

RAISED BRIDGE 50S FINISH GRADE 1/2"  
 RAISED BRIDGE 50N FINISHED GRADE 1 1/4"

CURVE DATA - @ CONST. (50S)  
 Delta = 102°40'24.5"  
 Dc = 0°00'23.35"  
 R = 5692.65'  
 T = 516.11'  
 L = 1033.36'  
 E = 23.53'

BEGIN APPROACH  
 50S STA. 3+65 - mm 65.51 AT 49S  
 BEGIN MILL AND OVERLAY  
 (MATCH EXISTING)

END APPROACH  
 50S STA. 8+20 - mm 66.90  
 END MILL AND OVERLAY  
 (MATCH EXISTING)

BEGIN APPROACH  
 50N STA. 4+75 - 3+00  
 BEGIN MILL AND OVERLAY  
 (MATCH EXISTING)

END APPROACH  
 50N STA. 8+75 - 10+55  
 END MILL AND OVERLAY  
 (MATCH EXISTING)

LOAD RATING (TONS)

| LOADING LEVELS<br>(LOAD FACTOR) | BRIDGE<br>NO. | TRUCK   |           |           |        |          |          |          |
|---------------------------------|---------------|---------|-----------|-----------|--------|----------|----------|----------|
|                                 |               | H       | HS        | 3S2       | 6 AXLE | 3A. STR. | 4A. STR. | 5A. SEMI |
| INVENTORY<br>A= 2.17, B= 1.00   | 50N/50S       | *28/*28 | *51/*51   |           |        |          |          |          |
| POSTED<br>A= 1.55, B= 1.40      | 50N/50S       | *40/*40 | *72/*72   | *96/*97   |        | *72/*71  | *74/*73  | *88/*87  |
| OPERATING<br>A= 1.30, B= 1.67   | 50N/50S       | *85/*86 | *114/*114 | *129/*127 |        | *86/*84  | *88/*87  |          |

NOTE: RATINGS ARE BASED ON A STRAIGHT-LINE GIRDER ANALYSIS, DIVIDED BY LOS TO ACCOUNT FOR THE EFFECTS OF CURVATURE.

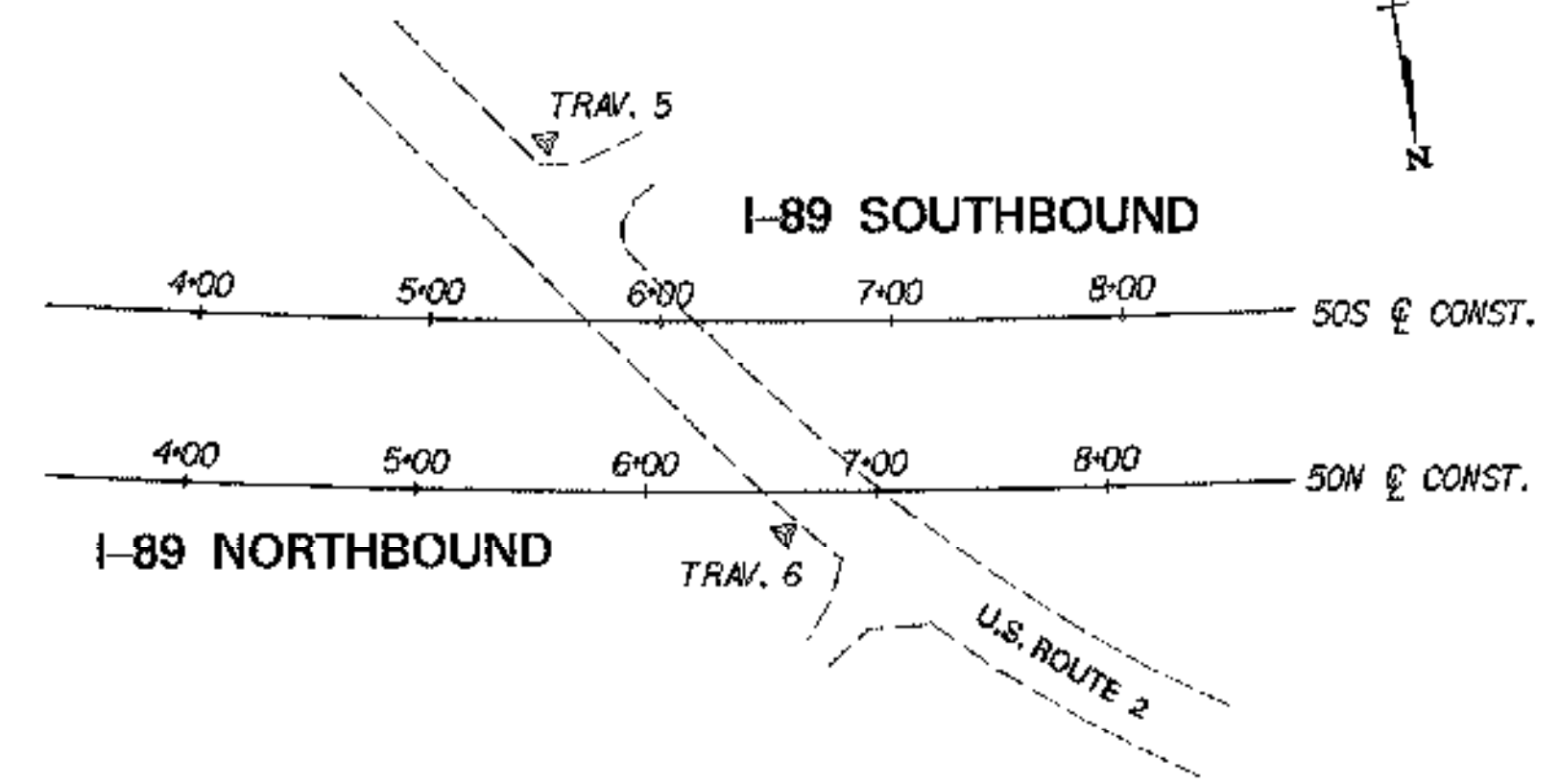
STRENGTH RF =  $\frac{\phi M_N - 1.3 M_{DL}}{A X M_{ULH}}$  \* SERVICEABILITY RF =  $B \frac{0.95 F_y S_{LL1} - M_{DL} \frac{S_{LL1}}{S_{DL}} - M_{SDL} \frac{S_{LL1}}{S_{SDL}}}{1.87 M_{ULH}}$

PLAN  
 SCALE: 1"=20'

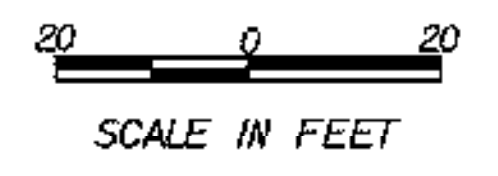
BR 50N&S SPECIFIC CONSTRUCTION NOTES:

1. THE PROPOSED CONSTRUCTION CENTERLINE FOR EACH BRIDGE WAS ESTABLISHED BASED ON BEST FIT BETWEEN EXISTING CURB LINES. IT DOES NOT EXACTLY MATCH THE ORIGINAL CONSTRUCTION CENTERLINE.
2. FOR CONTROL POINT TIE SKETCHES, SEE CONTROL POINT TIES (50N&S) BRIDGE SHEET C-12.
3. REPLACE PIER CAPS, SUPERSTRUCTURE STEEL, BEARINGS, DECK SLABS, APPROACH SLABS, BRIDGE RAIL AND APPROACH RAIL. RESET GUARD RAIL.
4. NEW SCUPPERS ARE REQUIRED ON BRIDGE 50S. FOR LOCATION OF NEW SCUPPERS, SEE FRAMING PLAN (50S), BRIDGE SHEET BR50-9.
5. CONSTRUCT NEW BACKWALLS AT EXPANSION ABUTMENTS AND NEW CURTAINWALLS AT FIXED ABUTMENTS. REBUILD ABUTMENT BRIDGE SEATS AND MODIFY WINGWALLS AS SHOWN IN THE PLANS.
6. REPAIR PIER COLUMNS.
7. REPAIR ABUTMENT DELAMINATED AND SPALLED AREAS.
8. RE-STRIPE BRIDGE AND APPROACH ROADWAY.

| TABLE OF BRIDGE COORDINATES |                 |         |            |            |
|-----------------------------|-----------------|---------|------------|------------|
| BRIDGE                      | CL CONST. @     | STATION | NORTHING   | EASTING    |
| 50N                         | BEGIN BRIDGE    | 5+54.09 | 78543.3058 | 61183.1758 |
|                             | CL BRG. ABUT. 1 | 5+95.86 | 78543.6203 | 61181.4100 |
|                             | CL BRG. PIER 1  | 6+32.21 | 78554.8653 | 61118.0405 |
|                             | CL BRG. PIER 2  | 7+28.71 | 78569.8306 | 61020.7170 |
|                             | CL BRG. ABUT. 2 | 7+98.51 | 78579.7462 | 60951.6182 |
|                             | END BRIDGE      | 8+01.96 | 78580.2116 | 60948.2039 |
| 50S                         | BEGIN BRIDGE    | 4+79.87 | 78456.1358 | 61247.4208 |
|                             | CL BRG. ABUT. 1 | 4+93.50 | 78456.8211 | 61243.8550 |
|                             | CL BRG. PIER 1  | 5+48.86 | 78468.7890 | 61179.5867 |
|                             | CL BRG. PIER 2  | 6+39.36 | 78484.0929 | 61090.4046 |
|                             | CL BRG. ABUT. 2 | 7+02.86 | 78493.9977 | 61027.6820 |
|                             | END BRIDGE      | 7+04.60 | 78494.2590 | 61025.9573 |



CONTROL POINT LOCATION MAP  
 N.T.S.  
 (SEE NOTE 2)



**STATE OF VERMONT  
 AGENCY OF TRANSPORTATION**

Town Of MIDDLESEX-BOLTON Bridge No. **50N&S**

Highway No. I-89 Log Sta. Surv. Sta.

I-89 OVER U.S. ROUTE 2

**GENERAL PLAN (50N&S)**

Designed By P.W. SZUSTAK Drawn By R.A. BOTZEMHART  
 Checked By J.P. HALSTEAD Date 10/99 Bridge Design Supervisor  
 J.P. HALSTEAD Date 10/99 J.P. HALSTEAD Date 10/99

PROJECT MIDDLESEX-BOLTON PROJECT NO. IM-089-2(26)  
 IVGA CAD Drawing No. 50gen.pl Date 10/99  
 Bridge Sheet No. BR50-1 Sheet 85 of 307

**TVA** TVGA ENGINEERING,  
 SURVEYING, P.C.