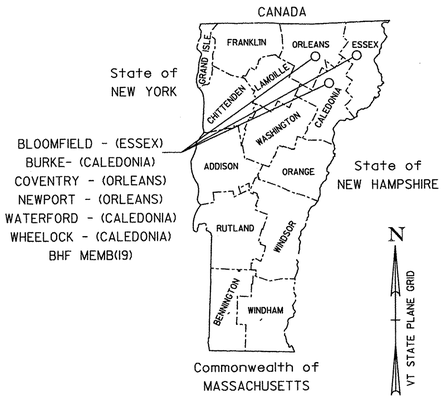
INDEX OF SHEETS

SEE SHEET 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWNS OF BLOOMFIELD, BURKE, NEWPORT, COVENTRY, WATERFORD, AND WHEELOCK
COUNTIES OF ORLEANS, ESSEX, AND CALEDONIA
BRIDGE NO. 96 & 97 ON VT 105 (BLOOMFIELD), NO. 1 ON VT 5A (BURKE), NO. 174 ON U.S. 5 & NO. D08N & D08S ON TH3 (COVENTRY), NO. 57, NO. 58 & NO. 59 ON VT 105 (NEWPORT), NO. 9 ON VT 18 (WATERFORD), & NO. 12 ON VT 122 (WHEELOCK)

PROJECT LOCATIONS:

BR 96 IS LOCATED ON VT 105 (MM 0.75) OVER NULHEGAN RIVER IN THE TOWN OF BLOOMFIELD
BR 97 IS LOCATED ON VT 105 (MM1.75) OVER EAST BR. NULHEGAN RIVER IN THE TOWN OF BLOOMFIELD
BR 1 IS LOCATED ON VT 5A (MM 0.04) OVER SUTTON RIVER IN THE TOWN OF BURKE
BR 174 IS LOCATED ON US 5 (MM 1.11) OVER BLACK RIVER IN THE TOWN OF COVENTRY
BR D08N (I-91 BR108N) IS LOCATED ON TH3 (MM 1.81) OVER I-91 (MM 165.795) IN THE TOWN OF COVENTRY
BR D08S (I-91 BR108S) IS LOCATED ON TH3 (MM 1.77) OVER I-91 (MM 165.795) IN THE TOWN OF COVENTRY
BR 57 IS LOCATED ON VT 105 (MM 0.17) OVER MUD CREEK IN THE TOWN OF NEWPORT
BR 58 IS LOCATED ON VT 105 (MM 1.02) OVER MUD CREEK IN THE TOWN OF NEWPORT
BR 59 IS LOCATED ON VT 105 (MM 1.22) OVER MUD CREEK IN THE TOWN OF NEWPORT
BR 9 IS LOCATED ON VT 18 (MM 7.38) OVER I-93 IN THE TOWN OF WATERFORD
BR 12 IS LOCATED ON VT 122 (MM 0.96) OVER MILLERS RUN IN THE TOWN OF WHEELOCK

PROJECT DESCRIPTION: THIS PROJECT INVOLVES REMOVING AND REPLACING THE SHEET MEMBRANE WATERPROOFING AND BITUMINOUS CONCRETE PAVEMENT ON THE BRIDGES AND THE APPROACHES ALONG WITH MINOR WORK.

LENGTH OF STRUCTURES:

BR 96	73.72'
BR 97	84.04'
BR 1	59.00'
BR 174	141.74'
BR D08N	122.68'
BR D08S	123.76'
BR 57	54.00'
BR 58	99.00'
BR 59	33.00'
BR 9	213.67'
BR 12	92.01'

TOTAL LENGTH OF BRIDGES: 1096.62 FEET

CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS (SR SR SR)
TOP OF CUT
TOE OF SLOPE

RECORD PLANS

CONTRACTOR: PIKE INDUSTRIES, INC. – BERLIN, VT
RESIDENT ENGINEER: SHANE MORIN
CONSTRUCTION BEGAN: APRIL 19, 2010
CONSTRUCTION COMPLETE: JULY 8, 2011
RECORD PLANS BY: SHANE MORIN & AMOS KEMPTON

I HEREBY CERTIFY THAT ALL THE CONSTUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY Shane Morin RESIDENT ENGINEER

DATE 10/19/2011

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

STATE OF VERMONT · RICHARD M. THURSBY · No. 17719 · Structural I · LICENSED PROFESSIONAL ENGINEER

T·Y LIN INTERNATIONAL
12 Northbrook Road Falmouth, Maine 04105

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED Richard M. Thursby DATE 8/12/09

PROJECT MANAGER : SHERWARD FARNSWORTH

PROJECT NAME : **STATEWIDE – NORTHEAST REGION**
PROJECT NUMBER : BHF MEMB(19)

SHEET 1 OF 80 SHEETS

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2.	INDEX OF SHEETS AND PROJECT NOTES
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4.-5.	QUANTITY SHEETS
6.	TRAFFIC CONTROL SHEET
7.	BITUMINOUS CONCRETE REMOVAL PLAN
8.	BITUMINOUS CONCRETE DETAILS I
9.	BITUMINOUS CONCRETE DETAILS II
10.	PAVEMENT JOINT DETAILS
11.-19.	NOT USED
20.-25	REFERENCE PLANS - BRIDGE 96
26.-30.	REFERENCE PLANS - BRIDGE 97
31.-37.	REFERENCE PLANS - BRIDGE I
38.-47.	REFERENCE PLANS - BRIDGE 174
48.-54.	REFERENCE PLANS - BRIDGE D08N & D08S
55.-59.	REFERENCE PLANS - BRIDGE 57
60.-63.	REFERENCE PLANS - BRIDGE 58
64.-67.	REFERENCE PLANS - BRIDGE 59
68.-75.	REFERENCE PLANS - BRIDGE 9
76.-80.	REFERENCE PLANS - BRIDGE 12

VAOT STANDARD SHEETS

E-100	01/02/04
E-100A	01/02/04
E-101	05/30/03
E-102	06/30/03
E-106	03/01/04
E-107	06/30/03
E-107A	06/08/09
E-108A	06/08/09
E-110	08/08/95
E-120	08/08/95
E-191	02/01/99
E-192	10/12/00

PROJECT NOTES

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS AND SUPPLEMENTS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.

2. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY LIMITS.

3. ALL COSTS ASSOCIATED WITH PROTECTION OF TRAFFIC DURING REMOVAL OF THE BRIDGE PAVEMENT WILL BE INCIDENTAL TO ITEM 641.10.

4. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE PIERS AND THE UNDERSIDE OF THE DECK. THIS WORK WILL BE PAID FOR UNDER ITEM 514.10, "WATER REPELLENT, SILANE".

5. FOLLOWING THE COMPLETION OF ALL OTHER CONSTRUCTION ACTIVITIES. ALL FABRIC DRAIN TROUGHS, DOWNSPOUTS AND SCUPPERS WITHIN THE LIMITS OF CONSTRUCTION, AS SHOWN ON THE BITUMINOUS CONCRETE REMOVAL PLAN, SHALL BE THOROUGHLY CLEANED BY THE CONTRACTOR. COST FOR CLEANING THE FABRIC DRAIN TROUGHS, DOWNSPOUTS AND SCUPPERS WILL BE INCIDENTAL TO PAVING ITEMS.

6. THE CONTRACTOR MUST KEEP ALL EQUIPMENT OVER 25 FEET HORIZONTALLY AWAY FROM THE CENTERLINE OF THE RAILROAD TRACKS, EXCEPT FOR EQUIPMENT THAT IS TRAVLING ON THE BRIDGE DECK. THE CONTRACTOR MUST COORDINATE WITH THE RAILROAD WHEN WASHING AND/OR APPLYING WATER REPELLENT, SILANE, ON THE CURBS FOR ANY SPAN OVER THE RAILROAD TRACKS. ALL COST ASSOCIATED WITH COORDINATING WITH THE RAILROAD SHALL BE INCIDENTAL TO THE ITEM 514.10 "WATER REPELLENT, SILANE."

TRAFFIC CONTROL

7. UNLESS COVERED UNDER INDIVIDUAL PAY ITEMS, ALL COSTS FOR WORK SHOWN ON SHEET 6 AND FOR TEMPORARY TRAFFIC CONTROL DEVICES INCLUDING TRAFFIC BARRIERS, RETROREFLECTIVE DRUMS, SIGNS, AND SIGN POSTS WILL BE CONSIDERED TO BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR TRAFFIC CONTROL, ITEM 641.10.

8. TRAFFIC SHALL BE ALLOWED TO DRIVE ON THE BARE CONCRETE BRIDGE DECK AFTER THE REMOVAL OF THE BARRIER MEMBRANE, BUT PRIOR TO THE DECK BEING CLEANED AND PREPARED FOR THE NEW SHEET MEMBRANE. ONCE THE CONCRETE BRIDGE DECK IS PREPARED FOR THE NEW SHEET MEMBRANE, NO TRAFFIC SHALL BE ALLOWED ON THE DECK UNTIL THE FIRST LIFT OF BITUMINOUS CONCRETE PAVEMENT IS IN PLACE OVER THE ENTIRE LENGTH OF THE BRIDGE.

9. TEMPORARY TRAFFIC CONTROL DETAILS PROVIDED IN THE PLANS ARE INTENDED FOR DAYTIME USE ONLY. ANY COSTS ASSOCIATED WITH PROVIDING AN OVERNIGHT TRAFFIC CONTROL PACKAGE, INCUDING "TEMPORARY TRAFFIC SIGNAL SYSTEM" IF PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER, WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.10.

PAVEMENT REMOVAL NOTES

10. THE FINAL ONE HALF INCH OF PAVEMENT ON THE CONCRETE BRIDGE DECK AND APPROACH SLABS SHALL BE REMOVED BY LOADER, GRADER OR EQUIPMENT APPROVED BY THE ENGINEER. COLD PLANING TO REMOVE BRIDGE PAVEMENT WILL BE INCIDENTAL TO ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT".

11. DURING BRIDGE AND APPROACH SLAB PAVEMENT REMOVAL, THE CONTRACTOR SHALL EXERCISE CARE TO INSURE THAT NO DAMAGE OCCURS TO THE EXISTING CONCRETE BRIDGE DECK AND THE EXISTING APPROACH SLABS. ANY DAMAGE TO THE CONCRETE BRIDGE DECK OR APPROACH SLABS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. REPAIRS SHALL BE MADE IN ACCORDANCE WITH SECTION 580.

12. CARE SHALL BE TAKEN TO PROTECT ANY SCUPPERS OR DROP INLETS AT ALL STAGES OF CONSTRUCTION. ANY DAMAGE TO THESE STRUCTURES SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND AT THE CONTRACTOR'S EXPENSE.

13. AFTER THE REMOVAL OF THE BRIDGE PAVEMENT. THE BARRIER MEMBRANE SHALL BE REMOVED AND THE CONCRETE BRIDGE DECK SHALL BE CLEANED AND PREPARED IN ACCORDANCE WITH SUBSECTION 580.04 AND TO THE SATISFACTION OF THE ENGINEER. REMOVAL OF THE BARRIER MEMBRANE AND THE CLEANING AND PREPARATION OF THE CONCRETE BRIDGE DECK WILL BE PAID FOR UNDER ITEM 580.16, "SURFACE PREPARATION FOR MEMBRANE".

14. ONCE THE BARRIER MEMBRANE IS REMOVED, ANY AREAS ON THE CONCRETE BRIDGE DECK THAT ARE FOUND TO BE UNSOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO HOW TO REPAIR THE DETERIORATED PORTION OF THE CONCRETE BRIDGE DECK AND THE LIMITS OF THE REPAIR. PAYMENT FOR REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE SHALL BE UNDER ITEMS 580.10, 580.11 AND 580.12. QUANTITIES FOR ITEMS 580.10, 580.11 AND 580.12 AS SHOWN ON THE QUANTITY SHEET ARE ESTIMATED.

15. UPON THE ENGINEER'S APPROVAL OF THE CONCRETE BRIDGE DECK'S CONDITION, ITEM 519.20, "SHEET MEMBRANE WATERPROOFING, TORCH APPLIED" SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 519.

16. FOR AT GRADE APPROACH SLABS WHERE THE APPROACH SLAB DIVES AWAY FROM THE ABUTMENT, THE CONTRACTOR IS NOT TO REMOVE MORE THAN FOUR INCHES OF PAVEMENT.

PAVEMENT NOTES

17. FOLLOWING THE INSTALLATION OF THE NEW SHEET MEMBRANE WATERPROOFING ON THE CONCRETE BRIDGE DECK, THE CONCRETE BRIDGE DECK AND THE AT-GRADE APPROACH SLABS SHALL BE PAVED CURB TO CURB WITH ITEM 406.27 "MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT" IN TWO 1¼" LIFTS (SEE TYPICAL APPROACH SECTION ON SHEET 8). THE PAVEMENT SHALL BE TYPE IV FOR BOTH LIFTS, NO EXCEPTIONS. MATERIAL TOLERANCE FOR TOTAL PAVEMENT THICKNESS = +/-¼".

18. CARE SHALL BE EXERCISED TO SMOOTHLY TRANSITION THE NEW BRIDGE PAVEMENT INTO THE EXISTING PAVEMENT. ANY COLD PLANING NECESSARY FOR SHAPING BRIDGE APPROACHES SHALL BE PAID FOR UNDER ITEM 210.10, "COLD PLANING, BITUMINOUS PAVEMENT".

19. TESTING FOR PAVEMENT DENSITY WILL REQUIRE CORES OF THE PAVEMENT ON THE BRIDGE. THE COST FOR THIS WORK WILL BE INCIDENTAL TO ITEM 406.27 "MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT". ANY DAMAGE TO THE NEW SHEET MEMBRANE CAUSED BY CORING THE PAVEMENT SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND AT THE CONTRACTOR'S EXPENSE.

20. EMULSIFIED ASPHALT SHALL BE APPLIED TO THE COLD PLANED BITUMINOUS CONCRETE PAVEMENT SURFACE AT THE RATE OF 0.015 GAL/S.Y. OR AS DIRECTED BY THE ENGINEER. EMULSIFIED ASPHALT SHALL ALSO BE APPLIED BETWEEN ALL LIFTS OF PAVEMENT, NOT JUST ON COLD PLANED AREAS. THE COST SHALL BE PAID UNDER ITEM 404.65, "EMULSIFIED ASPHALT".

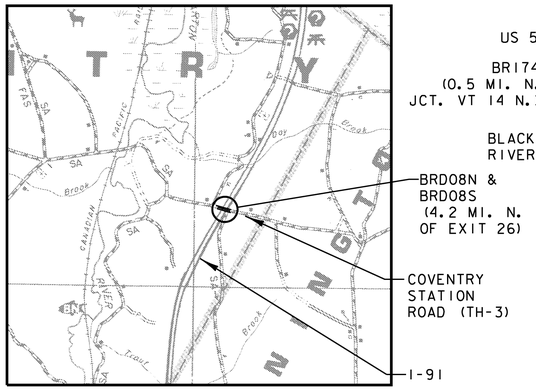
21. THE CONTRACTOR SHALL INSTALL TEMPORARY PAVEMENT MARKINGS ON ALL PAVED SURFACES THAT WILL NOT HAVE THE PERMANENT MARKINGS APPLIED WITHIN 14 CALENDAR DAYS OF THE FINAL PAVING OPERATIONS AS DIRECTED BY THE RESIDENT ENGINEER.

22. CONTRACTORS ARE NOT TO INSTALL "SHEET MEMBRANE WATERPROOFING, TORCH APPLIED" WHEN THE DECK CONCRETE AND/OR DECK PATCH AREAS MOISTURE CONTENT IS ABOVE 5I9 SPECIFICATIONS OR MANUFACTURER'S SPECIFICATIONS, WHICH EVER IS LESS.

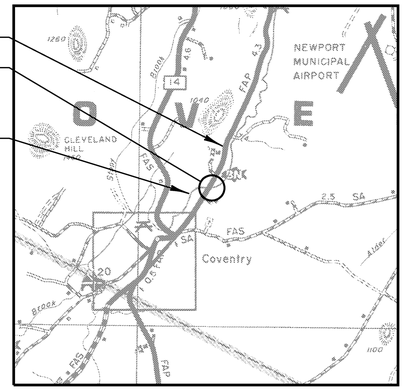
T·Y·LIN INTERNATIONAL

PROJECT NAME: STATEWIDE - NORTHEAST REGION
PROJECT NUMBER: BHF MEMB(19)

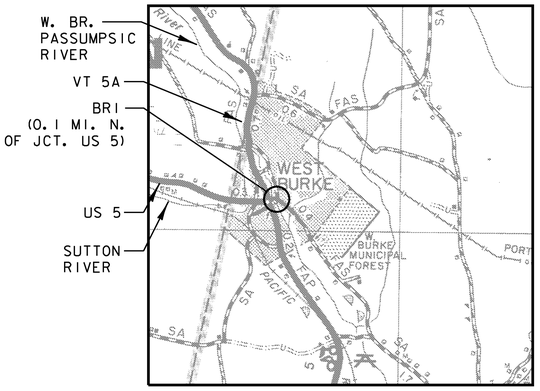
FILE NAME: 02-Br Notes.dgn | PLOT DATE: 8/12/2009
PROJECT LEADER: R. HEBERT | DRAWN BY: S. MORGAN
DESIGNED BY: J. OLUND | CHECKED BY: J. OLUND
INDEX OF SHEETS AND PROJECT NOTES SHEET 2 OF 80



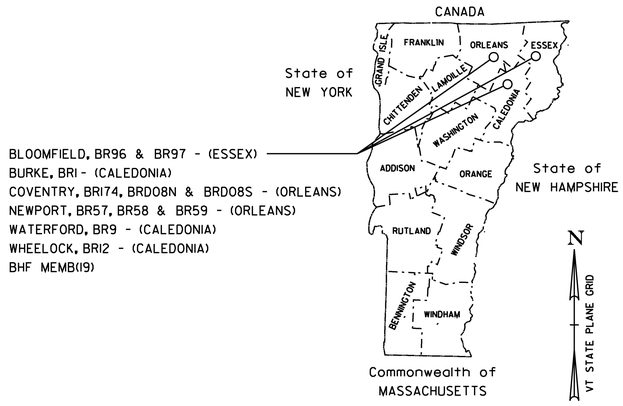
LOCATION MAP
TH-3 - BRD08N (MM 1.81)
TH-3 - BRD08S (MM 1.77)
NOT TO SCALE



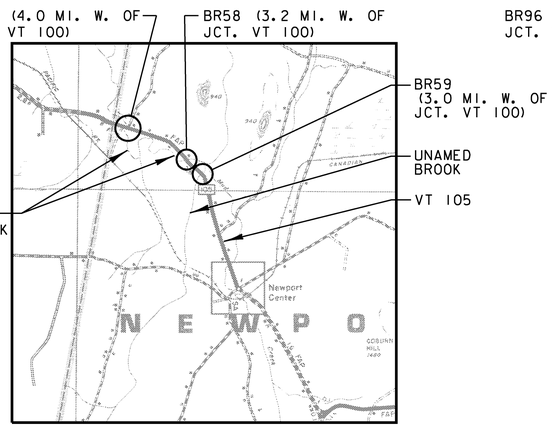
LOCATION MAP
US 5 - BRI74 (MM 1.11)
NOT TO SCALE



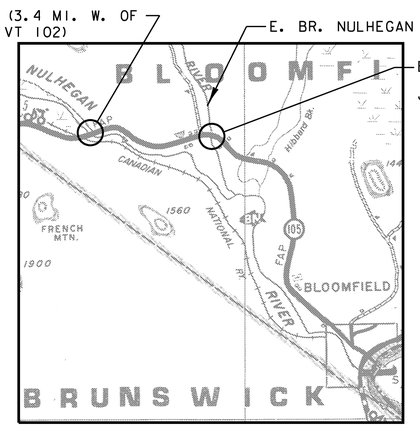
LOCATION MAP
VT 5A - BRI (MM 0.04)
NOT TO SCALE



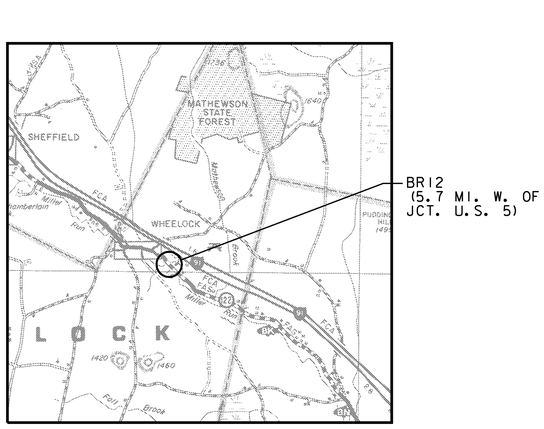
BLOOMFIELD, BR96 & BR97 - (ESSEX)
BURKE, BRI - (CALEDONIA)
COVENTRY, BRI74, BRD08N & BRD08S - (ORLEANS)
NEWPORT, BR57, BR58 & BR59 - (ORLEANS)
WATERFORD, BR9 - (CALEDONIA)
WHEELOCK, BRI2 - (CALEDONIA)
BHF MEMB(19)



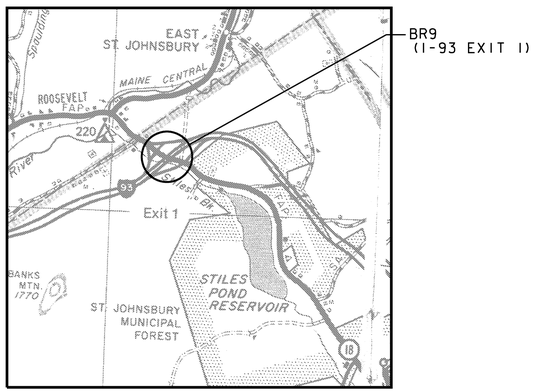
LOCATION MAP
VT 105 - BR57 (MM 0.17), BR58 (MM 1.02)
& BR59 (MM 1.22)
NOT TO SCALE



LOCATION MAP
VT 105 - BR96 (MM 0.75)
& BR97 (MM 1.75)
NOT TO SCALE



LOCATION MAP
VT 122 - BR12 (MM 0.96)
NOT TO SCALE



LOCATION MAP
VT 18 - BR9 (MM 7.38)
NOT TO SCALE

T-Y LIN INTERNATIONAL

PROJECT NAME: STATEWIDE - NORTHEAST REGION	
PROJECT NUMBER: BHF MEMB(19)	
FILE NAME: 03-Location Maps.dgn	PLOT DATE: 8/12/2009
PROJECT LEADER: R. HEBERT	DRAWN BY: S. MORGAN
DESIGNED BY: J. OLUND	CHECKED BY: J. OLUND
LOCATION MAPS	SHEET 3 OF 80

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
VT ROUTE 105 BRIDGES	BRIDGE NO. 1, VT5A, BURKE	BRIDGE NO. 174, US5, COVENTRY	BRIDGE NO. D08N, TH3, COVENTRY	BRIDGE NO. D08S, TH3, COVENTRY	BRIDGE NO. 12, VT122, WHEELOCK	BRIDGE NO. 9, VT18, WATERFORD	ROADWAY	FULL CE	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1		1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
3075	454	467	423	423	454	3236			8532		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
11.58	1.73	2.54	2.2	2.2	2.03	11.44			33.72		CWT	EMULSIFIED ASPHALT	404.65				
835	125	185	160	160	145	815			2425		TON	MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT	406.27				
5	1	1	1	1	1	1			11		LU	MAT DENSITY PAY ADJUSTMENT (N.A.B.I.)	406.29				
							1		1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
83	15	20	24	31	11	32			216		GAL	WATER REPELLENT, SILANE	514.10				
380	66	76	68	68	66	124			848		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
1419	216	518	431	431	334	1203			4552		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
1419	216	518	431	431	334	1203			4552		SY	REMOVAL OF BRIDGE PAVEMENT	529.10				
50	10	10	10	10	10	10			110		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I	580.10				
50	10	10	10	10	10	10			110		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II	580.11				
5	1	1	1	1	1	1			11		CY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III	580.12				
12771	1944	4662	3879	3879	3006	10827			40968		SF	SURFACE PREPARATION FOR MEMBRANE	580.16				
50	10	10	10	10	10	10			110		CF	RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE	580.20				
40	10	48	5	5	10	100			218		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
1500	300	300	300	300	300	700			3700		HR	FLAGGERS	630.15				
								1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
							1		1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
			1						1		LS	TRAFFIC CONTROL (TH3 - BRIDGE NO. D08N)	641.10				
				1					1		LS	TRAFFIC CONTROL (TH3 - BRIDGE NO. D08S)	641.10				
		1							1		LS	TRAFFIC CONTROL (US5 - BRIDGE NO. 174)	641.10				
	1								1		LS	TRAFFIC CONTROL (VT 5A - BRIDGE NO. 1)	641.10				
5									5		LS	TRAFFIC CONTROL (VT ROUTE 105 BRIDGES)	641.10				
					1				1		LS	TRAFFIC CONTROL (VT122 - BRIDGE NO. 12)	641.10				
						1			1		LS	TRAFFIC CONTROL (VT18 - BRIDGE NO. 9)	641.10				
8	2	2	1	1	2	2			18		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
2129	358	524	463	463	425	1898			6260		LF	4 INCH WHITE LINE	646.20				
2129	358	524	463	463	425	2625			6987		LF	4 INCH YELLOW LINE	646.21				
						225			225		LF	8 INCH YELLOW LINE	646.23				
						25			25		EACH	DURABLE LETTER OR SYMBOL	646.490				
2129	358	524	463	463	425	1898			6260		LF	TEMPORARY 4 INCH WHITE LINE	646.600				
2129	358	524	463	463	425	2625			6987		LF	TEMPORARY 4 INCH YELLOW LINE	646.610				
						225			225		LF	TEMPORARY 8 INCH YELLOW LINE	646.650				
						25			25		EACH	TEMPORARY LETTER OR SYMBOL	646.690				
87	15	21	18	18	18	90			267		EACH	LINE STRIPING TARGETS	646.76				
							1		1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				

PROJECT NAME: Statewide N.E. Region
PROJECT NUMBER: BHF MEMB (19)

FILE NAME: 04-Quantity.dgn
PROJECT MANAGER: RMH
DESIGNED BY: JKO
QUANTITY SHEET #1

PLOT DATE: 09/04/2009
DRAWN BY: SAM
CHECKED BY: RMH
SHEET 4 OF 80

STATE OF VERMONT
AGENCY OF TRANSPORTATION

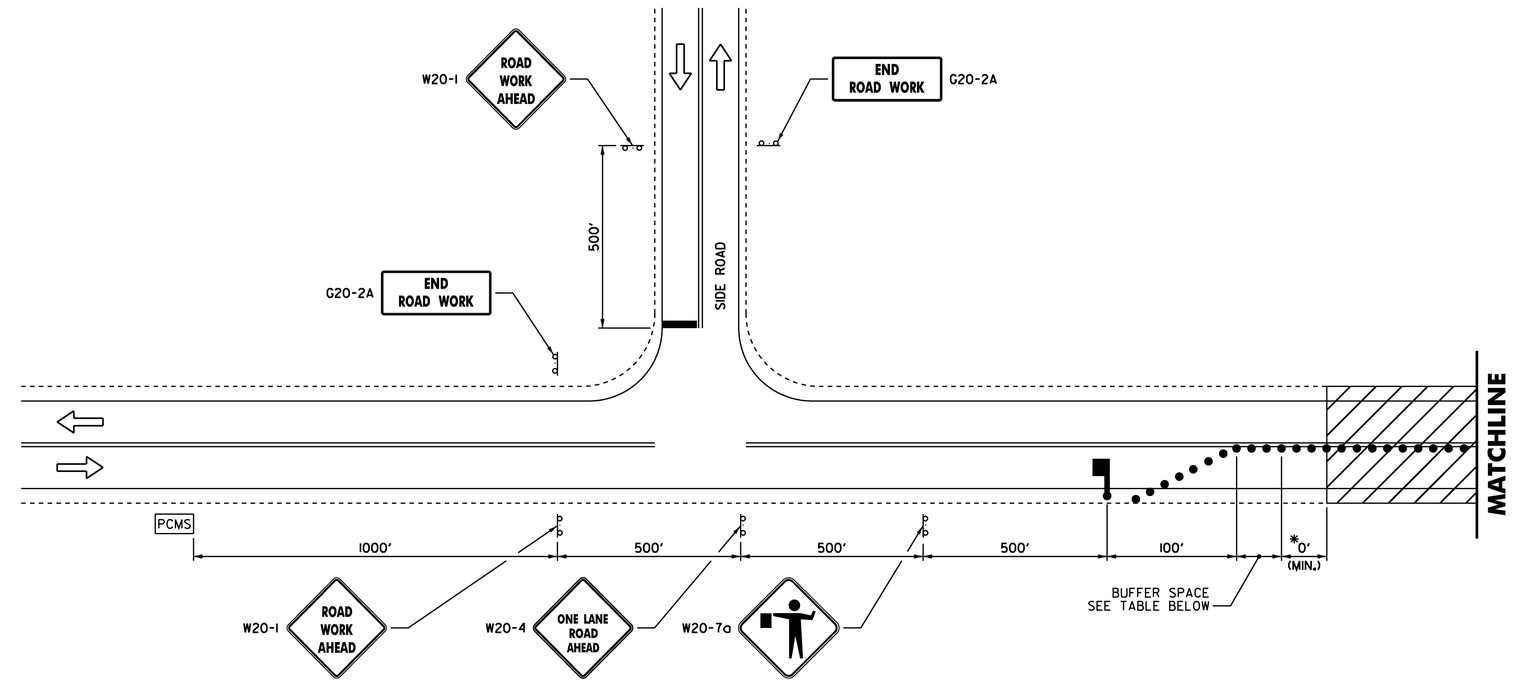
QUANTITY SHEET

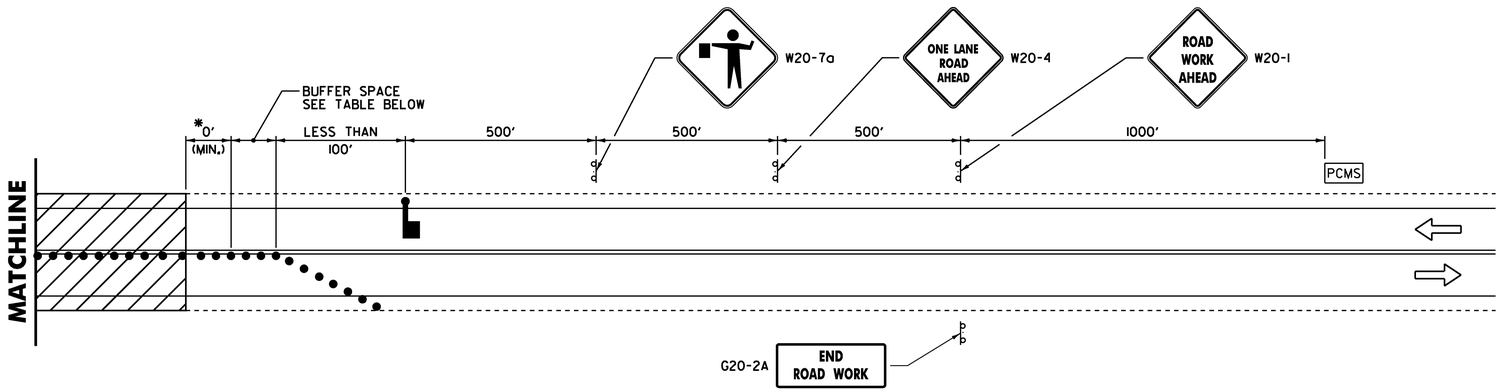
SUMMARY OF BRIDGE QUANTITIES					TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
BLOOMFIELD VT105 BR. 96	BLOOMFIELD VT105 BR. 97	NEWPORT VT105 BR. 57	NEWPORT VT105 BR. 58	NEWPORT VT105 BR. 59	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
534	549	676	676	640	3075	SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10			
2.19	2.46	2.33	2.59	2.01	11.58	CWT	EMULSIFIED ASPHALT	404.65			
160	175	170	185	145	835	TON	MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT	406.27			
1	1	1	1	1	5	LU	MAT DENSITY PAY ADJUSTMENT (N.A.B.I.)	406.29			
26	14	19	12	12	83	GAL	WATER REPELLENT, SILANE	514.10			
86	84	68	70	72	380	LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
317	405	228	330	139	1419	SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20			
317	405	228	330	139	1419	SY	REMOVAL OF BRIDGE PAVEMENT	529.10			
10	10	10	10	10	50	SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I	580.10			
10	10	10	10	10	50	SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II	580.11			
1	1	1	1	1	5	CY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III	580.12			
2853	3645	2052	2970	1251	12771	SF	SURFACE PREPARATION FOR MEMBRANE	580.16			
10	10	10	10	10	50	CF	RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE	580.20			
10	10	10	5	5	40	HR	UNIFORMED TRAFFIC OFFICERS	630.10			
300	300	300	300	300	1500	HR	FLAGGERS	630.15			
1					1	LS	TRAFFIC CONTROL (VT 105 - BRIDGE NO. 96)	641.10			
	1				1	LS	TRAFFIC CONTROL (VT 105 - BRIDGE NO. 97)	641.10			
		1			1	LS	TRAFFIC CONTROL (VT 105 - BRIDGE NO. 57)	641.10			
			1		1	LS	TRAFFIC CONTROL (VT 105 - BRIDGE NO. 58)	641.10			
				1	1	LS	TRAFFIC CONTROL (VT 105 - BRIDGE NO. 59)	641.10			
2	2	2	1	1	8	EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15			
388	409	428	518	386	2129	LF	4 INCH WHITE LINE	646.20			
388	409	428	518	386	2129	LF	4 INCH YELLOW LINE	646.21			
388	409	428	518	386	2129	LF	TEMPORARY 4 INCH WHITE LINE	646.600			
388	409	428	518	386	2129	LF	TEMPORARY 4 INCH YELLOW LINE	646.610			
15	18	18	21	15	87	EACH	LINE STRIPING TARGETS	646.76			

PROJECT NAME: Statewide N.E. Region
PROJECT NUMBER: BHF MEMB (19)

FILE NAME: 04-Quantity.dgn
PROJECT MANAGER: RMH
DESIGNED BY: JKO
QUANTITY SHEET #2

PLOT DATE: 09/03/2009
DRAWN BY: SAM
CHECKED BY: RMH
SHEET 5 OF 80





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

TYPICAL TRAFFIC CONTROL PLAN

NOT TO SCALE

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- WORK AREA
- FLAGGER
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN (SEE NOTE 13)

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 ALL BRIDGES TO VTRANS FOR APPROVAL. PAYMENT FOR PREPARING AND SUBMITTING THE TRAFFIC CONTROL PLAN, AND MAKING ANY 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. AN ADDITIONAL FLAGGER SHALL BE USED AT ANY PARKING AREAS OR DRIVES WITH AN ENTRANCE/EXIT BETWEEN THE FLAGGER AND THE WORK ZONE.
3. ANY PUBLIC HIGHWAYS BETWEEN THE FLAGGER AND THE WORK ZONE WILL REQUIRE ADDITIONAL FLAGGER(S) AND SIGNAGE TO MAINTAIN TRAFFIC CONTROL FOR THE PUBLIC HIGHWAY.
4. SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS OR CORNER SIGHT DISTANCE FROM TOWN HIGHWAYS OR DRIVES.
5. 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) AND VAOT STANDARD SHEETS.
6. SOLID SUBSTRATE 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.
7. ROLL UP SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM TYPE VI.
8. SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
9. FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT OR FOUR FEET OUTSIDE GUARDRAIL.
10. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND ONE FOOT MINIMUM ABOVE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.
11. 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.
12. THE NUMBER OF CHANNELIZING DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BY THE CONTRACTOR AND SHOWN ON THE TRAFFIC CONTROL PLAN SUBMITTED BY THE CONTRACTOR. WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
13. THE PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER. THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.55 OF THE MUTCD. THE PCMS SHALL BE USED AND LOCATED AS DIRECTED BY THE ENGINEER.
14. THE CONTRACTOR SHALL REDUCE TRAFFIC TO ONE LANE DURING WORKING HOURS (EXCEPT BR 9 WHICH SHALL MAINTAIN 2-WAY TRAFFIC) IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. ALL EQUIPMENT SHALL BE MOVED TO A LOCATION OFF PAVED SHOULDERS DURING NON-WORK PERIODS, AND PROTECTED BY BARRELS, CONES OR TEMPORARY TRAFFIC BARRIER. NORMAL TRAFFIC LANES SHALL BE RESTORED DURING NON-WORK PERIODS AND TEMPORARY TRAFFIC SIGNS REMOVED OR COVERED.

BUFFER SPACE TABLE

POSTED SPEED (MPH)	MINIMUM BUFFER SPACE LENGTH (FT)
≤ 40	160
45	270
50	300
55	330

T·Y·LIN INTERNATIONAL

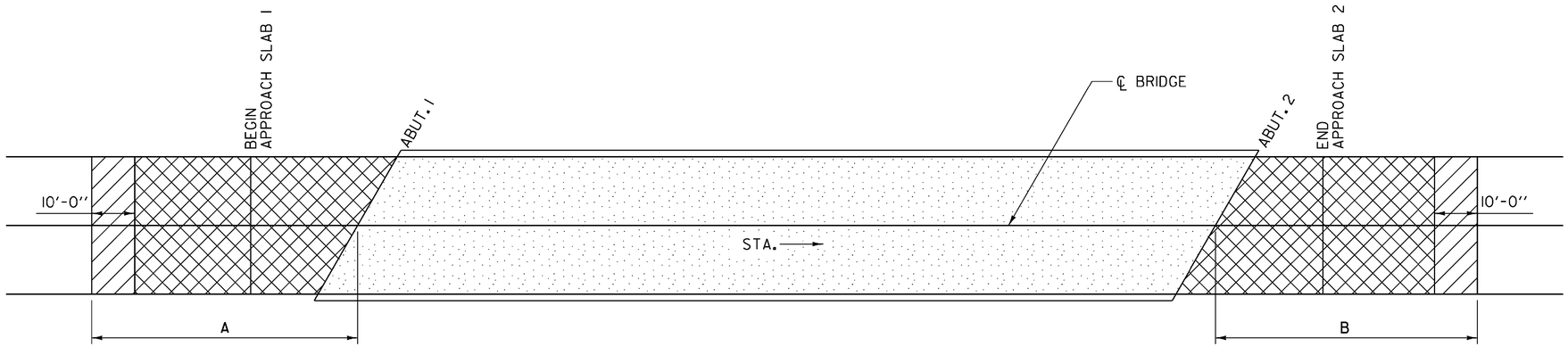
PROJECT NAME: STATEWIDE - NORTHEAST REGION
PROJECT NUMBER: BHF MEMB(19)

FILE NAME: 06-Traffic Control.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
PLOT DATE: 8/12/2009
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
TRAFFIC CONTROL SHEET
SHEET 6 OF 80

BRIDGE NO.	A(FT)	B(FT)
1	60.00	60.00
* 9	218+/-	222+/-
12	60.00	60.00
57	80.00	80.00
58	80.00	80.00
59	80.00	80.00
96	60.00	60.00
97 100* ~~60.00~~	~~60.00~~ 100*	
174	60.00	60.00
D08N	47.74	60.00
D08S	60.00	47.74

* APPROXIMATE DISTANCE FROM END OF BRIDGE TO END OF COLORED ISLAND

*5.5"-6" OF BIT. PAVEMENT ON DECK, THUS EXTENDED APPROACHES



COLD PLANE - 1¼"

COLD PLANE - TO THE TOP OF THE APPROACH SLABS FOR BRIDGES 97 AND 59 AND COLD PLANE 2½" ON BRIDGES 1, 9, 12, 57, 58, 96, 174, D08N, & D08S.

COLD PLANE - TO THE TOP OF THE CONCRETE BRIDGE DECK AND REMOVE THE BARRIER MEMBRANE. REMOVAL OF THE BIT. CONC. PAV'T. WILL BE PAID FOR UNDER ITEM 529.10. REMOVAL OF THE BARRIER MEMBRANE WILL BE PAID FOR UNDER ITEM 580.16.

BRIDGE BITUMINOUS CONCRETE REMOVAL & REPLACEMENT PLAN

NOT TO SCALE

BRIDGE NOTES:

1. BRIDGES 57, 59, & 97 DO NOT HAVE A CURB. THE EXISTING BITUMINOUS CONCRETE PAVEMENT UNDER AND BEHIND THE GUARDRAIL SHALL BE REMOVED AND NEW PAVEMENT PLACED, SPREAD, AND COMPACTED BY HAND METHODS. THE CONTRACTOR SHALL EXERCISE EVERY REASONABLE PRECAUTION TO PREVENT BITUMINOUS MATERIALS FROM FALLING INTO THE WATER IN ACCORDANCE WITH SUBSECTION 105.24 DURING REMOVAL AND PLACEMENT OF THE BITUMINOUS CONCRETE PAVEMENT.

2. THE SHEET MEMBRANE WATERPROOFING SHALL BE PLACED TO THE EDGES OF THE CONCRETE BRIDGE DECK AND CUT TO FIT AROUND THE BRIDGE RAIL POST'S BASE PLATES.

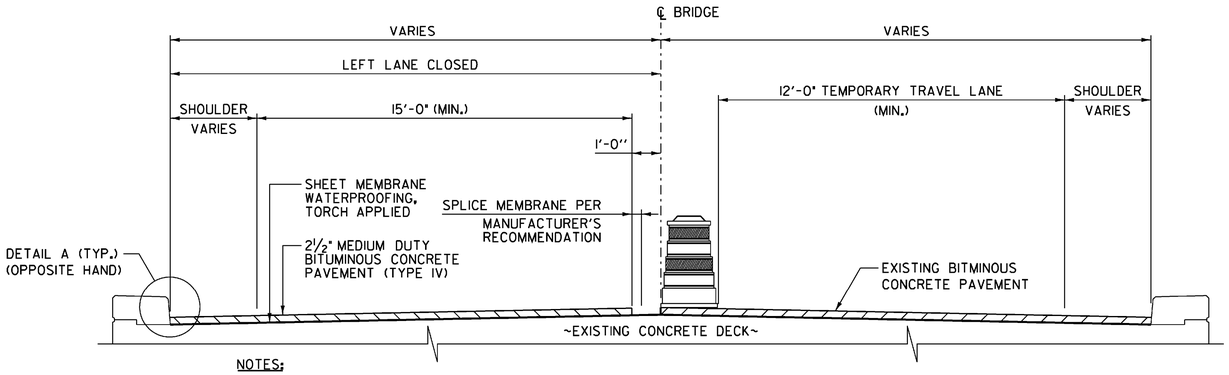
3. THE CONTRACTOR SHALL NOTE OVERALL DIMENSIONS AND LOCATIONS (THROUGH THE USE OF FIELD MEASUREMENTS AND REFERENCE SHEET NO. 68) OF PAINTED ISLAND, LEFT TURN SYMBOLS, AND TRAFFIC QUEUE LANE LINES FOR BR9 PRIOR TO REMOVAL OF BITUMINOUS CONCRETE. THE PAINTED ISLAND SHALL BE REPRODUCED CONFORMING TO VAOT STANDARD SHEET E-192, WITH THE 8" YELLOW LINES SPACED FOR "HIGH SPEED". TURN LANE RELATED DETAILS SHALL CONFORM TO VAOT STANDARD SHEETS E191 AND E192.

4. FOR PG BINDER GRADE SEE SECTION 406 OF THE GENERAL SPECIAL PROVISIONS.

T·Y·LIN INTERNATIONAL

PROJECT NAME: STATEWIDE - NORTHEAST REGION
PROJECT NUMBER: BHF MEMB(19)

FILE NAME: 07-Conc Remov Plan.dgn | PLOT DATE: 8/12/2009
PROJECT LEADER: R. HEBERT | DRAWN BY: S. MORGAN
DESIGNED BY: J. OLUND | CHECKED BY: J. OLUND
BITUMINOUS CONCRETE REMOVAL PLAN | SHEET 7 OF 80

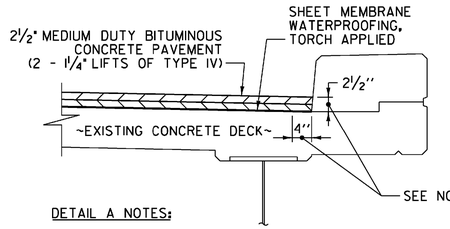


NOTES:

1. PHASE I CONSTRUCTION WITH LEFT LANE CLOSURE AND LEFT SIDE MEMBRANE SPLICE SHOWN. PHASE II CONSTRUCTION SIMILAR. RIGHT LANE CLOSURE AND RIGHT SIDE MEMBRANE SPLICE SIMILAR. CONTRACTOR TO DETERMINE LANE IN WHICH THE MEMBRANE SPLICE SHALL OCCUR. UNLESS THE BRIDGE IS SUPERELEVATED. BRIDGES WITH SUPERELVATION SHALL HAVE THE MEMBRANE PLACED WITH THE HIGH SIDE OVERLAPPING THE LOW SIDE.
2. TWO WAY TRAFFIC AND TEMPORARY TRAVEL LANES WILL BE MAINTAINED AT ALL TIMES ON BRIDGE 9. FOR BRIDGE 9 TYPICAL BRIDGE SECTION SEE SHEET 9.
3. FOR PG BINDER GRADE SEE SECTION 406 OF THE GENERAL SPECIAL PROVISIONS.

TYPICAL BRIDGE SECTION

NOT TO SCALE

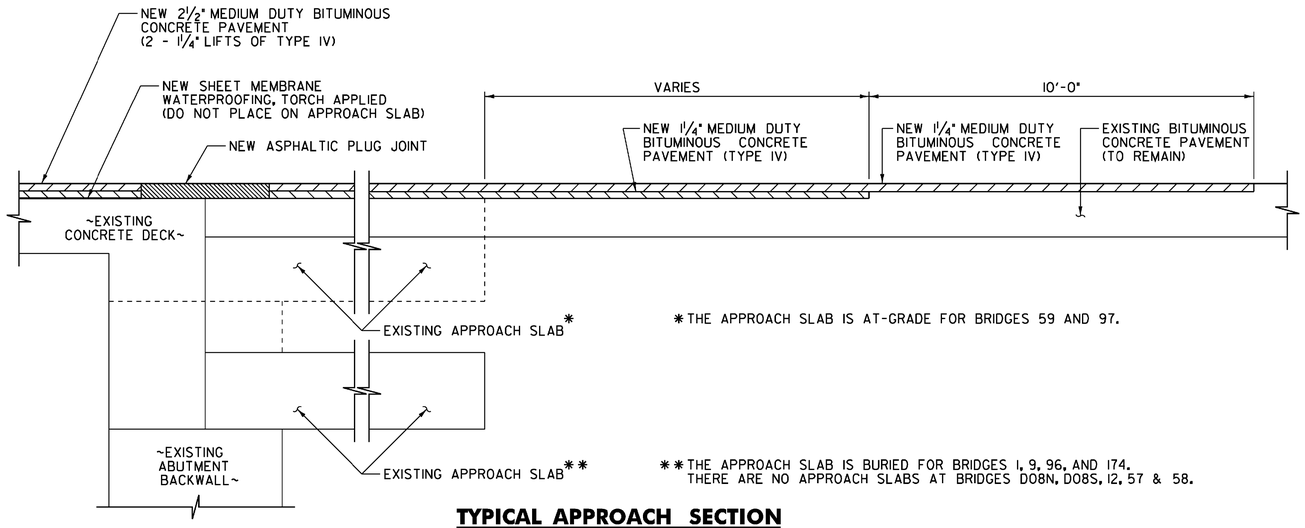


DETAIL A NOTES:

1. INDICATES AREA ALONG DECK AND UP FACE OF CURB FOR PLACEMENT OF TWO COATS OF POLYURETHANE MEMBRANE.
2. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING, TORCH APPLIED.
3. SHEET MEMBRANE WATERPROOFING SHALL EXTEND TO FACE OF CURB AS SHOWN.
4. IN ADDITION TO THE REQUIREMENTS OF SUBSECTION 519.04, BLAST CLEAN 2½" UP THE FACE OF CURB PRIOR TO PLACING THE MEMBRANE.

DETAIL A

NOT TO SCALE



* THE APPROACH SLAB IS AT-GRADE FOR BRIDGES 59 AND 97.

** THE APPROACH SLAB IS BURIED FOR BRIDGES 1, 9, 96, AND 174. THERE ARE NO APPROACH SLABS AT BRIDGES D08N, D08S, 12, 57 & 58.

TYPICAL APPROACH SECTION

NOT TO SCALE

BRIDGE LENGTH AND WIDTH (CURB TO CURB)

BRIDGE NO.	WIDTH (CURB TO CURB) (FEET)	LENGTH (FEET)
1	32.83	59.00
9	50.67	213.67
12	32.67	92.01
57	34.00	54.00
58	30.00	99.00
59	34.00	33.00
96	38.67	73.72
97	~~41.17~~ 39.5'	~~84.04~~ 92.5'
174	32.83	141.74
D08N	31.34	123.76
D08S	31.34	123.76

ASPHALTIC PLUG JOINT REPLACEMENT SCHEDULE

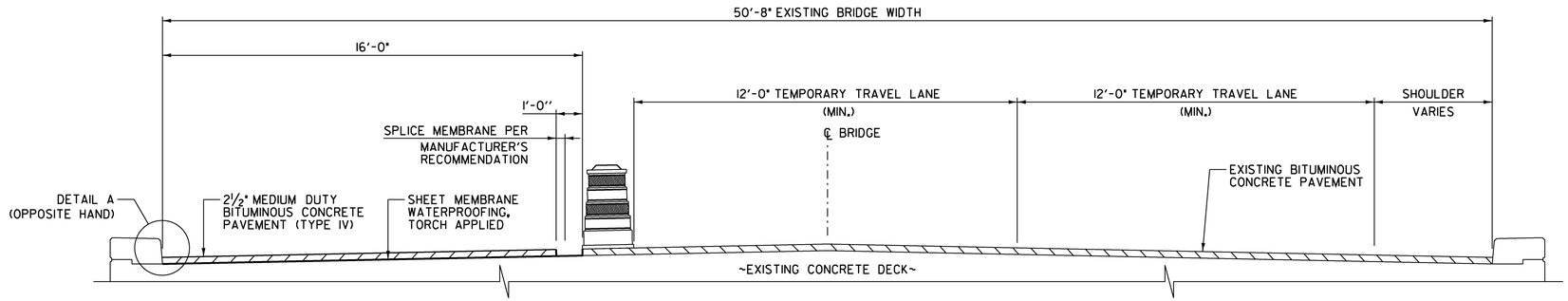
BRIDGE NO.	ABUT. 1	ABUT. 2
* 1	33 FT.	33 FT.
* 9	62 FT.	62 FT.
** 12	33 FT.	33 FT.
** 57	38 FT.	38 FT.
** 58	35 FT.	35 FT.
59	40 FT.	40 FT.
* 96	43 FT.	43 FT.
97	44 FT.	44 FT.
* 174	38 FT.	38 FT.
** D08N	34 FT.	34 FT.
** D08S	34 FT.	34 FT.

* - BURIED APPROACH SLAB, GALVANIZED STEEL PLATE NOT REQUIRED.
** - NO APPROACH SLAB, GALVANIZED STEEL PLATE NOT REQUIRED. (SEE ASPHALTIC PLUG-TYPE JOINT DETAIL ON SHEET 10).

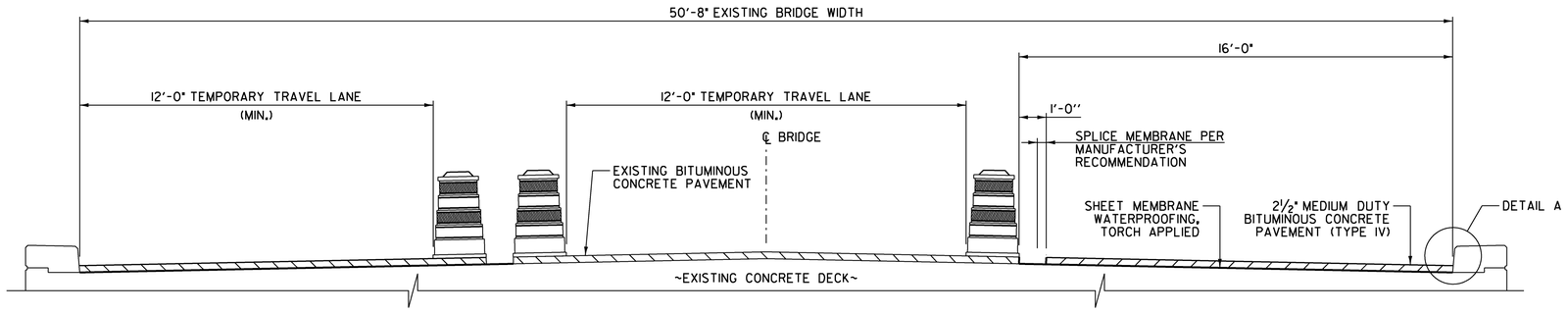
T·Y·LIN INTERNATIONAL

PROJECT NAME: STATEWIDE - NORTHEAST REGION
PROJECT NUMBER: BHF MEMB(19)

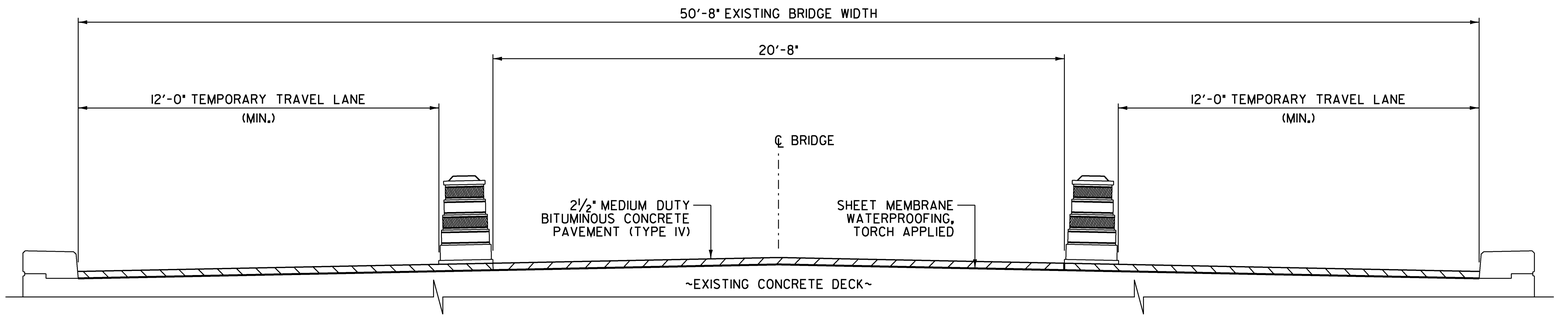
FILE NAME: 08-Bit Conc Dets 1.dgn
PROJECT LEADER: R. HEBERT
DESIGNED BY: J. OLUND
PLOT DATE: 8/12/2009
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
BITUMINOUS CONCRETE DETAILS 1
SHEET 8 OF 80



PHASE I



PHASE II



PHASE III

TYPICAL BRIDGE SECTION – BRIDGE 9

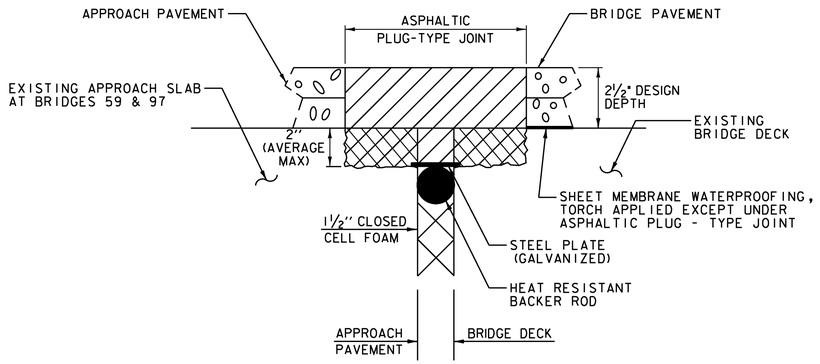
NOT TO SCALE

NOTES:

1. TWO WAY TRAFFIC AND TWO WAY TEMPORARY TRAVEL LANES WILL BE MAINTAINED AT ALL TIMES ON BRIDGE 9.
2. SEE SHEET 8 FOR TYPICAL APPROACH SLAB SECTION, BRIDGE LENGTH AND WIDTH, ASPHALTIC PLUG JOINT REPLACMENT SCHEDULE, DETAIL A, AND TYPICAL BRIDGE SECTION NOTES.

T·Y·LIN INTERNATIONAL

PROJECT NAME: STATEWIDE - NORTHEAST REGION	
PROJECT NUMBER: BHF MEMB(19)	
FILE NAME: 09-Bit Conc Dets 2.dgn	PLOT DATE: 8/12/2009
PROJECT LEADER: R. HEBERT	DRAWN BY: S. MORGAN
DESIGNED BY: J. OLUND	CHECKED BY: J. OLUND
BITUMINOUS CONCRETE DETAILS II	SHEET 9 OF 80

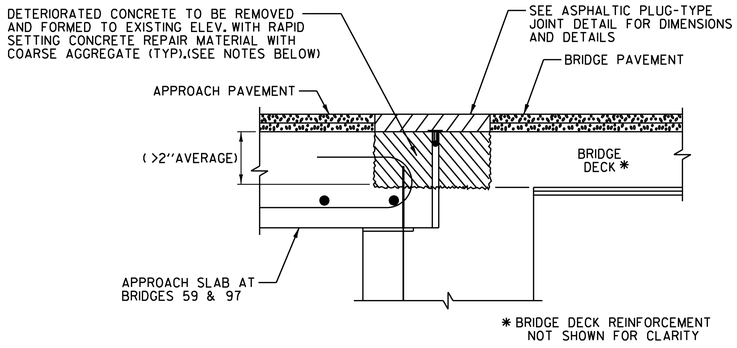


ASPHALTIC PLUG-TYPE JOINT DETAIL REMOVAL OF UP TO 2" DETERIORATED CONCRETE

NOT TO SCALE

NOTES:

1. UPON ENCOUNTERING UP TO 2" AVERAGE OF DETERIORATED CONCRETE, THE CONTRACTOR SHALL REMOVE THE DETERIORATED MATERIAL AND REPLACE IT WITH THE ASPHALTIC PLUG JOINT MATERIAL AS DIRECTED BY THE RESIDENT ENGINEER.
2. REMOVAL OF THE DETERIORATED CONCRETE WILL NOT BE PAID SEPARATELY BUT WILL BE CONSIDERED INCIDENTAL TO THE UNIT BID PRICE FOR ITEM 516.10. THE ADDITIONAL PLUG JOINT MATERIAL BELOW THE DESIGN DEPTH REQUIRED TO REPLACE THE DETERIORATED CONCRETE WILL BE CONSIDERED INCIDENTAL TO THE UNIT BID PRICE FOR THE ITEM 516.10.
3. THE STEEL PLATE IN THE ASPHALTIC PLUG JOINT MAY BE OMITTED ONLY IF THE REPAIRED SURFACE IS SO IRREGULAR IT WILL CAUSE VERTICAL MOVEMENT AND IT IS DIRECTED BY THE RESIDENT ENGINEER.

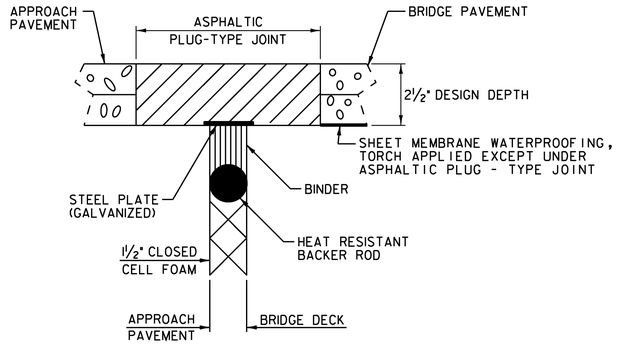


ASPHALTIC PLUG-TYPE JOINT DETAIL REMOVAL OF >2" DETERIORATED CONCRETE

NOT TO SCALE

NOTES:

1. UPON ENCOUNTERING GREATER THAN 2" AVERAGE OF DETERIORATED CONCRETE, THE CONTRACTOR SHALL REMOVE THE DETERIORATED MATERIAL AND REPLACE IT WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
2. REMOVAL OF THE DETERIORATED CONCRETE WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
3. THE STEEL PLATE IN THE ASPHALTIC PLUG JOINT MAY BE OMITTED ONLY IF THE REPAIRED SURFACE IS SO IRREGULAR IT WILL CAUSE VERTICAL MOVEMENT AND IT IS DIRECTED BY THE RESIDENT ENGINEER.



ASPHALTIC PLUG-TYPE JOINT DETAIL

NOT TO SCALE

NOTES:

1. THE JOINT SHALL BE LOCATED CENTRALLY OVER THE DECK EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. THE JOINT SHALL BE EXCAVATED AS SHOWN ON THE PLANS BY USE OF SAWS AND PNEUMATIC HAMMER OR A HAMMER AND CHISEL.
3. THE JOINT AREA SHALL BE BLAST CLEANED OF DEBRIS AND ASPHALT. THE JOINT AREA SHALL BE THOROUGHLY DRIED USING HOT COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. SPALLED AND DEFECTIVE CONCRETE SHALL BE REPAIRED WITH AN APPROVED MATERIAL AS AGREED UPON BY THE RESIDENT ENGINEER.
5. PROPERLY SIZED HEAT RESISTANT BACKER ROD SHALL BE PLACED IN THE MOVEMENT GAP ALLOWING FOR 1INCH +/- OF BINDER ABOVE THE ROD.
6. THE BINDER MATERIAL SHALL BE HEATED AND PLACED AS RECOMMENDED BY THE MANUFACTURER.
7. PLACE 1/4 INCH THICK BY 8 INCH WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRESTAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.
   A. THE STEEL PLATES MAY BE OMITTED WHERE THE APPROACH SLAB IS COVERED WITH A STONE BASE OR BITUMINOUS PAVEMENT AND VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.
8. THE BINDER MATERIAL AND AGGREGATE SHALL BE HEATED AND MIXED AS RECOMMENDED BY THE MANUFACTURER.
9. THE INSTALLATION OF MATERIAL, COMPACTION, AND TOPCOATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
10. IMMEDIATELY AFTER TOPCOATING, AN ANTI-SKID MATERIAL SHALL BE CAST OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
11. JOINT SHALL BE PROTECTED FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 125°F±.

WEATHER LIMITATIONS

BINDER MATERIAL SHALL BE APPLIED ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL:

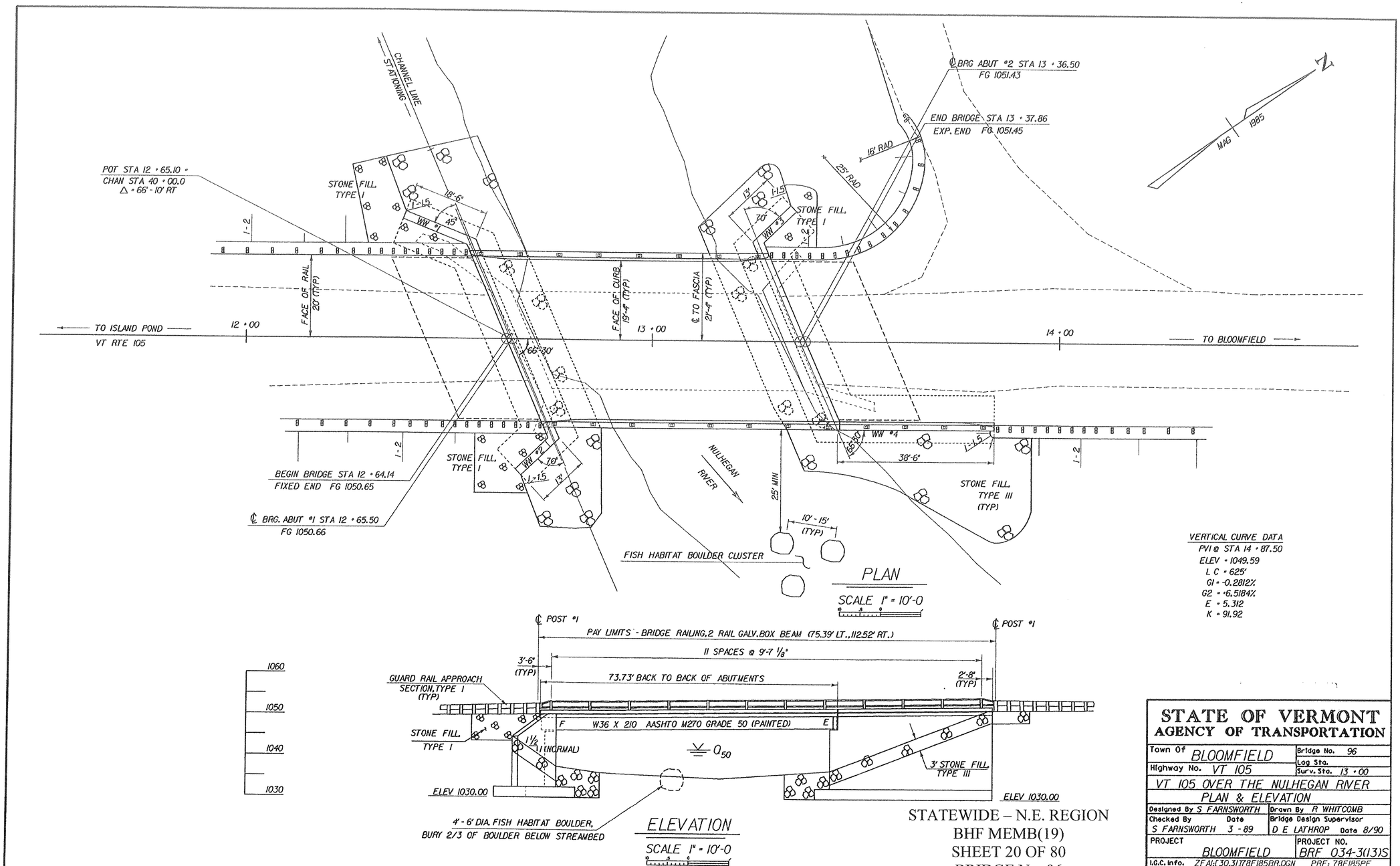
A. THE AMBIENT AIR TEMPERATURE IS AT LEAST 50° F AND RISING.

B. THE ROAD SURFACE IS SUFFICIENTLY DRY.

C. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

T·Y·LIN INTERNATIONAL

PROJECT NAME: STATEWIDE - NORTHEAST REGION	
PROJECT NUMBER: BHF MEMB(19)	
FILE NAME: 10-Pvmt Jt Dets.dgn	PLOT DATE: 8/12/2009
PROJECT LEADER: R. HEBERT	DRAWN BY: S. MORGAN
DESIGNED BY: J. OLUND	CHECKED BY: J. OLUND
PAVEMENT JOINT DETAILS	SHEET 10 OF 80

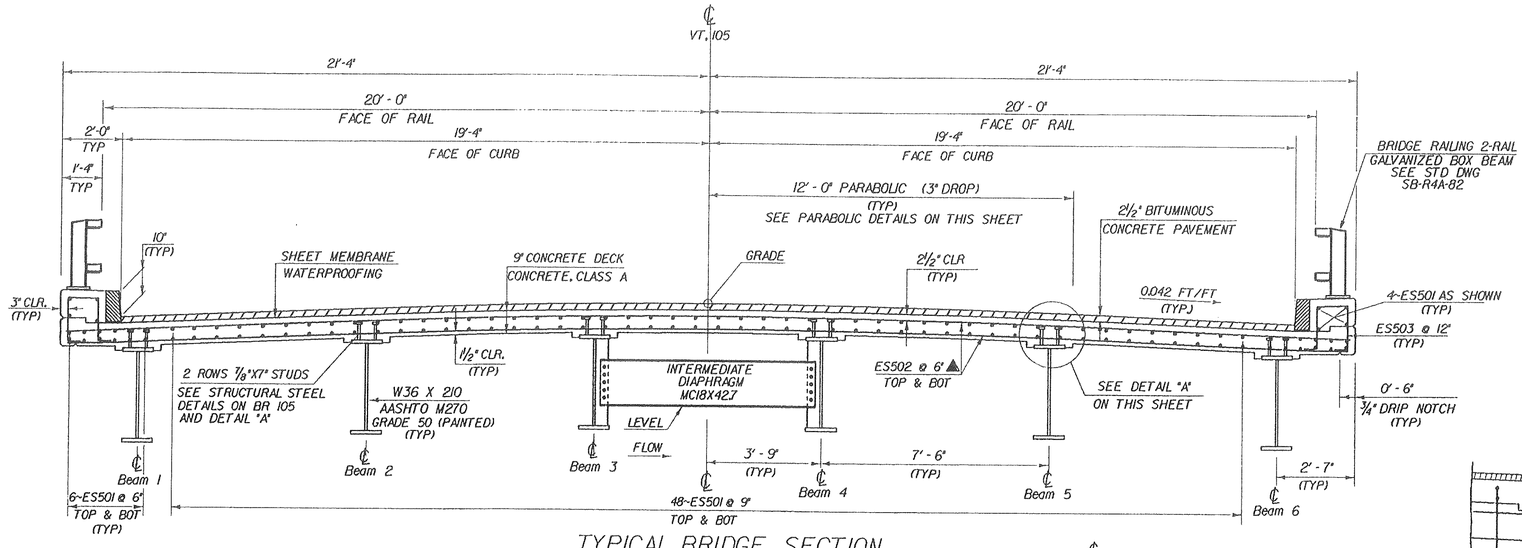


STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 20 OF 80
BRIDGE No. 96
FOR REFERENCE ONLY

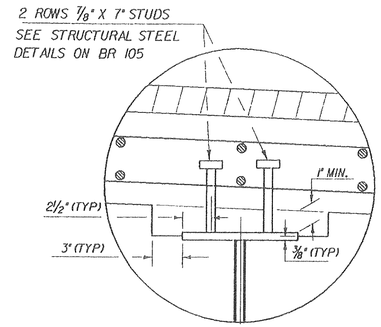
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BLOOMFIELD	Bridge No. 96
Highway No. VT 105	Log Sta.
	Surv. Sta. 13 + 00
VT 105 OVER THE NULHEGAN RIVER	
PLAN & ELEVATION	
Designed By S FARNSWORTH	Drawn By R WHITCOMB
Checked By Date	Bridge Design Supervisor
S FARNSWORTH 3 - 89	D E LATHROP Date 8/90
PROJECT BLOOMFIELD	PROJECT NO. BRF 034-3(13)S
I.G.C. Info. ZFAI:[30,31]78F185BR.DGN	PRF: 78F185PE
Bridge Sheet No. BR 102	Sheet 18 of 65

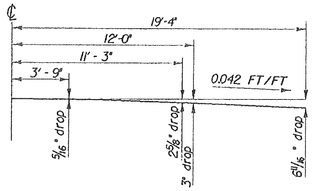
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 21 OF 80
BRIDGE No. 96
FOR REFERENCE ONLY



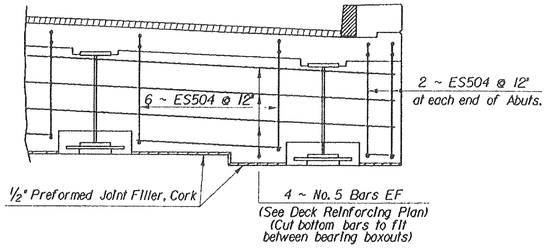
TYPICAL BRIDGE SECTION
SCALE ½" = 1'-0



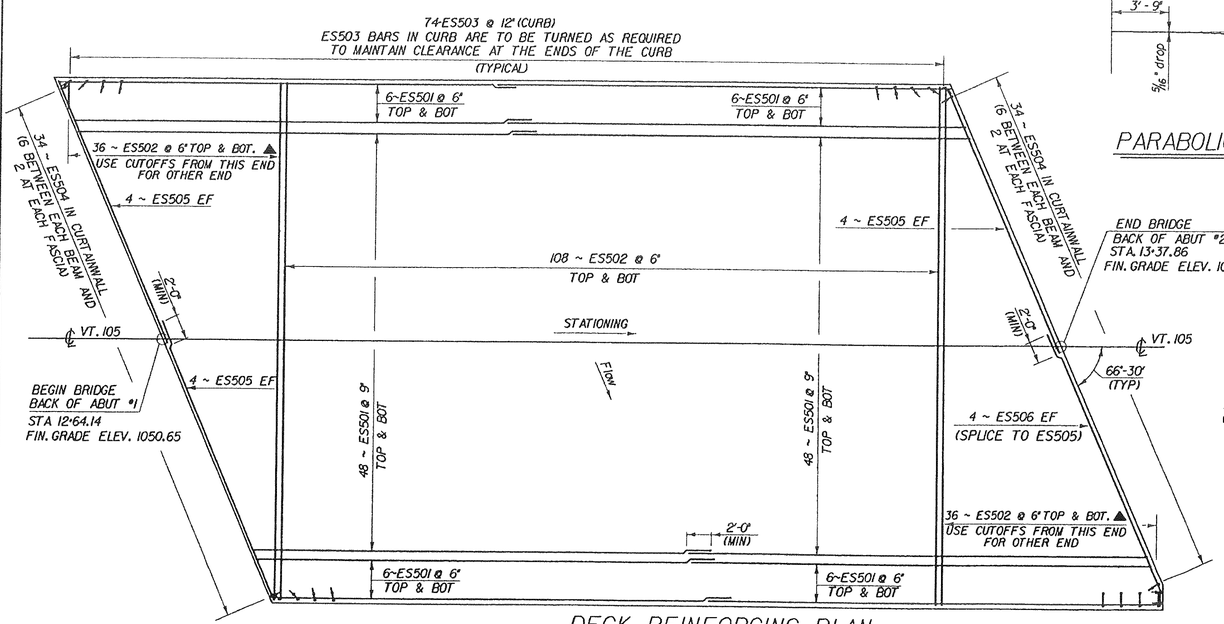
DETAIL "A"
SCALE 1" = 6"



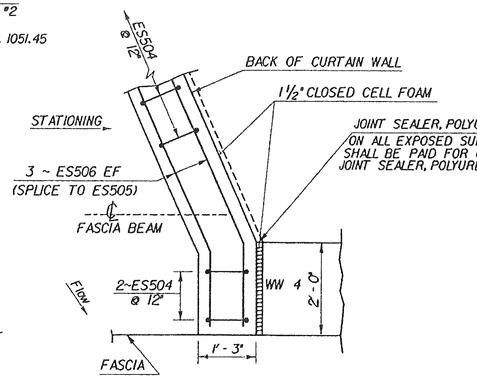
PARABOLIC DETAIL (TYP)
N.T.S.



CURTAIN WALL ELEVATION
½" = 1'-0"



DECK REINFORCING PLAN
SCALE 1" = 5'-0



CURTAIN WALL DETAILS AT WINGWALL NO. 4
¾" = 1'-0"

NOTES

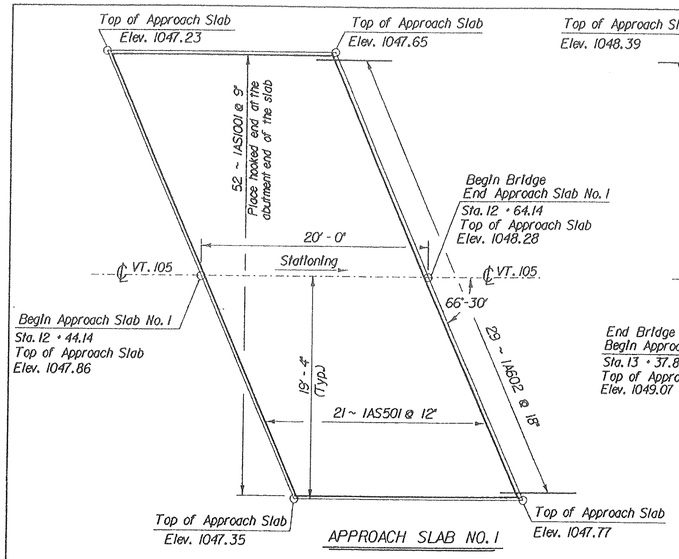
1. ALL REINFORCING STEEL IN DECK, CURBS AND CURTAIN WALLS SHALL BE EPOXY COATED.
2. ALL EPOXY COATED STEEL TO BE CUT IN FIELD IS TO BE SAW CUT AND EXPOSED END IS TO BE TREATED AS PER SECTION 507.04.

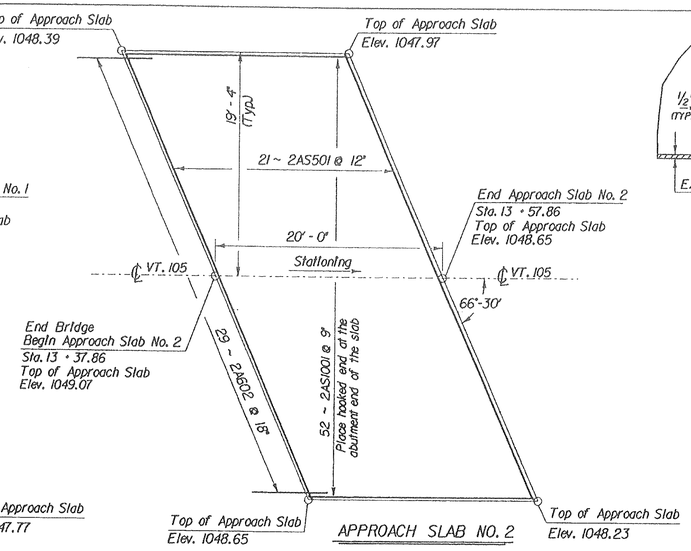
▲ - DENOTES BARS TO BE CUT TO FIT IN THE FIELD.

PLOT PLANNED

STATE OF VERMONT
AGENCY OF TRANSPORTATION

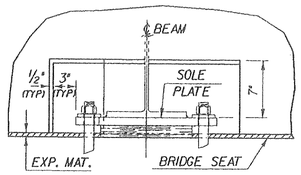
Town Of BLOOMFIELD	Bridge No. 96
	Log Sta. 39 + 61
Highway No. VT. 105	Surv. Sta. 13 + 00.5
VT. 105 OVER THE NULHEGAN RIVER	
DECK DETAILS & BRIDGE TYPICAL	
Designed By C. W. MEUNIER	Drawn By D. W. NEWTON
Checked By C. W. MEUNIER Date SEPT. '89	Bridge Design Supervisor D. E. LATHROP Date 7/90
PROJECT BLOOMFIELD	PROJECT NO. BRF 034-3(113)S
I.G.C. Info. ZHI:[30,32]78F185SUP.DGN PRF:BLOOMSUPI	
Bridge Sheet No. BR 103	Sheet 19 of 65



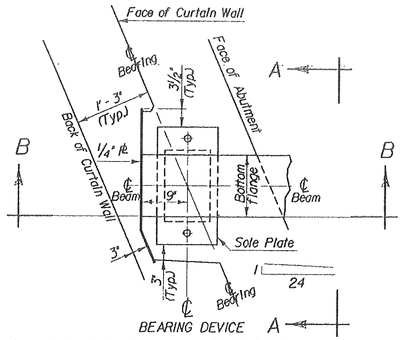


APPROACH SLAB PLAN

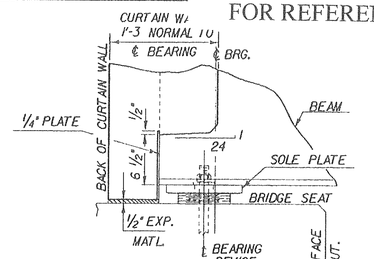
3/16" = 1'-0"



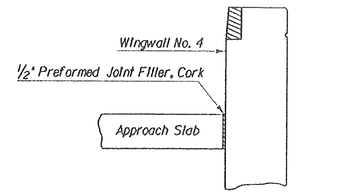
VIEW A - A



PLAN VIEW OF CONCRETE CURTAIN WALL AROUND BEARING DEVICE

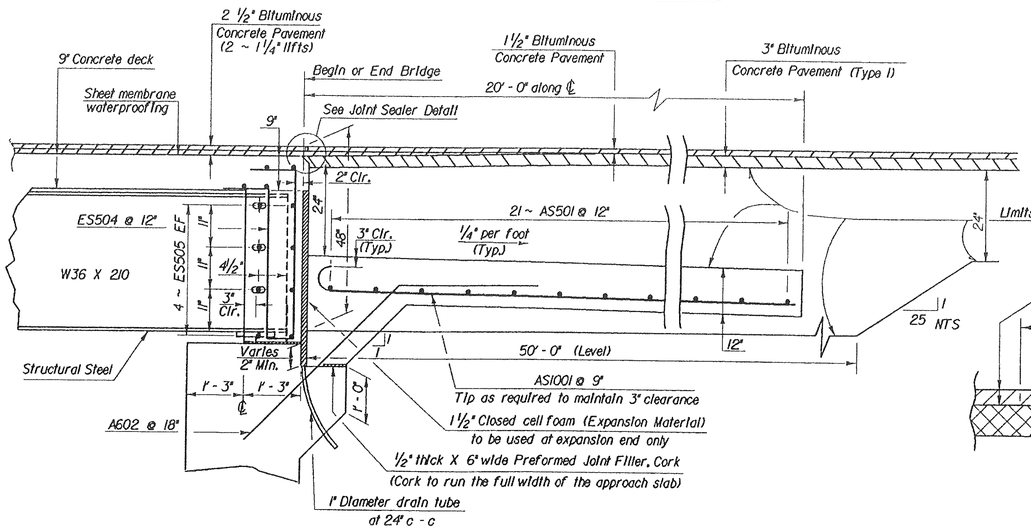


VIEW B - B



DETAIL OF APPROACH SLAB AGAINST WINGWALL NO. 4

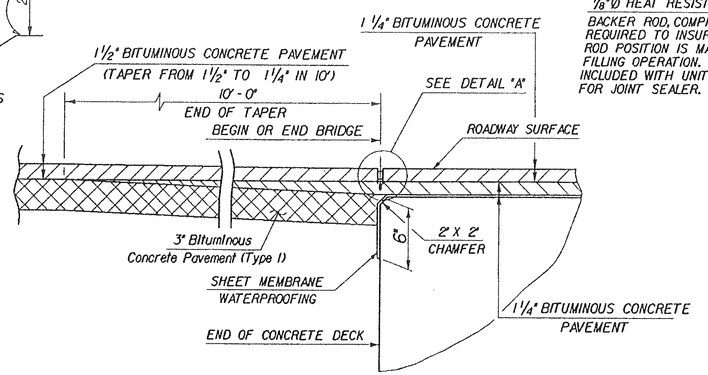
1/2" = 1'-0"



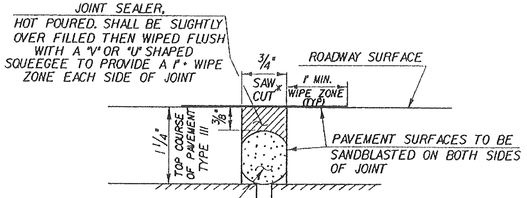
TYPICAL CURTAIN WALL, END OF BRIDGE AND APPROACH SLAB DETAILS

3/4" = 1'-0"

* JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER. SEE VT. SPECIFICATION 524 AND SPECIAL PROVISIONS.



DETAIL FOR JOINT IN PAVEMENT AND SHEET MEMBRANE AT END OF BRIDGE



DETAIL "A"

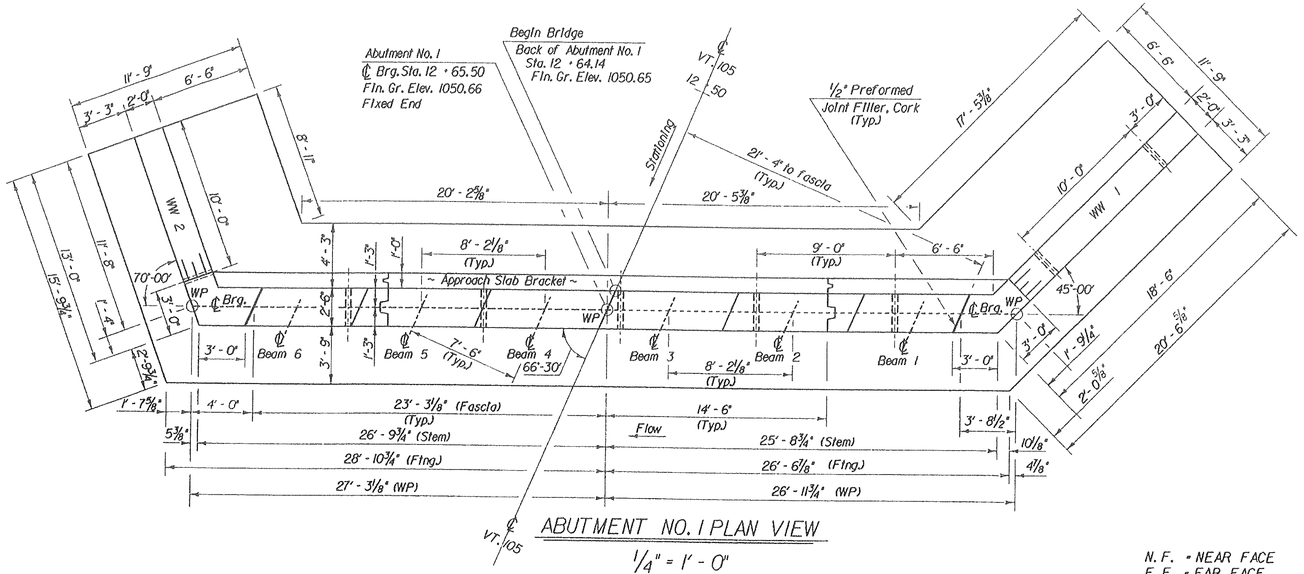
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BLOOMFIELD	Bridge No. 96
Highway No. VT. 105	Log Sta. 39 + 61
	Surv. Sta. 13 + 00.5

VT. 105 OVER THE NULHEGAN RIVER

APPROACH SLAB DETAILS

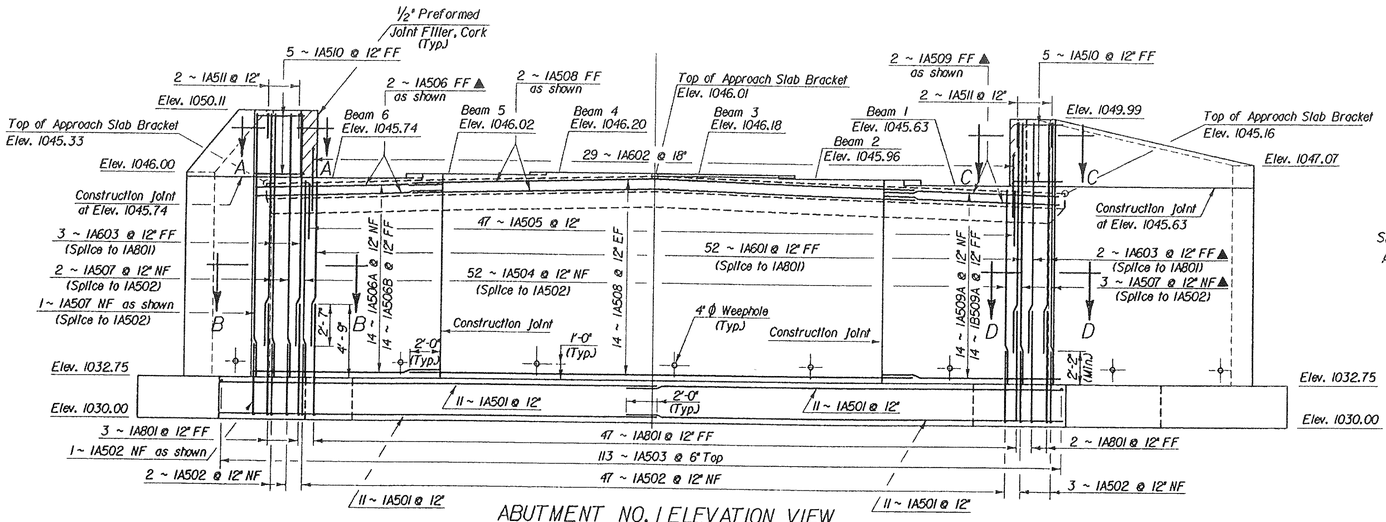
Designed By C. W. MEUNIER	Drawn By D. W. NEWTON
Checked By C. W. MEUNIER Date OCT. '89	Bridge Design Supervisor D. E. LATHROP Date 7/90
PROJECT BLOOMFIELD	PROJECT NO. BRF 034-3(13)S
I.G.C. Info. ZHI:[30,32]78F185SUP.DGN	PRF:BLOOMSUP4
Bridge Sheet No. BR 107	Sheet 23 of 65



ABUTMENT NO. 1 PLAN VIEW

1/4" = 1' - 0"

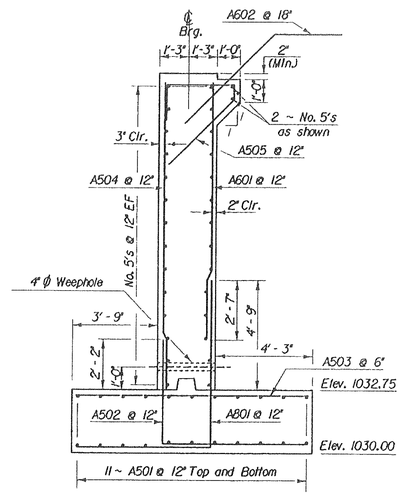
N. F. = NEAR FACE
F. F. = FAR FACE
E. F. = EACH FACE
▲ = CUT TO FIT IN FIELD
10' - 0" MAXIMUM SPACING ON WEEP HOLES



ABUTMENT NO. 1 ELEVATION VIEW

1/4" = 1' - 0"

SECTIONS A-A, B-B, C-C AND D-D ARE SHOWN ON SHEET BR 111



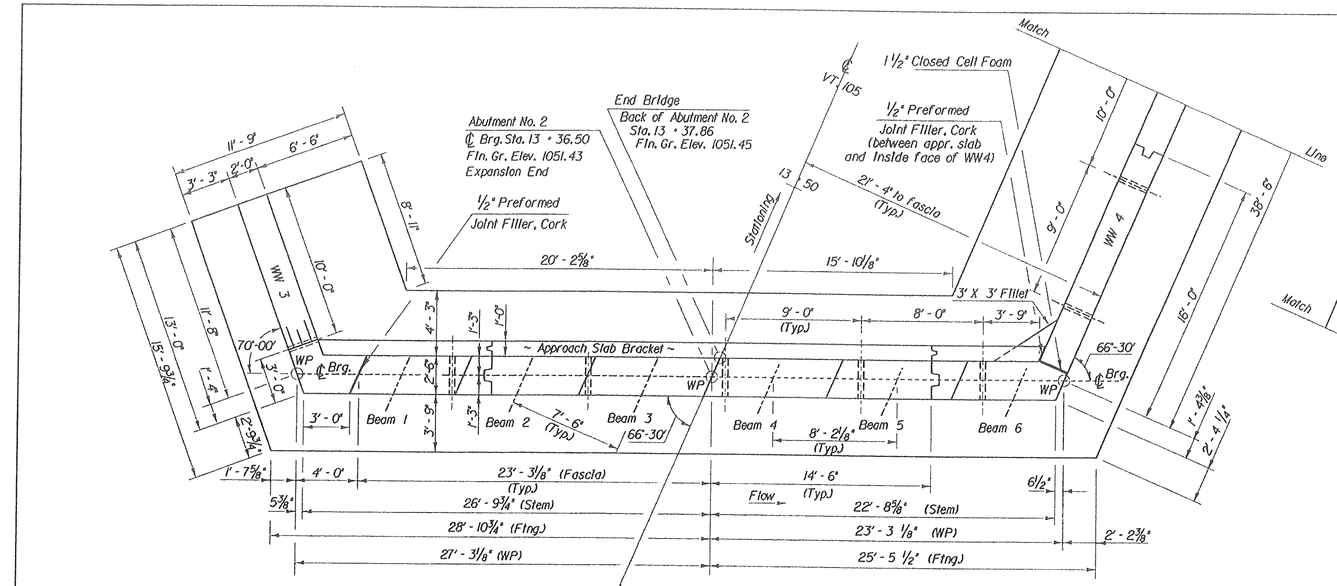
TYPICAL ABUTMENT SECTION

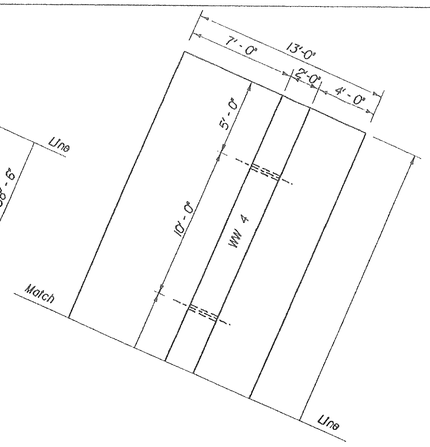
3/8" = 1' - 0"

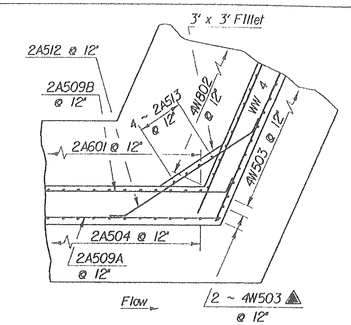
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 23 OF 80
BRIDGE No. 96
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BLOOMFIELD	Bridge No. 96
Highway No. VT. 105	Log Sta. 39 + 61
	Surv. Sta. 13 + 00.5
VT. 105 OVER THE NULHEGAN RIVER	
ABUTMENT NO. 1 PLAN & ELEVATION	
Designed By C. W. Meunier	Drawn By D.W. Newton
Checked By P. A. Maza Date Nov. '89	Bridge Design Supervisor D. E. Lathrop Date 7/90
PROJECT BLOOMFIELD	PROJECT NO. BRF034-3(13)S
I.G.C. Info. ZHI:[30,32]78F185ABT.DGN	PRF:78F185ABI
Bridge Sheet No. BR 108	Sheet 24 of 65



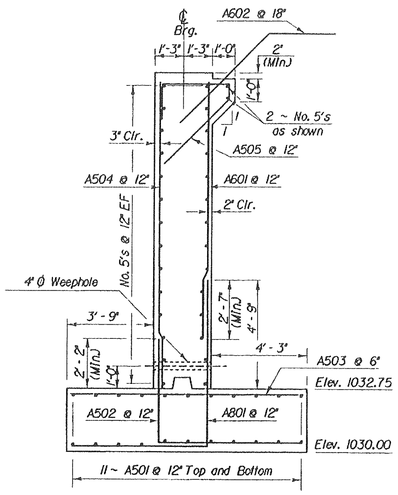




ABUTMENT NO. 2 FILLET AND WW4 CORNER DETAILS

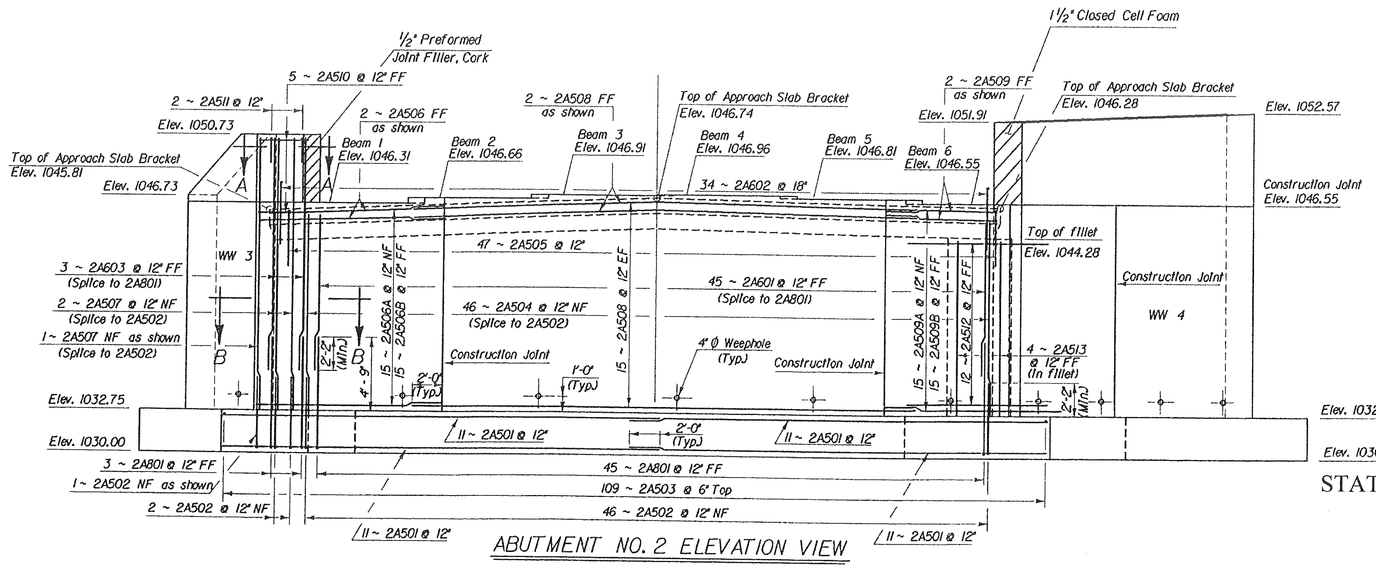
1/4" = 1'-0"

N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD
10'-0" MAXIMUM SPACING ON WEEP HOLES



TYPICAL ABUTMENT SECTION

3/8" = 1'-0"

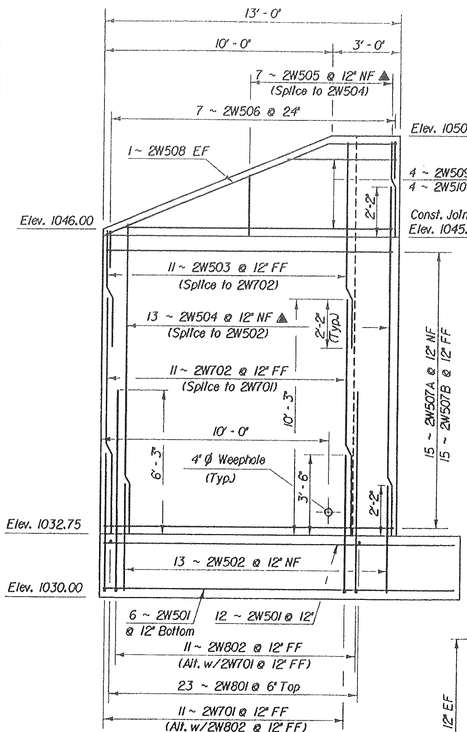


STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 24 OF 80
BRIDGE No. 96
FOR REFERENCE ONLY

BUILT AS INSPECTED

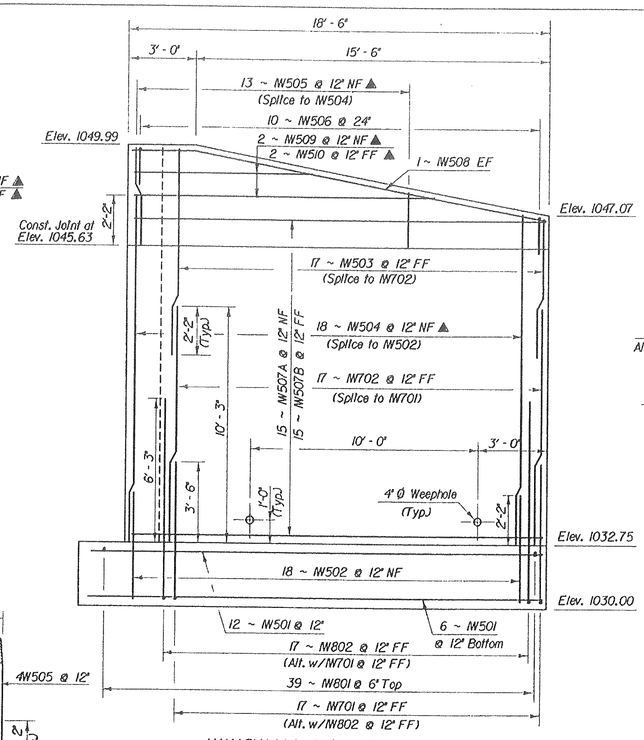
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BLOOMFIELD	Bridge No. 96
Highway No. VT. 105	Log Sta. 39 + 61
	Surv. Sta. 13 + 00.5
VT. 105 OVER THE NULHEGAN RIVER	
ABUTMENT NO. 2 PLAN & ELEVATION	
Designed By C. W. Meunier	Drawn By D.W.Newton
Checked By P. A. Maza Date Nov. '89	Bridge Design Supervisor D. E. Lathrop Date 7/90
PROJECT BLOOMFIELD	PROJECT NO. BRF034-3(13)S
I.G.C. Info. ZHI:L30,32,T8F185ABT.DGN	PRF:T8F185AB2
Bridge Sheet No. BR 109	Sheet 25 of 65



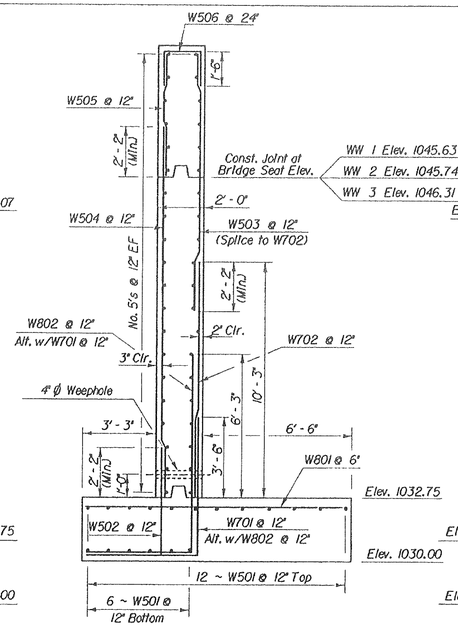
WINGWALL NO. 2 ELEVATION

3/8" = 1' - 0"



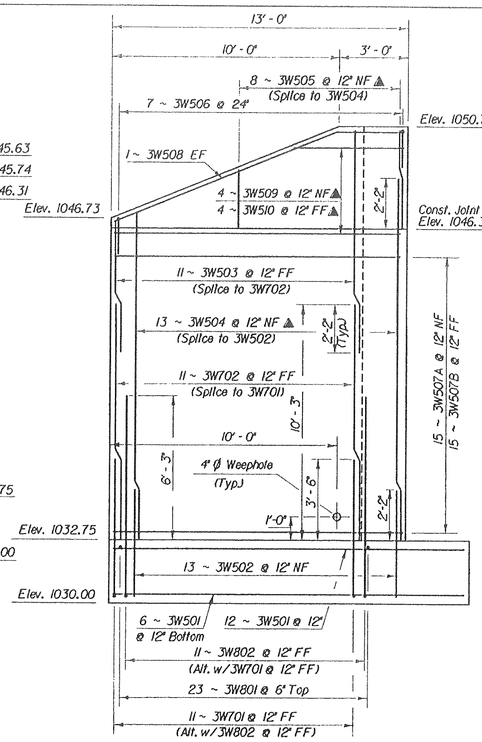
WINGWALL NO. 1 ELEVATION

3/8" = 1' - 0"



TYPICAL WINGWALL SECTION
FOR WINGWALLS NO. 1, 2 AND 3

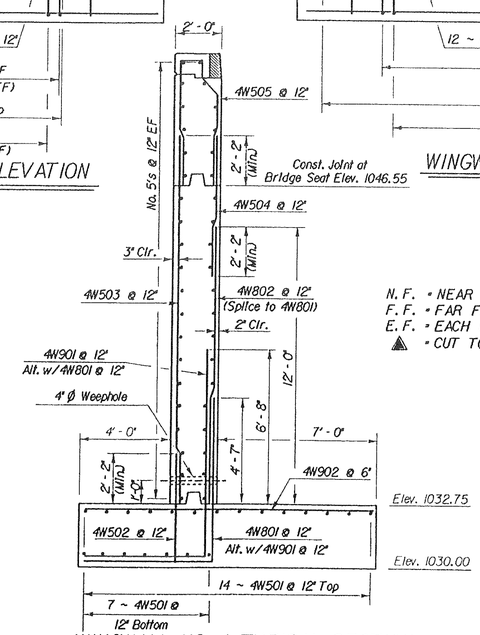
3/8" = 1' - 0"



WINGWALL NO. 3 ELEVATION

Elev. 1052.57

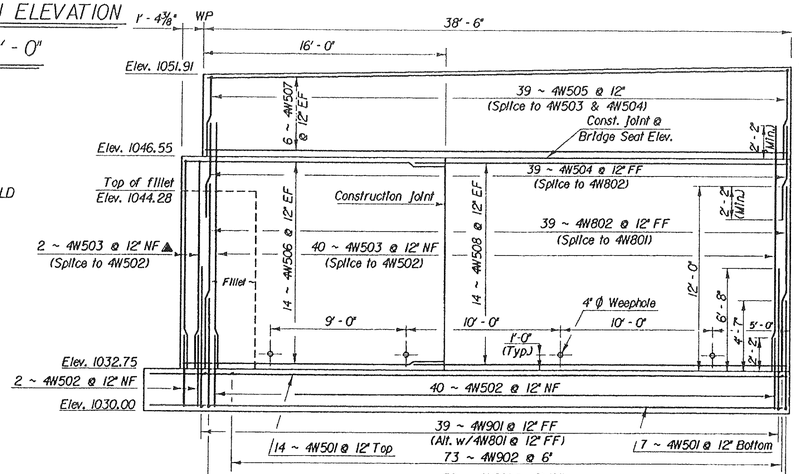
3/8" = 1' - 0"



WINGWALL NO. 4 TYPICAL SECTION

3/8" = 1' - 0"

N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD



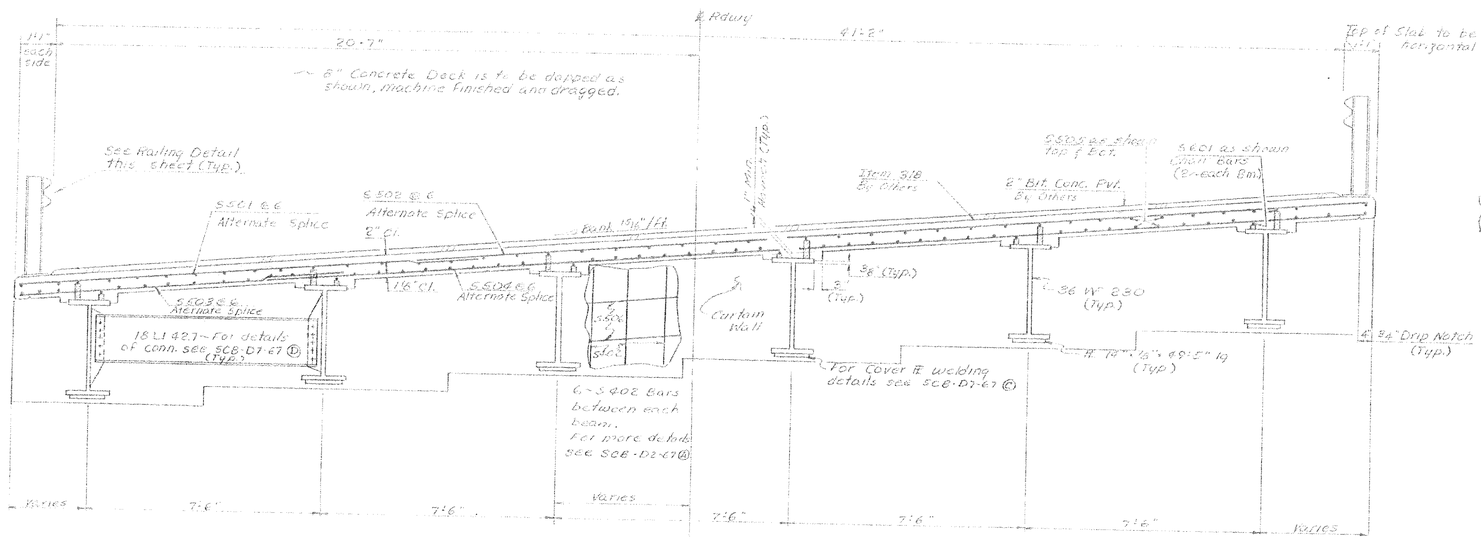
WINGWALL NO. 4 ELEVATION

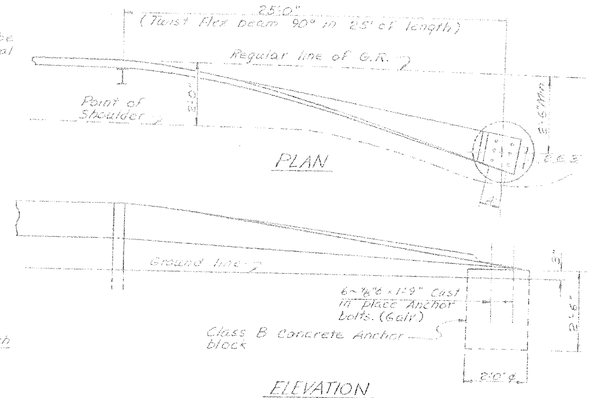
1/4" = 1' - 0"

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 25 OF 80
BRIDGE No. 96
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

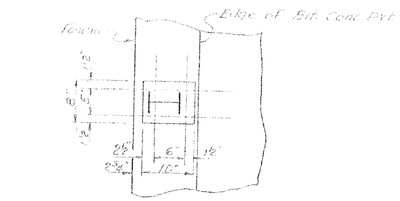
Town Of BLOOMFIELD	Bridge No. 96
Highway No. VT. 105	Log Sta. 39 + 61
	Surv. Sta. 13 + 00.5
VT. 105 OVER THE NULHEGAN RIVER	
WINGWALL ELEVATIONS & TYPICAL SECTIONS	
Designed By C. W. Meunier	Drawn By D.W.Newton
Checked By P. A. Maza Date Nov. '89	Bridge Design Supervisor D. E. Lathrop Date 7/90
PROJECT BLOOMFIELD	PROJECT NO. BRF034-3(13)S
I.G.C. Info. ZH1:[30,32]78F185ABT.DGN	PRF:78F185WWS
Bridge Sheet No. BR 110	Sheet 26 of 65

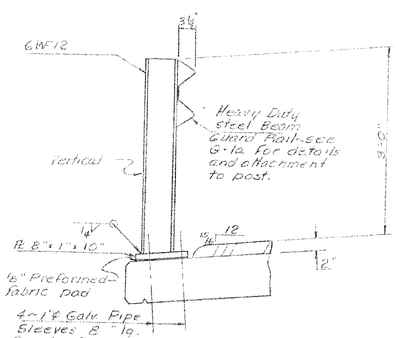




ANCHORAGE DETAILS FOR RAILING
N.T.S.

TYPICAL SECTION
12" = 1'-0"





BRIDGE RAILING DETAILS
1" = 1'-0"

* Wingwall railing details will be similar to this detail except as stated. The base plate will be horizontal. There will be no pipe sleeves. The anchor bolts will be cast into the wingwall.

* The entire assembly shall be galvanized as per A.S.T.M. A 123.

* Set Railing Post normal to grade.

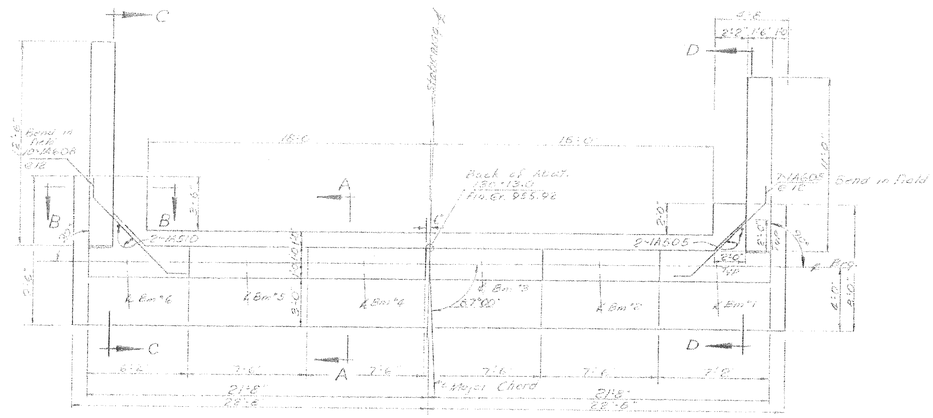
* Apply Item 610 - Paint Waterproofing to the earth side of curtain wall.

1. Step drip notch 6" from curtain wall.
2. The Contractor is to furnish bolts for railing anchorage.
3. Extend Approach Slab Bracket as shown on SCB D2-67 entire length of curtain wall.

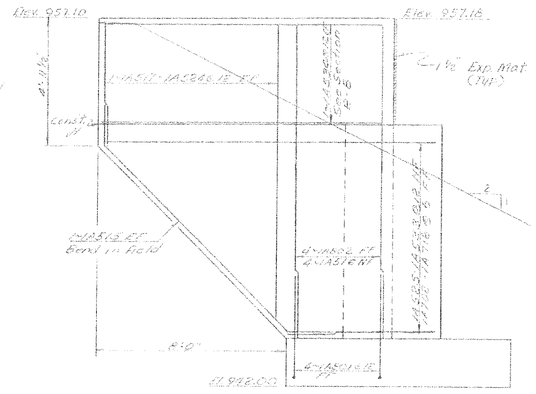
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 27 OF 80
BRIDGE No. 97
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

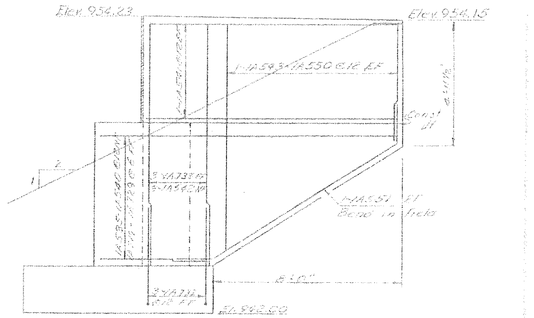
PROJECT BLOOMFIELD
TOWN OF BLOOMFIELD
ROUTE No. VT. #105 BRS. STA. 130+55
VT. #105 OVER EAST BRANCH NULHEGAN RIVER
TYPICAL SECTION & RAILING DETAILS
SCALE AS NOTED
SECTION SUPERVISOR R.L. MERCHANT
DRAWN BY S.O'BRYAN CHECKED BY R. WATSON 9-68
PROJECT No. BB-034-3-6690
SHEET 22 OF 33 BR 103



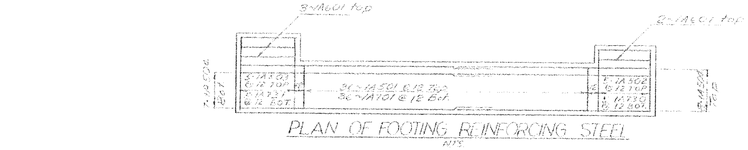
PLAN
1/2" = 1'-0"



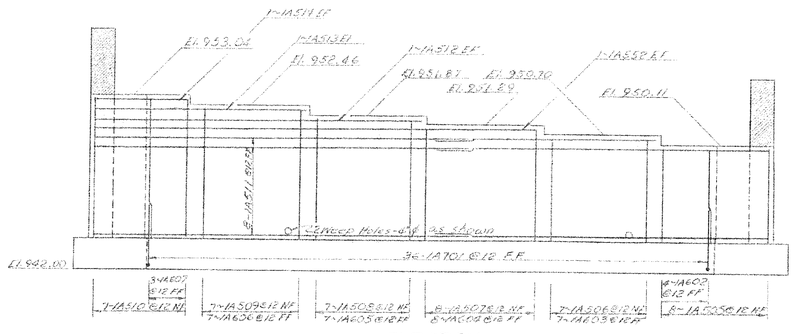
SECTION C-C
3/8" = 1'-0"



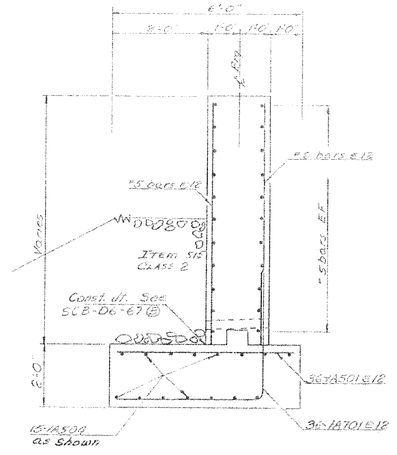
SECTION D-D
3/8" = 1'-0"



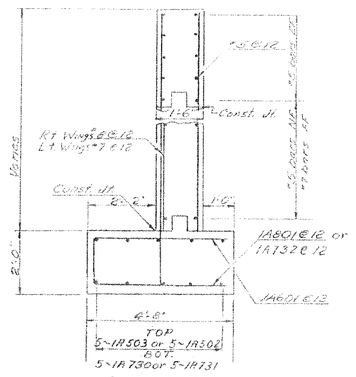
PLAN OF FOOTING REINFORCING STEEL
NTS



ELEVATION
1/2" = 1'-0"



SECTION A-A
1/2" = 1'-0"

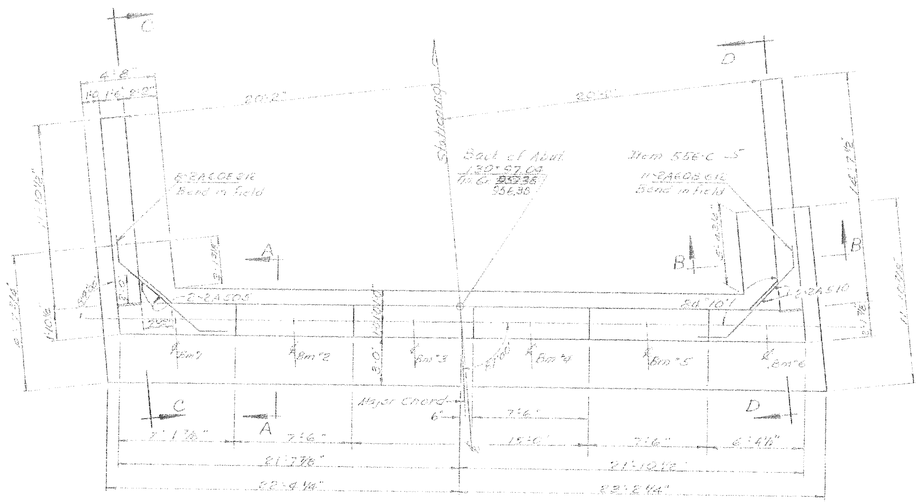


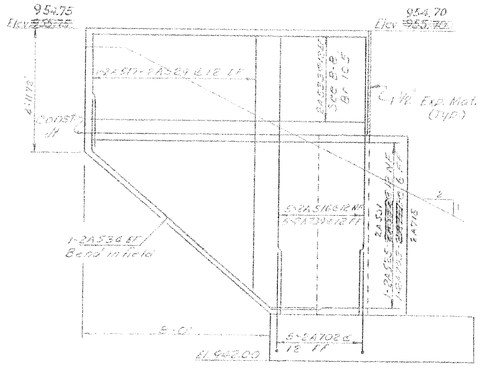
SECTION B-B
1/2" = 1'-0"

- Reinforcing steel cover shall be 3" in the footing and fillet, 2" in the stem and wings unless otherwise indicated.
- Do not place concrete in wings above construction joint prior to completion of deck slab.
- Footing is to placed on earth capable of supporting 1.95 T/sq.ft. bearing pressure. Where existing ground is unsuitable remove as Item 109 and replace with Item 622.B, Gravel Backfill for Structures.
- Apply Item 610 paint waterproofing to the earth side of wings.

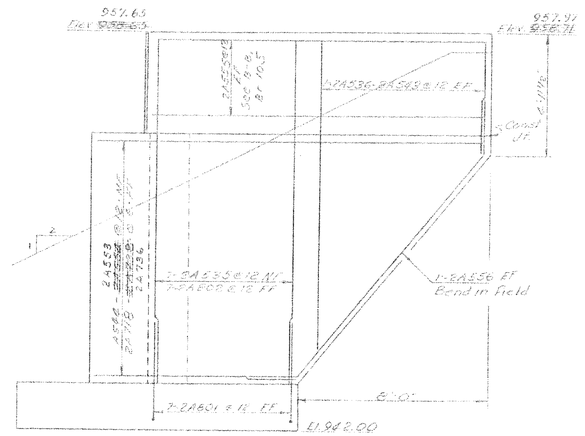
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

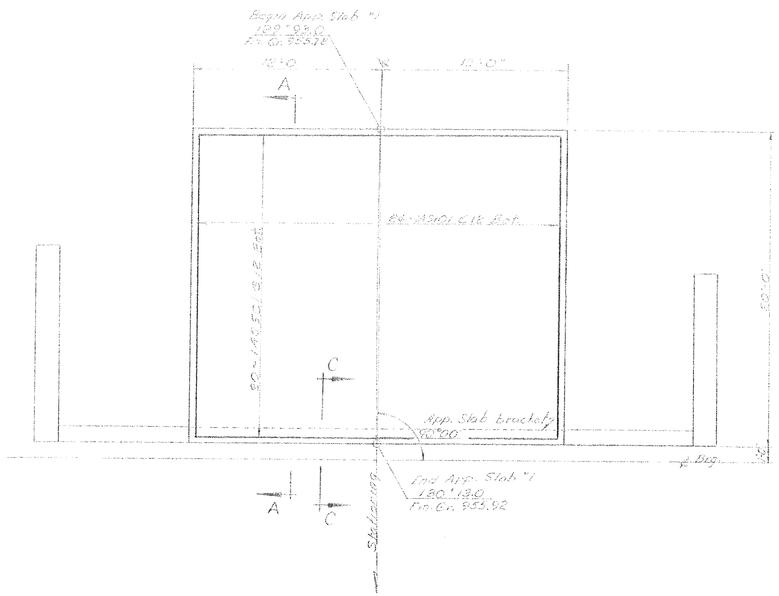
PROJECT BLOOMFIELD
TOWN OF BLOOMFIELD
ROUTE No. VT-105 Brg. No. 130+55
VT 105 OVER EAST BRANCH NULHEGAN RIVER
ABUTMENT #1 DETAILS.
SCALE AS NOTED
SECTION SUPERVISOR R.L. MERCHANT
DRAWN BY C.O'BRYAN 6/68 CHECKED BY G. TUCKER 6/68
PROJECT NO. BB-034-3(6)90
SHEET 24 OF 53 BR105



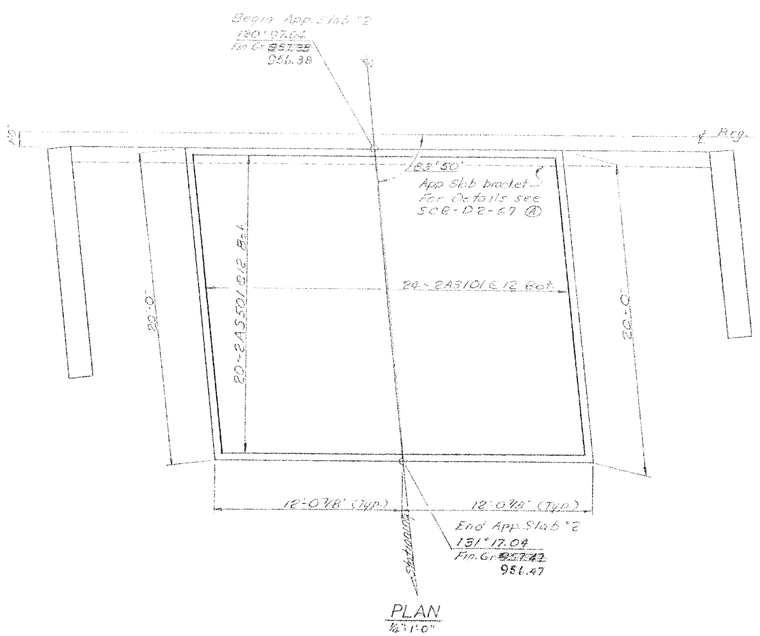


SECTION C-C

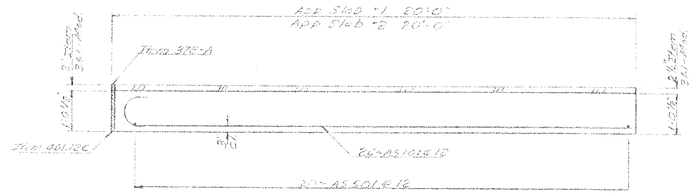

957.63
957.91
#4 EA53 - #5 EA58 @ 12 EF
#5 EA56 @ 12 NF
#5 EA56 @ 6 N



PLAN
1/8"=1'-0"

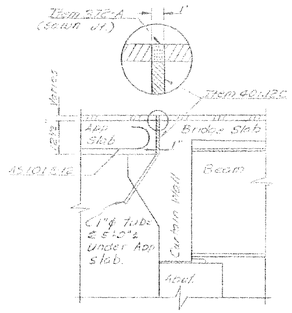


PLAN
1/8"=1'-0"



SECTION A-A
N.T.S.

For Details of Reinforcing in the Curtain Wall See SCB-D2-67 (A)
Cut #SCB Bars as Req'd.



SECTION C-C
N.T.S.

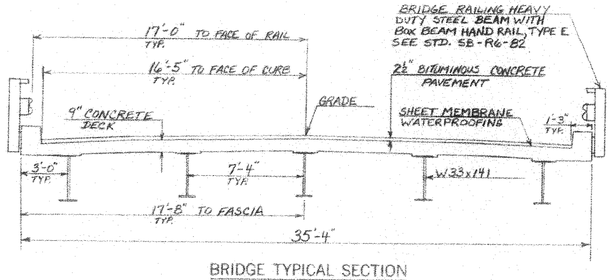
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 30 OF 80
BRIDGE No. 97
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT BLOOMFIELD
TOWN OF BLOOMFIELD
ROUTE NO. VT 105 BEG. STA. 130+55
VT 105 OVER EAST BRANCH NULHEGAN RIVER
APPROACH SLAB DETAILS
SCALE AS NOTED
SECTION SUPERVISOR R. L. MERCHANT
DRAWN BY C.CURTAIN CHECKED BY D.TUCKER 6/68
PROJECT NO. BB 039-3-66 S.C.
SHEET 20 OF 80 BR 10.7

(SEE TYPICAL ROADWAY SECTIONS)

NEW HIGHWAY SECTION — BRIDGE APPROACHES



BRIDGE TYPICAL SECTION

GENERAL NOTES

1. THE GENERAL NOTE PERTAINING TO SPECIFICATIONS, MATERIALS, AND CONSTRUCTION IS SHOWN ON STANDARD DRAWING SCB-D1-75. OTHER GENERAL NOTES ON THE STANDARD, NOT OTHERWISE SHOWN OR MODIFIED ON THESE PLANS, ARE NOTES 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, AND 16.

2. ALL CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT, AGENCY OF TRANSPORTATION, STANDARD SPECIFICATION 104.11 TO PREVENT MATERIAL AND DEBRIS FROM FALLING INTO THE STREAM AND CAUSING POTENTIAL CONTAMINATION TO THE SUTTON RIVER.

3. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON BOTH SUBSTRUCTURE AND SUPERSTRUCTURE, EXCEPT THE UNDERSIDE OF THE SLAB BETWEEN DRIP BEADS.

4. IN ALL HORIZONTAL CONSTRUCTION JOINTS, SHEAR KEYS SHALL BE FORMED AS DETAILED ON STANDARD DRAWING SCB-DA-73, DETAIL "B", AND THEY SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.

5. TURF ESTABLISHMENT SHALL BE CONSIDERED SUBSIDIARY TO ALL OTHER ITEMS IN THE CONTRACT. SEE SPECIAL PROVISIONS.

6. IN-STREAM CONSTRUCTION SHALL BE RESTRICTED TO JUNE 1 THROUGH OCTOBER 1, UNLESS THE CONTRACTOR OBTAINS PERMISSION FROM THE AGENCY OF ENVIRONMENTAL CONSERVATION TO DO WORK OUTSIDE THAT TIME FRAME.

7. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" X 1".

8. ALL DIMENSIONS OF EXISTING MATERIALS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO THE START OF WORK.

9. THE "STONE FILL, TYPE II" SHALL BE PLACED IN FRONT OF THE ABUTMENTS BEFORE THE STRUCTURAL STEEL IS SET.

10. THE DRILLING AND GROUTING OF REINFORCING STEEL INTO EXISTING CONCRETE SHALL BE SUBSIDIARY TO THE ITEM "REINFORCING STEEL".

11. WHERE NEW CONCRETE IS POURED AGAINST EXISTING CONCRETE, NEAT CEMENT GROUT SHALL BE USED. SEE STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED MARCH 1976, SECTION 501.12(b).

12. THE SUPERSTRUCTURE WILL BE REMOVED UNDER THE ITEM "REMOVAL OF EXISTING SUPERSTRUCTURE", AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

13. THE EXISTING ABUTMENTS AND WINGWALLS SHALL BE REMOVED TO THE LIMITS SHOWN ON THESE PLANS UNDER THE ITEMS "STRUCTURE EXCAVATION" AND "UNCLASSIFIED CHANNEL EXCAVATION".

14. EXISTING ABUTMENT NO. 1 SHALL BE REMOVED TO A DEPTH OF FOUR (4) FEET BELOW SUBGRADE. EXISTING ABUTMENT NO. 2 SHALL BE REMOVED AS SHOWN ON THESE PLANS ON SHEET BR 110. PARTIAL REMOVAL OF BOTH ABUTMENTS SHALL BE PAID FOR UNDER THE ITEM "PARTIAL REMOVAL OF STRUCTURE".

15. THE STRUCTURE IS DESIGNED FOR AN HS-25-44 LIVE LOAD WITH NO FUTURE PAVEMENT ALLOWANCE.

16. THE ABUTMENTS ARE DESIGNED TO SET ON BEARING PILES, PILES DRIVEN TO BEDROCK, WITH A DESIGN LOAD CAPACITY OF 140 KIPS PER PILE.

17. THE COST OF ON-PROJECT SIGNS AND BARRICADES REQUIRED SHALL BE SUBSIDIARY TO ALL OTHER CONTRACT ITEMS. OFF-PROJECT DETOUR SIGNS WILL BE BY OTHERS.

18. EXISTING ROADWAY SIGNS TO REMAIN PROPERTY OF TOWN.

19. NO TRAFFIC SHALL BE ALLOWED ON THE NEW SLAB UNTIL THE CURE PERIOD IS UP AND THE 28 DAY DESIGN STRENGTH IS ATTAINED AS EVIDENCED BY TEST CYLINDER BREAKS.

20. FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AT A MAXIMUM OF FOUR (4) FEET.

21. THE PREFORMED JOINT FILLER, CLOSED CELL FOAM, SHALL MEET THE REQUIREMENTS OF SUBSECTION 707.23. SEE GENERAL SPECIAL PROVISIONS FOR THIS PROJECT. PAYMENT SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "CONCRETE, CLASS A".

22. SEE ADDITIONAL NOTES PERTAINING TO BEARINGS AND BRIDGE SEATS ON SHEET BR 107.

23. DRIP PLATES AT BOTH ENDS OF BEAMS NO. 1 AND 5 ARE TO BE PLACED ACCORDING TO DETAIL "C" ON STANDARD SHEET SCB-D7-73.

24. THE BRIDGE SEATS UNDER THE BEARINGS SHALL BE LEVEL AND THE SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.

25. THE BRIDGE WILL BE CLOSED TO TRAFFIC AND SHALL REMAIN CLOSED FOR THE DURATION OF THE CONTRACT.

26. SEE STANDARD DRAWING SCB-D9-71, DETAIL B, SECTIONS A-A, C-C, AND D-D FOR POLYURETHANE JOINT SEALER DETAILS TO BE USED BETWEEN CURBS ON SUPERSTRUCTURE AND CURB ON WINGWALL NO. 1. PAYMENT TO BE SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT. OMIT WATERSTOP.

27. MODIFY STANDARD DRAWING SCB-D4-76, DETAIL B, BY OMITTING PARAFFIN AT JOINTS IN CURBS AND BY RUNNING REINFORCING STEEL THROUGH JOINTS.

28. THE VERMONT STANDARD SPECIFICATION, 204.12, CONCERNING COMPACTION OF THE BACKFILL FOR STRUCTURES SHALL BE STRICTLY FOLLOWED.

29. EXTREME CARE SHALL BE TAKEN TO PREVENT THE DISCHARGE OF RAW CONCRETE, PAINT, CHEMICALS, AND DEBRIS INTO THE SUTTON RIVER.

30. THE GENERAL SPECIFICATIONS ADDRESSING THE CONTROL OF EROSION AND SILTATION SHALL BE CAREFULLY ADHERED TO IN ORDER TO MINIMIZE TURBIDITY AND OTHER ADVERSE IMPACTS. THE LARGE AMOUNT OF SILTATION EVIDENT ABOVE THE CRIB DAMS SHALL NOT BE RELEASED DOWNSTREAM FOR ANY REASON.

31. THE TWO EXISTING CRIB DAMS SHALL BE RETAINED IN THEIR PRESENT LOCATION AND ELEVATIONS. IF DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT ENGINEER.

32. THE STATION AND SKEW OF CENTERLINE BEARING AT EXISTING ABUTMENT NO. 2 SHALL BE CHECKED AND VERIFIED BEFORE CONSTRUCTION OF ABUTMENT NO. 1 BEGINS. ABUTMENT NO. 1 SHALL BE PARALLEL TO ABUTMENT NO. 2.

33. PAYMENT FOR THE ITEM "JOINT SEALER, POLYURETHANE", TO BE USED AT THE CURB JOINT AT WINGWALL NO. 1, SHALL BE SUBSIDIARY TO THE SURROUNDING CONCRETE.

INDEX OF SHEETS

BR101	PRELIMINARY INFORMATION
BR102	QUANTITY SHEET
BR103	BORING LOGS
BR104	PLAN & ELEVATION
BR105	TYPICAL BRIDGE SECTION
BR106	FRAMING PLAN
BR107	BEARING DETAILS
BR108	ABUTMENT NO.1 DETAILS
BR109	WINGWALL DETAILS
BR110	ABUTMENT NO. 2 DETAILS
BR111	REINFORCING STEEL SCHEDULE
BR112-115	CHANNEL CROSS-SECTIONS

LIST OF STANDARDS

SB-R6-82	6-18-82R
SCB-D1-75	9-14-81R
SCB-D6-73, DET. B	1-3-79R
SCB-D7-71, DET. C	12-15-76R
SCB-D9-71, DET. B	1-27-75R

EXISTING STRUCTURE

1. STRUCTURE TYPE THRU PLATE GIRDER BRIDGE OVERALL LENGTH 80'-0" INVENTORY RATING 16 TONS
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 78'-0"
3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM 73'-0"
4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) 740 SQ FT. VERTICAL CLEARANCE ABOVE STREAMBED 10'±
5. WATER SURFACE ELEVATION @ Q 2.33 896.9 WATER SURFACE ELEVATION @ Q 50 898.7
6. WATER SURFACE ELEVATION AT FLOOD OF RECORD UNKNOWN YEAR 1927 ESTIMATED DISCHARGE UNKNOWN
7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? YES IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR? ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF NA
8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL BRIDGE IS ON TIMBER PILING
9. DISPOSITION OF STRUCTURE TO BE REMOVED

NEW STRUCTURE

STRUCTURE GEOMETRY:

1. STRUCTURE TYPE ROLLED BEAM BRIDGE OVERALL LENGTH 59'-0"
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 57'-0"
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER 8'±
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM 55'-0"
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) 485 ft²
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? NO

HYDRAULIC DATA:

1. Q 2.33 525 cfs WATER ELEVATION 896.9 VELOCITY 5.6 fps
   Q 10 1100 cfs WATER ELEVATION 897.8 VELOCITY 7.6 fps
   Q 25 1500 cfs WATER ELEVATION 898.4 VELOCITY 8.6 fps
   Q 50 1800 cfs WATER ELEVATION 898.7 VELOCITY 9.2 fps
   Q 100 2100 cfs WATER ELEVATION 899.0 VELOCITY 7.8 fps
2. DRAINAGE AREA 11.3 mi² CHARACTER OF TERRAIN HILLY TO MOUNTAINOUS
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? NA
4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? YES IS ORDINARY RISE RAPID? YES
5. NATURE OF NATURAL STREAMBED SAND/SILT/GRAVEL
6. ESTIMATED SCOUR DEPTH 2'-0" COMMENT ON: DRIFT MOD. ICE MOD.
7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? YES IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? N/A ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF NA
8. VERTICAL CLEARANCE ABOVE Q 50 +5.2
9. ALLOWABLE WATER SURFACE ELEVATION 904.0 LIMITED BY BOTTOM OF BEAM
10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO IF YES, DESCRIBE
11. AVERAGE DAILY LOW FLOW 10 cfs DEPTH 1.0 AVERAGE DAILY HIGH FLOW 35 cfs DEPTH 1.5'
12. STREAMBANK OR CHANNEL PROTECTION REQUIRED STONE FILL TYPE II
13. DISTANCE TO EXISTING UPSTREAM STRUCTURE 400' SPAN 20' WATERWAY AREA OF FULL OPENING ____ Q ____
14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE ____ SPAN ____ WATERWAY AREA OF FULL OPENING ____ Q ____

ALLOWABLE STRESSES:

1. DESIGN LIVE LOAD AASHTO HS 25-44
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
3. ALLOWABLE LOAD FOR PILING 140 KIPS TYPE HP 12 x 53 ESTIMATED LENGTH 40 FT.
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL ASTM A 588 TENSION 27,000 PSI
5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION 24,000 PSI COMPRESSION 20,000 PSI
6. ALLOWABLE STRESS FOR CONCRETE CLASS A f'_c 3,500 PSI f_c 1400 PSI
   CLASS B f'_c 2,500 PSI f_c 1,400 PSI

TRAFFIC MAINTENANCE:

1. IS TRAFFIC TO BE MAINTAINED? NO IF YES, ON EXISTING STRUCTURE ____ OR ON TEMPORARY BRIDGE ____
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY ____ TRAFFIC CONTROL SIGNALS REQUIRED ____
   MINIMUM CLEAR SPAN ____ MINIMUM CLEAR HEIGHT ____ MINIMUM WATERWAY AREA ____
   ARE SIDEWALKS REQUIRED? ____ IF SO, ON WHAT SIDE? ____

ADDITIONAL DESIGN CONSIDERATIONS

STRESS LEVELS	LOAD RATING (TONS) TRUCK						
	H	HS	3S2	6 AXLE	3A STR.	4A STR	5A SEMI
INVENTORY 0.55 Fy = 27.0 KSI	34	45					
POSTED 0.67 Fy = 33.5 KSI	51		87		56	57	74
OPERATING 0.75 Fy = 37.5 KSI			105	115			

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 31 OF 80
BRIDGE No. 1
FOR REFERENCE ONLY

RECOMMENDED FOR APPROVAL [signature] STRUCTURES ENGINEER DATE 6/25/84

RECOMMENDED FOR APPROVAL [signature] CHIEF OF DESIGN DATE 6/26/84

APPROVED BY ACTING [signature] DIRECTOR OF ENGINEERING & CONSTRUCTION DATE 6/26/84

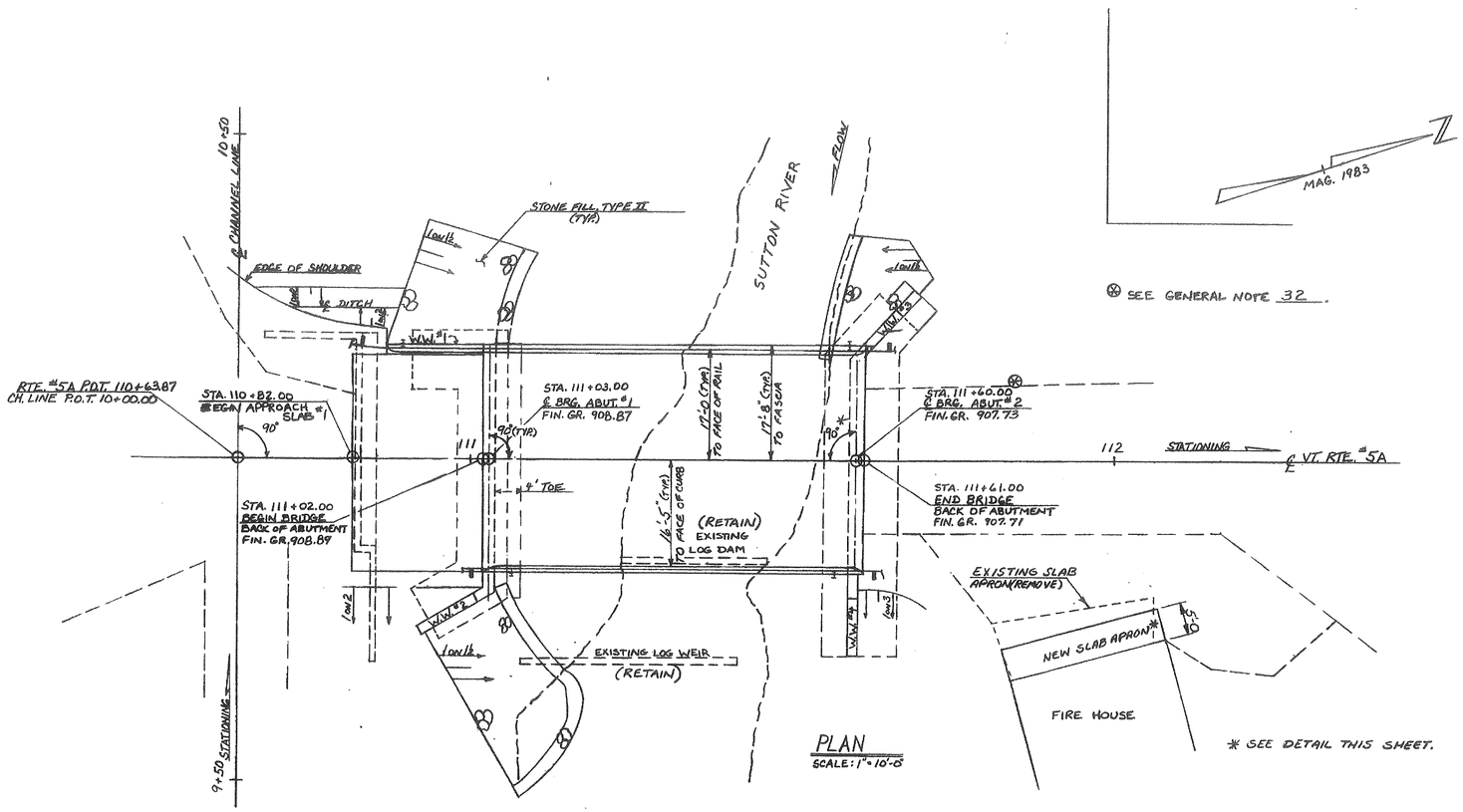
REVISIONS

NO.	DESCRIPTION	BY & DATE

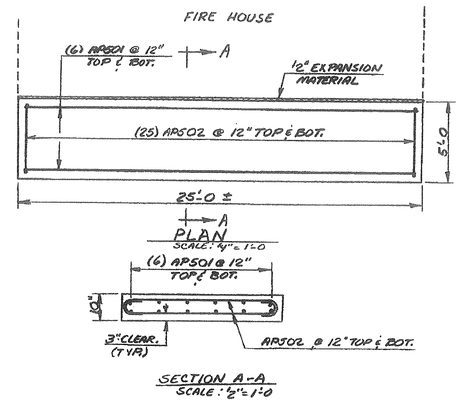
STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF BURKE	Bridge No. 1
HIGHWAY NO. VT. RTE. 5A	Log Sts. Surv. Sta. 111+31.5
VT. RTE. 5A OVER SUTTON RIVER	
PRELIMINARY INFORMATION	
Designed by J.B. MCCARTHY	Drawn by J.B. MCCARTHY
Checked by KINIRY/MCCARTHY date 6/84	Bridge Design Supervisor R.L. Ootley date 6-'85
PROJECT BURKE	PROJECT NO. BRS 0287(3)S
Bridge Sheet No. BR101	Sheet 17 of 81

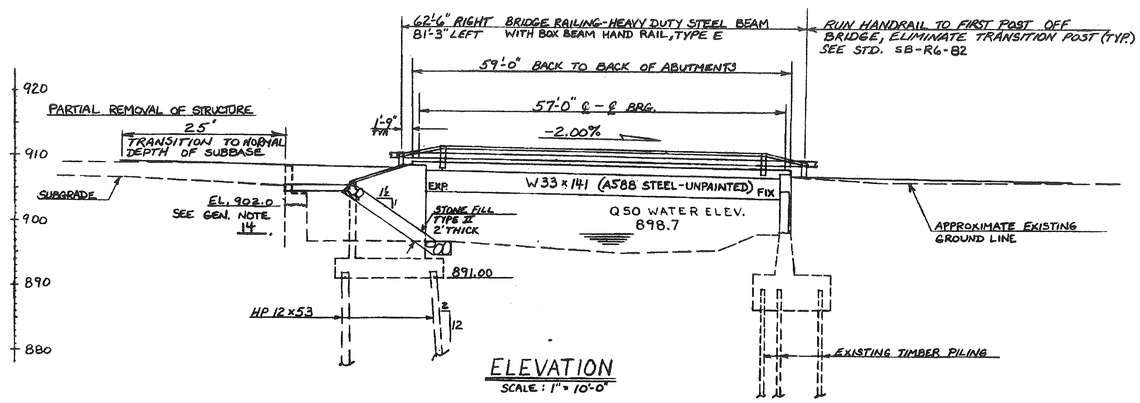
MARGOLIS P-4051



⊛ SEE GENERAL NOTE 32.



SLAB APRON DETAIL



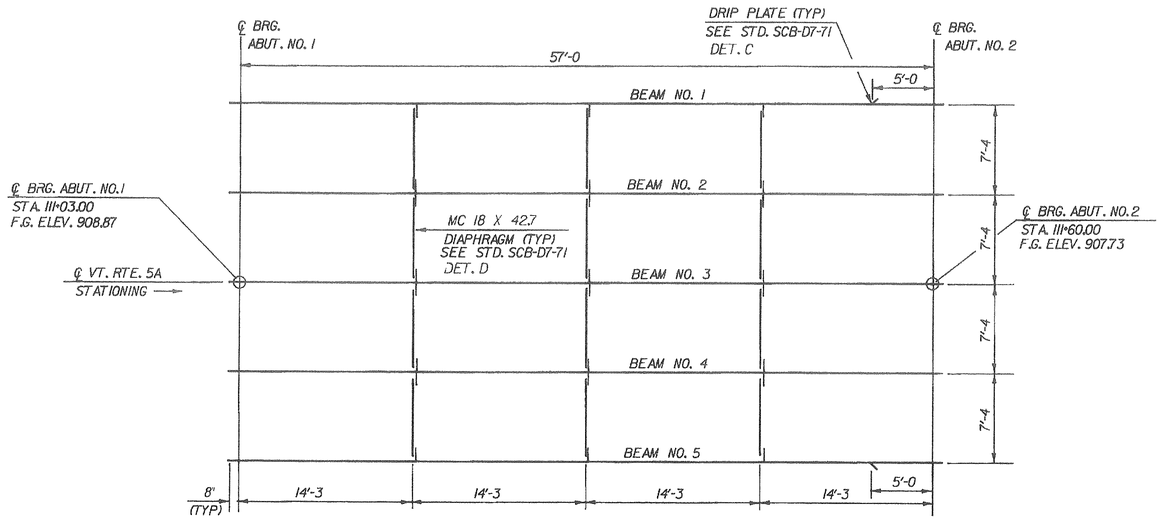
BULT AS DESIGN

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 32 OF 80
BRIDGE No. 1
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

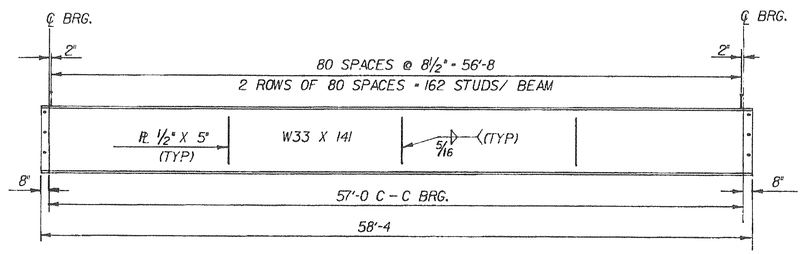
TOWN OF BURKE	Bridge No. 1
HIGHWAY NO. VT. RTE. 5A	Leg Sta.
	Surv. Sta. 111+31.5
VT. RTE. 5A OVER SUTTON RIVER	
PLAN AND ELEVATION	
Designed by J.B. MCCARTHY	Drawn by J.B. MCCARTHY
Checked by M. EVANS date 4/84	Bridge Design Supervisor E.L. Gaffey date 6-85
PROJECT BURKE	PROJECT NO. BRS 0287(3)S
Bridge Sheet No. BP104	Sheet 20 of 81

DRAWING 44-131 50284
BR4-'83



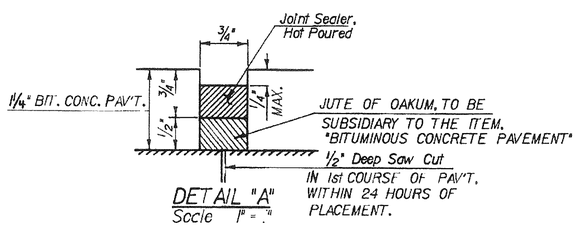
FRAMING PLAN

SCALE: 3/16" = 1'-0



TYPICAL BEAM ELEVATION

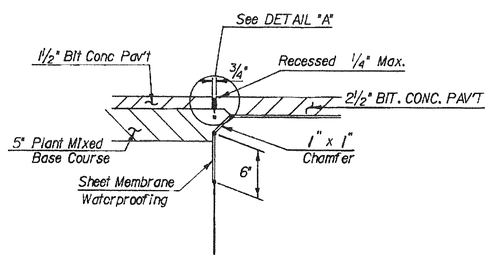
SCALE: HORZ. : 3/16" = 1'-0
VERT. : 3/8" = 1'-0



DETAIL "A"

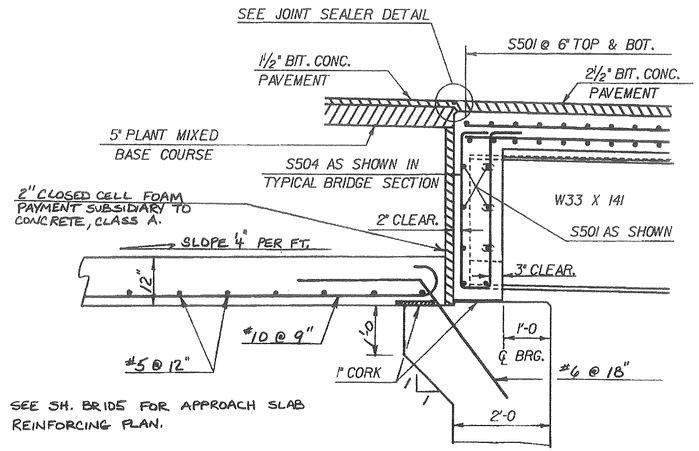
Scale 1" = 1"

NOTE: See STD DWG SCB - D9 - 71, Detail B, for additional details, except as noted.



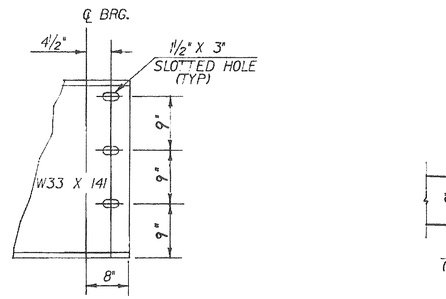
JOINT SEALER DETAIL

Scale 1½" = 1'-0"



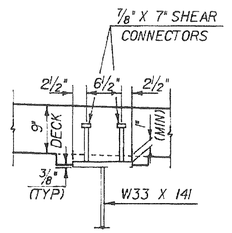
TYPICAL CURTAIN WALL DETAIL (OMIT APPROACH SLAB AT ABUT. #2)

SCALE : ¾" = 1'-0



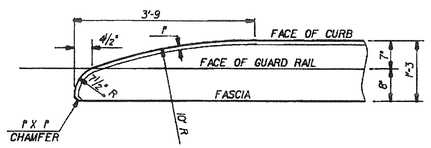
BEAM END DETAIL

SCALE: 1" = 1'-0



HAUNCH DETAIL

SCALE: 1" = 1'-0



CURB END DETAIL

SCALE : ¾" = 1'-0

NOTES

1. ALL STRUCTURAL STEEL SHALL BE A588 UNPAINTED, UNLESS NOTED.
2. BEAM ENDS SHALL BE CUT SO THEY ARE VERTICAL IN THEIR FINAL POSITION.
3. BEAMS SHALL BE CAMBERED 2". CAMBER SHALL APPROXIMATE A CIRCULAR CURVE.
4. BITUMINOUS CONCRETE PAVEMENT ON BRIDGE SHALL BE PLACED IN TWO LIFTS OF 1¼" EACH. THE FIRST LIFT SHALL BE TYPE IV MIX AND THE SECOND LIFT SHALL BE TYPE III MIX.

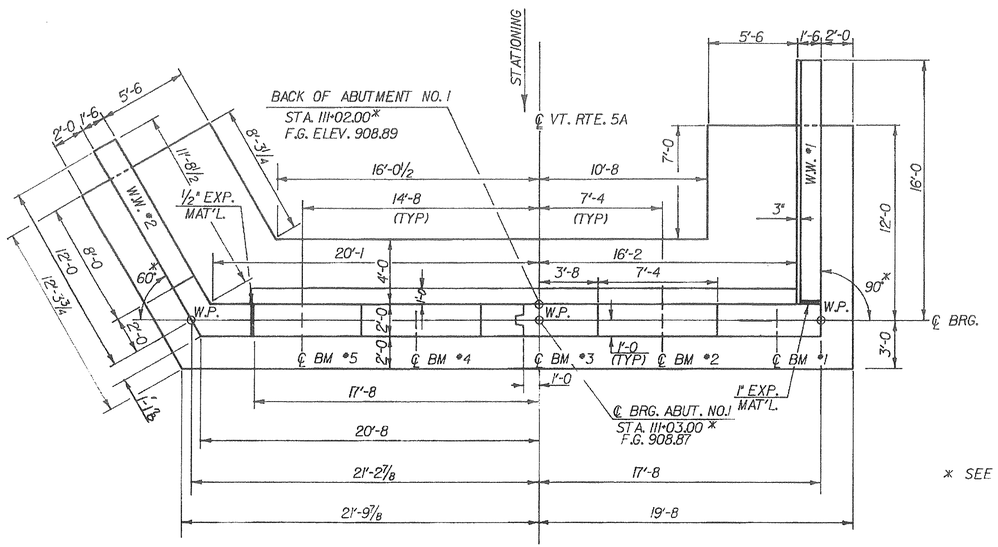
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 34 OF 80
BRIDGE No. 1
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BURKE	Bridge No. 1
Highway No. VT. RTE. 5A	Log Sta. / Surv. Sta. 111+31.5
VT. RTE. 5A OVER SUTTON RIVER	
FRAMING PLAN, BEAM ELEVATION, END DETAIL	
Designed By J.B. MCCARTHY	Drawn By G. SCHELLEY
Checked By J.B. McCARTHY Date 6/85	Bridge Design Supervisor P.L. Oatley Date 6-85
PROJECT BURKE	PROJECT NO. BRS 0287(13)S
L.G.C. Info.	OSAM.30.33.178F191SUP1.DGN
Bridge Sheet No. BR106	Sheet 22 of 81

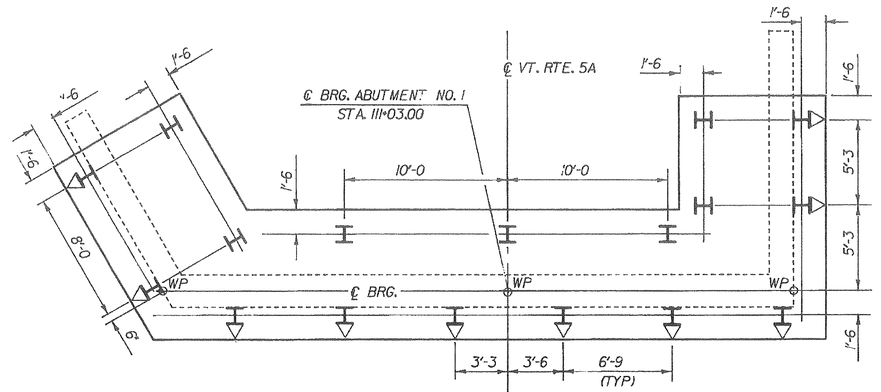
BRUNING 62165

BR-6

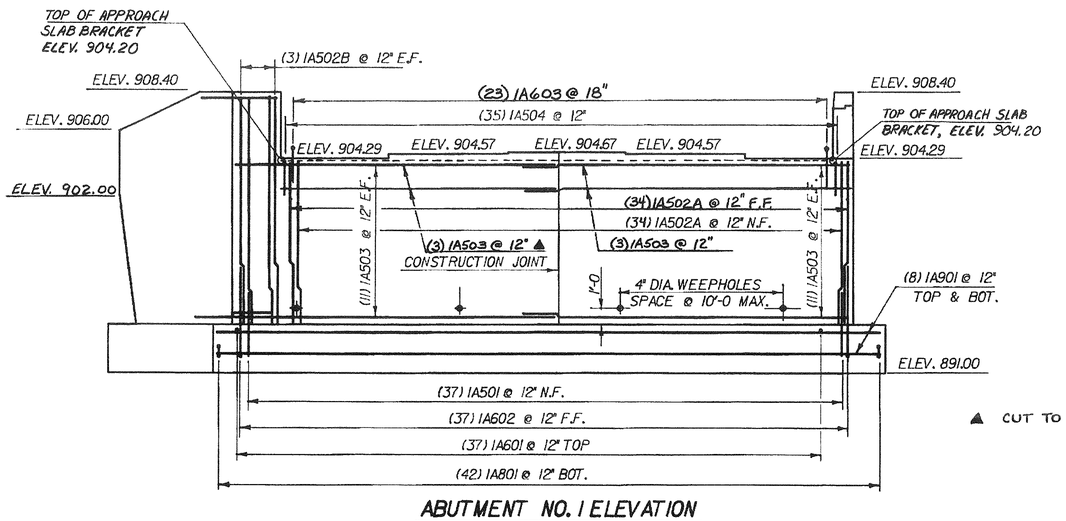


ABUTMENT NO. 1 LAYOUT
SCALE: 1/4" = 1'-0

* SEE GENERAL NOTE NO. 32.

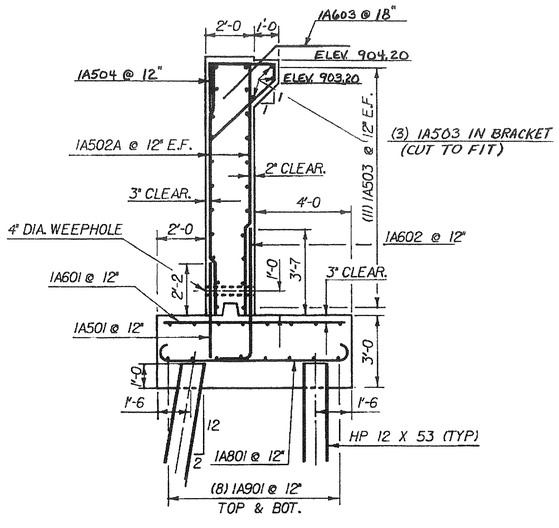


PILE LAYOUT
SCALE: 1/4" = 1'-0



ABUTMENT NO. 1 ELEVATION
SCALE: 1/4" = 1'-0

▲ CUT TO FIT



ABUTMENT NO. 1 TYPICAL SECTION
SCALE: 3/8" = 1'-0

NOTES

1. PILES ARE HP 12 X 53
2. I -INDICATES LOCATION OF A VERTICAL PILE
3. I/▽ -INDICATES LOCATION AND DIRECTION OF A 2 ON 12 BATTERED PILE
4. THE AVERAGE PILE LENGTH IS APPROXIMATELY 25 FEET.
5. PILES SHALL BE DRIVEN TO LEDGE.

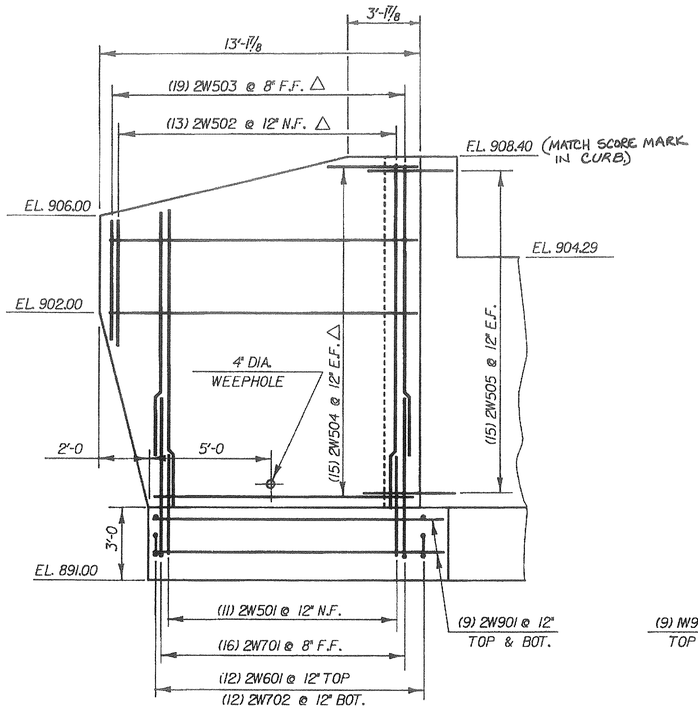
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 35 OF 80
BRIDGE No. 1
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

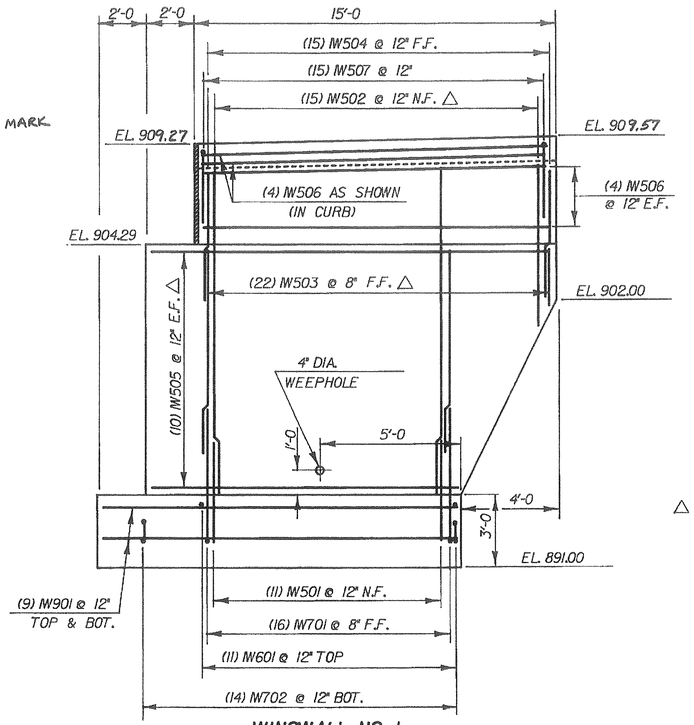
Town Of BURKE	Bridge No. 1
Highway No. VT. RTE. 5A	Leg Sta. / Surv. Sta. 111+31.50
VT. RTE. 5A OVER SUTTON RIVER	
ABUTMENT NO. 1 DETAILS	
Designed By J.B. McCARTHY	Drawn By G. SCHELLEY
Checked By J.B. McCARTHY Date 6/85	Bridge Design Supervisor R.L. Corley Date 6-85
PROJECT BURKE	PROJECT NO. BRS 0287 (31)5
L&C. Info. OSAN: 30.33 78F191ABT	
Bridge Sheet No. BR108	Sheet 24 of 81

BROWNS 62165

BR-6

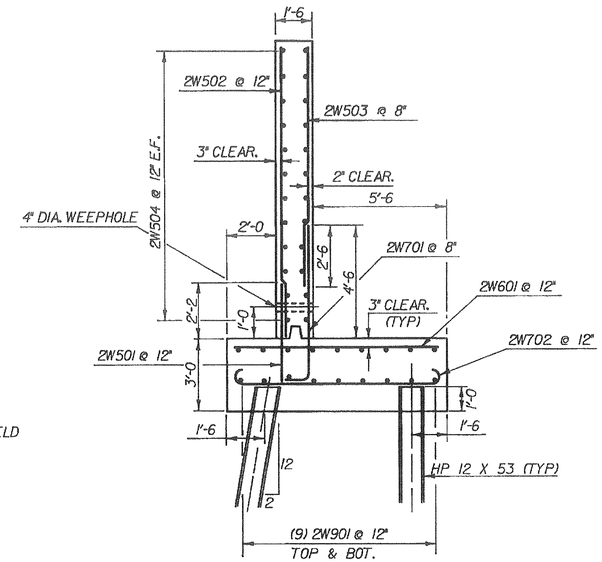


WINGWALL NO. 2
SCALE: 3/8" = 1'-0



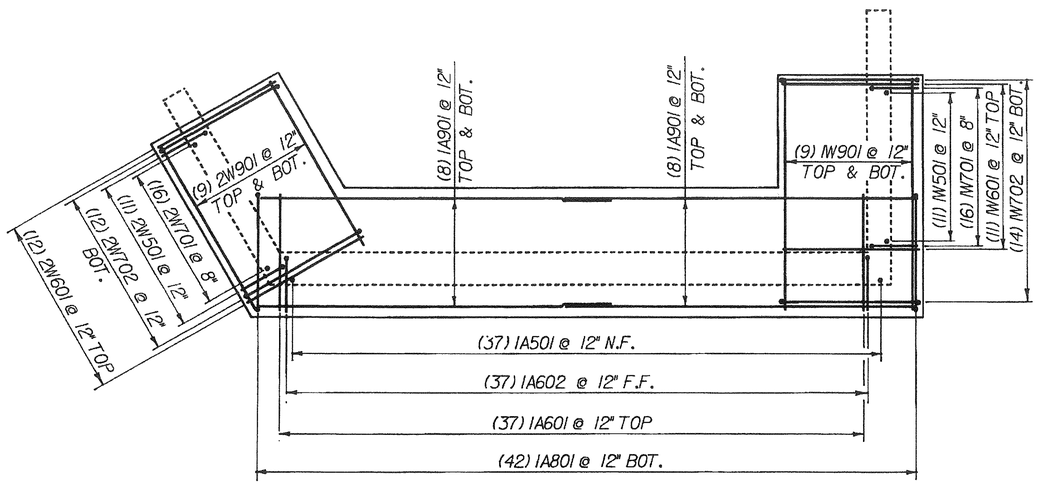
WINGWALL NO. 1
SCALE: 3/8" = 1'-0

△ INDICATES CUT TO FIT IN FIELD

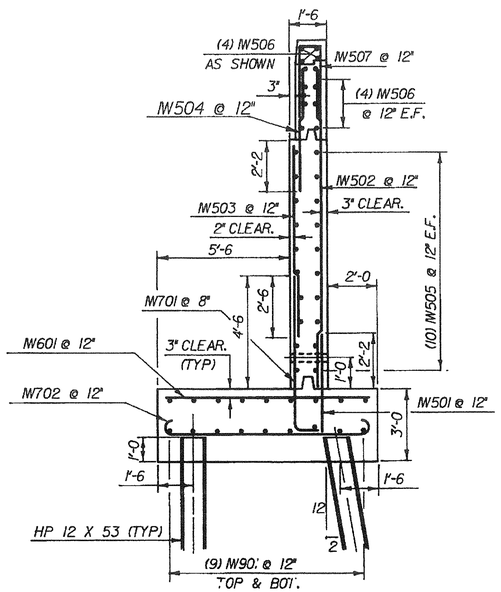


WINGWALL NO. 2 TYPICAL SECTION
SCALE: 3/8" = 1'-0

NOTE: BRIDGE CURB AND CURB ON WINGWALL #1 SHALL BE ONE CONTINUOUS POUR.



FOOTING REINFORCING PLAN
SCALE: 1/4" = 1'-0



WINGWALL NO. 1 TYPICAL SECTION
SCALE: 3/8" = 1'-0

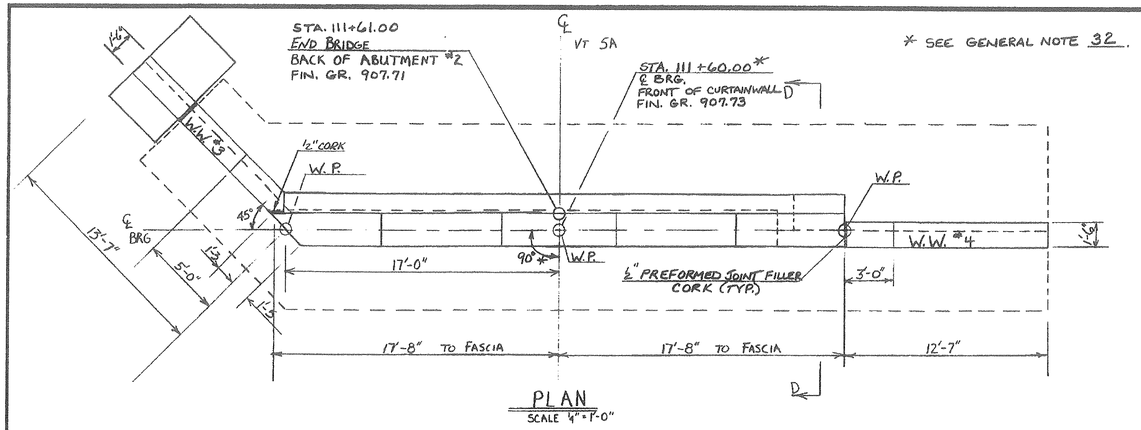
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 36 OF 80
BRIDGE No. 1
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

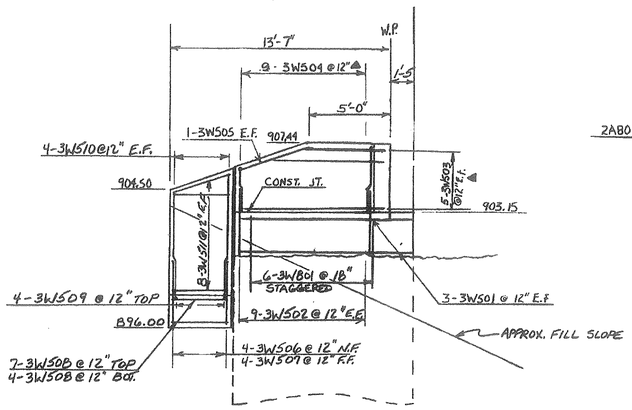
Town Of BURKE	Bridge No. 1
Highway No. VT. RTE. 5A	Log Sta. Surv. Sta. 111+31.50
VT. RTE. 5A OVER SUTTON RIVER	
WINGWALL DETAILS	
Designed By J.B. McCARTHY	Drawn By G. SCHELLEY
Checked By J.B. McCARTHY Date 6/85	Bridge Design Supervisor R.L. Corley Date 6-85
PROJECT BURKE	PROJECT NO. BRS 0287 (31)S
I.G.C. Info. OSAN130.33.178F191AB1	
Bridge Sheet No. BR109	Sheet 25 of 81

BRUNING 62105

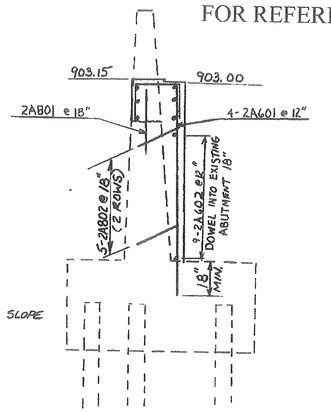
BR-6



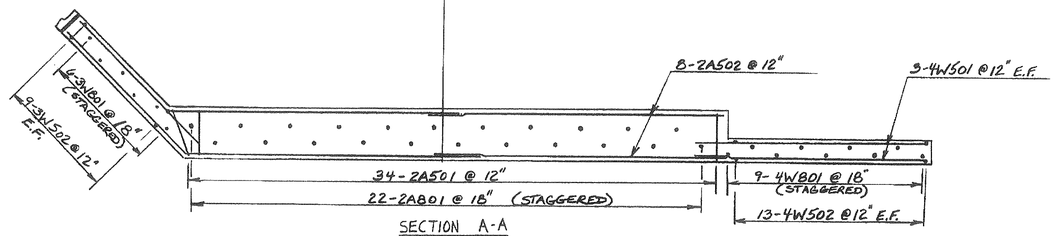
PLAN
SCALE 4"=1'-0"



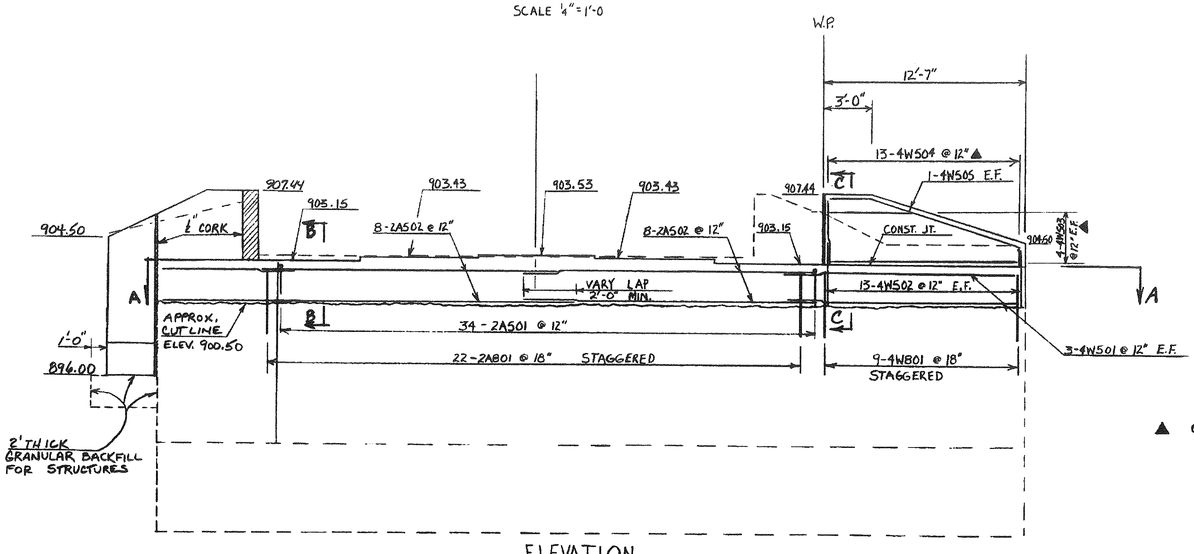
WINGWALL #3
SCALE: 1/4"=1'-0"



SECTION D-D
SCALE: 1/4"=1'-0"



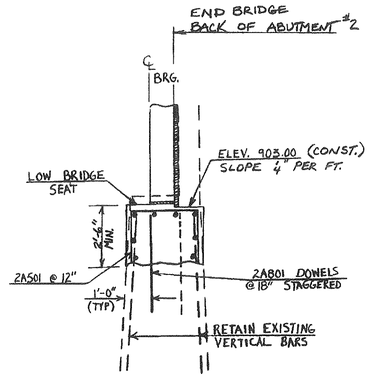
SECTION A-A
SCALE 1/4"=1'-0



ELEVATION
SCALE: 1/4"=1'-0"

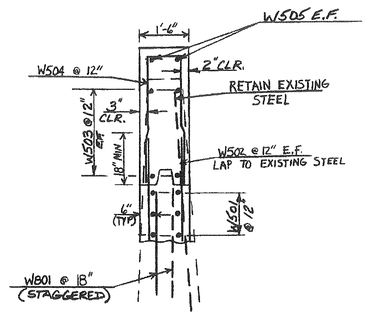
▲ CUT TO FIT

NOTE: 2' LAYER OF GRANULAR BACKFILL FOR STRUCTURES SHALL EXTEND 1' OUTSIDE EDGE OF FOOTING. THIS MATERIAL SHALL BE COMPACTED AS PER VT. STD. SPECIFICATION SECTION 203.10 (d).

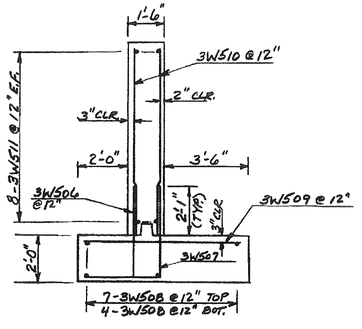


SECTION B-B
SCALE: 3/8"=1'-0"

HORIZ. BARS ARE 2A502 @ 12"



SECTION C-C
SCALE 1/2"=1'-0"



TYPICAL SECTION OF W.W. #3 EXTENSION
SCALE: 3/8"=1'-0"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BURKE	Bridge No. 1
Highway No. VT RTE 5A	Log Sta.
	Surv. Sta. 111+31.5
VT RTE 5A OVER SUTTON RIVER	
ABUTMENT #2 DETAILS	
Designed By J.B. McCARTHY	Drawn By M. MARQUISE
Checked By J.B. MCCARTHY Date 6/85	Bridge Design Supervisor R.L. Corley Date 6-85
PROJECT BURKE	PROJECT NO. BRS 0287(3)S
L.G.C. Info.	
Bridge Sheet No. BR110	Sheet 26 of 81

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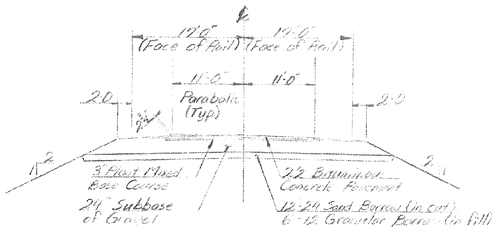
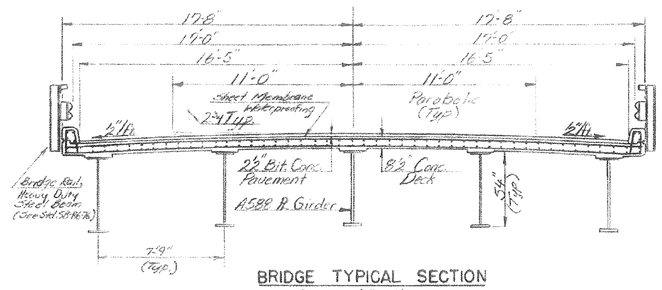
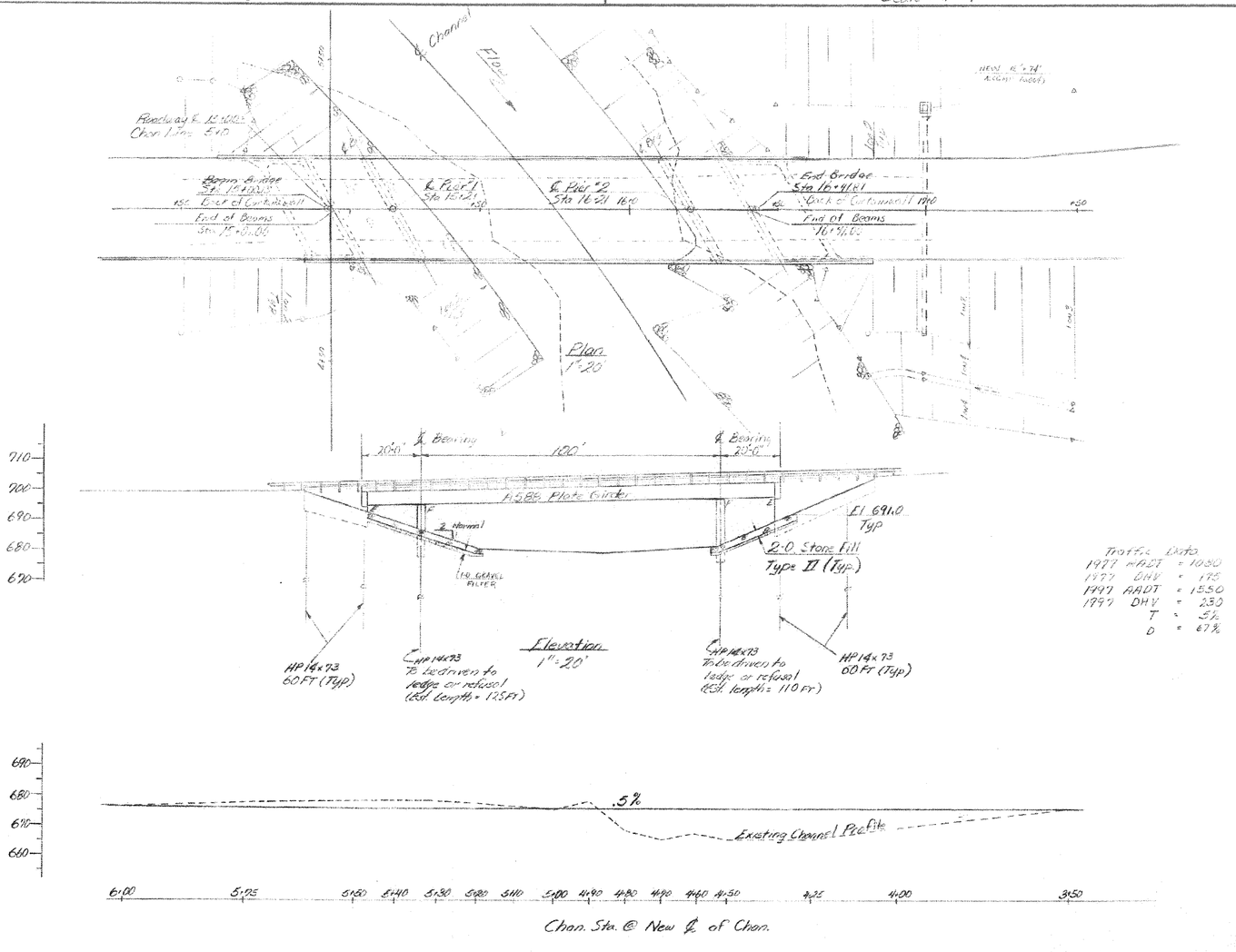


NEW HIGHWAY SECTION — BRIDGE APPROACHES
Scale : 1" = 10'



BRIDGE TYPICAL SECTION
Scale : 4" = 1'



Traffic Data
1977 ADT = 1080
1977 DHV = 175
1997 AADT = 1550
1997 DHV = 230
T = 5%
D = 67%

EXISTING STRUCTURE

1. RATED LOADING OF EXISTING STRUCTURE H15
2. TYPE OF EXISTING STRUCTURE 3 Span Concrete T-Beam
3. UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE ____ SPAN(S) OF EXISTING STRUCTURE 20' for each Span
4. WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE? Remove EST. COST OF REMOVAL $ 5,000
5. SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE? No
6. ORDINARY HIGH WATER SURFACE ELEVATION AT EXISTING STRUCTURE 686.7 WATERWAY TO ORDINARY H.W. ____
7. FLOOD OF RECORD WATER SURFACE ELEVATION AT EXISTING STRUCTURE 690.3 YEAR 1973 EST. DISCHARGE 3770 cfs
8. SPAN OF EXISTING STRUCTURE UPSTREAM 67'-67'-67' WATERWAY AREA (FULL OPENING) 1960 sf
   SPAN OF EXISTING STRUCTURE DOWNSTREAM 62' WATERWAY AREA (FULL OPENING) 1000 sf
9. TYPE OF FOUNDATION UNDER EXISTING SUBSTRUCTURE Sand / Sandy Silt
10. DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE? yes RELIEF ELEVATION N/A
11. ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF N/A

NEW STRUCTURE

1. RECOMMENDED TYPE OF STRUCTURE 3 Span Continuous Composite Cantilever
2. RECOMMENDED OVERALL STRUCTURE LENGTH 140'
   CLEAR SPAN LENGTH(S) NORMAL TO STREAM BC.60'
   SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 20FT Cantilever - 100 FT - 20FT Cantilever
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? YES ✓ NO ____
4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? No IS ORDINARY RISE RAPID? No
5. NATURE OF NATURAL STREAMBED: Sand & Silt
6. EST. SCOUR DEPTH 10.4 COMMENT ON: DRIFT Moderate ICE Heavy
7. DRAINAGE AREA IN ACRES 53840 CHARACTER OF TERRAIN Rolling to Mountainous
8. VELOCITY OF STREAM AT DESIGN STAGE 4.5 fps DESIGN DISCHARGE Q 50 = 3920 cfs
9. IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? yes AREA FULL OPENING ____
10. ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE 686.2
11. DESIGN HIGH WATER ELEVATION AT NEW STRUCTURE 689.8 (Q50) (SOURCE OF INFORMATION) Computed
12. VERTICAL CLEARANCE ABOVE DESIGN STAGE ____
13. CHECK DISCHARGE = 1.2 X DESIGN DISCHARGE 5100 cfs CHECK DISCHARGE WATER SURFACE ELEV. 690.0 = 690.4
14. ALLOWABLE WATER SURFACE ELEVATION 692.88' LIMITED BY Low Bridge Rail
15. IS DESIGN STAGE AFFECTED BY DOWNSTREAM CONDITIONS? No IF YES - DESCRIBE Ice and debris in U.S. Hydrograph
16. ARE SIDEWALKS REQUIRED? NO IF SO ON WHAT SIDE? — CLEAR WIDTH —
17. TRAFFIC TO BE MAINTAINED UNDER ITEM NO. 638.11 ONE OR TWO WAYS TWO ESTIMATED COST ____
18. PROVISIONS TO BE MADE FOR PUBLIC UTILITIES ____
19. ESTIMATED ALLOWABLE LOAD FOR SPREAD FOOTINGS N/A DESIGN MAX. FOOTING PRESSURE N/A
20. PILING DESIGN LOAD Pier #1 - 96 T ESTIMATED LENGTH Pier #1 - 115 Ft, Pier #2 - 110 Ft TYPE HP 14 x 73
21. DESIGN SPECIFICATIONS:
    DESIGN LOAD A.A.S.H.O. HS25 + 44
    ALLOWABLE STRESSES
    STRUCTURAL STEEL: TENSION 27 ksi COMPRESSION 24 ksi
    REINFORCING STEEL: Grade 60 TENSION 24 ksi COMPRESSION 20.6 ksi
    CONCRETE: f_b 2.5 ksi f_c 1.4 ksi

ADDITIONAL DESIGN CONSIDERATIONS

Index of Sheets

BR101 Preliminary Information Sheet
BR101 Quantity Sheet
BR102 Boring Sheet
BR103 Bridge Plan & Elevation
BR104 Superstructure Details
BR105 Slab Reinforcing & Typical Section
BR106 Curb & Railing Details
BR107 Bearing Device & Scupper Details
BR108 Abut. #1 Plan & Elevation
BR109 Wingwall #1 & #2
BR110 Tie Beam & Approach Slab Details
BR111 Abut. #2 Plan & Elevation
BR112 Wingwall #3 & #4
BR113 Pier Details
BR114-115 Reinforcing Steel Schedule
— — Channel Sections

Standards:
SCB-01-75
SCB-06-75 Rev. 1-3-79 Detail A, B, D & E
SCB-07-71 Rev. 12-15-76 Detail C & F

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 38 OF 80
BRIDGE No. 174
FOR REFERENCE ONLY

SHEET REVISED 3-15-80

RECOMMENDED FOR APPROVAL ____ BRIDGE ENGINEER DATE
RECOMMENDED FOR APPROVAL ____ ASSISTANT CHIEF ENGINEER DATE
APPROVED BY ____ CHIEF ENGINEER DATE

REVISIONS

NO.	DESCRIPTION	BY & DATE
1	℄ 17 CHANGED ITEM NO. FROM 638.10 -ONE-WAY TO 638.11 TWO-WAY	3/80 SJB

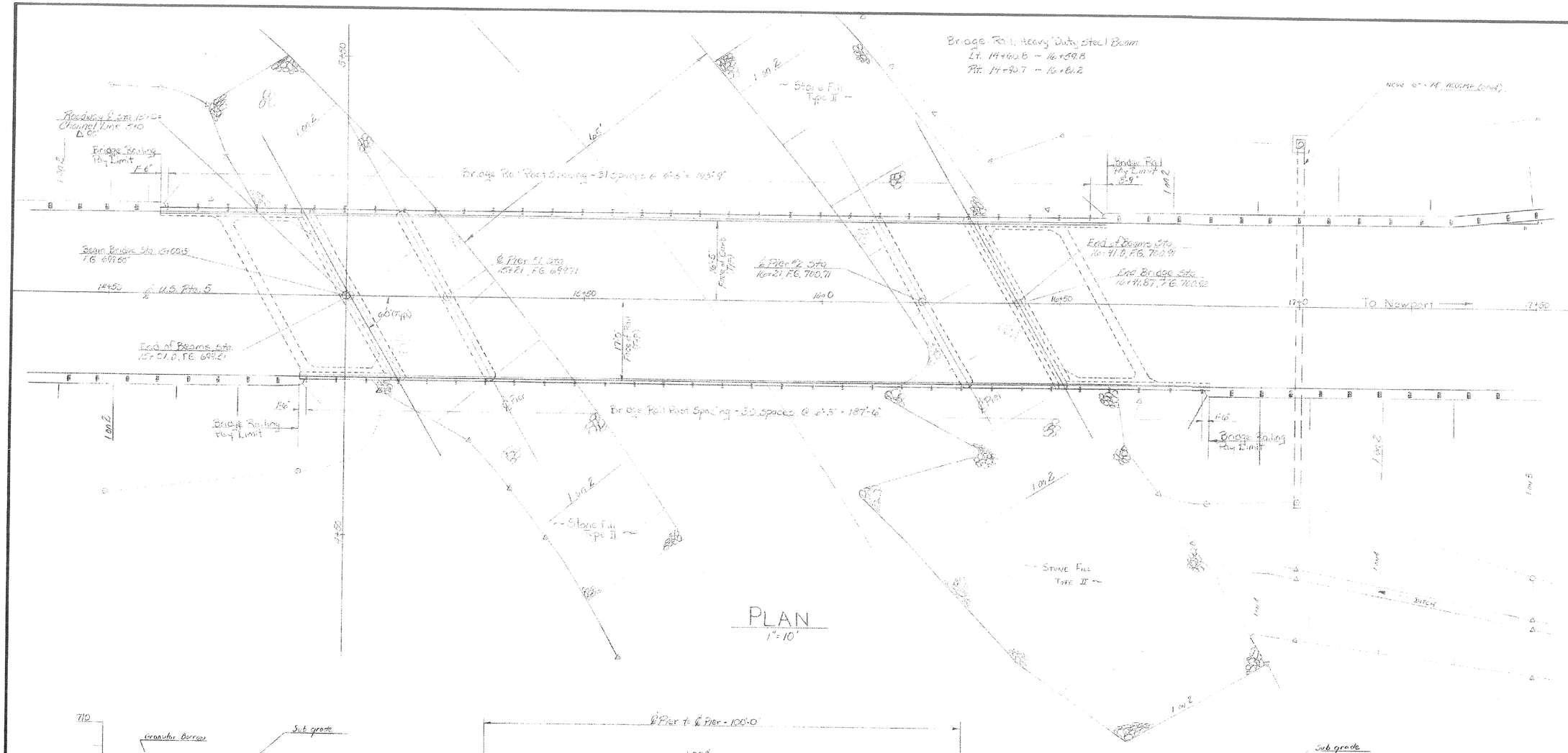
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF COVENTRY	Bridge No.
HIGHWAY NO. US 5	Leg Sta.
	Surv. Sta. 15+71

PRELIMINARY INFORMATION
US 5 OVER THE BLACK RIVER

Designed by A. Elwood	Drawn by R. HOLBROOK
Checked by A. Elwood date 11-78	Bridge Design Supervisor R.S. Haupt date 11-78
PROJECT COVENTRY	PROJECT NO. BRS 0113 (2)
Bridge Sheet No. 100	Sheet 9 of 38

BR-2

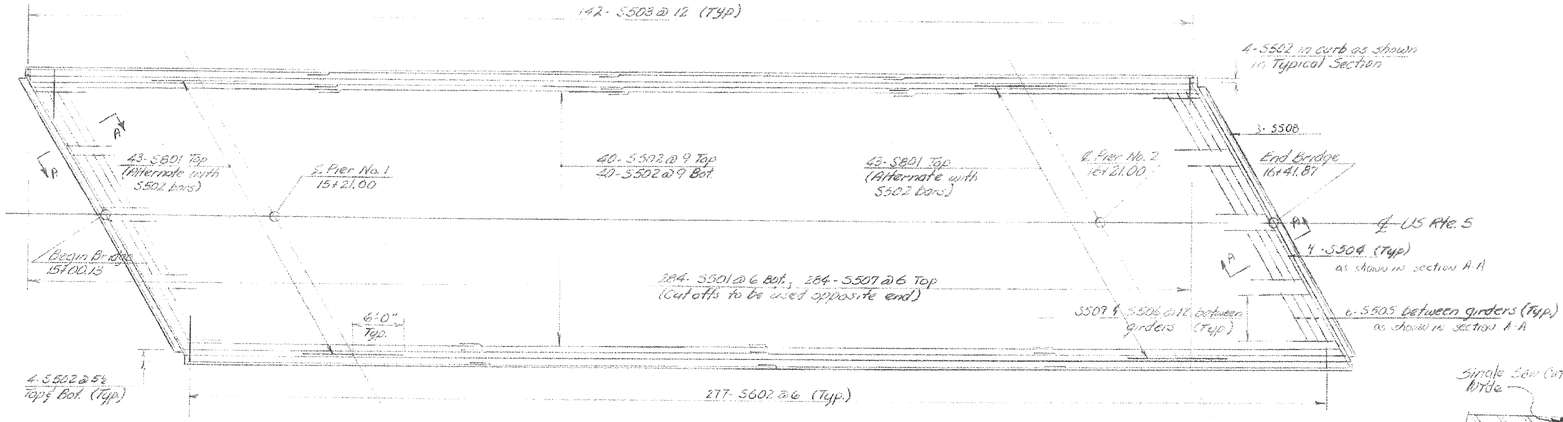


STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 39 OF 80
BRIDGE No. 174
FOR REFERENCE ONLY

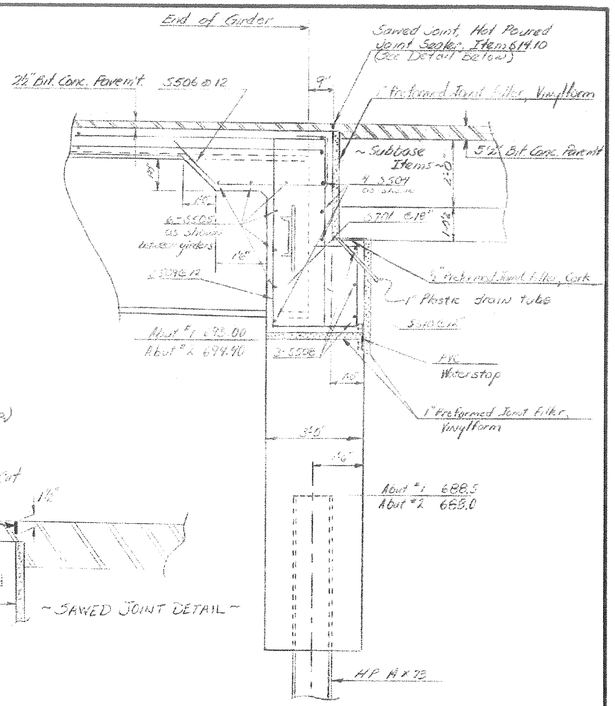
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

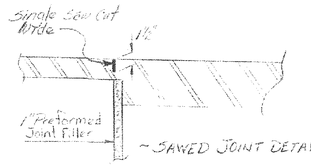
TOWN OF COVENTRY	Bridge No.
HIGHWAY NO.	Log Sta.
	Surv. Sta. 15+71
U.S. 5 Over The Black River	
Plan & Elevation	
Designed by A. Elwood	Drawn by R. Whitcomb
Checked by A.W.E. date 2-79	Bridge Design Supervisor R.S. Haupt date
PROJECT COVENTRY	PROJECT NO. BRS 0113 (2)
Bridge Sheet No. 103	Sheet 12 of 58

BR 6

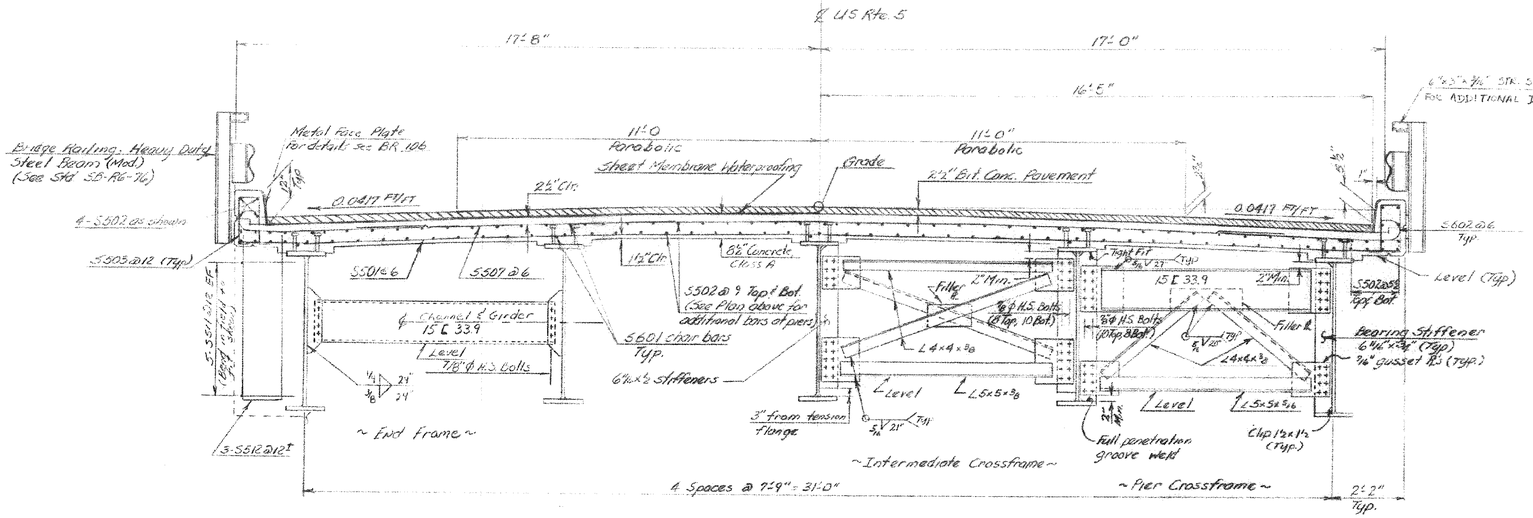


SLAB REINFORCING
Scale: ⅜" = 1'-0"





~ SAWED JOINT DETAIL ~



TYPICAL SECTION
Scale: ½" = 1'-0"

SECTION A-A
Scale: ½" = 1'-0"

Notes

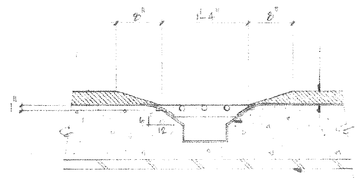
1. The Preformed Joint Filler, Vinylform shall be semi-rigid grade and shall meet the requirements of Sub-section 701.23. Payment shall be included in the unit bid price for Concrete Class A.
2. The PVC Waterstop shall be as specified in subsection 701.30. The cost of the waterstop shall be included in the unit price bid for Concrete Class A.
3. Deck concrete shall be placed continuously from the low end to the high end and retarded sufficiently to allow the entire deck to remain fluid until the pour is complete. The quantity of retarder shall be established by the Concrete Engineer prior to placement. Any deviation from this procedure must be approved by the Bridge Engineer.

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 40 OF 80
BRIDGE No. 174
FOR REFERENCE ONLY

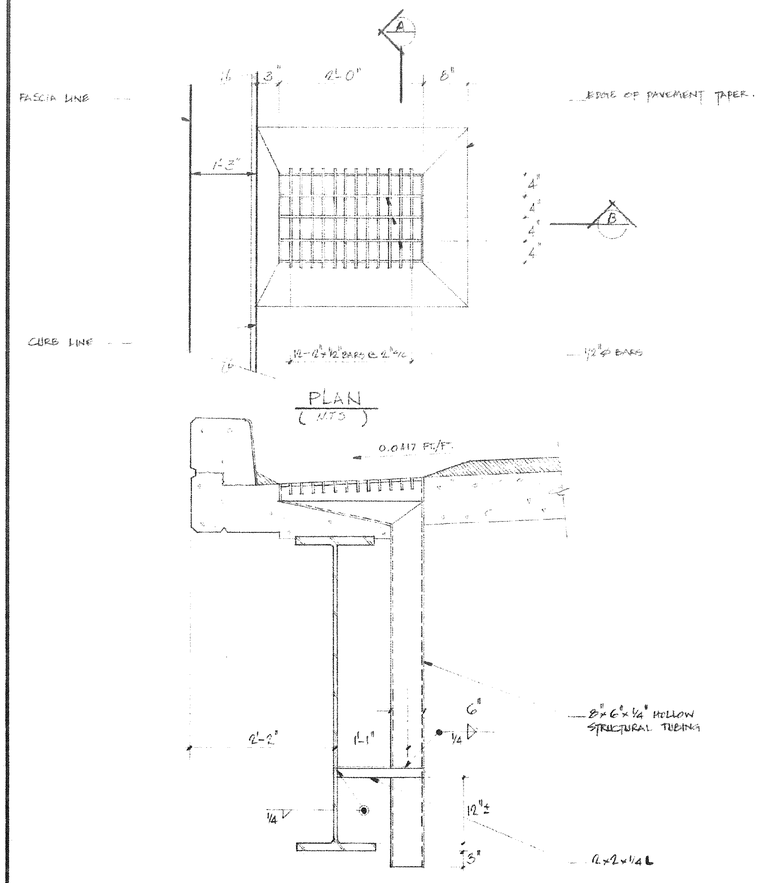
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF Coventry	Bridge No.
HIGHWAY NO. U.S. Rte. 5	Log Sta. / Surv. Sta.
U.S. Rte. 5 Over The Black River	
Slab Reinforcing & Typical Section	
Designed by A. Elwood	Drawn by A. Elwood
Checked by P.A.C. date 12-78	Bridge Design Supervisor R. S. Haupt date
PROJECT COVENTRY	PROJECT NO. BRS 0113(2)
Bridge Sheet No. 105	Sheet 14 of 58

BR 6

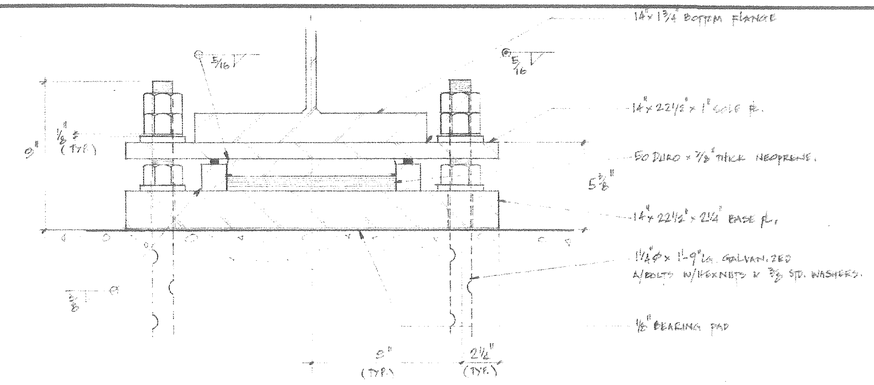


SECTION A
(1"=1'-0")

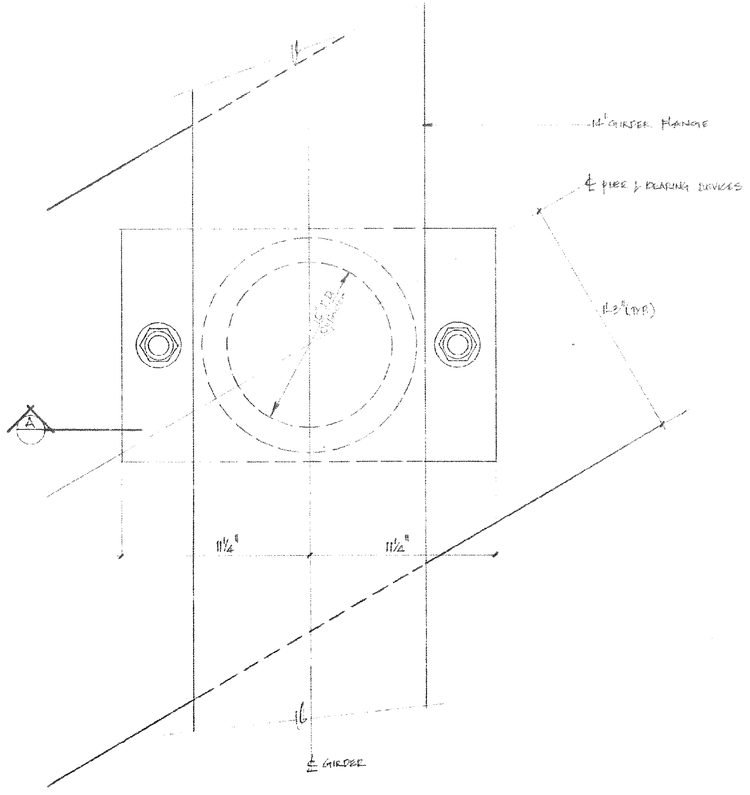


1. See BR 104 for Scupper locations.
2. For notes and details not shown see Std. Sh. SCB-D6-73 Detail (B)

SCUPPER DETAILS



SECTION A
(2"=1'-0")



FIXED BEARING DEVICE DETAILS

NOTES:

1. ALL STEEL IN THE BEARING DEVICE ASSEMBLIES SHALL BE A-36 GALVANIZED.
2. BEARING BASE PLATE SHALL BE PLACED ON ⅛" FABRIC PADS AS SPECIFIED IN SECTION 721.01.
3. ANCHOR BOLTS, NUTS, & WASHERS SHALL CONFORM WITH THE REQUIREMENTS OF SECTION 714.06. BOLTS SHALL BE 1¼" ø x 1'-9" LG. W/HEX NUTS & ⅜ WASHERS.
4. ALTERNATE CONFIGURATIONS MAY BE SUBMITTED FOR APPROVAL PROVIDED TRANSVERSE, LONGITUDINAL AND BEARING LOADS ARE SATISFIED AND THE DETAILED ANCHOR BOLT SYSTEM AND PLACEMENT LOCATION IS MAINTAINED.
5. BEARING DEVICES SHALL BE PAID FOR AT THE UNIT BID PRICE EACH FOR ITEM SEC. 99, BEARING DEVICE ASSEMBLY.

GUIDE SHOE LOADS:	LONGITUDINAL	TRANSVERSE	BEARING
PIER #1 (FIXED)	4K	9K	250K
PIER #2 (TYP.)	4K	9K	250K

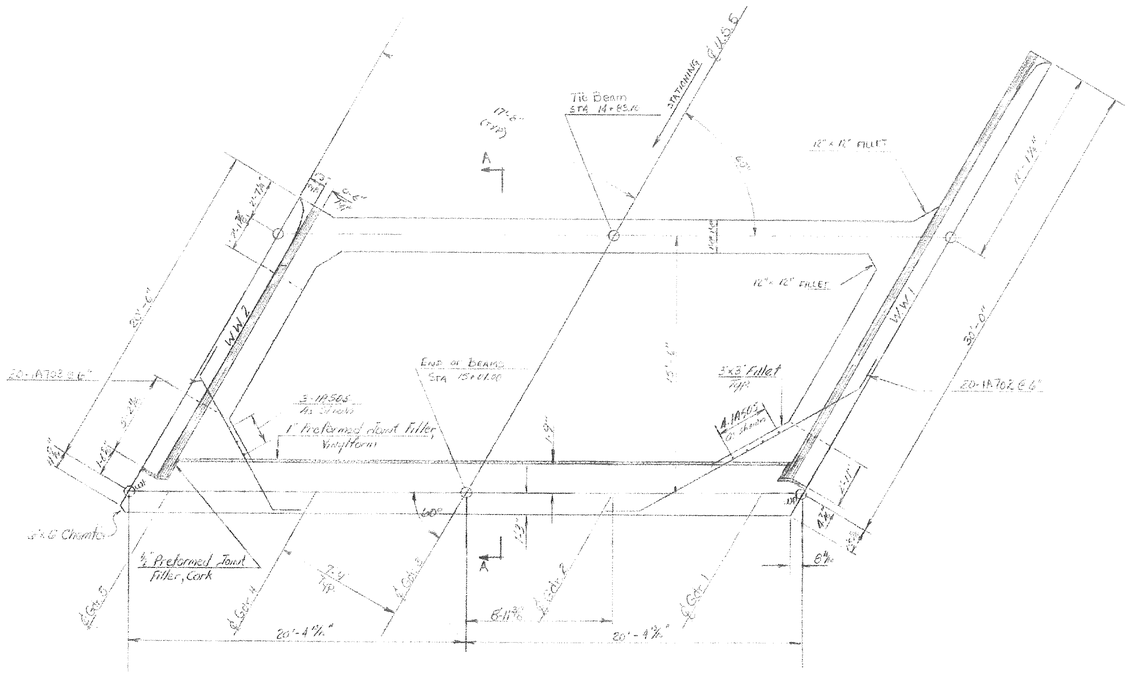
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 42 OF 80
BRIDGE No. 174
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF COVENTRY	Bridge No.
HIGHWAY NO. U.S. Rte. 5	Leg Sta.
	Surv. Sta.
U.S. 5 OVER THE BLACK RIVER	
BEARING DEVICE & SCUPPER DETAILS	
Designed by A.E. Elwood	Drawn by P. COVER
Checked by A.W.E. date 2-79	Bridge Design Supervisor R.S. Haupt date
PROJECT COVENTRY	PROJECT NO. BRS 0113 (2)
Bridge Sheet No. 107	Sheet 16 of 58

BR 6

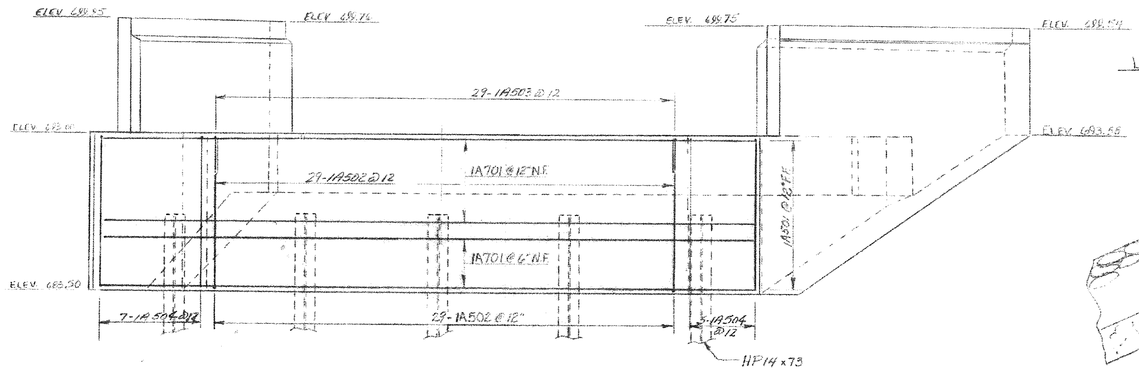
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 43 OF 80
BRIDGE No. 174
FOR REFERENCE ONLY



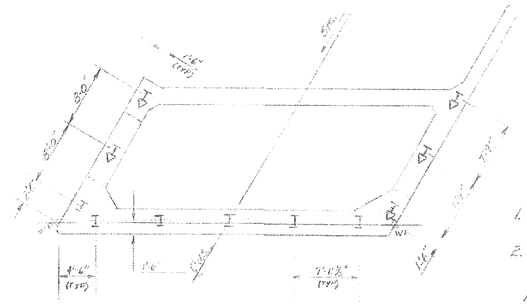
PLAN
SCALE: ½" = 1'

← FLOW

℄ U.S.5



ELEVATION
SCALE: ¼" = 1'-0"

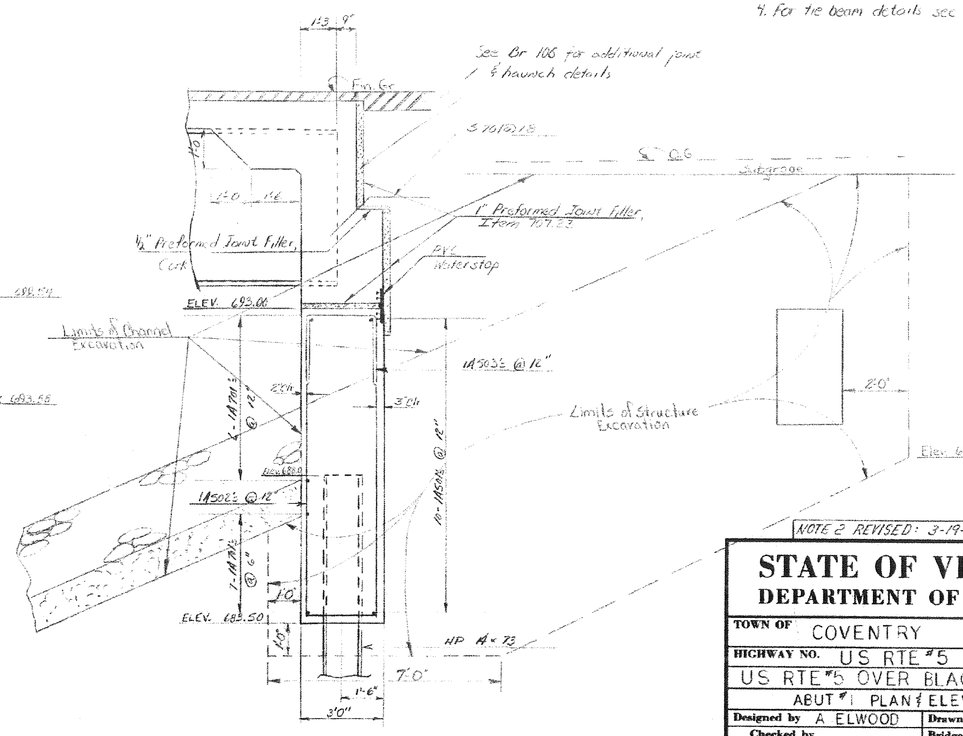


PILE LAYOUT
SCALE ½" = 1'

Note: Pile locations are shown at top of pile elevations. These locations shall not vary by more than ½" from a 4" grouping

NOTES

1. All concrete in the abutment shall be concrete Cl. "B"
2. All abutment HP 14x73 piles shall be a minimum of 60 Feet in length unless refusal is encountered first. The minimum load carrying capacity of the piles is 60 Tons. No pile splices shall be allowed between the bottom of the stem or wingwall elevation and a depth of 15'-0" below this elevation.
3. The Preformed Joint Filler shall meet the requirements of subsections 707.23 and be included in the unit bid price for Concrete Class "A".
4. For the beam details see BR 111.



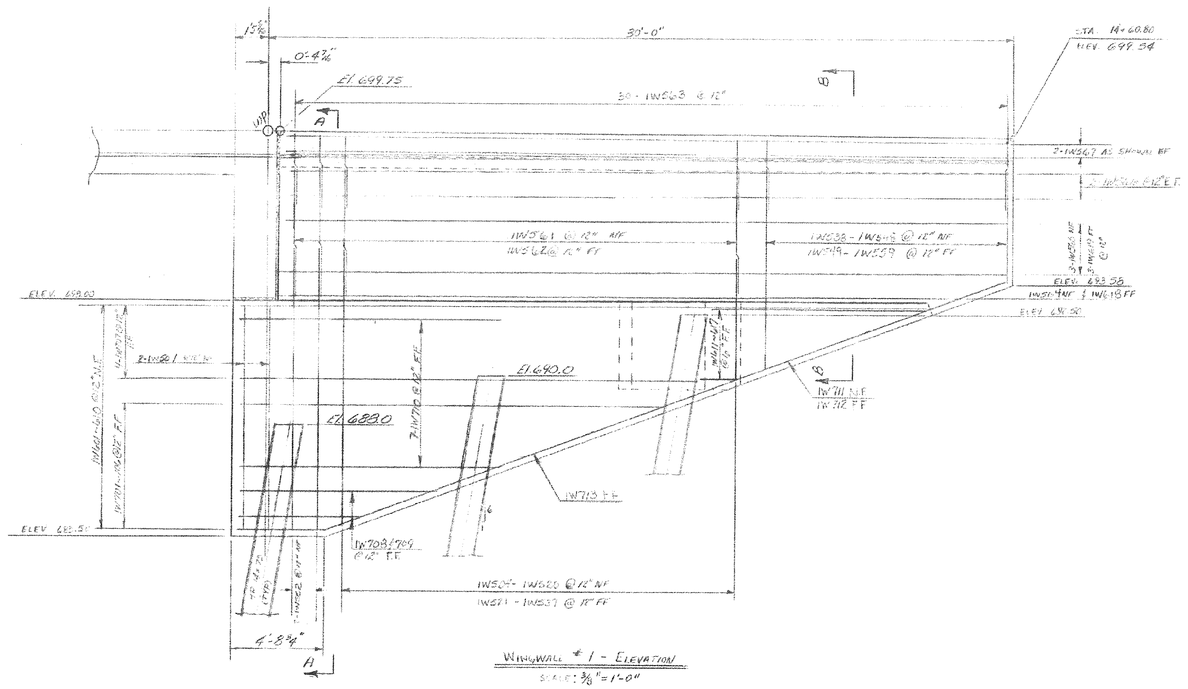
SECTION A-A
SCALE: ½" = 1'-0"

NOTE 2 REVISED: 3-19-80

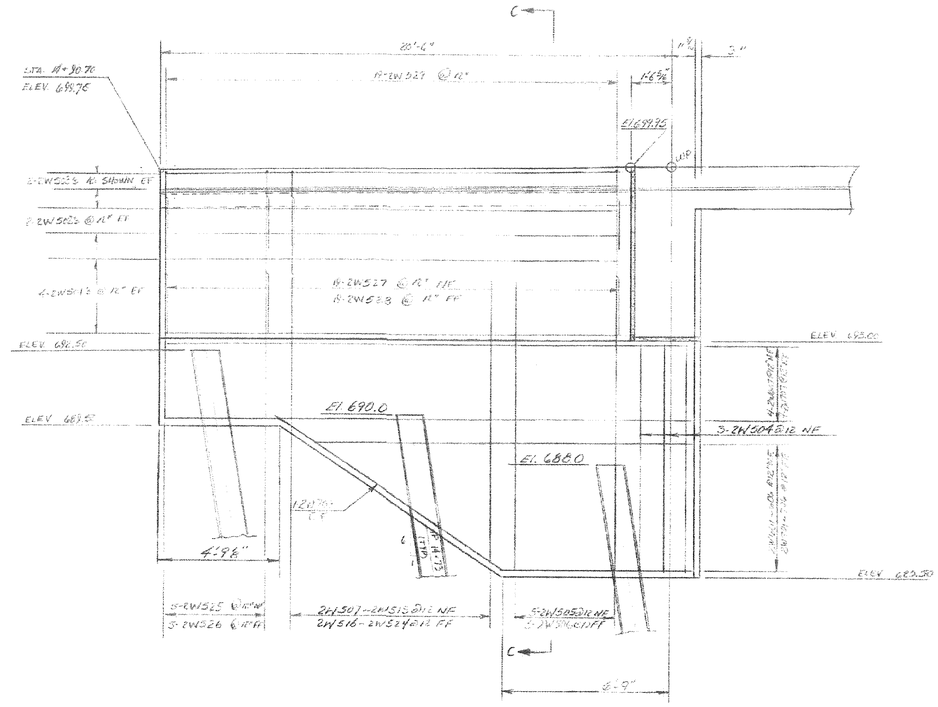
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF COVENTRY	Bridge No. 174
HIGHWAY NO. US RTE #5	Log Sta.
	Surv. Sta.
US RTE #5 OVER BLACK RIVER	
ABUT #1 PLAN & ELEVATION	
Designed by A ELWOOD	Drawn by R GRAY
Checked by AWE date 2-79	Bridge Design Supervisor RS HAUPT date
PROJECT COVENTRY	PROJECT NO. BRS 0113(2)
Bridge Sheet No. 108	Sheet 17 of 58

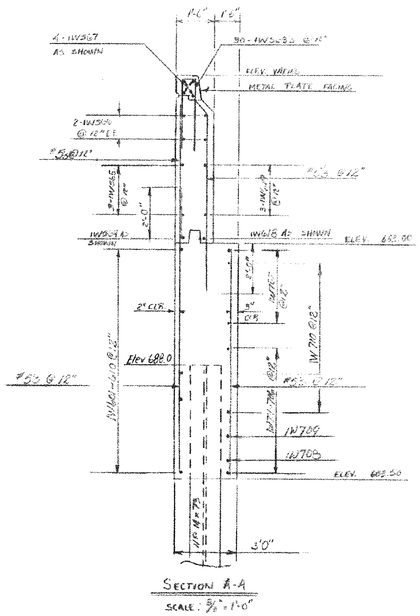
BR 6



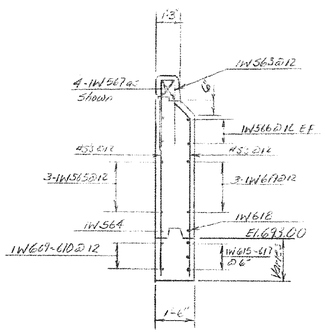
WINGWALL #1 - ELEVATION
SCALE: ⅜"=1'-0"



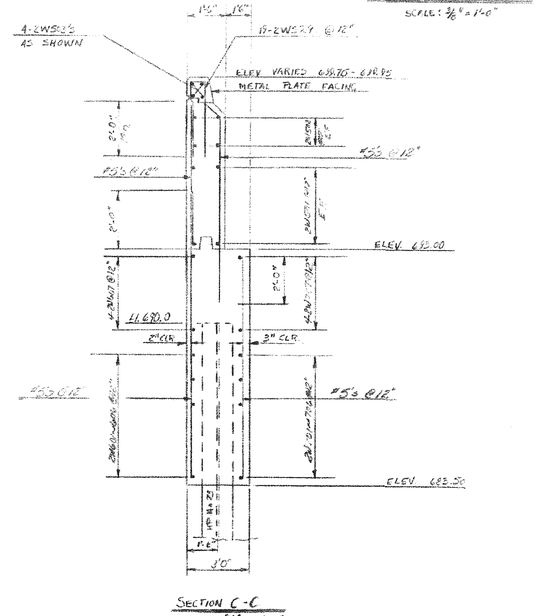
WINGWALL #2 - ELEVATION
SCALE: ⅜"=1'-0"



SECTION A-A
SCALE: ⅜"=1'-0"



SECTION B-B
Scale: ⅜"=1'-0



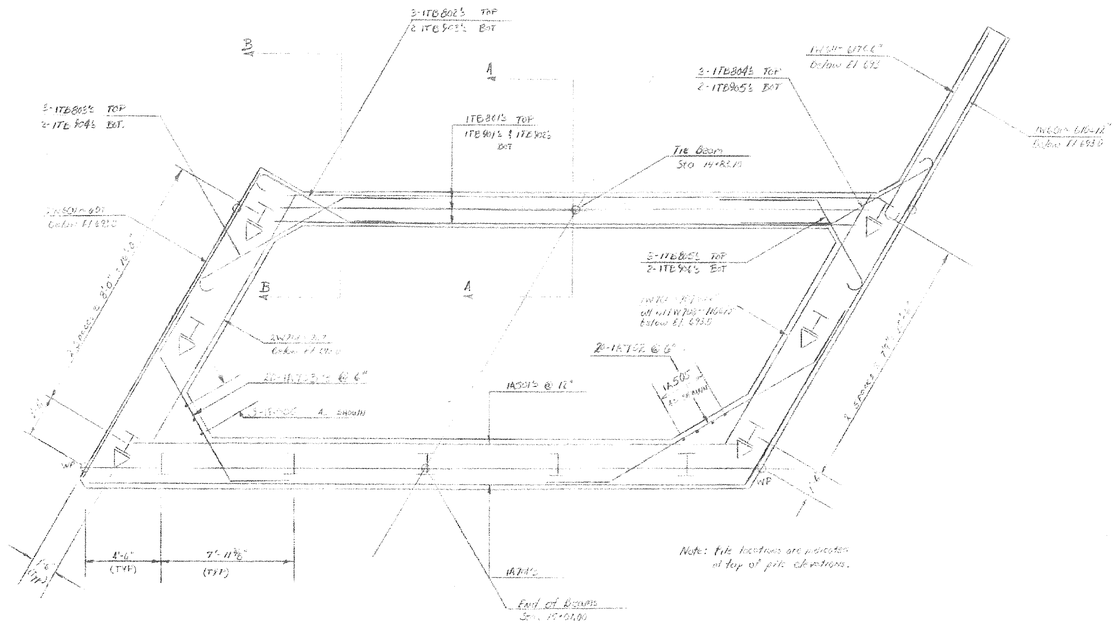
SECTION C-C
SCALE: ⅜"=1'-0"

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 44 OF 80
BRIDGE No. 174
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF COVENTRY	Bridge No. 174
HIGHWAY NO. US #5	Log Sta. / Surv. Sta.
US RTE #5 OVER BLACK RIVER	
WINGWALL #1 & 2	
Designed by A ELWOOD	Drawn by R GRAY
Checked by AWE date 2-79	Bridge Design Supervisor RS HAUPT date
PROJECT COVENTRY	PROJECT NO. BRS 0113(2)
Bridge Sheet No. 109	Sheet 18 of 58

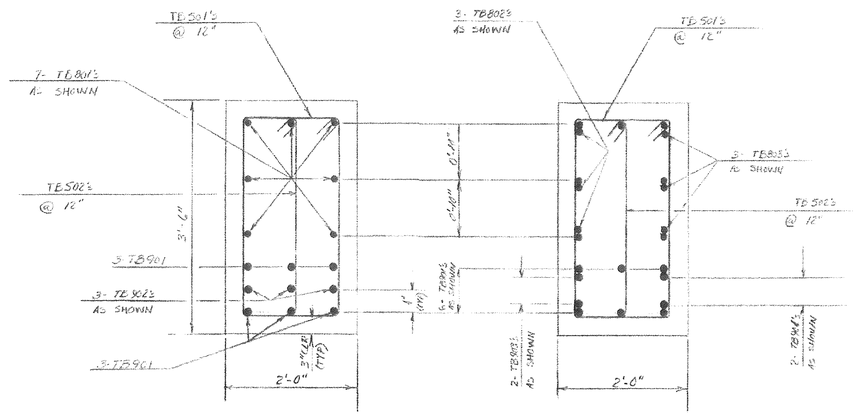
BR 6



Note: Pile locations are projected at top of pile elevations.

ABUT #1

SCALE: ½"=1'

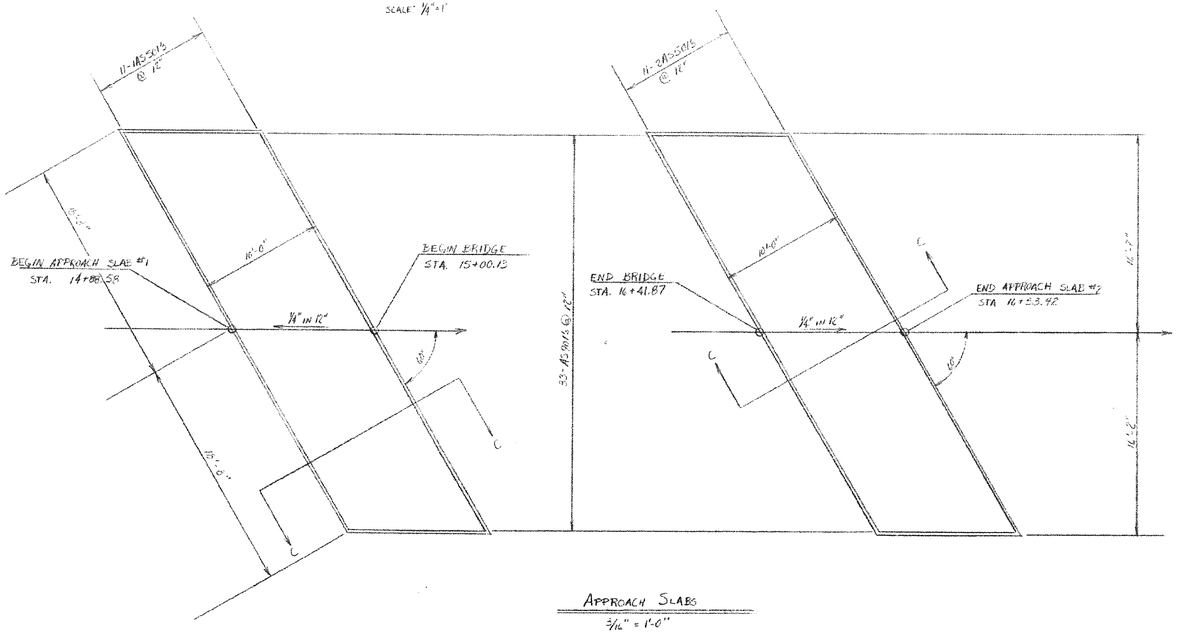


SECTION A-A

SCALE: 1"=1'

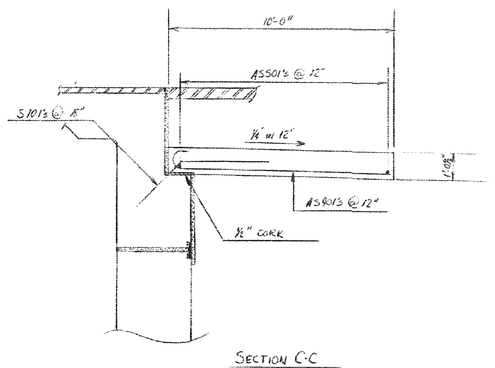
SECTION B-B

SCALE: 1"=1'



APPROACH SLABS

3/16" = 1'-0"



SECTION C-C

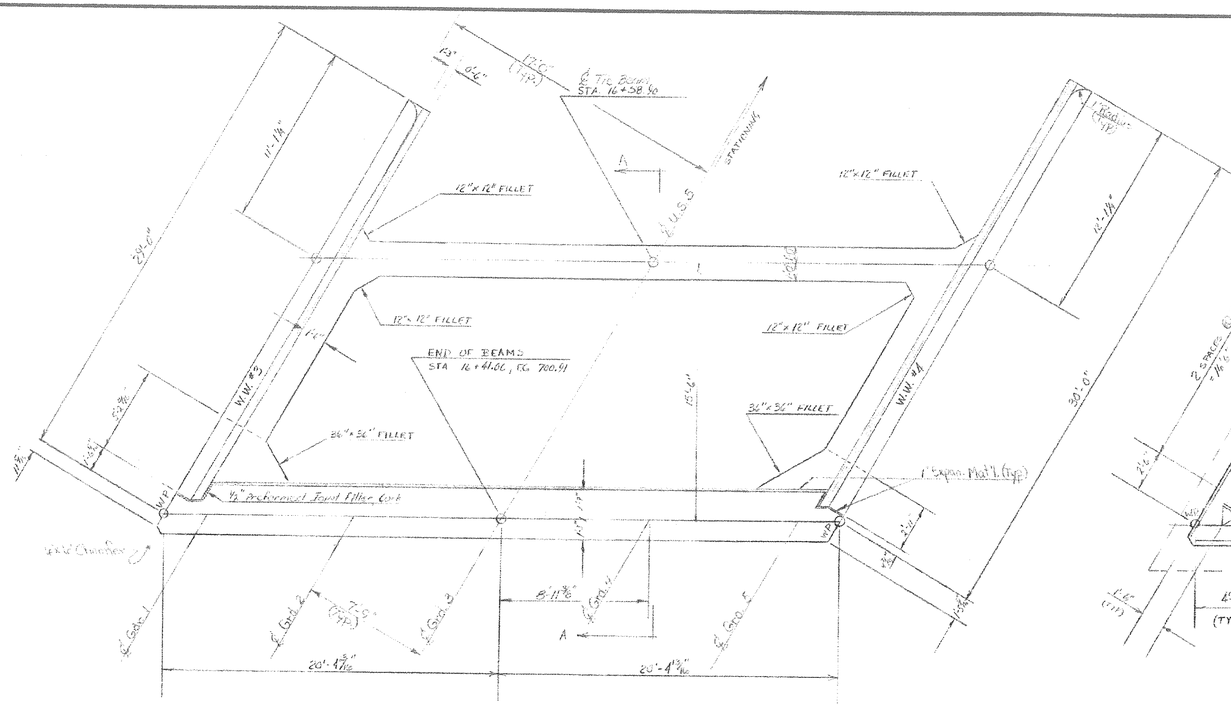
SCALE: ⅜"=1'-0"

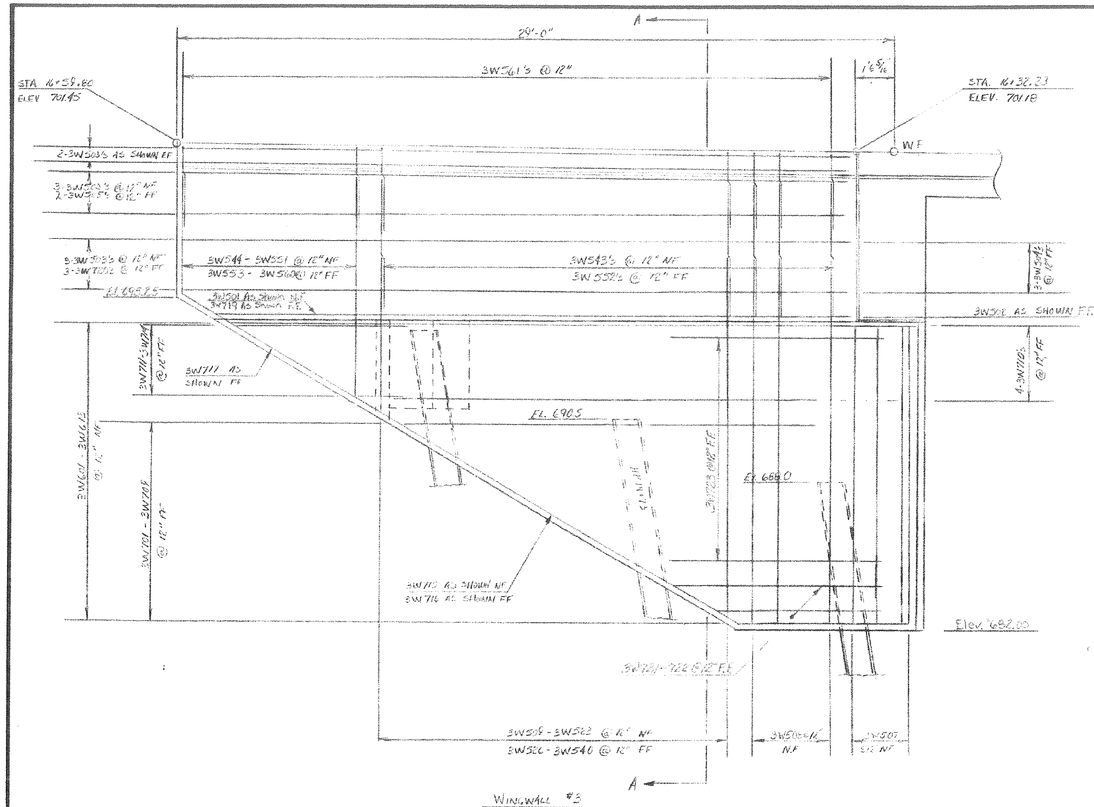
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 45 OF 80
BRIDGE No. 174
FOR REFERENCE ONLY

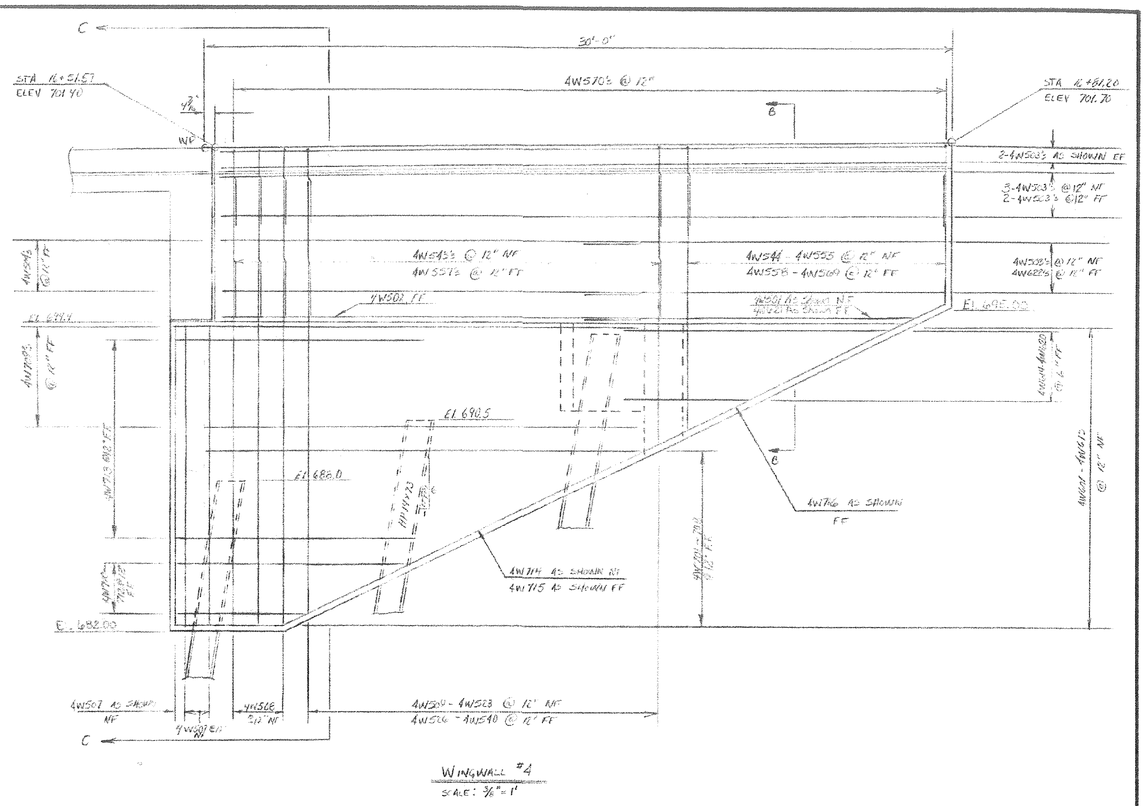
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

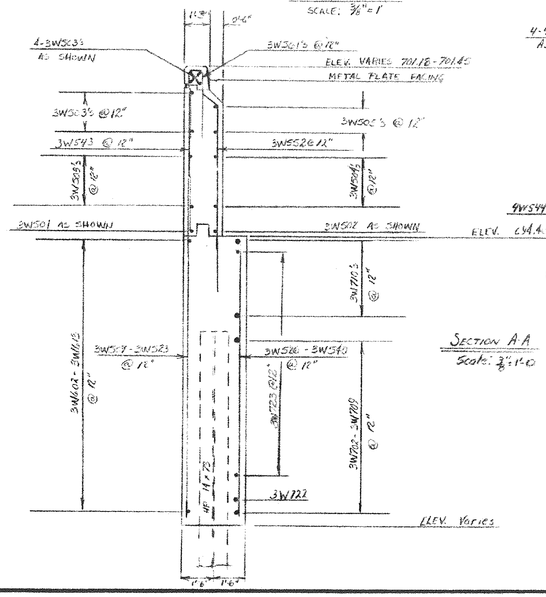
TOWN OF COVENTRY	Bridge No. 174
HIGHWAY NO. US RTE #5	Log Sta.
	Surv. Sta.
US. RTE #5 OVER BLACK RIVER	
TIE BEAM & APPROACH SLAB DETAILS	
Designed by A ELWOOD	Drawn by R D GRAY
Checked by A.W.E. date 2-79	Bridge Design Supervisor R S HAUPT date
PROJECT COVENTRY	PROJECT NO. BRS 0113(2)
Bridge Sheet No. 110	Sheet 19 of 58

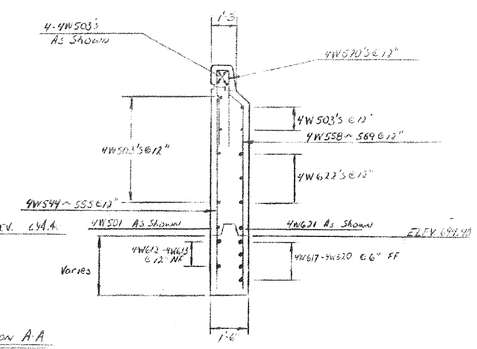
BR 6


12'-0"
12'-0"
℄ Tie Beam
STA. 16+38.96
STATIONING
℄ U.S. 5
12"x12" FILLET
12"x12" FILLET
12"x12" FILLET
12"x12" FILLET
END OF BEAMS
STA. 16+41.06, EL. 700.91
30"x36" FILLET
24"x36" FILLET
W.W. #3
W.W. #4
11'-1¾"
11'-1¾"
30'-0"
2'-6"
2'-6"
1'-6"
1'-6"
1



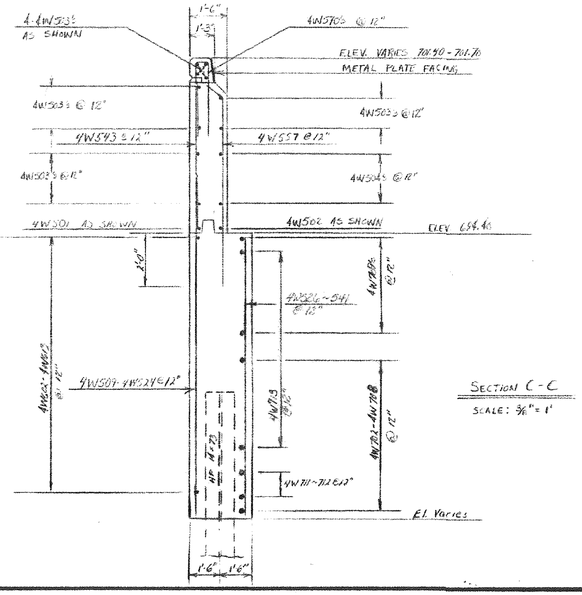






SECTION A-A
Scale: 3/8" = 1'-0"

SECTION B-B
Scale: 3/8" = 1'-0"
(Similar for W.W. #3)



SECTION C-C
SCALE: 3/8" = 1'

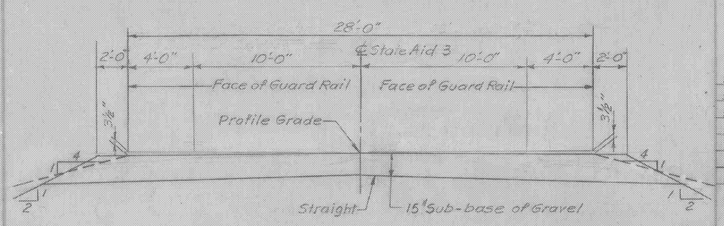
WINGWALL #4
SCALE: 3/8" = 1'

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 47 OF 80
BRIDGE No. 174
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

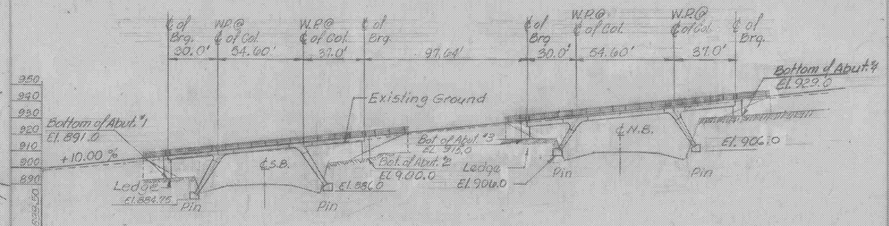
TOWN OF COVENTRY	Bridge No. 174
HIGHWAY NO. US RTE #5	Log Sta. / Surv. Sta.
US RTE #5 OVER BLACK RIVER	
WINGWALL #3 & 4	
Designed by A ELWOOD	Drawn by R GRAY
Checked by A.W.E. date 2-15-79	Bridge Design Supervisor R S HAUPT date
PROJECT COVENTRY	PROJECT NO. BRS0113 (2)
Bridge Sheet No. 112	Sheet 21 of 58

BR 6



NEW HIGHWAY SECT. STA. 406+00 TO STA. 412+50

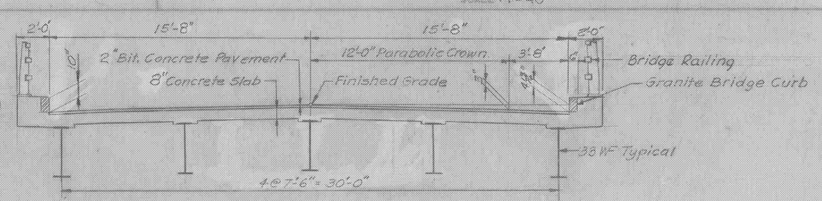
SCALE ¼"=1'-0"



NEW HIGHWAY PROFILE ALONG ℄ STATE AID 3

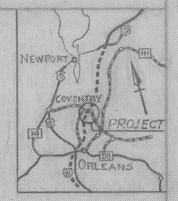
SCALE : 1"= 40'

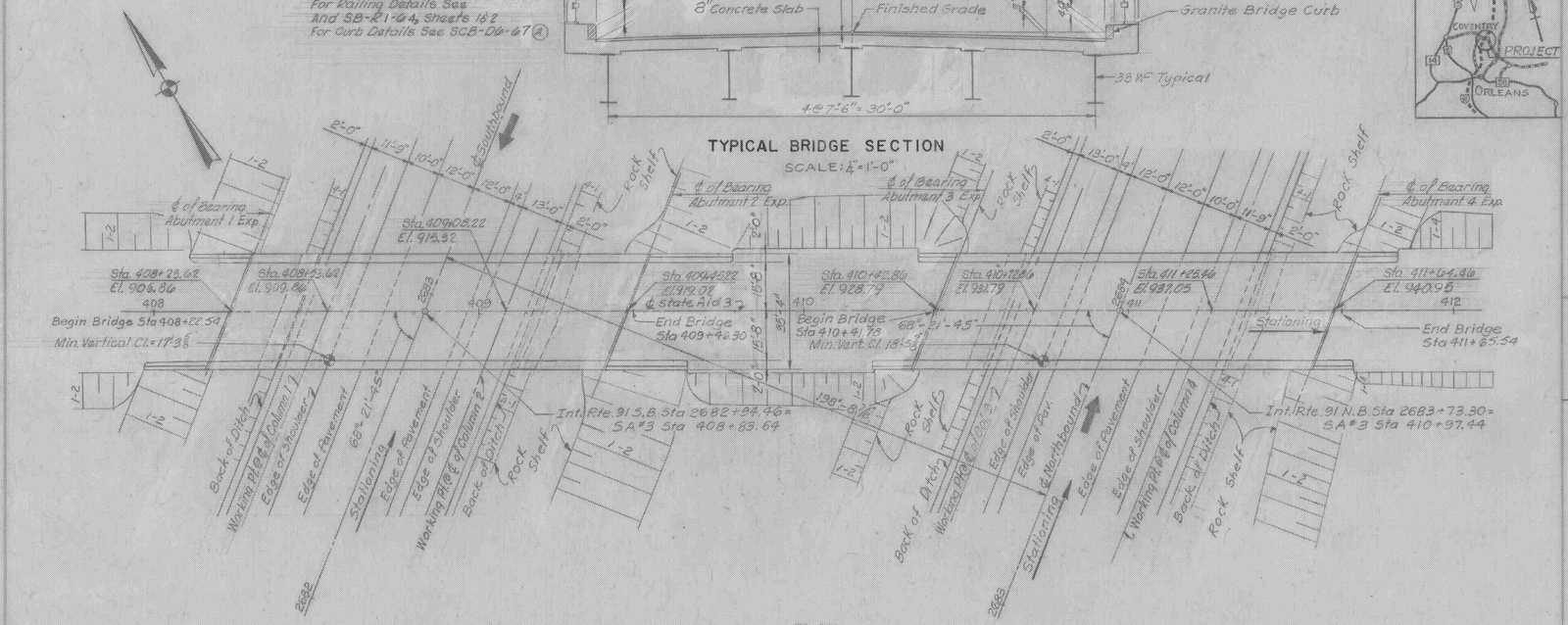
Note: For Details of Deck Construction see BR. 20A For Railing Details See And SB-R1-64, Sheets 16Z For Curb Details See 30B-Dtl-67 (4)



TYPICAL BRIDGE SECTION

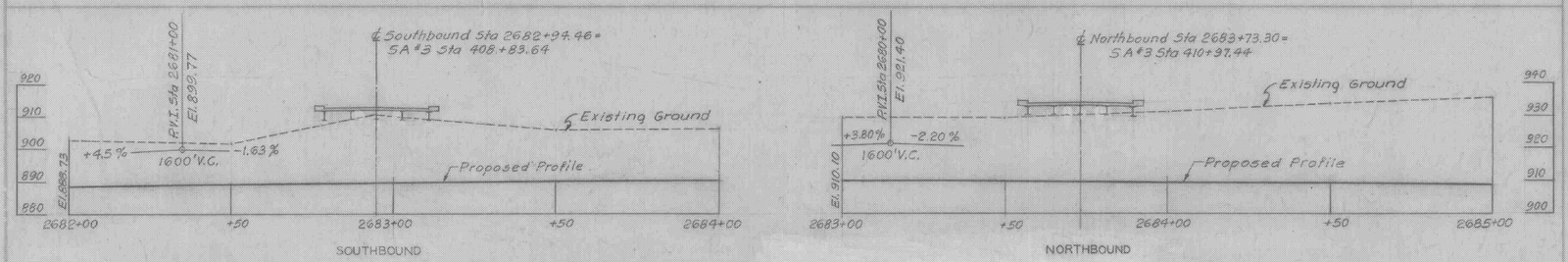
SCALE: ½"=1'-0"





PLAN

SCALE: 1"= 20'



PROFILE OF PROPOSED INT. ROUTE 91

SCALE: 1"= 20'

HIGHWAY NO. I-91 NAME OF HIGHWAY Interstate

STRUCTURE NO. COUNTY Orleans TOWN Coventry

PROJECT NO. I 91-3(8) LOCATION STATE AID 3 OVER I-91

EXISTING STRUCTURE

1 RATED LOADING OF EXISTING STRUCTURE
2 TYPE OF EXISTING STRUCTURE
3 UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE
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?
6 SHOULD NEW TEMPORARY STRUCTURE BE BUILT?
7 ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE WATERWAY TO ORDINARY H.W.
8 EXTREME HIGH WATER AT EXISTING STRUCTURE
9 SPAN OF EXISTING BRIDGE UPSTREAM WATERWAY TO EXTREME H.W.
SPAN OF EXISTING BRIDGE DOWNSTREAM WATERWAY TO EXTREME H.W.
10 TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS
11 DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE?
12 IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED?
13 ADDITIONAL WATERWAY AREA PROVIDED

NEW STRUCTURE

1 RECOMMENDED TYPE OF STRUCTURE 3 Span Steel Rigid Frame (Non-Composite)
2 RECOMMENDED CLEAR SPAN OR SPANS 30.0 - 54.60 - 37.0
MEASURED PARALLEL TO ℄ NEW HIGHWAY 30.0 - 54.60 - 37.0
MEASURED AT RIGHT ANGLES TO ℄ STREAM N.A.
3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM? ANSWER YES OR NO N.A.
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE N.A.
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE N.A. SOURCE OF INFORMATION N.A.
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? N.A.
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? N.A. IS ORDINARY RISE RAPID? N.A.
8 LOW WATER ELEVATION AT NEW STRUCTURE N.A.
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE N.A. CHARACTER OF TERRAIN
10 IS STREAM EVER DRY N.A.
11 VELOCITY OF STREAM AT HIGH WATER STAGE N.A. ESTIMATED DISCHARGE N.A.
12 AREA FULL OPENING N.A. AREA BELOW ORDINARY H.W. N.A.
13 CHARACTER OF SCOUR N.A. DRIFT N.A. ICE N.A.
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE N.A.
15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION N.A.
16 ARE SIDEWALKS REQUIRED? IF SO ON WHAT SIDE? NO SIXTH SIDE?
17 RECOMMENDED TYPE OF PAVEMENT 2" Bituminous Concrete, 8" Concrete
18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. N.A. ONE OR TWO WAYS PROBABLE COST
19 PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE N.A.
20 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES? NO
21 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS * SHOULD PILES BE USED? NO EST. LGTH N.A.
* 5 Tons/SF @ Piers & Abuts.

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.

Design Stresses:
Concrete f'_c = 3000 p.s.i. f_c = 1200 p.s.i.
Structural Steel f_s = 20,000 p.s.i. (A-36) others per A.A.S.H.O. Specs.
Reinforcing Steel f_s = 20,000 p.s.i. Tension
f_c = 16,000 p.s.i. Compression
Welding per A.W.S. Specs.

Design Loading: HS20 - 44

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 49 OF 80
BRIDGE NO. D08N & D08S
FOR REFERENCE ONLY

Changed R'dwy width from 30'-0" to 31'-9", curb width from 2'-8" to 2'-0", deck thickness from 7½" to 8". Bit. Conc. From 1½" to 2" F. Teske 4/28/69

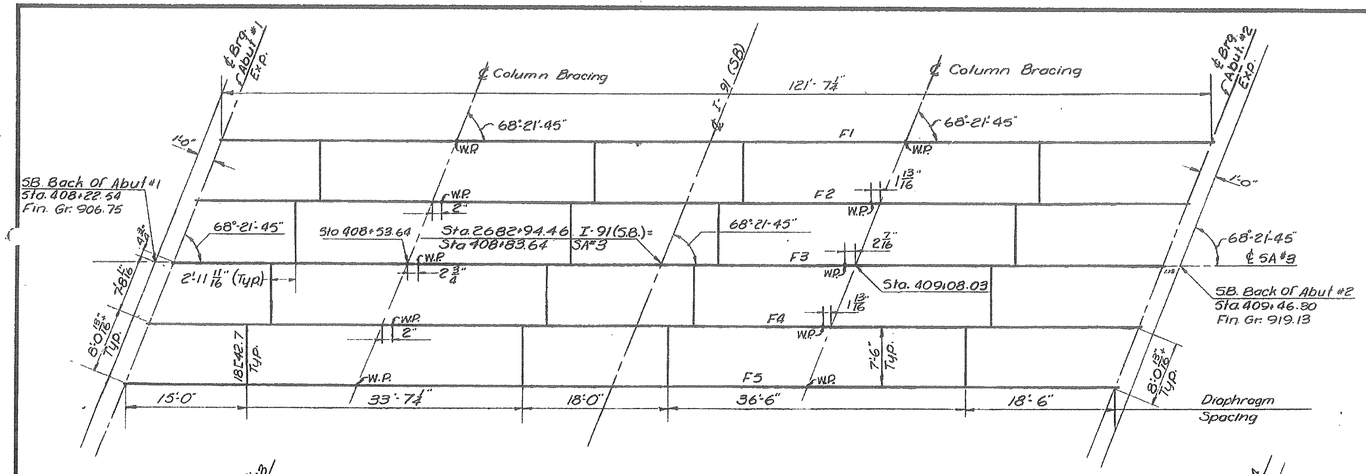
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

I-91 IN THE TOWNS OF COVENTRY BR # 108-5
ROUTE NO I-91 STA 2683 ±
ROUTE SA 3 OVER I-91

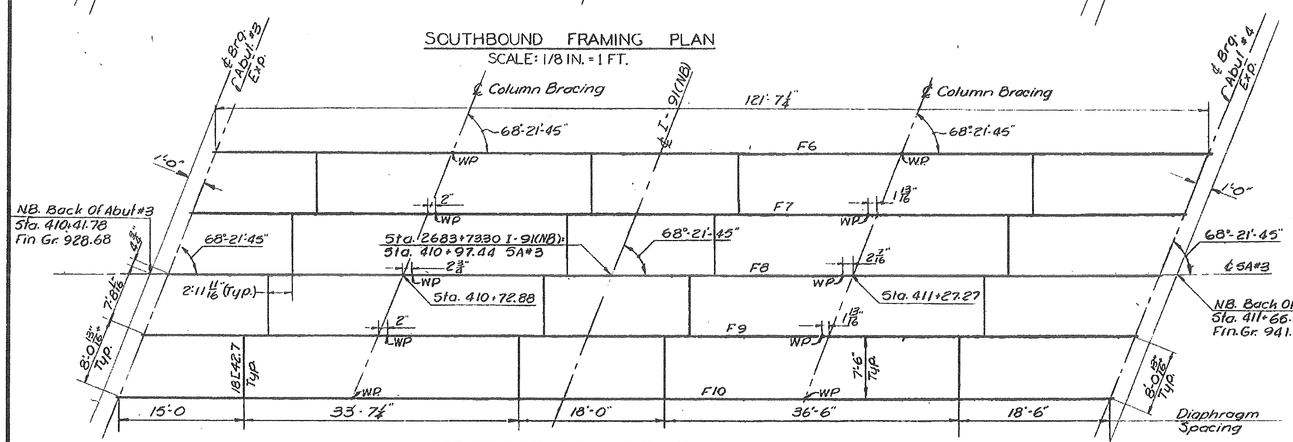
RECOMMENDED FOR APPROVAL	P.C. Scribner P.E. CONSTRUCTION ENGR.	9-15-69	DATE
RECOMMENDED FOR APPROVAL	Lin Byers BRIDGE ENGINEER	9-15-69	DATE
RECOMMENDED FOR APPROVAL	E.H. Stickney ASST. CHIEF ENGINEER	9-15-69	DATE
APPROVED BY:	R.J. Caudel CHIEF ENGINEER	9/15/69	DATE

DESIGNED BY A.K.N. | DRAWN BY A.K.N. | CHECKED BY A.C.C. | CHK'D BY C.W.T. | SCALE AS SHOWN | DATE 12/8/65

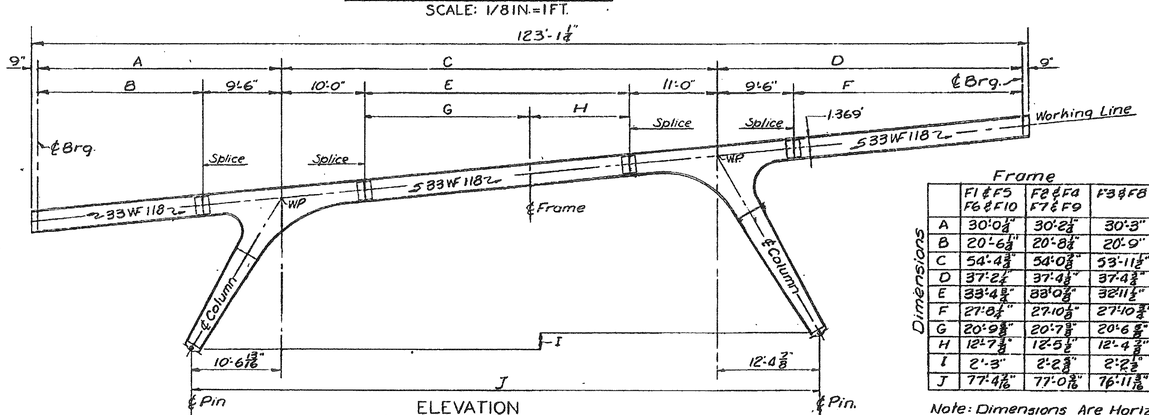
PROJECT NO. I91-3(8) SHEET 201 OF 605



SOUTHBOUND FRAMING PLAN
SCALE: 1/8 IN. = 1 FT.



NORTHBOUND FRAMING PLAN
SCALE: 1/8 IN. = 1 FT.

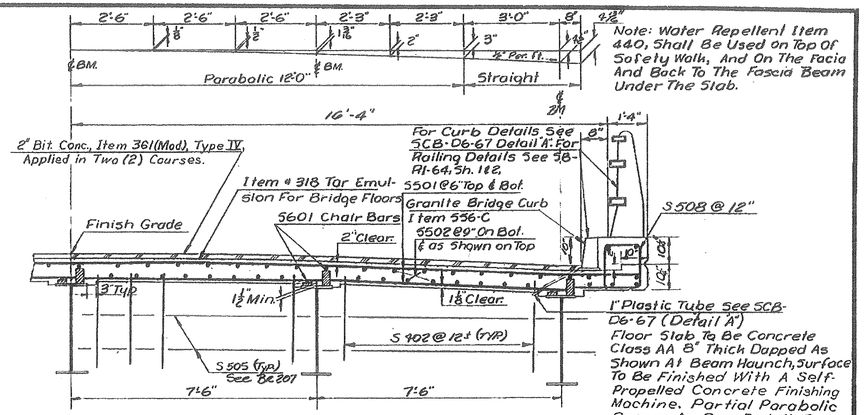


ELEVATION
SCALE: 1/8 IN. = 1 FT.

Frame

Dimensions	F1 & F5 F6 & F10	F2 & F4 F7 & F9	F3 & F8
A	30'-0 3/8"	30'-2 5/8"	30'-3"
B	20'-6 3/8"	20'-8 5/8"	20'-9"
C	54'-4 3/8"	54'-0 5/8"	53'-11 5/8"
D	37'-2 1/8"	37'-4 3/8"	37'-4 3/8"
E	33'-4 3/8"	33'-0 5/8"	32'-11 1/2"
F	27'-8 1/8"	27'-10 3/8"	27'-10 3/8"
G	20'-9 3/8"	20'-7 3/8"	20'-6 5/8"
H	12'-7 3/8"	12'-5 1/2"	12'-4 3/8"
I	2'-1'-3"	2'-2 3/8"	2'-2 1/2"
J	77'-4 7/16"	77'-0 7/16"	76'-11 5/8"

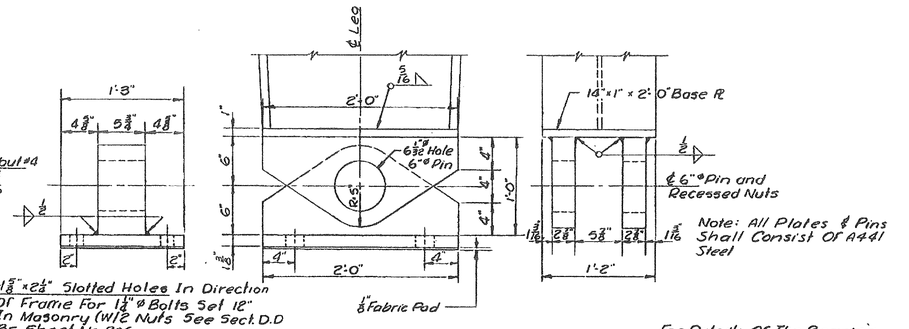
Note: Dimensions Are Horizontal Distances Between Points on The Working Line.



TYPICAL HALF DECK SECTION
SCALE: 1/2 IN. = 1FT.

Note: Water Repellent Item 440, Shall Be Used on Top Of Safety Walk, And On The Facia And Back To The Fascia Beam Under The Slab.

. Cut S501 Transverse Bars At Skew End As Required And Use Cut Off On Opposite End. For Curtain Wall Details See Br. 207.
For Further Haunch Details See Br. 205.



Note: All Plates & Pins Shall Consist Of A441 Steel

BEARING DETAIL OF PIN END
SCALE 1-1/2 IN=1 FT.

For Details Of The Bearing Devices @ The Abutments See SCB-D8-67, Detail 'A'

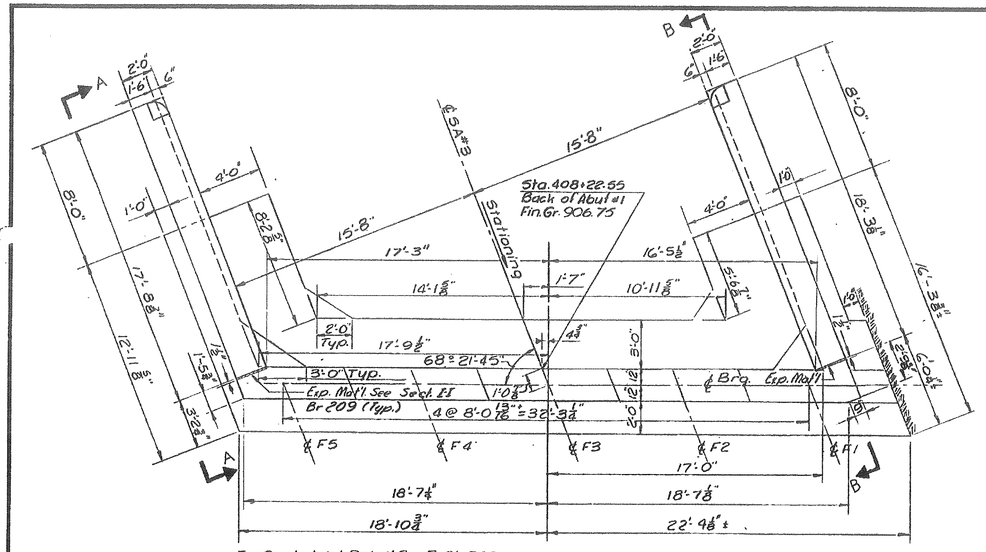
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 50 OF 80
BRIDGE No. D08N & D08S
FOR REFERENCE ONLY

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.				

Changed Roadway width from 30'-0" to 31'-4", curb width from 2'-8" to 2'-0". Added: curtain wall reinforcing to typ. section. R. Esta. 9/28/69

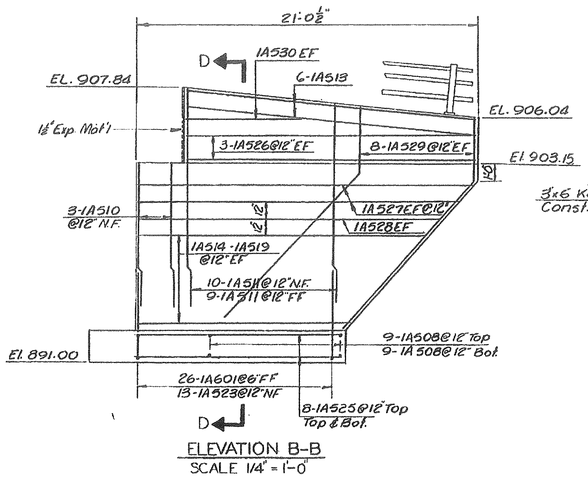
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT IRASBURG-DERBY
TOWN OF COVENTRY
ROUTE No. I-91 STA. 2683+
SA 3 OVER I-91 NB & SB.
FRAMING PLAN & TYPICAL SECTION
SCALE AS SHOWN
IN CHARGE EDWARDS & KELCEY
DRAWN BY D.L.EE CHECKED BY A. CENTORE 4-66
PROJECT No. I91-3(8)
SHEET 203 OF 605 BR 204

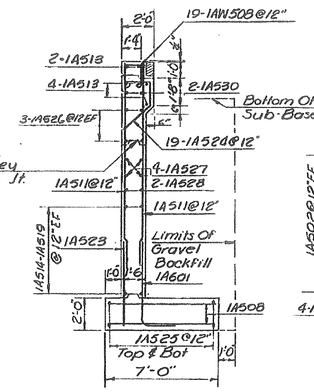


For Curb Joint Detail See Br.Sh.209

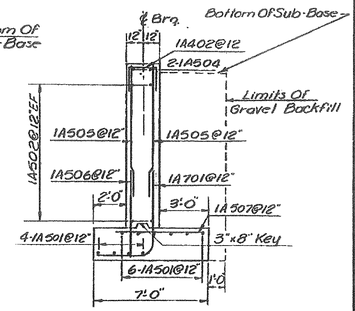
PLAN
SCALE 1/4"=1'-0"



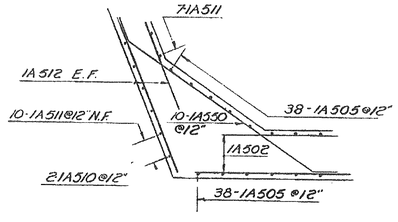
ELEVATION B-B
SCALE 1/4"=1'-0"



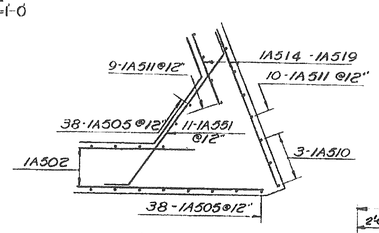
SECTION D-D
SCALE 1/4"=1'-0"



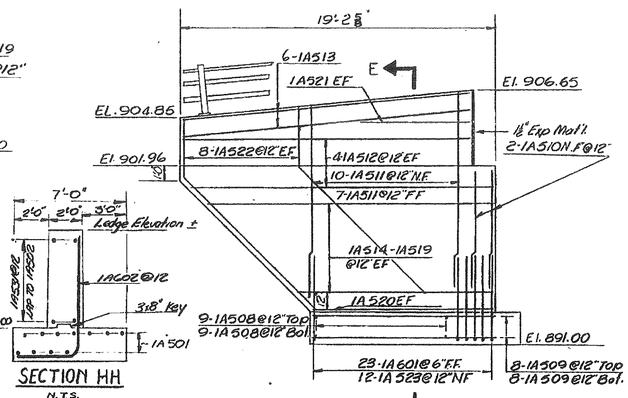
SECTION C-C
SCALE 1/4"=1'-0"



SECTION F-F
SCALE 3/8"=1'-0"

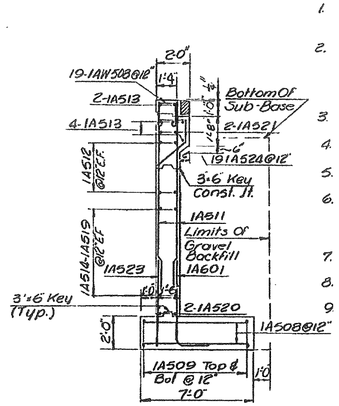


SECTION G-G
SCALE 3/8"=1'-0"

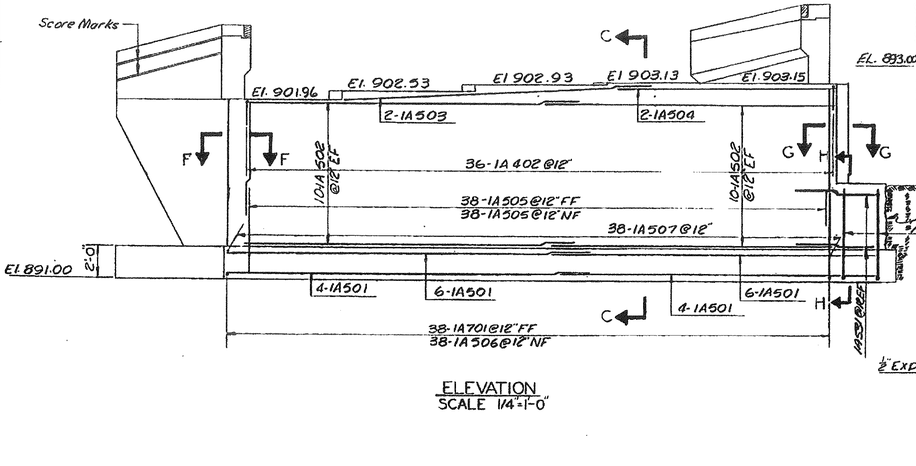


ELEVATION A-A
SCALE 1/4"=1'-0"

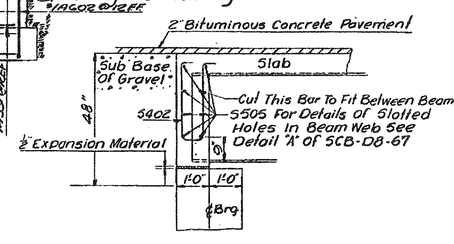
SECTION HH
N.T.S.



SECTION E-E
SCALE 1/4"=1'-0"



ELEVATION
SCALE 1/4"=1'-0"



TYPICAL SUPERSTRUCTURE DETAILS AT ABUTMENT
SCALE: 1/2"=1'-0"

Abutment Notes

1. For Additional Curb And Construction Joint Details See STD SH. SCB-D6-67 Detail "A" And "B"
2. No Concrete In Wings Is To Be Placed Above Adjacent Bridge Seat Elevations Until Frames Have Been Profiled And Final Finish Grade Determined By The Engineer.
3. Step Bridge Seats Midway Between Bearing Devices.
4. All Reinforcing To Have Minimum Cover Of 2" Except 3" In Footing
5. Footings Are Designed For Bearing Of 5 Tons/Sq. Ft. On Ledge.
6. All Ledge Under The Footing Shall Be Roughened Such That No Ledge Projects Above The Bottom Of Footing Elevation Indicated On The Plans.
7. The Footings Are To Be Placed On Sound Ledge.
8. For Details Of Curved Granite End Blocks See STD SH. SCB-D4-67.
9. Four (4) Inch Diameter Weep Holes Shall Be Provided In All Abutments, Wings, And Walls. Weep Holes Shall Be Spaced Not Over Ten (10) Feet Center To Center And So Placed To Provide Adequate Drainage For Back Fill.
10. Closure Walls Shall Be Poured Against Rock Ledge. Elevation Of Top Of Wall Shall Be Approximately That Of Ledge.

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.				

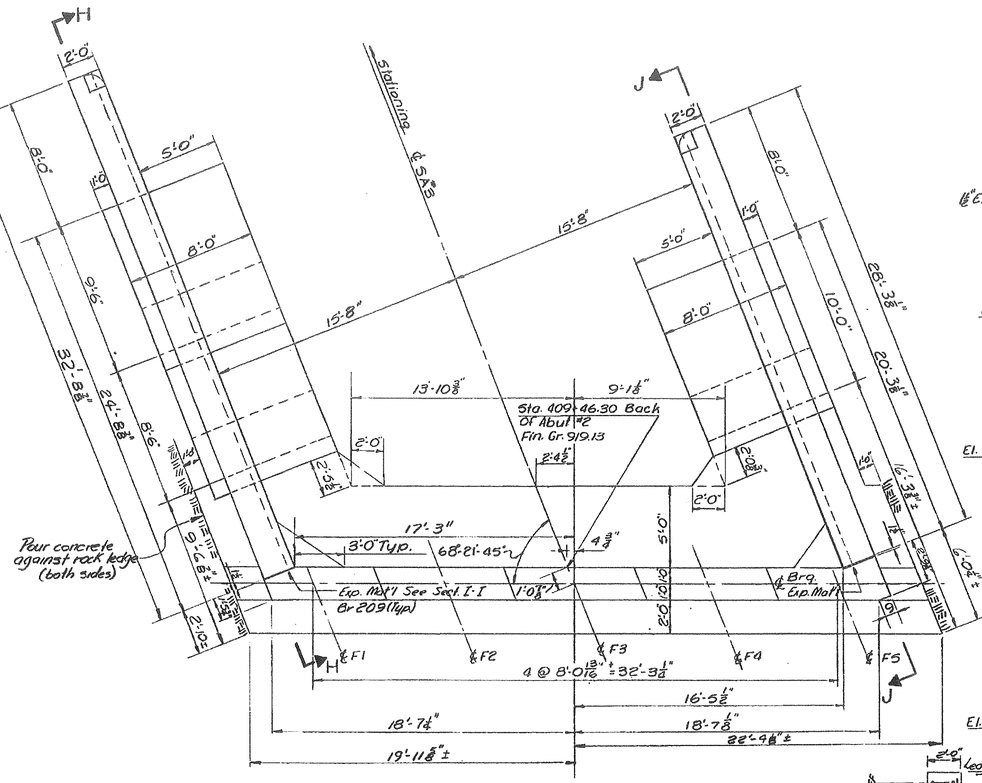
Changed Roadway Width from 30'-0" to 31'-9"; Curb Width from 2'-8"&2'-0" to 3'-6"; Removed Chee Kwalls. Added Closure Wall. Changed Reinf. Steel Accordingly. Lowered Bridge Seat Elevations ½". R.Tech. 4-66

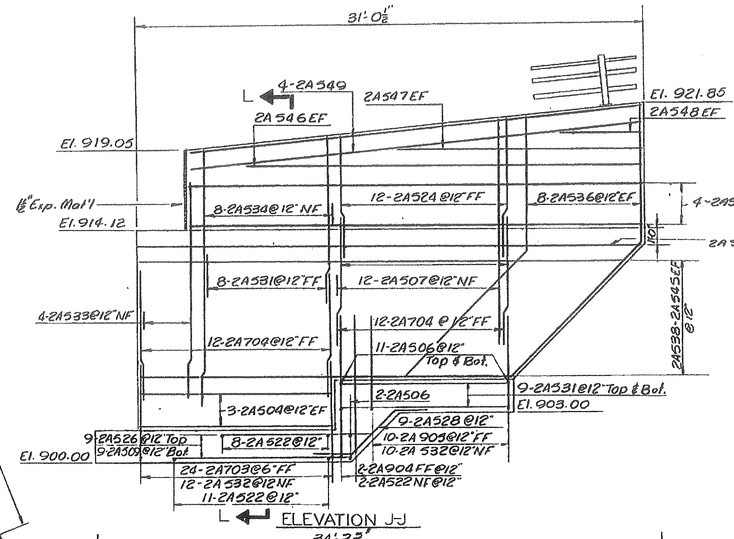
Br-207 Of 212

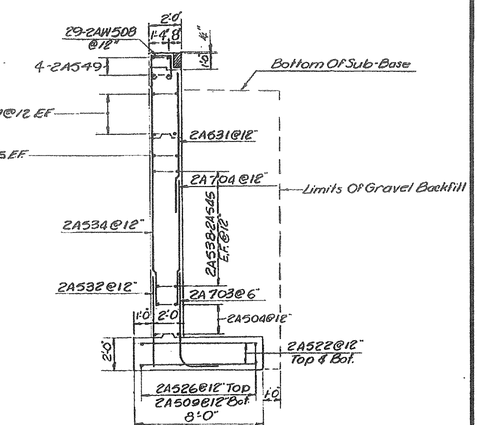
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

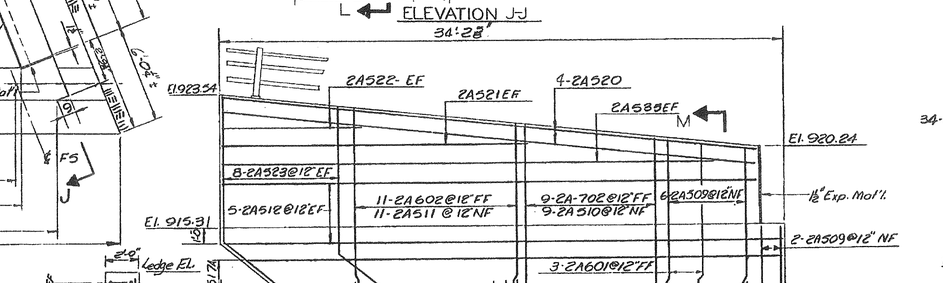
PROJECT IRASBURG-DERBY
TOWN OF COVENTRY
ROUTE No. I-91 STA. 2683±
SA 3 OVER I-91
ABUTMENT #1
SCALE AS NOTED
IN CHARGE EDWARDS & KELCEY
DRAWN BY DLEE CHECKED BY ACENTORE 4-66
PROJECT No. 191-3(8)
SHEET 206 OF 605 BR 207

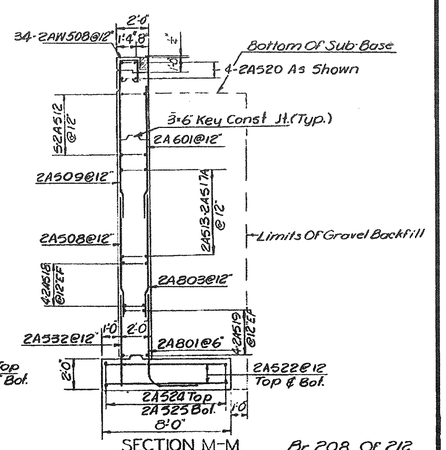
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 52 OF 80
BRIDGE No. D08N & D08S
FOR REFERENCE ONLY

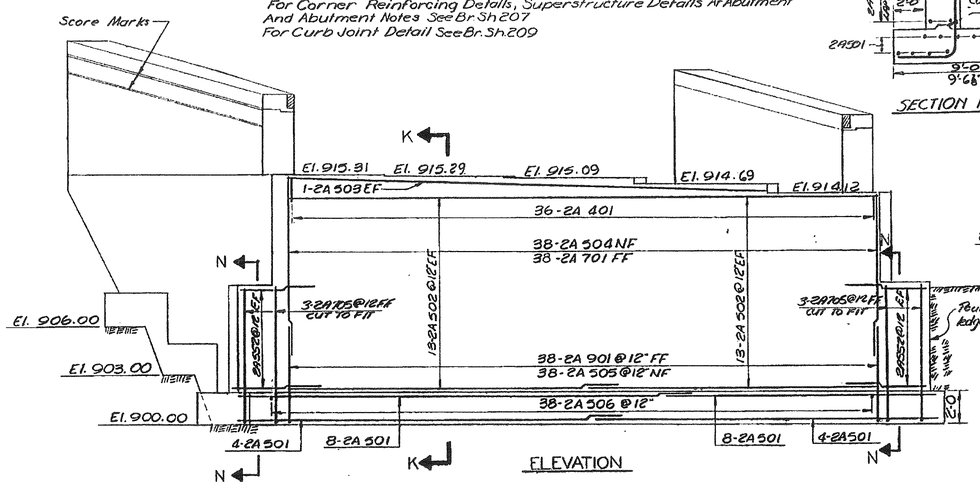


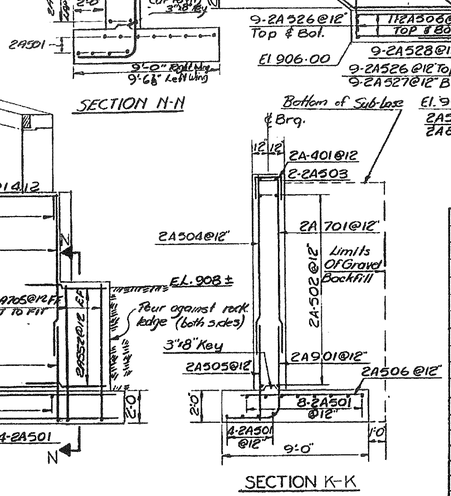


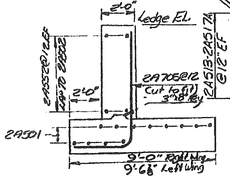












ITEM NO.	ITEM	UNIT	NET		TOTAL	FINAL
	CHAN. EXCAV. OF EARTH	C.Y.				
	CHAN. EXCAV. OF ROCK	C.Y.				
	UNCLASS. CHAN. EXCAV.	C.Y.				
	STRUCT. EXCAV.	C.Y.				
	CONC. CLASS AA (MOD.)	C.Y.				
	CONC. CLASS B (MOD.)	C.Y.				
	REINF. STEEL	LBS.				
	ASPHALTIC-ASB. COATING	S.Y.				
	TREATED TIMBER PILING	L.F.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

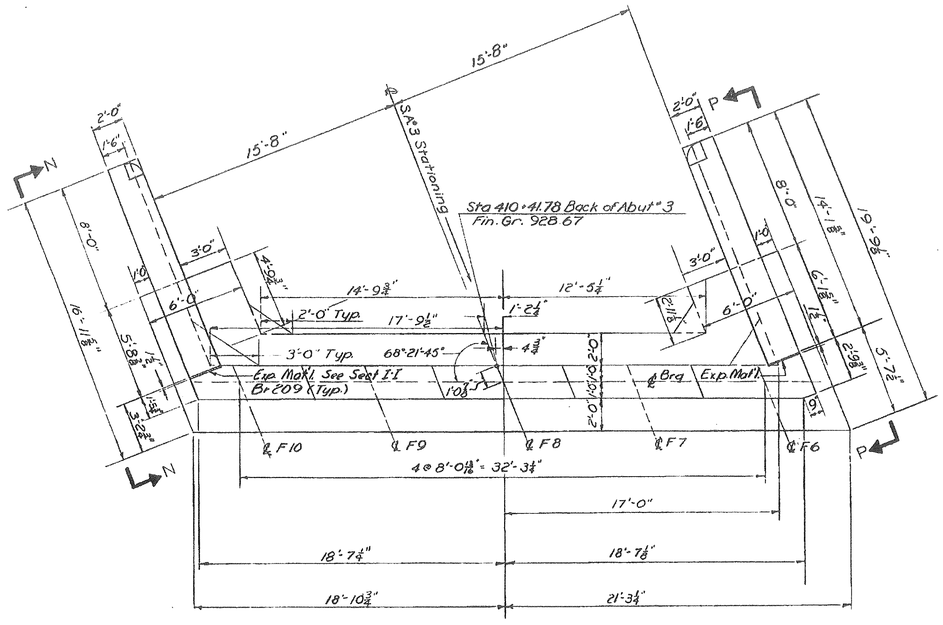
Same changes as Br 207 Closure wall added to both sides. R Tesh 7/1/69

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT TRASBURG-DERBY
TOWN OF COVENTRY
ROUTE No. I-91 STA. 2083±
SA3 OVER I-91
ABUTMENT # 2
SCALE 1/4 IN. = 1 FT
IN CHARGE EDWARDS & KELCEY
DRAWN BY D.L.EE CHECKED BY A.CENTORE 4-66
PROJECT No. I 91-3(8)
SHEET 207 OF 605 BR 208

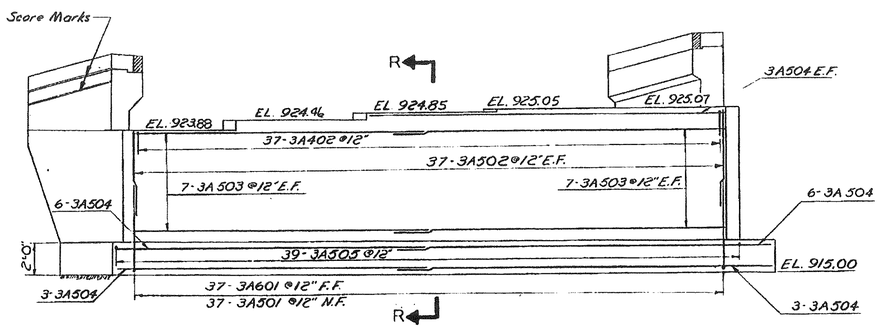
Br 208 Of 212

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 53 OF 80
BRIDGE No. D08N & D08S
FOR REFERENCE ONLY

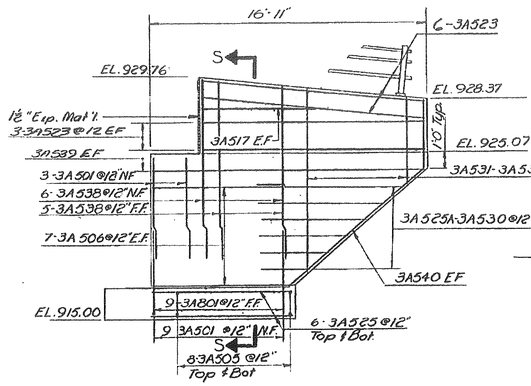


PLAN

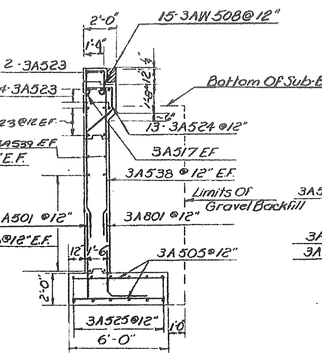
For Corner Reinforcing Details, Superstructure Details At Abutment And Abutment Notes See Br. Sh. 207



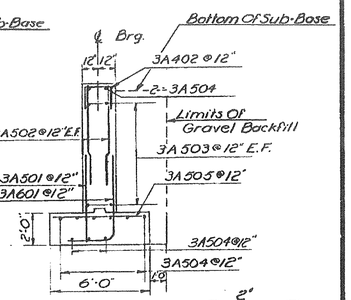
ELEVATION



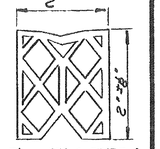
ELEVATION P-P



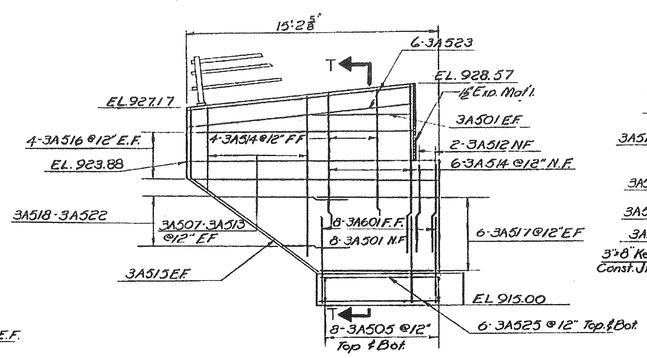
SECTION S-S



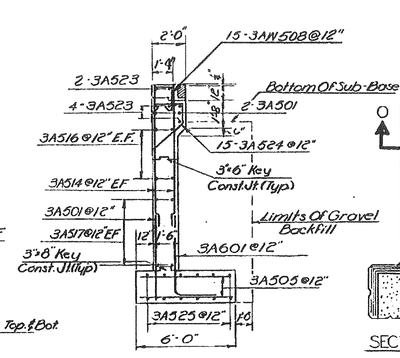
SECTION R-R



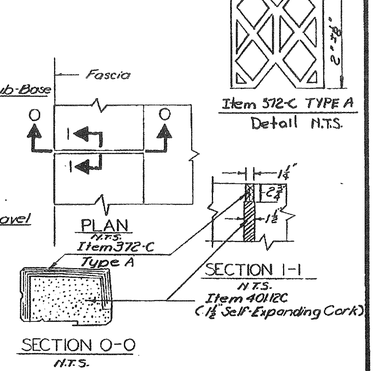
Item 512-C TYPE A
Detail N.T.S.



ELEVATION N-N



SECTION T-T



CURB JOINT DETAIL
N.T.S.

Br. 209 of 212

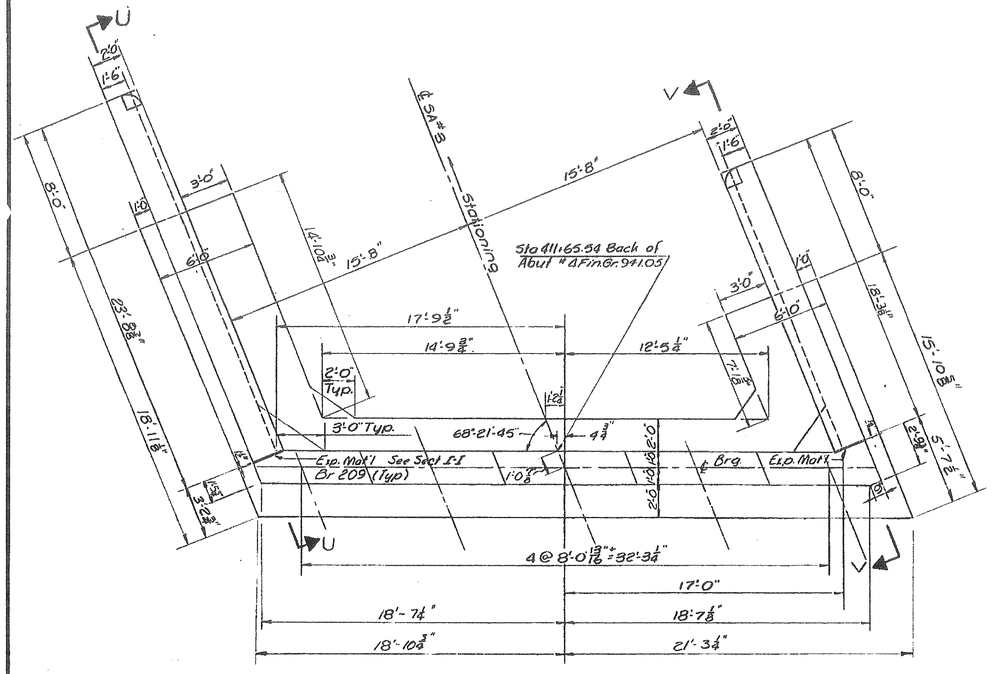
ITEM NO.	ITEM	UNIT	NET		TOTAL	FINAL
	CHAN. EXCAV. OF EARTH	C. Y.				
	CHAN. EXCAV. OF ROCK	C. Y.				
	UNCLASS. CHAN. EXCAV.	C. Y.				
	STRUCT. EXCAV.	C. Y.				
	CONC. CLASS AA (MOD.)	C. Y.				
	CONC. CLASS B (MOD.)	C. Y.				
	REINF. STEEL	LBS.				
	ASPHALTIC-ASB. COATING	S. Y.				
	TREATED TIMBER PILING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

Some Changes as BR. 207. No Closure Wall added. Changed Dimension for Item 372-A from 18" to 14"
F.E.S. 5/12/69

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

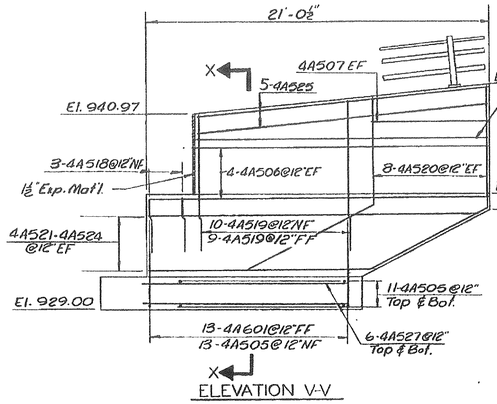
PROJECT IRASBURG-DERBY
TOWN OF COVENTRY
ROUTE NO. I-91 STA. 2683±
SA3 OVER I-91
ABUTMENT #3
SCALE 1/4 = 1'-0"
IN CHARGE EDWARDS & KELCEY
DRAWN BY SCURRAN CHECKED BY ACENTORE
4-66
PROJECT NO. I 91-3(8)
SHEET 208 OF 605 BR 209

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 54 OF 80
BRIDGE No. D08N & D08S
FOR REFERENCE ONLY

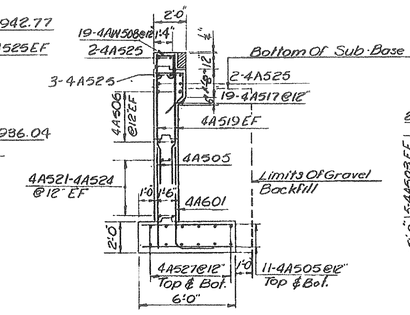


PLAN

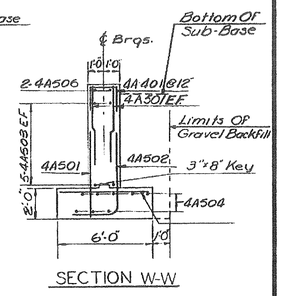
For Corner Reinforcing Details, Superstructure Details At Abutment And Abutment Notes See Br. Sh. 207
For Curb Joint Detail See Br. Sh. 209



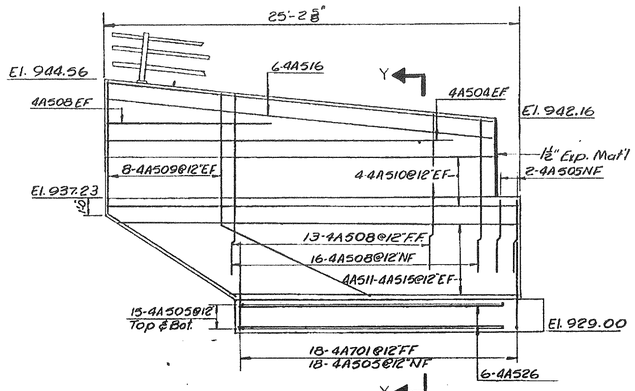
ELEVATION V-V



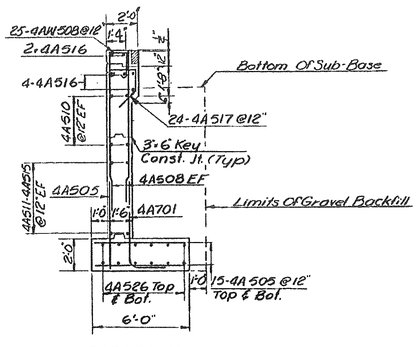
SECTION X-X



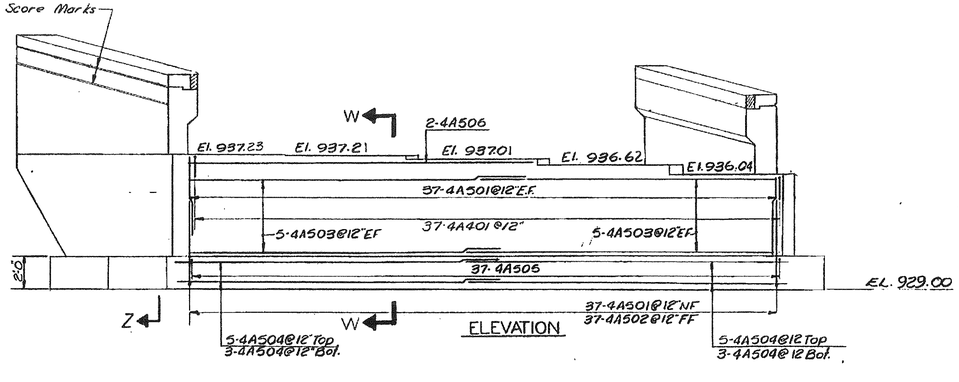
SECTION W-W



ELEVATION U-U



SECTION Y-Y



ELEVATION

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.				

Same Changes as BR 207
R Eich 9/4/69

BR210 OF 212

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT IRASBURG-DERBY
TOWN OF COVENTRY
ROUTE No. I-91 STA. 2683±
SA3 OVER I-91
ABUTMENT #4
SCALE ¼ IN=1 FT.
IN CHARGE EDWARDS & KELCEY
DRAWN BY D.L.EE CHECKED BY ACENTORE 4-66
PROJECT No. I-91-3(8)
SHEET 209 OF 605 BR 210

54'-0" Overall Span (HORIZONTAL DISTANCE)

Spacing of Beam Guard Rail Splices 8 @ 6'-3" = 50'-0"

2'-0" | 1'-9½" | End of Guard Rail Conc. ℄ | 2'-0"

B | C | Plates | B | A

1'-0" Water Block | Direction of Traffic on this lane | ℄ Bolts in Posts | Water Block 1'-0"

℄ 33 WF 130

C

Face of Abut. #1 Sta. 208+65.5 Begin Bridge Fin. Gr. 666.91 Expans. End

Face of Abut. #2 Sta. 209+89.2 End Bridge Fin. Gr. 666.24 Fixed End

Fl. Elev.

℄ Roadway, Tangent

Stationing → 1.231 %

℄ Bearings & Front of Curtain Wall

1'-0" 1'-0" Approach Slab Bracket

1'-0" Water Block See Sect'n A-A

(Typical) 6'-3" c to c ℄ Guard Rail Splices

℄ ℄ Posts

Approach Slab Bracket See Detail on Dwg SCB-30-56 (No Actual Construction of Approach Slab)

Water Block 1'-0"

1'-9½" | 2'-0" | End of Guard Rail

SPACING OF BEAM GUARD RAIL SPLICES 8 @ 6'-3" = 50'-0"

PLAN
Scale: ⅛" = 1'-0"

B | 1'-11" | 1'-7¾" | 5¼" | 1½" | TYPE 5 INSERT

8 WF 24 x 2'-3" Lg.

6½"

For Details of Steel Beam Guard Rail with Steel Posts Item 547-C See Standard Dwg. TS 56-13 & as Noted.

¾" ø Hole for ⅝" Bolt

2 Layers 5 Lb. Roofing Paper Item 401.B

24° Parabolic Curve For Crown

See Typical Section

Level

2" Drip Bead

Item 547-C

Plate - 12" x ⅜" x 1'-8" Item 547-C

4" per ft.

Item 561.B

Pipe Sleeves For ⅝" Bolts Item 547-C

Weld Plate to C 5x6.7 & see top of Forms

Washers - 6"x6"x⅜" Item 547-C

⅝" Bolts & Nuts 12" Long Item 547-C

SECTION B-B

SECTION C-d

DETAILS OF BRIDGE POST & BASE PLATE
SCALE 12" = 1'-0"

NOTE

For Details not Shown, Refer to Std. Dwgs. SCB 30-56 SB-20-56 TS-56-13 BS-56-2

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	NET	CRUSH	TOTAL	FINAL
105	SPIRAL REINFORCING	L.S.	1	0	1	1
361.B	BITUMINOUS CONCR. PAVEMENT (Incld.)	Ton	89	4	93	30
401.B	CONCRETE CLASS "B" (MOD.)	C.Y.	69	4	73	64
602	REINFORCING STEEL (See Contr. III Details)	LBS.				12615
604.A	STRUCTURAL STEEL	LBS.	#2,000	+1000	#3,000	41,167
547.C	HEAVY DUTY III BM. GUARD RAIL WITH STEEL POSTS	L.F.	109'	-	109'	109'

SECTION 'A-A'
Scale: ½" = 1'-0"

8'-11" | 7'-6" | 7'-6" | 7'-6" | 7'-6" | 3'-11"

See Section C-C

2" bot. Ft. Straight | 12'-0" (Parabolic) | 5-6 M.D. Spiral Reinf. Lap 1'-7" | 10" | ℄ Roadway & Line of Symmetry | S3 Bars - #6 Chair Bars

#S1D Bars - #5 @ 6½" Top - Alt. Splice

1" Clear | 34'-0" Roadway Width | 2½" Bit. Concrete Item 361.B (Incld.) | 9½" | #S1C Bars - #5 @ 6½" Top Alt. Splice

See Details of Reinforcing ℄ SCB-30-56

Water Block | #S1B Bars - #5 @ 6½" Bot. Alt. Splice | 1" Clear | 10" | 6½" Lap | #S5A Bars - #5 (Lapped with S5B) As per SCB 30-56 Alt. Spliced | #S1A Bars - #5 @ 6½" Bot. Alt. Splice | Water Block

#S2 Bars - #4 (Bo...

See Standard Dwg. SB-20-56 Details "B" & "D"

#S6A Bars - #4 @ 12" ± In Curtain Wall

Floor Slab to be Concrete Class "B" (Mod.) 17½" Thick, Dipped as shown on "Detail of Beam Haunch". Surface to be screed, floated and broomed. Parabolic Curve as noted and to be obtained by stepping bridge seats. Chamfer all exposed corners.

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 56 OF 80
BRIDGE No. 57
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF NEWPORT-TROY

ROUTE No. VT. 105 LOG STA. 9+06

DETAILS OF SUPERSTRUCTURE

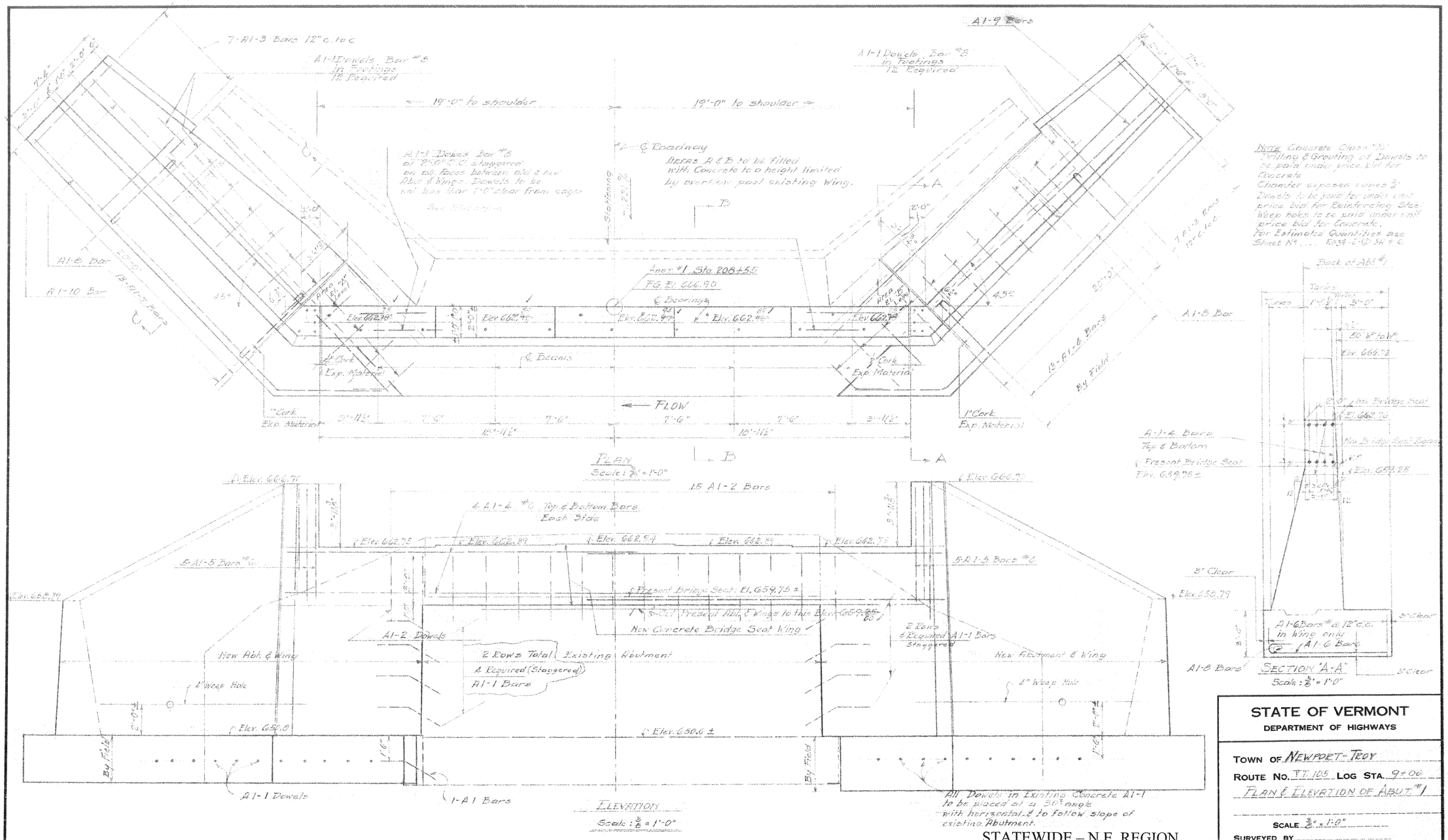
SCALE As Noted

SURVEYED BY

DRAWN BY D.P.B. CHECKED BY J.C.D.

PROJECT No. F 034-2(2)

SHEET 57 OF 134



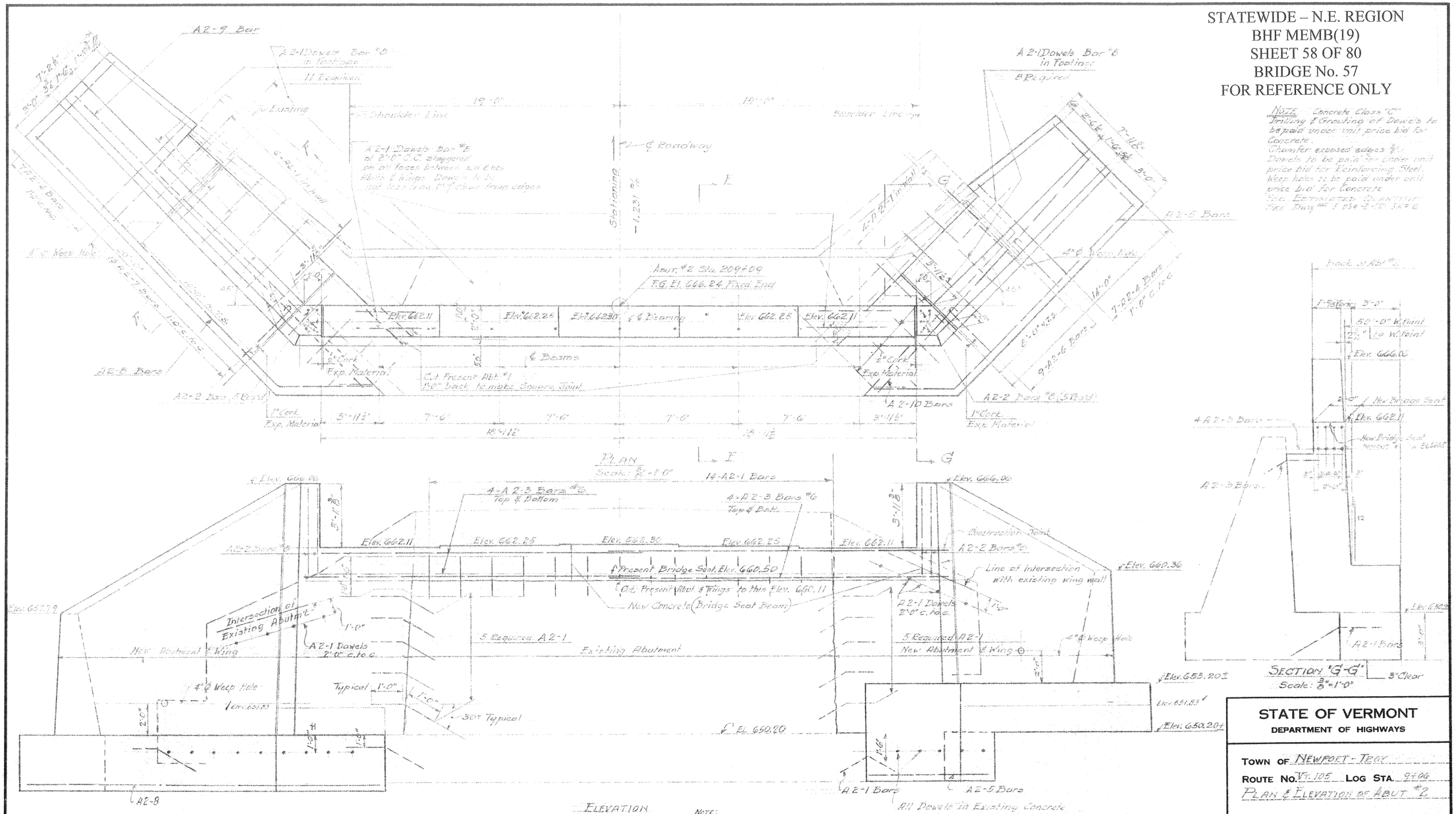
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF Newport-Troy
ROUTE No. VT 105 LOG STA. 9+06
PLAN & ELEVATION OF ABUT #1
SCALE ¾" = 1'-0"
SURVEYED BY
DRAWN BY D.R.D. CHECKED BY J.C.B.
PROJECT No. F 034-2(2)
SHEET 32 OF 80

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 57 OF 80
BRIDGE No. 57
FOR REFERENCE ONLY

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 58 OF 80
BRIDGE No. 57
FOR REFERENCE ONLY

Note: Concrete Class "C"
Drilling & Grouting of Dowels to be paid under unit price bid for Concrete.
Chamfer exposed edges ¾".
Dowels to be paid for under unit price bid for Reinforcing Steel.
Weep Holes to be paid under unit price bid for Concrete
Fed. Estimated Quantities
See Dwg. F 034-2(10) Sht 6

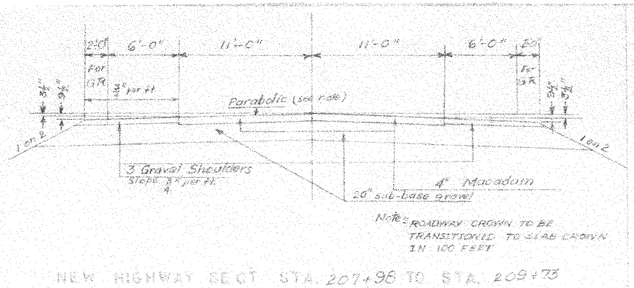


STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF Newport - Troy
ROUTE NO. Vt. 105 LOG STA. 9+00
PLAN & ELEVATION OF ABUT #2

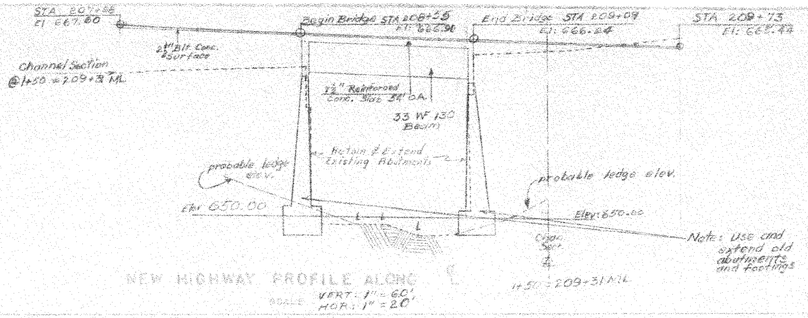
SCALE ⅜"=1'-0"
SURVEYED BY
DRAWN BY D.E.B. CHECKED BY J.C.B.
PROJECT NO. F 034-2(2)
SHEET 20 OF 146

H-E Hoosick Falls N. L. M. Inc. Albany



NEW HIGHWAY SECT STA. 207+98 TO STA. 209+73

SCALE 3/16" = 1'-0"



NEW HIGHWAY PROFILE ALONG ℄

SCALE VERT: 1" = 60'
HOR: 1" = 20'

HIGHWAY NO VT-105 NAME OF HIGHWAY TROY - NEWPORT

STRUCTURE NO 44 COUNTY ORLEANS TOWN NEWPORT

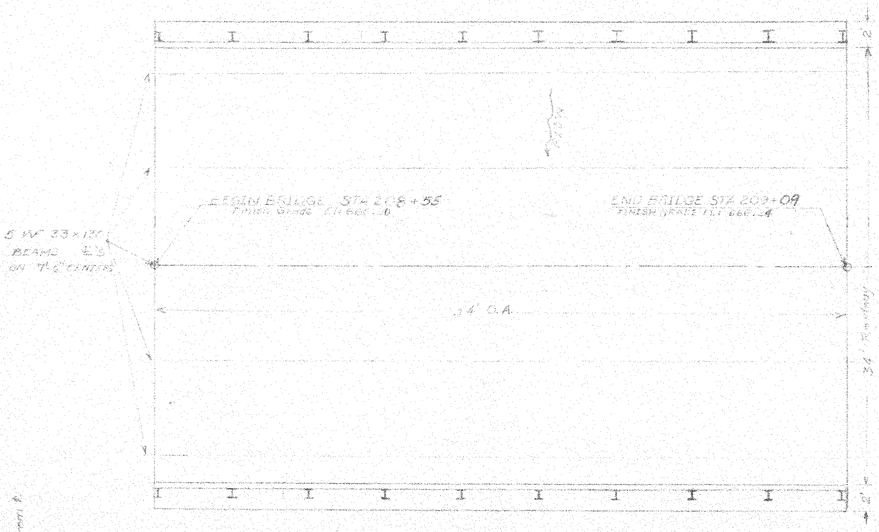
PROJECT NO F 034-2(2) LOCATION Survey Sta 209+00 Log Sta 9+06

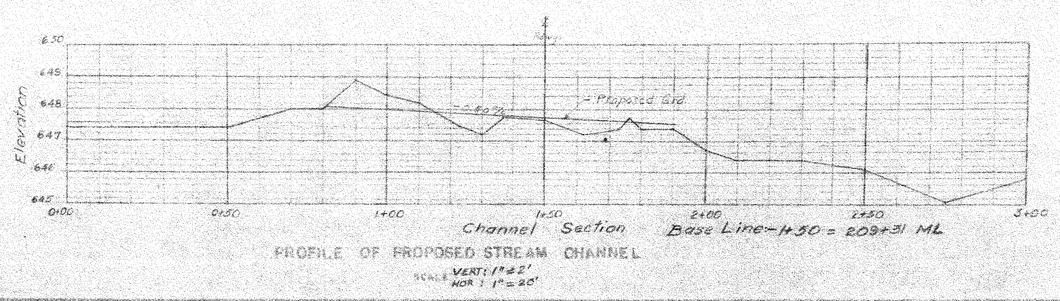
EXISTING STRUCTURE

1 RATED LOADING OF EXISTING STRUCTURE H-15
2 TYPE OF EXISTING STRUCTURE Concrete T-Beam
3 UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE 659.9
4 WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE Remove COST OF REMOVAL (Retire & Extend Alts.) Under Str. 50'± and
5 SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE No
6 SHOULD NEW TEMPORARY STRUCTURE BE BUILT Yes
7 ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE 655± WATERWAY TO ORDINARY H.W. 600 ± SQ FT
8 EXTREME HIGH WATER AT EXISTING STRUCTURE 656 ± WATERWAY TO EXTREME H.W. 600 ± SQ FT
9 SPAN OF EXISTING BRIDGE UPSTREAM 3 @ 35' WATERWAY TO EXTREME H.W. 600 ± SQ FT
SPAN OF EXISTING BRIDGE DOWNSTREAM WATERWAY TO EXTREME H.W.
10 TYPE OF FOUNDATION USED EXISTING ABUTMENTS Ledge
11 DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE yes
12 IF NOT, AT WHAT ELEVATION IS WATER AFFORDED
13 ADDITIONAL WATERWAY AREA PROVIDED

NEW STRUCTURE

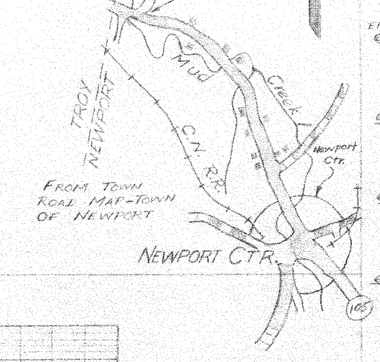
1 RECOMMENDED TYPE OF STRUCTURE Composite W (Square)
2 RECOMMENDED CLEAR SPAN OR SPANS 54'-0" Overall
MEASURED PARALLEL TO ℄ NEW HIGHWAY 50'-0" Clear Span
MEASURED AT RIGHT ANGLES TO ℄ STREAM 50'-0"
3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO yes
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE 650.0
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE 656.5 SOURCE OF INFORMATION Computed
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE yes
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY Medium ORDINARY RISE RAPID Same
8 LOW WATER ELEVATION AT NEW STRUCTURE 648.0
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE 19,392 CHARACTER OF TERRAIN Hilly
10 IS STREAM EVER DRY NO
11 VELOCITY OF STREAM AT HIGH WATER STAGE 9.0 f/sec ESTIMATED DISCHARGE 3800 CFS
12 AREA FULL OPENING 725 Q ft AREA BELOW ORDINARY H.W. 850 Q ft
13 CHARACTER OF SCOUR None DRIFT None DV Slight
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE
15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION 6.1'
16 ARE SIDEWALKS REQUIRED, IF SO OR WHAT SIDE None BOTH SIDES —
17 RECOMMENDED TYPE OF PAVEMENT Bituminous Concrete
18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. ONE OR TWO WAY Two PROBABLE COST $300.00
19 PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE
20 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES No
21 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS Ledge SHOULD PILES BE USED? No KIND





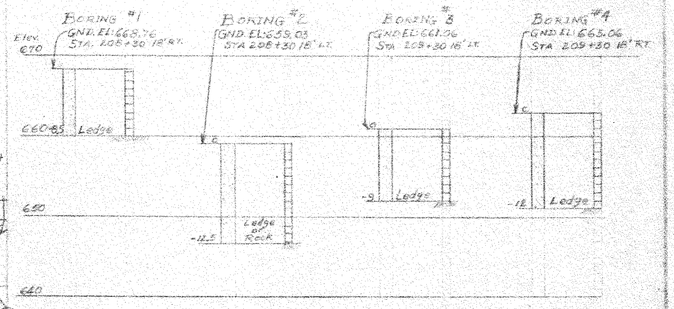
PROFILE OF PROPOSED STREAM CHANNEL

SCALE VERT: 1" = 2'
HOR: 1" = 20'



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.



BM 667.98 Top of Post @ Boring #1

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 59 OF 80
BRIDGE No. 57
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

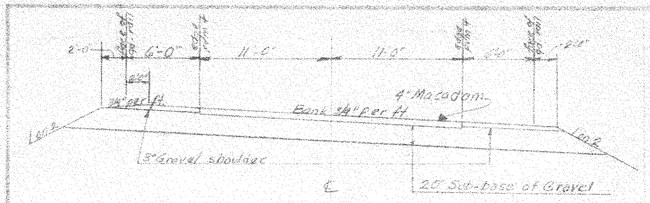
IN THE TOWNS OF TROY - NEWPORT

ROUTE NO. VT 105 LOG STA 9+06

BR 57

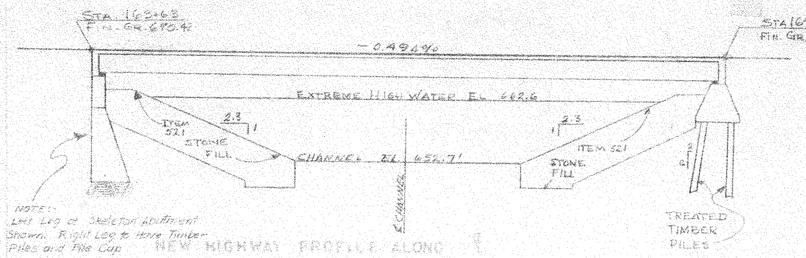
SURVEYED BY	GA	DRAWN BY	E.R.P.	DATE	7/10/58
CHECKED BY		CHECKED BY		DATE	
PROJECT	F-034-2(2)	SHEET	32 OF 146		

DRAWN	7/21/58	APPROVED	H.E. Sargent
CHECKED			NEWPORT - TROY
			F 034-2 (2)



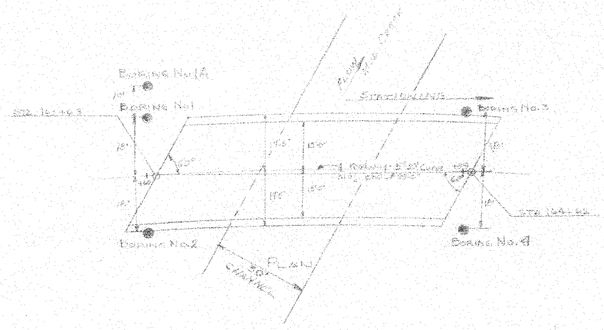
NEW HIGHWAY SECT. STA. TO STA.

SCALE 3/4"=1'-0"



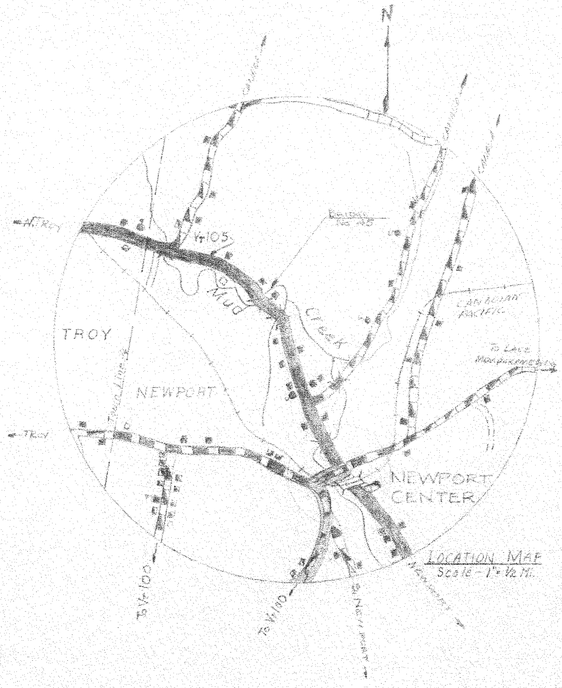
NEW HIGHWAY PROFILE ALONG ℄

SCALE 1"=10'



TYPICAL HALF SECTION

Scale 3/8"=1'-0"

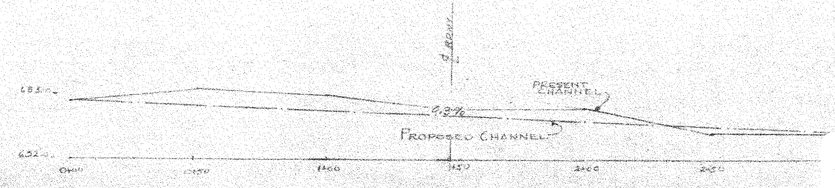


LOCATION MAP

Scale - 1"=1/2 M.

PLAN

SCALE 1"=20'



PROFILE OF PROPOSED STREAM CHANNEL

SCALE 1"=25' Horz. 1"=1.0' Vert.

HIGHWAY NO. VT. 105 NAME OF HIGHWAY TROY - NEWPORT

STRUCTURE NO. 45 COUNTY ORLEANS TOWN NEWPORT

PROJECT NO. F 034-2(2) LOCATION SURVEY STA. 164+ (1.0 MILES FROM TROY-NEWPORT TOWN LINE)

EXISTING STRUCTURE

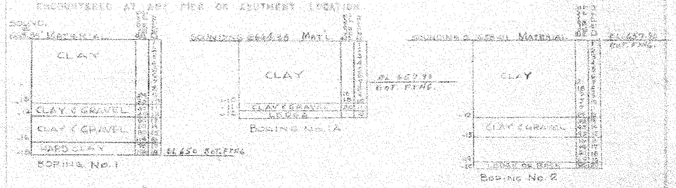
1. RATED LOADING OF EXISTING STRUCTURE H-15
2. TYPE OF EXISTING STRUCTURE CONCRETE T BEAM
3. ROADWAY WIDTH; ELEVATION OF EXISTING STRUCTURE 668.0
4. WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE REMOVE COST OF REMOVAL $2,000.00
5. SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE NO
6. SHOULD NEW TEMPORARY STRUCTURE BE BUILT YES
7. ORDINARY HIGH WATER ELEVATION AT EXISTING STRUCTURE 660.0' WATERWAY TO ORDINARY H.W. 315 S.F.
8. EXTREME HIGH WATER AT EXISTING STRUCTURE 662.6'
9. SPAN OF EXISTING BRIDGE, UPSTREAM 54' WATERWAY TO EXTREME H.W.
SPAN OF EXISTING BRIDGE, DOWNSTREAM 50' WATERWAY TO EXTREME H.W. 300 SF
10. TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS SAME AS GIVING FOR NEW STRUCTURE
11. DOES ALL WATER OF FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE YES
12. IF NOT, AT WHAT ELEVATION IS WATER ARRESTED
13. APPROXIMATE WATERSHED AREA PROTECTED

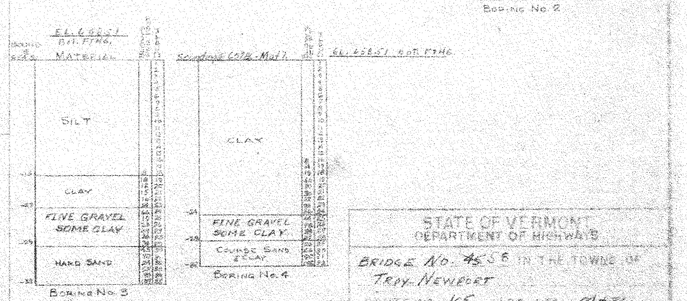
NEW STRUCTURE

1. RECOMMENDED TYPE OF STRUCTURE RC CONCRETE (30° SKEW)
2. REQUIREMENTS UNDER OVER OR SPANS 24'0" (OVERALL)
MEASURED PARALLEL TO ℄ NEW HIGHWAY 58'-0"
MEASURED AT RIGHT ANGLES TO ℄ STREAM 61'-3" (CLEAR)
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO YES
4. ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE 659.6
5. EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE 662.6 SOURCE OF INFORMATION COMPUTED
6. WILL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? YES
7. USED 6 FEET ABOVE TO MAXIMUM HIGH WATER ELEVATION RAPIDLY? YES IS ORDINARY RISE SMALL? YES
8. LOW WATER ELEVATION AT NEW STRUCTURE 654.0
9. DRAINAGE AREA IN ACRES ABOVE STRUCTURE 17,300 ACRES CHARACTER OF TERRAIN HILLY
10. IS STREAM EVER DRY NO
11. VELOCITY OF STREAM AT HIGH WATER STAGE 6.6 F.P.S. ESTIMATED DISCHARGE 3500 C.F.S.
12. NET WATER WAY OPENING 730 S.F. AREA BEING CHANNELED 200 L.F.
13. CHARACTER OF BOTTOM SILT & SAND DEPTH NONE TO SLIGHT
14. ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE
15. VERTICAL CLEARANCE ABOVE FLOOD ELEVATION 25'
16. ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE NO BOTH SIDES
17. RECOMMENDED TYPE OF PAVEMENT BITUMINOUS CONCRETE
18. WORKS TO BE ACCOMPLISHED UNDER ITEM NO. 441 ONE DIRTWAY 2 WAY, PROBABLE COST $1,000.00
19. PROBABLE COST OF CLEARING AND GRUBBING WITHIN CHANNEL OF STRUCTURE SITE FAIR
20. REQUIRE PROVISIONS BE MADE FOR PUBLIC UTILITIES NO
21. ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 4 N/FT² SHOULD PILES BE USED? YES ESTIMATED 30'

FOUNDATION INFORMATION

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





STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 45 S.B. IN THE TOWNS OF TROY-NEWPORT

ROUTE NO. 105 LOG STA. 52+36

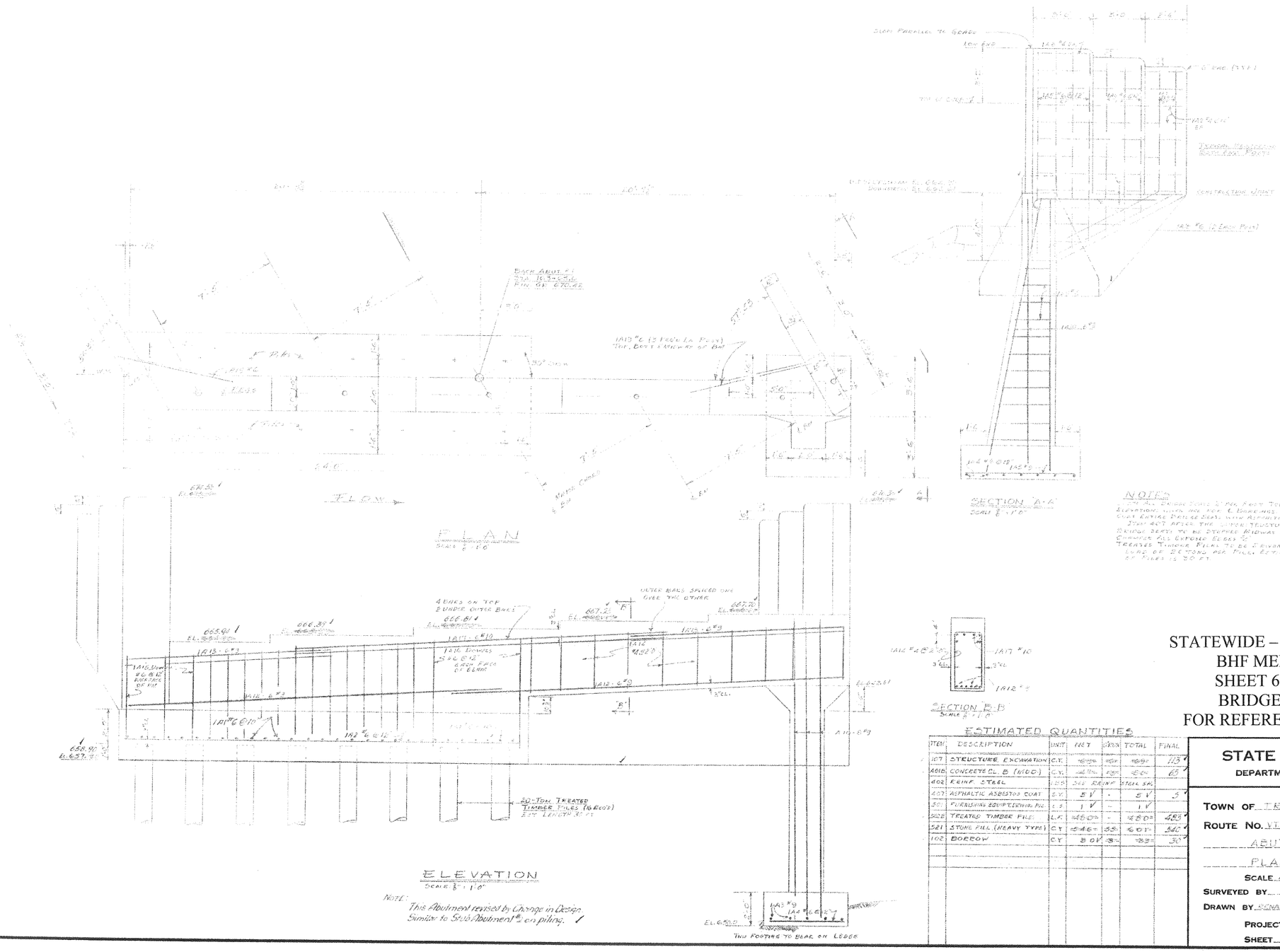
DRAWN E.H.S. | CHECKED E.F.P. | SCALE AS NOTED | DATE OCT. 1957

PROJECT NO. F034-2(2) | SHEET 30 OF 140

LOADING 4 N/FT² 7/24/58 APPROVED H.E. Longnecker

BRIDGE ENGINEER STATE HIGHWAY ENGINEER

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 60 OF 80
BRIDGE No. 58
FOR REFERENCE ONLY



STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 62 OF 80
BRIDGE No. 58
FOR REFERENCE ONLY

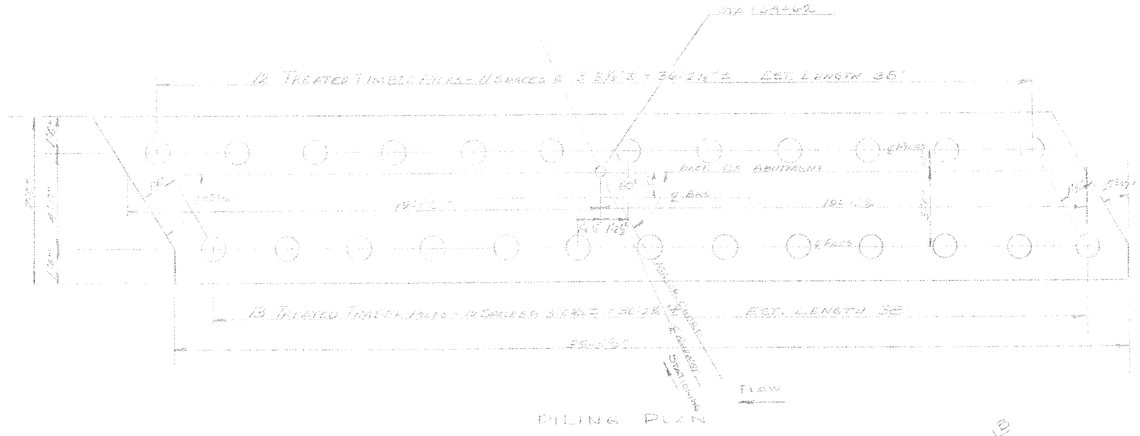
ESTIMATED QUANTITIES

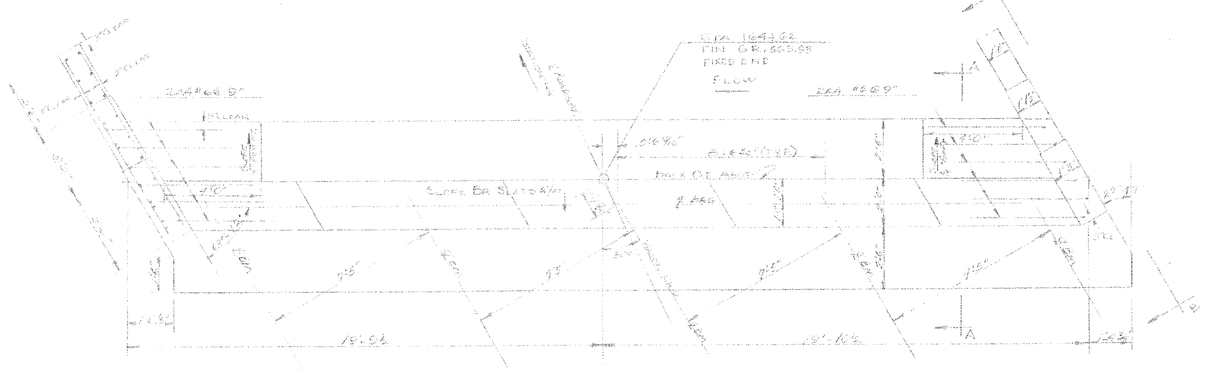
ITEM	DESCRIPTION	UNIT	NET	20%	TOTAL	FINAL
107	STRUCTURE EXCAVATION	C.Y.	96.4	19.3	115.7	115
A018	CONCRETE CL. B (MOD.)	C.Y.	54.4	10.9	65.3	65
602	REINF. STEEL	LBS.	SEE REINF. STEEL SH.			
407	ASPHALTIC ASBESTOS COAT	S.Y.	5.1	-	5.1	5
30	FURNISHING EQUIP. (VERT. PILE)	L.S.	1.0	-	1.0	
512	TREATED TIMBER PILES	L.F.	480	-	480	480
521	STONE FILL (HEAVY TYPE)	C.Y.	546	55	601	540
102	BORROW	C.Y.	30.0	-	30.0	30

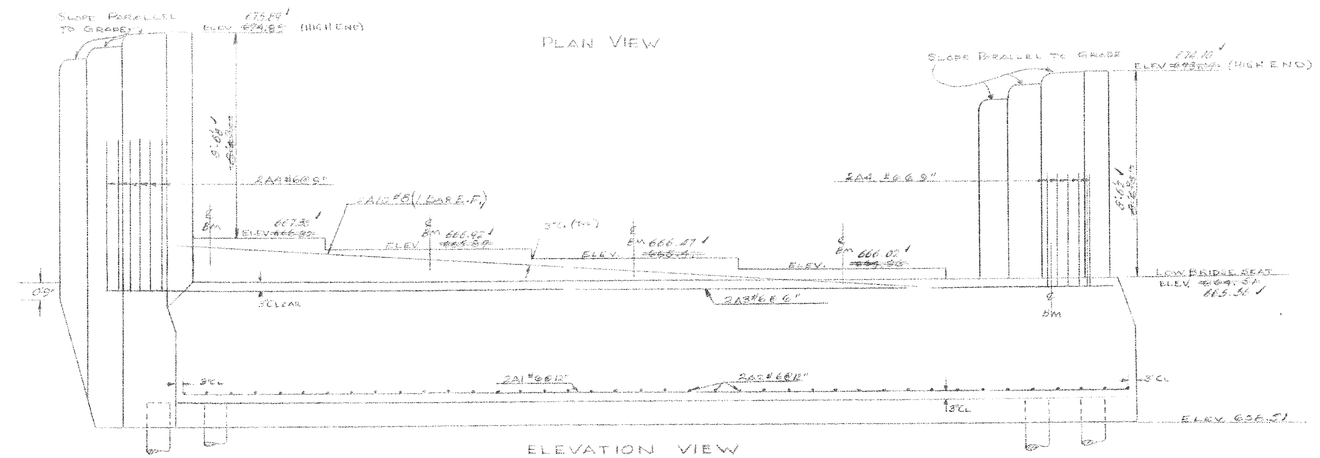
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

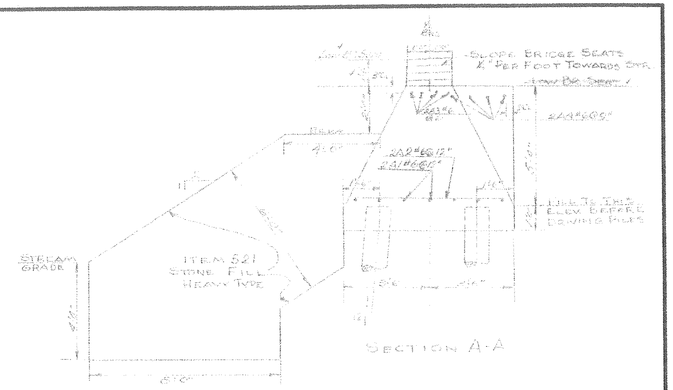
TOWN OF TROY - NEWPORT
ROUTE NO. VT 105 LOG STA. 54+36
ABUTMENT NO 1
PLAN & DETAILS
SCALE AS NOTED
SURVEYED BY
DRAWN BY RONALDO CHECKED BY SMITH
PROJECT NO. F 0183-(12)
SHEET 34 OF 134

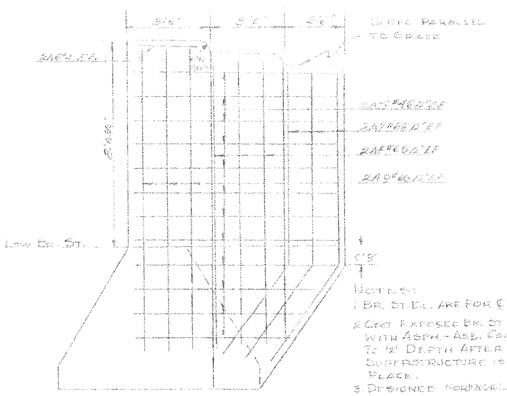
H&E PHOENIX, ARIZ. P.L.M. INC. ALTOS











NOTES:
1 BR. ST. EL. ARE FOR ℄ BRG.
2 COAT EXPOSED BR. ST. WITH ASPH.-ASB. COAT TO ½' DEPTH AFTER SUPERSTRUCTURE IS IN PLACE.
3 DESIGNED FOR HS-20 LOADING
4 TREATED TIMBER PILING DRIVEN TO 20 TON BRG CAP

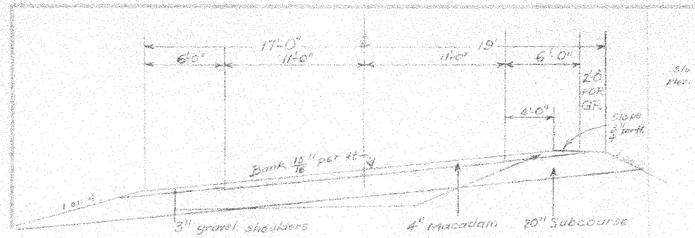
ESTIMATED QUANTITIES

No.	ITEM	UNIT	NET	OVER	TOTAL	FINAL
106C	UNCLASS CHAN EXC	C.Y.	1100	110	1210	1100
107	STRUCTURE EXCAV.	C.Y.	50	-6	55	50
401B	CONCRETE CL B (MOD)	C.Y.	57	-3	60	61
407	ASPH. ASBESTOS COAT	S.Y.	4	-	4	2
161B	SOLID ROCK EXCAV.	C.Y.	120	-	120	120
528	TREATED TIMBER FIL	L.F.	950	-	950	870
521	STONE FILL HEAVY TYPE	C.Y.	504	50	554	540
402	REINF STEEL	SEE REINF. STEEL SHEET				

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

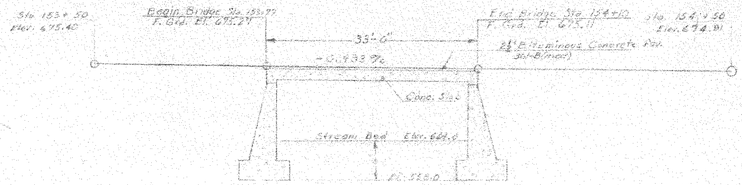
TOWN OF Troy - Newport
ROUTE NO. Vt. 105 LOG STA. 59+36
Details Of Abutment No. 2
SCALE 3/8" = 1'-0"
SURVEYED BY
DRAWN BY E.A.B. CHECKED BY W.M.S. 1/58
PROJECT NO. F-034-2(8)
SHEET 32 OF 144

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 63 OF 80
BRIDGE No. 58
FOR REFERENCE ONLY



NEW HIGHWAY SECT. STA. 153+00 TO STA. 155+00

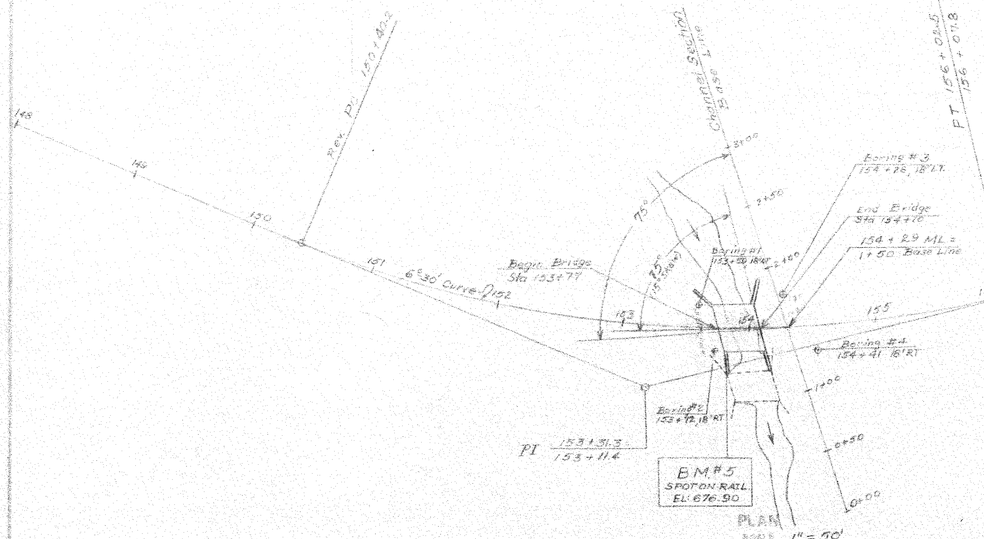
SCALE 1" = 5'-0"

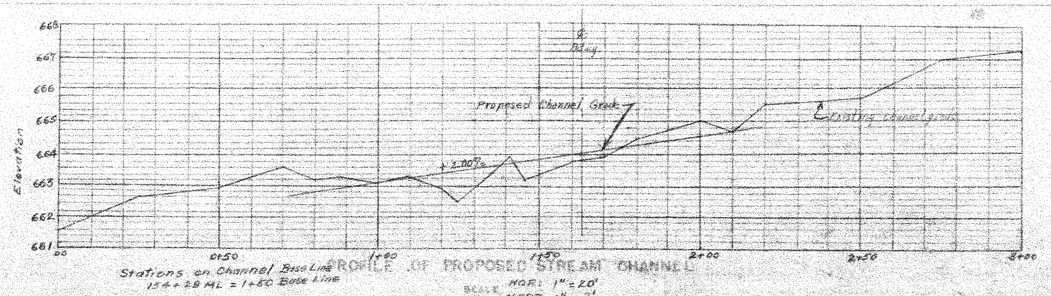


NEW HIGHWAY PROFILE ALONG ℄

SCALE 1" = 10'-0"

TYPICAL BRIDGE SECTION Scale: 1"=5'





HIGHWAY NO. 105 NAME OF HIGHWAY Newport - Troy

STRUCTURE NO. 46 COUNTY Orleans TOWN Newport

PROJECT NO. F 034-2(2) LOCATION 1.2 mi S.E. Troy-Newport T.L. on Rte 105 (VT)

Log Sta. 64+80, Mud Creek

EXISTING STRUCTURE

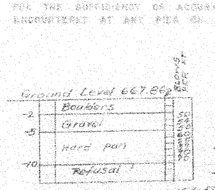
1 RATED LOADING OF EXISTING STRUCTURE H 15
2 TYPE OF EXISTING STRUCTURE Conc T-Beam
3 PRIMARY CLEARANCE ELEVATION OF EXISTING STRUCTURE 670.5
4 WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE Remove (Operation only) COST OF REMOVAL $1000
5 SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE Yes
6 SHOULD NEW TEMPORARY STRUCTURE BE BUILT No
7 ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE 665.5 WATERWAY TO ORDINARY H.W. 53 Sq ft
8 EXTREME HIGH WATER AT EXISTING STRUCTURE 668
9 NAME OF EXISTING BRIDGE UPSTREAM None WATERWAY TO EXTREME H.W.
SPAN OR EXISTING BRIDGE DOWNSTREAM 30 or 35' WATERWAY TO EXTREME H.W. 515 Sq ft
10 TYPE OF FOUNDATIONS UNDER EXISTING ABUTMENTS Hard pan
11 DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE Yes
12 IS RISE AT WHAT ELEVATION IS RELIEF PROVIDED
13 ADDITIONAL WATERWAY AREA PROVIDED None

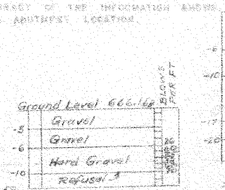
NEW STRUCTURE

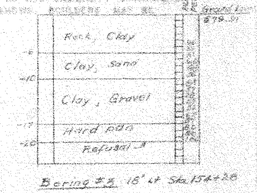
1 RECOMMENDED TYPE OF STRUCTURE Conc. Slab
2 RECOMMENDED CLEAR SPAN OR SPANS 33' O.A.
MEASURED PARALLEL TO ℄ NEW HIGHWAY 33'
MEASURED AT RIGHT ANGLES TO ℄ STREAM 28.9 clear
3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO NO
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE 666.0
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE 668.6 SOURCE OF INFORMATION Computed
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? YES
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? Medium IS ORDINARY RISE RAPID? Some
8 LOW WATER ELEVATION AT NEW STRUCTURE 665.0
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE 5600 CHARACTER OF TERRAIN Hilly
10 IS STREAM EVER DRY? No
11 VELOCITY OF STREAM AT HIGH WATER STAGE 11.5 f/sec ESTIMATED DISCHARGE 1525 c.f.s.
12 AREA FOR OPENING 231 Sq ft AREA BELOW ORDINARY H.W. 57.8 Sq ft
13 CHARACTER OF SCOUR None DRIFT Slight ICE Slight
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE None
15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION 3.4 ft
16 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE None BOTH SIDES —
17 RECOMMENDED TYPE OF PAVEMENT Bituminous Conc.
18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. 108 ONE OR TWO WAY TWO PROBABLE COST $1500
19 APPROXIMATE COST OF CLEARING AND PROVIDING STREAM CHANNEL AT STRUCTURE SITE —
20 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES? NO
21 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 4 tons/sq ft SHOULD PILES BE USED? No BAT LOCK —

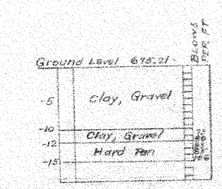
FOUNDATION INFORMATION

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









STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 64 OF 80
BRIDGE No. 59
FOR REFERENCE ONLY

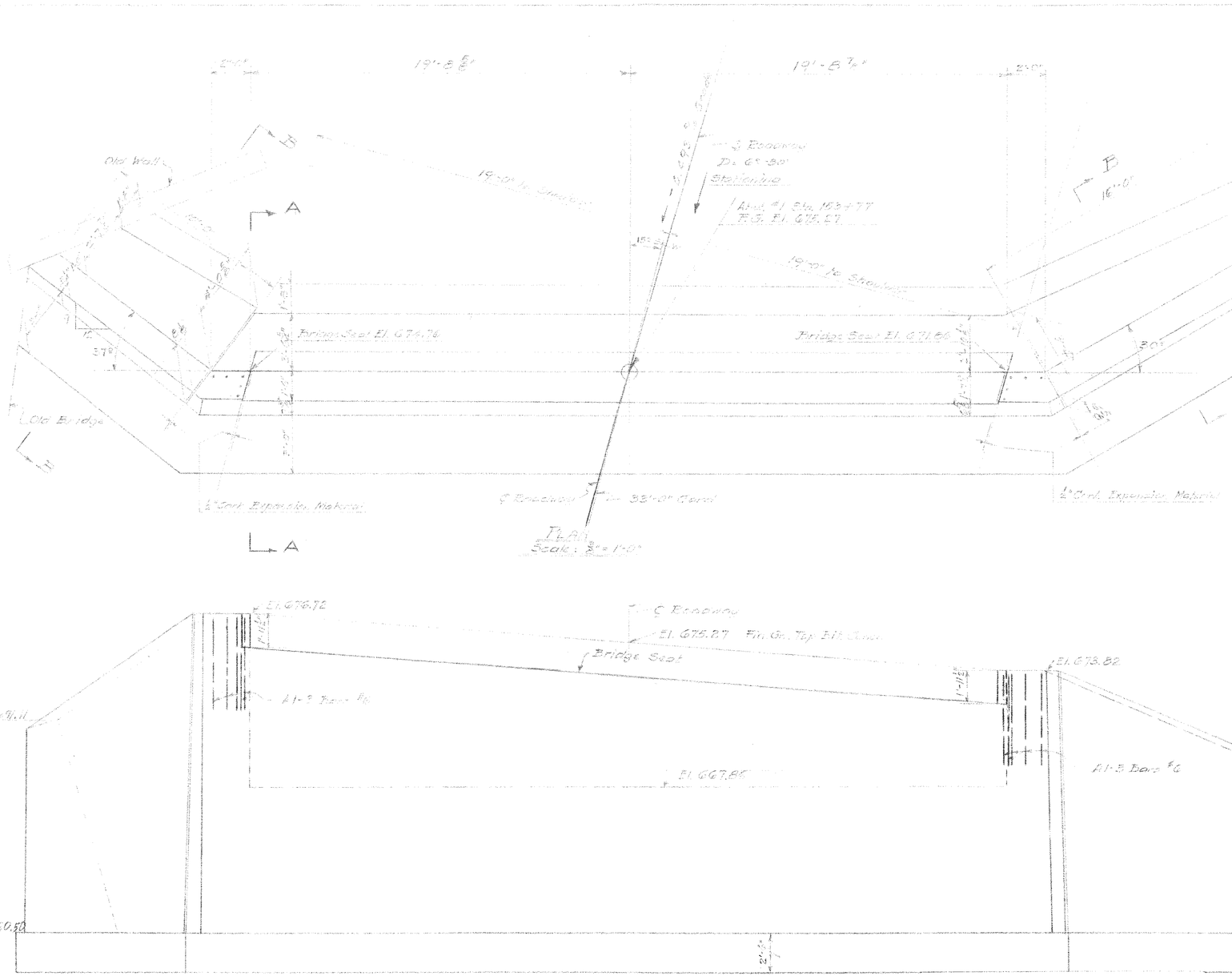
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 46 57 IN THE TOWNS OF
NEWPORT-TROY

ROUTE NO. 105 LOC STA 64+80

DRAWN BY GA | CHECKED BY — | DATE Revised 7/11/58
PROJECT NO. F 034-2(2) SHEET NO. 23 OF 146

DATE 7/21/58 APPD H.E. Haugen
BRIDGE ENGINEER STATE HIGHWAY ENGINEER



ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	NET	% OVRN	TOTAL	FINAL
101.5	Solid Rock Excavation	C.Y.	6	1	6	0
102	Borrow	"	15	2	17	13
105.5	Unclassified Channel Excavation	"	69	30	83	22
107	Structure Excavation	"	205	21	229	258
203	Gravel Backfill	"	5	1	6	0
401.3	Concrete Class "B" (Mod.)	"	154	9	163	176
602	Reinforcing Steel (See Steel Sheet)	Lbs	1458		1458	1452
621	Stone Fill	C.Y.	5	1	6	0

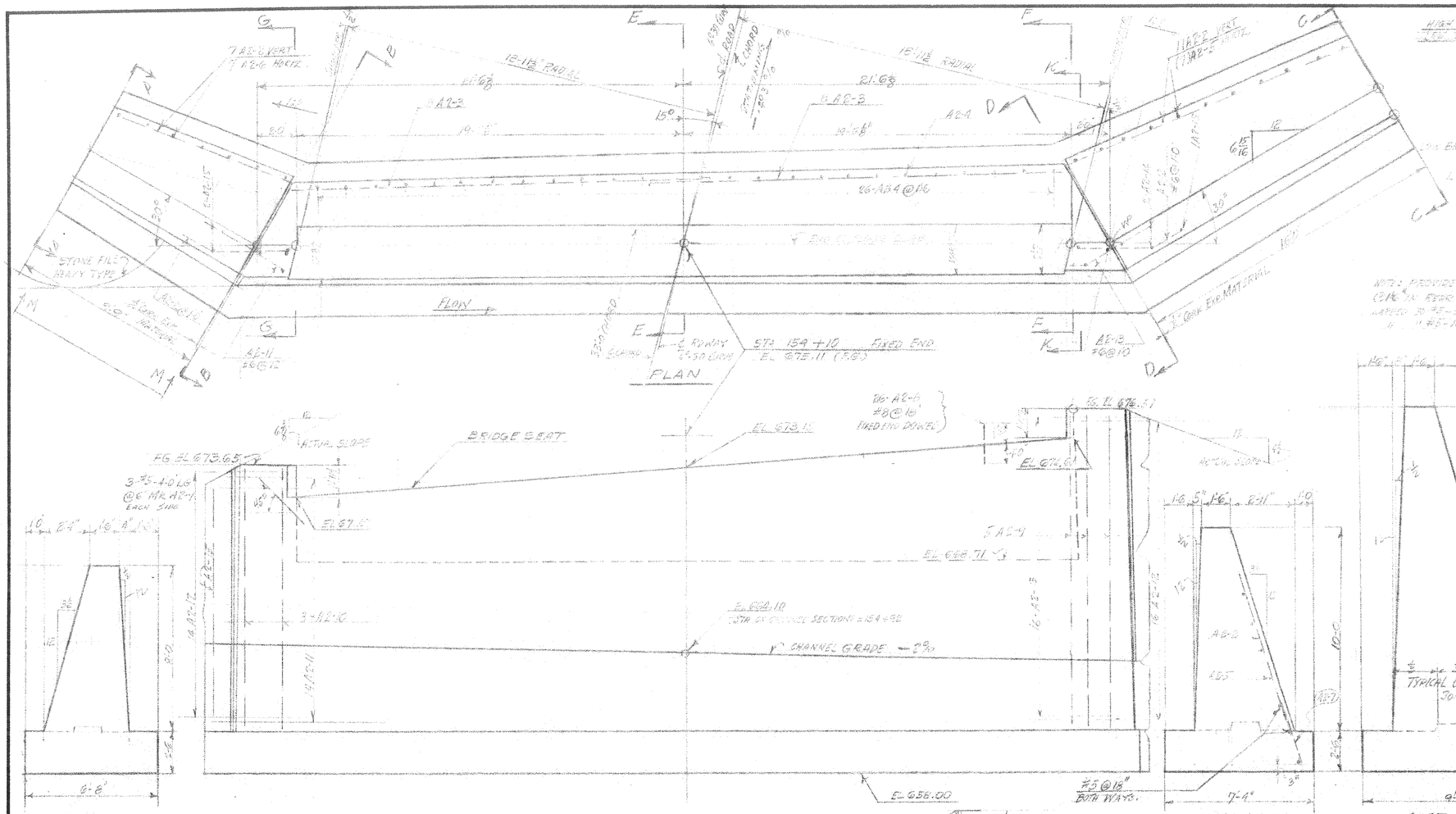
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF NEWPORT - TROY
ROUTE NO. VT. 105 LOC. STA. 64+80
PLAN & ELEVATION OF ABUT. No. 1

SCALE: As Noted
SURVEYED BY
DRAWN BY D.E.B. CHECKED BY EDMISON
PROJECT NO. F 034-2(2)
SHEET 25 OF 146

Note: Bottom of footing irregular due to boulders.

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 65 OF 80
BRIDGE No. 59
FOR REFERENCE ONLY



SUMMARY QUANTITIES

ITEM	DESCRIPTION	UNIT	NET	O-RUN	TOTAL	FINAL
101 B	SOLID ROCK EXCAVATION	C.Y.	~~72~~	~~-25~~	~~47~~	7 ✓
102	BORROW	C.Y.	~~350~~	~~-300~~	~~50~~	25 ✓
106 C	UNCLASS. CHANNEL EXCAVATION	C.Y.	~~85~~	~~-35~~	~~50~~	45 ✓
107	STRUCTURE EXCAVATION	C.Y.	~~455~~	~~-119~~	~~336~~	336 ✓
222	GRAVEL BACKFILL	C.Y.	~~5~~	~~-1~~	~~6~~	112 ✓
361-B	BITUMINOUS CONC PAVEM'T	TON	~~80~~	~~-3~~	~~23~~	20 ✓
401-B	CONCRETE CLASS "B" (MOD)	C.Y.	~~419~~	~~-22~~	~~441~~	413 ✓
402	REINFORCING STEEL	LBS	17,081	-	17,081	17781 ✓
441	TEMPORARY BRIDGE	L.S.	~~1~~	-	~~1~~	0 ✓
442	REMOVAL OF SUPERSTRUCTURE	L.S.	1	-	1	1 ✓
521	STONE FILL (HEAVY TYPE)	C.Y.	40	~~-29~~	11	0 ✓
547.C	HEAVY DUTY STL BM GRAIL W/STL POST (MOD.)	LIN FT	90	-	90	60 ✓

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	NET	O-RUN	TOTAL	FINAL
101B	SOLID ROCK EXCAVATION	C.Y.	10	-1	11	7
102	BORROW	"	30	5	35	30
106C	UNCLASSIFIED CHANNEL EXCAV.	"	23	2	25	23
107	STRUCTURE EXCAV.	"	265	25	290	278
222	GRAVEL BACKFILL	"	9			112
401B	CONCRETE CLASS "B" (MOD.)	"	175	9	184	167
A02	REINFORCING STEEL	LBS	SEE REINF STEEL SCHEDULE			
521	STONE FILL (HEAVY TYPE)	C.Y.	5	0	5	0

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 66 OF 80
BRIDGE No. 59
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF NEWPORT, TROY
ROUTE NO. VT 105 LOG STA. 64+80
DETAILS OF ABUTMENT № 2
SCALE 3/8" = 1'-0"
SURVEYED BY
DRAWN BY J.C.B. CHECKED BY HAUPT
PROJECT NO. F-034-2(12)
SHEET 66 OF 150

*GUARD RAIL, THREE CABLE W/ LIGHT WOOD POSTS
Ramp B 20+60.5 - 23+98.5, Lt.
Ramp C 35+50 - 40+78, Lt.
Ramp C 35+90 - 41+53.5, Rt.

GUARD RAIL, 3 CABLE W/LIGHT WOOD POSTS
VT 18 144+50, Lt. - Ramp C 41+20, Rt.

REMOVAL & DISPOSAL OF EXISTING GUARD RAIL
VT 18 144+00 - 147+45 Lt. to Rt.
VT 18 145+65 - 147+90 Rt.
VT 18 151+80 - 155+10 Rt.
VT 18 151+88 - 155+35 Rt.
*4" Reflectorized Yellow Line (Solid)
Sta 403+00 ~ 419+00 12' Lt. NB
Sta 403+00 ~ 419+00 12' Rt. SB

DRILLING & BLASTING OF SOLID ROCK SUBGRADE
~~SB 406+50 - 411+00~~ ~~SB 413+50 - 414+50~~
NB 406+50 - 417+00 RAMP A 7+26 - 13+26
NB 412+00 - 414+50 RAMP D 53+00 - 55+75

EXCAVATION & REMOVAL OF ROAD SURFACES & PAVEMENTS
VT 18 - 147+00 - 148+05 Rt.
VT 18 - ~~150+92~~ 151+00 - 153+64 Rt.

DEMOLITION & DISPOSAL OF BUILDING
413+95 Rt.
413+95 Lt.

*GUARD RAIL, STD. STL. BEAM W/WOOD POSTS, TYPE II
Ramp B 23+00 - 23+15, Rt.
NB 415+96 - 419+00, Rt.
NB 413+05 - 414+42.5, Lt. {See Sht 201B for 2014 Re Details}
SB 413+05 - 414+42.5, Rt.
{SB 416+15 - 416+88, Lt. See Sht. 202 for details}
*4" Reflectorized White Line
Sta 403+00 ~ 417+00 NB Rt. (Dashed)
Sta 403+00 ~ 419+00 SB Lt. (Dashed)
Sta 403+00 ~ 419+00 NB 12'-8" Rt. (Solid)
Sta 403+00 ~ 419+00 SB 12'-8" Lt. (Solid)

BRIDGE RAILING, GALVANIZED BOX BEAM
VT 18 148+83.85 - 151+55.13, Lt.
VT 18 148+45.37 - 151+21.15, Rt.

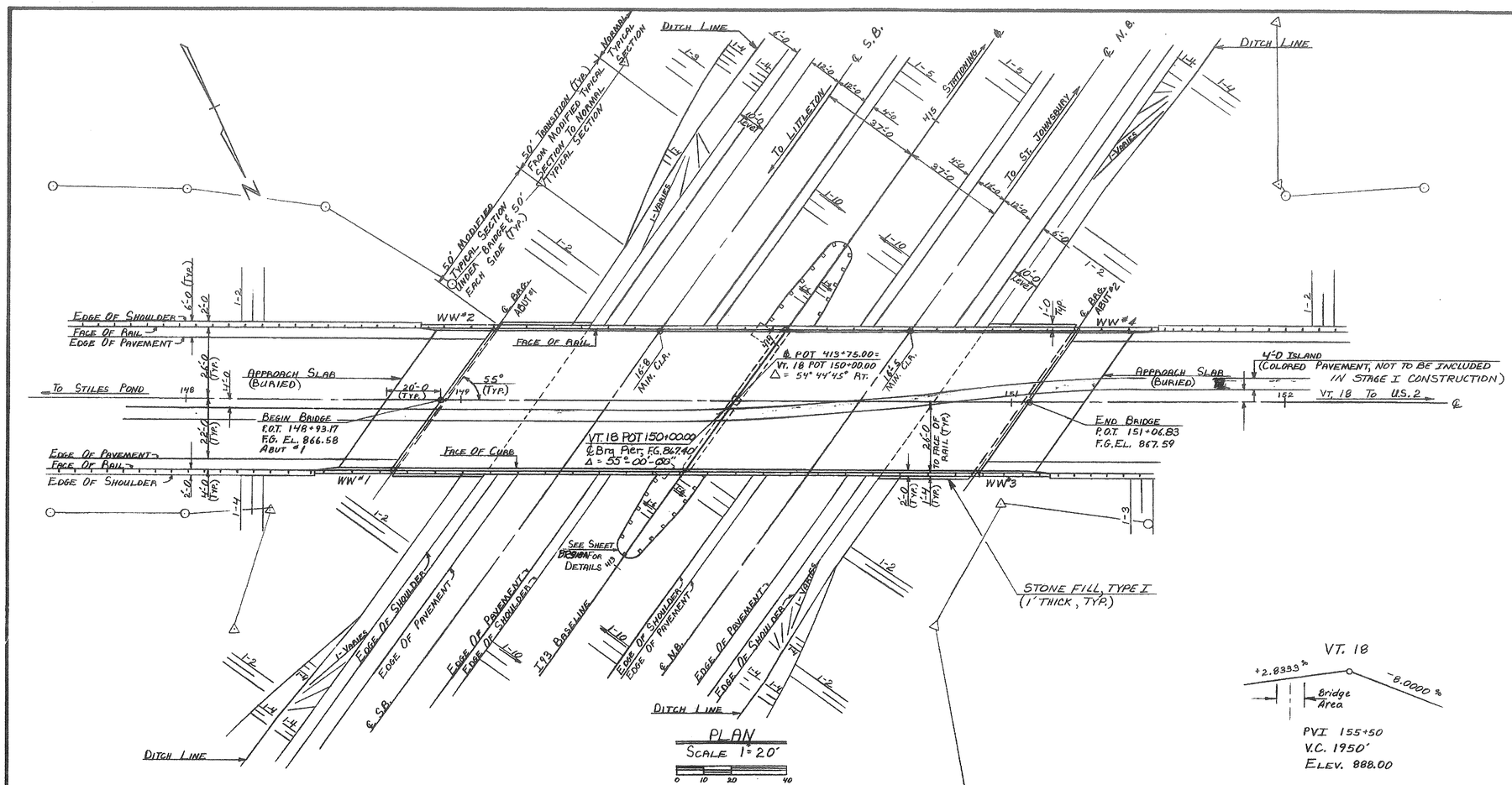
REMOVING SIGNS, TYPE A 6'-7.5" S.S.
VT 18 147+55, Lt.
VT 18 149+00, Rt. (2 Signs)

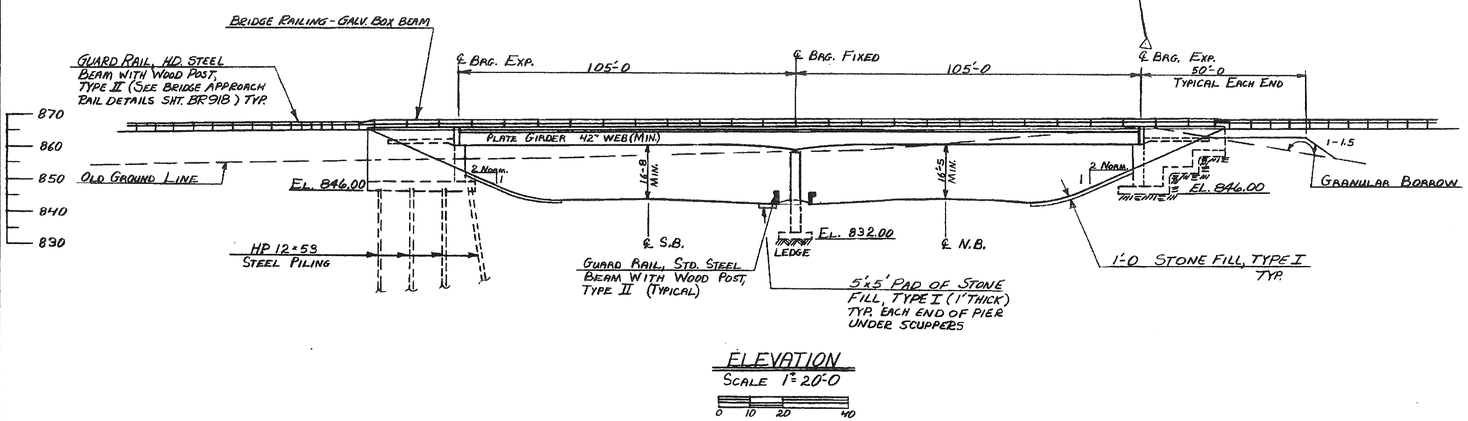
*Delineators Type I As Required

RAMP C STA. 40+80
BEGIN TERMINI CONST. (FOR STEP DOWN DETAIL SEE SHT OF SHTS.)

RAMP C
Δ 57° 33' 20" LT.
D 69° 39' 56"
R 82.57
T 46.36
L 82.94
E 11.63
Bank 0.010 ft/ft

RAMP C PI 40+87.48 = 40+79.70
RAMP C POT 38+36.4 = On L. POT 23+83.4
RAMP C POT 34+43.12
RAMP C POT 41+25.06
RAMP C POT 41+42.12
RAMP C POT 41+68.55
RAMP C POT 41+68.55
RAMP C POT 41+68.55





NOTE :

See Modified Typical Section on Sht. BR 900 for details in Bridge Area.

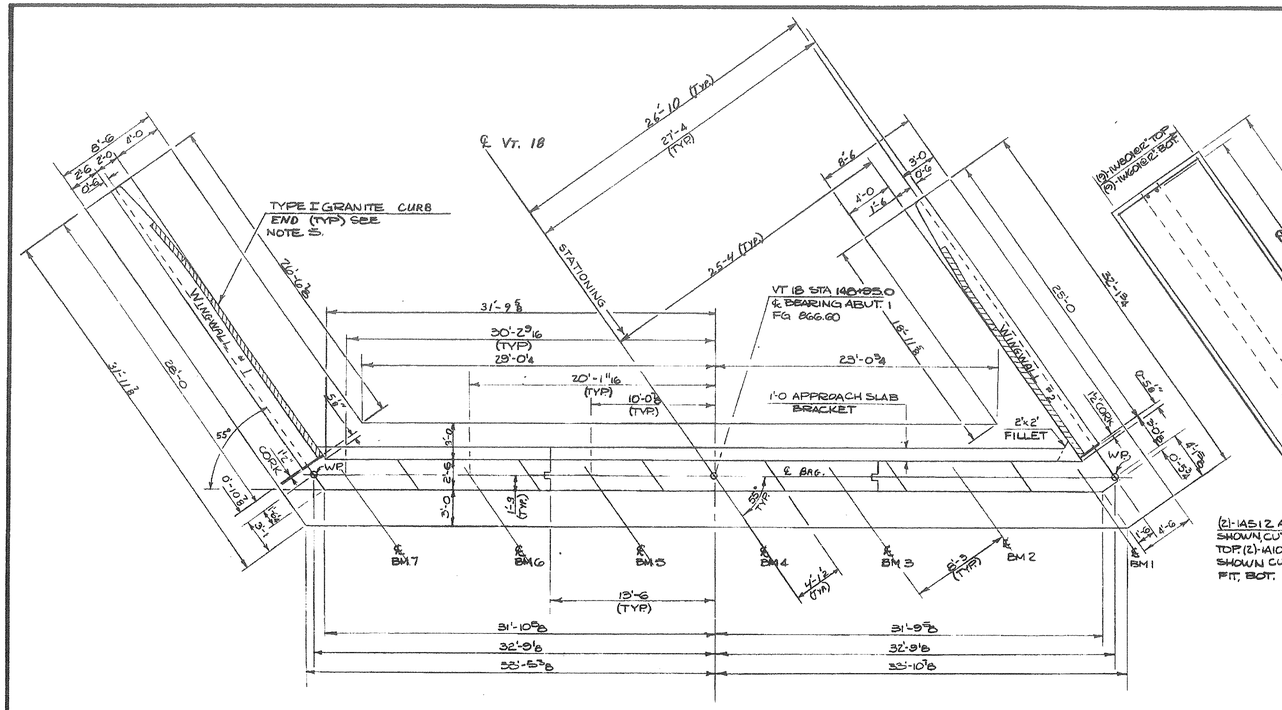
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 69 OF 80
BRIDGE No. 9
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

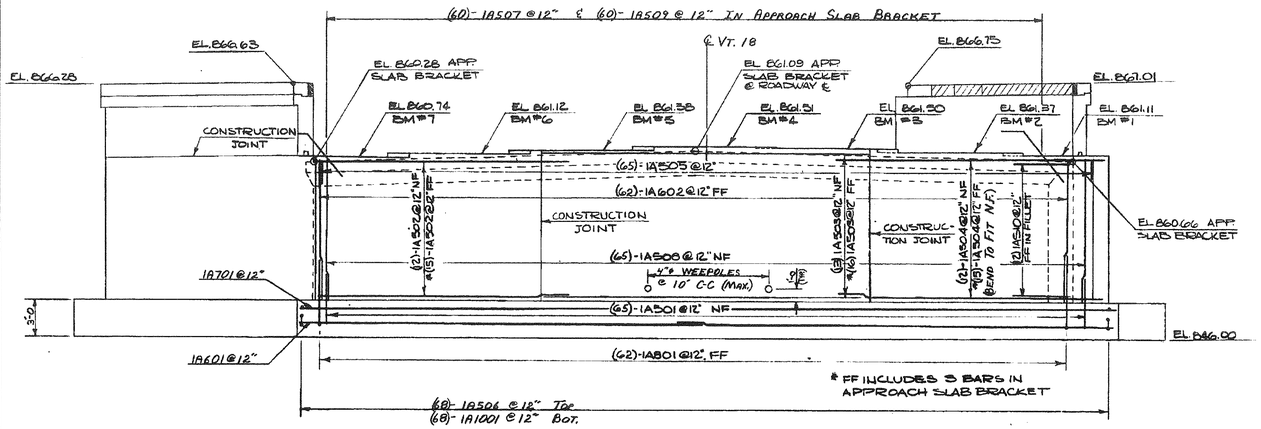
TOWN OF Waterford	Bridge No. 9
	Log Sta.
HIGHWAY NO. Vt. 18	Surv. Sta. 150+00
Vt. 18 OVER I 93	
PLAN AND ELEVATION	
Designed by Dave Lathrop	Drawn by Dave Willey
Checked by D.E. Lathrop date 1-80	Bridge Design Supervisor F.L. Cooley date 1/80
PROJECT Waterford	PROJECT NO. I 93-1 (3) Cont. 2
Bridge Sheet No. BR 905	Sheet 181 of 531 Shts.

STAGE II SHT. 201 OF 890 SHTS.

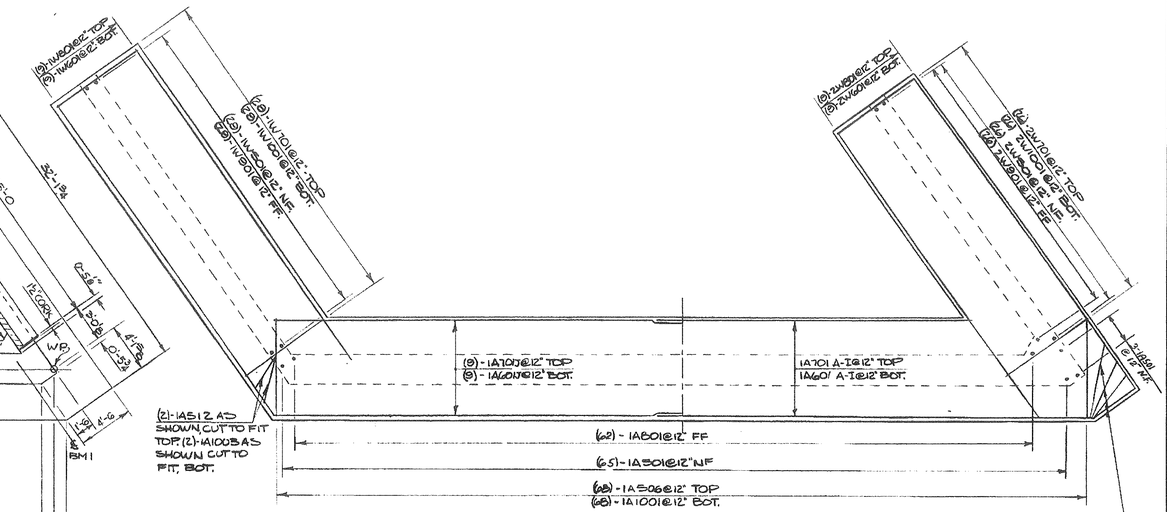
BR-6



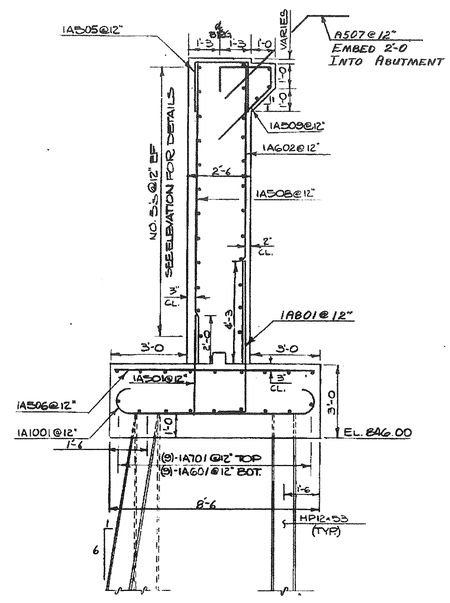
PLAN
SCALE: 3/16"=1'-0



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



FOOTING REINFORCEMENT - ABUTMENT NO. 1
SCALE: 3/16"=1'-0



TYPICAL SECTION - ABUTMENT NO. 1
SCALE: 3/8"=1'-0

NOTES

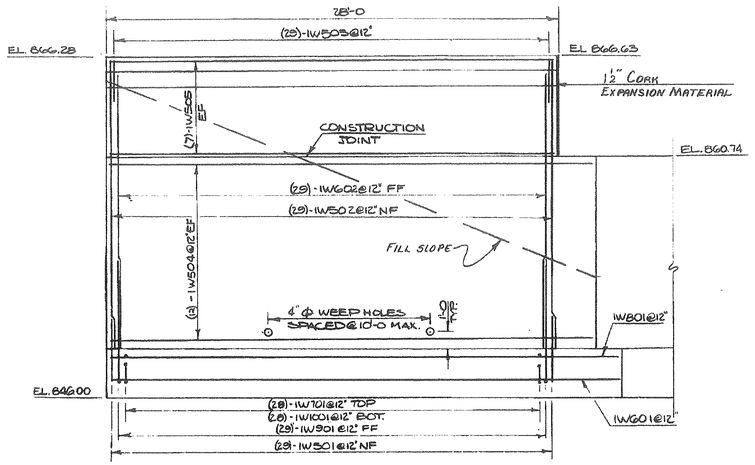
1. FOR WINGWALLS #1 & #2 AND CORNER DETAILS SEE SHEET BR911.
2. 4"ø WEEPHOLES SHALL BE SPACED @ 10'-0 MAX. THEY SHALL BE PLACED 1'-0 ABOVE THE TOPS OF FOOTINGS AND SHALL SLOPE ¼"/FT.
3. SEE SHEET BR911 FOR A COMPLETE PILE LAYOUT
4. APPROACH SLAB BRACKET AND FILLET SHALL SLOPE ¼"/FT TO MATCH THE SLOPE OF APPROACH SLAB
5. FOR GRANITE CURB DETAILS SEE SCB-D4-76 AND SCB-D6-73 DETAIL (P)

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 71 OF 80
BRIDGE No. 9
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

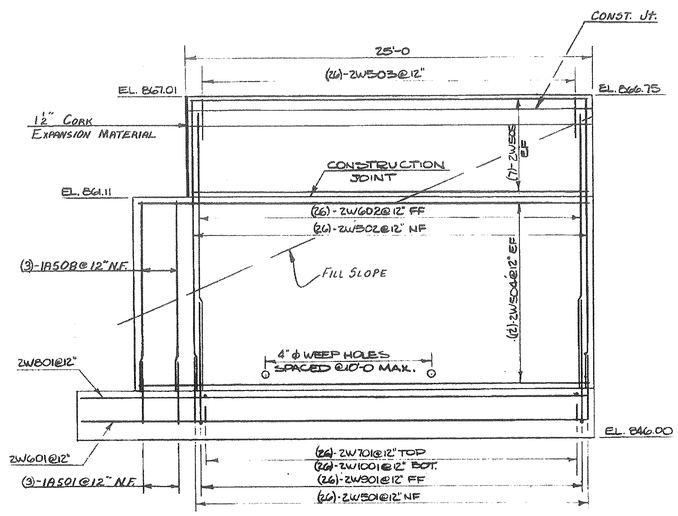
TOWN OF WATERFORD	Bridge No. 9
HIGHWAY NO. VT 18	Log Sta.
	Surv. Sta. 150+00
VT. 18 OVER I-93	
ABUTMENT NO. 1 DETAILS	
Designed by D.E. LATHROP	Drawn by C. BENDA
Checked by M. CERUTTI date 7/80	Bridge Design Supervisor R.L. Ostby date 7-80
PROJECT WATERFORD	PROJECT NO. I93-1(3) CONT. 2
Bridge Sheet No. BR910	Sheet 186 of 531

BRUNING 44-131-40151
BR-6



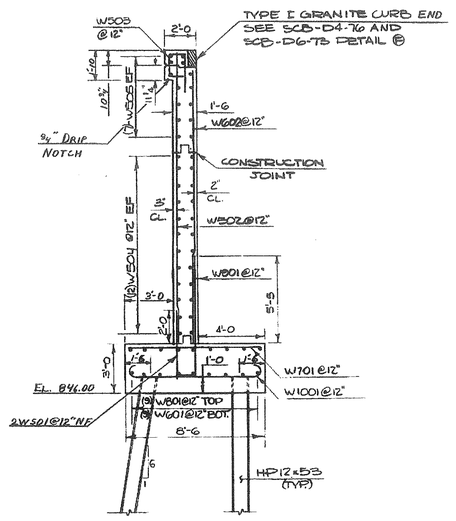
WINGWALL NO. 1

SCALE: ¼"=1'-0



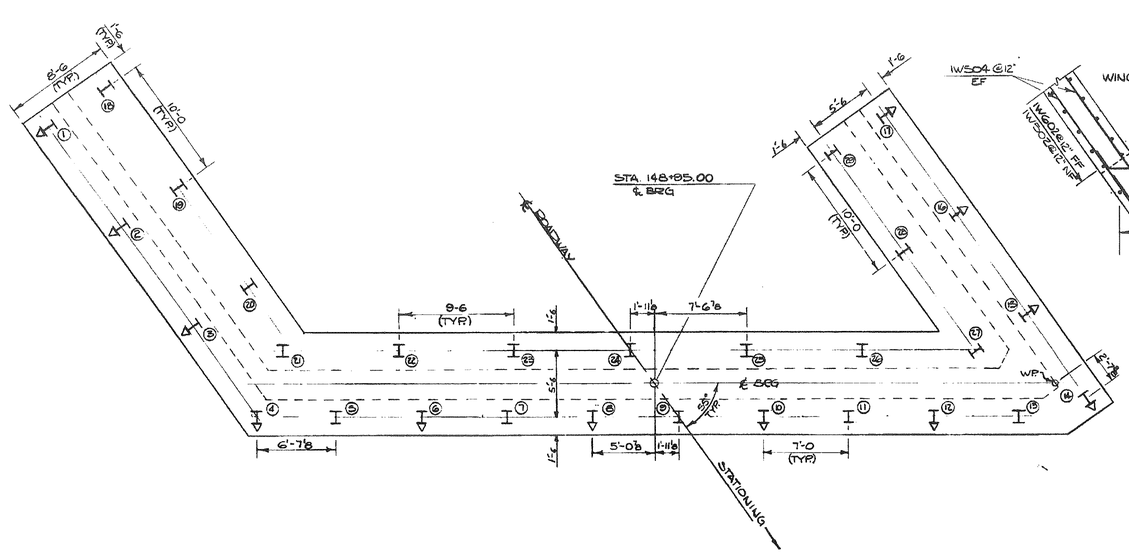
WINGWALL NO. 2

SCALE: ¼"=1'-0



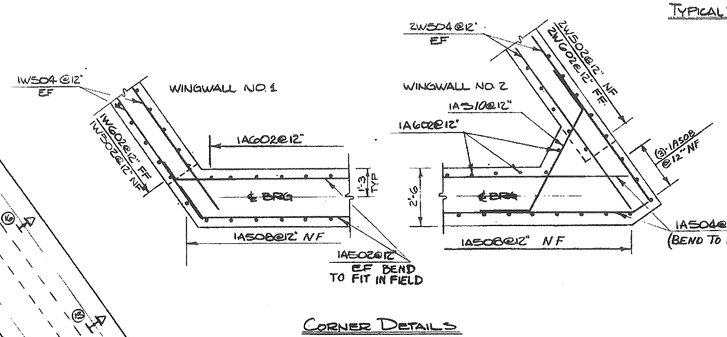
TYPICAL SECTION FOR WINGWALLS 1 & 2

SCALE: ¼"=1'-0



FILE LAYOUT

SCALE: 3/32"=1'-0



CORNER DETAILS

SCALE: 3/8"=1'-0

NOTES.

1. FOR A PLAN VIEW OF FOOTING REINFORCEMENT SEE SHEET BR910.
2. THE AVERAGE PILE LENGTH IS APPROXIMATELY 30 FEET.
3. I~ INDICATES LOCATION OF A VERTICAL PILE.
   I~ INDICATES LOCATION AND DIRECTION OF A LONG BATTERED PILE.
4. PILES SHALL BE DRIVEN TO LEDGE OR TO A CAPACITY OF 140K AND SHALL HAVE REINFORCED TIPS (AS PER SPECIFICATION 505.04F)

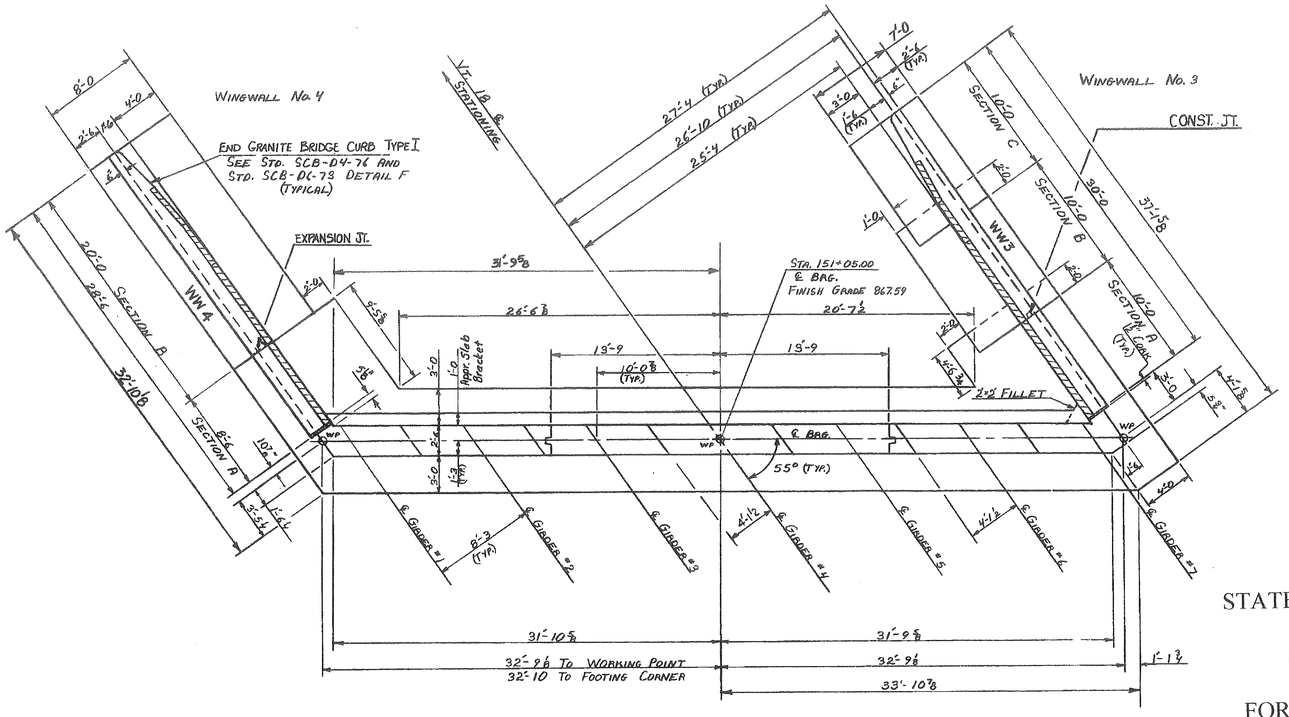
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 72 OF 80
BRIDGE No. 9
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

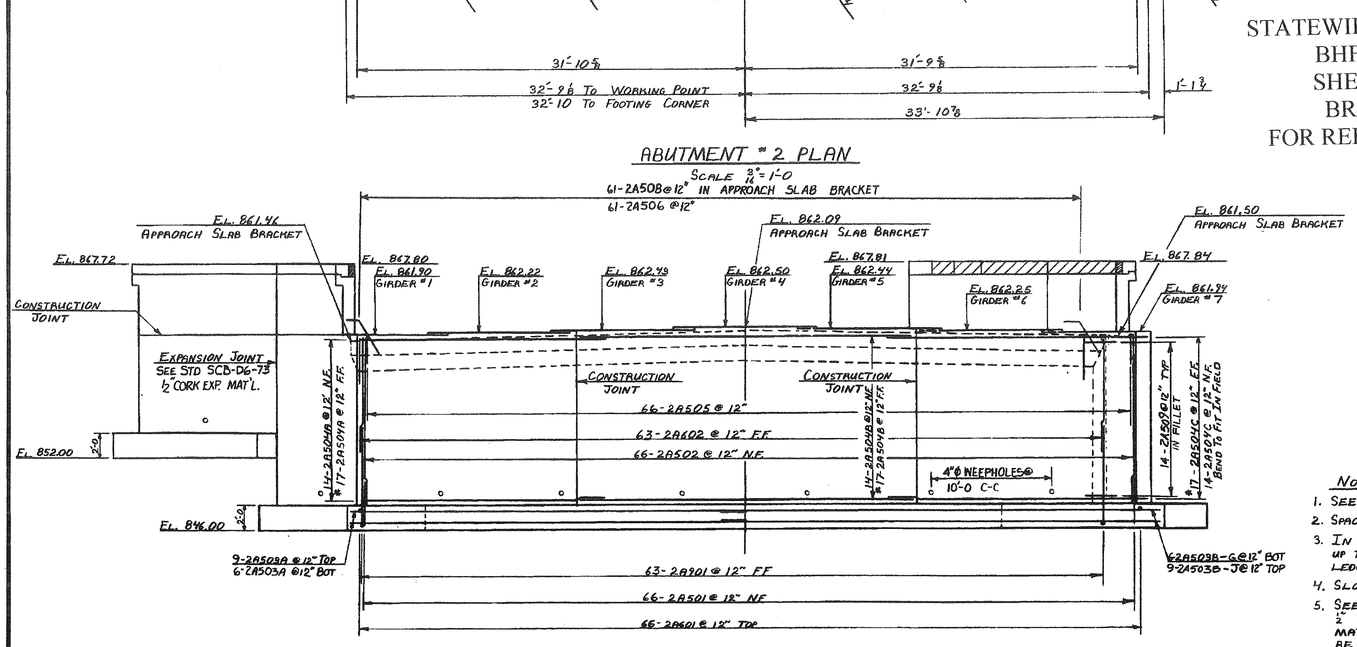
TOWN OF WATERFORD	Bridge No. 9
	Log Sta.
HIGHWAY NO. VT 18	Surv. Sta. 130+00
VT 18 OVER I-93	
DETAILS FOR WINGWALLS 1&2 AND PILE LAYOUT	
Designed by D.E. LATHROP	Drawn by C. BENDA/D.W.
Checked by M. CERUTTI date 7/80	Bridge Design Supervisor B.L. Oatley date 7/80
PROJECT WATERFORD	PROJECT NO. I-93-1(3)CONT. 3
Bridge Sheet No. BR 911	Sheet 187 of 531

BRUNING 44-131 40151

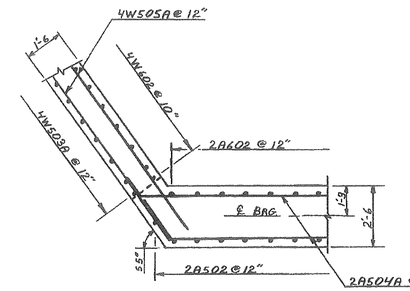
BR-6



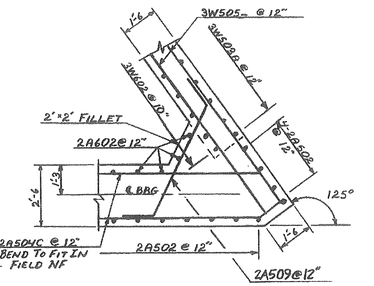
ABUTMENT # 2 PLAN
SCALE 3/16" = 1'-0



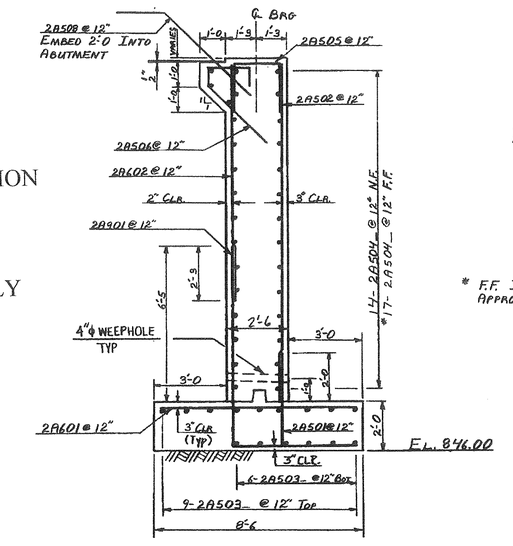
ABUTMENT # 2 ELEVATION
SCALE 3/16" = 1'-0



CORNER DETAIL WINGWALL NO. 4
SCALE 3/8" = 1'-0



CORNER DETAIL WINGWALL NO. 3
SCALE 3/8" = 1'-0



N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE

* F.F. INCLUDES 3 BARS IN APPROACH SLAB BRACKET.

TYPICAL SECTION ABUTMENT NO. 2
SCALE 3/8" = 1'-0

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 73 OF 80
BRIDGE No. 9
FOR REFERENCE ONLY

NOTES

1. SEE SHEET BR9B FOR FOOTING REINFORCING PLAN.
2. SPACE 4"ϕ WEEPHOLES AT 10' MAXIMUM, SLOPE ¼" PER FOOT.
3. IN AREAS OF FILL, REMOVE TOP SOIL AND COMPACT BACKFILL IN LIFTS UP TO THE BOTTOM OF FOOTING. A SUBFOOTING SHALL BE USED ON LEDGE IF DEEMED NECESSARY BY THE ENGINEER.
4. SLOPE TOP OF FILLET AND APPROACH SLAB BRACKET ¼" PER FOOT.
5. SEE STD. SCB-D6-73, DETAIL F, FOR CURB DETAILS, EXCEPT ADD ½" TO ALL SLAB THICKNESS DIMENSIONS. CURB ON WINGWALLS SHALL MATCH CURB ON BRIDGE EXCEPT DRIP NOTCH ON WINGWALLS SHALL BE 3" FROM FASCIA. SEE STD. SCB-D4-76 FOR MORE CURB DETAILS.
6. 2' OF WELL COMPACTED GRANULAR BACKFILL FOR STRUCTURES SHALL BE PLACED UNDER THE END SECTION OF WW #4 AND SHALL EXTEND 2' OUTSIDE THE FOOTING ALL AROUND
7. ABUT. #2 & WW #3 SHALL BE CONSTRUCTED ON SOUND LEDGE.
8. A QUANTITY OF 8 CY. OF CONCRETE CLASS B & STRUCTURE EXCAVATION HAS BEEN INCLUDED FOR POSSIBLE OVERBREAKAGE AT ABUT #2. (NOTE 1 SHT BR9M)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

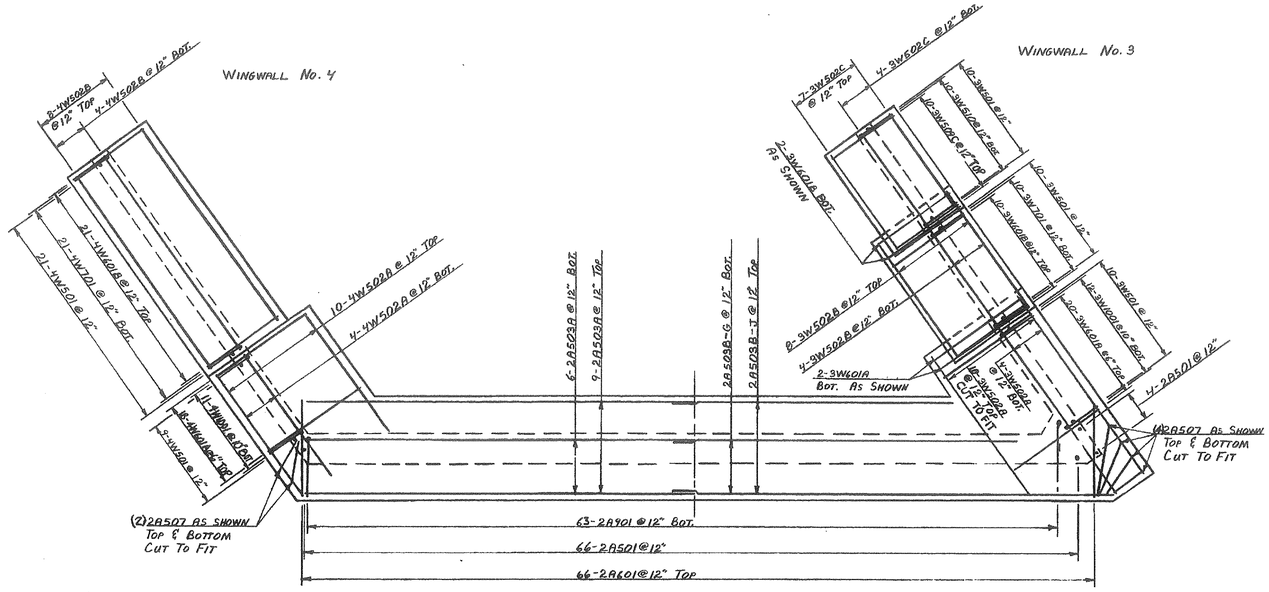
TOWN OF WATERFORD	Bridge No. 9
HIGHWAY NO. VT 18	Log Sta.
	Surv. Sta. 150+00

VT. 18 OVER I93

ABUTMENT NO 2 DETAILS

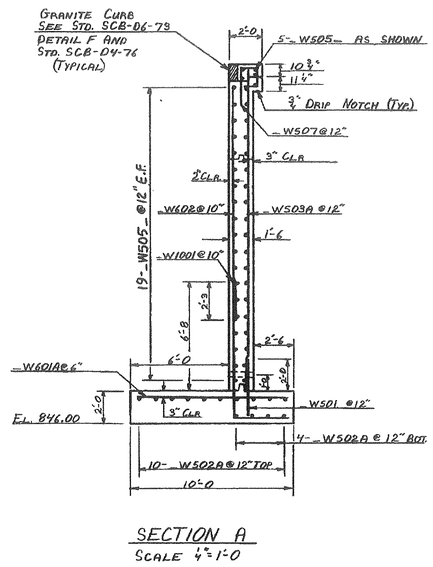
Designed by D.E. LATHROP	Drawn by D.C. WILLEY
Checked by M. CERUTTI date 7/80	Bridge Design Supervisor P.L. Oatley date 7/80
PROJECT WATERFORD	PROJECT NO. I93-1(3)
Bridge Sheet No. BR9I2.	Sheet 188 of 531

DRUNING 44-131-40151
BR-6



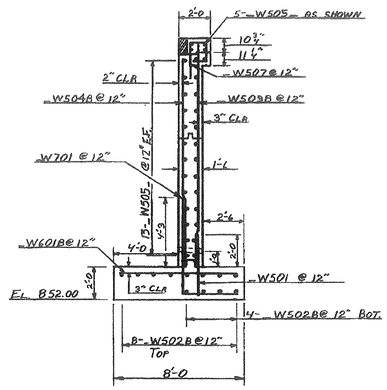
ABUTMENT NO. 2 FOOTING REINFORCING PLAN

SCALE 3/16" = 1'-0



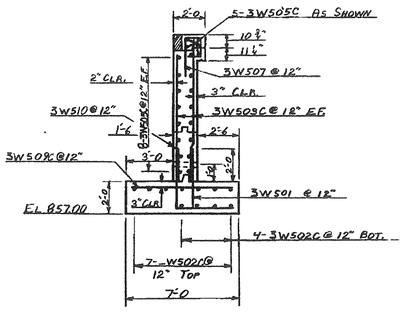
SECTION A

SCALE 1/4" = 1'-0



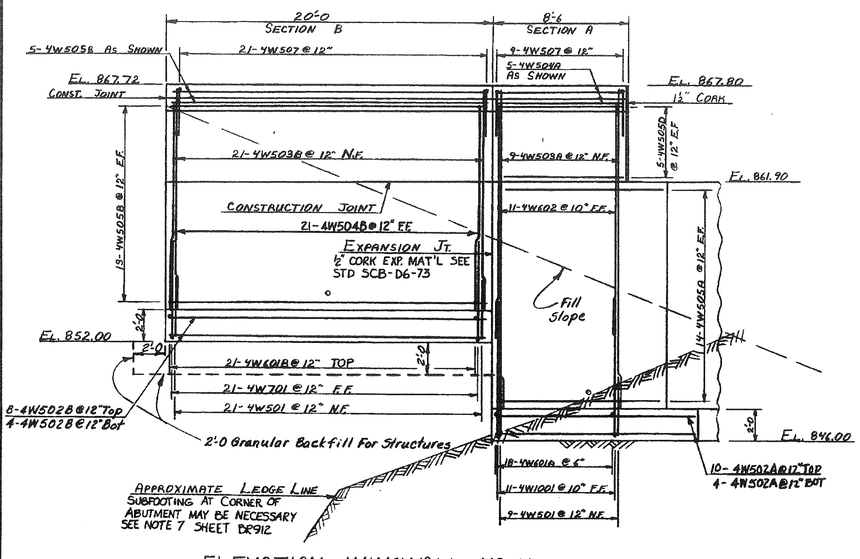
SECTION B

SCALE 1/4" = 1'-0



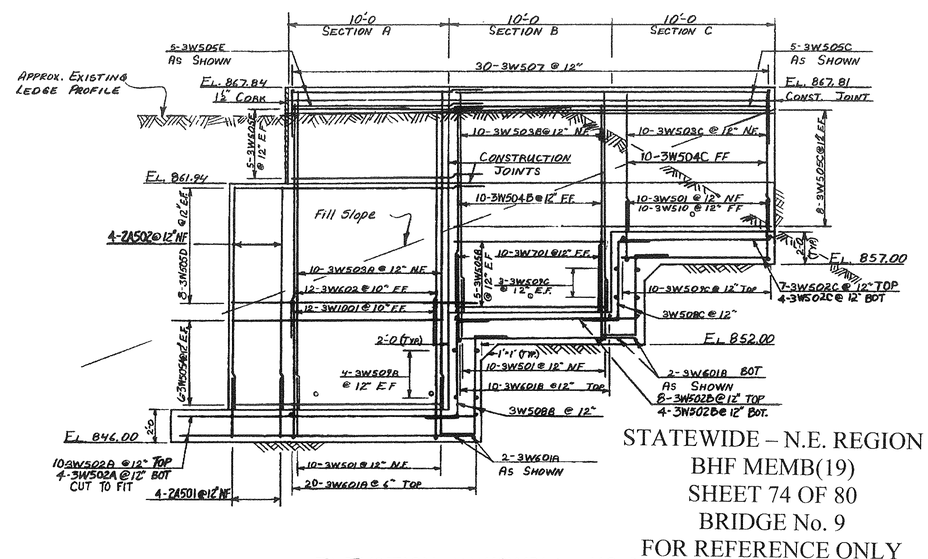
SECTION C

SCALE 1/4" = 1'-0



ELEVATION WINGWALL NO. 4

SCALE 1/4" = 1'-0



ELEVATION WINGWALL NO. 3

SCALE 1/4" = 1'-0

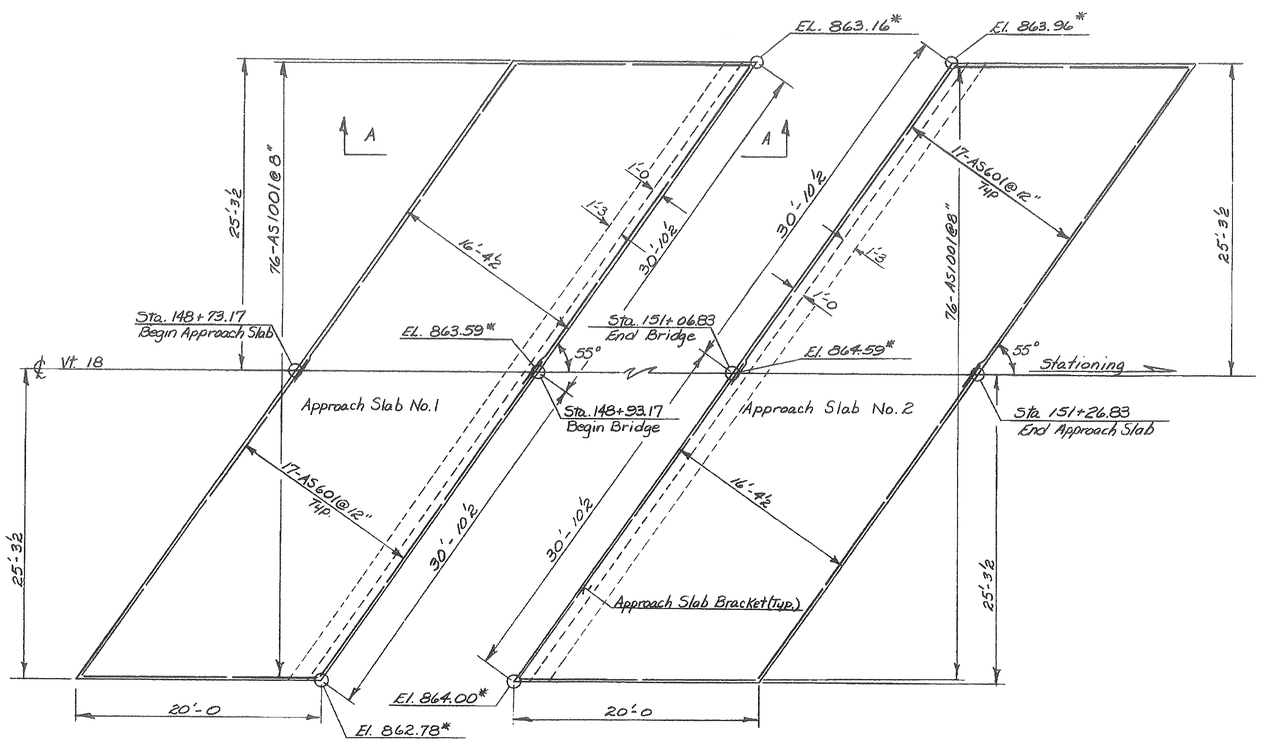
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 74 OF 80
BRIDGE No. 9
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF WATERFORD	Bridge No. 9
HIGHWAY NO. VT. 18	Log Sta.
	Surv. Sta. 150+00
VT. 18 OVER I93	
WINGWALL NO. 3 & 4 DETAILS	
Designed by D.E. LATHROP	Drawn by DAVID WILLEY
Checked by M. CERUTTI date 7/80	Bridge Design Supervisor R.L. Oatley date 7/80
PROJECT WATERFORD	PROJECT NO. I93-1(3)
Bridge Sheet No. BR913	Sheet 189 of 531

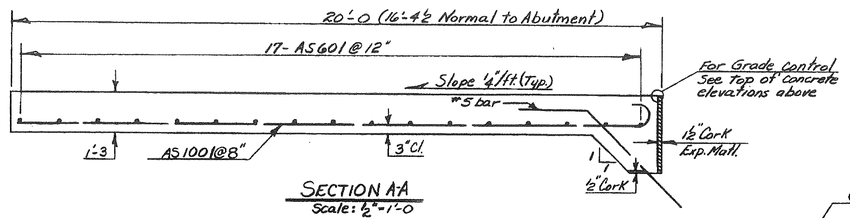
DRAWING AA-151.401S1

BR-6

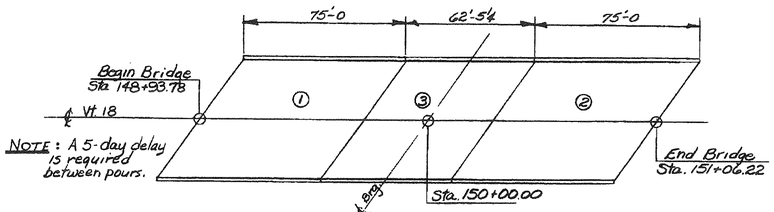


* TOP OF CONCRETE

APPROACH SLABS
Scale: 3/16" = 1'-0

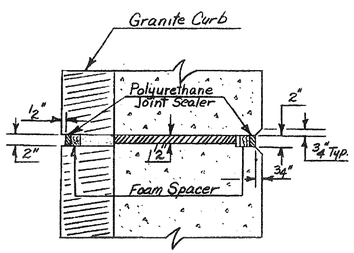


SECTION A-A
Scale: ½" = 1'-0

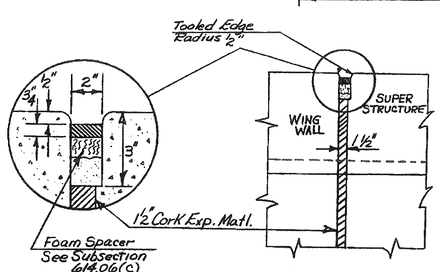


NOTE: A 5-day delay is required between pours.

POUR SEQUENCE
N.T.S.



CURB EXPANSION JOINT DETAIL
N.T.S.

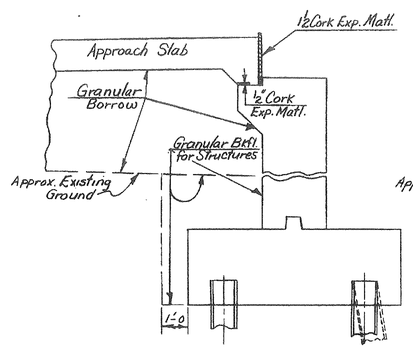


SECTION CC
N.T.S.

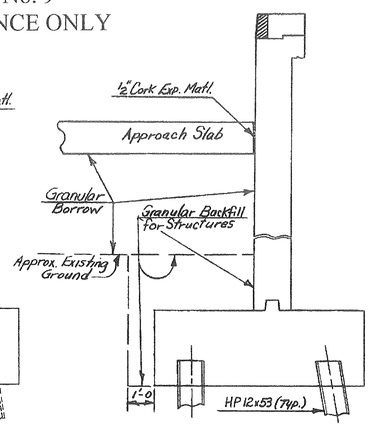
NOTES

1. For Railing details see Std. Sht. SB-R4-73 and Sht BR 918
2. For limit of Structure Excavation on both abutments and pier see X-Sections.

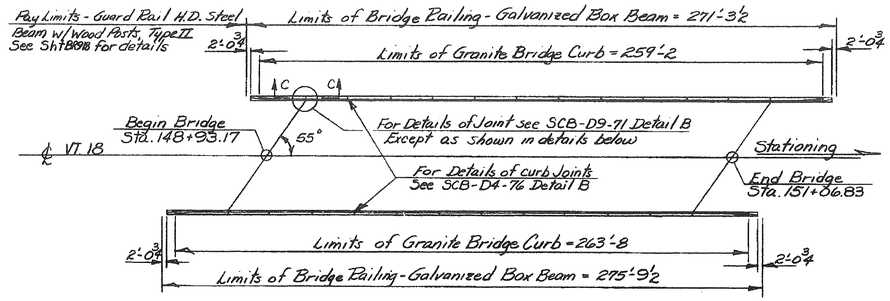
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 75 OF 80
BRIDGE No. 9
FOR REFERENCE ONLY



ABUTMENT NO.1 BACKFILL
(ABUTMENT NO2 SIMILAR)
Scale: 3/8" = 1'-0



ABUT. NO.1 WINGWALL BACKFILL
(ABUT. NO2, See X-Sections)
Scale: 3/8" = 1'-0

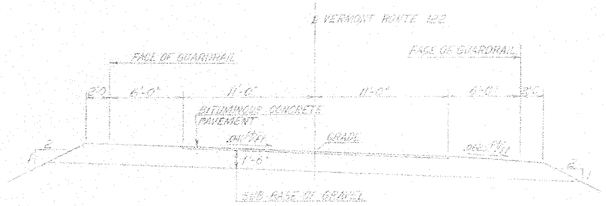


CURB & RAILING PLAN
Scale: 1" = 30'

STATE OF VERMONT
AGENCY OF TRANSPORTATION

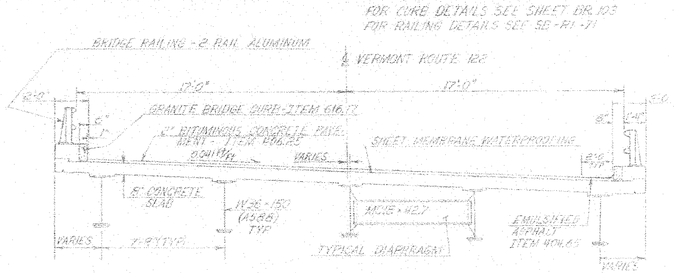
TOWN OF WATERFORD	Bridge No. 9
HIGHWAY NO. Vt 18	Log Sta.
VT. 18 OVER I 93	Surv. Sta. 150+00
APPROACH SLAB, CURB, RAILING & MISC. DETAILS	
Designed by D.E. LATHROP	Drawn by D.E. LATHROP
Checked by W.E. AHEARN date 7/80	Bridge Design Supervisor R.L. Oatley date 7/80
PROJECT WATERFORD	PROJECT NO. I 93-1(3) c/2
Bridge Sheet No. BR 915	Sheet 191 of 531

BRUNING 44-131 40151
BR-6



TYP. HIGHWAY SECTION — BRIDGE APPROACHES

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

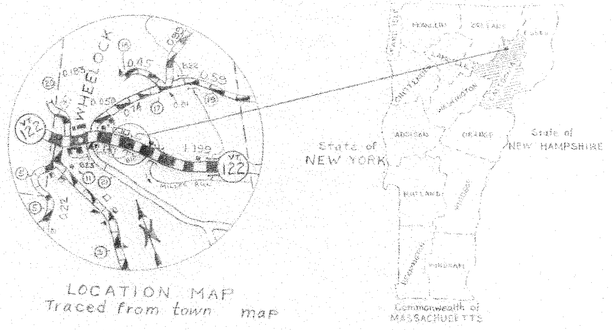


BRIDGE TYPICAL SECTION

SCALE: 1/4" = 1'-0"

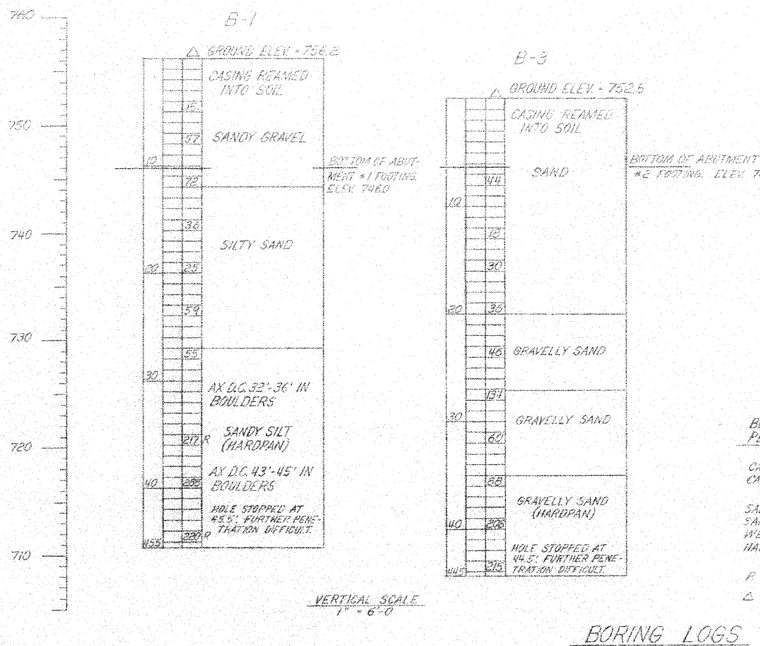
PROFILE OF VERMONT ROUTE 122

SCALE: 1" = 20'-0



LOCATION MAP

Traced from town map



VERTICAL SCALE

1" = 6'-0

BORING LOGS

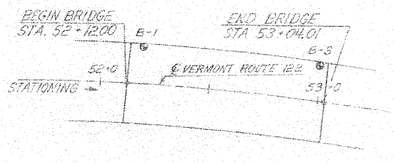
BOTH BORINGS STANDARD PENETRATION BORINGS

CASING OUTSIDE DIAMETER 3"
CASING INSIDE DIAMETER 2 1/4"

SAMPLE OUTSIDE DIAMETER 2"
SAMPLE INSIDE DIAMETER 1 3/8"
WEIGHT OF HAMMER 140 lbs.
HAMMER FALL 30"

F - REFUSAL

△ - BLOWS ON SAMPLER



B-1 STA 52+18 17' LT

B-3 STA 52+98 17' LT

LOCATION OF BORINGS

SCALE: 1" = 30'

EXISTING STRUCTURE

TYPE OF EXISTING STRUCTURE	CONCRETE T-BEAM REPLACED TEMPORARILY BY A BAILEY BRIDGE
YEAR BUILT	1910
SUFFICIENCY RATING OF EXISTING STRUCTURE	10
WIDTH OF EXISTING STRUCTURE	ONE 36' CLEAR SPAN
WHAT DISPOSITION IS MADE OF EXISTING STRUCTURE	REMOVED
EST. COST OF REMOVAL	$2500.00
REMOVE EXISTING STRUCTURE AS PART OF MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE	No
UNDERCUT AND WATER CHANNEL CLEARING AT EXISTING STRUCTURE	75 CY
MATERIAL TO BE DISPOSED OF	300 SQ. FT.
FLOOD OF RECORD WATER SURFACE ELEVATION AT EXISTING STRUCTURE	UNKNOWN
DATE	N/A
EST. DISCHARGE	N/A
AREA OF EXISTING STREAMBED OPENING	1300 SQ. FT.
TYPE OF EXISTING STREAMBED OPENING	43' WF W95Q
WATERWAY AREA THRU OPENING	512 SQ. FT.
MAX. OF EXISTING STREAMBED	35'
WATERWAY AREA THRU OPENING	SAND
TYPE OF STREAMBED MATERIAL	SAND
DOES ICE WATER OR FLOOD ELEVATION CAUSE THROUGH ENDED STRUCTURES	NO
HIGH ELEVATION	756+
FLOOD WATERS IN PAST EXPERIENCED BY WHOM	UNKNOWN

NEW STRUCTURE

SIMPLE SPAN COMPOSITE ROLLED BEAM

RECOMMENDED TYPE OF STRUCTURE	
RECOMMENDED OVERALL STRUCTURE LENGTH	92'
CLEAR SPAN (CENTERS) NORMAL TO STREAM	86'
SPAN LENGTHS (CENTER TO CENTER OF BEARINGS)	90'
ARE SPANS PERPENDICULAR TO A STRAIGHT STREAM	YES X NO
HIGH WATER ELEVATION EXPECTED	NO
IS CHANNEL RIGHT OF WAY CLEARED	NO
EXTENT OF OVERFLOW CHANNEL	GRAVEL AND SAND
EST. FLOOD DEPTH	4-12 FT.
CURRENTS ARE SWIFT, MODERATE OR SLUGGISH	MODERATE TO HEAVY
DRAINAGE AREA	19.456 (30.4 SQ. MI.)
CHARACTER OF TERRAIN	HILLY TO MOUNTAINOUS
VELOCITY OF STREAM AT DESIGN STAGE	13 F.P.S.
DESIGN DISCHARGE	9,500 C.F.S.
IS ALL TRAFFIC DETOURED TO PASS THROUGH NEW STRUCTURE	YES
EST. FLOW THROUGH	794 SQ. FT.
ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE	753.0
DESIGN FLOOD	FREE @ 1500 C.F.S.
VERTICAL CLEARANCE ABOVE DESIGN STAGE	2.7'
SOURCE OF INFORMATION	COMPUTED
CHECK DISCHARGE	6600 C.F.S.
CHECK EXPIRATION	75+1 (1010)
ALLOWABLE HIGH WATER ELEVATION	755.2
CONTROL BY	LOW BRIDGE SEAT
IS CLEARANCE GOVERNED BY CONDITIONS OTHER THAN HIGH WATER	YES
IF YES, DESCRIBE	ICE OR DEBRIS JAM AT DOWNSTREAM STRUCTURE
ARE SIDEWALKS REQUIRED	NO
CLEAR WIDTH	
TRAFFIC TO BE MAINTAINED DURING ITEM 150.03	ONE OR TWO WAYS ONE
ESTIMATED COST	$7500.00
PROVISIONS TO BE MADE FOR PUBLIC UTILITIES	YES - SEE SPECIAL PROVISIONS
EXCAVATE ALLOWABLE LOAD FOR SPREAD FOOTINGS	2 TONS/SF
DESIGN MAX. FOOTING PRESSURE	165 TONS/SF
PILING DESIGN LOAD	
ESTIMATED LENGTH	
TYPE	

DESIGN SPECIFICATIONS:

DESIGN LOAD: H-20 ALTERNATE STRESSES

PAVING MATERIAL	STRUCTURAL STEEL	ASTM A588	REINFORCING BARS GRADE 40
	TENSION 27,000 psi	TENSION 20,000 psi	20,000 psi
	COMPRESSION 27,000 psi	COMPRESSION N/A	870 psi

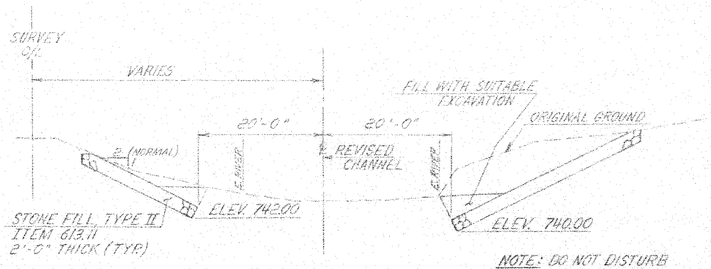
ADDITIONAL DESIGN CONSIDERATIONS

*THE SUPERSTRUCTURE OF THE EXISTING BRIDGE WAS BADLY DAMAGED BY FLOODWATER ON JUNE 21, 1973.

SUPERSTRUCTURE:

STRUCTURAL STEEL WILL BE A588, UNPAINTED.

ROLLED BEAMS WILL BE STRAIGHT. THE DECK WILL CONFORM TO THE ROADWAY ALIGNMENT.



TYPICAL CHANNEL SECTION

SCALE: 1" = 10'-0

NOTE: DO NOT DISTURB STREAM BOTTOM EXCEPT AS REQUIRED TO PLACE STONE FILL.

DESIGNED BY	W. M. Smith	1/4/74
DRAWN BY	R.C. Munn	1/4/74
CHECKED BY	E. B. Stickney	1/4/74

REVISIONS

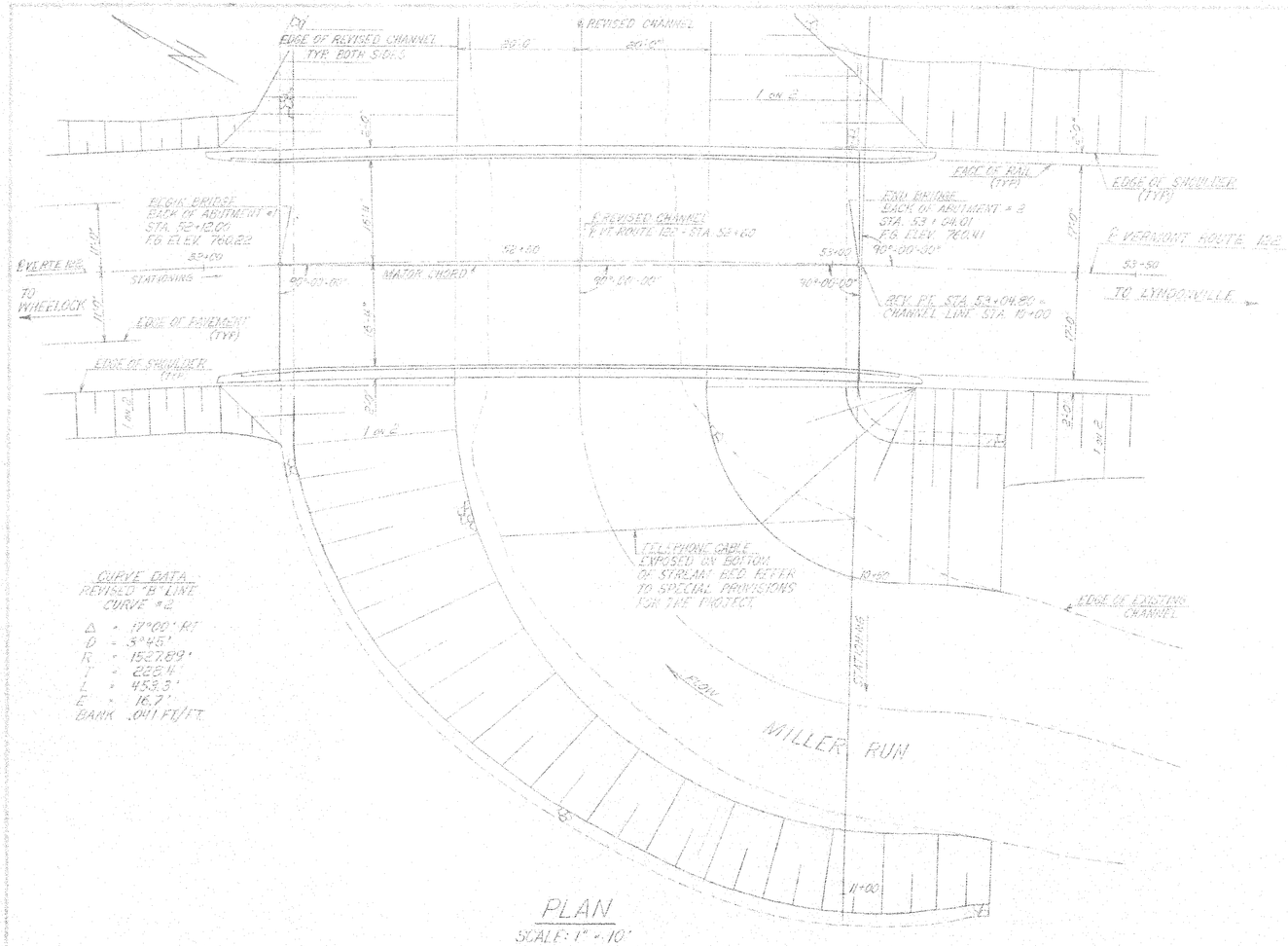
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OR CITY	WHEELOCK
HIGHWAY NO.	VERMONT ROUTE 122
PROJECT NO.	RS 0259 (2)
SHEET NO.	100
SHEET	11 of 48
LOCATION	50+66
SUBLOCATION	52+58

VERMONT ROUTE 122 OVER MILLER RUN
PRELIMINARY INFORMATION SHEET

Designed by	E. ENGLEHARDT	Drawn by	E. ENGLEHARDT
Checked by	JAR Jardeson	Bridge Design Supervisor	
E. Betz	12/73	JAR/CHARDSON	2/74

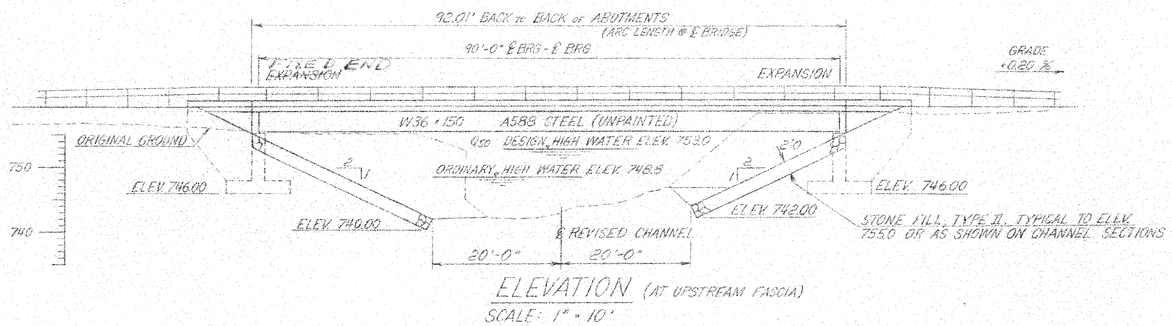
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 76 OF 80
BRIDGE No. 12
FOR REFERENCE ONLY



CURVE DATA
REVISED "B" LINE
CURVE #2

Δ = 17°00' RT
D = 3°45'
R = 1527.89'
T = 228.4'
L = 453.3'
E = 16.7'
BANK .041 FT/FT

PLAN
SCALE: 1" = 10'



ELEVATION (AT UPSTREAM FASCIA)
SCALE: 1" = 10'

GENERAL NOTES

1. SEE STANDARD SCB-01-71 FOR ADDITIONAL GENERAL NOTES.
2. ALL STRUCTURAL STEEL SHALL BE ASTM A-588 UNPAINTED, UNLESS OTHERWISE NOTED.
3. ALL STRUCTURAL STEEL SHALL BE CLEANED PRIOR TO LEAVING THE FABRICATING SHOP USING ANY METHOD SPECIFIED IN SECTION 513.03, SURFACE PREPARATION. AFTER THE BEAMS HAVE BEEN ERECTED AND ALL SUPERSTRUCTURE CONCRETE HAS BEEN PLACED, THE ENTIRE OUTSIDE SURFACE AND BOTTOM OF LOWER FLANGE OF THE FASCIA BEAMS SHALL BE CLEANED AS SPECIFIED IN SUBSECTION 906.50(B), CLEANING OF STEEL.
4. SUPERSTRUCTURE CONCRETE SHALL BE CONCRETE CLASS A. ALL OTHER CONCRETE SHALL BE CONCRETE CLASS B. ALL EXPOSED CONCRETE EDGES IN THE SUBSTRUCTURE AND SUPERSTRUCTURE SHALL BE CHAMFERED 1" x 1".
5. THE SLAB OVERHANG WILL BE 9" THICK. CARE SHALL BE TAKEN TO INSURE THAT BRACING FOR THE FORMWORK IS ADEQUATE TO PREVENT EXCESSIVE DEFLECTION. SUPPORT BRACKETS ARE TO BE SPACED AT 4'-0" MAX.
6. WINGWALL CONCRETE SHALL NOT BE PLACED ABOVE ADJACENT BRIDGE SEAT ELEVATIONS UNTIL BEAMS ARE PROFILED AND FINAL GRADE ESTABLISHED BY THE ENGINEER.
7. FOR ADDITIONAL CONSTRUCTION JOINT DETAILS, SEE STANDARD SCB-06-73, DETAIL B.
8. REINFORCING STEEL SHALL HAVE 3" CLEAR COVER IN FOOTINGS AND 2" ELSEWHERE UNLESS OTHERWISE NOTED.
9. EPOXY COATING COMPOUND SHALL BE APPLIED TO EXPOSED BRIDGE SEAT SURFACES; ALL OTHER EXPOSED CONCRETE SURFACES INCLUDING THAT PORTION OF THE CURTAINWALL BETWEEN FASCIA BEAMS SHALL BE TREATED WITH WATER REPELLENT, EXCEPT FOR THE UNDERSIDE OF THE DECK BETWEEN FASCIA BEAMS.
10. UNCLASSIFIED CHANNEL EXCAVATION SHALL INCLUDE THOSE PORTIONS OF THE EXISTING ABUTMENTS WITHIN THE LIMITS SHOWN ON THE PLANS. THE EXISTING SUPERSTRUCTURE SHALL BE REMOVED UNDER THE ITEM REMOVAL OF EXISTING SUPERSTRUCTURE.
11. THE CONTRACTOR WILL BE PERMITTED TO UTILIZE THE EXISTING BAILEY BRIDGE IN HIS DETOUR. UPON COMPLETION OF THE PROJECT THE CONTRACTOR SHALL DISASSEMBLE THE BAILEY BRIDGE AND STOCKPILE IT AT AN ACCESSIBLE LOCATION ON THE PROJECT SITE. REFER TO SPECIAL PROVISIONS FOR THE PROJECT FOR FURTHER DETAILS.
12. EXPANSION ELASTOMERIC BEARINGS SHALL BE USED AT EACH END OF BEAMS. ALTERNATE BEARING PAD CONFIGURATIONS OR AN ALTERNATE TYPE OF BEARING DEVICE CAPABLE OF SUPPORTING INDICATED LOADS AND MOVEMENT AND DESIGNED IN ACCORDANCE WITH SECTION 731 AND AASHO SPECIFICATIONS MAY BE SUBMITTED FOR APPROVAL. BRIDGE SEAT ELEVATIONS SHALL BE REVISED IF FINAL BEARING HEIGHT DIFFERS FROM THE .3" INDICATED. BEARINGS TO BE PAID FOR AT UNIT PRICE BID PER LB. STRUCTURAL STEEL.

INDEX OF SHEETS

BR 100	PRELIMINARY INFORMATION
101	PLAN AND ELEVATION
102	QUANTITIES
103	FRAMING PLAN, TYPICAL SECTION & DETAILS
104	SUPERSTRUCTURE DETAILS & BEARINGS
105	ABUTMENTS # 1 & 2
106	REINFORCING STEEL SCHEDULE
107-112	CHANNEL SECTIONS

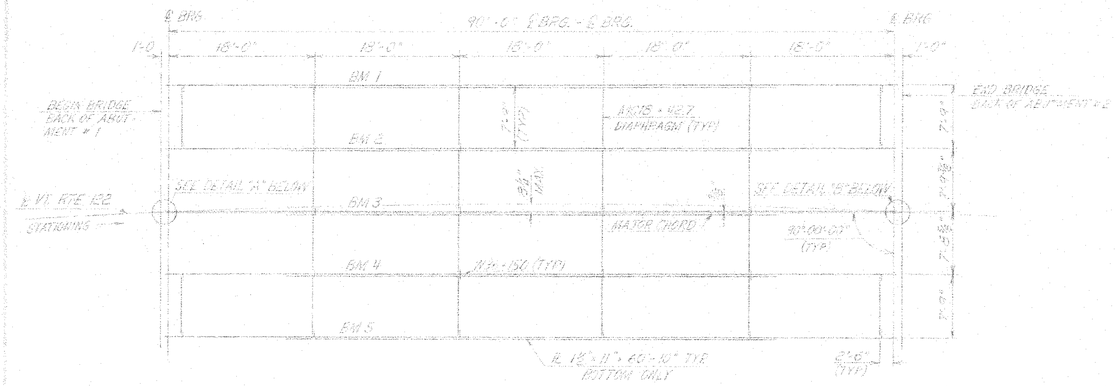
STANDARD DRAWINGS

SB-RI-71, SHEET 1 OF 2	1-28-74R
SB-RI-71, SHEET 2 OF 2	1-28-74R
SCB-01-71	1-28-74R
SCB-06-73, DET. B & F	11-28-73
E-3	11-7-73R

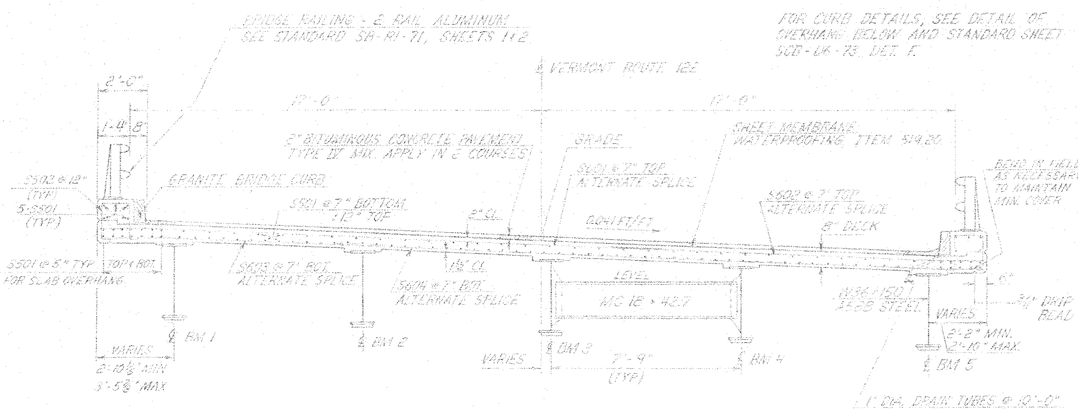
STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 77 OF 80
BRIDGE No. 12
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

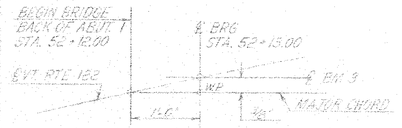
TOWN OF WHEELOCK	Project No. 12
HIGHWAY NO. VERMONT ROUTE 122	Log No. 50+66
VERMONT ROUTE 122 OVER MILLER RUN	Sheet No. 52+58
PLAN AND ELEVATION	
Designed by E. ENGLEHARDT	Drawn by E. ENGLEHARDT
Checked by JAR 2/74	Bridge Design Engineer
E. Bet a 12/73	J. A. RICHARDSON 2/74
PROJECT WHEELOCK	Project No. RS 0259(2)
Sheet Name BR 101	Sheet 12 of 48



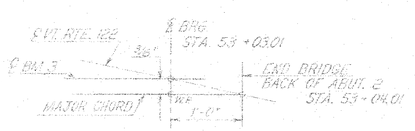
FRAMING PLAN
SCALE: 1/16" = 1'-0"



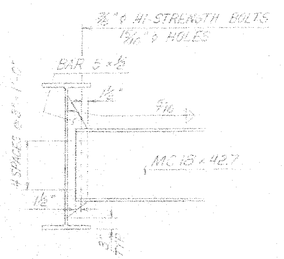
TYPICAL SECTION
SCALE: 3/8" = 1'-0"



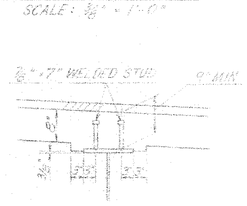
DETAIL "A"
NTS



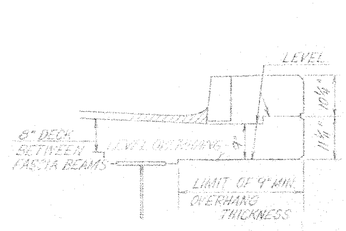
DETAIL "B"
NTS



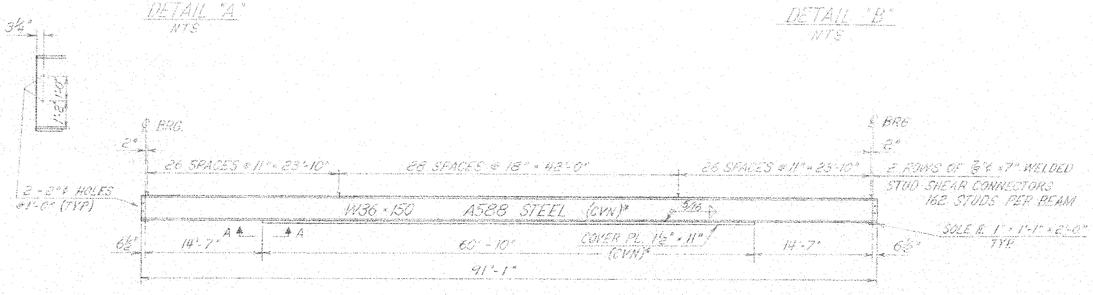
DIAPHRAGM CONNECTION
TYPICAL
SCALE: ¾" = 1'-0"



HAUNCH DETAIL
SCALE: ¾" = 1'-0"



TYPICAL OVERHANG
SCALE: ¾" = 1'-0"

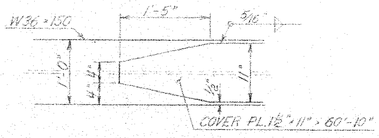


TYPICAL BEAM ELEVATION
SCALE: 1/16" = 1'-0"

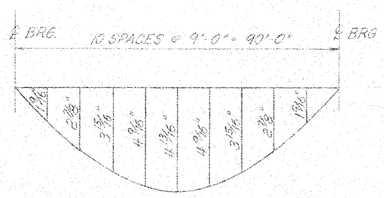
* INDICATES SECTIONS TO BE TESTED BY THE CHARPY V-NOTCH TEST AS SPECIFIED IN THE SPECIAL PROVISIONS FOR ITEM 714.03.

NOTES

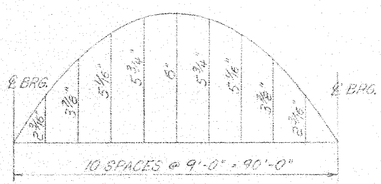
1. SEE SHEET BR 101 FOR GENERAL NOTES.
2. THE BRIDGE FLOOR SHALL BE CONCRETE CLASS A, AND THE SURFACE SHALL BE FINISHED WITH A FINISHING MACHINE. FINAL TEXTURE SHALL BE ACHIEVED WITH A WET FELT DRAG OR EQUIVALENT.



VIEW A-A
COVER PLATE TERMINATION TYP. EACH END
SCALE: 1" = 1'-0



DEAD LOAD DEFLECTION DIAGRAM
NTS
INCLUDES WEIGHT OF BEAM, SLAB, CURB, RAILING AND PAVEMENT



CAMBER DIAGRAM
NTS

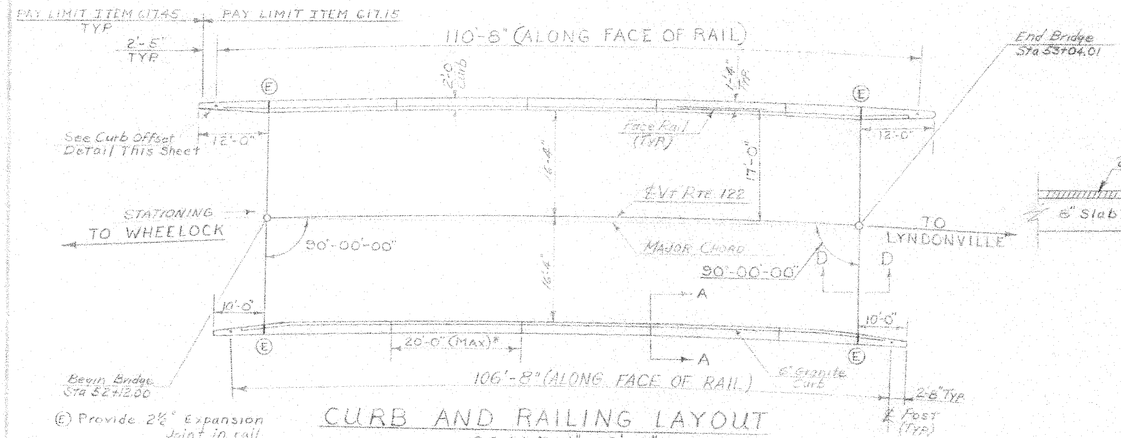
NOTE: MAXIMUM L.L. DEFLECTION = ¾" @ MIDSPAN

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 78 OF 80
BRIDGE No. 12
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

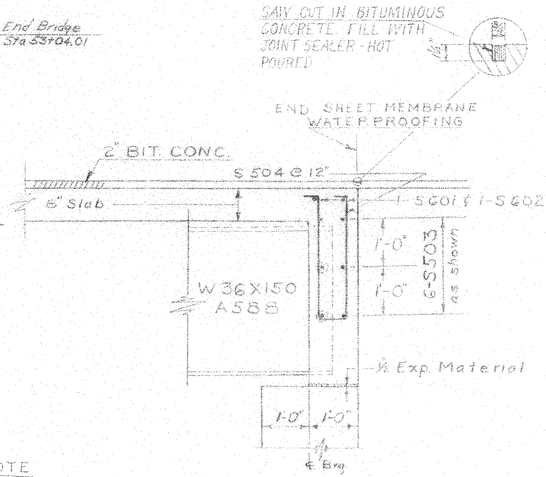
TOWN OR CITY: WHEELOCK	Bridge No. 12
HIGHWAY NO.: VERMONT ROUTE 122	Line Sta. 50+66 / Survey Sta. 52+58
VERMONT ROUTE 122 over MILLER'S RUN	
FRAMING PLAN, TYPICAL SECTION & DETAILS	
Designed by E. ENGLEHARDT	Drawn by E. ENGLEHARDT
Checked by J.A. Richardson Date 2/14	Bridge Design Supervisor J.A. RICHARDSON Date 2/14
PROJECT WHEELOCK	PROJECT NO. RS 0259(2)
Bridge Sheet No. BR 103	Sheet 14 of 48

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 79 OF 80
BRIDGE No. 12
FOR REFERENCE ONLY



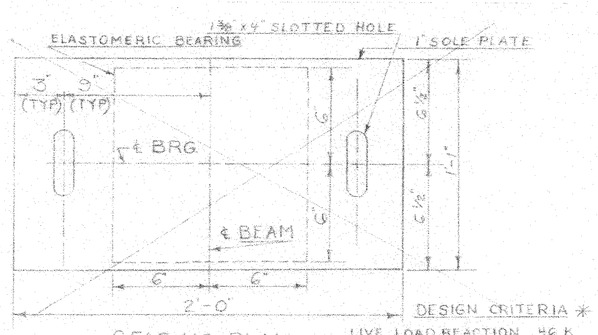
CURB AND RAILING LAYOUT
SCALE 1"=10'-0"

NOTE
* CURB SECTION TO BE A MAXIMUM OF 20'-0" WITH JOINT TO BE LOCATED AT A GRANITE BRIDGE CURB JOINT AND SPACED TO BE 1'-0" MINIMUM FROM ADJACENT RAIL POST



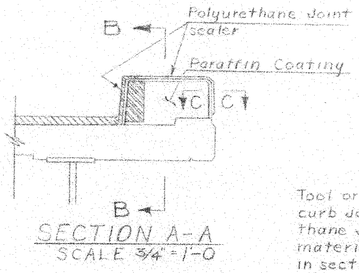
NOTE
* Curb concrete is to be placed in alternate sections with 48 hrs. minimum between adjacent pours.

SECTION D-D
SCALE 3/4"=1'-0"

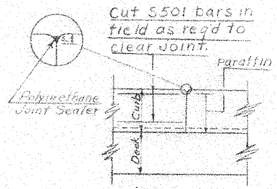


BEARING PLAN
Scale 3"=1'-0"
(Typ At Each End of Girder)

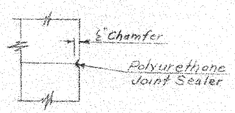
* SEE GENERAL NOTE #12 ON BR101 FOR ADDITIONAL DETAILS ON BEARINGS.



SECTION A-A
SCALE 3/4"=1'-0"

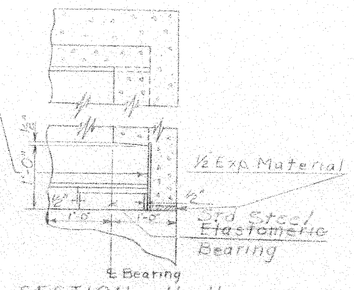


SECTION B-B
SCALE 3/4"=1'-0"

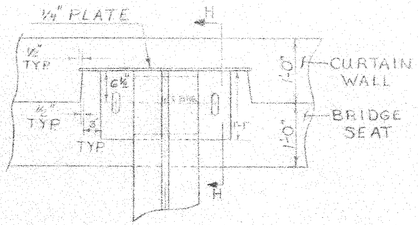


SECTION C-C
SCALE 1½"=1'-0"

Tool or form slot in concrete curb joint and seal w/polyurethane joint sealer. Joint sealer material shall be as specified in section 707.11 Joint Sealer, Polyurethane, w/payment to be included in unit price bid for Item 501.20 concrete class A. Color to be same as concrete.

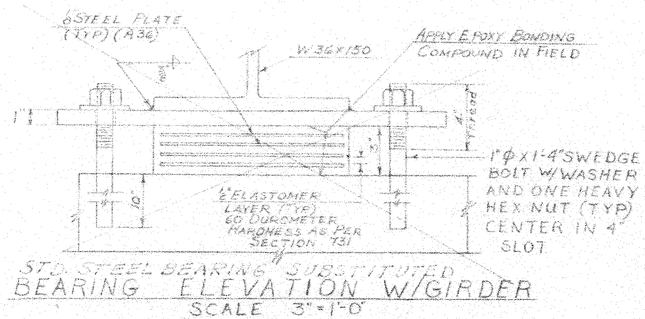


SECTION H-H

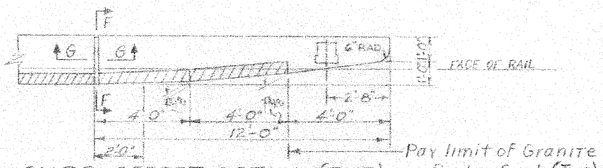


PLAN VIEW

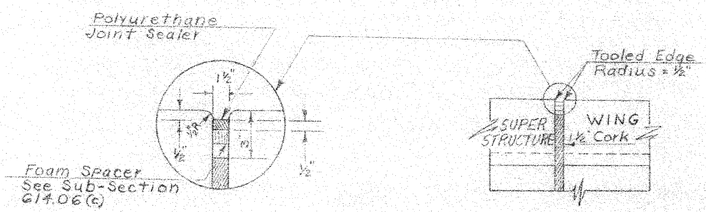
CURTAIN WALL AT BEARING DEVICE (TYP)
SCALE 1"=1'-0"



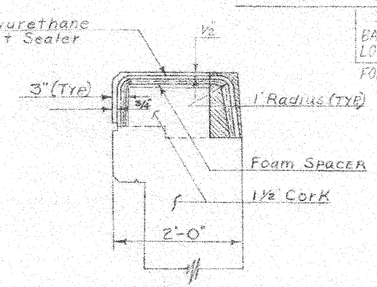
STD. STEEL BEARING SUBSTITUTED
BEARING ELEVATION W/GIRDER
SCALE 3"=1'-0"



CURB OFFSET DETAIL (TYP)
SCALE 3/8"=1 FT.
BACK OF ABUTMENT AND SUPERSTRUCTURE-WING JOINT LOCATION FOR 10° WINGS. SEE SECTIONS FF AND G-G FOR JOINT DETAILS.



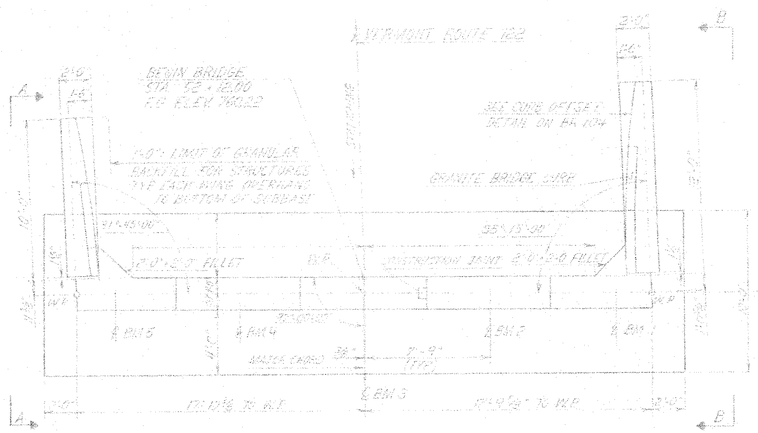
SECTION G-G
SCALE 1"=1'-0"



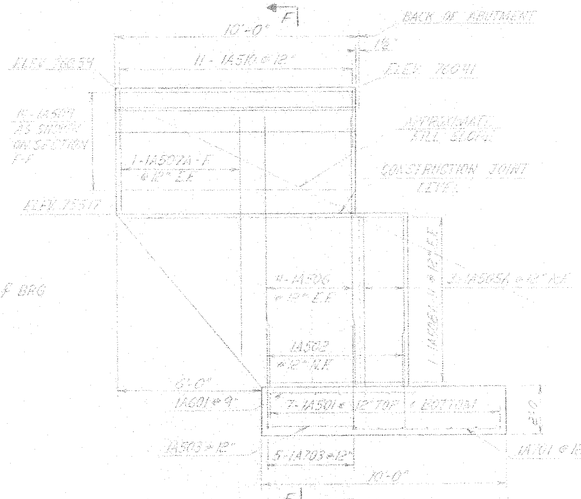
SECTION F-F
SCALE 1"=1'-0"

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

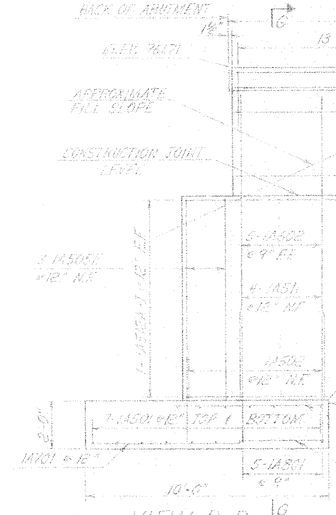
TOWN OF WHEELOCK	Bridge No. 12
	Log Mile 50+66
HIGHWAY NO. VERMONT RTE 122	Surv. Sta. 52+58
VERMONT ROUTE 122 over MILLER RUN	
SUPERSTRUCTURE DETAILS & BEARINGS	
Designed by E ENGLEHARDT Drawn by D LYONS	
Checked by E. ENGLEHARDT Date 2/24/94	Bridge Design Supervisor JAR Date 2/94
PROJECT WHEELOCK	PROJECT NO. RS-0259(2)
Bridge Sheet No. BR 104	Sheet 15 of 48



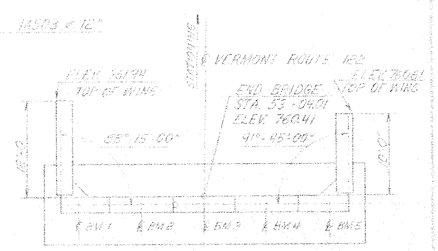
PLAN
SCALE: ⅛" = 1'-0"



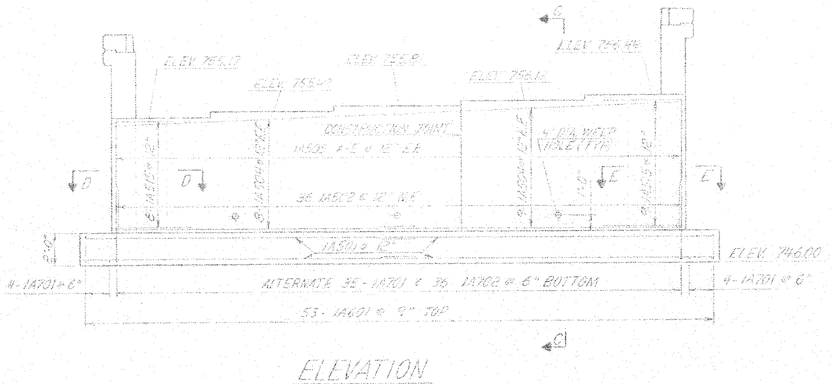
VIEW A-A
SCALE: ⅜" = 1'-0"



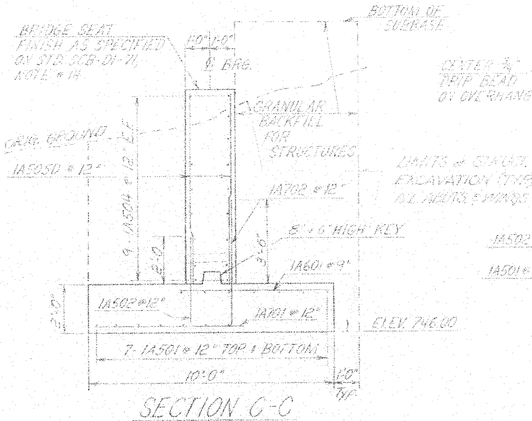
VIEW B-B
SCALE: ⅜" = 1'-0"



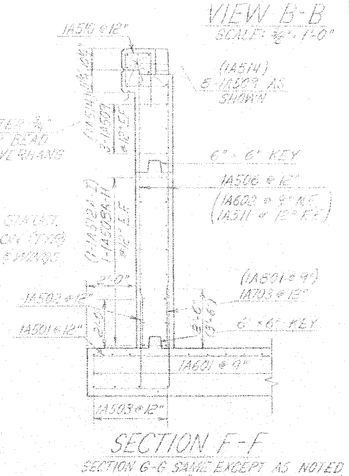
ABUTMENT # 2 PLAN
SCALE: ⅛" = 1'-0"



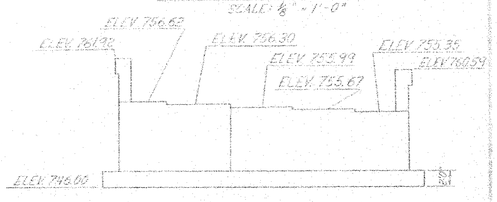
ELEVATION
SCALE: ½" = 1'-0"



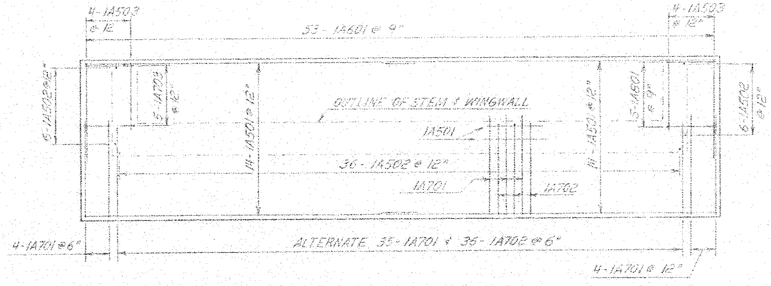
SECTION C-C
SCALE: ⅜" = 1'-0"



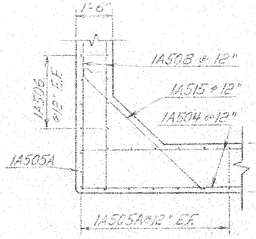
SECTION F-F
SECTION G-G SAME EXCEPT AS NOTED THUS ( )
SCALE: ⅜" = 1'-0"



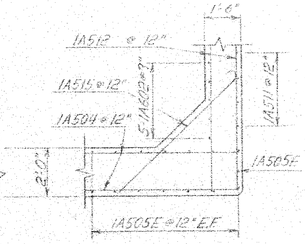
ABUTMENT # 2 ELEVATION
SCALE: ⅛" = 1'-0"



FOOTING REINFORCEMENT PLAN
SCALE: ¼" = 1'-0"



SECTION D-D
SCALE: ⅜" = 1'-0"



SECTION E-E
SCALE: ⅜" = 1'-0"

NOTES

1. SEE BR. 102 FOR GENERAL NOTES
2. DIMENSIONS AND LAYOUT FOR ABUTMENT #2 SAME AS ABUTMENT #1 EXCEPT OPPOSITE HAND. ELEVATIONS FOR ABUTMENT #2 SHOW ABOVE RIGHT. REINFORCEMENT LAYOUT SAME FOR BOTH ABUTMENTS AND CORRESPONDING WINGS. BARS MARKED 2A IN LIEU OF 1A ON REINFORCEMENT SCHEDULE (BR 106)
3. WINGWALLS MAY BE FORMED STRAIGHT EXCEPT FOR FASCIA SECTIONS WHICH SHALL BE FORMED TO MATCH ROADWAY CURVE. GRANITE CURB OFFSET ENDS SHALL BE AS DETAILED ON BR 104.

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF WHEELOCK	Bridge No. 12
HIGHWAY NO. VERMONT ROUTE 122	Log Sta. 50+66
VERMONT ROUTE 122 over MILLER RUN	Surv. Sta. 52+55
ABUTMENTS # 1 & 2	
Designed by E. ENGLEHARDT	Drawn by E. ENGLEHARDT
Checked by I.F. Jensen date 22 Feb 1974	Bridge Design Supervisor JAR date 3/74
PROJECT WHEELOCK	PROJECT NO. RS-0259(2)
Bridge Sheet No. BR 105	Sheet 76 of 48