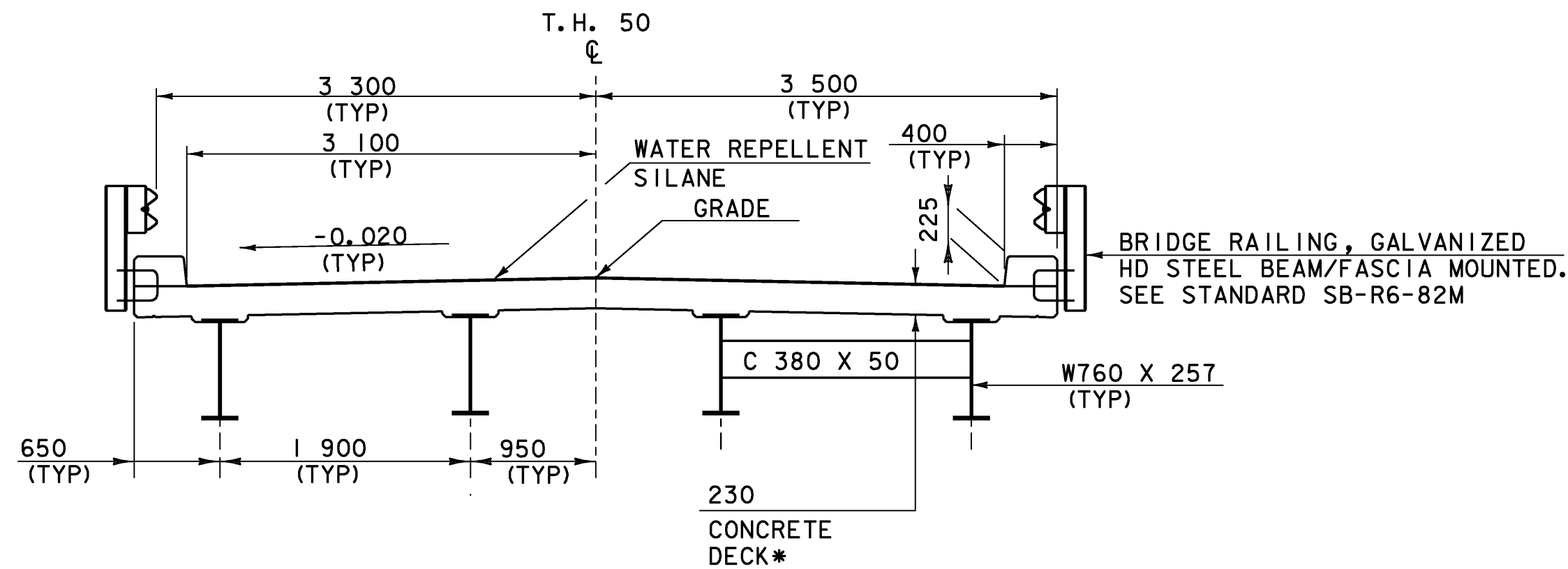
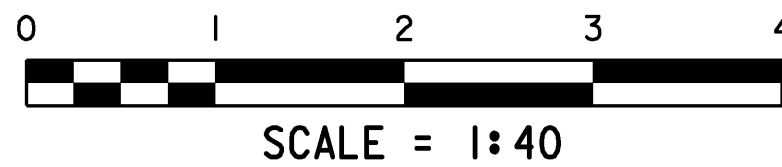
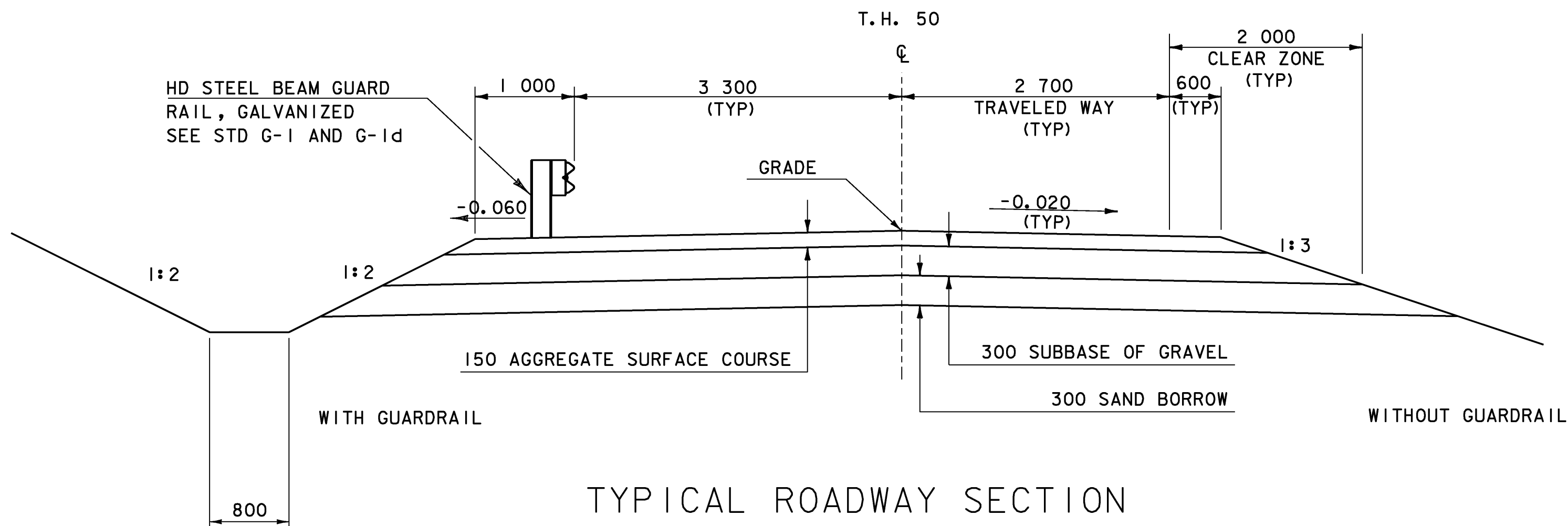




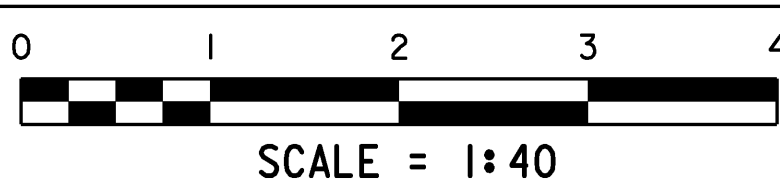
TYPICAL BRIDGE SECTION



MATERIAL ITEM	TOLERANCE
AGGREGATE SURFACE COURSE	± 10 mm
SUBBASE	± 30 mm
SAND BORROW	± 30 mm



TYPICAL ROADWAY SECTION



FINAL HYDRAULICS REPORT



HYDROLOGIC DATA

DRAINAGE AREA= 93.8 sq. km
CHARACTER OF TERRAIN: Hilly to mountainous
CHARACTER & TYPE OF STREAM: Straight, probably incised and alluvial.
Not braided or anabranching.
NATURE OF STREAMBED: mostly gravel with some sand and cobbles.

Q2.33= 32.6 cms Q50= 113.3 cms
Q10= 70.8 cms Q100= 130.3 cms
Q25= 94.3 cms Q500= 221.4 cms

DATE OF FLOOD OF RECORD: November 1927
WATER SURFACE ELEV.: Unknown ESTIMATED DISCHARGE: Unknown
NATURAL STREAM VELOCITY @ Q25 = 3.0 mps
ICE CONDITIONS: Moderate DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? Yes
IS ORDINARY FLOOD RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE: _____

WATERSHED STORAGE 2% HEADWATERS UNIFORM THROUGHOUT WATERSHED X
IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: Single span steel truss bridge YEAR BUILT: 1954
CLEAR SPAN (NORMAL TO STREAM): 15.0 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.7 m
WATERWAY OF FULL OPENING: 31.8 sq. m
DISPOSITION OF STRUCTURE: Remove

TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEV. @ Q2.33= 234.5 VELOCITY= 3.1 mps
Q10= 235.3 " 3.9 mps
Q25= 236.0 " 4.1 mps
Q50= 236.1 " 4.2 mps
Q100= 236.1 " 4.4 mps

LONG TERM STREAM BED CHANGES: There is a 0.3m to 1.2m deep scour hole
through and downstream of the bridge.
IS THE ROADWAY OVERTOPPED BELOW THE Q100? Yes FREQUENCY: Q15
RELIEF ELEVATION: 235.6 DISCHARGE OVER ROAD @ Q100: 43.9 cms

UPSTREAM STRUCTURE: TOWN: Corinth DISTANCE: 1.6 km
HIGHWAY NO.: T.H. 60 STRUCTURE NO.: 33
STRUCTURE TYPE: CGMPPA
CLEAR SPAN: 6.7 m CLEAR HEIGHT: 3.0 m
YEAR BUILT: - FULL WATERWAY: -

DOWNSTREAM STRUCTURE: TOWN: Corinth DISTANCE: 1.6 km
HIGHWAY NO.: T.H. 40 STRUCTURE NO.: 37
STRUCTURE TYPE: Single span steel beam bridge with wood deck
CLEAR SPAN: 10.7 m CLEAR HEIGHT: 4.3 m
YEAR BUILT: - FULL WATERWAY: -

PROPOSED STRUCTURE

STRUCTURE TYPE: Steel beam single span bridge

CLEAR SPAN (NORMAL TO STREAM): 20.0 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.6 m
WATERWAY OF FULL OPENING: 43.0 sq. m

WATER SURFACE ELEV. @ Q2.33= 234.1 VELOCITY= 2.1 mps
Q10= 234.8 " 2.8 mps
Q25= 235.1 " 3.1 mps
Q50= 235.2 " 3.4 mps
Q100= 235.3 " 3.7 mps

IS THE ROADWAY OVERTOPPED BELOW THE Q100? No FREQUENCY: -
RELIEF ELEVATION: 235.6 DISCHARGE OVER ROAD @ Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 235.5
VERTICAL CLEARANCE @ Q25 = 0.4 m

SCOUR: 0.8 m of contraction scour at Q100 and Q500
REQUIRED CHANNEL PROTECTION: Stone Fill, Type II

PERMIT INFORMATION

AVERAGE DAILY FLOW: 2.1 cms
ORDINARY LOW WATER: 1.0 cms ELEV.: 233.0
ORDINARY HIGH WATER: 14.0 cms ELEV.: 233.8

DESIGN CRITERIA:

- DESIGN LIVE LOAD AASHTO HL-93
- DESIGN SPAN 21.5 m
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
- ALLOWABLE LOAD FOR PILING SEE GENERAL NOTES TYPE HP 310x93 ESTIMATED LENGTH 20.0 m
- STRUCTURAL STEEL AASHTO GRADE 345W, M 270M/M 270
- REINFORCING STEEL GRADE 420
- CONCRETE CLASS A f_c : 30 MPa SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT).
CONCRETE CLASS B f_c : 25 MPa CONCRETE, HIGH PERFORMANCE CLASS B.
SILICA-FUME CONCRETE f_c : 35 MPa N/A

TRAFFIC MAINTENANCE:

- IS TRAFFIC TO BE MAINTAINED? NO IF YES, ON EXISTING STRUCTURE NA OR ON TEMPORARY BRIDGE NA
- 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: Road will be closed during construction.

LOAD FACTOR LOAD RATING (TONNES)

LOADING LEVELS (LOAD FACTOR)	TRUCK					
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.
INVENTORY A = 2.17 B = 1.00	51	64				
POSTED A = 1.55 B = 1.40	71	89	113		83	85
OPERATING A = 1.30 B = 1.67		107	135	164	99	102

STRENGTH $RF = \frac{\phi M_N - 1.3 M_{DL}}{A \times M_{LL+I}}$ SERVICEABILITY $RF = B \left[\frac{.95 F_y S_{LL+I} - M_{DL} \frac{S_{LL+I}}{S_{DL}} - M_{SDL} \frac{S_{LL+I}}{S_{SDL}}}{1.67 M_{LL+I}} \right]$

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
1996	100	15	--	2	2
2016	130	20	--	2	2

20 year ESAL for flexible pavement from ---- to ----: N.A.
40 year ESAL for flexible pavement from ---- to ----: N.A.
Design speed: 50 km/h

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of CORINTH Bridge No. 34
Highway No. T.H.50 Log Sta. 3971.405
Surv. Sta. -----

PRELIMINARY INFORMATION

T.H.50 OVER SO.BRANCH OF WAITS RIVER

Designed By T.A.SUMNER Drawn By T.A.SUMNER
Checked By W.B.SYMONDS Date 10/97 Bridge Design Supervisor C.P.WILLIAMS Date 10/97

PROJECT CORINTH PROJECT NO. STP BRO 1447(22)
RE-ADVERTISED

I.G.C. Info. M:\Projects\93\J042\Structures\sj042pl.dgn sj042pl2j

Bridge Sheet No. ----- Sheet 2 of 42