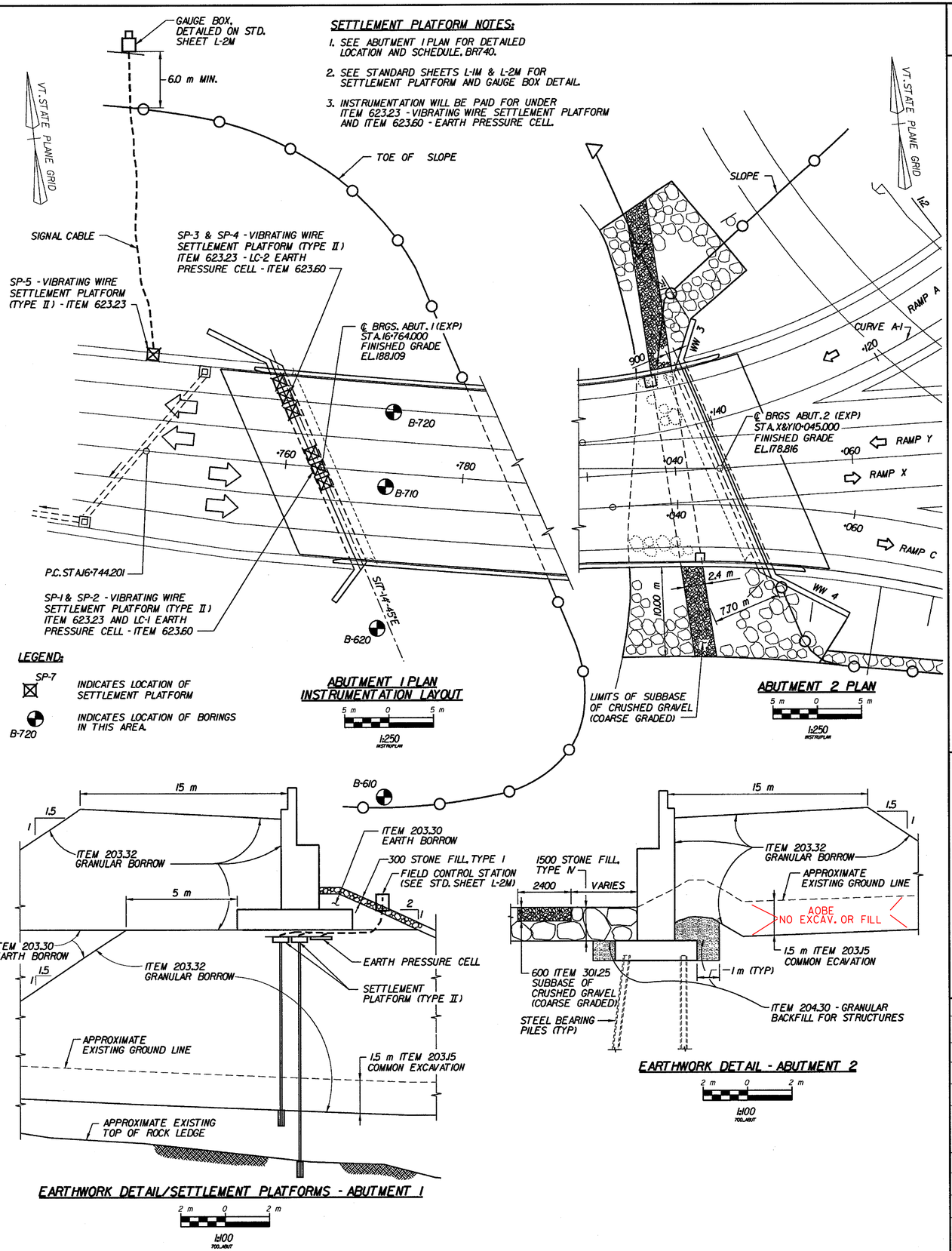

SETTLEMENT PLATFORM NOTES:

1. SEE ABUTMENT 1 PLAN FOR DETAILED LOCATION AND SCHEDULE, BR740.
2. SEE STANDARD SHEETS L-1M & L-2M FOR SETTLEMENT PLATFORM AND GAUGE BOX DETAIL.
3. INSTRUMENTATION WILL BE PAID FOR UNDER ITEM 623.23 - VIBRATING WIRE SETTLEMENT PLATFORM AND ITEM 623.60 - EARTH PRESSURE CELL.

LEGEND:

SP-7 — INDICATES LOCATION OF SETTLEMENT PLATFORM

B-720 — INDICATES LOCATION OF BORINGS IN THIS AREA.

ABUTMENT 1 PLAN INSTRUMENTATION LAYOUT

5 m 0 5 m

1:250 INSTRUPLAN

ABUTMENT 2 PLAN

5 m 0 5 m

1:250 INSTRUPLAN

EARTHWORK DETAIL/SETTLEMENT PLATFORMS - ABUTMENT 1

2 m 0 2 m

1:100 700_ABUT

EARTHWORK DETAIL - ABUTMENT 2

2 m 0 2 m

1:100 700_ABUT

FINAL HYDRAULICS REPORT

VAOT Metric

HYDROLOGIC DATA

DRAINAGE AREA: 23 777 ha
CHARACTER OF TERRAIN: PRIMARILY UNDEVELOPED WOODED AREAS
CHARACTER & TYPE OF STREAM: MEDIUM, PERENNIAL, MEANDERING STREAM
NATURE OF STREAMBED: COBBLES, SMALL DIA. STONES AND SAND

Q2.33= 86.37 m³/sec — Q50= 230.78 m³/sec
Q10= 154.61 m³/sec — Q100= 266.18 m³/sec
Q25= 195.39 m³/sec — Q500= 359.62 m³/sec

DATE OF FLOOD OF RECORD: DECEMBER 1949
WATER SURFACE ELEV.: 174.1 ESTIMATED DISCHARGE: 156 m³/sec
NATURAL STREAM VELOCITY @ FLOOD OF RECORD < 1.0 m/sec
ICE CONDITIONS: MINOR DEBRIS: MINOR
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? YES
IS ORDINARY RISE RAPID? YES
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO
IF YES, DESCRIBE. N/A

WATERSHED STORAGE IX HEADWATERS UNIFORM THROUGHOUT WATERSHED X
IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: N/A YEAR BUILT:
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY OF FULL OPENING:
DISPOSITION OF STRUCTURE:
TYPE OF MATERIAL UNDER SUBSTRUCTURE:

WATER SURFACE ELEV. @ Q2.33= VELOCITY=
Q10= " =
Q25= " =
Q50= " =
Q100= " =

LONG TERM STREAM BED CHANGES:

IS THE ROADWAY OVERTOPPED BELOW THE Q100? FREQUENCY:
RELIEF ELEVATION: DISCHARGE OVER ROAD @ Q100:

UPSTREAM STRUCTURE #1: TOWN: BENNINGTON DISTANCE: 2.55 km
HIGHWAY NO.: HUNT STREET STRUCTURE NO.: 00057
STRUCTURE TYPE: STEEL STRINGER MULTI BEAM OR GIRDER
CLEAR SPAN: 16.8 m CLEAR HEIGHT: 3.0 m
YEAR BUILT: 1938 FULL WATERWAY: 230.4 m²

UPSTREAM STRUCTURE #2: TOWN: BENNINGTON DISTANCE: 2.56 km
HIGHWAY NO.: HUNT STREET EXTENSION STRUCTURE NO.: 00049
STRUCTURE TYPE: STEEL STRINGER MULTI BEAM OR GIRDER
CLEAR SPAN: 15.5 m CLEAR HEIGHT: 3.7 m
YEAR BUILT: 1975 FULL WATERWAY: 57.4 m²

DOWNSTREAM STRUCTURE: TOWN: BENNINGTON DISTANCE: 1.31 km
HIGHWAY NO.: C3026 (SILK ROAD) STRUCTURE NO.: 0030
STRUCTURE TYPE: TIMBER THROUGH TRUSS
CLEAR SPAN: 26.2 m CLEAR HEIGHT: 4.6 m
YEAR BUILT: 1840 FULL WATERWAY: 120.5 m²

PROPOSED STRUCTURE

STRUCTURE TYPE: 5-SPAN CURVED CONTINUOUS PLATE GIRDER

CLEAR SPAN (NORMAL TO STREAM): 255.00 m
VERTICAL CLEARANCE ABOVE STREAMBED: 8.00 m (AVERAGE)
WATERWAY OF FULL OPENING: 575 m²

WATER SURFACE ELEV. @ Q2.33 = 173.19 VELOCITY = 0.68 m/sec
" Q10 = 174.06 " = 0.69 m/sec
" Q25 = 174.22 " = 0.79 m/sec
" Q50 = 174.35 " = 0.88 m/sec
" Q100 = 174.46 " = 0.95 m/sec

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: N/A
RELIEF ELEVATION: N/A DISCHARGE OVER ROAD @ Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 179.00*
VERTICAL CLEARANCE @ Q100 = 0.407 m @ PIER 4

SCOUR: BRIDGE FOUNDATIONS ARE DESIGNED FOR THE 100-YEAR EVENT AND CHECKED FOR THE 500-YEAR EVENT
REQUIRED CHANNEL PROTECTION: TYPE IV STONE FILL AS BANK PROTECTION

PERMIT INFORMATION

AVERAGE DAILY FLOW: 5.4 m³/sec
ORDINARY LOW WATER: 2.4 m³/sec DEPTH: 0.1 m
ORDINARY HIGH WATER: 37.1 m³/sec DEPTH: 1.0 m

ADDITIONAL COMMENTS

*BOTTOM OF PIER 4 CAP = 174.760

CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
11 WINNERS CIRCLE ALBANY, NEW YORK, 12205

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 259.091m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 200 KPa ON LEDGE 480 kPa
4. ALLOWABLE LOAD FOR PILING 1376 kN TYPE HP 310 x 125 ESTIMATED LENGTH 15 m (AVERAGE)
5. STRUCTURAL STEEL AASHTO M270M GRADE 345W
6. REINFORCING STEEL GRADE 420 TENSION
7. CONCRETE CLASS A f_c' 30 MPa
CLASS B f_c' 25 MPa
SILICA FUME f_c' 35 MPa

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? N\A IF YES, ON EXISTING STRUCTURE OR ON TEMPORARY BRIDGE
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TRAFFIC CONTROL SIGNALS REQUIRED
MINIMUM CLEAR SPAN (NORMAL TO STREAM): VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY OF FULL OPENING:
ARE SIDEWALKS REQUIRED? IF SO, ON WHAT SIDE?
STRUCTURE TYPE:

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK M	MS	3S2	6 AXLE	3A.STR.	4A.STR.	5A.SEMI
INVENTORY A = 2.17; B = 1.00	44	44					
POSTED A = 1.55; B = 1.40	62	62	88		100	89	96
OPERATING A = 1.30; B = 1.67	74	74	123	151	140	124	

$$RF = \frac{\emptyset M_N - 1.3\,M_{DL}}{A \times M_{LL+I}} \qquad \frac{.95\,F_y\,S_{LL+I} - M_{DL}\frac{S_{LL+I}}{S_{DL}} - M_{SDL}\frac{S_{LL+I}}{S_{SDL}}}{1.67\,M_{LL+I}}$$

PROJECTED TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	% ADTT
2000	5300	675	52	7	370
2020	6600	840	52	7	460

20 year ESAL for flexible pavement from 2000 to 2020: 4,825,000
40 year ESAL for flexible pavement from 2000 to 2040: 17,229,000
Design speed: 100 KM/H

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BENNINGTON	Bridge No. BR700
	Log Sta.
Highway No. VT. RTE. 9	Surv. Sta. 16+800

VT. RTE. 9 OVER SILK ROAD AND WALLOOMSAC RIVER

PRELIMINARY INFORMATION & INSTRUMENTATION LAYOUT

Designed By M. GREEN	Drawn by D. ADDARIO/B. WEATHERBY
Checked By M. GOGUEN Date 6/00	Bridge Design Supervisor M.W. OLSTAD Date 9/00
PROJECT BENNINGTON-HOOSICK	PROJECT NO. D.P.I. 0146(1) C/4
I.G.C. Info.	
Bridge Sheet No. BR701	Sheet 184 OF 385

F:\35\15\BR700\SHT2\2700.DGN 400mm