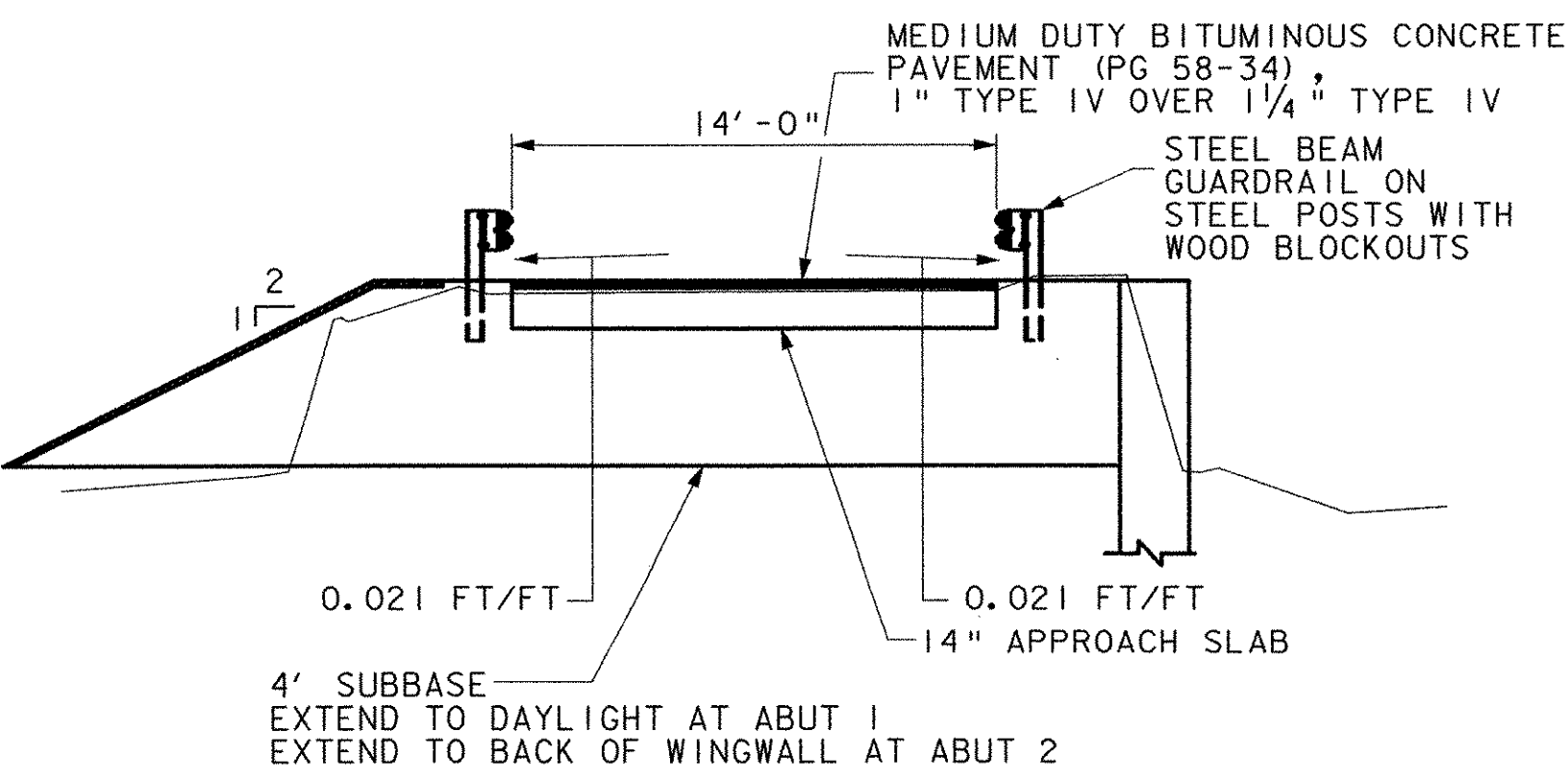


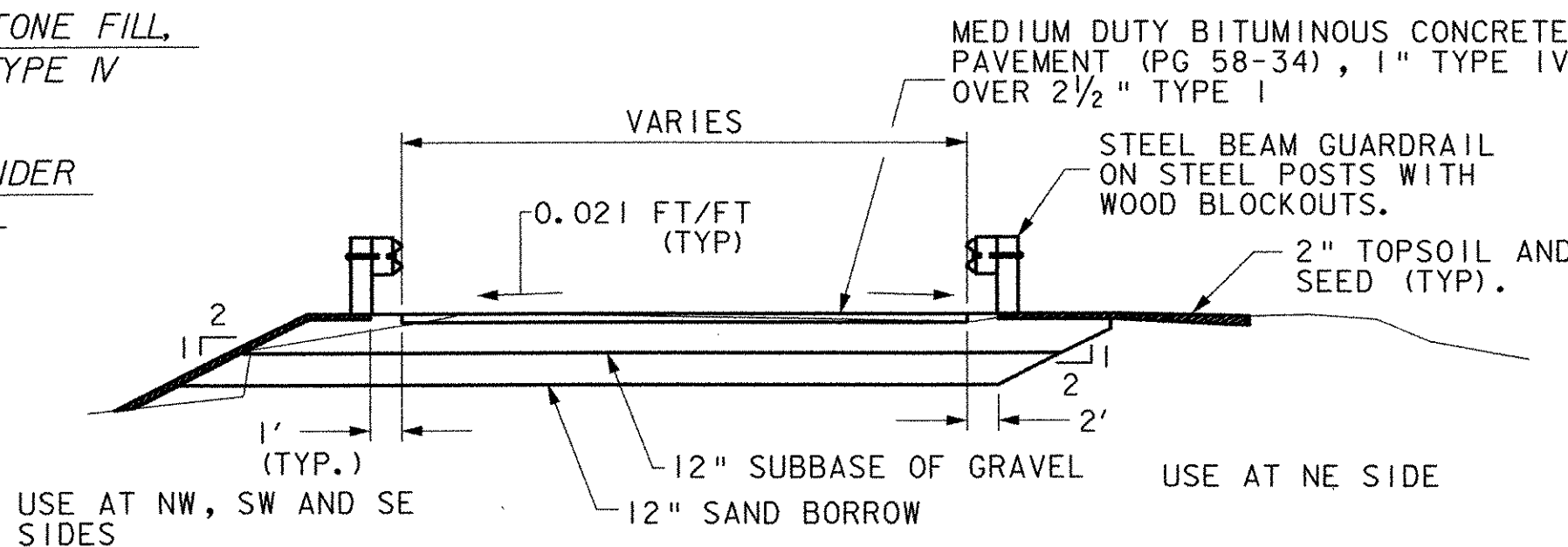
**TYPICAL ABUTMENT 1 SECTION**  
(NOT TO SCALE)

MATERIAL ITEM	TOLERANCE
PAVEMENT	± 1/4" TOTAL THICKNESS
BASE COURSE	± 1/2"
SUBBASE	± 1"
SAND BORROW	± 1"



**TYPICAL APPROACH @ BACK OF ABUTMENTS**

SCALE: 3/16" = 1'-0"



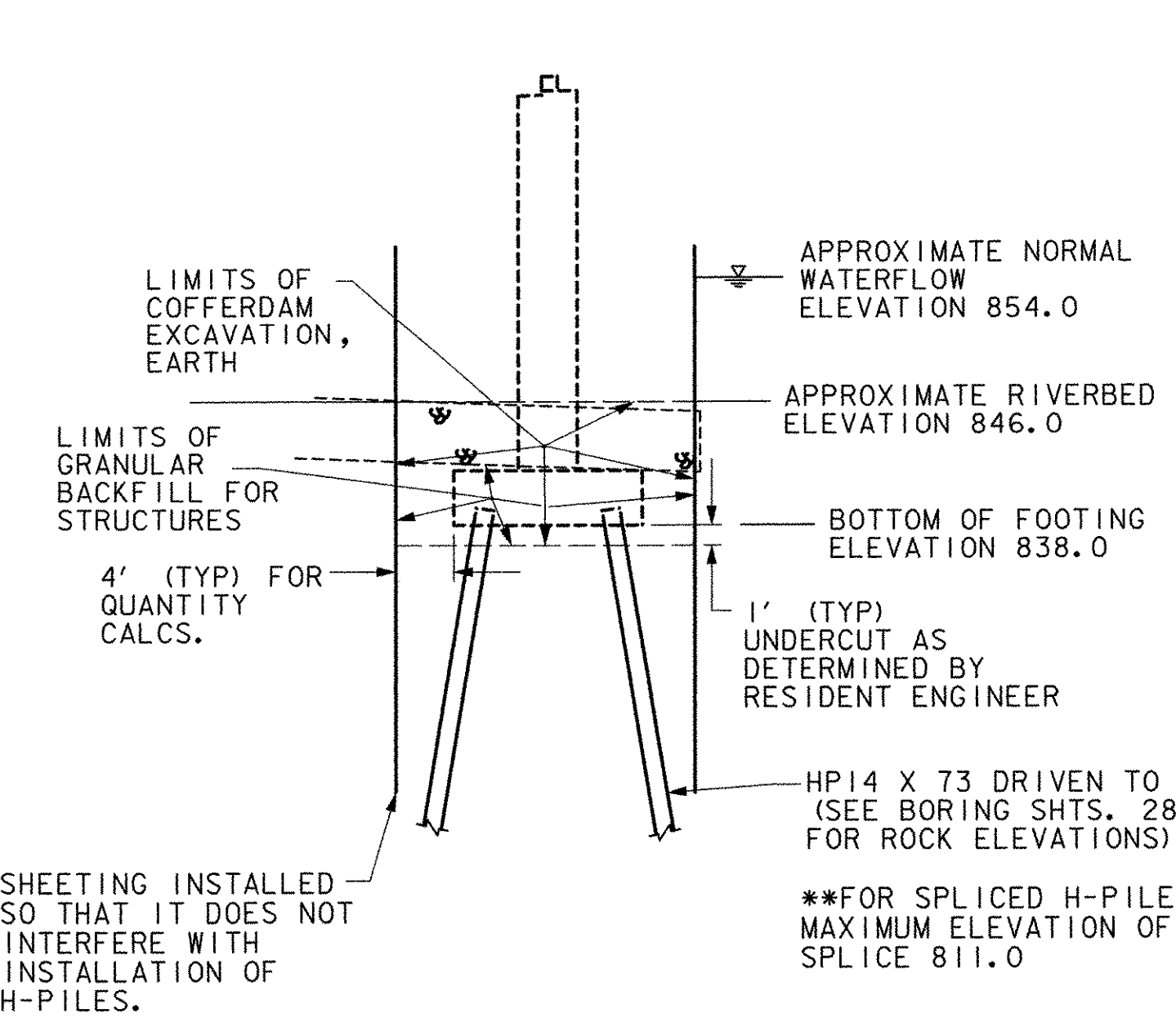
**TYPICAL APPROACH SECTION**

SCALE: 3/16" = 1'-0"

**PIER COFFERDAM NOTES**

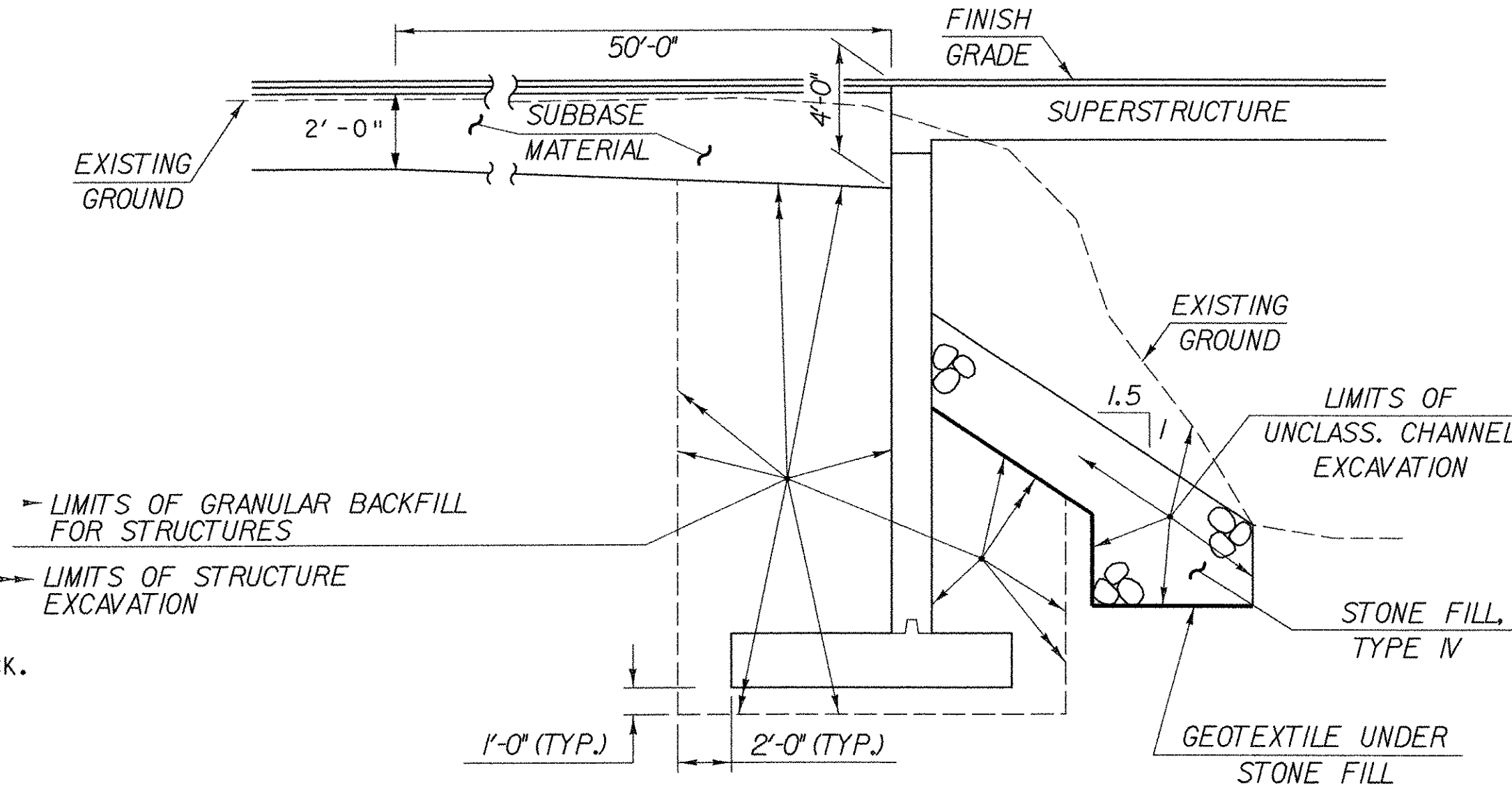
1. COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. FOR PURPOSES OF ESTIMATING EARTHWORK QUANTITIES, THE LIMITS OF COFFERDAM HAVE BEEN ASSUMED TO BE 4'-0" OUTSIDE THE PERIMETER OF THE FOOTING. A ONE FOOT UNDERCUT MAY BE REQUIRED AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER TO REMOVE UNSUITABLE MATERIAL. REPLACE MATERIAL AS NEEDED UNDER ITEM 204.30 GRANULAR BACKFILL FOR STRUCTURES.
3. IF A COFFERDAM IS CONSTRUCTED WHICH IS MORE THAN THE INDICATED MINIMUM DISTANCE OUTSIDE THE FOOTING LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE MINIMUM COFFERDAM LIMITS SHOWN WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.
4. REMOVE SHEETING COMPLETELY UPON REMOVAL OF COFFERDAM.
5. THE CONTRACTOR'S COFFERDAM DESIGN SHALL BE SUBMITTED TO THE RESIDENT ENGINEER FOR REVIEW AT LEAST ONE MONTH PRIOR TO THE BEGINNING OF CONSTRUCTION OF THE COFFERDAM.
6. THE COFFERDAM WILL BE PAID FOR UNDER ITEM NO. 208.40 "COFFERDAM". THE COFFERDAM SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE SPECIAL PROVISIONS.

**TRAFFIC DATA**  
FUNCTIONAL CLASSIFICATION - MINOR COLLECTOR  
INFORMATION NOT READILY AVAILABLE  
BRIDGE CURRENTLY CLOSED TO TRAFFIC



**TYPICAL PIER SECTION**

N. T. S.



**TYPICAL ABUTMENT 2 SECTION**

(NOT TO SCALE)



**HYDROLOGIC DATA** Date: 12/15/02  
 DRAINAGE AREA: 896 square miles  
 CHARACTER OF TERRAIN: Open valleys to forested rolling hills and mountains  
 STREAM CHARACTERISTICS: Perennial, low valley relief and wide floodplain  
 NATURE OF STREAMBED: Silt, sand, gravel to cobble

**PEAK FLOW DATA**

Q 2.33 =	14,800 cfs	Q 50 =	30,250 cfs
Q 10 =	22,800 cfs	Q 100 =	33,550 cfs
Q 25 =	27,000 cfs	Q 500 =	46,650 cfs

DATE OF FLOOD OF RECORD: November, 1927  
 ESTIMATED DISCHARGE: Unknown  
 WATER SURFACE ELEV.: Unknown  
 NATURAL STREAM VELOCITY: @ Q50 = 6.3 fps  
 ICE CONDITIONS: Moderate  
 DEBRIS: Moderate  
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No  
 IS ORDINARY RISE RAPID? No  
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No  
 IF YES, DESCRIBE:

WATERSHED STORAGE: LOX HEADWATERS: UNIFORM: X  
 IMMEDIATELY ABOVE SITE:

**EXISTING STRUCTURE INFORMATION**  
 STRUCTURE TYPE: Pin Connected Pratt Iron Truss  
 YEAR BUILT: 1893  
 CLEAR SPAN (NORMAL TO STREAM): 130 ft  
 VERTICAL CLEARANCE ABOVE STREAMBED: 27.8 ft (maximum)  
 WATERWAY OF FULL OPENING: 3090 sf  
 DISPOSITION OF STRUCTURE: Rehabilitate  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Refer to boring logs

**WATER SURFACE ELEVATIONS AT:**

Q2.33 =	859.8 ft	VELOCITY =	6.8 fps
Q10 =	867.7 ft		9.4 fps
Q25 =	863.0 ft		8.5 fps
Q50 =	863.9 ft		7.7 fps
Q100 =	864.7 ft		7.1 fps

LONG TERM STREAMBED CHANGES: VAOT survey shows 4 feet of scour through the bridge area.  
 IS THE ROADWAY OVERTOPPED BELOW Q100: Yes  
 FREQUENCY: Q2.33  
 RELIEF ELEVATION: 860 ft  
 DISCHARGE OVER ROAD @Q100: 13,400 cfs

- DESIGN CRITERIA:**
1. DESIGN LIVE LOAD AASHTO TRUSS HS20 POSTED LEVEL (0.67 YIELD), VOIDED SLAB HS25
  2. DESIGN SPAN TRUSS 150'-6", VOIDED SLAB 40'
  3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 4 KSF ON LEDGE 10 K/SF
  4. ALLOWABLE LOAD FOR PILING 100 KIPS TYPE HP14 x 73 A 572 GRADE 42 ESTIMATED LENGTH AT PIER - AVERAGE 55 FT. AT ABUTMENT 1 - AVERAGE 80 FT
  5. STRUCTURAL STEEL AASHTO GRADE M270 GRADE 50 GALVANIZED & PAINTED
  6. REINFORCING STEEL GRADE 60
  7. CONCRETE, HIGH PERFORMANCE CLASS AA f<sub>c</sub> : 4000 PSI  
 CONCRETE, HIGH PERFORMANCE CLASS A f<sub>c</sub> : 4000 PSI  
 CONCRETE, HIGH PERFORMANCE CLASS B f<sub>c</sub> : 3500 PSI

**TRAFFIC MAINTENANCE:**  
 1. IS TRAFFIC TO BE MAINTAINED? NO IF YES, ON EXISTING STRUCTURE N/A OR ON TEMPORARY BRIDGE N/A  
 2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY N/A TRAFFIC CONTROL SIGNALS REQUIRED N/A  
 ARE SIDEWALKS REQUIRED? N/A IF SO, ON WHAT SIDE? N/A

**TRUSS LOAD FACTOR LOAD RATING (TONS)**

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	H	HS	3S2	6 AXLE	3A.STR.	4A.STR.	5A. SEMI
INVENTORY A=2.17s B=1.00	15	26					
POSTED A=1.55s B=1.40	21	37	41		29	32	39
OPERATING A=1.30s B=1.67		44	48	50	34	39	

**VOIDED SLAB LOAD FACTOR LOAD RATING (TONS)**

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	H	HS	3S2	6 AXLE	3A.STR.	4A.STR.	5A. SEMI
INVENTORY A=2.17s B=1.00	33	47					
POSTED A=1.55s B=1.40	47	65	89		52	56	83
OPERATING A=1.30s B=1.67		105	145	138	85	90	

FOR STRENGTH AND SERVICABILITY RATING EQUATIONS SEE SEC. 6.6.3.3 OF THE MANUAL FOR CONDITION EVALUATION OF BRIDGES

**UPSTREAM STRUCTURE**  
 TOWN: Bloomfield, VT / Stratford, NH DISTANCE: 9.2 miles  
 HIGHWAY #: VT 105 STRUCTURE #: 029/206 NH  
 CLEAR SPAN: Unknown CLEAR HEIGHT: Unknown  
 YEAR BUILT: 1947 FULL WATERWAY: Unknown  
 STRUCTURE TYPE: Plate girders with concrete deck

**DOWNSTREAM STRUCTURE**  
 TOWN: Gullhall, VT / Northumberland, NH DISTANCE: 12.2 miles  
 HIGHWAY #: TH2 STRUCTURE #: 14/059 NH  
 CLEAR SPAN: Unknown CLEAR HEIGHT: Unknown  
 YEAR BUILT: 1984 FULL WATERWAY: Unknown  
 STRUCTURE TYPE: Plate girders with concrete deck

**PROPOSED STRUCTURE**  
 STRUCTURE TYPE: Rehabilitate the Existing Truss and add a Concrete slab approach span  
 CLEAR SPAN (NORMAL TO STREAM): 148 ft  
 VERTICAL CLEARANCE ABOVE STREAMBED: 27.4 ft (maximum)  
 WATERWAY OF FULL OPENING: 3300 sf  
 WATER SURFACE ELEVATIONS AT:  
 Q2.33 = 859.8 ft VELOCITY = 6.4 fps  
 Q10 = 865.6 ft " 8.5 fps  
 Q25 = 863.0 ft " 7.6 fps  
 Q50 = 863.9 ft " 6.9 fps  
 Q100 = 864.7 ft " 6.4 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes  
 FREQUENCY: Q2.33  
 RELIEF ELEVATION: 860 ft  
 DISCHARGE OVER ROAD @Q100: 13,400 cfs  
 AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: Truss - 864.9 ft  
 VERTICAL CLEARANCE: @ Q50 = 1.0 ft (below truss)

SCOUR: No contraction scour and Maximum pier scour of 13 ft @ Q500  
 REQUIRED CHANNEL PROTECTION: Type IV stone fill  
**PERMIT INFORMATION**  
 AVERAGE DAILY FLOW: 1900 cfs DEPTH OR ELEVATION:  
 ORDINARY LOW WATER: 800 cfs 848 ft  
 ORDINARY HIGH WATER: 6350 cfs 857 ft

**TEMPORARY BRIDGE REQUIREMENTS**  
 STRUCTURE TYPE: N/A  
 CLEAR SPAN (NORMAL TO STREAM):  
 VERTICAL CLEARANCE ABOVE STREAMBED:  
 WATERWAY AREA OF FULL OPENING:

**ADDITIONAL INFORMATION**  
 The temporary causeway should not be left in place through the winter months.

**STATE OF VERMONT AGENCY OF TRANSPORTATION**

Town Of MAIDSTONE, VT Bridge No. 1  
 STRATFORD, NH Log Sta.  
 Highway No. MAIDSTONE STATE HWY Surv. Sta.

**PRELIMINARY INFORMATION SHEET**  
 Designed By J. MESSIER Drawn By C. DONOHUE  
 Checked By Date Bridge Design Supervisor  
 D. B. SULLIVAN 08/01/03 Date  
 PROJECT MAIDSTONE-STRATFORD PROJECT NO. BHO 1447 (24)  
 I.G.C. info.  
 Bridge Sheet No. Sheet 22 of 65