 and the A.A.S.H.O. Standard Specifications dated 1957 Designed for H20-S16-44 loading.
- All beams shall be rolled to a true circular camber the middle ordinate being that shown on the framing plan.
- Final coat of field paint shall be Green, unless otherwise directed by the engineer.
- All dimensions are measured horizontally or vertically unless otherwise noted.
- All dimensions given are in feet.
- All reinforcing to have a clear cover 3", unless otherwise noted.
- All exposed edges of concrete shall be chamfered 1" unless otherwise noted.
- Borings indicated on the drawings have been made for design purposes only and are not warranted to show actual subsurface conditions.
- Steel Bearing Piles shall be driven to ledge rock unless otherwise approved by the engineer. When Piles are driven in fill, the material should be such as to have no stones large enough to interfere with the driving of piles.
- The top surface of all piers and abutments shall be sloped 2" per ft. from the back edge of abutments or the centerline of piers, except for bearing pads projecting 1' or more above the general area, which surfaces shall be level. These sloping surfaces shall be coated with asphaltic asbestos coating 1/2" thick as per item 407 of specifications. The application of this item shall be after all painting and incidental items are completed.
- Where rock is encountered, no footings shall be poured until all blasting in an area as noted in special provisions has been completed.
- All dimensions given are measured horizontally or vertically unless otherwise noted.
- Elevation datum sea level based on nearest U.S. Government vertical control.
- Cross slope of approach slab to conform with the cross slope of bridge.
- All expansion material shall be premoulded cork containing no bituminous or asphalt.



ELEVATION

#### List of drawings

- BR26 - Preliminary Information sheet
- BR27 - Plan & Elevation
- BR28 - Abutment "A" details
- BR29 - Abutment "B" details
- BR30 - Pier #2
- BR31 - Pier #4
- BR32 - Framing plan & approach slabs
- BR33-34 - Reinf. Steel Details
- BR20 - SCB-D-60 - Details of W Beam Bridges
- BR21 - SCB-30-60 Superstructure
- BR22 - SB-20-60 Bearing device & diaphragm
- BR25 - SB-22-60 Exp. Jt. Details
- BR23-24 - SB-5G-60 Railing Details - Sheet 1 & 2

\* These items to be included in roadway quantities

#### SUMMARY OF QUANTITIES

| ITEM NO. | ITEM                                             | UNIT | NET     | FINAL   |
|----------|--------------------------------------------------|------|---------|---------|
| * 102A   | GRANULAR BORROW                                  | C.Y. | 1170    |         |
| 401-D    | Concrete Class D (Mod)                           | C.Y. | 557     | 615     |
| 204      | Sub-base of Crushed Rock, Mod. (UNDER STRUCTURE) | C.Y. | 104     | 127     |
| * 361 B  | Bitum. Concr. Pavement (Mod)                     | Ton  | 136     |         |
| 107      | STRUCT. EXCAV.                                   | C.Y. | 435     | 552     |
| 401-B    | CONC. CLASS B (MOD.)                             | C.Y. | 406     | 430     |
| 402      | REINF. STEEL                                     | LBS. | 139,603 | 142,723 |
| 407      | ASPHALTIC-ASB. COATING                           | S.Y. | 53      | 92      |
| * 318    | TAR EMULSION FOR BRIDGE FLOORS                   | GAL. | 496     |         |
|          | Cur-offs @ 50% Unit Price                        |      | 0       | 129     |
| 504      | STEEL PILING (12BP53)                            | L.F. | 222     | 217     |
| * 372C   | JOINT SEALER - Preformed                         | L.F. | 238     |         |
| 403      | Spiral Reinforcement (6B30*)                     | L.S. | 1V      | 1       |
| 404A     | Structural Steel                                 | Lbs  | 369,000 | 364,691 |
| 501      | Furnishing Equipment for driving piles           | L.S. | 1V      | 1       |
| 556-C    | Granite Bridge Curb (Mod.)                       | L.F. | 666     | 663     |
| 574      | Bridge Railing                                   | L.F. | 622     | 622     |
| 222      | Gravel Backfill                                  | C.Y. | 116     | 0       |

#### STATE OF VERMONT DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HIGHGATE

ROUTE No. I-89 LOG STA. 890+8.98

PLAN AND ELEVATION

U.S.7 OVER INTERSTATE

SCALE 1"=20' & as noted

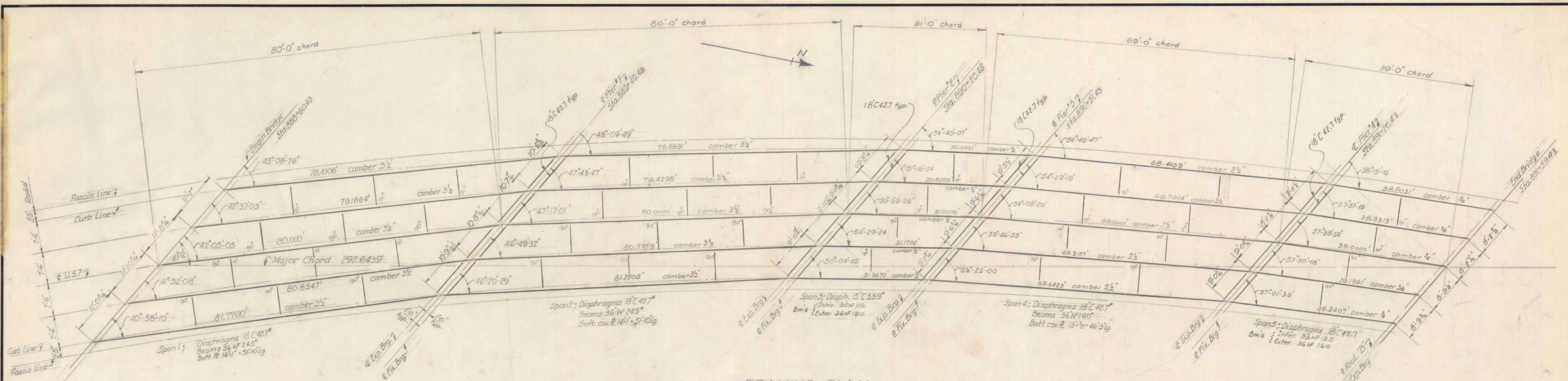
SURVEYED BY WEBSTER-MARTIN INC.

DRAWN BY R.W.K. CHECKED BY E.F.P.

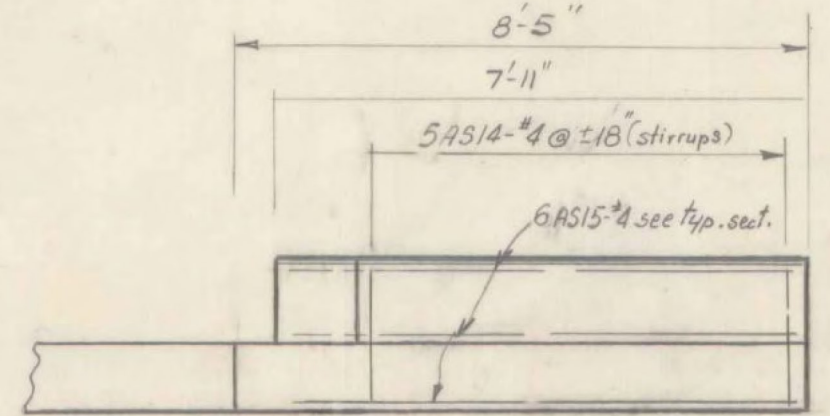
PROJECT No. I-89-3(1)

SHEET 81 OF 143 Contract 3

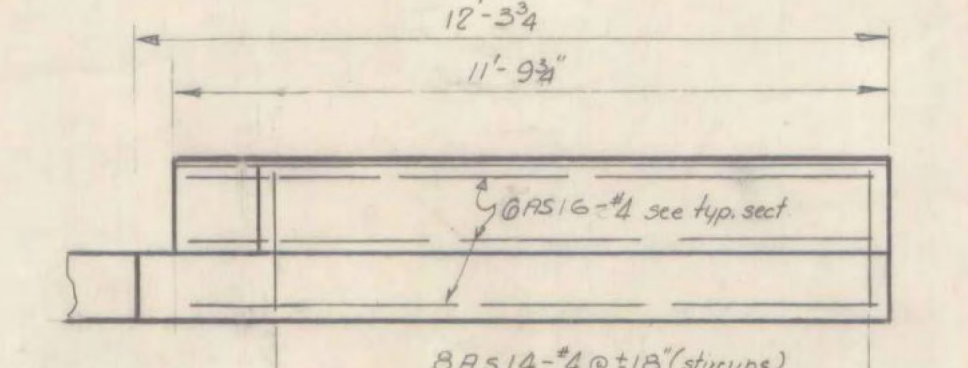




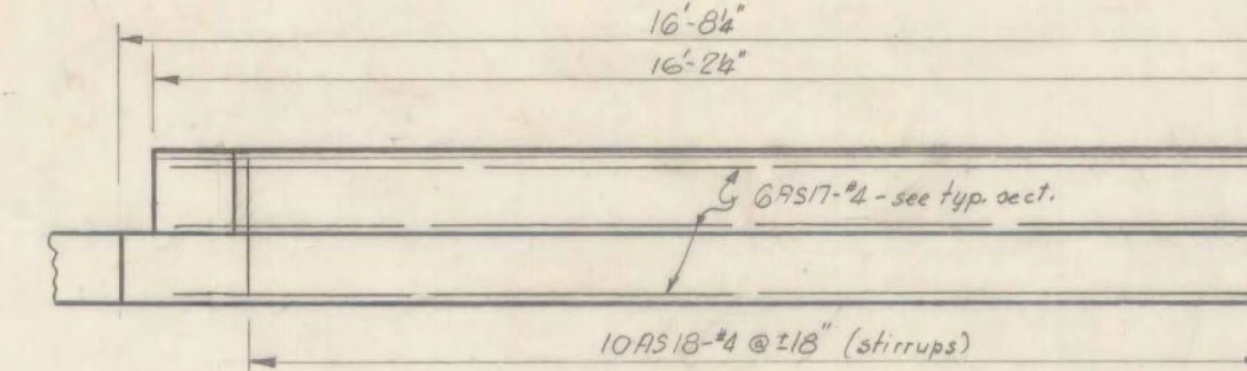
Beam spacing given is along & Pier or begin and end of bridge.  
 Dimensions given along & of beam are & to & of Pier or begin and end of bridge to & Pier.  
 For bearing devices & diaphragms (Intermediate) see std. sh. 5B-20-60.  
 For scuppers, cover plates, spirals & Pier diaphragms see std. sh. 5C-B-D-60.



ELEVATION A-A  
 scale 3/8" = 1 ft



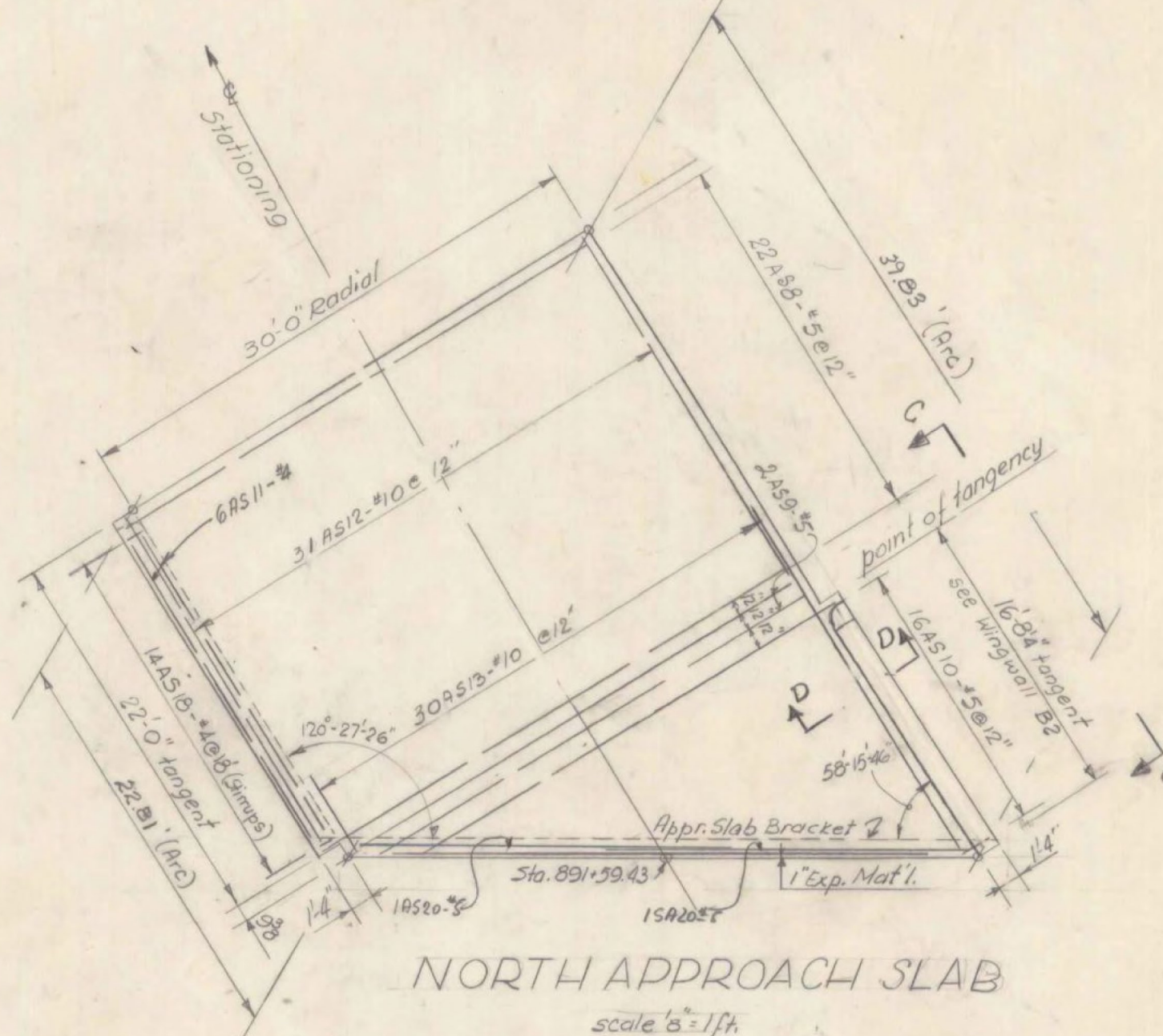
ELEVATION B-B  
 scale 3/8" = 1 ft



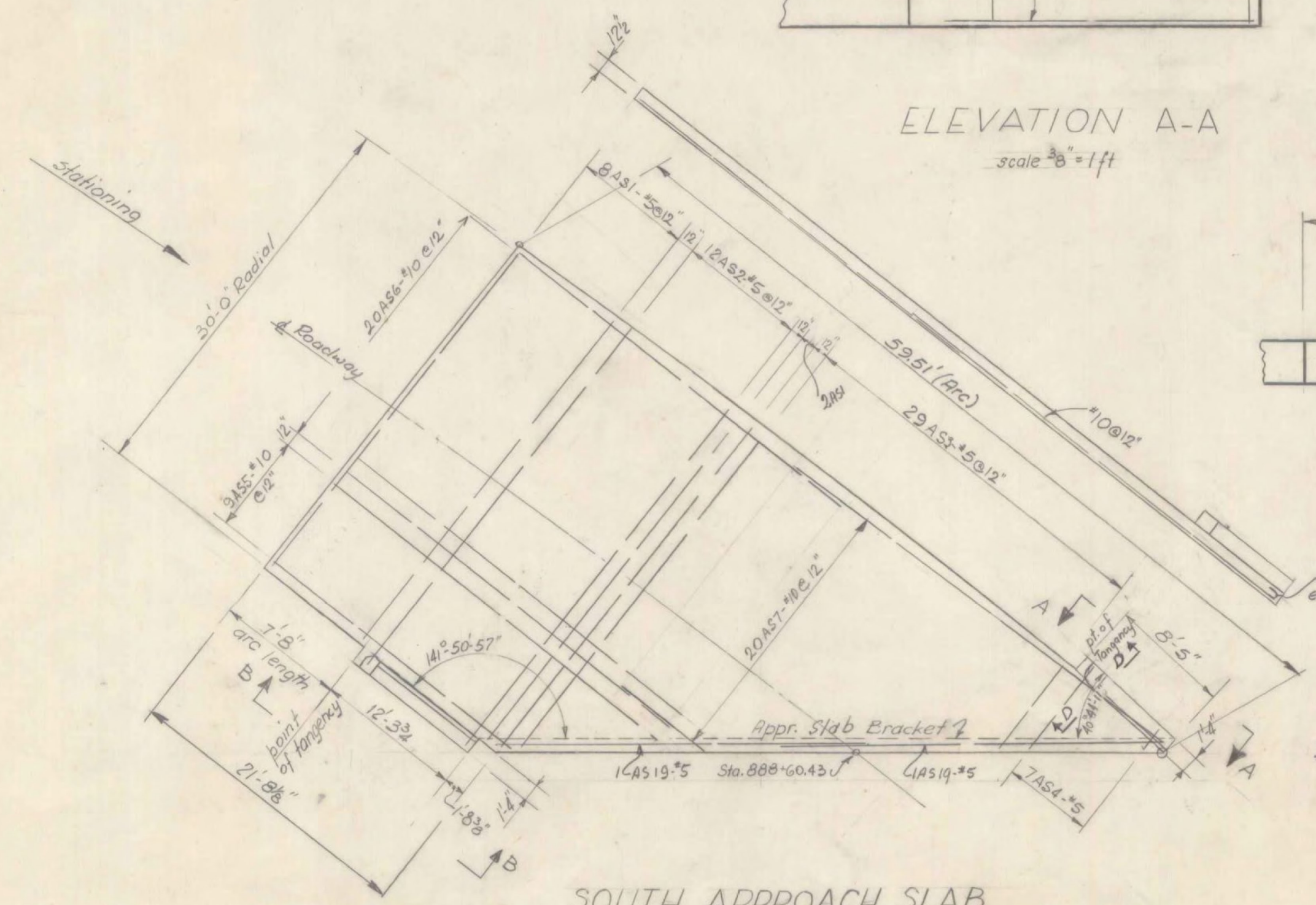
ELEVATION C-C  
 scale 3/8" = 1 ft

Summary Item 401-B  
 Conc. Class B Mod.

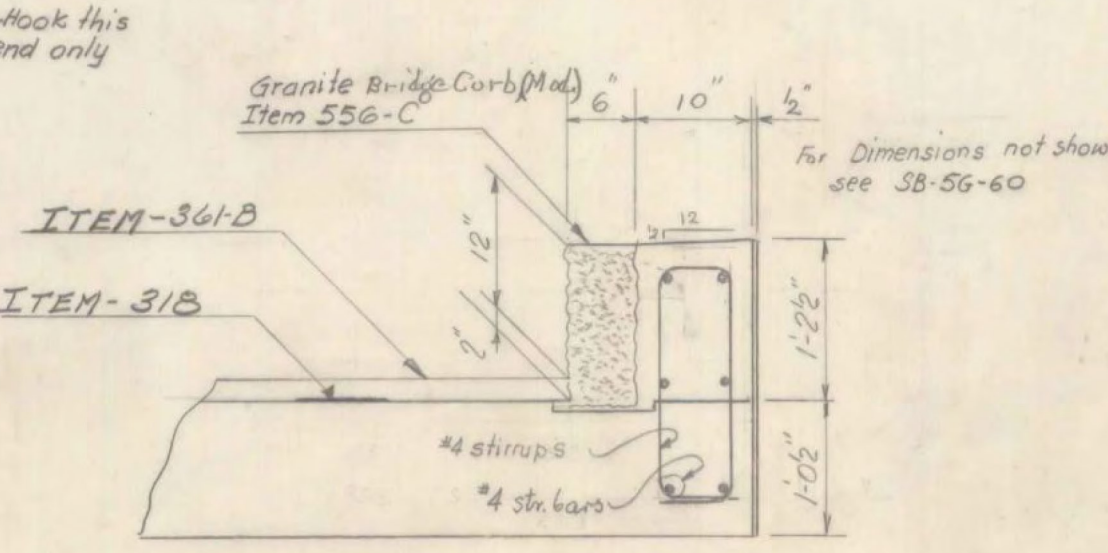
| Location       | Net (cu) |
|----------------|----------|
| Span 1         | 91       |
| Span 2         | 83       |
| Span 3         | 32       |
| Span 4         | 71       |
| Span 5         | 46       |
| So. Appr. Slab | 14       |
| No. Appr. Slab | 39       |



NORTH APPROACH SLAB  
 scale 3/8" = 1 ft



SOUTH APPROACH SLAB  
 scale 3/8" = 1 ft



TYPICAL SECTION D-D  
 thru approach slab curb  
 scale 3/8" = 1 ft

Superstructure Quantities

| ITEM NO. | ITEM                           | UNIT | NET     | OVERRUN             | TOTAL | FINAL   |
|----------|--------------------------------|------|---------|---------------------|-------|---------|
| 106-A    | CHAN. EXCAV. OF EARTH          | C.Y. |         |                     |       | AB      |
| 106-B    | CHAN. EXCAV. OF ROCK           | C.Y. |         |                     |       |         |
| 106-C    | UNCLASS. CHAN. EXCAV.          | C.Y. |         |                     |       |         |
| 107      | STRUCT. EXCAV.                 | C.Y. |         |                     |       |         |
| 401-B    | CONC. CLASS B (MOD.)           | C.Y. | 406     |                     |       | 430     |
| 402      | REINF. STEEL                   | LBS. |         | see reinf. schedule |       |         |
| 407      | ASPHALTIC-ASB. COATING         | S.Y. |         |                     |       |         |
| 502-B    | TREATED TIMBER PILING          | L.F. |         |                     |       |         |
| 503      | SPLICES FOR STEEL PILING       | EA.  |         |                     |       |         |
| 504      | STEEL PILING                   | L.F. |         |                     |       |         |
| 572      | Bridge Rolling                 | L.F. | 622     |                     |       | 622     |
| 404-A    | Structural Steel               | LB.  | 346,000 |                     |       | 346,000 |
| 556-C    | Granite Br. Curb (Mod.)        | L.F. | 879     |                     |       | 879     |
| 556-C    | " " " " Approach Slab          | L.F. | 34      |                     |       | 34      |
| 318      | Tar Emulsion for Bridge Floors | GAL. | 496     |                     |       | 496     |
| 34-B     | Bitum. Conc. Pavement (Mod.)   | Ton  | 136     |                     |       | 136     |
| 403      | Spiral Reinf. (6830*)          | L.S. | 1       |                     |       | 1       |

STATE OF VERMONT  
 DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON-HIGHGATE  
 ROUTE NO. I-89 LOG STA. 890+18.98  
 FRAMING PLAN & APPROACH  
 SLABS - U.S.\*7 OVER INTERSTATE  
 SCALE as noted  
 SURVEYED BY WEBSTER-MARTIN INC.  
 DRAWN BY R.W.K. CHECKED BY E.E.P.  
 PROJECT NO. I-89-3(1)  
 SHEET 86 OF 143 Contract 3

RICHMOND-HIGHGATE  
 IM BPNT(9)  
 SHEET 30 OF 30  
 BRIDGE 101  
 FOR INFORMATION ONLY