INDEX OF SHEETS
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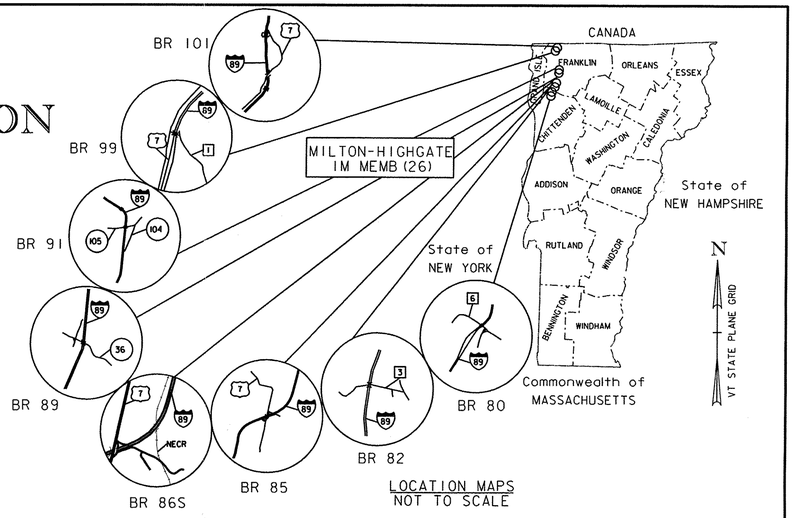
VAOT STANDARD SHEETS
SEE SHEET 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION



LOCATION MAPS
NOT TO SCALE

PROPOSED IMPROVEMENT

BRIDGE PROJECT
TOWNS OF MILTON, GEORGIA, ST. ALBANS AND HIGHGATE
COUNTIES OF CHITTENDEN AND FRANKLIN
BRIDGE NUMBERS 80, 82, 85, 86S, 89, 91, 99 & 101
ON INTERSTATE 89

PROJECT LOCATIONS: ALL BRIDGES, EXCEPT BRIDGE 86S, ARE TOWN HIGHWAYS, US OR VT ROUTES OVER I-89
BRIDGE 80 IS LOCATED ON TOWN HIGHWAY 6 (MILTON ROAD) OVER I-89 (I-89 MM 101.03) IN THE TOWN OF MILTON
BRIDGE 82 IS LOCATED ON TOWN HIGHWAY 3 (LAKE ROAD) OVER I-89 (I-89 MM 103.26) IN THE TOWN OF MILTON
BRIDGE 85 IS LOCATED ON US 7 (US 7 BR 163A) OVER I-89 (I-89 MM 106.55) IN THE TOWN OF GEORGIA
BRIDGE 86S IS LOCATED ON I-89 (I-89 MM 107.46) OVER NECR IN THE TOWN OF GEORGIA
BRIDGE 89 IS LOCATED ON VT 36 (FAIRFIELD HILL ROAD) OVER I-89 (I-89 MM 114.39) IN THE TOWN OF ST. ALBANS
BRIDGE 91 IS LOCATED ON VT 105 (SHELDON ROAD) OVER I-89 (I-89 MM 116.07) IN THE TOWN OF ST. ALBANS
BRIDGE 99 IS LOCATED ON TOWN HIGHWAY 1 (CARTER HILL ROAD) OVER I-89 (I-89 MM 126.76) IN THE TOWN OF HIGHGATE
BRIDGE 101 IS LOCATED ON US 7 (US 7 BR 183) OVER I-89 (I-89 MM 128.75) IN THE TOWN OF HIGHGATE

PROJECT DESCRIPTION: REMOVAL AND REPLACEMENT OF BITUMINOUS CONCRETE WEARING SURFACES AND MEMBRANES AND ASSOCIATED WORK

LENGTH OF BRIDGES:

80	226′
82	246′
85	306′
86S	852′
89	237′
91	226′
99	285′
101	299′

TOTAL LENGTH OF BRIDGES: 2677′

QUALITY ASSURANCE PROGRAM: LEVEL I

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
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : N/A
SURVEYED DATE : N/A

DATUM
VERTICAL NAD83 (93)
HORIZONTAL NAVD88 (03)

FOR DETAILED LOCATION MAPS, SEE SHEETS LM-1 AND LM-2

RECORD PLANS

CONTRACTOR: COLD RIVER BRIDGES, LLC- KEENE, NH
RESIDENT ENGINEER: DELVIN WARNER
CONSTRUCTION BEGAN: AUGUST 11, 2011
CONSTRUCTION COMPLETE: NOVEMBER 16, 2012
RECORD PLANS BY: DELVIN WARNER

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.
BY Delvin Warner RESIDENT ENGINEER
DATE 03/07/2014

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.

BUILT AS DESIGNED

STATE OF VERMONT THOMAS E. KNOX No. 8277 Structural LICENSED PROFESSIONAL ENGINEER
5/4/2011

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.

Stantec
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DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED for James V. Reilly DATE 5-5-2011
PROJECT MANAGER : SHERWARD G. FARNSWORTH
PROJECT NAME : MILTON-HIGHGATE
PROJECT NUMBER : IM MEMB (26)
SHEET 1 OF 70 SHEETS

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VAOT STANDARD SHEETS

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E-101	CONSTRUCTION SIGN DETAILS	05/30/03
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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 THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, 3RD EDITION, 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. 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".

4. TREE LIMBS AND/OR ANY PLANTS/BUSHES THAT PREVENT THE APPLICATION OF WATER REPELLENT, SILANE TO THE ABUTMENTS OR WINGWALLS SHALL BE REMOVED. THE COST OF REMOVING THESE TREE LIMBS AND/OR PLANTS/BUSHES SHALL BE INCIDENTAL TO ITEM 514.10.

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 FLUSHED BY THE CONTRACTOR. COST FOR FLUSHING THE FABRIC DRAIN TROUGHS, DOWNSPOUTS AND SCUPPERS WILL BE INCIDENTAL TO ALL OTHER ITEMS IN THE CONTRACT.

PAVEMENT REMOVAL NOTES

6. 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 AND APPROACH SLAB PAVEMENT WILL BE INCIDENTAL TO ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT".

7. 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.

8. 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.

9. ALL SCUPPERS ON BRIDGES SHALL BE CLEANED TO REMOVE ANY DIRT AND DEBRIS THAT HAS ACCUMULATED IN THEM TO ALLOW WATER TO FLOW FREELY THROUGH THE SCUPPER. PAYMENT FOR CLEANING THE SCUPPERS WILL BE INCIDENTAL TO ITEM 529.10 "REMOVAL OF BRIDGE PAVEMENT". A COMPLETE INVENTORY OF PLUGGED SCUPPERS HAS NOT BEEN PERFORMED, HOWEVER SCUPPERS ON THE WEST SIDE OF BRIDGE 86S ARE KNOWN TO BE PLUGGED WITH DEBRIS THAT HAS TO BE REMOVED.

10. AFTER THE REMOVAL OF THE BRIDGE PAVEMENT, THE BARRIER MEMBRANE SHALL BE REMOVED AND THE CONCRETE BRIDGE DECK SHALL BE CLEANED IN ACCORDANCE WITH SUBSECTION 580.04 AND TO THE SATISFACTION OF THE ENGINEER. IT IS NOTED THAT THE EXISTING MEMBRANE ON BRIDGE 86S IS ONE OF THE FIRST TORCH APPLIED MEMBRANES INSTALLED IN VERMONT. REMOVAL OF THE BARRIER MEMBRANE AND THE CLEANING OF THE CONCRETE BRIDGE DECK WILL BE PAID FOR UNDER ITEM 580.16, "SURFACE PREPARATION FOR MEMBRANE".

11. 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 METHOD FOR DETERMINING AREAS OF UNSOUND CONCRETE SHALL BE APPROVED BY 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 MADE UNDER ITEMS 580.10 "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I", 580.11 "REPAIR OF CONCRETE SUPERSTRUCTURE CLASS II" AND 580.12 "REPAIR OF CONCRETE SUPERSTRUCTURE CLASS III". QUANTITIES FOR ITEMS 580.10, 580.11 AND 580.12 AS SHOWN ON THE QUANTITY SHEET ARE ESTIMATED.

12. 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. SHEET MEMBRANE WATERPROOFING SHALL NOT BE APPLIED WHEN THE DECK CONCRETE AND/OR DECK PATCH AREA'S MOISTURE CONTENT IS ABOVE THE SECTION 519 SPECIFICATIONS OR THE MANUFACTURER'S SPECIFICATIONS, WHICHEVER IS LESS.

PAVEMENT NOTES

13. 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 WITH ITEM 406.27, MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT IN TWO 1¼" LIFTS (SEE SHEET BD-1). THE PAVEMENT SHALL BE TYPE IV FOR BOTH LIFTS, NO EXCEPTIONS. EMULSIFIED ASPHALT SHALL BE APPLIED TO ALL COLD PLANED SURFACES AND BETWEEN PAVEMENT LIFTS.

14. 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".

15. 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.

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

17. IN THE EVENT THAT COLD PLANNING THE ROADWAY SHOULDERS ALONG BRIDGE APPROACHES OF BRIDGE 86S EXPOSES GRAVEL SUBBASE, THE CONTRACTOR SHALL PREPARE THE AREA AS DIRECTED BY THE ENGINEER AND PROVIDE 2 INCHES OF BASE PAVEMENT IN ADDITION TO THE 2½ INCHES OF PAVEMENT TO BE PLACED IN OTHER LOCATIONS. 20 ADDITIONAL TONS HAVE BEEN INCLUDED IN THE ESTIMATED QUANTITY FOR ITEM 406.27 AT BRIDGE 86S TO ADDRESS THIS WORK. WHERE DIRECTED BY THE ENGINEER, PAYMENT FOR BASE PREPARATION WILL BE PAID FOR UNDER EQUIPMENT RENTAL ITEMS.

TRAFFIC CONTROL

18. THE TRAFFIC CONTROL PLANS ARE SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A SITE SPECIFIC TRAFFIC CONTROL PLAN FOR ONE LANE CLOSURES PER THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL ALLOW THE RESIDENT ENGINEER 14 CALENDAR DAYS TO REVIEW AND ACCEPT THE PROPOSED PLANS BEFORE THEY ARE TO BE IMPLEMENTED. NO WORK SHALL COMMENCE UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED. DEVELOPMENT AND IMPLEMENTATION OF TRAFFIC CONTROL PLAN SHALL BE INCIDENTAL TO ITEM 641.10 TRAFFIC CONTROL.

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

20. TRAFFIC WILL 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 WILL BE ALLOWED ON THE DECK UNTIL TWO LIFTS OF BITUMINOUS CONCRETE PAVEMENT ARE IN PLACE OVER THE ENTIRE LENGTH OF THE MEMBRANE.

21. SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS OR CORNER SIGHT DISTANCE FROM HIGHWAYS OR DRIVES.

22. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).

23. ORANGE 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.

24. ROLL UP SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM TYPE VI.

NOTES CONTINUED ON SHEET ID-2

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PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\02-Index and notes.dgn	PLOT DATE: 5/6/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
INDEX AND PROJECT NOTES ID-1	SHEET 2 OF 70

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TRAFFIC CONTROL (CONTINUED)

25. 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.

26. FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A 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.

27. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND A 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.

28. 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.

29. THE NUMBER OF CHANNELIZING DEVICES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ON THE TRAFFIC CONTROL PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY, THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR, CURVE, ETC.).

30. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER, THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.60 OF THE MUTCD.

31. TRAVEL LANES SHALL BE 12 FEET, MINIMUM AND HAVE 1' SHOULDERS, MINIMUM WITH THE EXCEPTION OF BRIDGES NO. 80 AND 85. SEE SHEET MD-1 FOR ADDITIONAL INFORMATION.

32. THE CONTRACTOR SHALL SHIFT 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 OR CONES.

TEMPORARY TRAFFIC SIGNALS:

33. ALL WORK DESCRIBED HEREIN FOR TEMPORARY TRAFFIC SIGNAL SYSTEM, AND NOT SPECIFIED FOR PAYMENT UNDER A SEPARATE CONTRACT ITEM, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 678.40, "TEMPORARY TRAFFIC SIGNAL SYSTEM".

34. DESIGN OF THE SIGNAL SUPPORTS AND ANY REQUIRED GUYING IS THE RESPONSIBILITY OF THE CONTRACTOR.

35. SIGNAL TIMING/TIMING ADJUSTMENTS REQUESTED BY THE ENGINEER SHALL BE ACCOMPLISHED WITHIN A 48 HOUR PERIOD.

36. SIGNAL FACES SHALL BE LED AND CONSIST OF 12" LENSES. (RED, YELLOW, AND GREEN)

37. THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED OVER A ROADWAY SHALL NOT BE LESS THAN 16.5 FEET NOR MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. THE BOTTOM OF A SIGNAL FACE NOT MOUNTED OVER A ROADWAY SHALL NOT BE LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE GROUND. CAUTION SHOULD BE USED TO INSURE COMPLIANCE WITH THE HEIGHT REQUIREMENTS IN THE EVENT THE NEW APPROACH GRADES DIFFER SIGNIFICANTLY FROM THE OLD ROAD GRADE.

38. SIGNAL FACES FOR ANY ONE APPROACH SHALL NOT BE LESS THAN 8 FEET APART MEASURED HORIZONTALLY BETWEEN CENTER FACES.

39. SIGNAL HEADS MAY BE HUNG ON A SPAN WIRE OR ON A CANTILEVER MAST ARM HOWEVER, THE USE OF PORTABLE SIGNALS IS ENCOURAGED. AT LEAST ONE SIGNAL HEAD SHALL BE UNMISTAKABLY IN LINE WITH THE CENTER OF APPROACHING TRAFFIC AT ALL TIMES. THE SECOND SIGNAL HEAD MAY BE POST MOUNTED, LOCATED AT A DISTANCE OF NO GREATER THAN 14.5 FEET FROM THE CENTER OF THE APPROACH LANE WHEN THE STOP BAR IS 40 FEET FROM THE SIGNAL HEAD. CONSULT THE CURRENT EDITION OF THE M.U.T.C.D. FOR ADDITIONAL INFORMATION CONCERNING SIGNAL PLACEMENT.

40. SIGNAL HEAD PLACEMENT IS CRITICAL. HEADS SHALL BE ADJUSTED TO REFLECT LANE LOCATION CHANGES.

41. THE SIGNAL SYSTEM SHALL CONSIST OF POLES, SIGNS AND POSTS, WARNING SIGNS, LUMINAIRES, FLASHING BEACONS, ASSOCIATED PAVEMENT MARKINGS, AND SIGNAL EQUIPMENT TO PROVIDE FOR AN ADEQUATE DESIGN. IT ALSO INCLUDES PERMITS AND COSTS ASSOCIATED WITH PROVIDING ELECTRICAL POWER.

42. INSTALL WIRING BETWEEN SIGNAL POLES TO PROVIDE FOR A SAFE INSTALLATION. ATTACHMENT TO UTILITY POLES TO BE COORDINATED BY THE CONTRACTOR WITH THE UTILITY COMPANY.

43. PLACE TEMPORARY POLES BEHIND GUARDRAIL OR OUTSIDE OF THE CLEAR ZONE.

44. POLES SUPPORTING SPAN WIRES AND/OR MAST ARMS SHALL BE ADEQUATELY BRACED OR GUYED AND SHALL NOT BE PLACED SO AS TO CREATE A HAZARD TO THE TRAVELING PUBLIC.

45. ALL TEMPORARY SIGNAL EQUIPMENT, SIGNS, ETC., SHALL BELONG TO THE CONTRACTOR AT THE END OF THE PROJECT AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR REMOVAL INCLUDING ANY TEMPORARY PAVEMENT MARKINGS, UTILITY POLES, WIRES, ETC.

46. A 250 WATT MER/150 WATT HPS LUMINAIRE AND MAST ARM SHALL BE PROVIDED ON A POLE ON EACH APPROACH AT A MOUNTING HEIGHT OF 30 FEET ABOVE ROADWAY CENTERLINE. THE INTENT IS TO LIGHT UP THE AREA AROUND THE SIGNAL HEADS AND STOP BAR FOR INCREASED VISIBILITY. THE ENGINEER SHALL DETERMINE THE ADEQUACY OF THE LIGHTING AND DIRECT CHANGES IF THE LIGHTING IS INSUFFICIENT.

47. SEE STD. E-121 FOR SIGN PLACEMENT. SEE STD, E-171A AND E-172 FOR ADDITIONAL INFORMATION ON SIGNALS.

48. ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

49. ALL STOP SIGNS AND ANY TRAFFIC SIGNS MADE IRRELEVANT DUE TO THE TEMPORARY SIGNAL SHALL BE COMPLETELY COVERED DURING OPERATION OF THE TEMPORARY SIGNAL OR AT THE DISCRETION OF THE ENGINEER. THE COSTS OF COVERING AND UNCOVERING THESE SIGNS SHALL BE INCIDENTAL TO ITEMS 641.10, "TRAFFIC CONTROL".

50. CONSTRUCTION APPROACH SIGNS SHALL BE PROVIDED ON EACH APPROACH PER THE "TRAFFIC CONTROL APPROACH SIGN PACKAGE" SHOWN ON THE TRAFFIC CONTROL PLAN SHEETS. ADDITIONAL CONSTRUCTION APPROACH SIGNS SHALL BE INSTALLED AS REQUIRED BY THE ENGINEER PER STANDARDS E-100A, E-101, E-102 AND E-102A. THE COSTS ASSOCIATED WITH THESE SIGNS, THE REFLECTORIZED PLASTIC DRUMS, ETC., SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".

51. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SIGNAL PHASING. THE CONTRACTOR SHALL SUBMIT A PHASING DIAGRAM TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL MAKE SIGNALS OPERATIONAL ONLY AFTER RECEIVING APPROVAL OF THE PHASING DIAGRAM BY THE ENGINEER.

BRIDGE 86S

52. THE EXISTING BRIDGE RAIL ON BRIDGE 86S SHALL BE REPAIRED AS DIRECTED BY THE RESIDENT ENGINEER. THE REPAIRS MAY CONSIST OF THE FOLLOWING:
-REMOVE AND REPLACE BRIDGE RAIL POSTS
-REMOVE AND REPLACE BRIDGE RAIL SPLICE BARS
-REMOVE AND REPLACE BRIDGE RAIL

53. ALL POSTS, RAIL AND SPLICE BARS WILL BE FURNISHED BY VTRANS. THIS WORK WILL BE PAID FOR UNDER ITEMS 900.640, "REMOVE AND REPLACE EXISTING BRIDGE RAILING" AND ITEM 900.620, "REMOVE AND REPLACE EXISTING BRIDGE RAILING POST".

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Stantec

PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\Plot Files\02 A-tc notes.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
INDEX AND PROJECT NOTES ID-2	SHEET 3 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	BRIDGE 80	BRIDGE 82	BRIDGE 85	BRIDGE 86S	BRIDGE 89	BRIDGE 91	BRIDGE 99	BRIDGE 101	FULL C.E. ITEMS	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				
	540	1350	470	680	510	500	470	430		4950		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
	6	10	9	17	7	6	7	7		69		CWT	EMULSIFIED ASPHALT	404.65				
	170	325	265	580	195	185	215	215		2150		TON	MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT	406.27				
1										1		LU	MAT DENSITY PAY ADJUSTMENT (N.A.B.I.)	406.29				
1										1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
	25	21	23	56	24	25	20	26		220		GAL	WATER REPELLENT, SILANE	514.10				
	26	155	48	270	92	32	192	180		995		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
	604	820	1292	2840	790	754	950	997		9047		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
			76	60		60		60		256		LF	JOINT SEALER, HOT POURED	524.11				
	600	830	1590	3000	950	920	960	1140		9990		SY	REMOVAL OF BRIDGE PAVEMENT	529.10				
	30	45	80	290	50	50	50	50		645		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I	580.10	EST.			
	95	170	240	720	145	190	180	150		1890		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II	580.11	EST.			
	6	12	12	54	6	8	15	15		128		CY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III	580.12	EST.			
	5400	7400	11700	25700	7200	6800	8600	9000		81800		SF	SURFACE PREPARATION FOR MEMBRANE	580.16	EST.			
	20	20	30	80	20	20	25	25		240		CF	RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE	580.20	EST.			
	20	20	20	20	20	20	20	20		160		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	EST.			
	20	20	20	20	20	20	20	20		160		HR	TRUCK RENTAL	608.37	EST.			
			100	2050						2150		HR	TRUCK-MOUNTED ATTENUATOR	608.45				
				150						150		LF	TEMPORARY TRAFFIC BARRIER	621.90				
				150						150		LF	REMOVE AND RESET TEMPORARY TRAFFIC BARRIER	621.95				
				180						180		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
	50	50	600		50	50	50	50		900		HR	FLAGGERS	630.15				
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
									3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
1										1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
							1			1		LS	TRAFFIC CONTROL (Carter Hill Rd over I-89 - Bridge No. 99)	641.10				
				1						1		LS	TRAFFIC CONTROL (I-89 - Bridge No. 86S)	641.10				
		1								1		LS	TRAFFIC CONTROL (Lake Rd over I-89 - Bridge No. 82)	641.10				
								1		1		LS	TRAFFIC CONTROL (US 7 over I-89 - Bridge No. 101)	641.10				
			1							1		LS	TRAFFIC CONTROL (US 7 over I-89 - Bridge No. 85)	641.10				
						1				1		LS	TRAFFIC CONTROL (VT 105 over I-89 - Bridge No. 91)	641.10				
					1					1		LS	TRAFFIC CONTROL (VT 36 over I-89 - Bridge No. 89)	641.10				
	1									1		LS	TRAFFIC CONTROL (West Milton Rd over I-89 - Bridge No. 80)	641.10				
			2	1	1	1		1		6		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
				1						1		EACH	PORTABLE ARROW BOARD	641.16				
	875	1325	1100		900	900	925	1025		7050		LF	4 INCH WHITE LINE	646.20				
	875	1325	1100		900	900	925	1025		7050		LF	4 INCH YELLOW LINE	646.21				

5/12/2011 2:54:23 PM V:\1953\active\19530552\transportation\drawing\Plot Files\04-quantity sheets.dgn

Stantec

PROJECT NAME: MILTON-HIGHGATE
PROJECT NUMBER: IM MEMB(26)

FILE NAME: ...\04-quantity sheets.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
QUANTITY SHEET QS-1

PLOT DATE: 5/12/2011
DRAWN BY: E. ALLING
CHECKED BY: T. KNIGHT
SHEET 4 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	BRIDGE 80	BRIDGE 82	BRIDGE 85	BRIDGE 86S	BRIDGE 89	BRIDGE 91	BRIDGE 99	BRIDGE 101	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
				1410						1410		LF	6 INCH WHITE LINE	646.214				
				1130						1130		LF	6 INCH YELLOW LINE	646.215				
			1100							1100		LF	TEMPORARY 4 INCH WHITE LINE, TYPE II TAPE	646.601				
			1100							1100		LF	TEMPORARY 4 INCH YELLOW LINE, TYPE II TAPE	646.611				
				1125						1125		LF	TEMPORARY 6 INCH WHITE LINE, TYPE II TAPE	646.621				
				1125						1125		LF	TEMPORARY 6 INCH YELLOW LINE, TYPE II TAPE	646.631				
			55	110						165		EACH	RAISED PAVEMENT MARKERS, TYPE II	646.75				
			720	850						1570		SF	PAVEMENT MARKING MASK	646.86				
							1			1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM (Carter Hill Rd over I-89 - Bridge No. 99)	678.40				
		1								1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM (Lake Rd over I-89 - Bridge No. 82)	678.40				
								1		1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM (US 7 over I-89 - Bridge No. 101)	678.40				
						1				1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM (VT 105 over I-89 - Bridge No. 91)	678.40				
					1					1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM (VT 36 over I-89 - Bridge No. 89)	678.40				
	1									1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM (West Milton Rd over I-89 - Bridge No. 80)	678.40				
1										1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
				8						8		EACH	SPECIAL PROVISION (REMOVE AND REPLACE EXISTING BRIDGE RAILING POST)	900.620				
	13	14	17	137	13	13	16	17		240		GAL	SPECIAL PROVISION (REPOINTING GRANITE CURB)	900.625	EST.			
		93					64			157		LF	SPECIAL PROVISION (PARTIAL REMOVAL AND MODIFICATION OF METAL PLATE JOINT)	900.640				
				240						240		LF	SPECIAL PROVISION (PARTIAL REMOVAL AND MODIFICATION OF PIER JOINT)	900.640				
				600						600		LF	SPECIAL PROVISION (REMOVE AND REPLACE EXISTING BRIDGE RAILING)	900.640				

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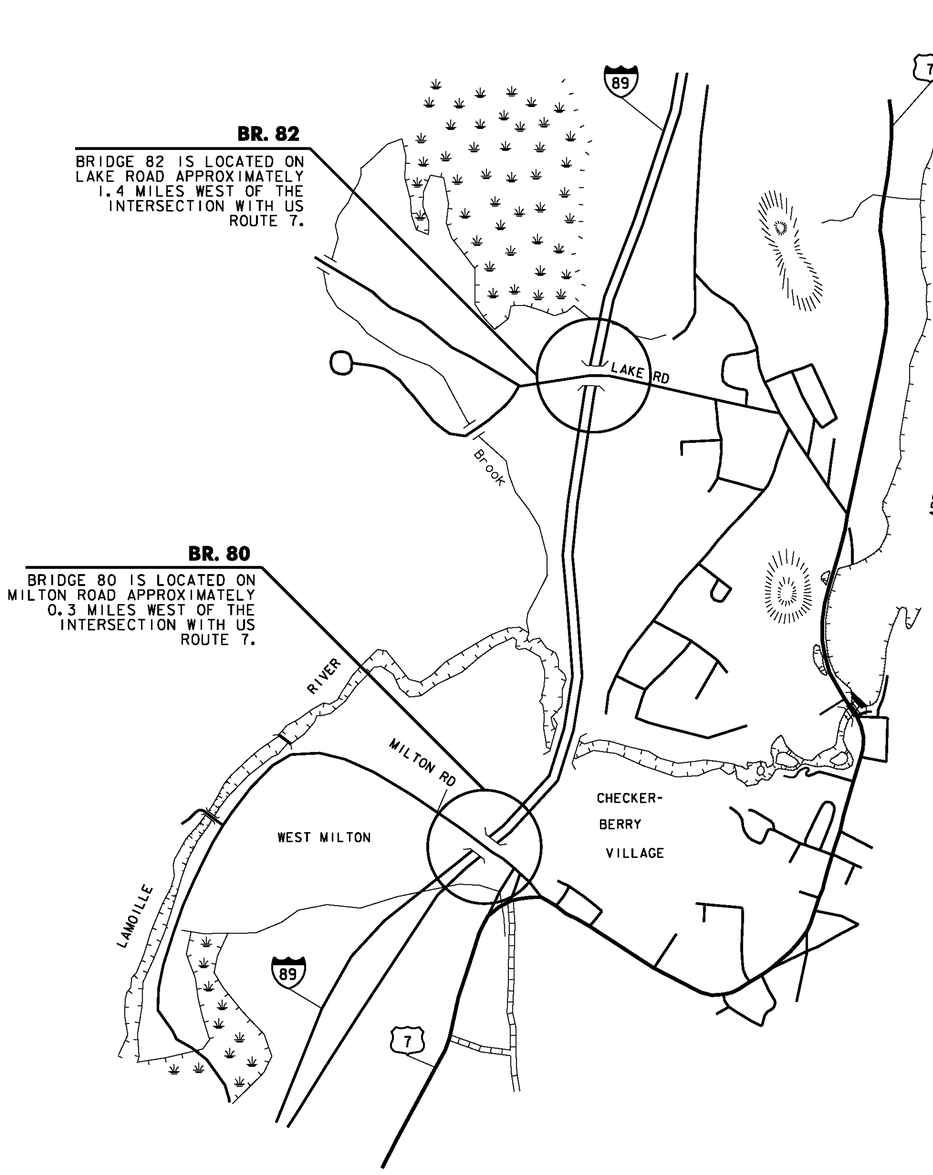
Stantec

PROJECT NAME: MILTON-HIGHGATE
PROJECT NUMBER: IM MEMB(26)

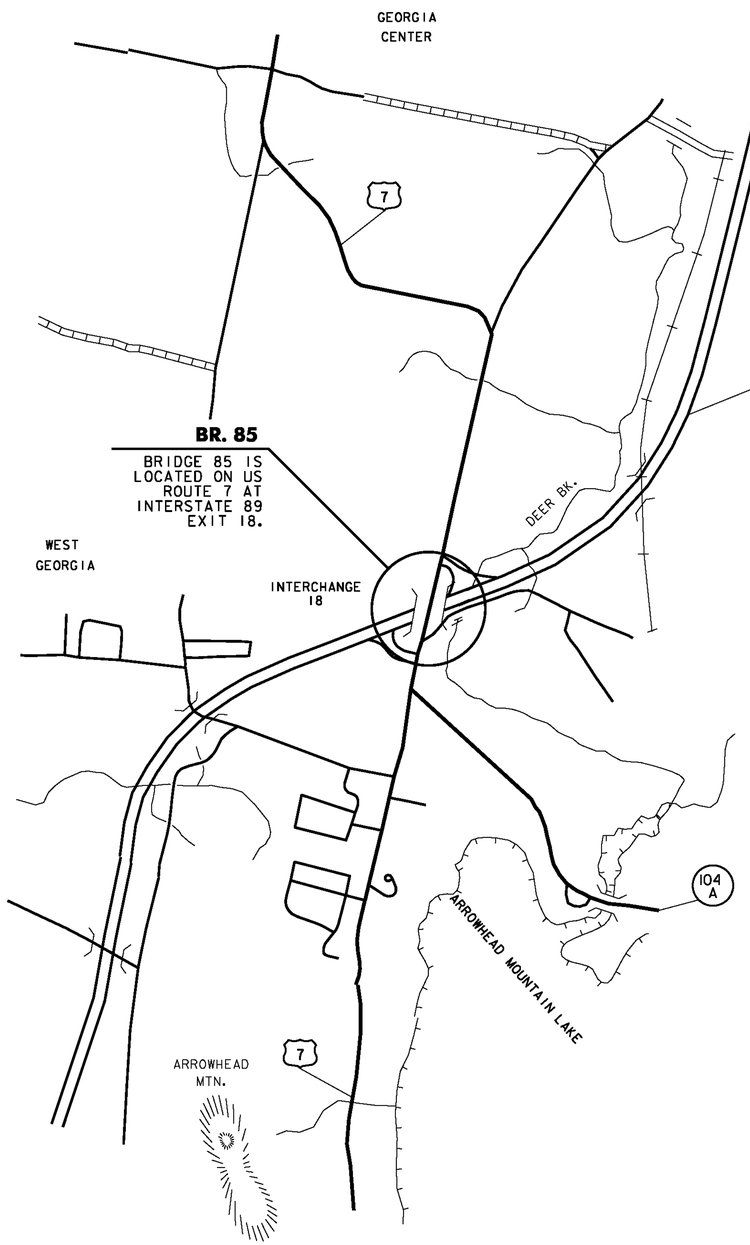
FILE NAME: ...\04-quantity sheets.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
QUANTITY SHEET QS-2

PLOT DATE: 5/12/2011
DRAWN BY: E. ALLING
CHECKED BY: T. KNIGHT



MILTON

LOCATION MAP
NOT TO SCALE



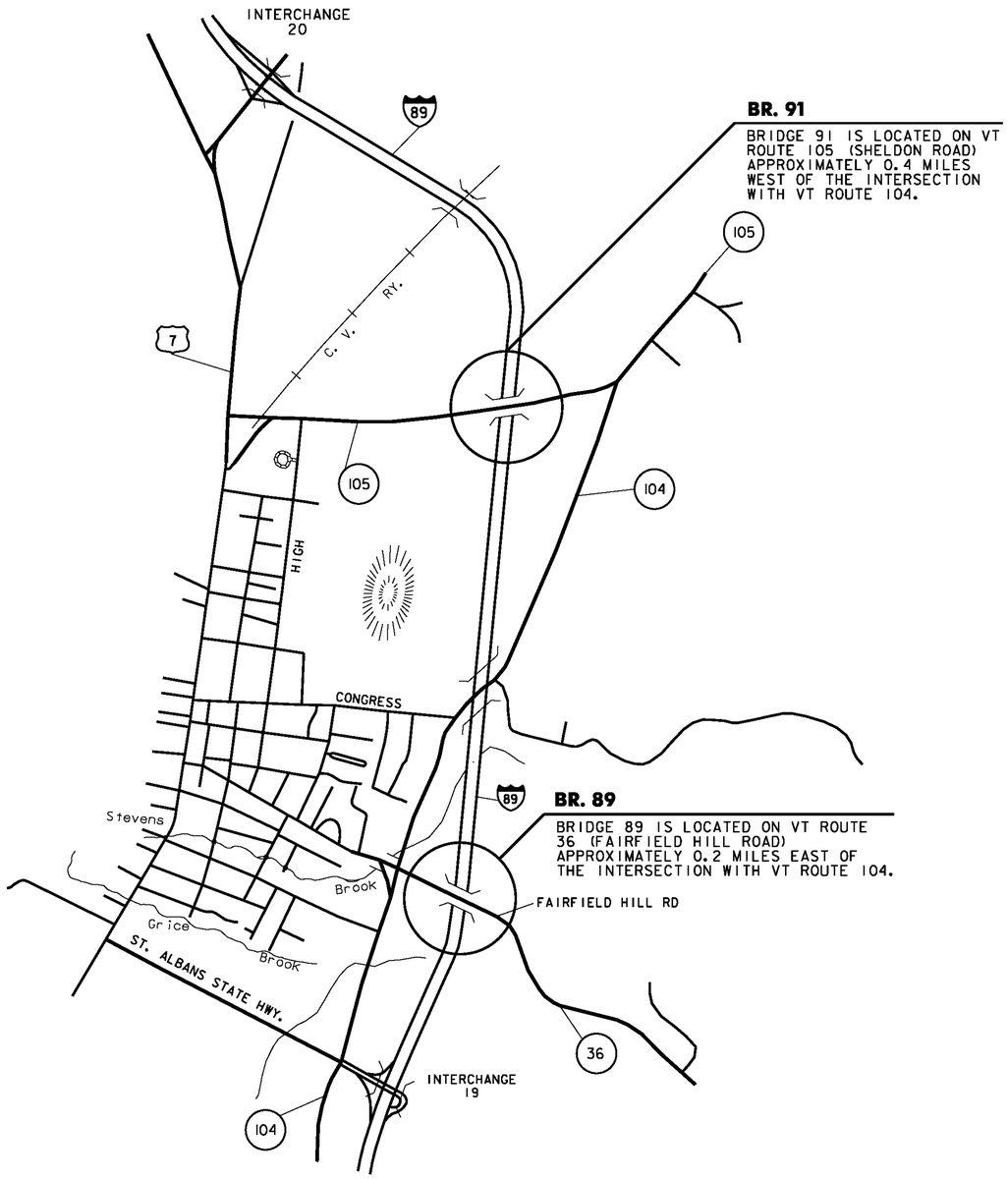
GEORGIA

LOCATION MAP
NOT TO SCALE

PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\03-location maps.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
LOCATION MAP LM-1	SHEET 6 OF 70

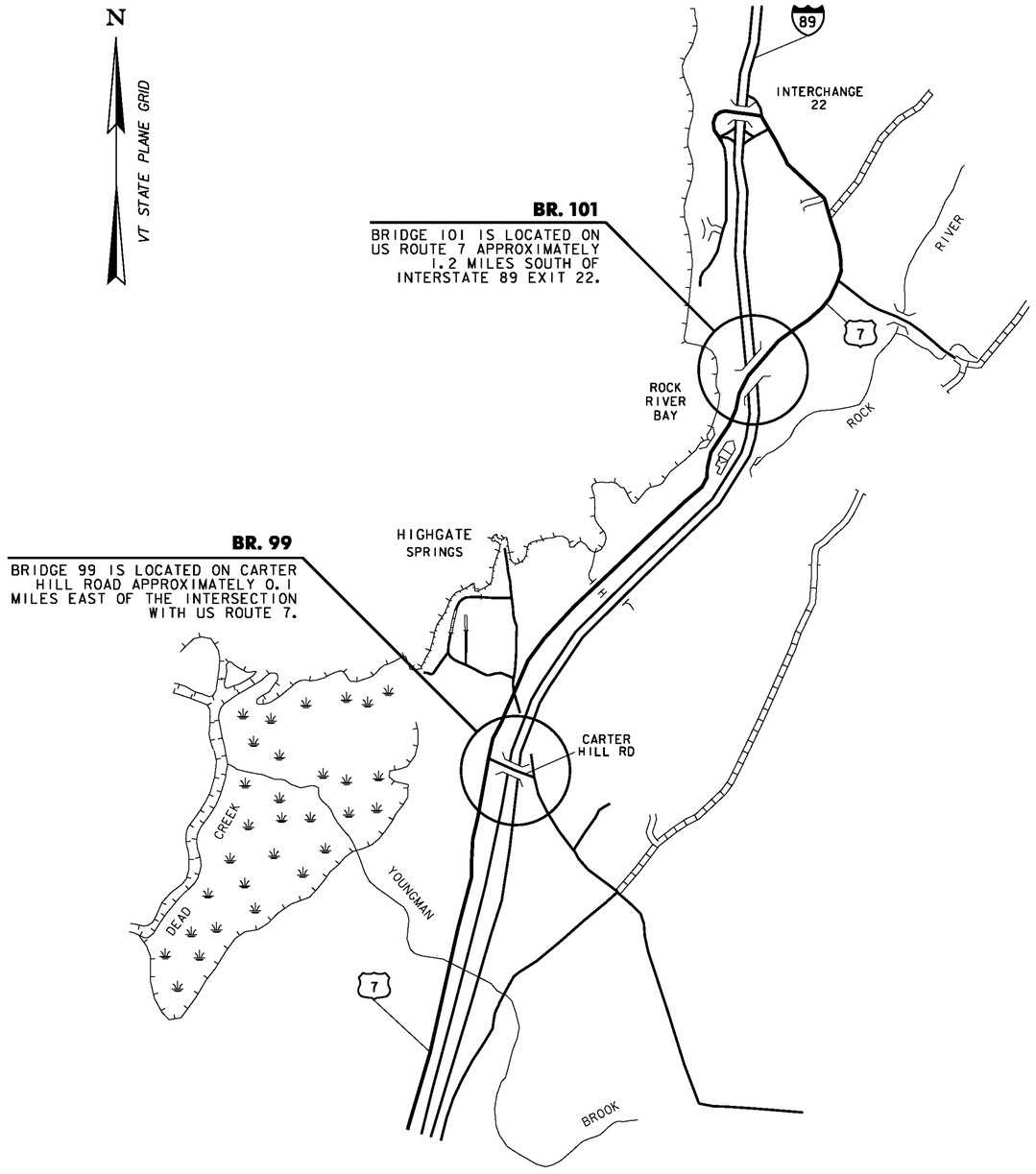
Stantec

5/4/2011 11:50:06 AM V:\1953\active\195310552\transportation\drawing\Plot Files\03-location maps.dgn



ST ALBANS

LOCATION MAP
NOT TO SCALE



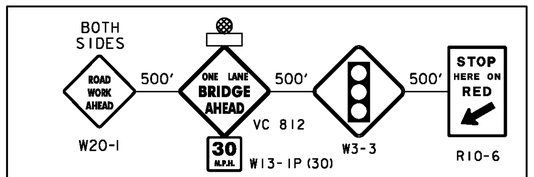
HIGHGATE

LOCATION MAP
NOT TO SCALE

Stantec

PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\03-location maps.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
LOCATION MAP LM-2	SHEET 7 OF 70

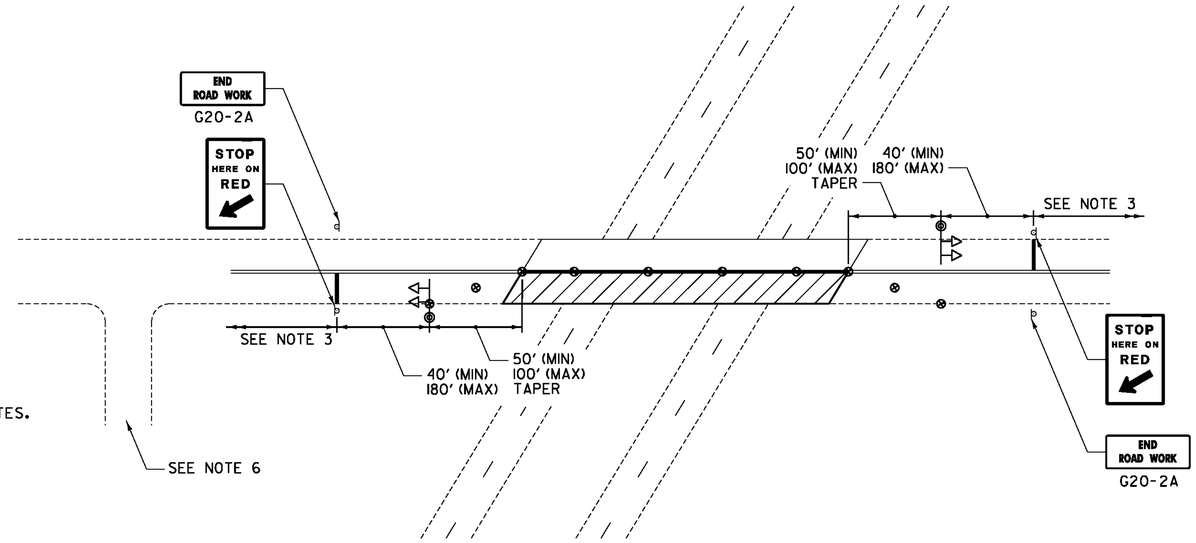
5/4/2011 11:50:06 AM V:\1953\active\195310552\transportation\drawing\Plot Files\03-location maps.dgn



TRAFFIC CONTROL APPROACH SIGN PACKAGE

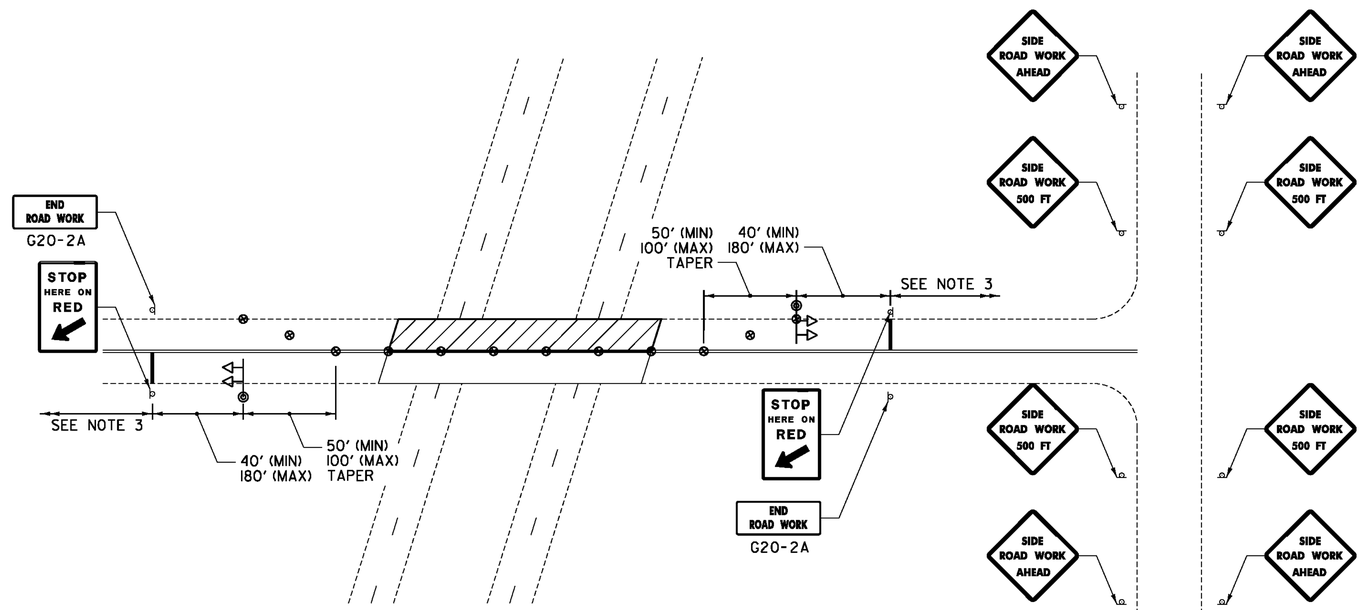
NOTES:

1. SEE SHEETS ID-1 AND ID-2 FOR GENERAL TRAFFIC CONTROL NOTES.
2. REFER TO STANDARD E-100 FOR CONSTRUCTION APPROACH SIGNS CRITERIA.
3. REFER TO "TRAFFIC CONTROL APPROACH SIGN PACKAGE" ON THIS SHEET. FOR BRIDGES 89 & 99, "ROAD WORK AHEAD" SIGN IS REPLACED WITH "SIDE ROAD WORK AHEAD" SIGN AS SHOWN ON BRIDGES 89 & 99 TRAFFIC CONTROL PLAN.
4. CHANNELIZING DEVICE SPACING
   TANGENT SECTIONS: 60 FT. (2X DESIGN SPEED LIMIT)
   TAPER SECTIONS: 30 FT. (1X DESIGN SPEED LIMIT)
   DESIGN SPEED THROUGH CONSTRUCTION ZONE = 30MPH
5. ACCESS TO ALL EXISTING SIDE ROADS, DRIVES, AND PARKING AREAS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. DRIVES, SIDE ROADS OR PARKING AREAS SHALL NOT BE LOCATED WITHIN THE ONE-LANE CLOSURE.
6. IF 12' MINIMUM TOTAL LANE WIDTH CAN NOT BE ACHIEVED ON BRIDGE 80, A "NARROW BRIDGE" SIGN (W5-2) SHOULD BE USED IN THE TRAFFIC CONTROL APPROACH SIGN PACKAGE AS DIRECTED BY THE RESIDENT ENGINEER.



BRIDGES 80, 82, 91 & 101 TRAFFIC CONTROL PLAN

NOT TO SCALE



BRIDGES 89 & 99 TRAFFIC CONTROL PLAN

NOT TO SCALE

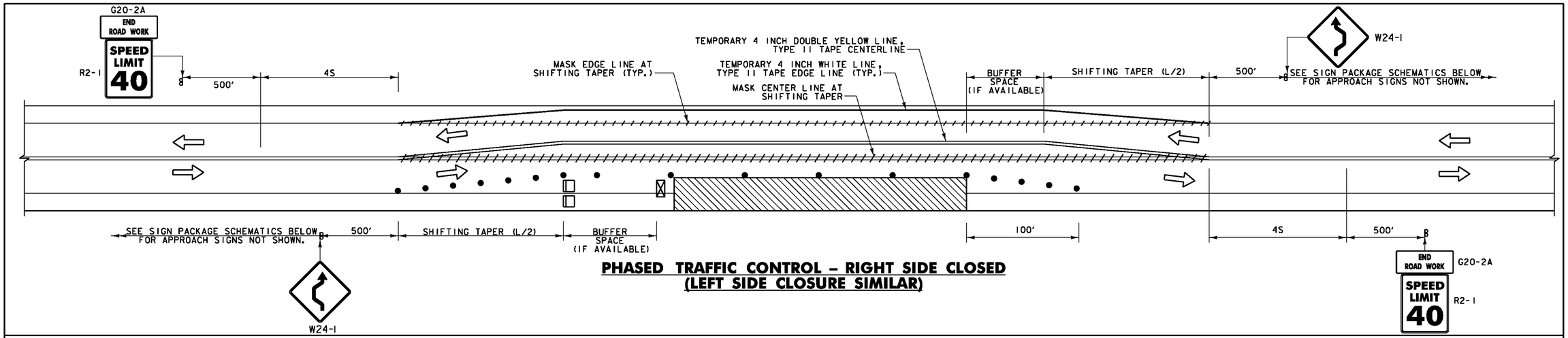
LEGEND

- ⊗ CHANNELIZING DEVICE
- TEMPORARY TRAFFIC SIGNAL
- TEMPORARY CONSTRUCTION SIGN
- FLASHING BEACON
- WORK ZONE

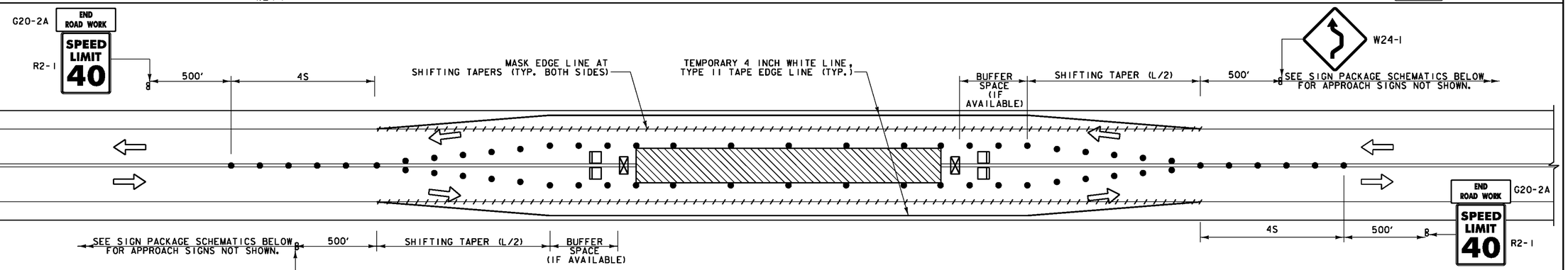
Stantec

PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\Plot Files\05-traf ctrl.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
TRAFFIC CONTROL PLAN TC-1	SHEET 8 OF 70

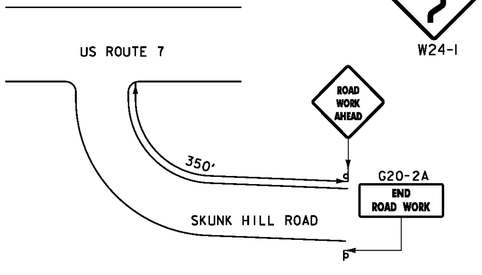
5/4/2011 11:50:07 AM V:\1953\active\95310552\transportation\drawing\Plot Files\05-traf ctrl.dgn



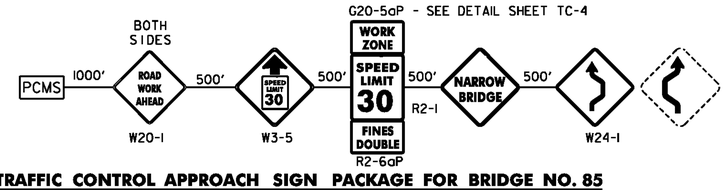
PHASED TRAFFIC CONTROL – RIGHT SIDE CLOSED (LEFT SIDE CLOSURE SIMILAR)



PHASED TRAFFIC CONTROL – CENTER CLOSED



SIGN DETAIL FOR SKUNK HILL ROAD



TRAFFIC CONTROL APPROACH SIGN PACKAGE FOR BRIDGE NO. 85

APPROACH SIGN NOTES:

1. REFER TO THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL (M.U.T.C.D.) FOR CONSTRUCTION APPROACH SIGNS CRITERIA.
2. ALL SIGNS ARE TO BE LOCATED ON THE RIGHT SIDE OF THE ROAD APPROACHING THE CONSTRUCTION AREA UNLESS OTHERWISE NOTED.

BRIDGE 85 TRAFFIC CONTROL NOTES:

1. THE EXISTING SPEED LIMIT IS 40 M.P.H. FOR U.S. 7 AT BRIDGE 85.
2. DUE TO THE HIGH TRAFFIC VOLUMES ON U.S. 7, THE CONTRACTOR SHALL NOT USE A TEMPORARY TRAFFIC SIGNAL FOR TRAFFIC CONTROL ON BRIDGE 85.
3. ACCESS TO ALL INTERSTATE 89 EXIT 18 ENTRANCE AND EXIT RAMPS, DRIVES, ROADS AND PARKING AREAS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
4. A "ROAD WORK AHEAD" (W20-1) SIGN, LOCATED 500' FROM THE INTERSECTION OF US ROUTE 7, SHALL BE USED ON BOTH INTERSTATE 89 EXIT 18 EXIT RAMPS.
5. AN "END ROAD WORK" (G20-2A) SIGN, LOCATED 500' FROM THE INTERSECTION OF US ROUTE 7, SHALL BE USED ON BOTH INTERSTATE 89 EXIT 18 ENTRANCE RAMPS.
6. SEE SHEETS ID-1 AND ID-2 FOR GENERAL TRAFFIC CONTROL NOTES.
7. REMOVAL OF EXISTING PAVEMENT FROM BRIDGE 85 SHALL BE PERFORMED BETWEEN THE HOURS OF 8:00PM TO 6:00AM ONLY. TEMPORARY LIGHTING REQUIRED FOR NIGHT OPERATIONS SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL (189 - BRIDGE NO. 85, US 7)". SEE THE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS FOR NIGHTTIME WORK.

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- TYPE III BARRICADE
- WORK AREA
- TRUCK/TRAILER MOUNTED ATTENUATOR
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN (SEE NOTE 15)

POSTED SPEED (MPH)	TAPER LENGTHS (FT) SHOULDER W=8 FT (L/3)	TAPER LENGTHS (FT) MERGING 12 FT LANE (L)	TANGENT W=12 FT (L/2)	BARRIER FLARE RATE (MINIMUM)	MINIMUM BUFFER SPACE LENGTH (FT)	MAXIMUM CHANNELIZING DEVICE SPACING (FT) TAPER (S)	MAXIMUM CHANNELIZING DEVICE SPACING (FT) TANGENT (2S)
25	28	130	65	1:9	155	25	50
30	40	180	90	1:9	200	30	60
35	55	250	125	1:9	250	35	70
40	72	310	155	1:9	305	40	80
45	120	540	270	1:9	360	45	90

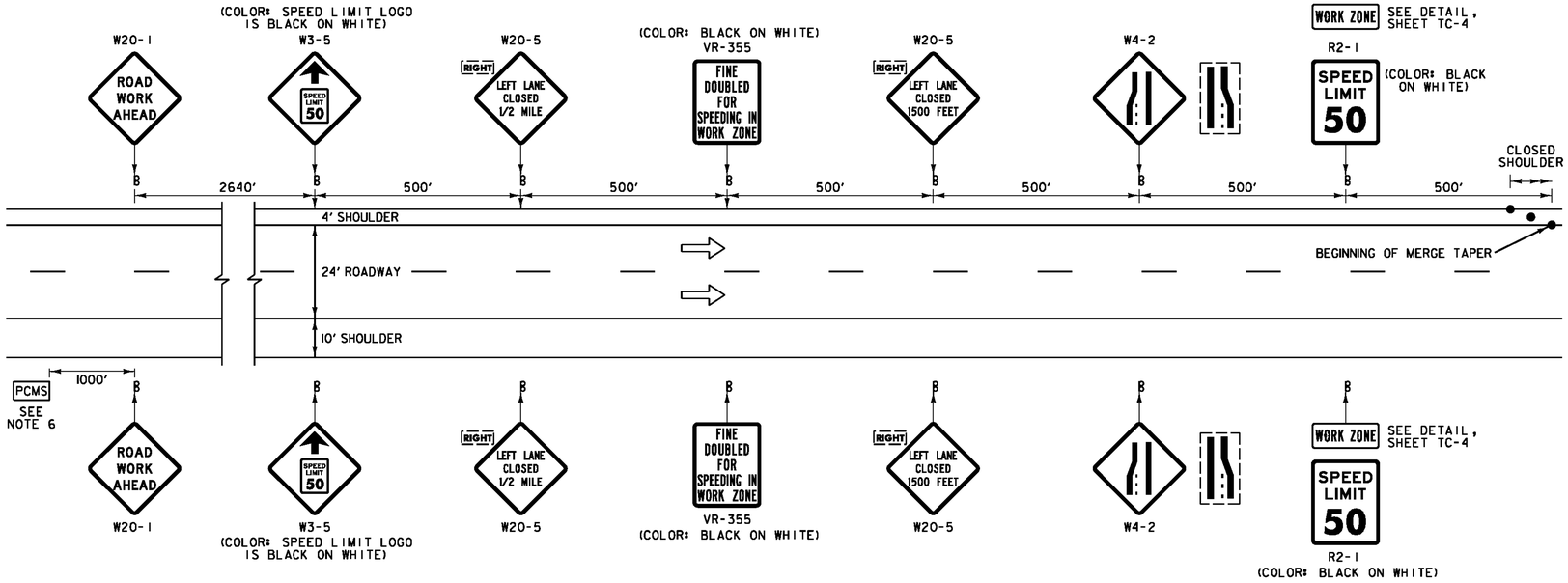
TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATION:
L = WS FOR POSTED SPEEDS OF 45 MPH OR GREATER
L = WS²/60 FOR POSTED SPEEDS OF 40 MPH OR LESS

L = MINIMUM LENGTH OF TAPER
W = WIDTH OF OFFSET IN FEET. (TYPICAL)
S = POSTED SPEED IN MPH

Stantec

PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\06-br 85 traffic ctrl.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
BR. 85 TRAFFIC CONTROL PLAN TC-2	SHEET 9 OF 70

5/4/2011 11:50:08 AM V:\1953\active\195300552\transportation\drawing\Plot Files\06-br 85 traffic ctrl.dgn

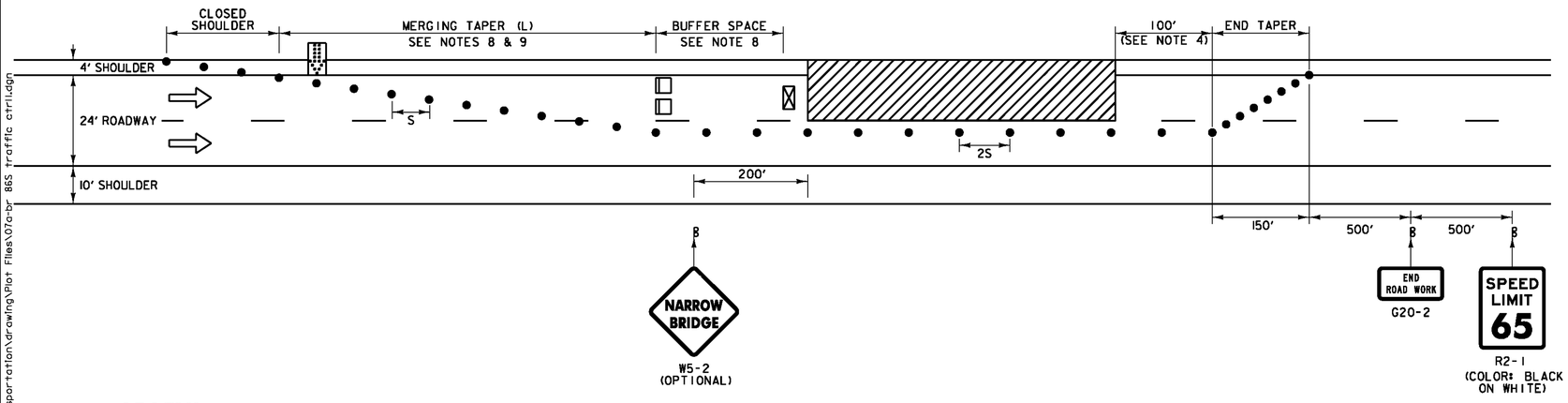


BRIDGE 86S TRAFFIC CONTROL NOTES:

1. THE LEFT LANE CLOSURE IS SHOWN. THE RIGHT LANE APPROACH SIGNING IS SIMILAR.
2. THE EXISTING SPEED LIMIT IS 65 MPH. THE SPEED LIMIT WILL BE REDUCED TO 50 MPH IN THE WORK ZONE FOR THIS PROJECT. ANY EXISTING SPEED LIMIT SIGNS WITHIN THE SPEED REDUCTION AREA SHALL BE COMPLETELY COVERED.
3. THE CONTRACTOR SHALL HAVE SIGNS FOR CLOSURE OF RIGHT AND LEFT LANES ON PROJECT BEFORE WORK COMMENCES.
4. PLACE LAST CHANNELIZING DEVICE 100 FEET BEYOND THE ANTICIPATED WORK ZONE TERMINAL POINT EACH DAY AND THEN START THE END TAPER. THE END TAPER SHALL BE CONSTRUCTED OF 8 ADDITIONAL RETROREFLECTIVE DRUMS SPACED AT 20 FEET MAX ON CENTER.
5. THE ARROW BOARD SHALL BE PLACED ON THE SHOULDER OF THE ROADWAY, OR IF PRACTICAL FURTHER FROM THE TRAVELED LANE AT THE END OF THE SHOULDER TAPER.
6. THE PCMS SHALL READ "LEFT (OR RIGHT) LANE CLOSED AHEAD, PLEASE MERGE EARLY".
7. DURING NON-WORK PERIODS, ALL EQUIPMENT SHALL BE MOVED TO A LOCATION OFF PAVED SHOULDERS AND OUTSIDE THE CLEAR ZONE (30 FT MIN.) OR PROTECTED BY TRAFFIC BARRIER OR GAURDRAIL.
8. AT THE DISCRETION OF THE ENGINEER, MERGING TAPER AND BUFFER SPACE LENGTHS MAY BE EXTENDED BEYOND MINIMUM VALUES, ESPECIALLY IN CLOSE PROXIMITY TO INTERCHANGE RAMPS, CURVES OR OTHER INFLUENCING FACTORS.
9. EXTEND MERGING TAPER LENGTH TO ACCOUNT FOR REQUIRED LANE SHIFT OFFSET.

CONSTRUCTION APPROACH SIGNING ON INTERSTATE 89 LEFT LANE CLOSED

(RIGHT LANE CLOSURE SIMILAR - SEE NOTE 2)



LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- PORTABLE ARROW BOARD
- TYPE III BARRICADE
- WORK AREA
- TRUCK-MOUNTED ATTENUATOR
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN (SEE NOTE 16)

TRAFFIC CONTROL ON INTERSTATE 89 LEFT LANE CLOSED

POSTED SPEED (MPH)	TAPER LENGTHS (FT)		TANGENT W=12 FT (L/2)	BARRIER FLARE RATE (MINIMUM)	MINIMUM BUFFER SPACE LENGTH (FT)	MAXIMUM CHANNELIZING DEVICE SPACING (FT)	
	SHOULDER W=10 FT (L/3)	MERGING * 12 FT LANE (L)				TAPER (S)	TANGENT (2S)
≤40	90	320	160	1:9	305	40	80
45	150	540	270	1:9	360	45	90
50	170	600	300	1:11	425	50	100
55	185	660	330	1:13	495	55	110
60	200	720	360	1:13	570	60	120
65	215	780	390	1:13	645	65	130

*SEE NOTE 21

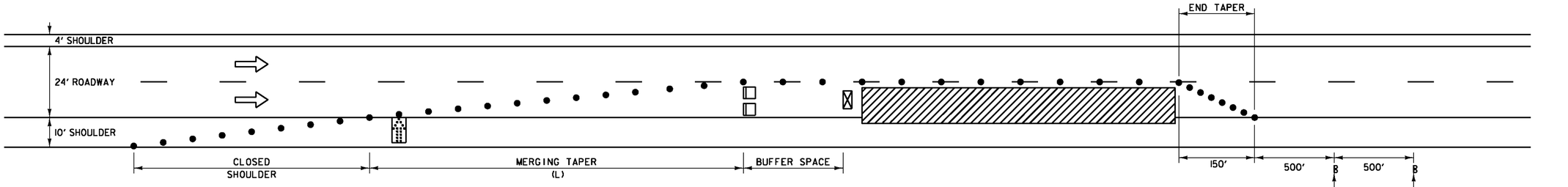
TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATION:
L = WS FOR POSTED SPEEDS OF 45 MPH OR GREATER
L = WS²/60 FOR POSTED SPEEDS OF 40 MPH OR LESS

L = MINIMUM LENGTH OF TAPER
W = WIDTH OF OFFSET IN FEET. (TYPICAL)
S = POSTED SPEED IN MPH

Stantec

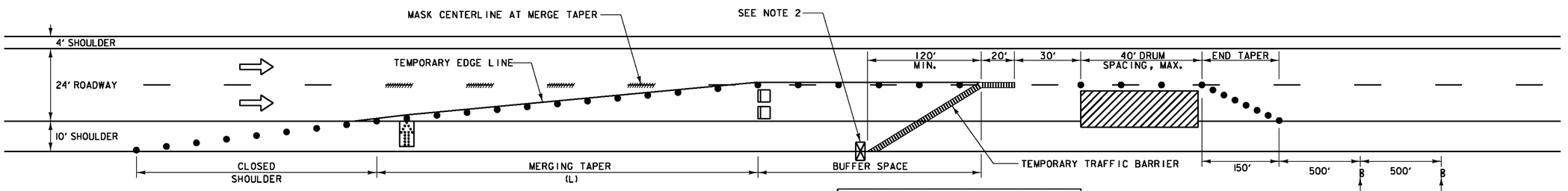
PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\07a-br 86S traffic ctrl.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
BR. 86S TRAFFIC CONTROL PLAN TC-3	SHEET 10 OF 70

5/4/2011 11:50:08 AM V:\1953\active\19531055\2\transportation\drawing\Plot Files\07a-br 86S traffic ctrl.dgn



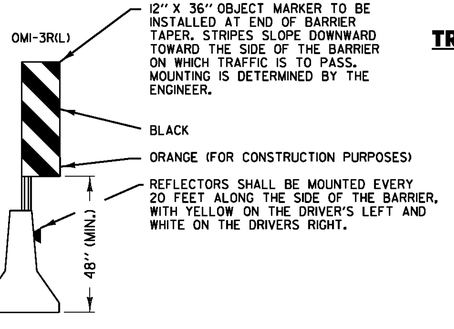
TRAFFIC CONTROL ON INTERSTATE 89 RIGHT LANE CLOSED

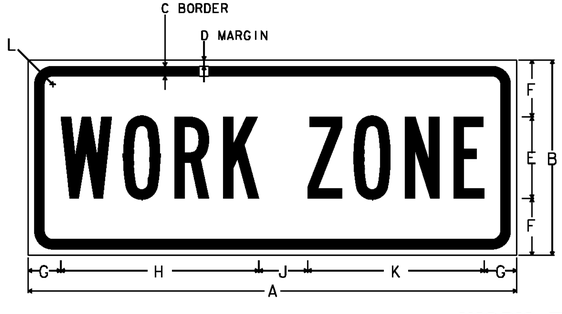
NOTE: TRAFFIC CONTROL NOTES ON SHEET TC-3 APPLY TO THIS DETAIL.



NOTE: ALL EQUIPMENT SHALL BE PARKED BEHIND THE TEMPORARY TRAFFIC BARRIER DURING NON-WORK PERIODS.

TRAFFIC CONTROL ON INTERSTATE 89 RIGHT LANE CLOSED WITH TEMPORARY BARRIER PROTECTION (LEFT LANE CLOSED SIMILAR)





DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L
MIN.	24	8	0.375	0.375	4B	2	2	9.5	2	8.5	1.5
SPEC.	30	12	0.375	0.625	5B	3.5	2	12.2	3	8.5	1.5
EXPWY.	36	12	0.50	0.75	6B	3	2.5	14.8	3	8.5	1.875
FWY.	48	18	0.625	0.875	8B	4	3.5	19.1	4	8.5	2.25

NOTE: THE SIGN IS TO HAVE A BLACK LEGEND ON AN ORANGE RETROREFLECTIVE BACKGROUND THAT IS ASTM TYPE VII MINIMUM.

WORK ZONE SIGN DETAIL

NOT TO SCALE

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- PORTABLE ARROW BOARD
- TYPE III BARRICADE
- WORK AREA
- TRUCK/TRAILOR MOUNTED ATTENUATOR
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN (SEE NOTE 15 ON TRAFFIC CONTROL SHEET 1)

POSTED SPEED (MPH)	TAPER LENGTHS (FT)		TANGENT W=12 FT (L/2)	BARRIER FLARE RATE (MINIMUM)	MINIMUM BUFFER SPACE LENGTH (FT)	MAXIMUM CHANNELIZING DEVICE SPACING (FT)	
	SHOULDER W=10 FT (L/3)	MERGING 12 FT LANE (L)				TAPER (S)	TANGENT (2S)
≤40	90	320	160	1:9	305	40	80
45	150	540	270	1:9	360	45	90
50	170	600	300	1:11	425	50	100
55	185	660	330	1:13	495	55	110
60	200	720	360	1:13	570	60	120
65	215	780	390	1:13	645	65	130

TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATION:
L = WS FOR POSTED SPEEDS OF 45 MPH OR GREATER
L = WS²/60 FOR POSTED SPEEDS OF 40 MPH OR LESS

L = MINIMUM LENGTH OF TAPER
W = WIDTH OF OFFSET IN FEET. (TYPICAL)
S = POSTED SPEED IN MPH

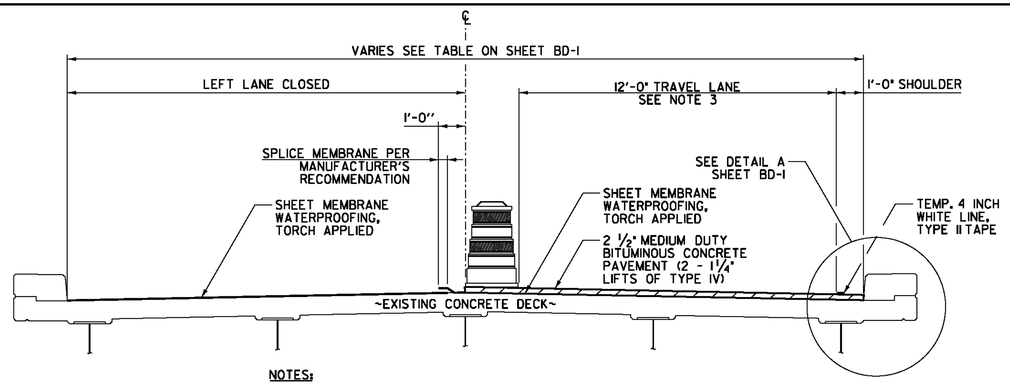
BRIDGE 86S TRAFFIC CONTROL NOTES:

1. SEE SHEET TC-3 FOR ADDITIONAL NOTES AND APPROACH SIGNING NOT SHOWN.
2. LOCATE THE END OF THE TEMPORARY TRAFFIC BARRIER SO THAT THE EXISTING STEEL BEAM GUARDRAIL CAN BE BOLTED TO THE END OF THE BARRIER. IF IT IS NOT POSSIBLE TO FASTEN THE BARRIER TO THE EXISTING ROADWAY GUARDRAIL, A TRUCK/TRAILER ATTENUATOR SHALL BE LOCATED AT THE END OF THE BARRIER. COST OF ATTACHING TEMPORARY TRAFFIC BARRIER TO THE STEEL BEAM GUARDRAIL AND COSTS FOR DISMANTLING BARRIER CONNECTION AND RESTORING EXISTING BARRIER TO ORIGINAL CONFIGURATION WILL BE INCIDENTAL TO ITEM 621.90 "TEMPORARY TRAFFIC BARRIER". ANY DAMAGED EXISTING STEEL BEAM GUARDRAIL CAUSED BY CONNECTING IT TO THE BARRIER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

Stantec

PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\07b-br 86S traffic ctrl2.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
BR. 86S TRAFFIC CONTROL PLAN TC-4	SHEET 11 OF 70

5/4/2011 11:50:09 AM V:\1953\active\19531052\transportation\drawing\Plot Files\07b-br 86S traffic ctrl2.dgn

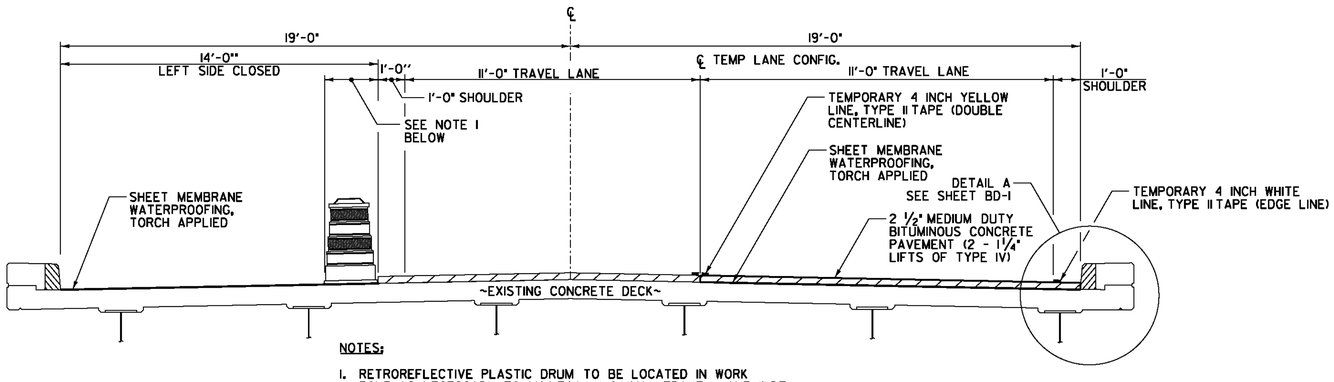


NOTES:

1. LEFT LANE CLOSURE AND LEFT SIDE MEMBRANE SPLICE SHOWN. RIGHT LANE CLOSURE AND RIGHT SIDE MEMBRANE SPLICE SIMILAR. CONTRACTOR TO DETERMINE WHICH LANE THE MEMBRANE SPLICE SHALL OCCUR IN.
2. ON SUPERELEVATED BRIDGES, CONTRACTOR SHALL APPLY MEMBRANE TO THE LOW SIDE OF THE BRIDGE FIRST.
3. TRAVEL LANE PLUS SHOULDER WIDTH ON BRIDGE 80 MAY BE REDUCED TO 11' TOTAL WIDTH TO ACCOMMODATE CONSTRUCTION.

MEMBRANE SPLICE DETAIL – BRIDGES NO. 80, 82, 89, 91, 99 & 101

NOT TO SCALE

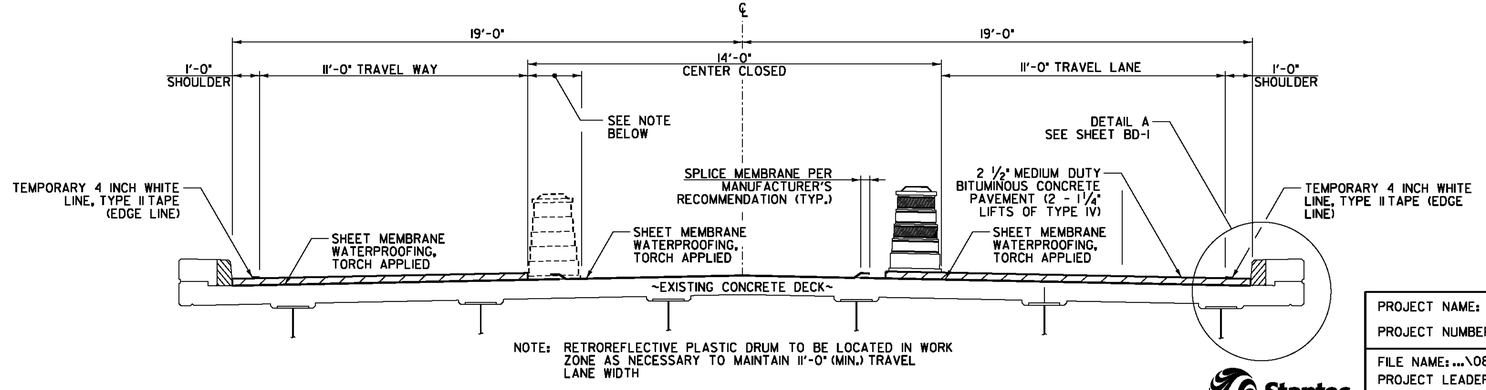


NOTES:

1. RETROREFLECTIVE PLASTIC DRUM TO BE LOCATED IN WORK ZONE AS NECESSARY TO MAINTAIN 11'-0" (MIN.) TRAVEL LANE WIDTH.
2. LEFT LANE CLOSURE SHOWN RIGHT LANE CLOSURE SIMILAR.

MEMBRANE SPLICE DETAIL – BRIDGE NO. 85 (LEFT SIDE CLOSED)

NOT TO SCALE



NOTE: RETROREFLECTIVE PLASTIC DRUM TO BE LOCATED IN WORK ZONE AS NECESSARY TO MAINTAIN 11'-0" (MIN.) TRAVEL LANE WIDTH

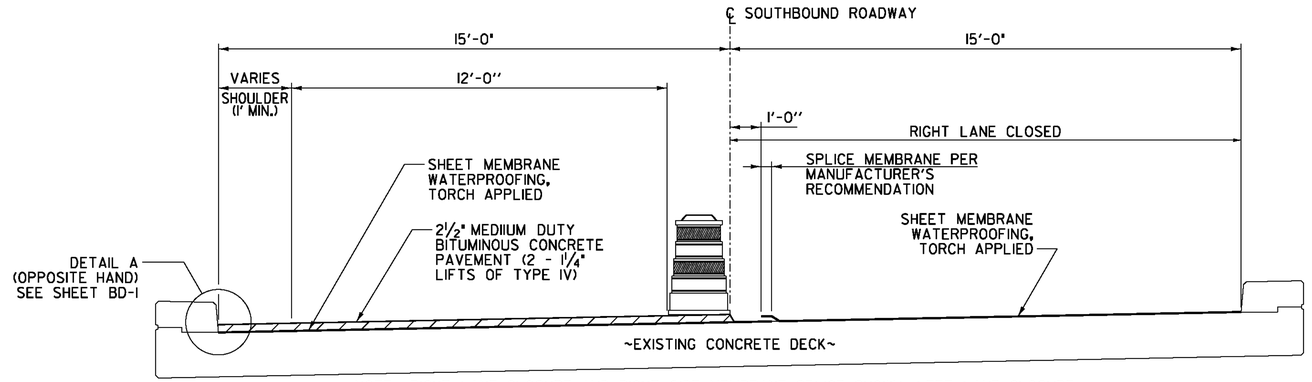
MEMBRANE SPLICE DETAIL – BRIDGE NO. 85 (CENTER CLOSED)

NOT TO SCALE

Stantec

PROJECT NAME: MILTON-HIGHGATE	
PROJECT NUMBER: IM MEMB(26)	
FILE NAME: ...\08a-mem splice dets.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
MEMBRANE SPLICE DETAILS MD-1	SHEET 12 OF 70

5/4/2011 11:50:10 AM V:\1953\active\19530552\transportation\drawing\Plot Files\08a-mem splice dets.dgn



NOTE: RIGHT LANE CLOSURE AND RIGHT SIDE MEMBRANE SPLICE SHOWN. LEFT LANE CLOSURE AND LEFT SIDE MEMBRANE SPLICE SIMILAR. PLACEMENT OF THE MEMBRANE SHALL START AT THE LOW SIDE OF THE BRIDGE. THE SPLICE SHALL BE AS SHOWN ABOVE, WITH THE HIGH SIDE OVERLAPPING THE LOW SIDE.

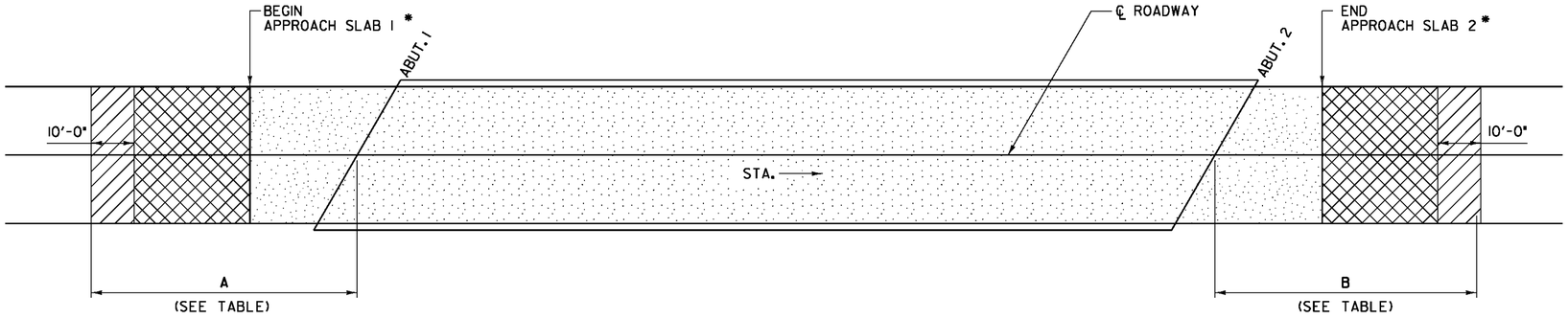
MEMBRANE SPLICE DETAIL – BRIDGE 86S

N.T.S.

5/4/2011 11:50:11 AM V:\1953\active\19531055 2\transportation\drawing\Plot Files\08b-mem splice dets BR 86S.dgn

Stantec

PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\08b-mem splice dets BR 86S.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
BR. 86S MEMBRANE SPLICE DETAILS MD-2	SHEET 13 OF 70



* ON SOME BRIDGES, THE APPROACH SLAB MAY SLOPE DOWN FROM THE ABUTMENTS. IF THIS OCCURS, REMOVE ONLY THE TOP 2½" OF PAVEMENT.

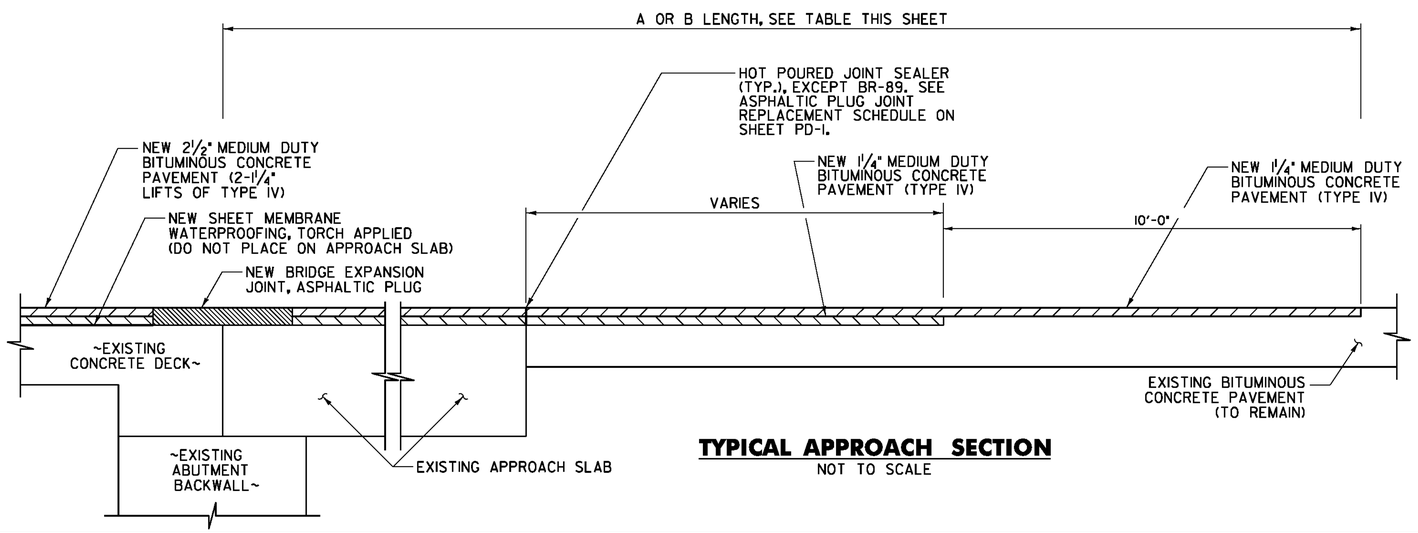
TO THE TOP OF THE CONCRETE BRIDGE DECK AND TO THE TOP OF THE APPROACH SLAB OR 2½", WHICHEVER IS LESS, AND REMOVE THE BARRIER MEMBRANE WHERE APPLICABLE.
REMOVAL OF THE BIT. CONC. PAV'T. WILL BE PAID FOR UNDER ITEM 529.10 REMOVAL OF BRIDGE PAVEMENT.
REMOVAL OF THE BARRIER MEMBRANE WILL BE PAID FOR UNDER ITEM 580.16 SURFACE PREPARATION FOR MEMBRANE.

BITUMINOUS CONCRETE REMOVAL PLAN

NOT TO SCALE

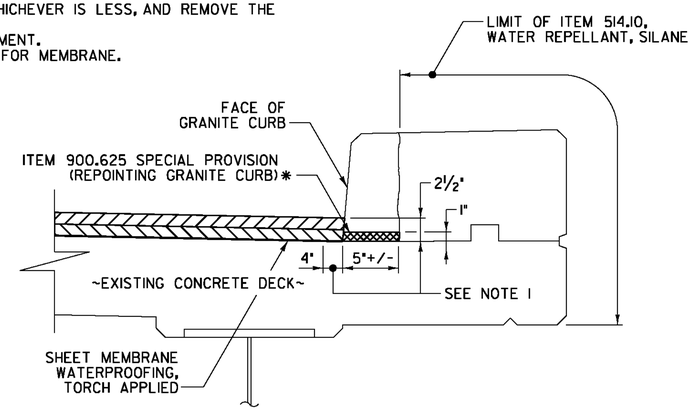
BRIDGE LENGTH AND WIDTH (CURB TO CURB)

BRIDGE NUMBER	WIDTH (CURB TO CURB) (FEET)	LENGTH (FEET)	A (FEET)	B (FEET)
80	24.0	226	100	100
82	30.0	246	200	200
85	38.0	306	80	80
86S	30.0	852	100	100
89	30.0	237	80	80
91	30.0	226	80	80
99	30.0	285	80	80
101	30.0	299	80	80



TYPICAL APPROACH SECTION

NOT TO SCALE



DETAIL A

NOT TO SCALE

DETAIL A NOTES:

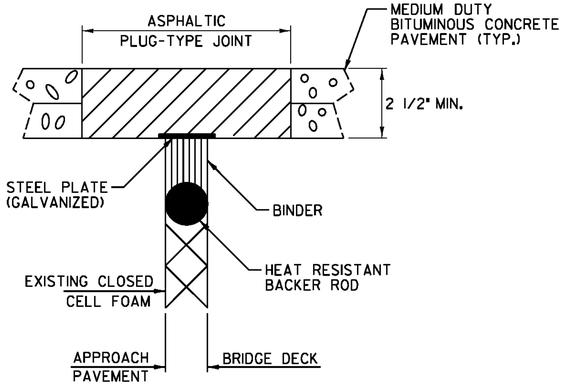
1. INDICATES AREA ALONG DECK AND UP FACE OF CURB FOR PLACEMENT OF TWO COATS OF POLYURETHANE MEMBRANE.
2. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 519.20, SHEET MEMBRANE WATERPROOFING, TORCH APPLIED.
3. SHEET MEMBRANE WATERPROOFING SHALL EXTEND TO FACE 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, INCIDENTAL TO ITEM 519.20, SHEET MEMBRANE WATERPROOFING, TORCH APPLIED.

*EXISTING MORTAR BED AND VERTICAL CURB JOINTS TO BE REPOINTED AS DIRECTED BY THE RESIDENT ENGINEER. FOR QUANTITY ESTIMATE IT WAS ASSUMED THAT 20% OF THE BRIDGE CURB REQUIRES REPOINTING. A 1" HIGH BY 5" DEEP MORTAR BED AND VERTICAL JOINTS EQUATES TO 3.0 GAL/10 LF OF CURB.

Stantec

PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\09-blt. conc. dets.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
BITUMINOUS CONCRETE DETAILS BD-1	SHEET 14 OF 70

5/4/2011 11:50:11 AM V:\1953\active\195310552\transportation\drawing\Plot Files\09-blt. conc. dets.dgn



ASPHALTIC PLUG-TYPE JOINT DETAIL

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 1 INCH +/- 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±. ACCELERATED COOLING OF JOINT MATERIAL SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

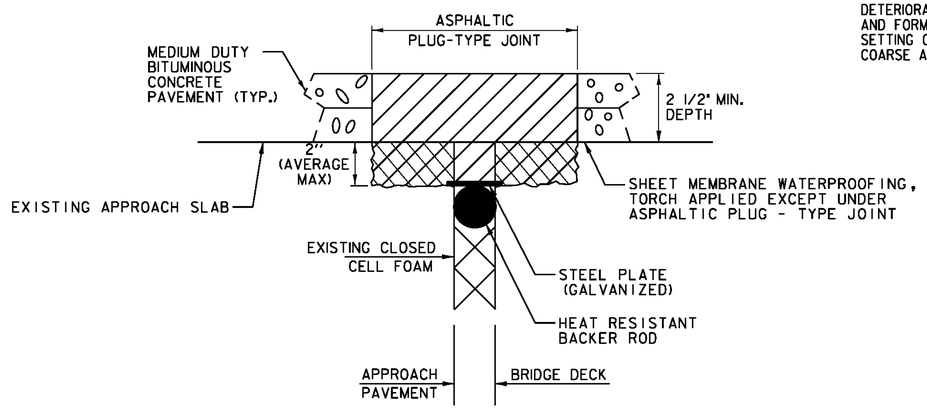
WEATHER LIMITATIONS

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.

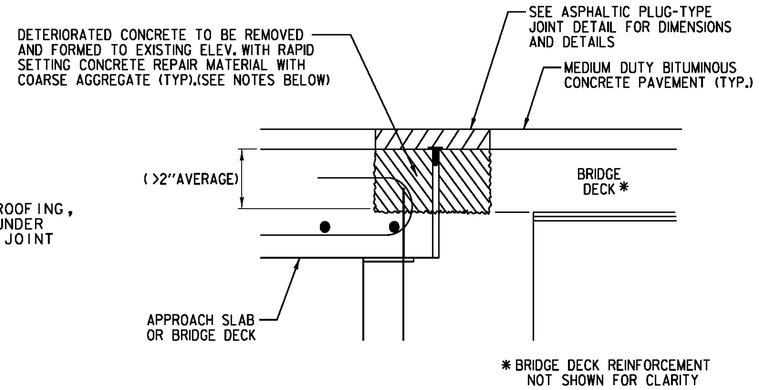
C. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.



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

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 "BRIDGE EXPANSION JOINT, ASPHALTIC PLUG". 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 "BRIDGE EXPANSION JOINT, ASPHALTIC PLUG".
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 OMISSION IS APPROVED BY THE RESIDENT ENGINEER.



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

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 OMISSION IS APPROVED BY THE RESIDENT ENGINEER.

ASPHALTIC PLUG JOINT
REPLACEMENT SCHEDULE

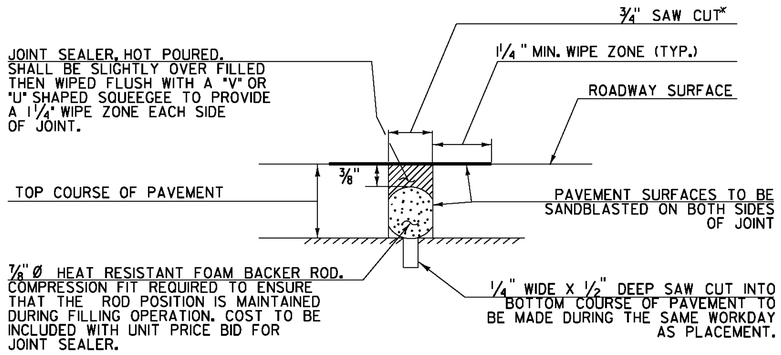
BRIDGE NO.	APP. SLAB 1	ABUT. 1	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	ABUT. 2	APP. SLAB 2	TOTAL
80	-	-	-	-	-	-	-	-	-	-	26 LF	-	26 LF
82	-	31 LF	31 LF	31 LF	31 LF	-	-	-	-	-	31 LF	-	155 LF
85	-	-	-	-	-	-	-	-	-	-	48 LF	-	48 LF
86S	-	30 LF	30 LF	30 LF	30 LF	30 LF	30 LF	30 LF	30 LF	30 LF	-	-	270 LF
89	30 LF	32 LF	-	-	-	-	-	-	-	-	-	30 LF	92 LF
91	-	-	-	-	-	-	-	-	-	-	32 LF	-	32 LF
99	-	32 LF	32 LF	32 LF	32 LF	32 LF	-	-	-	-	32 LF	-	192 LF
101	-	30 LF	30 LF	30 LF	30 LF	30 LF	-	-	-	-	30 LF	-	180 LF

Stantec

PROJECT NAME: MILTON-HIGHGATE
PROJECT NUMBER: IM MEMB(26)

FILE NAME:...\Plot Files\10-Joint dets.dgn PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING CHECKED BY: T. KNIGHT
PAVEMENT JOINT DETAILS PD-1 SHEET 15 OF 70

5/4/2011 11:50:12 AM V:\1953\active\195310552\transportation\drawing\Plot Files\10-Joint dets.dgn

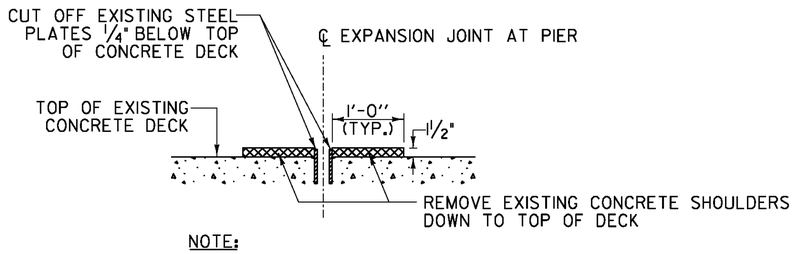


NOTE: PLACE JOINT SEALER, HOT POURED AT THE BEGINNING OF APPROACH SLABS.

SAWED PAVEMENT JOINT DETAIL

N.T.S.

* 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.



NOTE:

1. DETAIL TYPICAL FOR JOINTS OVER PIERS AT BRIDGES 82, 86S AND 99.
2. STEEL PLATE AND CONCRETE REMOVAL WORK WILL BE PAID FOR UNDER ITEM 900.640 SPECIAL PROVISION (PARTIAL REMOVAL AND MODIFICATION OF PIER JOINT).
3. INSTALL NEW EXPANSION JOINT, ASPHALTIC PLUG TYPE, AT MODIFIED JOINT LOCATIONS.

PIER JOINT MODIFICATION DETAIL – BR 82, 86S & 99

N.T.S.

5/4/2011 11:50:12 AM V:\1953\active\195310552\transportation\drawing\Plot Files\ll-Joint dets 2.dgn

PROJECT NAME:	MILTON-HIGHGATE
PROJECT NUMBER:	IM MEMB(26)
FILE NAME: ...\Plot Files\ll-Joint dets 2.dgn	PLOT DATE: 5/4/2011
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: T. KNIGHT
PAVEMENT JOINT DETAILS PD-2	SHEET 16 OF 70

Stantec

INDEX OF SHEETS

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	1.	Title Sheet
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	5.	Interstate Typical Cross Sections, Variable Median
	6.	Ramp Typical Cross Sections
	7-8.	Town Road Typical Cross Sections
	9-11.	Quantity Sheets
	12-17.	Plan Detail and Drainage Sheets
	18-35.	Earthwork Sheets
	36-42.	Right of Way Detail Sheets
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	101.	20-Scale Grading Sheet
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	113-129.	Bridge (200 Series) Sheets
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	173.	" " B-10
	174.	" " B-11
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	177.	" " B-17
	178.	" " B-20
	179.	Blank

SHEET	
SHEETS ADDED IN FINALS	
"	DRAINAGE
"	UNDERDRAIN
"	LEDGE CROSS SECTIONS
"	STRUCTURE EXCAVATION
"	CHANNEL "
"	BORROW PIT (HAUL ROAD)
"	" " (SHARROW #2)
"	TOP SOIL (STOCKPILE)

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"	868-78-65
"	868-79-65
"	868-88-65
"	25-61-64 (2 SHEETS)
"	38-62-65
Cross Sections, Medians	
Cross Sections, Diagrams	

PROJECT NAME & NUMBER TYPE - STAGE 1
COLCHESTER-MILTON I 89-3(34) GRADING & DRAINAGE
RECORD PLANS
MATERIALS

SUBBASE OF SAND - POOLE, LAMELL & CADREACT PITS - MILTON, VT.
SUB-BASE OF GRAVEL (MOU) - ROLLINS PIT - WESTFORD, VT.
SUB-BASE OF CRUSHED ROCK - L. DEMERS - WILOOSKI, VT.
BITUMINOUS CONCRETE PAVEMENT - L. M. PIKE & SON, INC. - WILLISTON, VT.
TAR EMULSION - TECH CHEMICAL CORP. - CHESHIRE, CT.
CONCRETE CLASS AA & AT - S.T. GRISWOLD & CO. INC. - WILLISTON, VT.
REINFORCING STEEL, STRUCTURAL STEEL & STEEL PILING - BETHLEHEM STEEL CORP. - POTTSTOWN, PA.
BRIDGE RAILING - WARD WELLER CO., INC. - NATICK, MASS.
BRIDGE PAINT - AMSTERDAM COLOR WORKS - N.Y.C. N.Y.
R.C.P. R.C.C.P., GUARD RAIL ITEMS, PROPERTY LINE FENCE & EROSION CONTROL ITEMS - S.T. GRISWOLD & CO. INC. WILLISTON, VT.
METAL CULVERT PIPE - NEW ENG. MET. CULV. CO. - WHITE RIVER JCT., VT.
GRANITE SLOPE EDGING - ROCK OF AGES CORP. - BARRE, VT.
CEMENT FOR SOIL CEMENT - UNIVERSAL ATLAS CEMENT CO. - HUDSON, N.Y. & GLENS FALLS PORTLAND CEMENT CO. - GLENS FALLS, N.Y.
REFINED TAR - JAMES HUGGINS & SON, INC. - MALDEN, MASS.
CUTBACK ASPHALT - HUMBLE OIL & REFINING CO. - EVERETT, MASS.

CONTRACT
DATED-NOVEMBER 4, 1965.
STARTED-NOVEMBER 8, 1965.
COMPLETED-JULY 21, 1967.
ACCEPTED-JULY 21, 1967.

CONTRACTOR-THE PALAZZI CORP. & FRANK PALAZZI & SON INC.
HOOKSETT, N.H.
RES. ENG.- LEON H. DUNN.
INSPECTORS-J. JENNINGS, E. PEABODY, J. BUSHEY, R. WILLIS & E. ORVIS.
RECORD PLANS - A. G. SPIDLE.

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

INTERSTATE PROJECT
PROJECT I 89-3 (34)

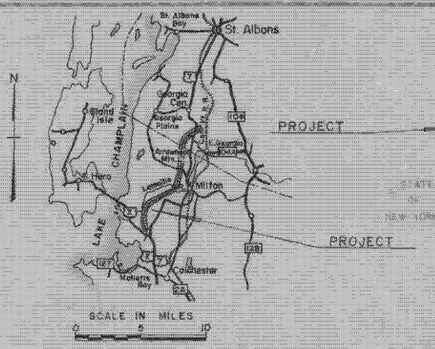
TOWNS OF COLCHESTER-MILTON
COUNTY OF CHITTENDEN
INTERSTATE ROUTE 89
BURLINGTON-ST. ALBANS ROAD

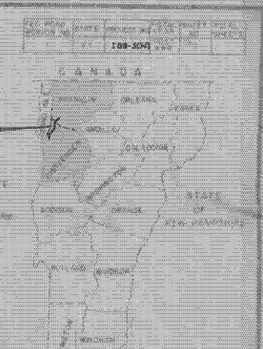
BEGINNING AT A POINT IN THE TOWN OF COLCHESTER, 0.416 MILE SOUTHERLY OF THE COLCHESTER-MILTON TOWN LINE AND EXTENDING NORTHERLY FOR A DISTANCE OF 6.699 MILES

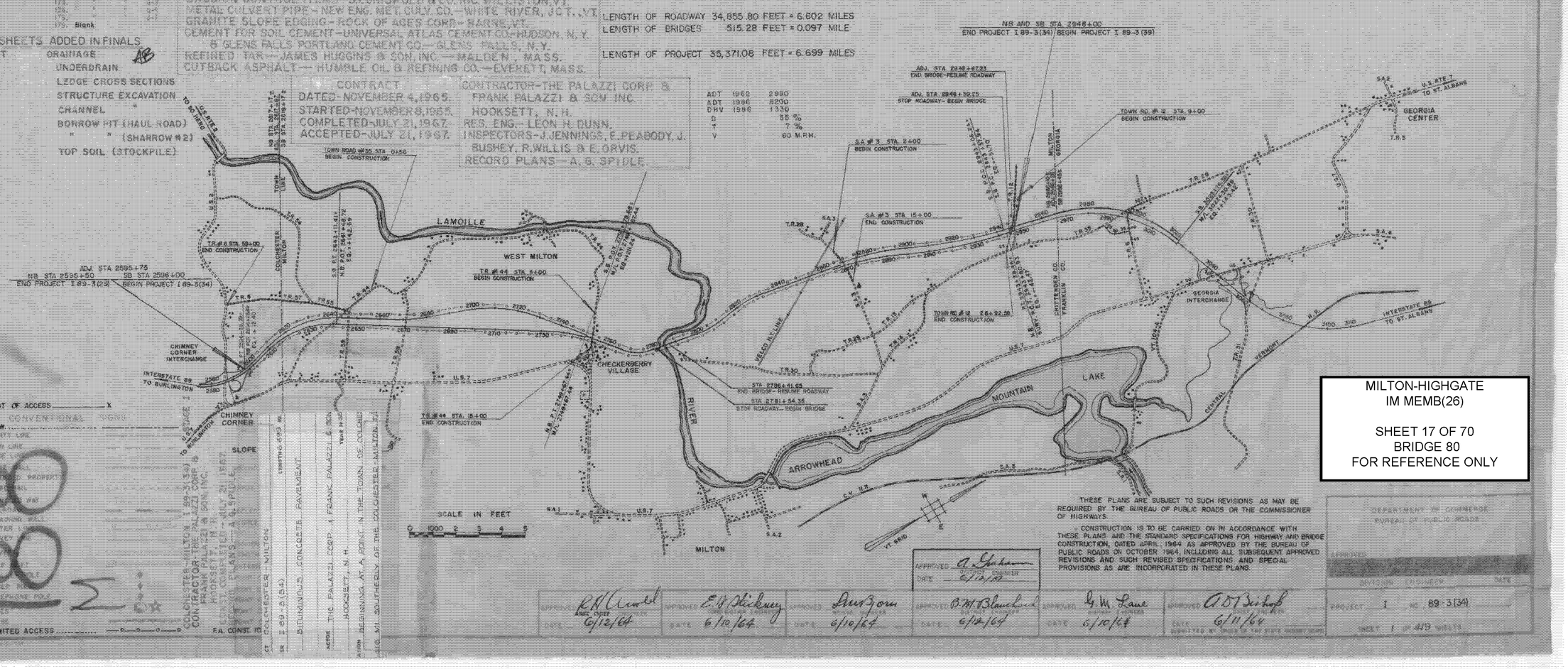
LENGTH OF ROADWAY 34,855.80 FEET = 6.602 MILES
LENGTH OF BRIDGES 515.28 FEET = 0.097 MILE

LENGTH OF PROJECT 35,371.08 FEET = 6.699 MILES

ADT	1962	2950
ADT	1986	8200
DHV	1986	1330
D		55 %
T		7 %
V		60 M.P.H.







POINT OF ACCESS X
CONVENTIONAL SIGNS
R.O.W.
COUNTY LINE
TOWN LINE
FENCE LINE
STONE WALL
U.S. PROPERTY
STATE "
RAILROAD
RETAINING WALL
CENTER LINE
SURVEY "
ROAD "
STREAM
HOUSE
LIMITED ACCESS

COLCHESTER-MILTON I 89-3(34)
CONTRACTOR-THE PALAZZI CORP. & FRANK PALAZZI & SON INC.
HOOKSETT, N.H.
COMPLETED-JULY 21, 1967.
RECORD PLANS - A.G. SPIDLE.
BEGIN BEGINNING AT A POINT IN THE TOWN OF COLCHESTER, 0.416 MI. SOUTHERLY OF THE COLCHESTER-MILTON T.L.
LENGTH 6.699 MI.
YEAR 1967
ACTOR THE PALAZZI CORP. & FRANK PALAZZI & SON
HOOKSETT, N.H.
SK I 89-3(34)
BITUMINOUS CONCRETE PAVEMENT
F.A. CONST. ID

THESE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE REQUIRED BY THE BUREAU OF PUBLIC ROADS OR THE COMMISSIONER OF HIGHWAYS.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED APRIL, 1964 AS APPROVED BY THE BUREAU OF PUBLIC ROADS ON OCTOBER 1964, INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

APPROVED A. Shaham, STATE HIGHWAY ENGINEER
DATE 6/10/64

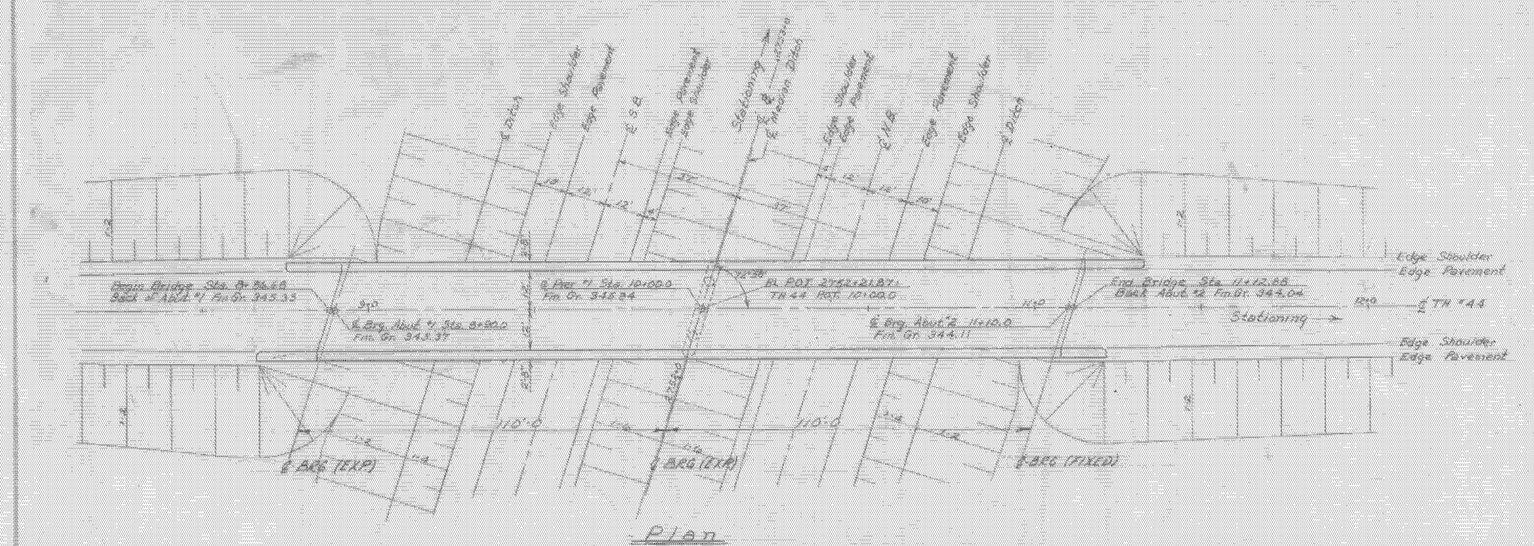
APPROVED R.H. Arnold, ASST. DIST. ENGR.	APPROVED E.J. Hickey, DIST. ENGR.	APPROVED Asst. Dorn, ASST. DIST. ENGR.	APPROVED O.M. Blanchard, DIST. ENGR.	APPROVED G.W. Lane, DIST. ENGR.	APPROVED A.D.T. Bishop, DIST. ENGR.	DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS APPROVED DIVISION ENGINEER
DATE 6/12/64	DATE 6/10/64	DATE 6/10/64	DATE 6/12/64	DATE 6/10/64	DATE 6/11/64	DATE

SUBMITTED BY ORDER OF THE STATE HIGHWAY BOARD

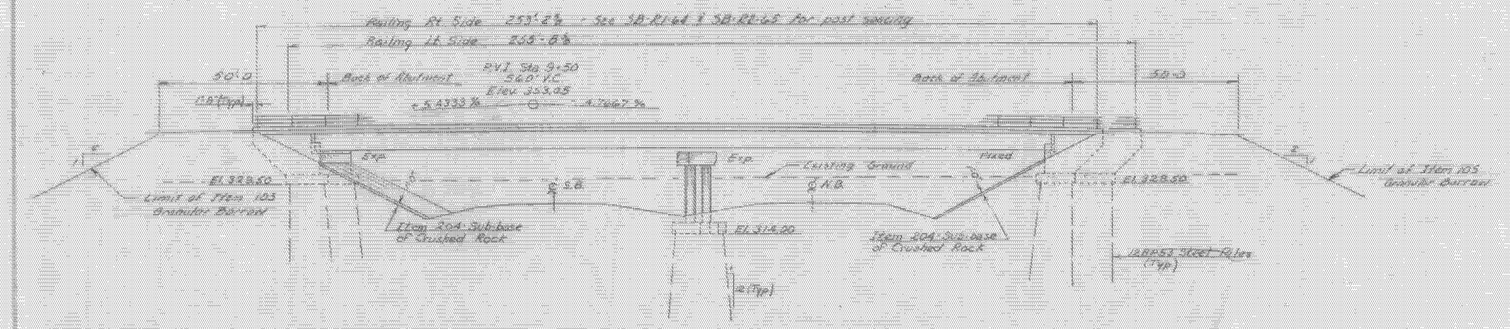
PROJECT I NO. 89-3(34)
SHEET 1 OF 179 SHEETS

MILTON-HIGHGATE
IM MEMB(26)

SHEET 17 OF 70
BRIDGE 80
FOR REFERENCE ONLY



Plan
Scale: 1" = 20'



Elevation
Scale: 1" = 20'

GENERAL NOTES :-

1. Elevation datum vs. sea level based on nearest U.S. Government vertical control.
2. For additional notes see SCB-D1-65.

LIST OF SHEETS :-

BR. 100 - Plan and Elevation
101 - Bridge Quantity Sheet
102 - Preliminary Information Sheet
103 - Borings
104 - Girder Details
105 - Bracing Details and Bearing Devices
106 - Expansion Dam Details
107 - Abutment No. 1
108 - Abutment No. 2
109 - Pier
BR. 110 - Reinforcing Steel Schedule

STANDARD SHEETS

G-3a
SCB-D1-65
SCB-D6-65
SB-R1-64 Sh. 1 & 2 of 2
SB-R2-65
SCB-D4-65

MILTON-HIGHGATE
IM MEMB(26)

SHEET 18 OF 70
BRIDGE 80
FOR REFERENCE ONLY

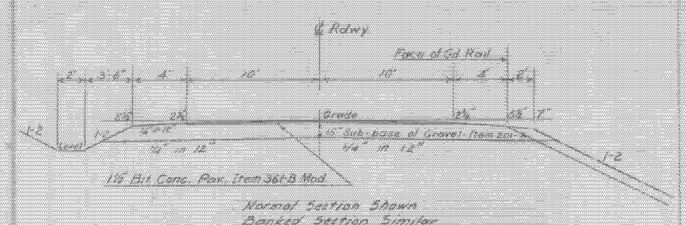
BR 100 OF 110

ITEM NO.	ITEM	UNIT	NET		TOTAL	FINAL
	CMP. EXCAV. OF EARTH	C.Y.				
	CMP. EXCAV. OF ROCK	C.Y.				
	ENCLOSE CHEL EXCAV.	C.Y.				
	STRUCT. PACKS	C.Y.				
	CONC. CLASS AA (HPC)	C.Y.				
	CONC. CLASS B (HPC)	C.Y.				
	REINF. STEEL	LBS.				
	REPAIR OF ASR CONCRETE	C.Y.				
	TREATED TIMBER PILING	L.F.				
	PREP. FOR STEEL PILING	EA.				
	STEEL PILING	C.Y.				
	DRIVING TIMBER PILING	C.Y.				

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

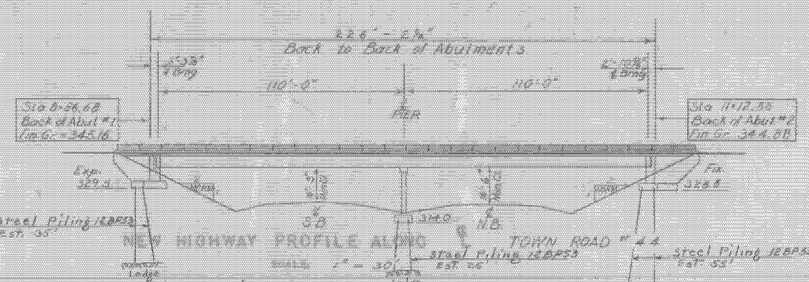
PROJECT NAME COLCHESTER MILTON
TOWN OF MILTON
ROUTE NO. I.M. 89 LOG STA.
TH #44 OVER I-89 & @ STA. 2752+21.87
PLAN AND ELEVATION
SCALE As shown
SURVEYED BY
DRAWN BY WBT CHECKED BY RLO
PROJECT NO. I-88-3(34)
SHEET 102 OF 419

I-88-3
2



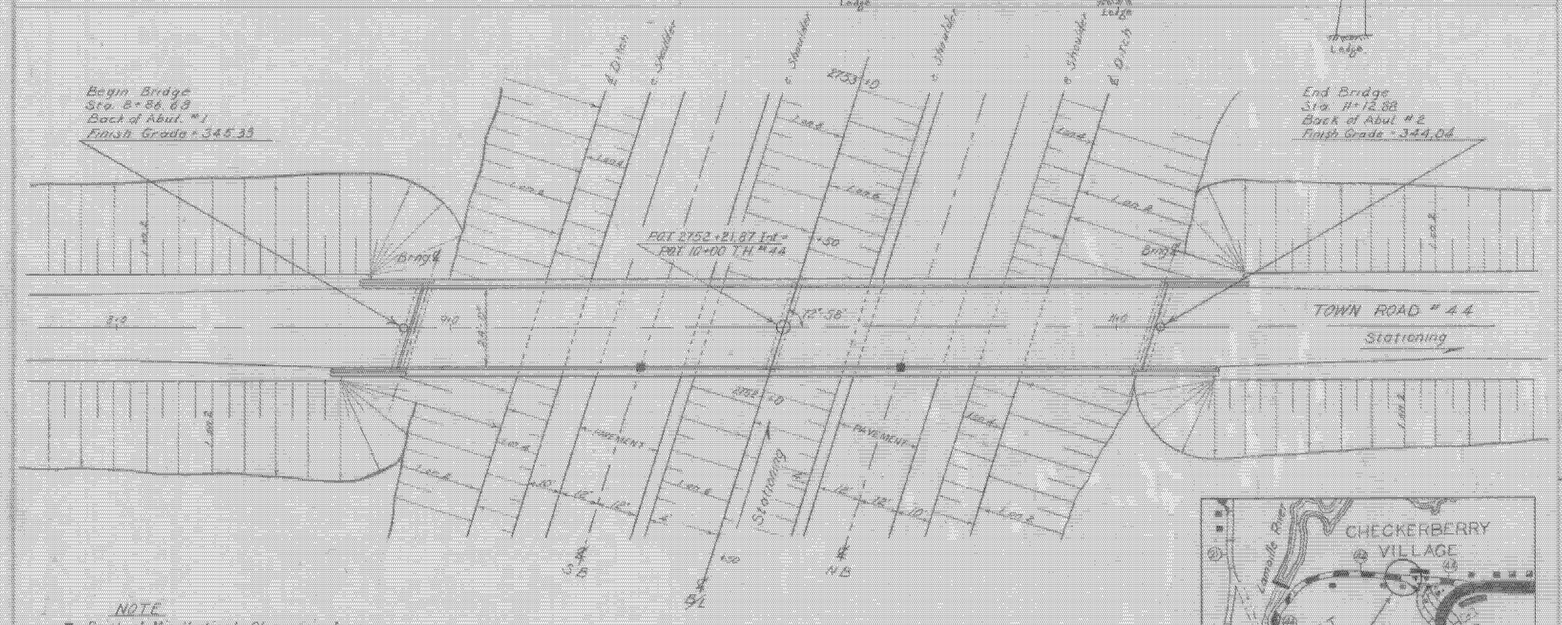
NEW HIGHWAY SECT. STA. 7+00 TO STA. 15+00 (TR 44)

SCALE 1" = 5'



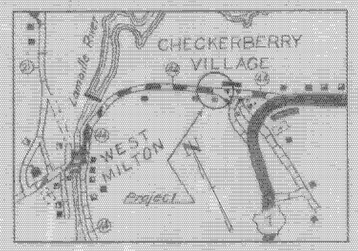
NEW HIGHWAY PROFILE ALONG TOWN ROAD # 44

SCALE 1" = 10'



NOTE

■ Point of Min Vertical Clearance from top of Part to bottom of Beam.



PLAN

SCALE 1" = 20'

HIGHWAY NO. I 89 NAME OF HIGHWAY INTERSTATE

STRUCTURE NO. TOWN ROAD #44 over INTERSTATE 89 COUNTY CHITTENDEN TOWN MILTON

PROJECT NO. I 89-3(34) LOCATION COLCHESTER-MILTON

EXISTING STRUCTURE

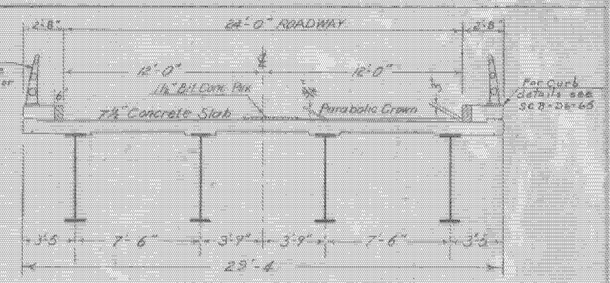
1. RATED LOADING OF EXISTING STRUCTURE ———
2. TYPE OF EXISTING STRUCTURE None
3. UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE ———
4. WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE ——— COST OF REMOVAL ———
5. SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE? ———
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. WIDTH OF EXISTING BRIDGE UPSTREAM ——— WATERWAY TO EXTREME H.W. ———
   WIDTH 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 Two Span Continuous Welded Plate Girder - Non-Composite
2. RECOMMENDED CLEAR SPAN OR SPANS 110 - 110'
   MEASURED PARALLEL TO ℄ NEW HIGHWAY 110'-110'
   MEASURED AT RIGHT ANGLES TO ℄ STREAM ———
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANGLE VER OR HOR ———
4. ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE ———
5. EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE SOURCE OF INFORMATION ———
6. IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? ———
7. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? ——— OR ORDINARY KIND OF RISE? ———
8. LOW WATER ELEVATION AT NEW STRUCTURE ———
9. DRAINAGE AREA IN ACRES ABOVE STRUCTURE ——— CHARACTER OF TERRAINS ———
10. IS STREAM EVER DRY? ———
11. VELOCITY OF STREAM AT HIGH WATER STAGE ——— ESTIMATED DISCHARGE ———
12. AREA FULL OPENING ——— AREA BELOW ORDINARY H.W. ———
13. CHARACTER OF SCOUR SAND ——— ROCK ———
14. ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE ———
15. VERTICAL CLEARANCE ABOVE FLOOD ELEVATION ———
16. ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE None WIDTH EACH SIDE ———
17. RECOMMENDED TYPE OF PAVEMENT AC concrete : 1½" Bituminous
18. TRAFFIC TO BE MAINTAINED UNDER ITEM NO. 108 ONE OR TWO WAY Two PROBABLE COST ———
19. PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE ———
20. SHOULD PROVISIONS BE MADE FOR PARALLEL UTILITIES? No
21. ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 4.5 Tons/Sq. Ft. SHOULD PILES BE USED? YES
   Abut #1 - 35' Pier #1 - 85' Abut #2 - 60'

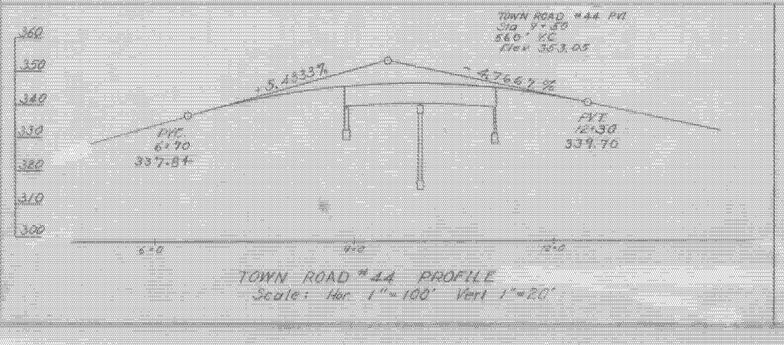
FOUNDATION INFORMATION

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



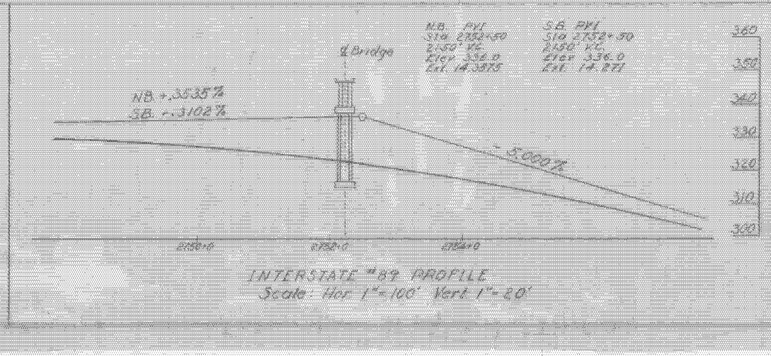
TYPICAL BRIDGE SECTION

Scale: 1" = 4'



TOWN ROAD # 44 PROFILE

Scale: Hor 1"=100' Vert 1"=20'



INTERSTATE # 89 PROFILE

Scale: Hor 1"=100' Vert 1"=20'

BR. 102 OF 110

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

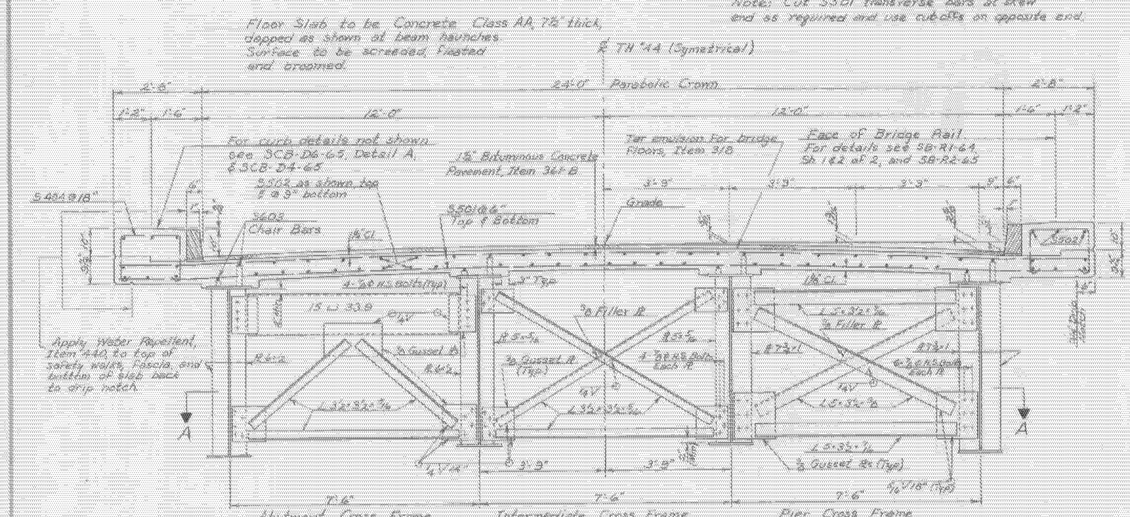
INTERSTATE IN THE TOWNS OF
COLCHESTER-MILTON
ROUTE NO. I 89 LOG STA. I 89 -2752+21.87
TOWN ROAD # 44 over INTERSTATE
PRELIMINARY INFORMATION

Tn. Rd. # 44-16-0.08
I 89 -2752+21.87

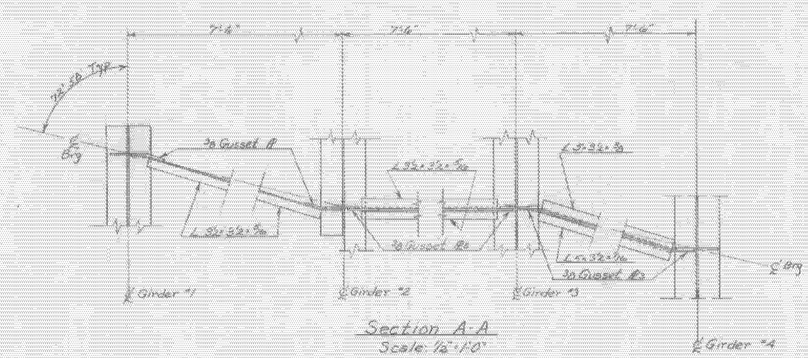
Fred Bjorn 11/2/64
R H Arnold 11/2/64
A D Bishop 2nd 11/2/64

MILTON-HIGHGATE
IM MEMB(26)

SHEET 19 OF 70
BRIDGE 80
FOR REFERENCE ONLY



Typical Bridge Section
Scale: ½"=1'-0"



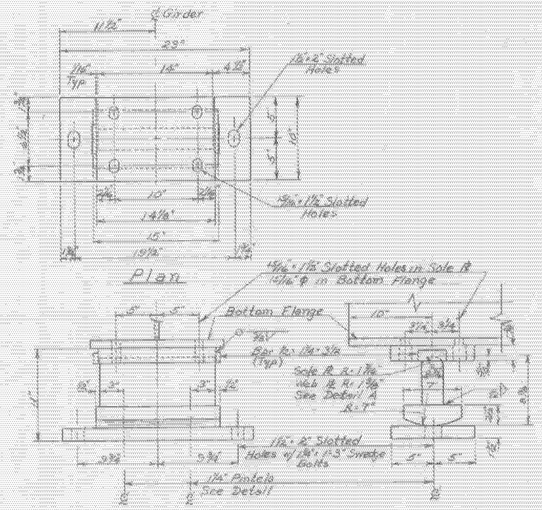
Section A-A
Scale: ½"=1'-0"

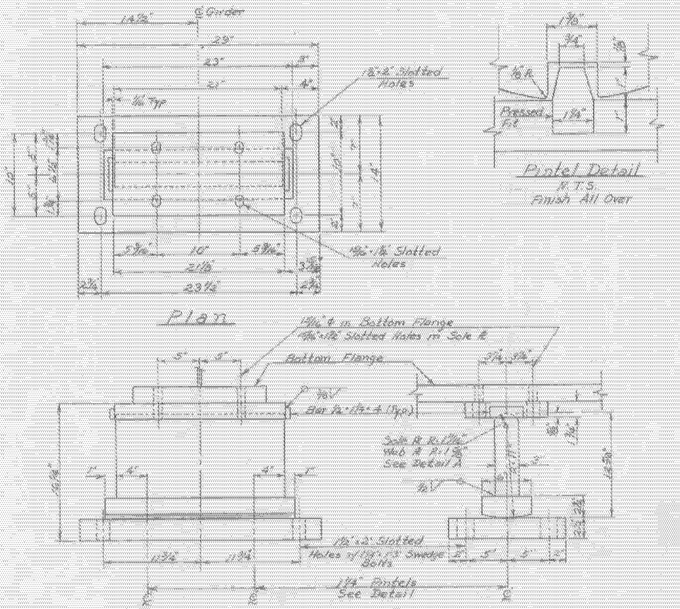
Superstructure Notes

1. For General Notes see Std Sh. SCB-D1-65 and Bk. 100.
2. All structural steel shall be ASTM A36-627 unless otherwise noted on the plans.
3. All field connections shall be made with ⅞ø High Strength bolts in 1⅛ø holes, unless otherwise noted on the plans.

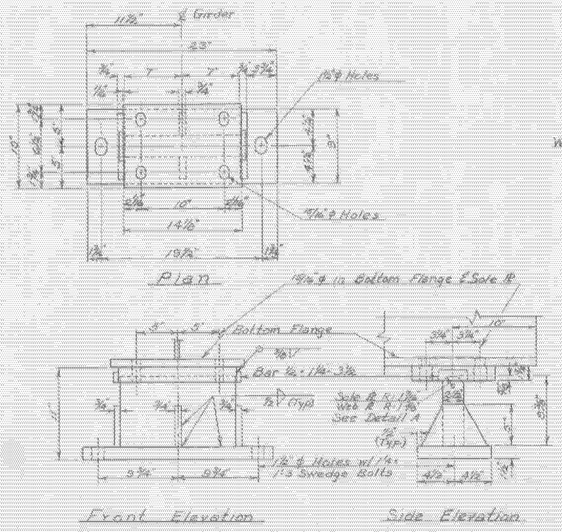
Bearing Device Notes

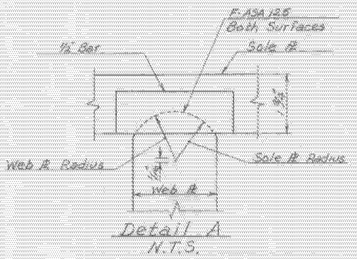
1. Preformed Fabric Pads ⅛" thick, equal in size to the bearing plates, shall be used under each bearing, conforming to Specification 404.02 (23)
2. Align devices so that all rocker arm shafts will be vertical at 45°F
3. Contact surfaces of rockers to be given shop coat of white lead and tallow. Pintel holes are to be filled with graphite at time of placement. Remainder of bearing to be given 3 coats of paint in accordance with Vt. Spec. 404.03.





Bearing Devices
Scale: 1½"=1'-0"





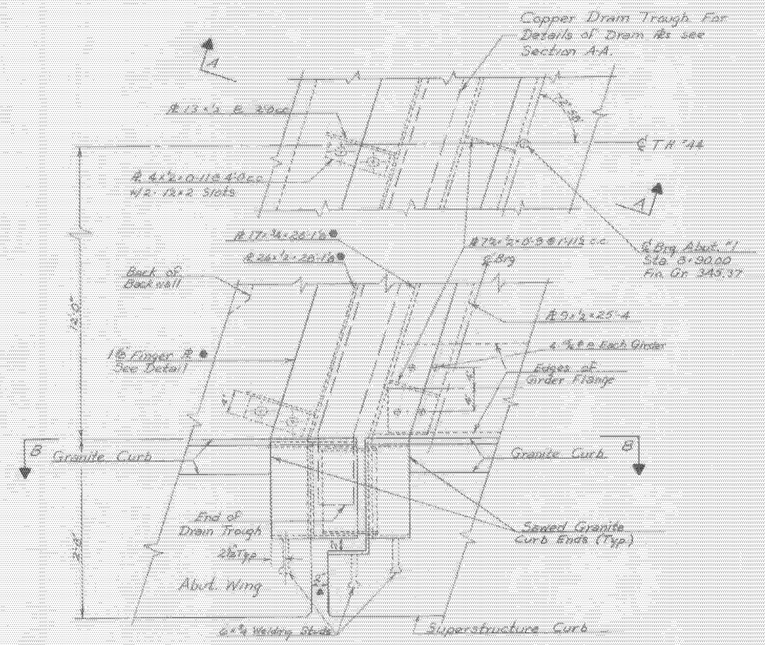
Br. 105 of 110

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

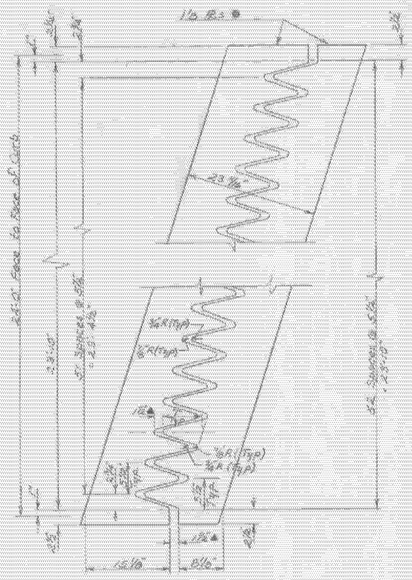
PROJECT NAME Colchester-Milton
TOWN OF Milton
NEW CLASS 2 ☆ 6 BR 80
ROUTE NO. IH ☆44 LOG STA.
IH ☆44 over I 89 ☆ Sta. 2752+21.87
Bracing Details and Bearing Devices
SCALE As noted
SURVEYED
DRAWN BY
PD
SH

MILTON-HIGHGATE
IM MEMB(26)

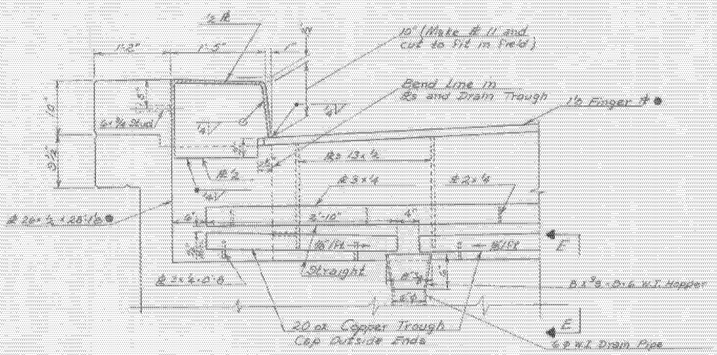
SHEET 20 OF 70
BRIDGE 80
FOR REFERENCE ONLY



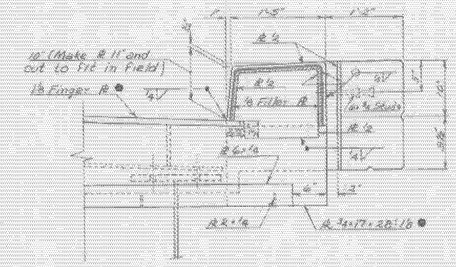
Plan of Expansion Dam
Scale: 1"=1'-0"



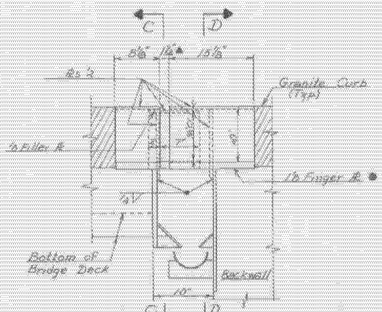
Finger Plate Detail
Scale: 1"=1'-0"



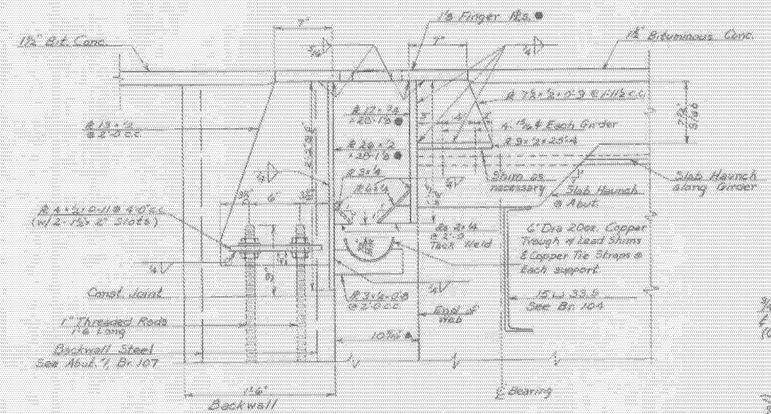
Section D-D
Scale: 1"=1'-0"



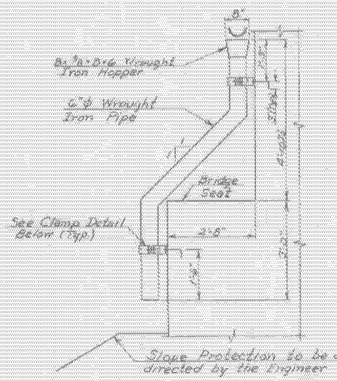
Section C-C
Scale: 1"=1'-0"



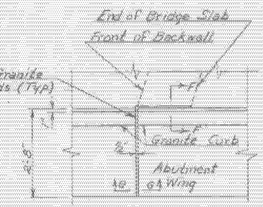
Section B-B
Scale: 1"=1'-0"



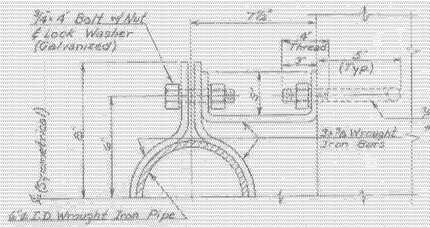
Section A-A
Scale: 1½"=1'-0"



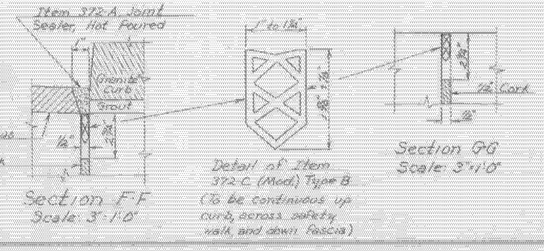
Section E-E
Scale: ½"=1'-0"



Plan of Fixed Abutment @ Curb
Scale: ½"=1'-0"
(For Section through Backwall see Br. 108)



Clamp Detail
Scale: 3"=1'-0"



Section F-F
Scale: 3"=1'-0"

Notes

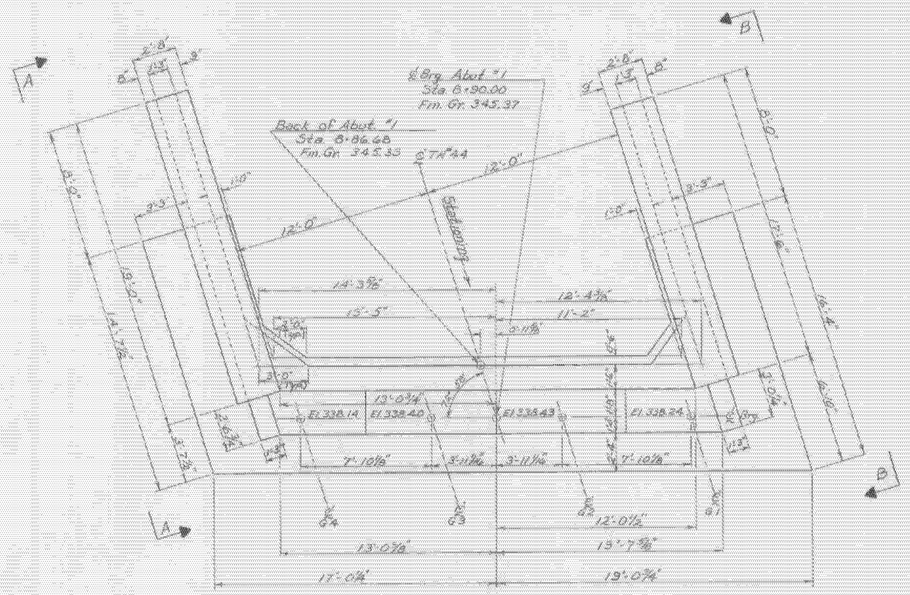
1. Plates marked ● shall conform to the roadway grade and parabolic crown.
2. All clear dimensions indicated ▲ are for 68° F.
3. All steel for the Expansion Dam shall be ASTM A-242 unless otherwise noted, except plates completely embedded in concrete may be A-36 Steel.

MILTON-HIGHGATE
IM MEMB(26)

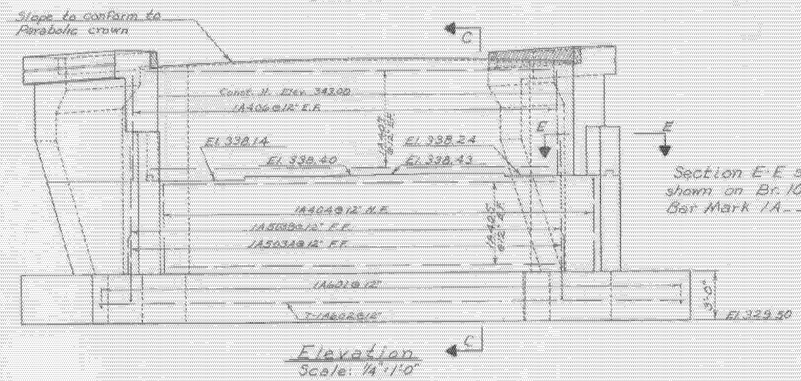
SHEET 21 OF 70
BRIDGE 80
FOR REFERENCE ONLY

Br
STA
DEPARTMENT OF HIGHWAYS

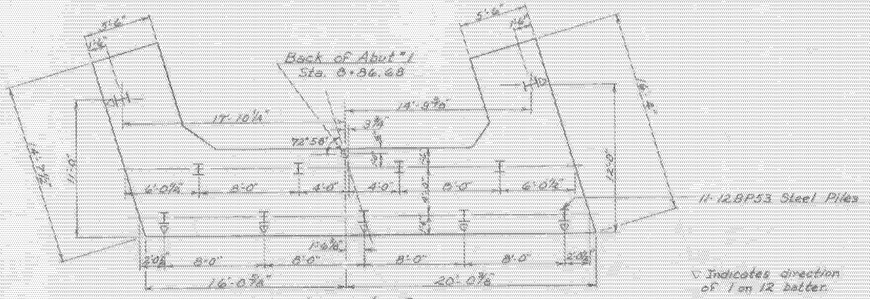
PROJECT NAME Colchester-Milton
TOWN OF Milton
Road Class 3 & 6 BR 80
ROUTE NO. IH "44 LOG STA.
IH "44 over I 89 @ # Sta. 2752+21.87
Expansion Dam & Fixed End Grk Details
SCALE As noted
SURVEYED BY
DRAWN BY WBT CHECKED BY RLO
PROJECT NO. I 89-3(34)
SHEET 108 OF 419



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



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



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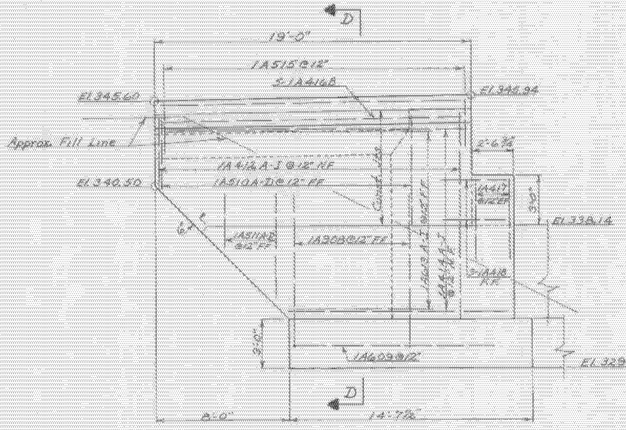

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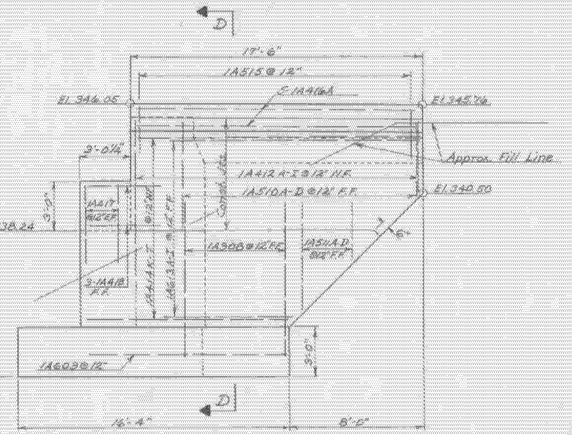
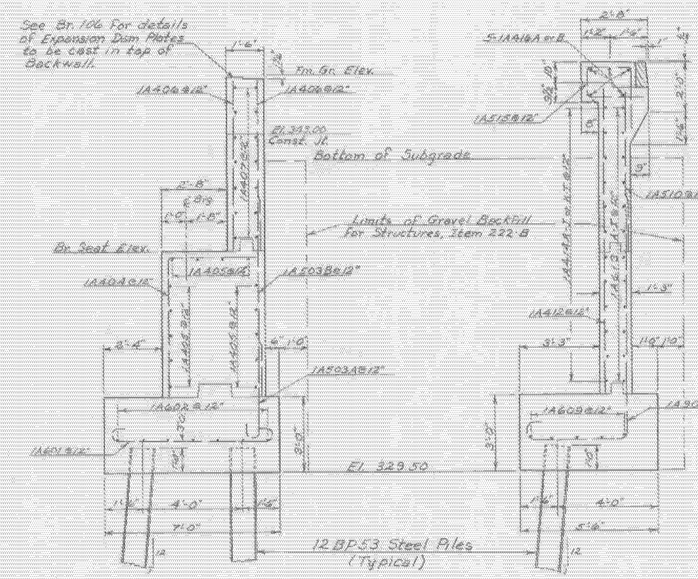


Scale: 1/4"=1'-0"



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

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

Notes

1. For General Notes see Br. 100.
2. Maximum design pile load is 45 Tons.
3. See Br. 108 for Abutment Pile Table.
4. All piles shall be driven to point bearing on ledge unless the designed pile capacity is attained above this elevation. Approximate ledge elevation is given in Pile Table.
5. All Abutment concrete is to be Class B.
6. See SCB-Dc-6.5, Detail B, for details of construction joints.
7. No concrete is to be placed above Bridge Seat Elevations until Girders have been profiled and Final grade established by the Engineer.
8. All reinforcing to have minimum cover of 2" except 3" in footings.
9. For details of Cable Guard Rail Anchorage see Std. Sh. G-3a.
10. Front face of backwall above Bridge Seats and inside face of abutment and wings shall be coated with Item 440, Paint Waterproofing.
11. Item 440, Water Repellent, shall be used on all exposed areas of abutments and wings not otherwise treated.
12. For details of curved granite curb end block see SCB-D4-6.5.

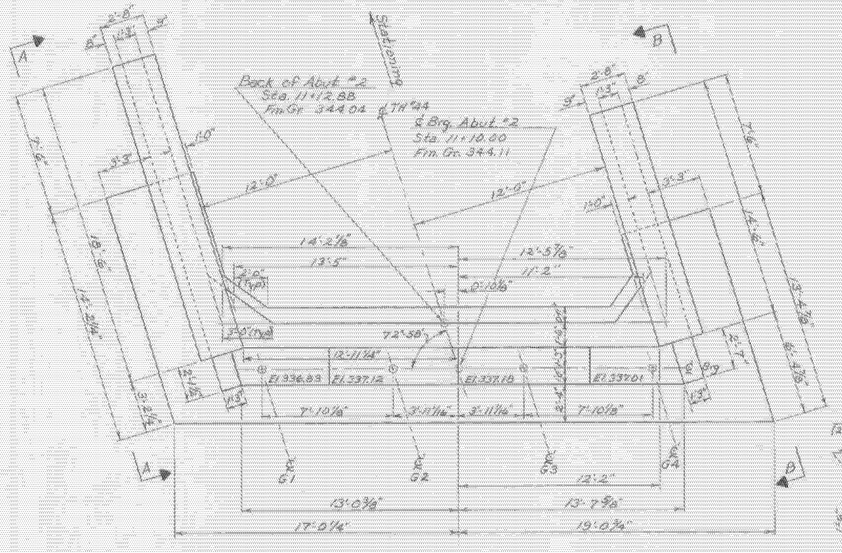
Br. 107 of 110

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

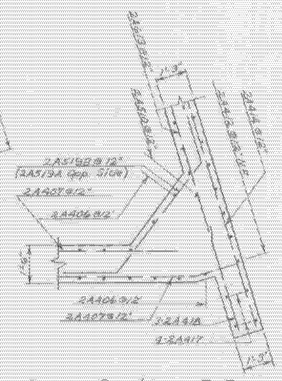
PROJECT NAME Colchester - Milton
TOWN OF Milton
Hwy Class 2 & 6 BR 80
ROUTE NO. TH #44 LOG STA
TH #44 over I 89 @ E Sta 27+32 - 21.87
Abut. #1
SCALE As noted
SURVEYED BY
DRAWN BY WBT CHECKED BY RLO
PROJECT NO I 89-3(34)
SHEET 109 OF 119

MILTON-HIGHGATE
IM MEMB(26)

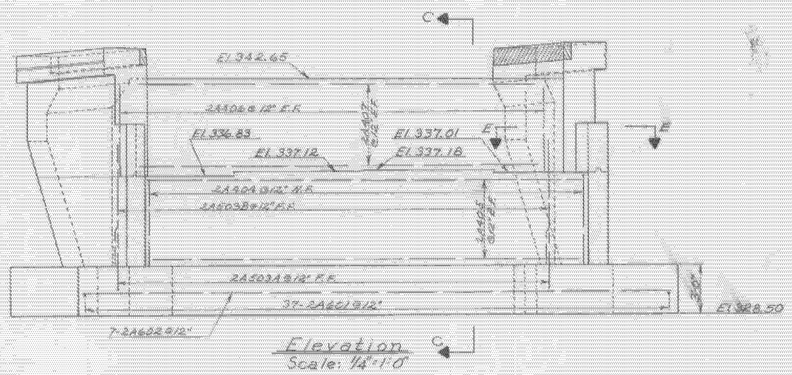
SHEET 22 OF 70
BRIDGE 80
FOR REFERENCE ONLY



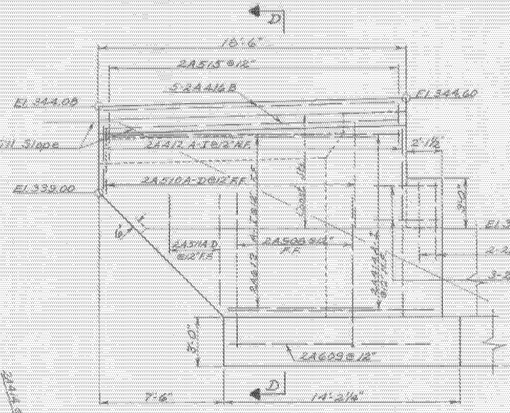
Plan
Scale: 1/4"=1'-0"



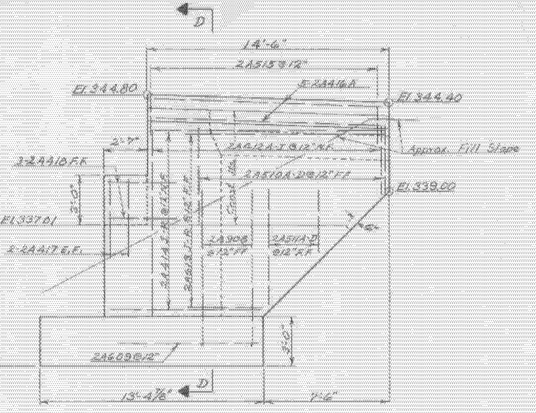
Section E-E
Scale: 3/8"=1'-0"
(Opposite Side Similar)



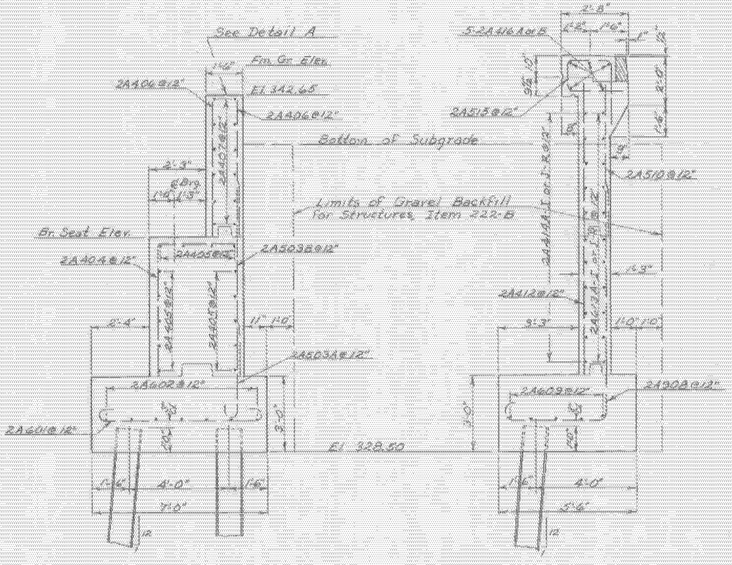
Elevation
Scale: 1/4"=1'-0"



Elevation A-A
Scale: 1/4"=1'-0"

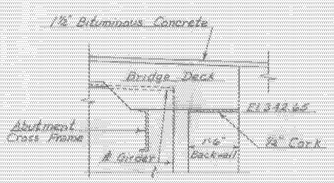


Elevation B-B
Scale: 1/4"=1'-0"

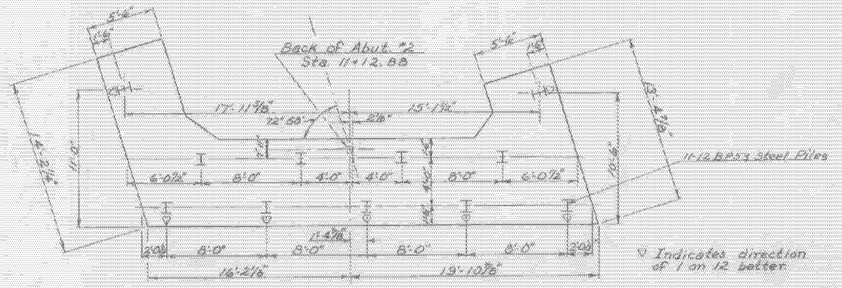


Section C-C
Scale: 3/8"=1'-0"

Section D-D
Scale: 3/8"=1'-0"



Detail A
Scale 1/2"=1'-0"
(For detail at curb see Br. 106)



Pile Layout Plan
Scale: 3/16"=1'-0"

▽ Indicates direction of 1 on 12 batter.

Location	No. of Piles	Size	Est. Lgth. of Piles	Splices allowed for piles not exceeding plan length (To be paid for only if used)	Splices estimated for piles exceeding plan length (To be paid for only if used)	Elevation of bottom of piles
Abut. #1	11	12BP53	35'	0	3	296.7
Abut. #2	11	12BP53	60'	0	3	271.1

For Abutment Notes see Br. 107

MILTON-HIGHGATE
IM MEMB(26)

SHEET 23 OF 70
BRIDGE 80
FOR REFERENCE ONLY

Br. 108 of 110

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT NAME Colchester-Milton
TOWN OF Milton
CLASS 2 & 6 BR 80
ROUTE NO. TH #44 LOG STA.
TH #44 over I 89 & Sta. 2752+21.87
Abutment #2
SCALE As noted
SURVEYED BY
DRAWN BY WBT CHECKED BY RLO
PROJECT NO. I 89-3(34)
SHEET 110 OF 419

147

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

INTERSTATE PROJECT

PROJECT I 89-3(34)

TOWNS OF COLCHESTER-MILTON
COUNTY OF CHITTENDEN
INTERSTATE ROUTE 89
BURLINGTON-ST. ALBANS ROAD

BEGINNING AT A POINT IN THE TOWN OF COLCHESTER, 0.416 MILE SOUTHERLY OF THE COLCHESTER-MILTON TOWN LINE AND EXTENDING NORTHERLY FOR A DISTANCE OF 6.699 MILES

LENGTH OF ROADWAY 34,905.80 FEET = 6.602 MILES
LENGTH OF BRIDGES 515.29 FEET = 0.097 MILE

LENGTH OF PROJECT 35,371.08 FEET = 6.699 MILES

Dated November 9 1965

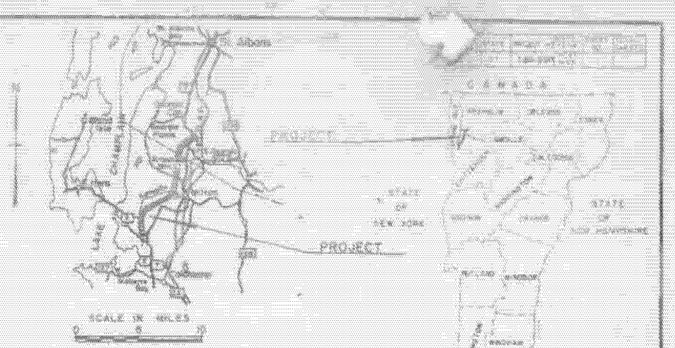
FRANK PALAZZI & SONS, INC.
THE PALAZZI CORPORATION

John P. Kopp Thomas Palazzi

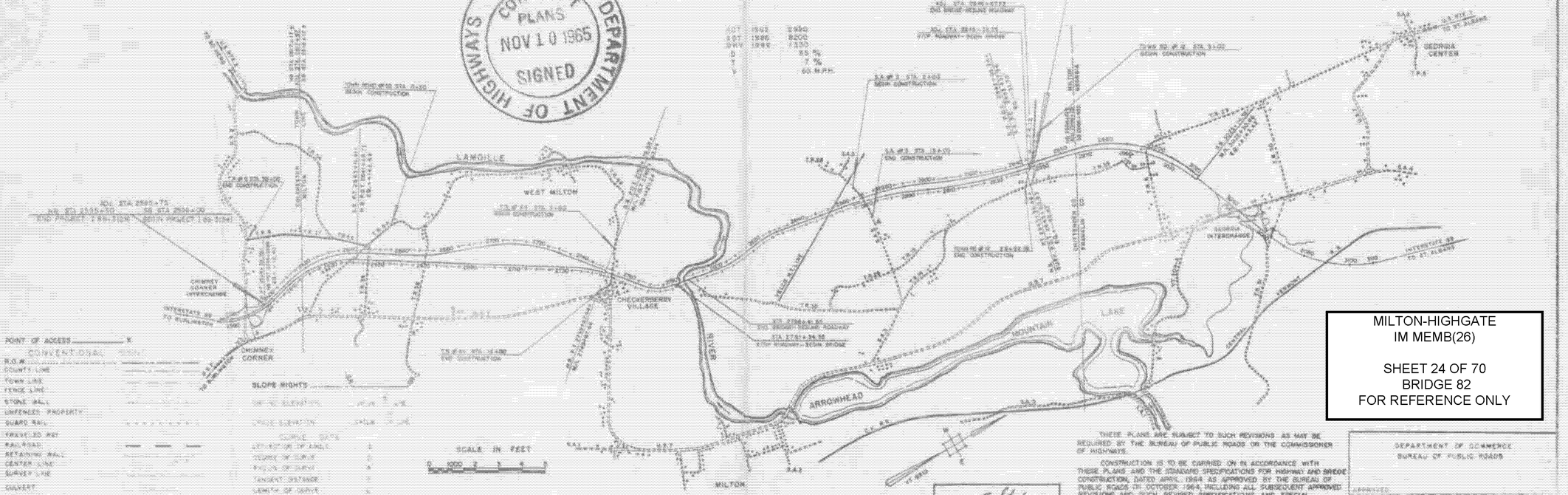
PRESIDENT Assistant Treasurer
Contractor

Russell A. Holden
Commissioner of Highways

VERMONT DEPARTMENT OF HIGHWAYS
CONTRACT PLANS
NOV 10 1965
SIGNED



THESE PLANS HAVE BEEN REDUCED PHOTOGRAPHICALLY TO APPROXIMATELY ½ SCALE



MILTON-HIGHGATE
IM MEMB(26)

SHEET 24 OF 70
BRIDGE 82
FOR REFERENCE ONLY

THESE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE REQUIRED BY THE BUREAU OF PUBLIC ROADS OR THE COMMISSIONER OF HIGHWAYS.

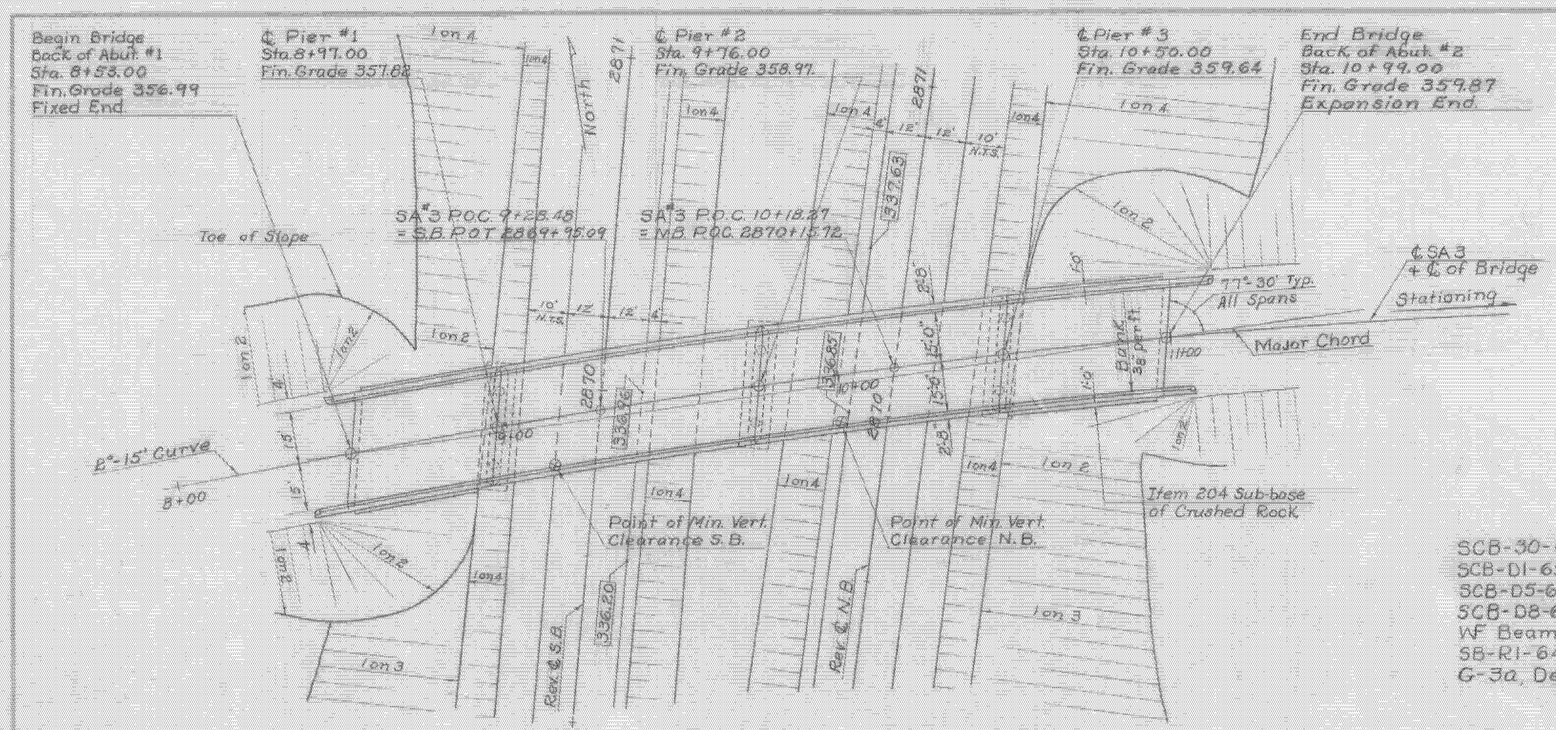
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED APRIL, 1964 AS APPROVED BY THE BUREAU OF PUBLIC ROADS OF OCTOBER, 1964, INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

APPROVED R.H. Arnold, State Highway Engineer, DATE 6/12/64	APPROVED E.J. Hickey, Highway Planning Engineer, DATE 6/12/64	APPROVED Dan Born, Bridge Engineer, DATE 6/10/64	APPROVED R.M. Blanchard, District Engineer, DATE 6/12/64	APPROVED G.W. Love, Highway Engineer, DATE 6/10/64	APPROVED A.O. Bisbee, State Aid Engr., DATE 6/11/64, SUBMITTED BY UNION OF THE STATE HIGHWAY BOARD

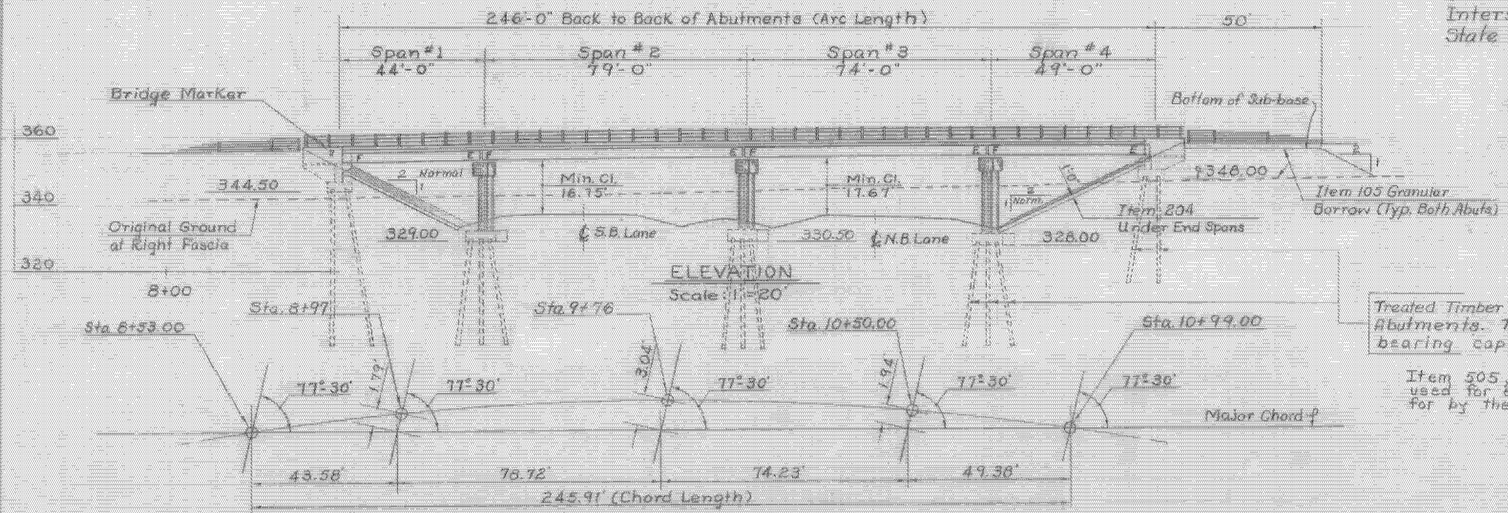
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

PROJECT I NO. 89-3(34)
SHEET 1 OF 49 SHEETS

147



Note:
Bench Mark to be set in top of Curb above Bridge Marker



Treated Timber Piling typical at Piers and Abutments. To be driven to the designed bearing capacity at 20 tons per pile.

Item 505, Pile Loading Tests, shall be used for each substructure when called for by the Engineer.

List of Bridge Sheets

BR-300 General Plan and Elevation
BR-301 Bridge Quantity Sheet
BR-302 Preliminary Information Sheet
BR-303 Boring Plan and Logs
BR-304 Framing Plan, Railing & Granite Curb Layout and Joint Details.
BR-305 Details of Abutment No. 1
BR-306 Details of Abutment No. 2
BR-307 Pier Layout Details
BR-308 Pier Details
BR-309 Pier Reinforcing Steel
BR-310 Reinforcing Steel Schedule

Bridge Standards

SCB-30-65, Typical Section, Plan View and Quantities
SCB-D1-65, SCB-D2-65 (Details A, B+C), SCB-D3-65 (Details A, B, C, D+E), SCB-D5-65, SCB-D6-65 (Details A, B+E), SCB-D7-65 (Details A, B, C, D+E), SCB-D8-65 (Details A+B), SCB-D9-65 (Detail A), SCB-D4-65. Details of WF Beam Bridges.
SB-R1-64, Sheets 1+2, SB-R2-65, Details of Bridge Railing.
G-3a, Dead End Anchorage at Bridge Approach.

Reference Sheets

Interstate Plan (Scale: 1"=50'), N.B. and S.B. Sta. 2861+00 to Sta. 2876+00
Profile of Interstate, N.B. and S.B. Sta. 2861+00 to Sta. 2876+00
Plan and Profile SA #3, (Scale: 1"=50'), Sta. 1+00 to Sta. 17+50 (2 Sheets)
Interstate Sections, Southbound Sta. 2869+00 to Sta. 2873+50
Interstate Sections, Northbound Sta. 2868+50 to 2873+00
State Aid Road No. 3 Sections, Sta. 5+50 to Sta. 12+50 (2 Sheets)

Notes

1. For General Notes see Standard Drawing Sheet SCB-D1-65
2. For details of dead end anchorage at bridge approach see Standard Drawing Sheet "G-3a.
3. Treated Timber Piling shall be driven to the designed bring. capacity of 20 tons.
4. Estimated allowable design load on treated timber piling is 20 tons per pile
5. Item 440 Water Repellent shall consist of furnishing and applying water repellent on exterior concrete surfaces including top of Safety Walks, fascia and back to the drip bead under the slab, sides, ends and bottoms of all pier caps, and exposed areas of abuts. not otherwise treated.

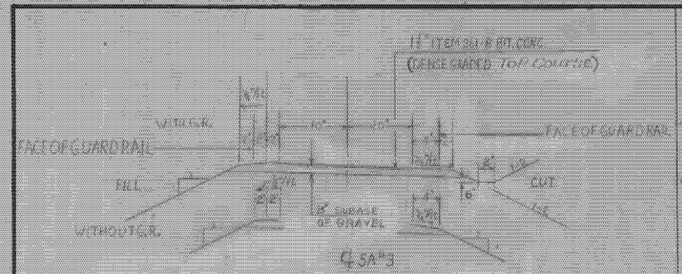
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF Colchester-Milton BR 82
ROAD NO. I89 BRIDGE NO. S3-B5
General Plan & Elevation
SA #3 over I89
SCALE As Noted
SURVEYED BY Layallee 5/63
DRAWN BY J.J.C. CHECKED BY J.W.
PROJECT NO. I89-3(34)
S3-B5 SHEET 130 OF 419

MILTON-HIGHGATE
IM MEMB(26)

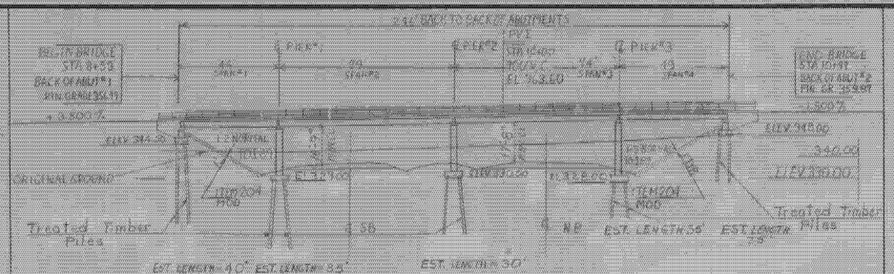
SHEET 25 OF 70
BRIDGE 82
FOR REFERENCE ONLY

BR-300



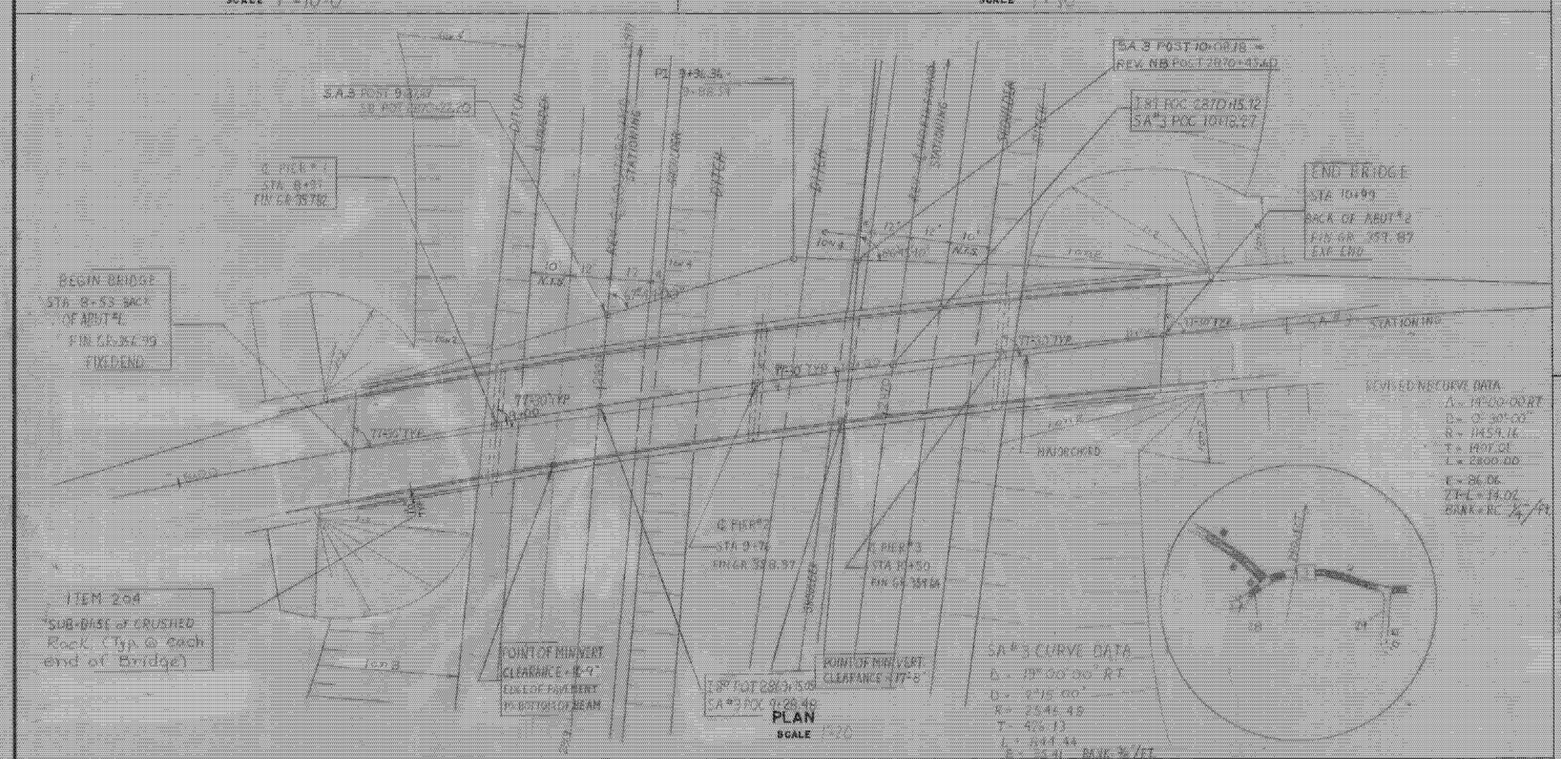
TYPICAL HIGHWAY SECT. S.A.#3

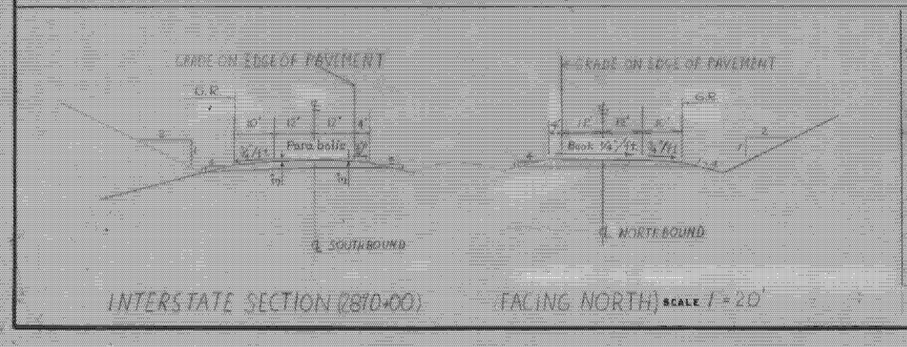
SCALE 1"=10'-0"



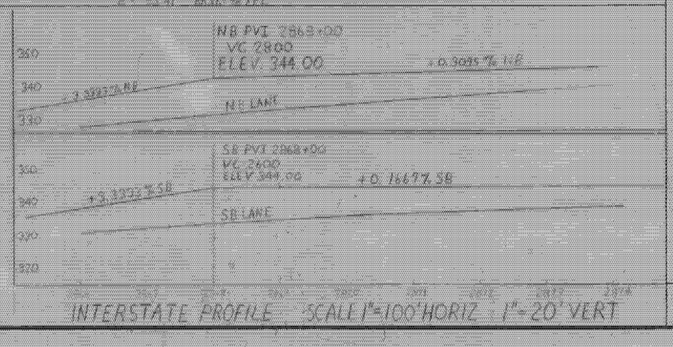
NEW HIGHWAY PROFILE ALONG ℄ SA#3

SCALE





INTERSTATE SECTION (280+00) FACING NORTH) SCALE 1"=20'



INTERSTATE PROFILE SCALE 1"=100' HORIZ. 1"=20' VERT.

HIGHWAY NO. I 89 NAME OF HIGHWAY INTERSTATE

STRUCTURE NO. 93-B5 COUNTY Chittenden TOWN MILTON

PROJECT NO I 89-3(34) LOCATION S.A.#3 over I 89 Colchester-Milton

EXISTING STRUCTURE

1 RATED LOADING OF EXISTING STRUCTURE
2 TYPE OF EXISTING STRUCTURE NONE
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

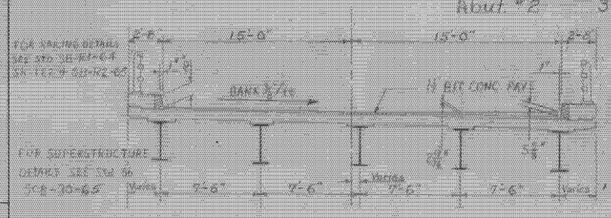
1 RECOMMENDED TYPE OF STRUCTURE SINGLE SPAN 36" BEAM COMPOSITE AS PER SCB-30-65
2 RECOMMENDED CLEAR SPAN OR SPANS 33'-7"-74'-11"
MEASURED PARALLEL TO ℄ NEW HIGHWAY
MEASURED AT RIGHT ANGLES TO ℄ STREAM
3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE SOURCE OF INFORMATION
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE?
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? IS ORDINARY RISE RAPID?
8 LOW WATER ELEVATION AT NEW STRUCTURE
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE CHARACTER OF TERRAINE
10 IS STREAM EVER DRY?
11 VELOCITY OF STREAM AT HIGH WATER STAGE ESTIMATED DISCHARGE
12 AREA FULL OPENING AREA BELOW ORDINARY H.W.
13 CHARACTER OF SCOUR DRIFT ICE
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE
15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION
16 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE NONE BOTH SIDES
17 RECOMMENDED TYPE OF PAVEMENT 10" R.F. Concrete Pavement
18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. ONE OR TWO WAYS PROBABLE COST
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 20 Tons SHOULD PILES BE USED? YES Est. LGTH. Treated Timber Piles

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 LOADING HS-20-44
FOR BORINGS SEE SHEET NO BR-303

	Est. Length of Piles
Abut. #1	50'
Pier #1	35'
Pier #2	30'
℄ S.A.#3 - Pier #3	35'
Abut. #2	35'



TYPICAL BRIDGE SECTION
WALK 5'

DESIGN STRESSES:
STRUCTURAL STEEL (A-36) f_s=20,000 psi
REINFORCING STEEL f_s=20,000 psi
CONCRETE = f'_c=3000 psi N-10

Recommended for Approval: Bridge Engineer 7/30/64 Date
Recommended for Approval: Asst Chief Engineer Date
Approved by: Chief Engineer 7/30/64 Date

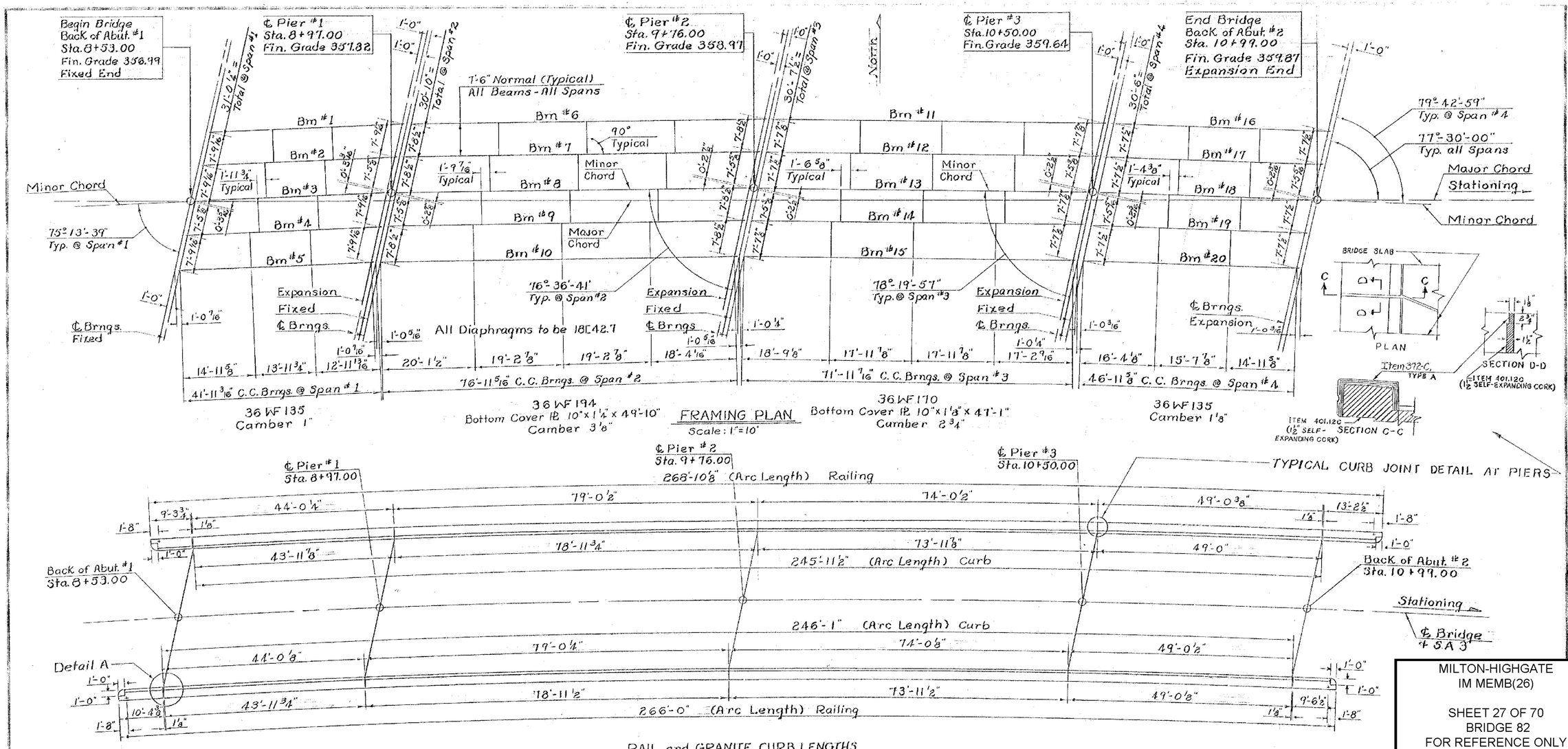
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

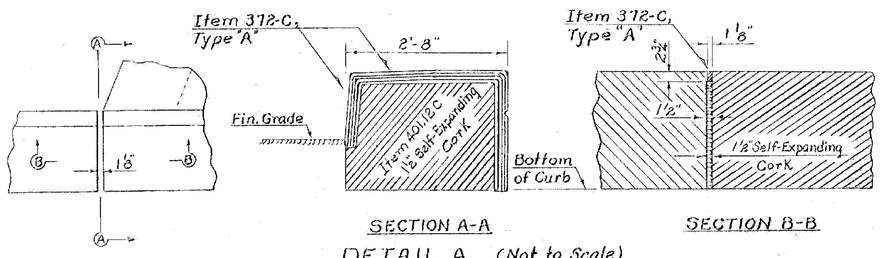
INTERSTATE IN THE TOWNS OF COLCHESTER-MILTON
ROUTE NO I-89 LOG STA
S.A.#3 OVER INTERSTATE

DESIGNED BY
SURVEYED BY
DRAWN BY
PROJECT NO

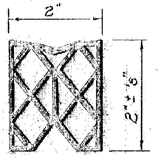
MILTON-HIGHGATE
IM MEMB(26)

SHEET 26 OF 70
BRIDGE 82
FOR REFERENCE ONLY





Item 372-C Joint Sealer - Preformed,
(Neoprene Rubber Joint Material)



Type A
Allow 1 1/8" width
2 3/4" depth for installation.

Notes:

① For General Notes and design stresses refer to SCB-D1-65.

② For Details of Bridge Railing see Std. Dwgs. SB-R1-64, Sheets 1 #2, + SB-R2-65.

③ For Details of Granite Curb see Std. Dwg. SCB-D6-65, Detail A.

④ For Details of shear Connectors, pier expansion plates, drainage, diaphragms, cover plates, bearing devices, and other details not shown, refer to Std. Dwgs. SCB-D2-65, Details A, B+C, SCB-D3-65, Details A, B, C, D + E, SCB-D6-65, Detail A; SCB-D7-65, Details A, B, C, D + E; SCB-D8-65, Details A + B; SCB-D9-65, Detail A.

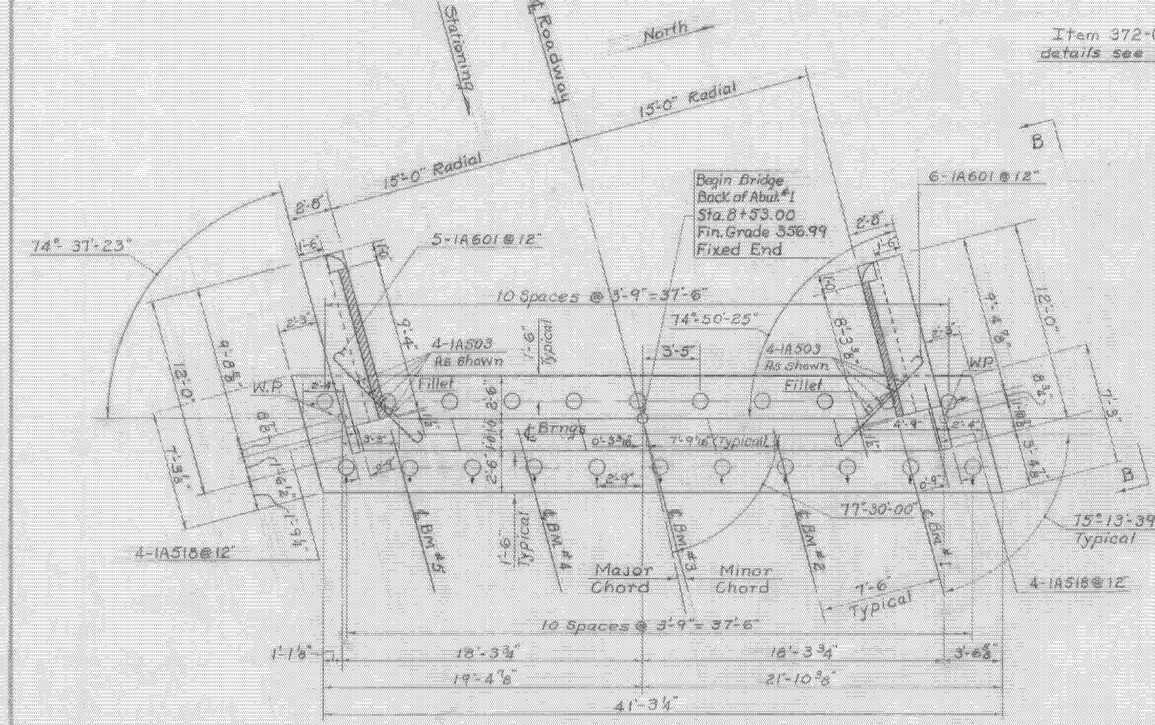
MILTON-HIGHGATE
IM MEMB(26)

SHEET 27 OF 70
BRIDGE 82
FOR REFERENCE ONLY

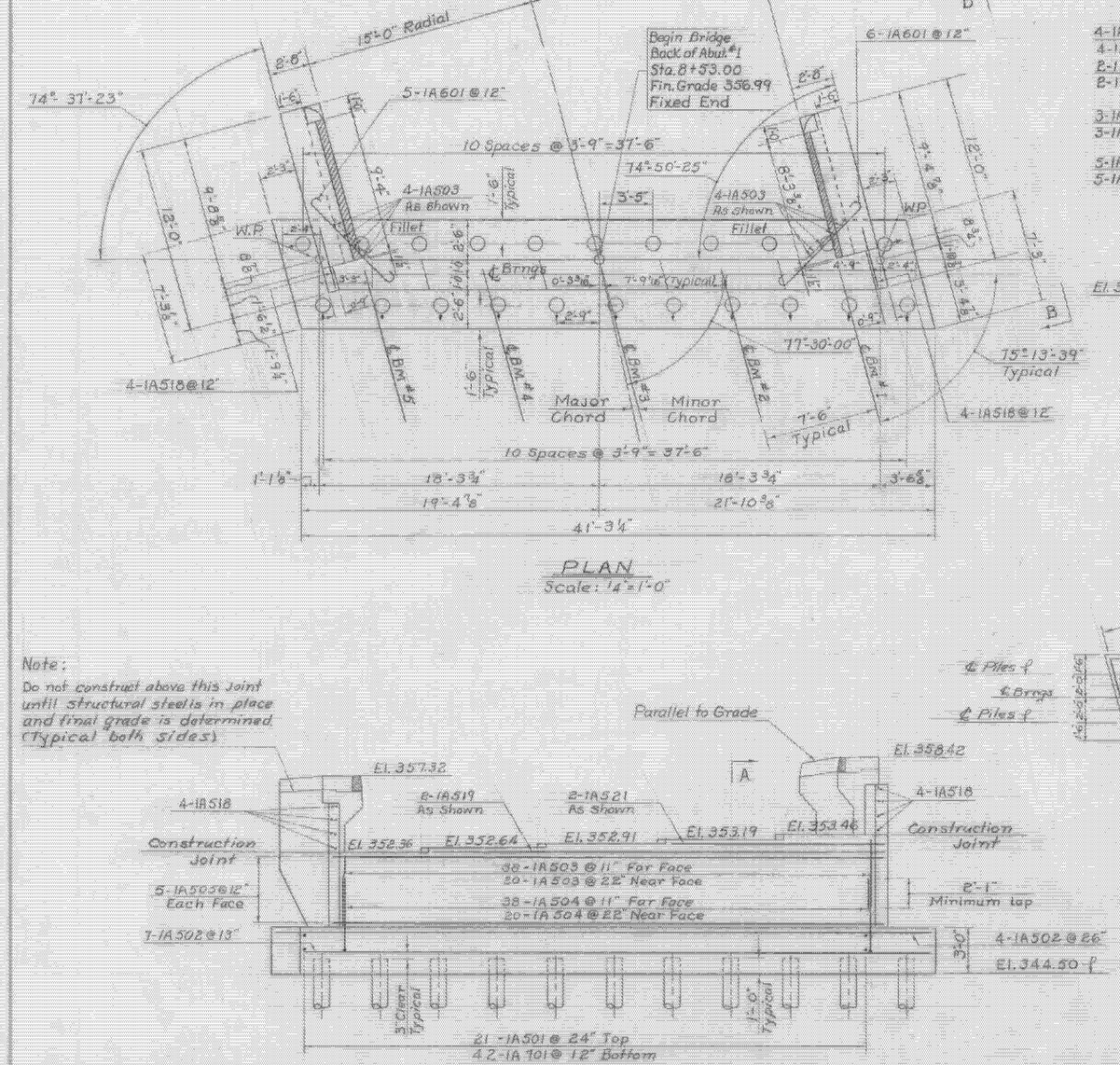
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF Colchester-Milton
ROUTE NO. I89 LOG STA.
Framing Plan, Railing + Granite Curb
Layout + Joint Details SA 3 over I89
SCALE As Noted
SURVEYED BY Lavallee 5/63
DRAWN BY J.J.C. CHECKED BY J.W.
PROJECT NO. I89-3(31)
SHEET 134 OF 419

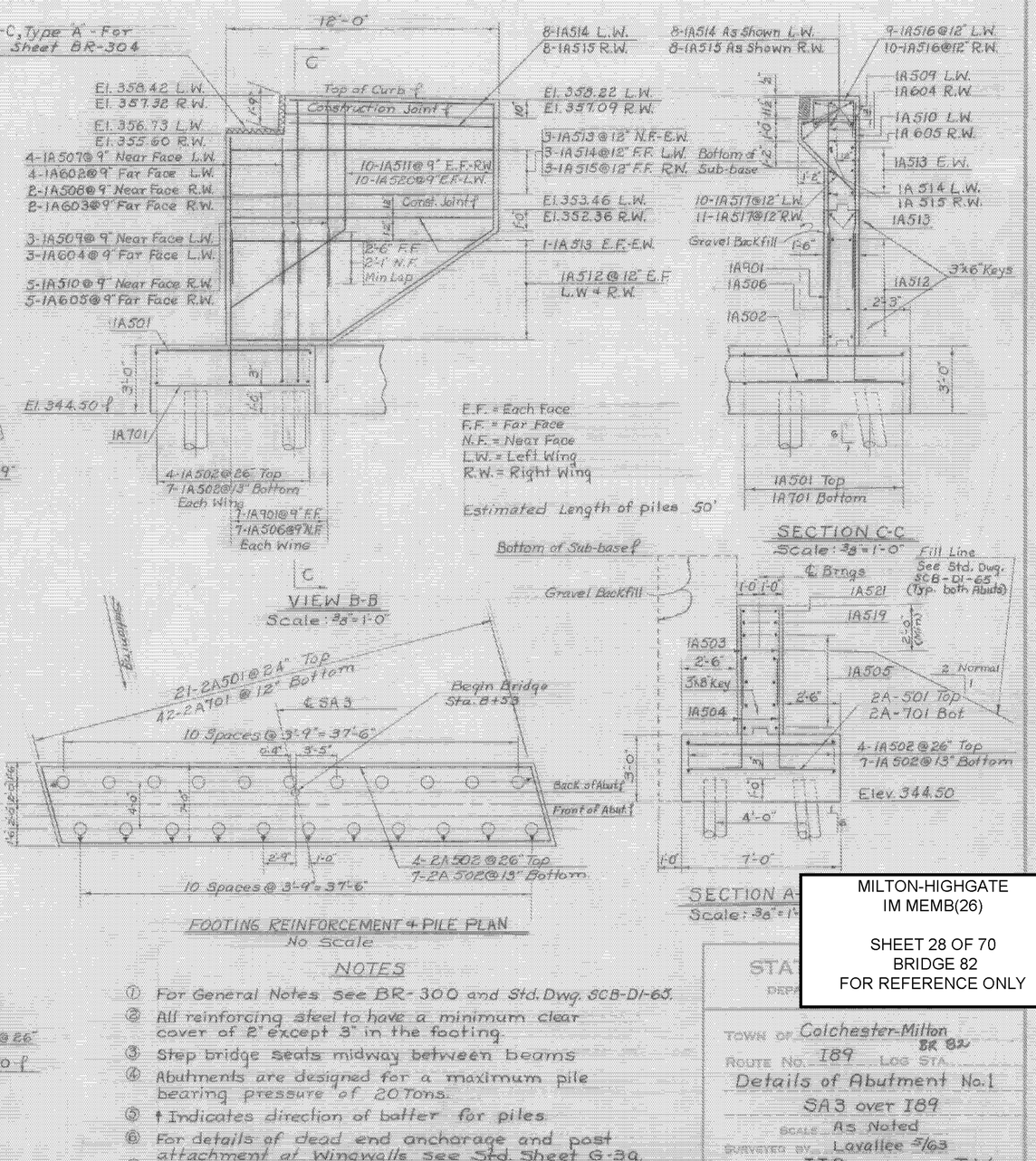
BR-304



PLAN
Scale: 1/4"=1'-0"



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



FOOTING REINFORCEMENT & PILE PLAN
No Scale

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

NOTES

1. For General Notes see BR-300 and Std. Dwg. SCB-D1-65.
2. All reinforcing steel to have a minimum clear cover of 2" except 3" in the footing.
3. Step bridge seats midway between beams
4. Abutments are designed for a maximum pile bearing pressure of 20 Tons.
5. † Indicates direction of batter for piles
6. For details of dead end anchorage and post attachment at Wingwalls see Std. Sheet G-30.
7. For Details of Curtain Walls See Standard Drawings SCB-30-65 and SCB-D2-65, Detail A.

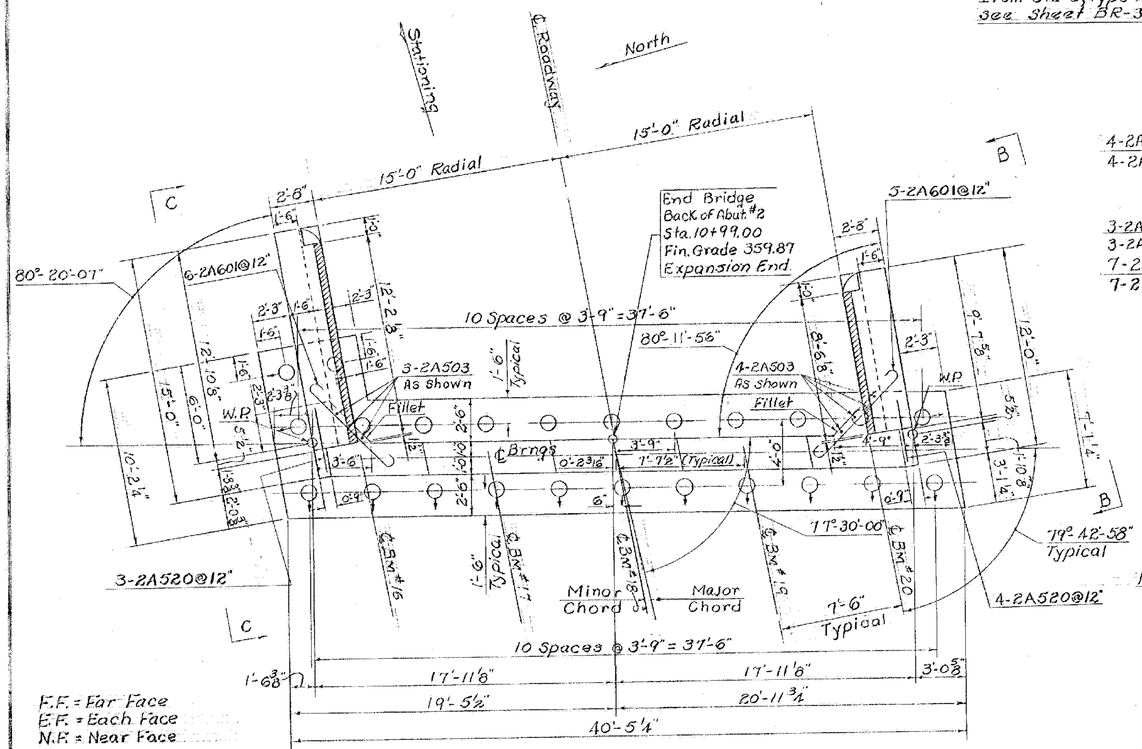
STA"
DEPT

TOWN OF Colchester-Milton BR 82
ROUTE No. I89 LOG STA.
Details of Abutment No.1
SA3 over I89
SCALE As Noted
SURVEYED BY Lavallee 5/63
DRAWN BY J.J.C. CHECKED BY J.W.
PROJECT No I89-3(34)
SHEET 135 OF 419

MILTON-HIGHGATE
IM MEMB(26)

SHEET 28 OF 70
BRIDGE 82
FOR REFERENCE ONLY

BR-305



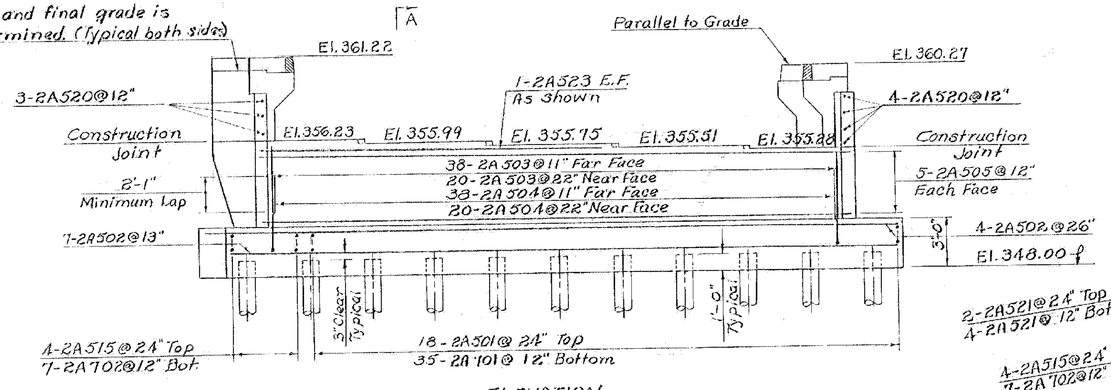
F.F. = Far Face
E.F. = Each Face
N.F. = Near Face

PLAN
Scale: ¼"=1'-0"

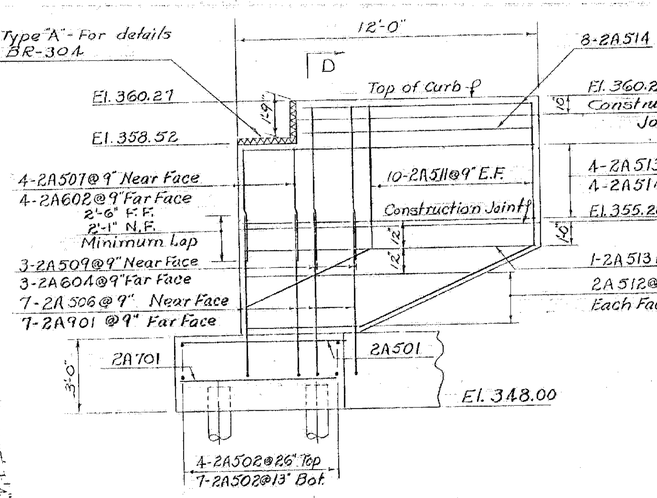
For Notes see Details Abut #1, Sheet BR-305

Estimated Length of Piles 35'

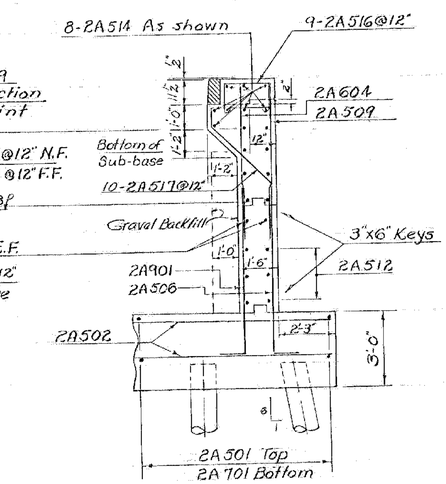
Note:
Do not Construct above this Joint until Structural Steel is in place and final grade is determined. (Typical both sides)



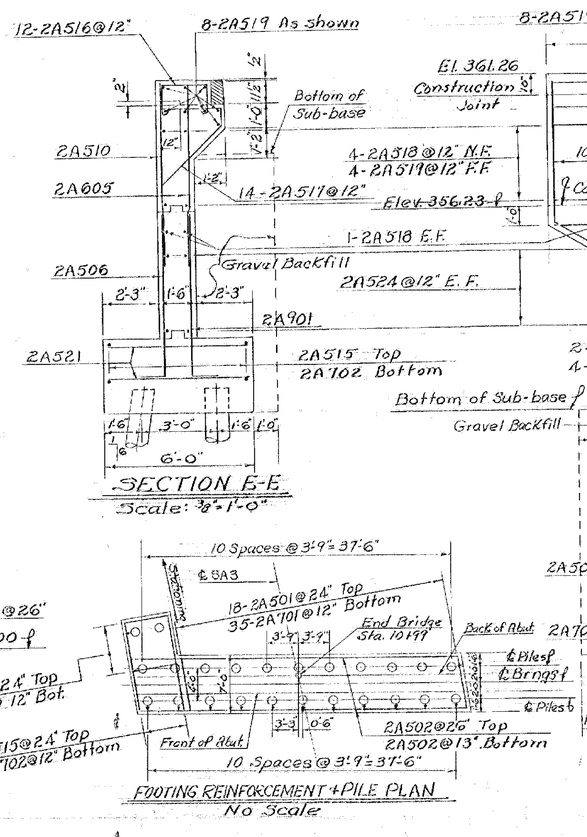
A ELEVATION
Scale: ¼"=1'-0"



VIEW B-B
Scale: ⅜"=1'-0"



SECTION D-D
Scale: ⅜"=1'-0"



SECTION E-E
Scale: ⅜"=1'-0"

VIEW C-C
Scale: ⅜"=1'-0"

FOOTING REINFORCEMENT + PILE PLAN
No Scale

MILTON-HIGHGATE
IM MEMB(26)

SHEET 29 OF 70
BRIDGE 82
FOR REFERENCE ONLY

TOWN OF Colchester-Milton
ROUTE NO. 189 LOC. STA.
Details of Abutment No. 2
SA3 over 189
SCALE As Noted
SURVEYED BY Lavallee 5/63
DRAWN BY J.J.C. CHECKED BY J.W.
PROJECT NO. 189-3(31)
SHEET 136 OF 419

BR-306

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

INTERSTATE PROJECT

TOWNS OF MILTON — GEORGIA
COUNTIES OF CHITTENDEN–FRANKLIN
INTERSTATE ROUTE 89
BURLINGTON – ST. ALBANS ROAD

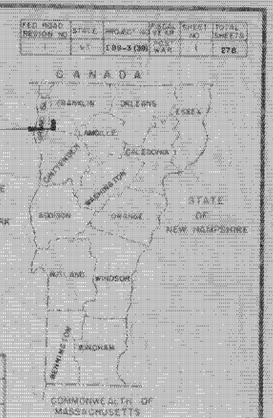
BEGINNING AT POINT APPROXIMATELY 0.346 MILE SOUTH OF THE MILTON–GEORGIA TOWN LINE (CHITTENDEN–FRANKLIN COUNTY LINE) AND EXTENDING NORTHERLY 2.211 MILES.

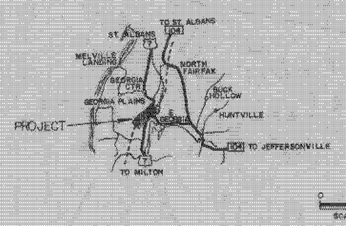
LENGTH OF ROADWAY 11,577.71 FEET = 2.193 MILES
LENGTH OF BRIDGE 94.00 FEET = 0.018 MILE
LENGTH OF PROJECT 11,671.71 FEET = 2.211 MILES

ADT 1962	2990
ADT 1986	8200
DHV 1986	1330
D	55 %
T	7 %
V	60

NB AND SB STA. 2948+00
END PROJECT I 89-3 (34) / BEGIN PROJECT I 89-3 (39)

NB AND SB STA. 3064+00
END PROJECT I 89-1 (35) / BEGIN PROJECT I 89-3 (39)





PROJECT NAME & NUMBER TYPE STAGE I
MILTON–GEORGIA I 89-3(39) GRADING & DRAINAGE
RECORD PLANS
MATERIALS

SUBBASE OF GRAVEL (MOD) — O. B. OVITT — FAIRFAX, VT.
SUBBASE OF CRUSHED ROCK — L. DEMERS — WINOOSKI, VT.
BITUMINOUS CONCRETE PAVEMENT & TAR EMULSION — L.M. PIKE & SON, INC. — WILLISTON, VT.
CONCRETE CLASS AA & B — A.G. ANDERSON READY MIX — SWANTON, VT.
REINFORCING STEEL — BETHLEHEM STEEL CORP. — ALBANY, N.Y.
STRUCTURAL STEEL & STEEL PILING — VERMONT STRUCTURAL STEEL CORP. — BURLINGTON, VT.
BRIDGE PAINT — AMSTERDAM COLOR WORKS — NEW YORK, N.Y.
REINFORCED CONC. PIPE, P.R.C.D.I., GUARD RAIL ITEMS, PROPERTY LINE FENCE & EROSION CONTROL ITEMS — S.T. GRISWOLD AND CO., INC. — WILLISTON, VT.
METAL CULVERT PIPE — NORTHEASTERN CULV. CORP — WESTMINSTER, VT.
GRANITE SLOPE EDGING — ROCK OF AGES CORP. — BARRE, VT.

CONTRACTOR – PERINI CORP.	CONTRACT:
FRAMINGHAM, MASS.	DATED — MARCH 8, 1966.
RES. ENGINEER — STEPHEN R. PIRO	STARTED — MARCH 11, 1966.
INSPECTORS — B. BRADY, B. HOUGHTON, A. NOYES & H. STROBEL.	COMPLETED — MAY 12, 1967.
RECORD PLANS — F. THORNE.	ACCEPTED — MAY 17, 1967.

INDEX OF SHEETS

SHEET NO. 1.	Title Sheet
2.	Alignment Sheet
3.	Interstate Typical Cross Section, Standard Median
4.	Interstate Typical Cross Section, Variable Median
5.	Ramp Typical Cross Section
6-6A.	Town Road Typical Cross Sections and Rte. 7 Typical Cross Sections
7-9.	Quantity Sheets
10-15.	Item Detail & Drainage Sheets
16-21.	Earthwork Sheets
22-26.	Right of Way Detail Sheets
27-50.	Plan & Profile Sheets
51-55.	20 Scale Grading Sheets
56-57.	132" CSAP #3052150 & #476
58-71.	Bridge (100 Series) Sheets
72-80.	Bridge (200 Series) Sheets
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93.	" " S-6
94.	" " S-10
95.	" " S-11
96.	" " S-12
97.	" " S-13
98.	" " S-15
99.	" " S-16
100.	" " S-17
101.	" " C-1
102.	" " D-2
103.	" " D-3
104.	" " D-4
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107.	" " D-11
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109.	" " D-15
110.	" " D-17
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112.	" " E-21
113.	" " K-1
114.	" " G-2a
115.	" " G-2b
116.	" " G-3
117.	" " G-3a
118.	" " G-4
119.	" " J-1
120.	" " J-4
121.	" " SCS-91-65
122.	" " SCS-92-65
123.	" " SCS-94-65
124.	" " SCS-96-65
125.	" " SCS-97-65
126.	" " SCS-98-65
127.	" " SCS-99-65
128.	" " SCS-37.25-65
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131.	" SS-82-65
132. & (32-A	" SCWR-30-67 (SHEET 1 & 4)
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207-230.	Cross Sections, T.H. 36, 31 & 35
231-246.	Cross Sections, Channel
247-278.	Cross Sections, Ramps & U.S. 7

SHEETS ADDED IN FINALS
DRAINAGE 21 SHEETS
UNDERDRAIN 3 SHEETS
STRUCTURE EXCAV. 2 SHEETS
BORROW PITS & TOPSOIL 3 SHEETS
LEDGE SECTIONS 4 SHEETS

AB

CONVENTIONAL SIGNS

COUNTY LINE		POINT	
TOWN LINE		LIMIT	
FENCE LINE			
STONE WALL		GROU	
UNFENCED PROPERTY			
GUARD RAIL		GRAD	
TRAVELED WAY			
RAILROAD		DEFL	
RETAINING WALL		DEGR	
CENTER LINE		RADI	
SURVEY LINE		TANG	
CULVERT		LENG	
DROP INLET		EXTI	
JOINT OCCUPANCY POLE		POIN	
POWER POLE		POIN	
TELEPHONE POLE		POIN	
TREES		POIN	
HEDGE		P.A.	

MILTON-GEORGIA STAGE I
LENGTH 2.211 MI.
I 89-3 (39)
BITUMINOUS CONCRETE PAVEMENT
PERINI CORP.
FRAMINGHAM, MASS.
YEAR 1966-1967
BEGINNING AT A POINT APPROXIMATELY 0.346 MI. SOUTH OF THE MILTON/GEO. (CHIT.-FRANK. CO.) LINE & EXTENDING NORTHERLY 2.211 MILES.

CONST. COMP. — MAY 12, 1967.
RECORD PLANS — F. THORNE

APPROVED R H Carroll ASST. CHIEF ENGINEER	APPROVED E H Dickney CONSTRUCTION ENGINEER	APPROVED Lyn Bjorn BRIDGE ENGINEER	APPROVED B M T Blanchard DISTRICT ENGINEER	APPROVED G M Lane HIGHWAY ENGINEER	APPROVED A D Bishop CHIEF ENGINEER
DATE 6/12/64	DATE 6/10/64	DATE 6/10/64	DATE 6/12/64	DATE 6/10/64	DATE 6/11/64

SUBMITTED BY ORDER OF THE STATE HIGHWAY BOARD

APPROVED A. Graham DISTRICT ENGINEER
DATE

THESE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE REQUIRED BY THE BUREAU OF PUBLIC ROADS OR THE COMMISSIONER OF HIGHWAYS.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL, 1964, AS APPROVED BY THE BUREAU OF PUBLIC ROADS ON OCTOBER 12, 1964, INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

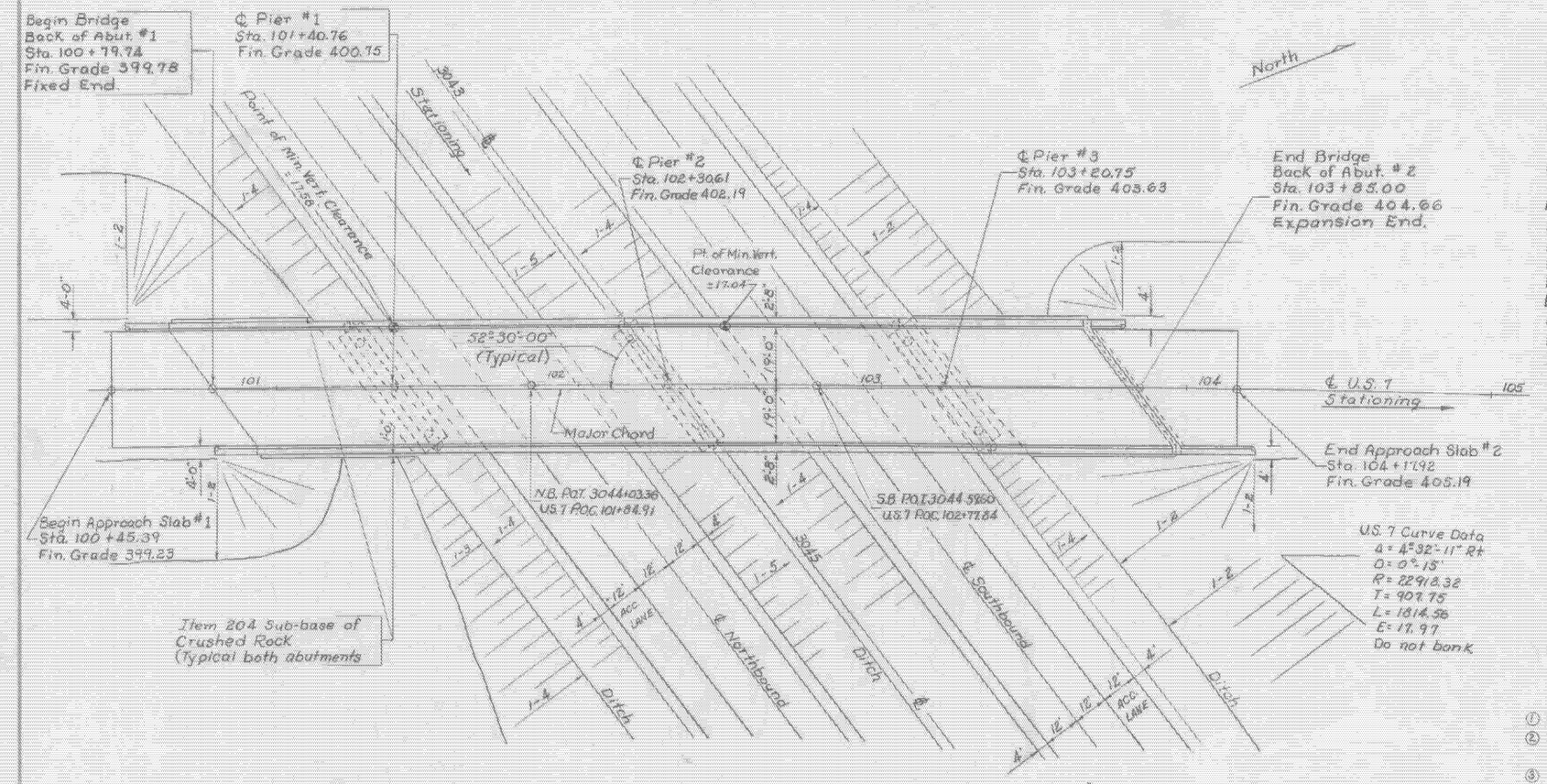
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

DIVISION ENGINEER DATE

PROJECT I NO 89-3 (39)
SHEET 1 OF 278 SHEETS

MILTON-HIGHGATE
IM MEMB(26)

SHEET 30 OF 70
BRIDGE 85
FOR REFERENCE ONLY



PLAN
Scale - 1" = 20'

List of Bridge Sheets

BR-200 General Plan and Elevation
BR-201 Bridge Quantity Sheet
BR-202 Preliminary Information Sheet
BR-203 Boring Layout Sheet
BR-204 Casing Borings
BR-205 Auger Borings
BR-206 Framing Plan and Typical Section
BR-207 Curb and Rail Plan and Expansion Dam
BR-208 Rocker Bearings
BR-209 Superstructure Details
BR-210 Details of Abutment No
BR-211 Details of Abutment No
BR-212 Additional Abutment Deta
BR-213 Pier Details
BR-214 Piers #1, #2 & #3 Reinforcing
BR-215 Details Approach Slab #1
BR-216 Details Approach Slab #2
BR-217 - BR-218 Reinforcing Schedule

Bridge Standards

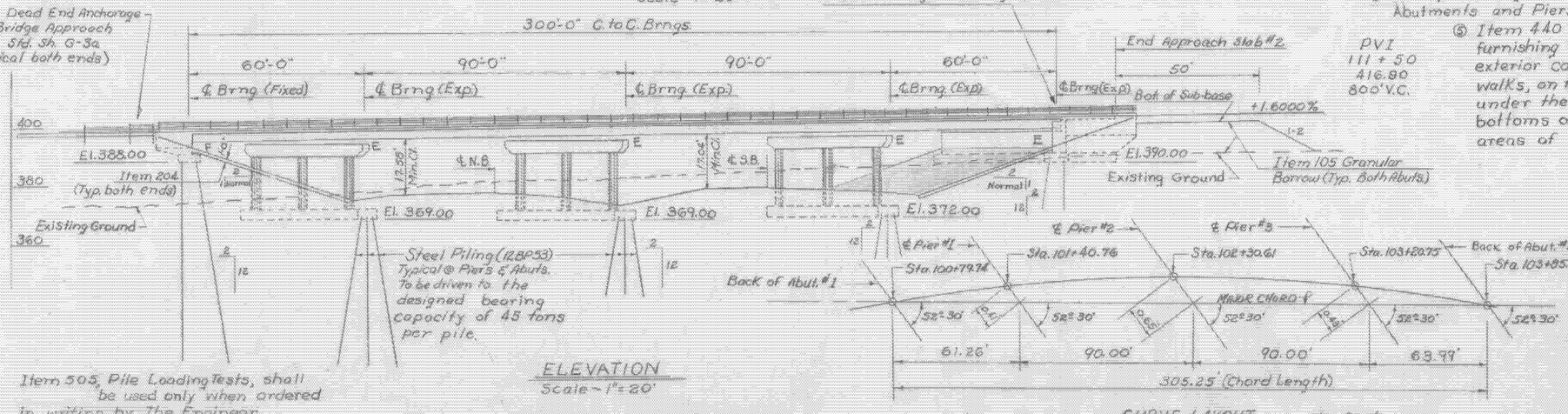
SCB-D1-65; SCB-D2-65 (Detail A); SCB-D4-65; SCB-D6-65 (Details A, B & F); SCB-D7-65 (Details A + D); SCB-D8-65 (Detail A); SCB-D9-65 (Detail A), Details of WF Beam Bridges. SB-R1-64, Shts 1 & 2 and SB-R2-65, Details of Bridge Railing. G-3a, Dead End Anchorage at Bridge Approach. SCWPG-30-62 (Sh. 1 of 4 & Sh. 4 of 4), Details of Composite Welded Plate Girder Bridges.

Reference Sheets

Interstate Plan (Scale 1"=50') ℄ Sta. 3036+00 to Sta. 3052+00 (1 Sh)
Profile of Interstate, N.B. and S.B. ℄ Sta. 3036+00 to Sta. 3052+00 (1 Sh)
Profile of Rte. U.S. 7 Sta. 88+00 to Sta. 120+00
Interstate Sections, ℄ Sta. 3041+50 to Sta. 3046+50 (3 Sheets)
U.S. Rte. 7 Sections, Sta. 99+50 to Sta. 106+50 (3 Sheets)

Notes

1. For General Notes see Std. Dwg. SCB-D1-65.
2. The Superstructure is of Continuous WF Beam Design for a 38-ft. Roadway.
3. Bridge Seat elevations shown on these plans are for the centerline of bearings.
4. All exposed edges of concrete in the Superstructure, Abutments and Piers shall be chamfered 1" x 1".
5. Item 440 Water Repellent shall consist of furnishing and applying water repellent on exterior concrete surfaces on top of the safety walks, on the fascia and back to the drip bead under the slab, on the sides, ends and bottoms of all pier caps, and on the exposed areas of Abutments not otherwise treated.



ELEVATION
Scale - 1" = 20'

Provide for 3½" expansion in this bridge railing panel

Item 505, Pile Loading Tests, shall be used only when ordered in writing by The Engineer.

CURVE LAYOUT No Scale

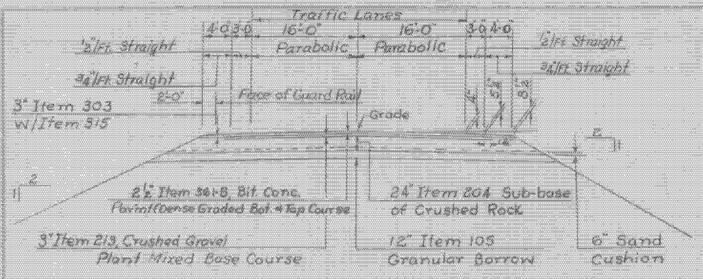
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF Milton-Georgia
Route No. I 89
General Plan & Elevation
U.S. 7 over I 89
SCALE As Noted
SURVEYED BY
DRAWN BY J.J.C. CHECKED BY A.J.C.
PROJECT NO. [redacted]
SHT. [redacted] S3-89

Sheet 141 of 177 Sheets [redacted] BP 300

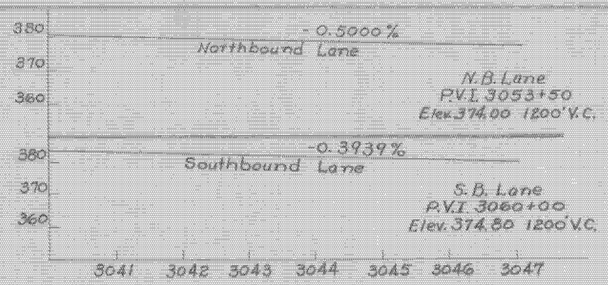
MILTON-HIGHGATE
IM MEMB(26)

SHEET 31 OF 70
BRIDGE 85
FOR REFERENCE ONLY



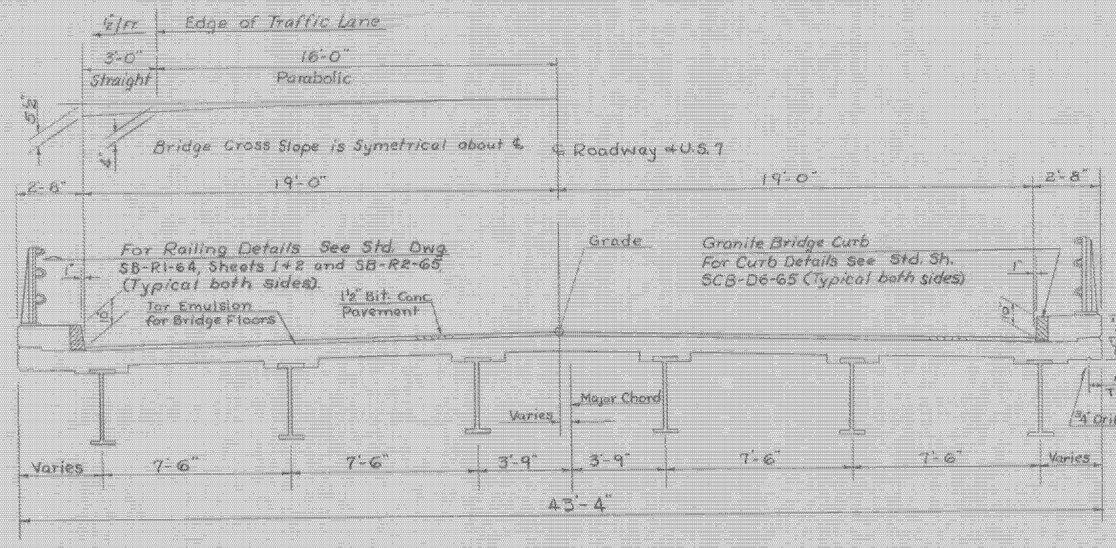
HIGHWAY SECT OF U.S. ROUTE 7 @ Sta. 100+45±

SCALE - 1"=10'



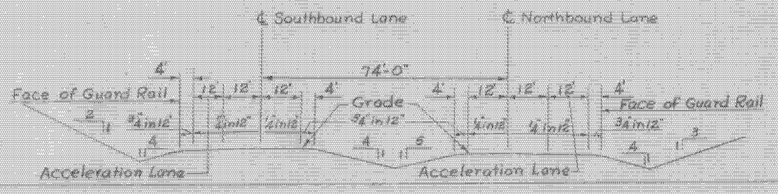
INTERSTATE PROFILE

Scales - 1"=100' Horiz. 1"=20' Vert.



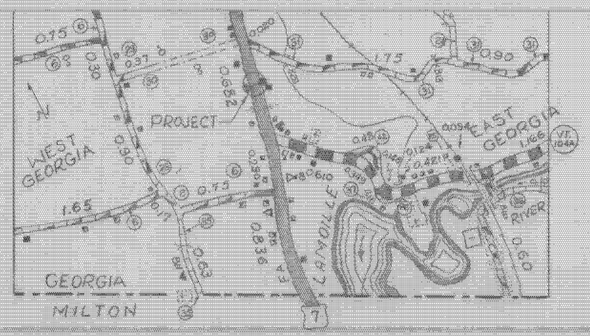
Typical Bridge Section

Scale - 3/8"=1'-0"



SECTION STA. 3044+50 (Facing North)

SCALE 1"=20'



BRIDGE NO.	I 89
STRUCTURE NO.	S3-89
PROJECT NO.	I89-3(39)
	INTERSTATE
	FRANKLIN COUNTY GEORGIA TOWN
	MILTON - GEORGIA LOCATION

U. S. ROUTE 7 over I 89

EXISTING STRUCTURE

1 RATED LOADING OF EXISTING STRUCTURE
2 TYPE OF EXISTING STRUCTURE NONE
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 NORTHERN WATERWAY TO EXTREME H.W.
SPAN OF EXISTING BRIDGE SOUTHERN 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 4-SPAN WF BEAM CONTINUOUS 60-90-90-60

1 RECOMMENDED TYPE OF STRUCTURE
2 RECOMMENDED CLEAR SPAN OR SPANS
MEASURED PARALLEL TO ℄ NEW HIGHWAY
MEASURED AT RIGHT ANGLES TO ℄ STREAM
3 ARE THERE OBJECTIONS TO A RISE IN THE STREAM? (ASK OWNER YES OR NO)
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE SOURCE OF INFORMATION
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE?
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? IS ORDINARY RISE RAPID?
8 LOW WATER ELEVATION AT NEW STRUCTURE
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE CHARACTER OF TERRAIN
10 IS STREAM EVER DRY?
11 VELOCITY OF STREAM AT HIGH WATER STAGE ESTIMATED DISCHARGE
12 AREA FULL OPENING AREA BELOW ORDINARY H.W.
13 CHARACTER OF FLOOR DRIFT ICE
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE
15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION NONE
16 ARE SIDEWALKS REQUIRED? IF SO ON WHAT SIDE? 12' Bituminous Concrete Pavement
17 RECOMMENDED TYPE OF PAVEMENT
18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO ONE OR TWO WAYS PROBABLE COST
19 PROBABLE COST OF CLEARING AND DRAINING BEYOND CHANNEL OF STRUCTURE SITE
20 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES? NO
21 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 4.5 tons per pile (Steel Piles 12BP53) YES

FOUNDATION INFORMATION

Abut #1 70'
Pier #1 55'
Pier #2 35'
Pier #3 15'
Abut #2 25'

Design Loading H S20-44
Design Stresses:
A36 Structural Steel f_s = 20,000 p.s.i.
Reinforcing Steel f_s = 20,000 p.s.i.
Concrete f_c = 3,000 p.s.i. N=10
For Borings see Bridge Sheets BR-203, BR-204 & BR-205.

MILTON-HIGHGATE
IM MEMB(26)

SHEET 32 OF 70
BRIDGE 85
FOR REFERENCE ONLY

RECOMMENDED FOR APPROVAL E.H. Stickney 11/22/65
CONSTRUCTION ENGINEER DATE
Chet Gorn 11/22/65
11/22/65
A.B. Burbank 11/22/65

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
INTERSTATE
MILTON - GEORGIA
I 89
U.S. ROUTE 7 over INTERSTATE
PRELIMINARY INFORMATION
A.E.S. A.S. Noted
R.W.B.
BR-302

Sheet 143 of 177 Sheets

Fascia

Const. it in curb section

Granite Bridge Curb saw ends square @ piers

Detail A

½" Joint in granite

℄ Pier

See Detail A (Typ. each pier)

321'-7⅞" Rail Dimension (Arc)

301'-5⅝" Curb Dimension (Arc)

0°-15' Curve

301'-9⅛" Curb Dimension (Arc)

333'-11⅝" Rail Dimension (Arc)

North

Stationing

End Bridge
Back of Abut. #2
Sta. 103+85.00
Fin. Gr. 404.66
Exp. End

Begin Bridge
Back of Abut. #1
Sta. 100+79.74
Fin. Gr. 399.78
Fixed End

Provide for 3½" expansion in these bridge railing panels.

℄ U.S. 7

2'-5⅛" @ 45°F Exp. Jt.

22'-1¼"

2'-5⅛" @ 45°F

21'-5¼"

Curb & Rail Plan
Scale 1"=10'

Granite Bridge Curb, Item 556-C

½-6" ø Std. W.I. Pipe with 5/16"x3"x7'-A 242 steel brackets @ 2'-0". For layout details of 6" W.I. trough & 4" dia. W.I. drain pipe see Std. SCWPG-30-62, Sh. 1 of 4.

Block ends of 6" trough

1½"x¼"x1'-4" Straps

52°-09'-38" Lt.
52°-04'-34" Rt.

Brgs.

1'-8" Finger Plate

Stiffener @ 18" Piece W. Beam

Plan - Exp. Assembly
Scale 1"=1'-0"

The ends of the Granite Bridge Curb shall be sawed square where they butt against the metal expansion plates and at the curb joint at the fixed end, and at the piers.

52°-30'-00"

Curb Line

Notes:

1. For additional Finger Plate and Exp. Dam details see Std. Sh. SCWPG-30-62, sh. 4 of 4.
2. For additional drainage details see Std. Sh. SCWPG-30-60, sh. 1 of 4.
3. All parts of the expansion joint assembly which are exposed to water after erection shall be ASTM A 242 steel.
4. For details of Granite Bridge Curb see Std. Sh. SCB-DG-65, Det. A.
5. For details of Bridge Railing see Std. Sh. SB-R1-64, Sh. 1 & 2 and SB-R2-65.
6. Use ¼" welds for connecting plates and brackets for 6" dia. trough.
7. Fingers to be symmetrical about ℄ of finger plate. Flame cut from 21"x1⅛" plate.

Pour temporary 3" wide section of conc. to top of plate. Pack conc. under plate. Chip out conc. after set as shown within 24 hrs. Pave to edge of plate. (Typical both sides).

Piece W. Bm. ½" Min. Web

1½"x¼"x1'-4" Straps

1½" Bit. Conc. Pavement

#8 Dowels @ 2'-0" c-c

Shim

2" Cl. A-n

1-⅞" Hi. Str. Bolts

Section B-B
Scale 1½"=1'-0"

Finger Plate Detail
Scale 3"=1'-0"

½" Ch. Pl. Bent

2"x½" Ch. Pl. Bent

End Granite Bridge Curb

1⅛" Finger Pl.

Section D-D
Scale 1½"=1'-0"

Revised: 7-29-66 J.J.C.
Substituted Std. W.I. for 20 oz. Copper in 6" drain trough and changed length of support bracket.

½" Ch. Pl. Bent

Trough

¾" Pl.

4"ø Wrought Iron Drain Pipe

Section A-A
Scale 1"=1'-0"

MILTON-HIGHGATE
IM MEMB(26)

SHEET 33 OF 70
BRIDGE 85
FOR REFERENCE ONLY

TOWN OF Milton - Georgia

ROUTE NO. I 89 LOG STA.

Curb & Rail Plan and Exp. Dam
U.S. 7 over I 89

SCALE As Noted

SURVEYED BY

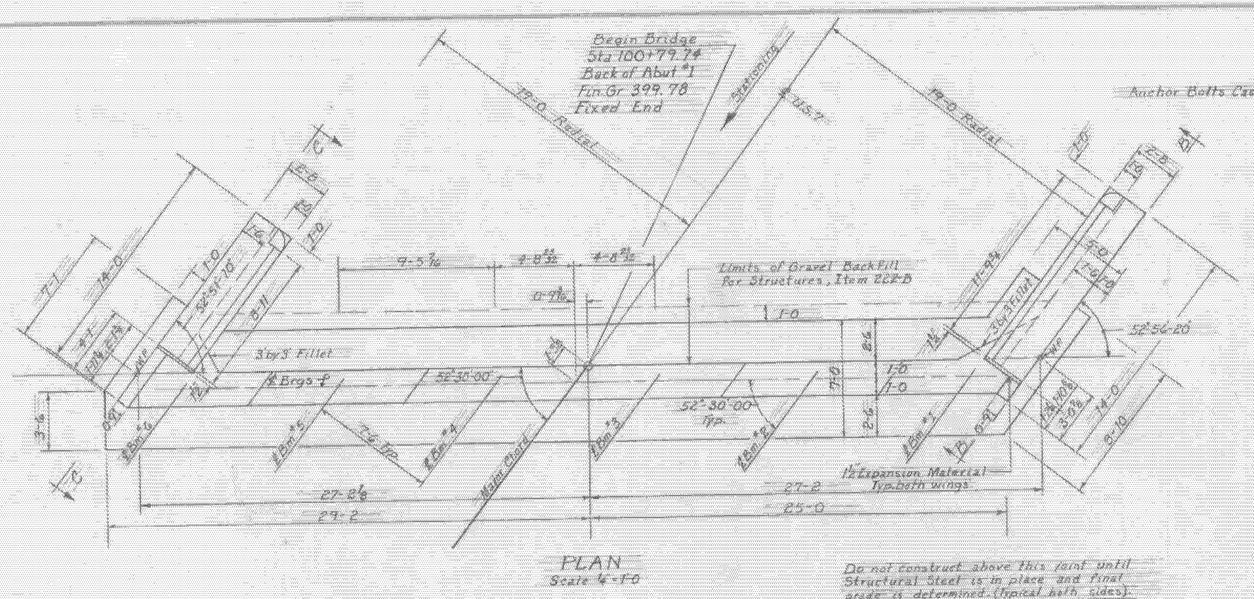
DRAWN BY A.J.C. CHECKED BY J.J.C.

PROJECT NO. [illegible]

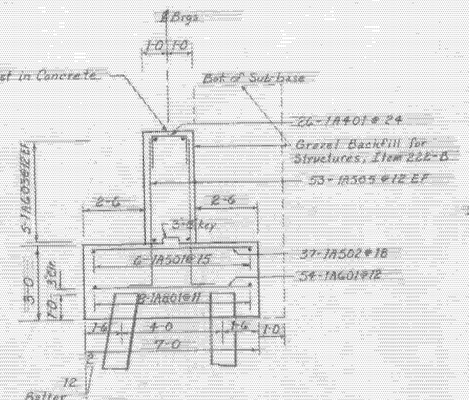
SHEET [illegible]

Sheet 44 of 177 Sheets

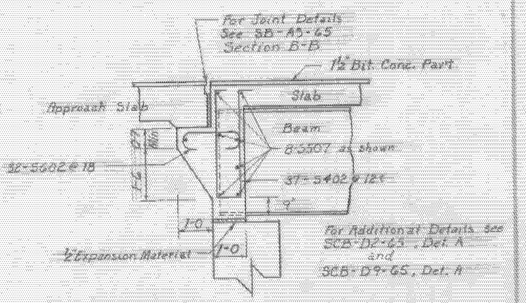
[illegible] BR-307



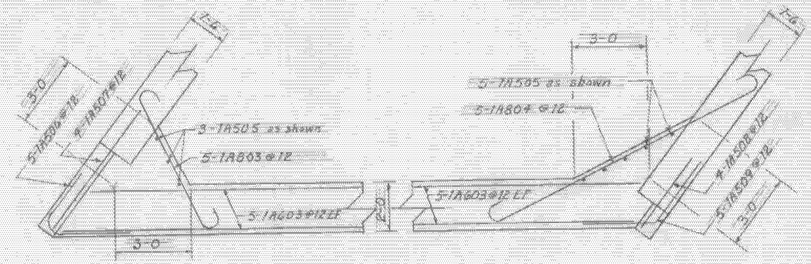
PLAN
Scale ¼"=1'-0



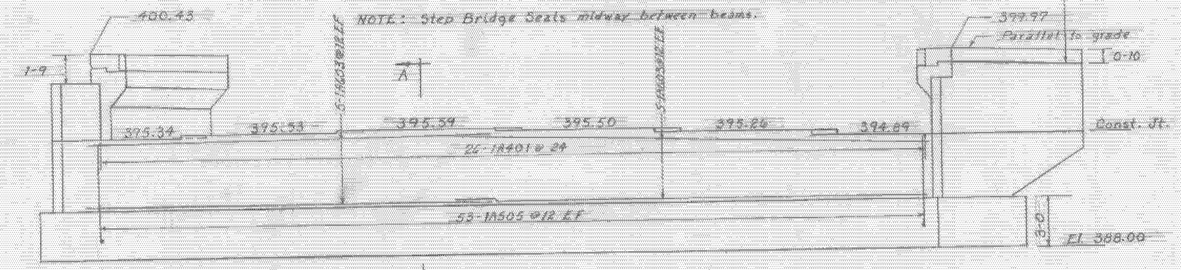
SECTION A-A
Scale ½"=1'-0



SUPERSTRUCTURE DETAILS AT ABUTMENT Nº 1
Scale ½"=1'-0



CORNER AND STEM DETAILS
Scale ½"=1'-0

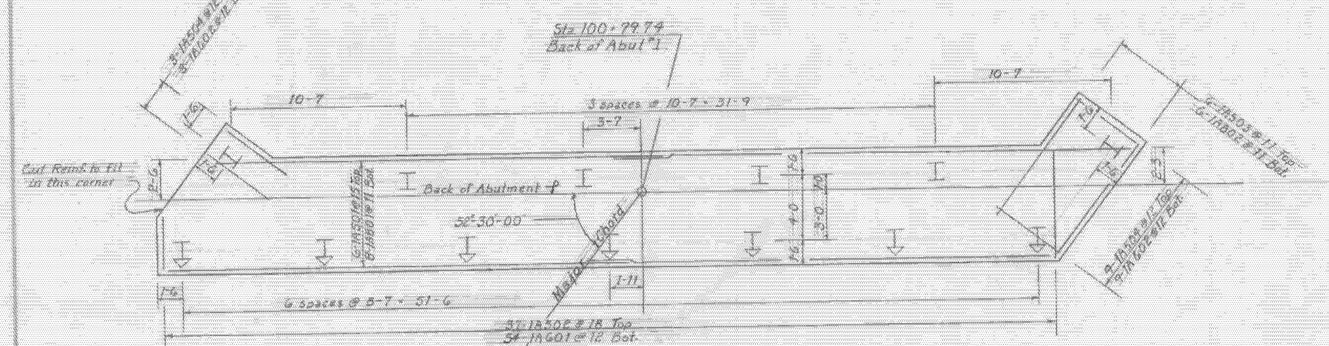


ELEVATION
Scale ½"=1'-0

NOTES
For notes and additional details see sheet BR-212, Additional Details of Abutments.
For Sections B-B & C-C See BR-212

EF = Each Face

No. of Piles	Size	Est Length of Piles	Splices allowed for piles not exceeding plan length (to be paid for only if used)	Splices estimated for piles exceeding plan length (to be paid for only if used)
13	HP 53	70'	13	3



FOOTING REINFORCEMENT AND PILING LAYOUT
Scale ¼"=1'-0

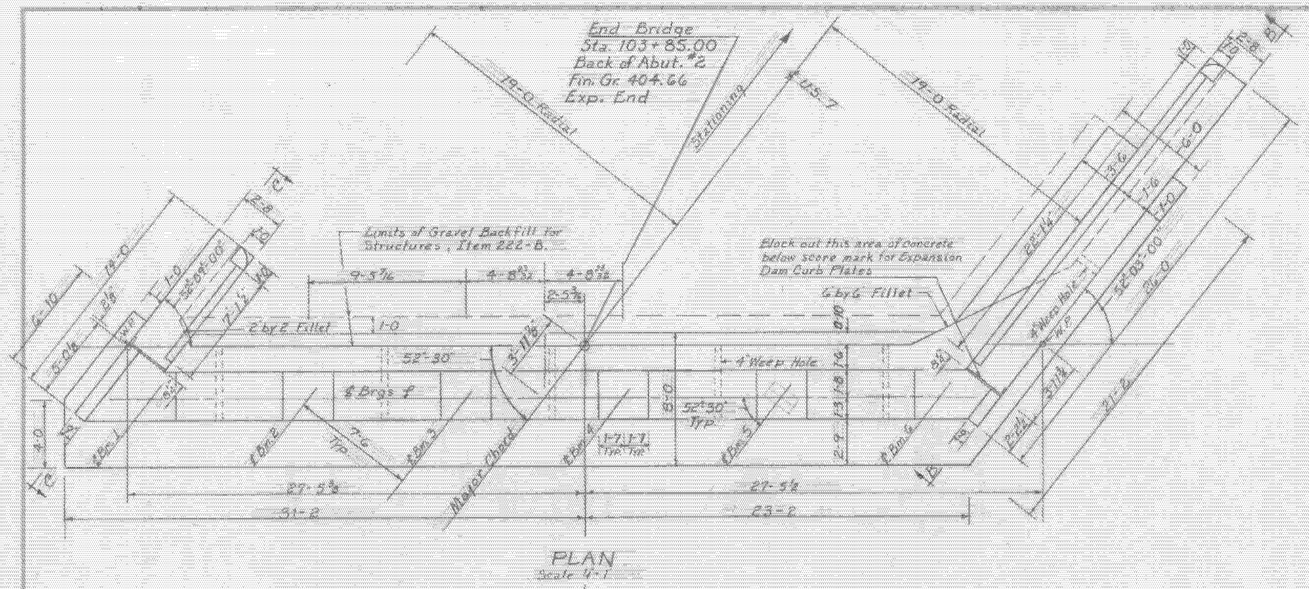
ITEM NO.	ITEM	UNIT	NET		TOTAL	REMARKS
	CHAN EXCAV OF EARTH	C.Y.				
	CHAN EXCAV OF ROCK	C.Y.				
	UNCLASS CHAN EXCAV	C.Y.				
	STRUCT EXCAV	C.Y.				
	CONC CLASS AA (BRIDGE)	C.Y.				
	CONC CLASS B (MISC)	C.Y.				
	REINF STEEL	LBS.				
	ASPHALTIC MAT COATING	S.Y.				
	TREATED TIMBER PILING	L.F.				
	SPLICES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

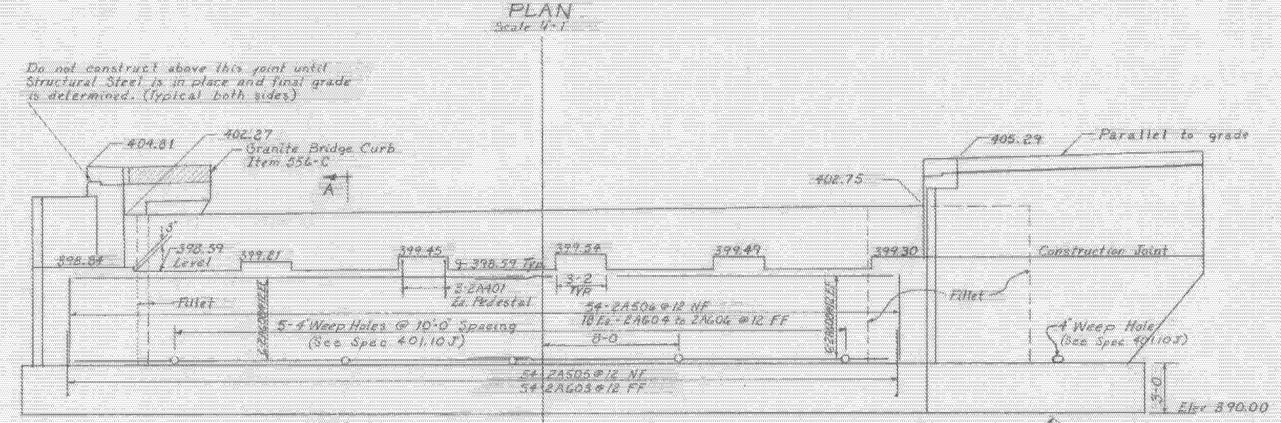
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

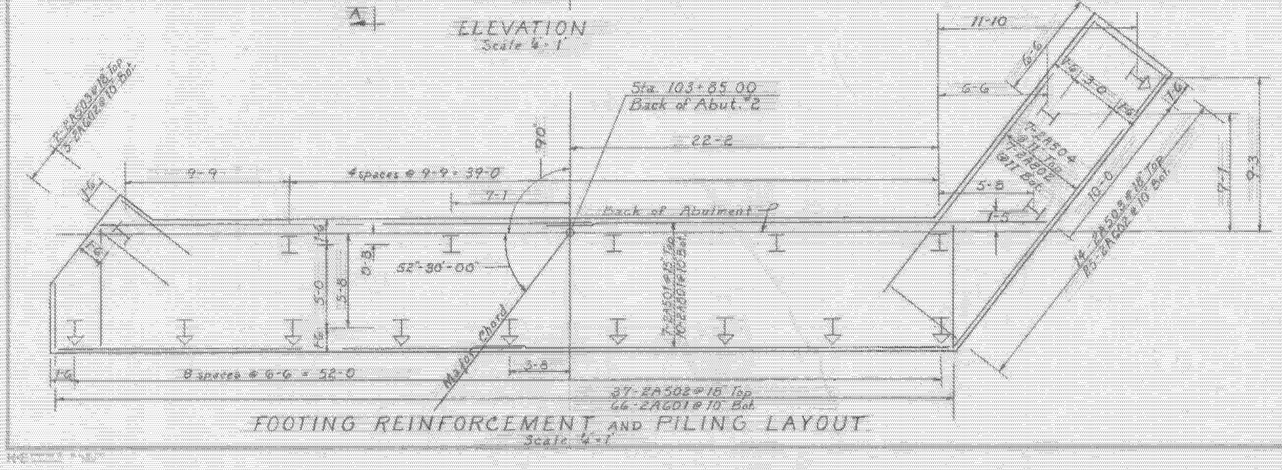
TOWN OF MILTON - GEORGIA
ROUTE NO. I 89 LOG STA.
DETAILS of ABUTMENT Nº 1
U.S. 7 over I 89
SCALE As Shown
SURVEYED BY
DRAWN BY RPG CHECKED BY RFS
PROJECT NO. I 89-3 (39)
SHEET 82 OF 278
53-89
BR-210

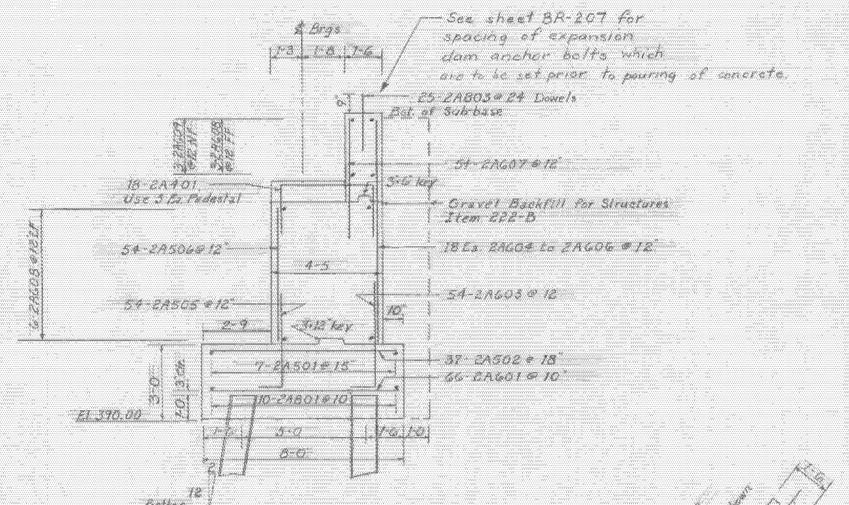
MILTON-HIGHGATE
IM MEMB(26)

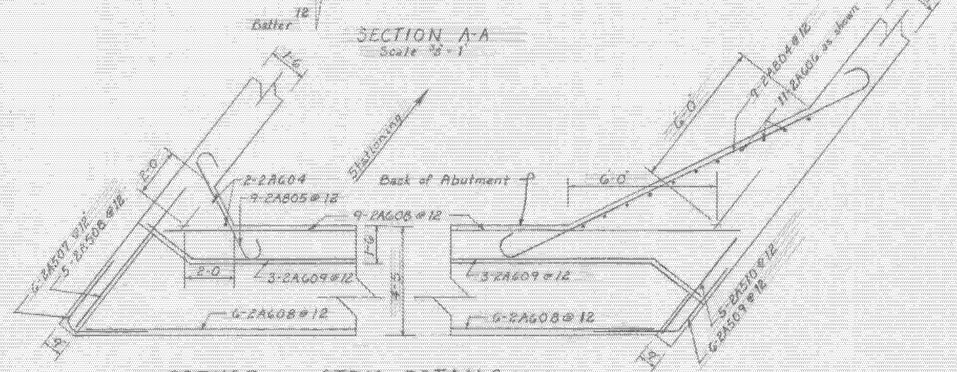
SHEET 34 OF 70
BRIDGE 85
FOR REFERENCE ONLY











NOTES

1. For notes and additional details see sheet "Additional Details of Abutments, BR-212"

Nº of Piles	Size	Estimated Length of Piles	Splices allowed for piles not exceeding Plan Length. (To be paid for only if used).	Splices estimated for Piles exceeding Plan Length (To be paid for only if used).
16	12BP53	25 Ft.	——	4

MILTON-HIGHGATE
IM MEMB(26)

SHEET 35 OF 70
BRIDGE 85
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF MILTON-GEORGIA
ROUTE NO. I 89
Details of Abutment #2
U.S. 7 over I 89
SCALE As Shown

DRAWN BY RPG CHECKED BY J.J.C.
PROJECT NO. I 89-3(39)
SHEET 83 OF 278

BR-211

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

INTERSTATE PROJECT

TOWNS OF GEORGIA–FAIRFAX–FAIRFIELD–ST. ALBANS

COUNTY OF FRANKLIN

INTERSTATE ROUTE 89

BURLINGTON–ST. ALBANS ROAD

CONTRACT NO. I

BEGINNING AT A POINT 3.973 MILES SOUTHERLY OF GEORGIA–FAIRFAX TOWN LINE AND EXTENDING NORTHERLY 0.681 MILES.

LENGTH OF ROADWAY 2800.67 FEET = 0.530 MILES (AVE.)
LENGTH OF BRIDGE 799.33 FEET = 0.151 MILE (AVE.)
LENGTH OF CONTRACT 3,600.00 FEET = 0.681 MILES (AVE.)

A.D.T. 1958 2440
A.D.T. 1975 5400
D.H.V. 825
D 54
T 8
V 60 M.P.H.

SHEET NO.
1. Title Page
2. Alignment Sheet
3. Typical
4,5. Quantity Sheets
6,7. Item Detail and Drainage Sheets
8-10. Earthwork Sheets
11. R.O.W. Detail Sheet
12-17. Plan and Profile Sheets
18. Blank
19. B-81 Drilling and Blasting of Solid Rock Subgrade, Item 115
20. B-1 Banking Tables
21. B-5 Typical Slope Grading
22. B-6 Muck Excavation, Item 117
23. B-10 Embankment on a Slope
24. B-11 Methods of Slope Stabilization
25. D-2 Cement Rubble Masonry
26. D-8 Underdrain Flushing Basin
27. D-8 Drop Inlets
28. D-10 Top for a Drop Inlet w/Bituminous Concrete Curb
29. D-11 Grates
30. D-12 Tops for Asph.Ctd.Corr .Galv.Met.Pipe Drop Inlets w/Grates, Item 532
31. D-16 Prec.Reinf.Conc.Curb Drop Inlet, Item 531
32. D-17 Asph.Ctd.Corr.Galv.Met.Pipe Vertical Riser
33. E-1 Barricades, Signs and Lights
34. E-31 Federal Aid Construction Identification Signs
35. F-1 Property Line Fence
36. J-1 Boundary Markers
37. Blank
38-79. Bridge Sheets
80. SCB-80-65 Typical Section, Plan view and Quantities
81. SCB-81-65
82. SCB-82-65 Details A, B & C
83. SCB-83-65 Details A,B,C,D & E
84. SCB-84-65
85. SCB-85-65
86. SCB-86-65 Details A,B,D & F
87. SCB-87-65 Details A,B,C & D
88. SCB-88-65 Details A & B
89. SCB-89-65 Detail A, Details of WF Beam Bridges
90. SB-R1-64 Sheet 1
91. SB-R1-64 Sheet 2
92. SB-R2-65 Details of Bridge Railing
93. G-3a Dead End Anchorage & Bridge Approach
94. Blank
95-116. Cross Sections

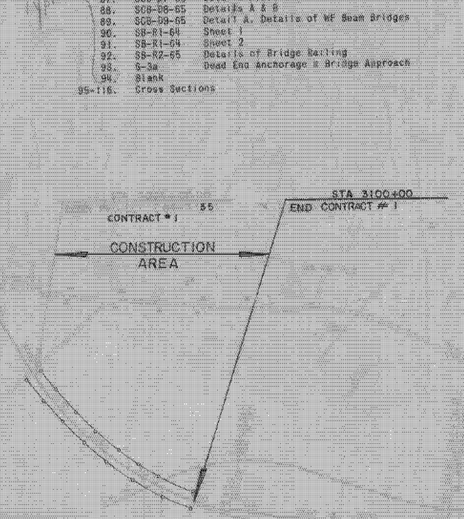
PROJECT NAME & NUMBER	TYPE PAVEMENT	AREA SY.
Georgia-Fairfax-Fairfield-St.Albans I-89(10) Grading & Drainage Stage I		

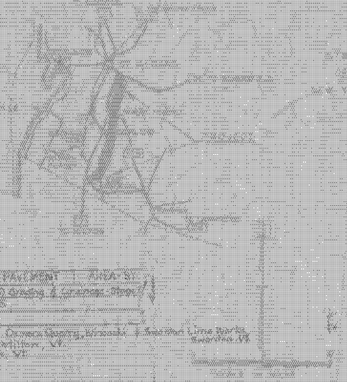
RECORD PLANS

MATERIALS

SUB-BASE OF GRAVEL	CRUSHED ROCK - Cayuga County, Aurora & Scipio Line Works, Scipio, N.Y.
SUB-BASE OF SAND	Contract Pit, Milton, Vt.
GRAVEL BACKFILL	Owls Hill, Enosburg, Vt.
CRUSHED GRAVEL	
PEARED TAR	
CUTBACK ASPHALT	
SAND OR PEASTONE FOR SEAL	
CONCRETE CLASS "D"	A.S. Anderson, St. Albans, Vt.
BIT. CONC. PAVEMENT	
REINFORCING STEEL	Bethlehem Steel Corp., Bethlehem, Pa.
METAL PIPE CULVERT	A.S. Metal Pipe Co.,
R.C.P.	
CAST IRON GRATE	N.E. Metal Castings Co.
DROP INLETS	E.T. Griswold & Co., Inc.
GUARD RAIL ITEMS	
STRUCTURAL STEEL	
CAST IRON COVER FOR F.B.	
SPLICE CONNECTORS	Tru Weld Co., Inc. & Superior Products Corp.
BRIDGE PAINT	Americolor Color Works, N.Y., N.Y.
WATER REPELLENT	Prentice Kellogg, Div. of Textron, Inc., Kibby Equipment Co.

CONTRACTOR	Curran-Lavoie Littleton, N.H.	CONTRACT DATED	23 March, 1966
		STARTED	25 March, 1966
RESIDENT ENGINEER	R.F. Dube	COMPLETED	31 Aug., 1967
INSPECTOR(S)	R.V. Shevery	ACCEPTED	18 Aug., 1967
RECORD PLANS	R.F.W.S.		





SB 3059+35.21 SB 3096+86.70
NB 3086+45.72 NB 3095+92.88

ROW LIMITS

LIMITS OF ACCESS

SR

TION SIGN A

PROJECT GEORGIA-FAIRFAX-FAIRFIELD-ST.ALBANS
NUMBER I-89-3(35)C.I. LENGTH 0.681 mi.
TYPE GRADING & DRAINAGE - STAGE I YEAR 1967
CONTRACTOR Curran-Lavoie
Littleton, N.H.
LOCATION Beginning at a point 3.973 miles southerly of the Georgia-Fairfax town line and extending northerly 0.681 miles.

201

FOR R.O.W. DETAILS, SEE R.O.W. PLANS FOR THIS PROJECT.

MILTON-HIGHGATE
IM MEMB(26)

SHEET 36 OF 70
BRIDGE 86S
FOR REFERENCE ONLY

THESE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE REQUIRED BY THE BUREAU OF PUBLIC ROADS OR THE COMMISSIONER OF HIGHWAYS.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL, 1954, AS APPROVED BY THE BUREAU OF PUBLIC ROADS ON OCTOBER 12, 1964, INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

R.H. Crandall 7/23/64
B.M. Blanchard 7/15/67
E.H. Stickney 10 July 1964
J.M. Bjorn 7/10/64
G.M. Lane 7/10/64
A.B. Bishop 7/16/64

Stage I Construction

DEPARTMENT OF TRANSPORTATION

35

Begin Bridge
Sta. 3088+35.21
Back of Abut.#1
Fin. Gr. 406.56
Fixed End

℄ Pier #1
Sta. 3089+29.82
Fin. Gr. 411.18

℄ Pier #2
Sta. 3090+24.43
Fin. Gr. 415.91

℄ Pier #3
Sta. 3091+19.04
Fin. Gr. 420.64

℄ Pier #4
Sta. 3092+13.65
Fin. Gr. 425.37

℄ Pier #5
Sta. 3093+08.26
Fin. Gr. 430.10

North

Central Vermont Ry.

℄ Pier #7
Sta. 3094+97.48
Fin. Gr. 439.56

℄ Pier #8
Sta. 3095+92.09
Fin. Gr. 444.29

End Bridge
Sta. 3096+86.70
Back of Abut.#2
Fin. Gr. 449.02
Exp. End

Begin App. Slab #1
Sta. 3088+15.03
Fin. Gr. 405.62

Limits of Item 204, Sub-base of Crushed Rock

Limits of Granular Borrow, Item 105 at piers in fill.

℄ P.O.C. 3092+15.94
℄ P.O.I. 189+69.9
Δ 39° 57' 30" Lt.

S.B. P.O.C. 3092+60.60
℄ 190+27.78
Δ 39° 30' 42.40" Lt.

℄ Pier #6
Sta. 3094+02.87
Fin. Gr. 434.83

Limits of Item 204

℄ S.B. Roadway
End App. Slab #2
Sta. 3097+06.38
Fin. Gr. 450.03

℄ Stationing

Minimum N.B. Clearance 23.5'

Minimum S.B. Clearance 27.6'

℄ N.B. Roadway

Begin App. Slab #3
Sta. 3088+25.80
Fin. Gr. 406.74

End App. Slab #4
Sta. 3096+12.81
Fin. Gr. 445.95

Begin Bridge
Sta. 3088+45.72
Back of Abut.#3
Fin. Gr. 407.67
Fixed End

℄ Pier #9
Sta. 3089+39.11
Fin. Gr. 412.27

℄ Pier #10
Sta. 3090+32.51
Fin. Gr. 416.94

℄ Pier #11
Sta. 3091+25.91
Fin. Gr. 421.61

℄ Pier #12
Sta. 3092+19.30
Fin. Gr. 426.27

℄ Pier #13
Sta. 3093+12.70
Fin. Gr. 430.94

℄ Pier #14
Sta. 3094+06.10
Fin. Gr. 435.61

℄ Pier #15
Sta. 3094+99.49
Fin. Gr. 440.28

End Bridge
Sta. 3095+92.89
Back of Abut. #4
Fin. Gr. 444.95
Exp. End

N.B. P.O.C. 3091+72.26
℄ 189+12.54
Δ 40° 23' 42.42" Lt.

PLAN

See Std. Sh. G-3a for Dead End Anchorage @ Bridge Approach. (Typical Both Ends.)

752'-0" (N.B.)

94'-0" | 94'-0" | 94'-0" | 94'-0" | 94'-0" | 94'-0" | 94'-0" | 94'-0"

Back of Abut | End of App. Slab | 50'-0"

+5.000%

Abut #1 El. 394.00 S.B.
Abut #3 El. 394.00 N.B.
Granular Borrow
Bot. of Sub-base
Item 204
Rock Fill (Rdwy Item)
El. 383.75 N.B. & S.B.
El. 390.0
Original Ground
Granular Borrow, Item 105, (To top of piles.)
El. 382.50 N.B. & S.B.
Track
2.33' Min. Cl. N.B.
El. 381.00 N.B. Pier #13
El. 383.50 S.B. Pier #5
El. 389.50 N.B. Pier #14
El. 385.50 S.B. Pier #6
Steel Piles 12BP53
El. 383.0 Pier #15 N.B.
El. 383.50 Pier #7 S.B.
El. 380.0 Pier #8 S.B.
For Fftg. Elev. S.B. see BR.121
For Fftg. Elev. N.B. see BR.123

ELEVATION - N.B. FASCIA

Steel Piles 12BP53

Est. Pile Length 150' S.B. 125' N.B.

Est. Pile Length 135' S.B. 120' N.B.

Est. Pile Length 110' S.B. 110' N.B.

Est. Pile Length 115' S.B. 100' N.B.

Est. Pile Length 105' S.B. 90' N.B.

Est. Pile Length 90' S.B. 60' N.B.

Est. Pile Length 75' S.B., 30' N.B.

Approx. Ledge Line

Est. Pile Length 35' Pier #7 S.B.

450
440
430
420
410
400
390

Base Line Curve Data
Δ 52° 51' 15" Lt.
D 1° 00' 00"
R 5729.58
T 2847.61
L 5285.42
E 668.06

Design Stresses
Structural Steel A36 fs = 20,000psi.
Reinforcing Steel fs = 20,000 psi.
Concrete fc = 3000 psi. N = 10

Notes:
1. All piers and abutments N.B. & S.B. are radial.
2. Steel piles (12BP53) shall be driven to point bearing on ledge unless the designed bearing capacity of 45 tons per pile is attained above ledge elevation.
3. For General Notes, specifications, and loadings see Std. Sh. SCB-01-65.
4. Item 505, Pile Loading Tests shall be used only when ordered in writing by the Engineer.
5. All stations are in reference to ℄ stationing.
6. For List of Bridge Sheets see sheet BR-104.
7. Bank, both NB and SB Bridges 7/16" per ft. for 27'-0" and 1/2" per ft. for the remaining 3'-0".

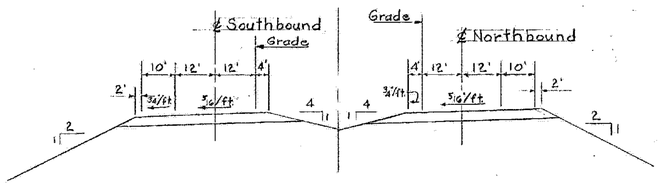
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

Georgia - Fairfax -
TOWN OF Fairfield - St. Albans
ROUTE No. I 89 LOG STA.
Plan and Elevation
I 89 over C.V. Ry.
SCALE 1" = 30'
SURVEYED BY Spaulding
DRAWN BY A.J.C. CHECKED BY J.J.C.
S4-B1 PROJECT No. I 89-3(11)
SHEET No. 20 OF No. 215

MILTON-HIGHGATE
IM MEMB(26)

SHEET 37 OF 70
BRIDGE 86S
FOR REFERENCE ONLY

BR-100

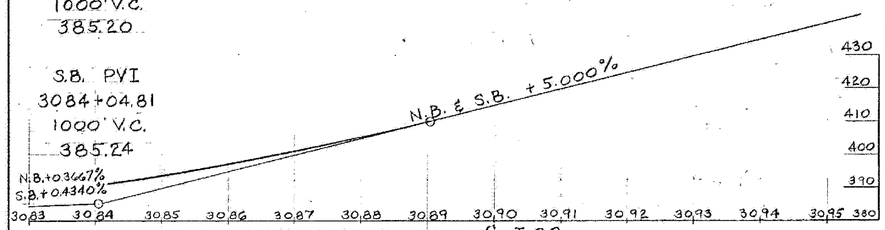


NEW HIGHWAY SECT. I 89

SCALE 1" = 20'

N.B. PVI
3084+04.06
1000' V.C.
385.20

S.B. PVI
3084+04.81
1000' V.C.
385.24

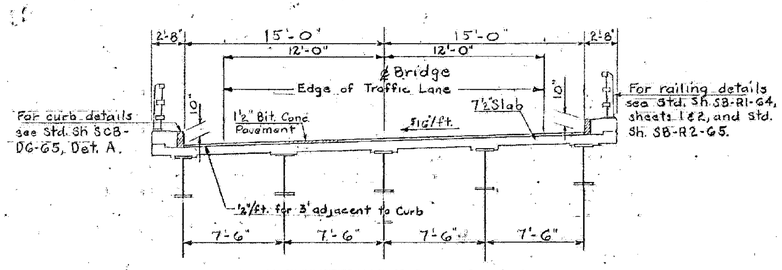


NEW HIGHWAY PROFILE ALONG ℄ I 89

SCALE 1" = 100' Hor. - 1" = 20' vert.

Location	Est. Pile Length
Abut. #1	150'
Pier #1	135'
Pier #2	110'
Pier #3	115'
Pier #4	105'
Pier #5	90'
Pier #6	75'
Pier #7	35'
Pier #8	Footing on Ledge
Abut. #2	Footing on Ledge
Abut. #3	125'
Pier #9	120'
Pier #10	110'
Pier #11	100'
Pier #12	90'
Pier #13	60'
Pier #14	30'
Pier #15	Footing on Ledge
Abut. #4	Footing on Ledge

For Superstructure details see Std. Sh. SCB-30-G5.

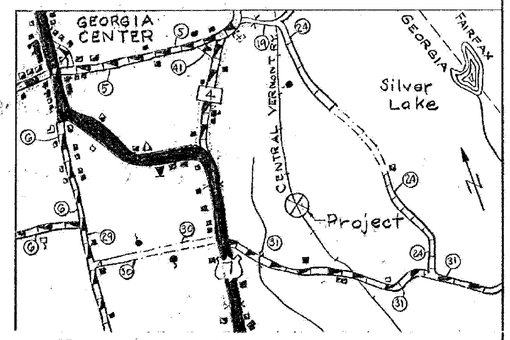


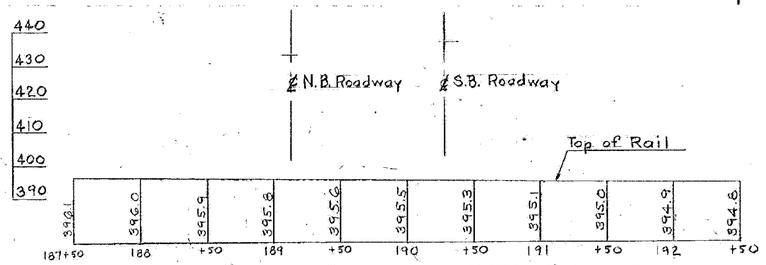
For curb details see Std. Sh SCB-DG-G5, Det. A.

For railing details see Std. Sh. SB-R1-G4, sheets 1 & 2, and Std. Sh. SB-R2-G5.

Typical Bridge Section

Scale 1" = 5'





Profile of Existing C.V. Ry. @ Top of Rail

Scale 1" = 50' Hor. 1" = 20' Vert.

HIGHWAY NO I 89 NAME OF HIGHWAY Interstate

STRUCTURE NO S4-B1 COUNTY Franklin TOWN Georgia

PROJECT NO I89-3(35) Cont #1 LOCATION I.89 Sta. 3092 ± Georgia - Fairfax - Fairfield - St. Albans

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 WATERWAY TO EXTREME H.W.
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 Standard W Beam Composite S.B. 9 - 94' Spans N.B. 8 - 94' Spans
2 RECOMMENDED CLEAR SPAN OR SPANS
MEASURED PARALLEL TO ℄ NEW HIGHWAY
MEASURED AT RIGHT ANGLES TO ℄ STREAM
3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM? ANSWER YES OR NO
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE SOURCE OF INFORMATION
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE ?
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? IS ORDINARY RISE RAPID?
8 LOW WATER ELEVATION AT NEW STRUCTURE
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE CHARACTER OF TERRAIN
10 IS STREAM EVER DRY
11 VELOCITY OF STREAM AT HIGH WATER STAGE ESTIMATED DISCHARGE
12 AREA FULL OPENING AREA BELOW ORDINARY H.W.
13 CHARACTER OF SCOUR DRIFT ICE
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE
15 VERTICAL CLEARANCE ABOVE ~~Top of Rail~~ N.B. 23.5' S.B. 27.6'
16 ARE SIDEWALKS REQUIRED? IF SO ON WHAT SIDE? NO BOTH SIDES
17 RECOMMENDED TYPE OF PAVEMENT 1½" Bit. Conc.
18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. ONE OR TWO WAYS PROBABLE COST
19 PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE
20 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES?
21 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 45 Tons/pile SHOULD PILES BE USED? Yes EST. LGTH.
5 Tons/Sq. ft.

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.

MILTON-HIGHGATE
IM MEMB(26)

SHEET 38 OF 70
BRIDGE 86S
FOR REFERENCE ONLY

Stage 1 & 2 Construction

CONTRACT 1

RECOMMENDED FOR APPROVAL E.H. Stickney CONSTR. ENGINEER 8/13/65 DATE

RECOMMENDED FOR APPROVAL [illegible] BRIDGE ENGINEER 8/13/65 DATE

RECOMMENDED FOR APPROVAL R.H. Arnold ASST. CHIEF ENGINEER 8/16/65 DATE

APPROVED BY: A.D. Bishop CHIEF ENGINEER 8/16/65 DATE

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

Interstate IN THE TOWNS OF Georgia - Fairfax - Fairfield - St. Albans

ROUTE NO. I 89 LOG STA.

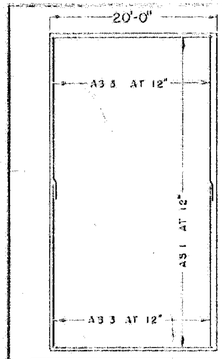
I 89 over C.V. Ry. Sta. 3092 ±

DRAWN BY E.S. | CHECKED BY A.S.C. | CHECKED BY F.W.B. | DATE 7/30/65 | SCALE As Noted

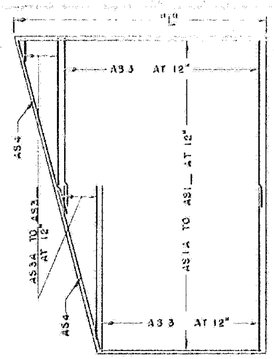
PROJECT NO I89-3(35) SHEET 21 OF 123

S4-B1

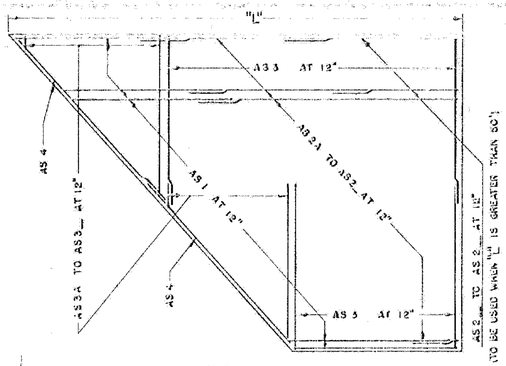
BR-103



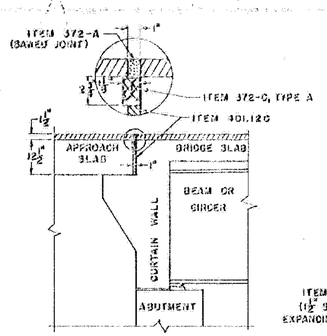
DETAIL "A" - SQUARE



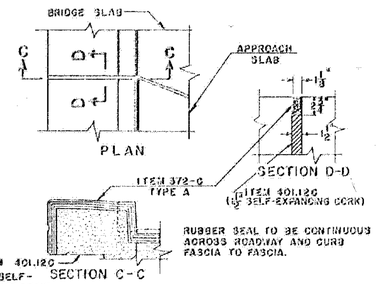
DETAIL "B" - "L" LESS THAN 35'



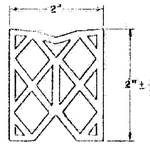
DETAIL "C" - "L" GREATER THAN 35'



SECTION B-B

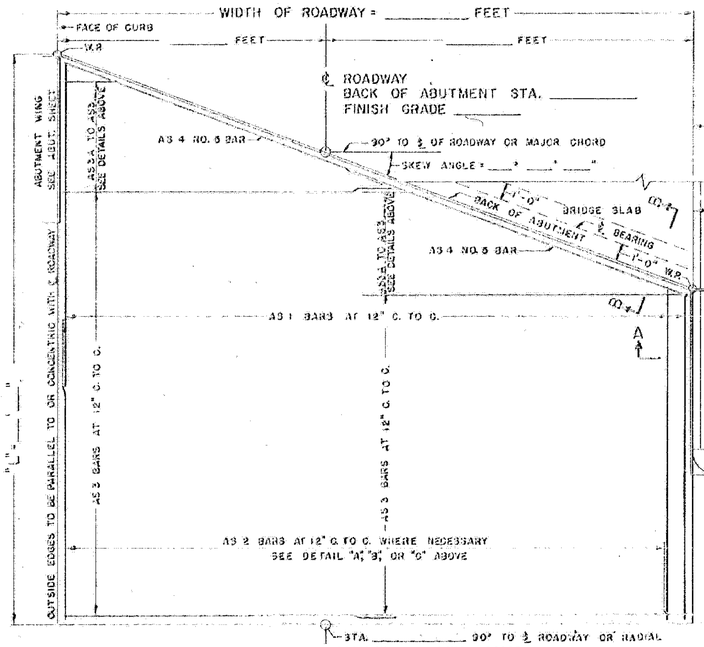


CURB JOINT DETAIL

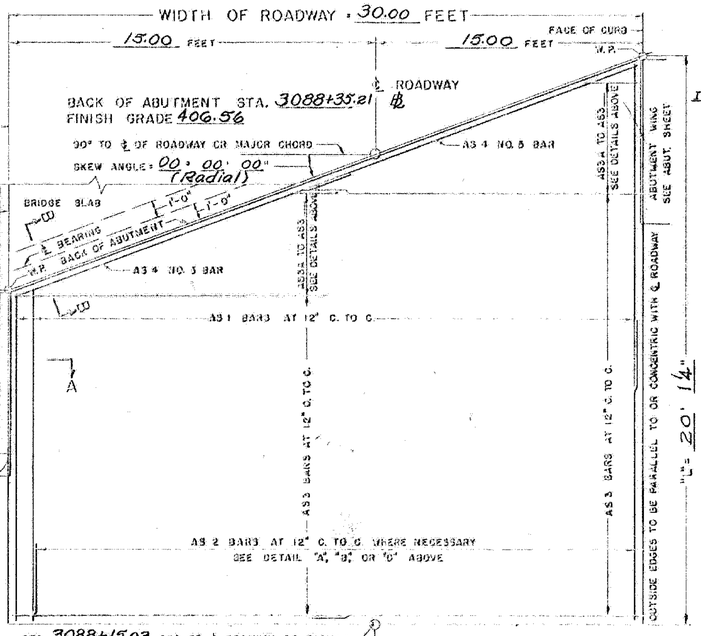


DETAILS - ITEM 372-C JOINT SEALER - PREFORMED

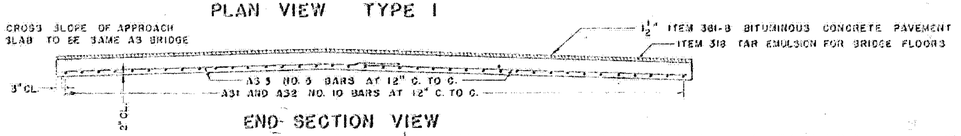
MATERIAL TO BE PREMOLDED NEOPRENE RUBBER (OTHER CONFIGURATIONS THAT SATISFY SPECIFICATIONS MAY BE USED.)



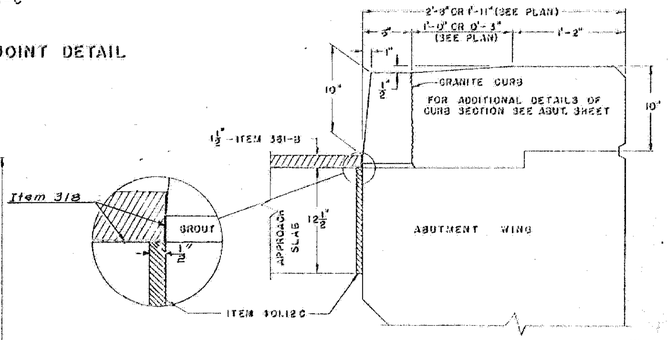
PLAN VIEW TYPE 1



PLAN VIEW TYPE 2



END SECTION VIEW



SECTION A-A

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL 1963, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961. DESIGNED FOR H S 20-44 LOADING.

2. ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. ALL SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.

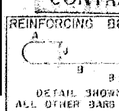
MILTON-HIGHGATE
IM MEMB(26)

SHEET 39 OF 70
BRIDGE 86S
FOR REFERENCE ONLY

Stage ½ Construction

CONTRACT 1

REINFORCING BENDING DETAILS



DETAIL SHOWN IS FOR A31 BAR ALL OTHER BARS ARE TO BE STRAIGHT

REINFORCING STEEL

BAR NO.	A NO. PIECES	B LENGTH	C WEIGHT PER FT.	A x B x C WEIGHT IN LBS.
A31	SEE REINFORCING SCHEDULE	4.303		
A32		4.303		
A33		1.043		
A34		1.043		
		TOTAL WEIGHT =		

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL	FINAL
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.		
361-B	BITUMINOUS CONCRETE PAVEMENT	TONS		
372-A	JOINT SEALER - HOT POURED	L.F.		
372-C	JOINT SEALER - PREFORMED, TYPE A	L.F.		
101-B	CONCRETE CLASS B	CY.		
402	REINFORCING STEEL	LB.		

REVISIONS AND CORRECTIONS

1. DIMENSIONS OF JOINT FOR SEALER TYPE A REVISED. 1/13/65 W.B.T.
2. DIMENSIONS OF JOINT SEALER, TYPE B REVISED AND MODIFICATION OF ITEM 372-D ADDED. 2/23/65 W.B.T.

DRAWN BY: W.B.T. Jan 1965
TRACED BY: W.B.T. Jan. 1965
CHECKED BY: W.M.S. Feb 1965

RECOMMENDED FOR APPROVAL: _____ BRIDGE ENGINEER — DATE 2/4/65
RECOMMENDED FOR APPROVAL: _____ ASSISTANT CHIEF ENGINEER — DATE 2/4/65
APPROVED BY: _____ CHIEF ENGINEER — DATE 2/8/65

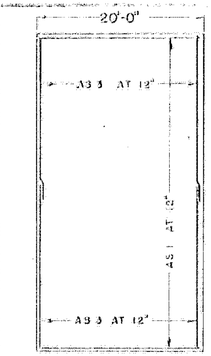
DETAILS OF APPROACH SLAB #1 S.B.
FOR 30.00 FOOT BRIDGE
(WIDTH)
TO BE USED FOR BRIDGE AT STATION 3092±
LOCATION I89 over C.V.R.R.

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE

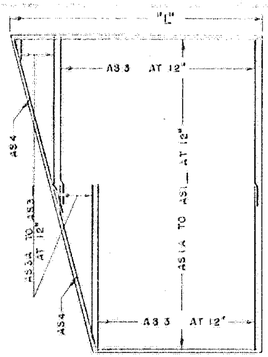
SB-AS-65

TOWN OF Georgia, Fairfax-Fairfield-St Albans
ROUTE NO. I89
LOG STA. _____
DESIGNED BY J.J.C. CHECKED BY A.J.C.
PROJECT NO. I89-3(33)Cont'd (BR) 126
SHEET 39 OF 114 393

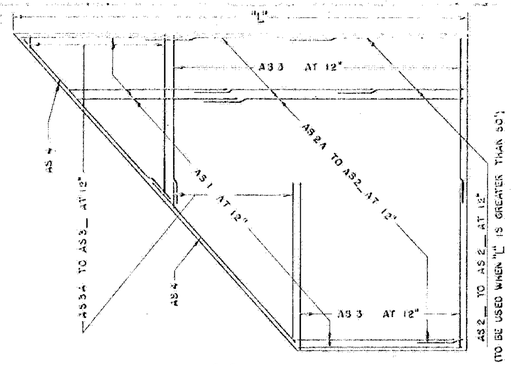
BR-123



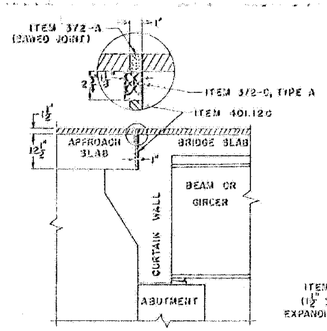
DETAIL "A" - SQUARE



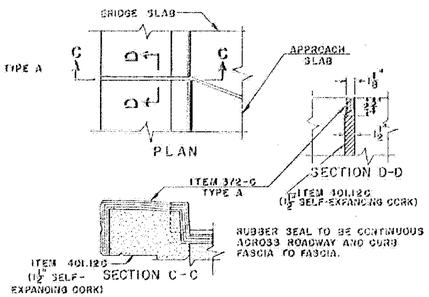
DETAIL "B" - "L" LESS THAN 35'



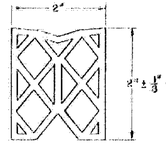
DETAIL "C" - "L" GREATER THAN 35'



SECTION B-B

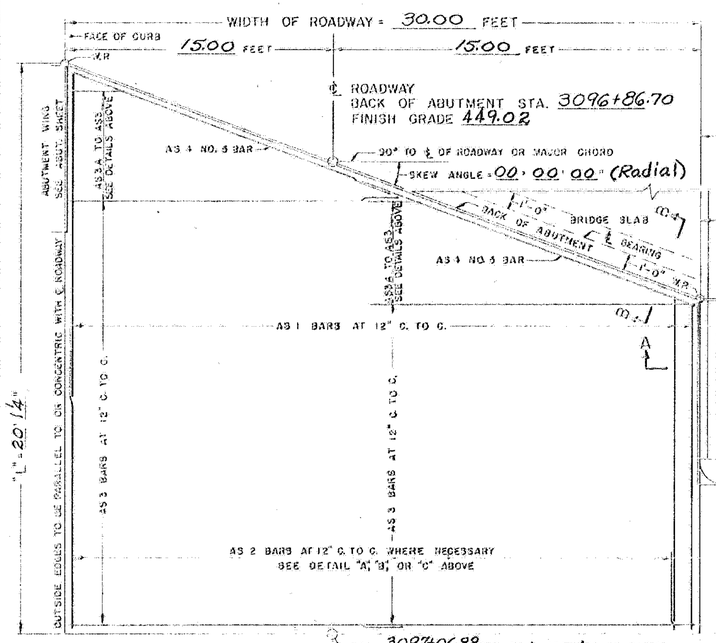


CURB JOINT DETAIL



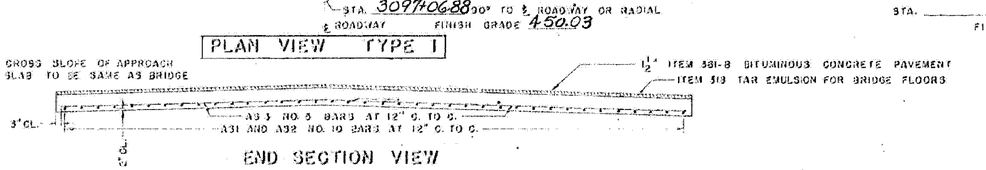
DETAILS - ITEM 372-C JOINT SEALER - PREFORMED

MATERIAL TO BE PREMOLDED NEOPRENE RUBBER (OTHER CONFIGURATIONS THAT SATISFY SPECIFICATIONS MAY BE USED.)

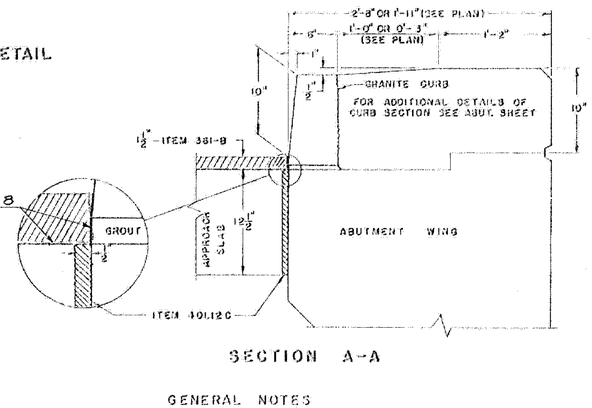


PLAN VIEW TYPE 1

PLAN VIEW TYPE 2



END SECTION VIEW



SECTION A-A

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL 1964, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961. DESIGNED FOR HS 20-44 LOADING.

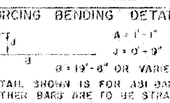
2. ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. ALL SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.

MILTON-HIGHGATE
IM MEMB(26)

SHEET 40 OF 70
BRIDGE 86S
FOR REFERENCE ONLY

Stage 1&2 Construction
CONTRACT 1

REINFORCING BENDING DETAILS



DETAIL SHOWN IS FOR A31 BAR
ALL OTHER BARS ARE TO BE STRAIGHT

REINFORCING STEEL

BAR NO.	A NO. PIECES	B LENGTH	C WEIGHT PER FT.	A x B x C WEIGHT IN LBS.
A31			4.303	
A32			4.303	
A33			1.043	
A34			1.043	
			TOTAL WEIGHT =	

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL	FINAL
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.		
381-B	BITUMINOUS CONCRETE PAVEMENT	TONS		
372-A	JOINT SEALER - HOT POURED	L.F.		
372-C	JOINT SEALER - PREFORMED, TYPE A	L.F.		
901-B	CONCRETE CLASS B	CY.		
402	REINFORCING STEEL	LB.		

REVISIONS AND CORRECTIONS

1. DIMENSIONS OF JOINT FOR SEALER TYPE A REVISED. 4/6/65 WBT.
2. DIMENSIONS OF JOINT SEALER TYPE B REVISED AND MODIFICATION OF ITEM 372-C ADDED 8/23/65 WBT.

DRAWN BY: W.B.T. Jan. 1965
TRACED BY: W.B.T. Jan. 1965
CHECKED BY: W.M.S. Feb. 1965

RECOMMENDED FOR APPROVAL: [signature] BRIDGE ENGINEER — DATE 2/4/65
RECOMMENDED FOR APPROVAL: [signature] ASSISTANT CHIEF ENGINEER — DATE 2/4/65
APPROVED BY: [signature] CHIEF ENGINEER — DATE 2/11/65

DETAILS OF APPROACH SLAB #2 S.B.

FOR 30.00 FOOT BRIDGE (W10 FH)

TO BE USED FOR BRIDGE AT STATION 3092 ±

LOCATION I89 over C.V.R.R.

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE

SB-AS-65

TOWN OF Georgia-Fairfax Fairfield-St. Albans

ROUTE NO. I89

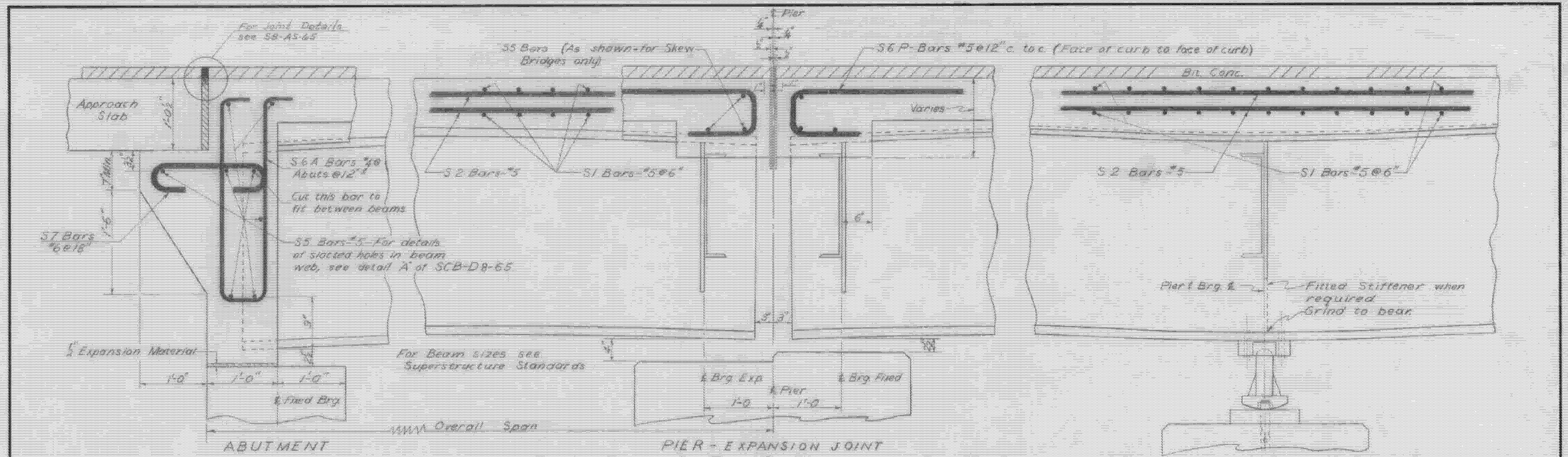
LOG STA.

DESIGNED BY J.J.C. CHECKED BY A.J.C.

PROJECT NO. I89-3(35) Cont. #1 (AT)

BR ___ OF ___ SHEET 40 OF 70 126 813

BR-129



REVISIONS & CORRECTIONS

Drawn By: [illegible] Revised [illegible]
Traced By: [illegible] Revised [illegible]
Checked By: [illegible] Revised [illegible]

Recommended: [illegible] 2/16/65
For Approval: Bridge Engineer Date

Recommended: [illegible] 2/16/65
For Approval: Asst. Chief Engineer Date

Approved By: [illegible] 2/16/65
Chief Engineer Date

DETAILS OF WF BEAM BRIDGES

(A) ELEVATION VIEWS
(B) SHEAR CONNECTOR DETAILS
(C) BEAM HAUNCH DETAIL

VERMONT
DEPARTMENT OF HIGHWAYS
STRUCTURE STANDARDS

SCB-D2-65

MILTON-HIGHGATE
IM MEMB(26)

SHEET 41 OF 70
BRIDGE 86S
FOR REFERENCE ONLY

244

The top of the Expansion Plates shall be flush with the finished roadway surface.

Steel for Expansion Plate shall conform to A.S.T.M. Desig A-242

1" dia. plastic tube placed @ 2'-0" intervals for drainage between bit. pavement & conc. slab.

Item 512-C

Precaution shall be taken to insure that the plastic tubes do not get clogged during construction.

3/4" or 7/8" x 7" Welding Studs

2" to 5" staggered

9'-0" Typ.

Half section of 7"x 5"x 1/4" thick Hollow Structural Tubing for trough. Min. slope 1/8" per ft.

4 - 1" ø Rods (Typ.) 4'-0" long. Coat one end with suitable lubricant to prevent bond

For hanger detail see detail B

Pier Cap

Column

Type "A" (over the end of the pier cap) To be used primarily over stream crossings. Typical for each end of pier.

5"x3"x 1/4" thick Hollow Structural Tubing

Payment for Splash Pad to be at the unit price bid for Conc. Class B Item 601-B.

Typ. 6"

For clamps see detail E

Type "B" (over the side of the pier cap) To be used primarily over dry crossings. Typical for each end of pier.

45° Elbow to be 2" above 4'-0"x 4'-0" thick conc. splash pad

#9 Wire mesh @ 6" c. to c. to be included in the unit cost of conc.

ELEVATION VIEW OF EXPANSION PLATE & DRAIN TROUGH

END VIEW

3/8"x 1" lg. Welding Studs plated to A.S.T.M. specification A-165 T. Type T.S. - Galvanized nuts & lock-washers.

2" Min.

@ 22½°

5"

3/8"x 1" Plated welding studs or 3/8"x 1/4" galv. bolts.

3/8" Galvanized Strap

HANGER DETAIL

1/4" Plate - Weld all seams

8"

5"

3"

8"

FRONT ELEVATION

RIGHT ELEVATION

PLAN VIEW

HOPPER DETAIL

All joint materials and dimensions are to be as shown in Curb Joint Detail, Sh. SB-AS-63 or as detailed on plans

SECTION A-A

CURB JOINT DETAIL

5" Min.

6 Threads

1/4" Thick x 2" wide Galvanized

3/4" Dia. anchor bolts to be either cast in place as shown, or expansion bolts approved by the Engineer

3"

Anchor bolts, nuts & lock-washers to be galvanized

CLAMP DETAIL

Clamps are to be spaced not greater than 8'-0" c.c.

REVISIONS & CORRECTIONS

Drawn By: XX 12/1962 Revised WF Bridges
Traced By: XX 12/1962 Revised WF Bridges
Checked By: E.E.P. WMS. RSH 4/1963 Rev. W.M.S. Updated

Recommended _____ 4/5/65
For Approval Bridge Engineer Date

Recommended _____ 6/7/65
For Approval Assist. Chief Engineer Date

Approved By _____ 6/10/65
Chief Engineer Date

DETAIL OF WF BEAM BRIDGES
PIER EXPANSION PLATES & DRAIN TROUGH DETAILS

MILTON-HIGHGATE
IM MEMB(26)

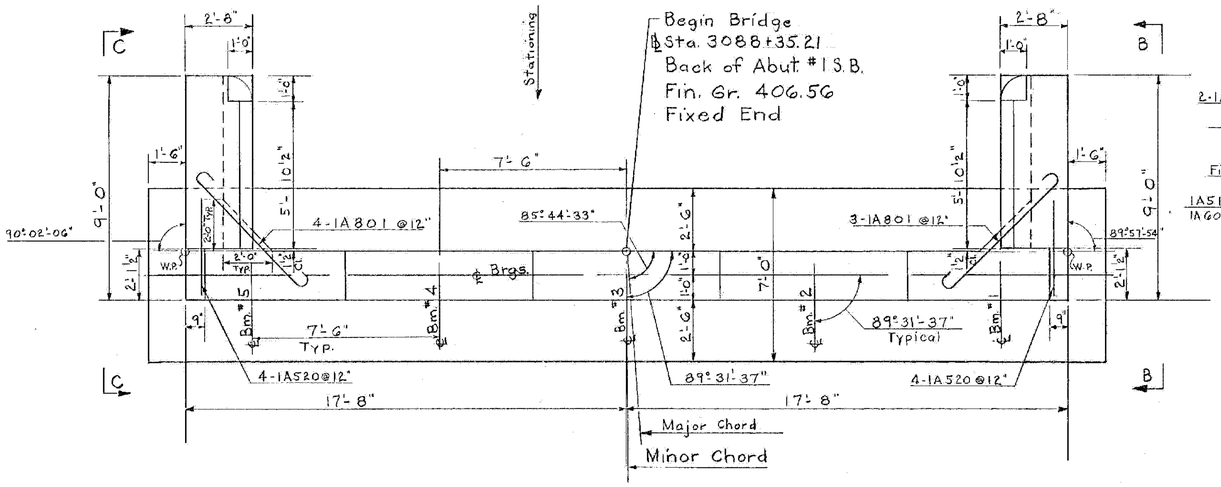
SHEET 42 OF 70
BRIDGE 86S
FOR REFERENCE ONLY

VERMONT
DEPARTMENT OF HIGHWAYS
STRUCTURE STANDARDS

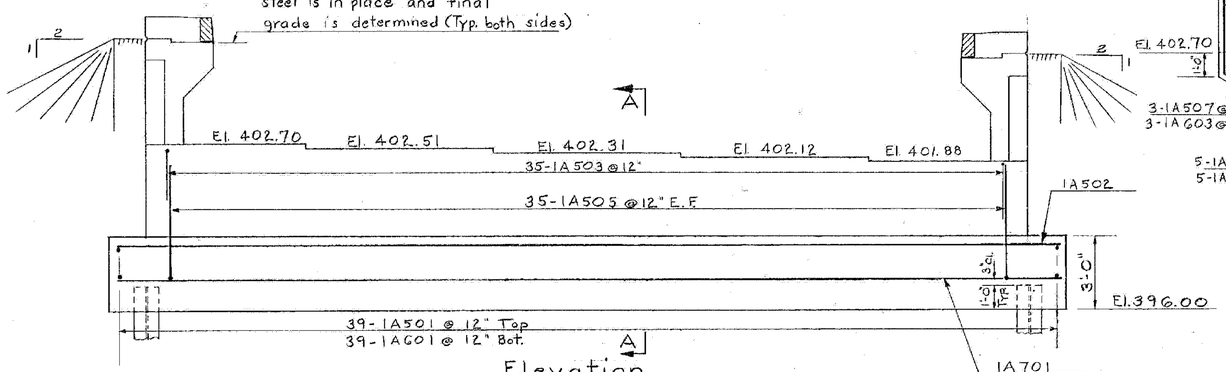
SCB-D3-65

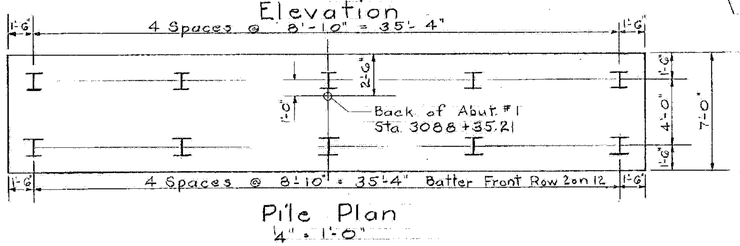
246

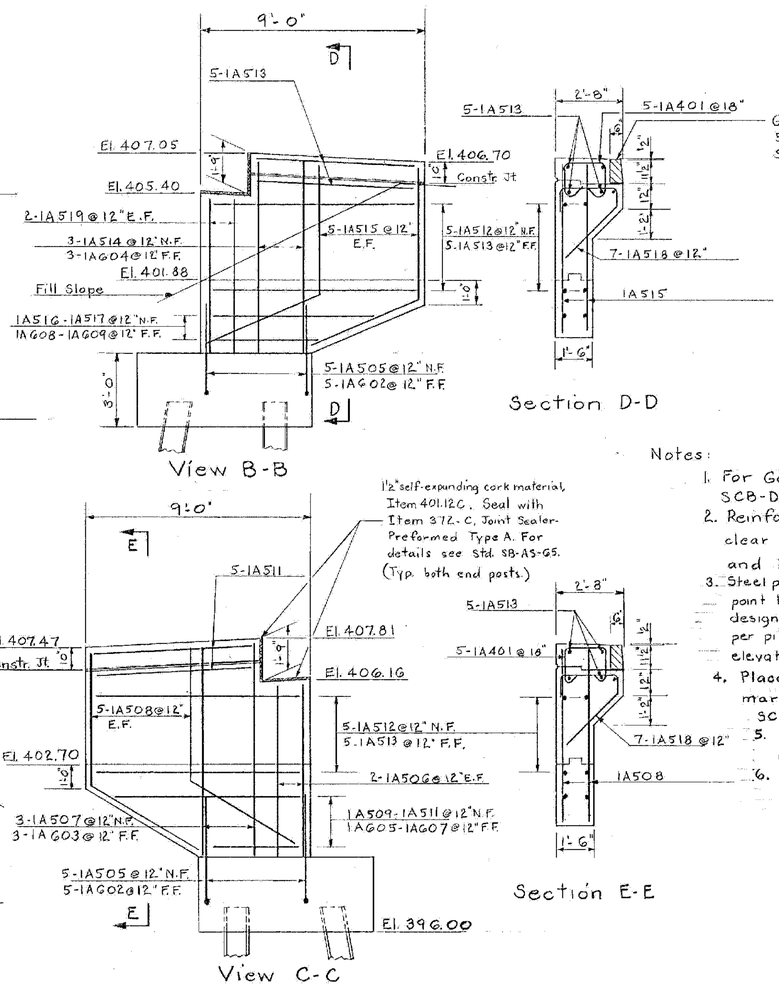
No. of Piles	Size	Est. Length of Piles	Splices Allowed for piles not exceeding Plan Length (To be paid for only if used.)	Splices estimated for piles exceeding Plan Length (To be paid for only if used.)
10	12BP53	150'	20	2

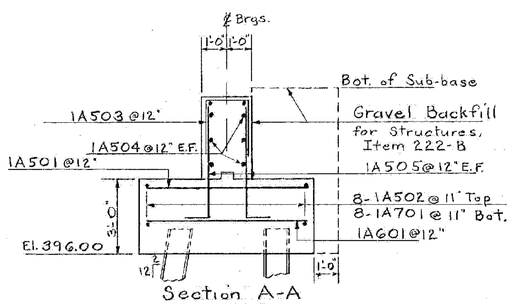


Note:
Do not construct above this joint until structural steel is in place and final grade is determined (Typ. both sides)









Notes:
1. For General Notes see Std. Sh. SCB-D1-G5.
2. Reinforcing steel to have a minimum clear cover of 3" in the footings and 2" elsewhere.
3. Steel piles (12BP53) shall be driven to point bearing on ledge unless the designed bearing capacity of 45 tons per pile is attained above ledge elevation.
4. Place bridge marker and bench mark hub as shown on Std. Sh. SCB-D1-G5. Furnished by the State.
5. Step bridge seats midway between beams.
6. FF - Far Face
NF - Near Face
EF - Each Face

MILTON-HIGHGATE
IM MEMB(26)

SHEET 43 OF 70
BRIDGE 86S
FOR REFERENCE ONLY

Stage I Construction

CONTRACT 1

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF Georgia - Fairfax - Fairfield - St Albans

ROUTE NO. I 89 LOG STA. ___

Abutment No. 1 Details

I 89 over C.V. RY.

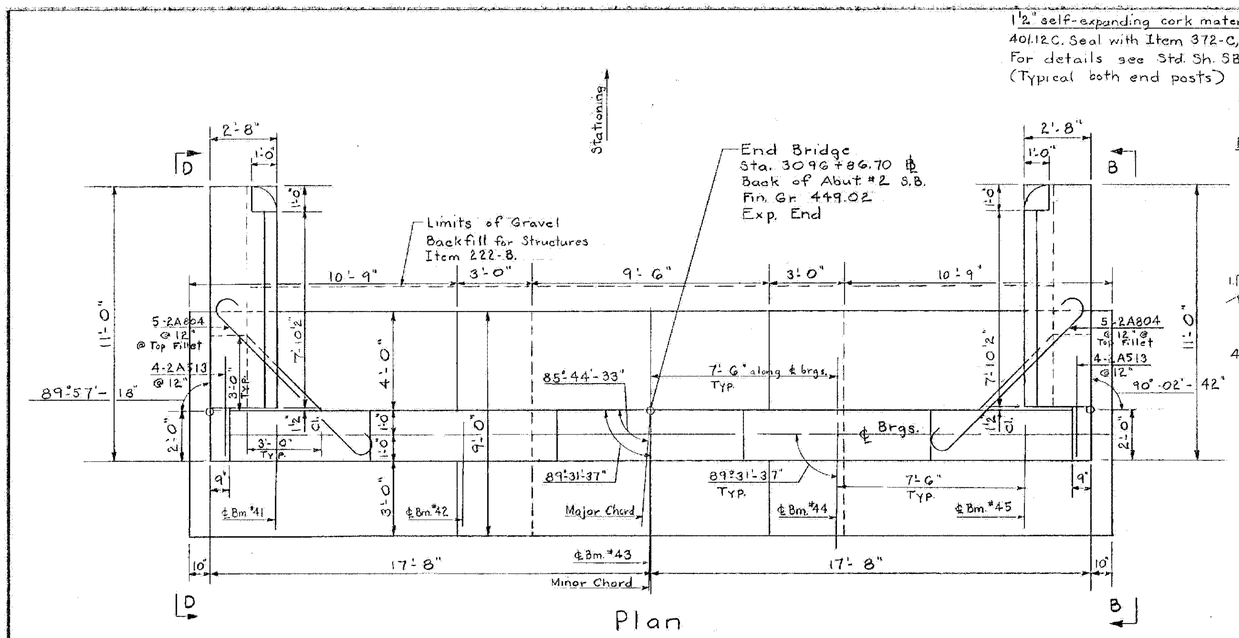
SCALE 3/8" = 1'-0" or As Noted

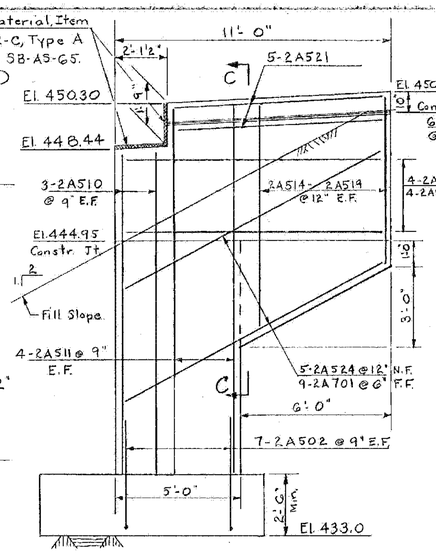
DRAWN BY AJC CHECKED BY RPG

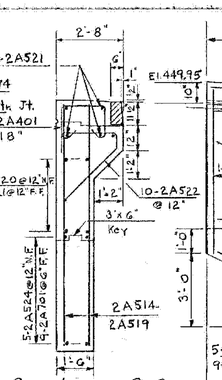
PROJECT NO. I 89-3(35) Cont. #1

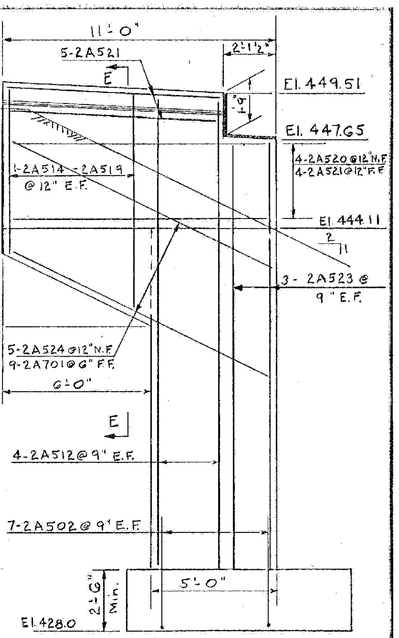
SHEET 58 OF 116

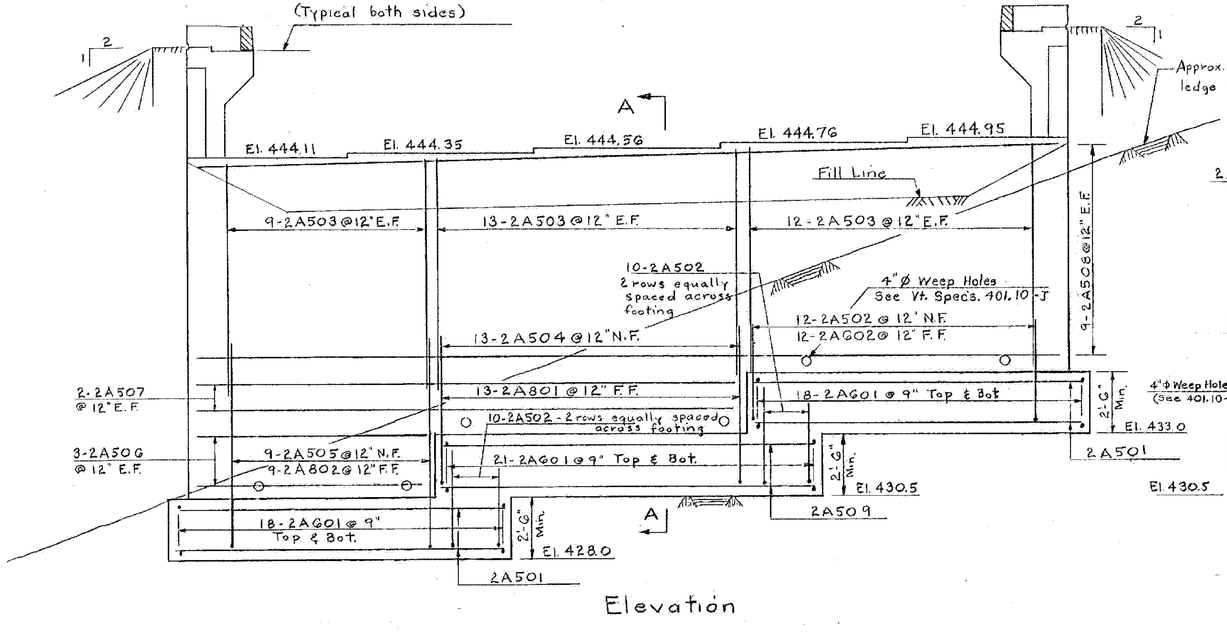
BR-120

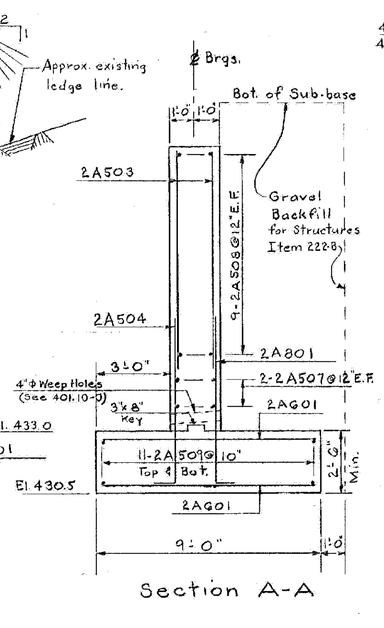


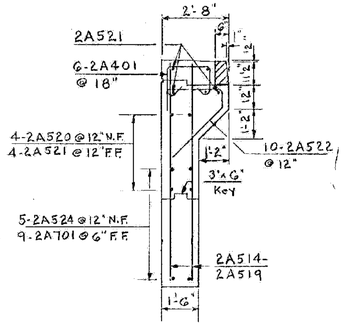












Notes:
1. Abutment #2 footing is to rest on sound, clean ledge.
2. For additional notes see sheet BR-120 Abutment No. 1 Details.

MILTON-HIGHGATE
IM MEMB(26)

SHEET 44 OF 70
BRIDGE 86S
FOR REFERENCE ONLY

Stage 1 Construction

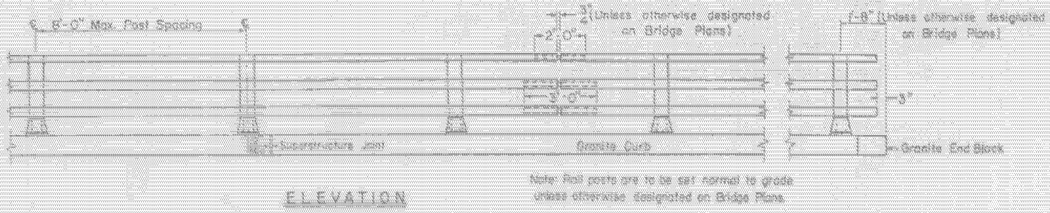
CONTRACT 1

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF Georgia - Fairfax - Fairfield - St. Albans
ROUTE NO. I 89 LOG STA.
Abutment No. 2 Details
I 89 over C.V. Ry.
SCALE 3/8" = 1'-0"

DRAWN BY A.J.C. CHECKED BY R.P.G.
PROJECT NO. I 89-3(35) Cont. #1
SHEET 39 OF 116

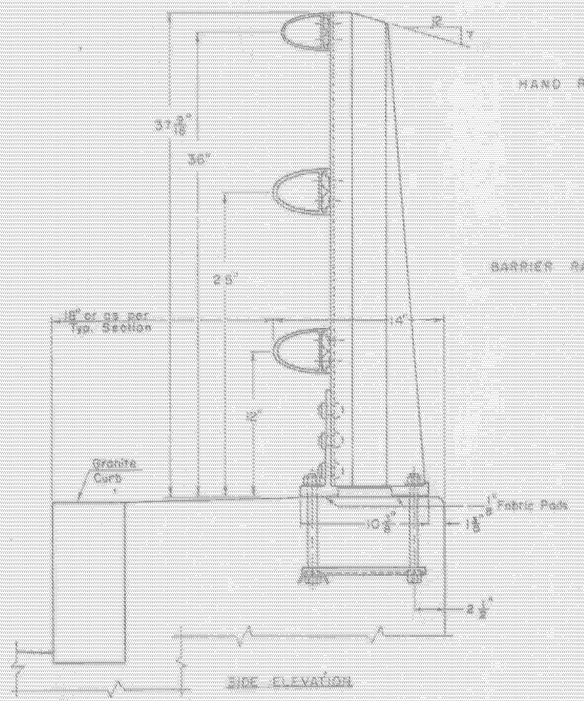
BR-121



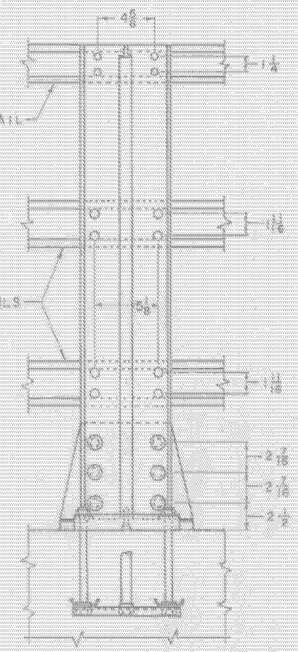
ELEVATION

Note: Rail posts are to be set normal to grade unless otherwise designated on Bridge Plans.

Allowable stresses:
Railing 21,000 psi
Post 17,000 psi

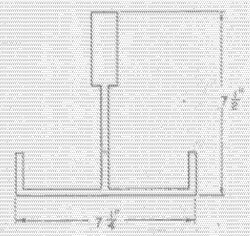


SIDE ELEVATION

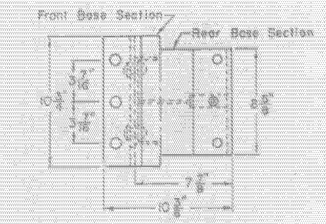


BACK ELEVATION

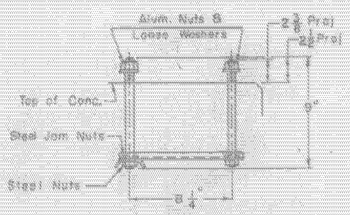
RAIL POST DETAILS



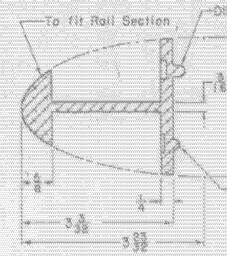
POST SECTION



BOTTOM VIEW OF BASE

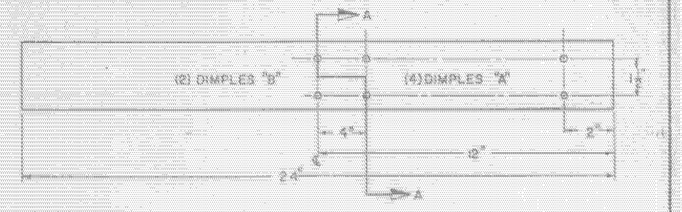


POST ANCHOR ASSEMBLY



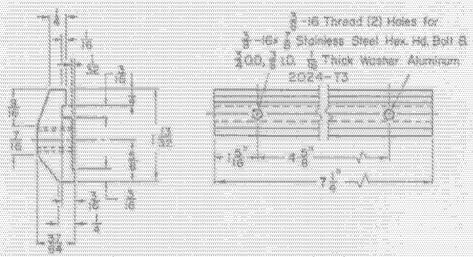
SECTION A-A

Note: For details of Dimples see Section B-8, SB-RI-64, Sheet 2 of 2.

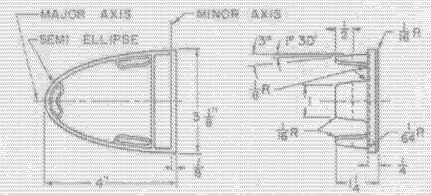


ELEVATION

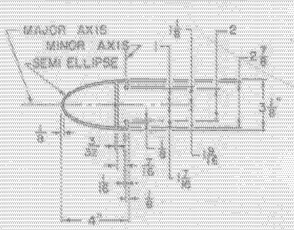
HAND RAIL SPLICE DETAILS



HAND RAIL POST CONNECTION



HAND RAIL END CAP



HAND RAIL SECTION

GENERAL NOTES

DESIGN SPECIFICATIONS: Designed in accordance with 1964 Interim A.A.S.H.O. Specifications and current A.S.T.M. Standards.

1. Open holes as noted.
2. Aluminum bolts shall be made from material conforming to A.S.T.M. B211, alloy 2024-T4, and shall have an anodic coating .0002 in. minimum thickness with dichromate or boiling water seal.
3. Material for Anchor Bolts shall conform to either (a) A.S.T.M. A 276 type 430 Stainless Steel except with a minimum of 100,000 psi ultimate strength, or (b) A.S.T.M. A 325 High Strength Steel bolts with suitable nuts and plain hardened washers, galvanized in accordance with A.S.T.M. A 123.
4. Material for set screws and cap screws to be stainless steel A.S.T.M. A276.
5. Material for aluminum nuts shall be A.S.T.M. B 211 Alloy 6061-T6 or Alloy 6262-T9 with suitable lubricant. Aluminum nuts to be American Standard finished hexagon thick nuts class 2B thread. Lower steel nuts shall conform to A.S.T.M. A307. All nuts to comply with American Nat. A.S.A. Spec. B 18.2.
6. Exposed ends of rail tube shall be closed with drive-in type rail end caps. Caps may be either (a) Aluminum alloy permanent mold castings complying to A.S.T.M. Spec. B80 Alloy SG 70A or B, or (b) Sand mold castings complying to A.S.T.M. Spec. B26 Alloy SG 70 A.
7. Weld filler wire shall be A.S.T.M. B285, Alloy ER-5356. All welding shall be metal inert gas process.
8. Ends of tube sections are to be sawed or milled. Cut ends are to be true, smooth, and free from burrs or ragged edges.
9. Railing system shall be continous, with each rail section attached to a min. of three posts. Each joint in rail length shall be spliced as detailed, with splices occurring in the same panel.
10. Anchor bolts are to be preset in concrete. For spacing of railing posts see Bridge Plans.
11. Railing is to be paid for per lineal foot and the cost shall include all hardware and post connections necessary to erect railing.
12. Material for posts, post bases, splice bars, and rails shall be A.S.T.M. B221, Alloy 6061-T6.
13. Material for aluminum washers shall be A.S.T.M. B-209 Alloy Alclad 2024-T3. Material for rivets shall be A.S.T.M. B-316 Alloy 6061 heat treated to the T6 temper. Rivets shall be button head and cone point, cold driven as per drawing. Alternate rivet material shall be A.S.T.M. B221 Alloy 6061-T6.
14. Material for anchor channel bars shall conform to A.S.T.M. A7 or A36.
15. All aluminum surfaces in contact with post pads shall be given 1 shop coat of zinc chromate paint.
16. Prior to fabrication shop drawings shall be submitted to the Department of Highways for approval.
17. Fabric pad shall be preformed fabric in accordance with AASHO Spec. 2.10.3.(K) and shall be furnished by the rolling fabricator. Pads shall be two pieces each 3" wide under each post.

Revisions & Corrections
1. Barrier Rail Depth increased to 4" for 8'-0" Post Spacing. Nov. 25, 1964. W.B.T.
2. Aluminum alloys revised to current ASTM Standards, Weld filler wire added. Jan. 12, 1965. W.B.T.
3. Minor corrections to conform to manufacturer's current tooling practices. Jan. 26, 1965. W.B.T.
4. Alternate rivet material added. Mar. 23, 1965. W.B.T.
5. Alloy designations revised. Dec. 6, 1965. W.B.T.
6. Alloy 6063-T6 removed from Note 12, bolt projections increased from 1/8 & 2 to 2 3/8 & 2 1/2. June 21, 1966. W.B.T.

Drawn By: W.B.T. Oct. 1964
Traced By: W.A.T. Oct. 1964
Checked By: W.M.S. Oct. 1964
Recommended for Approval: Bridge Engineer — Date
Recommended for Approval: Assistant Chief Engineer — Date
Approved: Chief Engineer — Date

Revisions & Corrections (Cont.)
7. Permanent mold castings for rail end caps added. Nov. 8, 1966. W.M.S.
8. Allowable stresses in railing and post added. Dec. 5, 1966. W.M.S.
9. Optional stainless or high-strength steel anchor bolts allowed. Dec. 5, 1966. W.M.S.

ALUMINUM BRIDGE RAILING DETAILS

MILTON-HIGHGATE
IM MEMB(26)

SHEET 45 OF 70
BRIDGE 86S
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURES

SB-RI-64 Sheet 1 of 2

SHEET NO.	1.	Title Sheet
	2.	Alignment Sheet
	3.	Typical
	4-5.	Quantity Sheet
	6-7.	Drainage and Detail Sheet
	8.	Underdrain and Miscellaneous
	9.	Blank
	10-20.	Earthworks
	21-25.	ROW Detail
	26-60.	Layouts & Profiles
		VT. #36 OVER I 89 STA. 3667+97± BRIDGE SERIES 100
	61.	BR-100 Plan & Elevation
	62.	BR-101 Bridge Quantity Sheet
	63.	BR-102 Preliminary Info. Sheet
	64.	BR-103 Borings
	65.	BR-104 Girder Details
	66.	BR-105 Bracing Details & Bearing Devices
	67.	BR-106 Expansion Dam Details
	68-69.	BR-107 & 108 Abuts. #1 & 2
	70.	BR-109 Pier
	71.	BR-110 Curb & Railing Detail
	72-73.	BR-111 & 112 Approach Slab #1 & 2
	74.	BR-113 Reinforcing Steel
		VT. #25 & 15 OVER I 89 STA. 3494+00± BRIDGE SERIES 200
	75.	BR-200 General Plan & Elevation
	76.	BR-201 Bridge Quantity Sheet
	77.	BR-202 Preliminary Info. Sheet
	78.	BR-203 Cased Borings
	79.	BR-204 Framing Plan
	80.	BR-205 Framing Plan-Curb & Railing
	81-82.	BR-206&207 Abuts. #1&2
	83.	BR-208 Piers 1,2,3,4 Details
	84-85.	BR-209&210 Reinforcing Steel Details
		VT. #105 OVER I 89 STA. 3456+93± BRIDGE SERIES 300
	86.	BR-300 General Plan & Elevation
	87.	BR-301 Bridge Quantity Sheet
	88.	BR-302 Preliminary Info. Sheet
	89.	BR-303 Boring Layouts & Boring Logs
	90.	BR-304 Boring Logs
	91.	BR-305 Framing Plan & Girder Details
	92.	BR-306 Rail & Curb Lengths
	93.	BR-307 Typical Section & Bearing Devices
	94.	BR-308 Exp. Joint Assem. & Fixed End Curb Details
	95-96.	BR-309 & BR-310 Details of Abutment
	97.	BR-311 Pier Details
	98.	BR 312 Details of Pier Reinforcing
	99-100.	BR-313 & BR-314 Details of Appr. Slabs
	101-102.	BR-315 & BR-316 Reinforcing Steel Schedule
		I 89 OVER CV RWY STA. 3584+00± BRIDGE SERIES 400
	103.	BR-400 General Plan & Elevation
	104.	BR-401 Bridge Quantity Sheets
	105.	BR-402 Preliminary Info. Sheet
	106.	BR-403 Boring Layout
	107-109.	BR-404 thru 406 Boring Logs
	110.	BR-407 Framing Plan
	111.	BR-408 Curb & Railing Plan & Typical Bridge Section
	112-116.	BR-409 thru 412 Details of Abutments
	116.	BR-413 Details of Pier No.1 & No.2
	117.	BR-414 Pier No.1 & No.2 Reinforcing Steel Details
	118-121.	BR-415 thru 418 Details of Approach Slabs
	122-123.	BR-419 & 420 Reinforcing Steel Schedule
	124-126.	Cross Sections CYRR
	127-128.	Blank
	129.	A-61 Sta. Typical for Slopes in Solid Rock Exca. Drilling & Blasting of Solid Rock Subgrade
	130.	B-1 Banking Tables
	131.	B-5 Typical Slope Grading
	132.	B-6 Muck Excavation, Item 117
	133.	B-10 Embankment on a Slope
	134.	B-11 Use of Underdrain w/Shattered Rock Subgrade
	135.	B-12 Side Road Intersection
	136.	B-13 Drive Intersection
	137.	B-14 Intercptor Ditch
	138.	B-15 Entrance & Exit Terminals
	139.	C-1 Treated Timber Curb, Item 556 & Bit.Conc.Curb, Item 955
	140.	D-2 CRM & Headwalls
	141.	D-3 Treated Gutters
	142.	D-4 Met. Elbows, Etc.
	143.	D-8 RCDI's
	144.	D-16 PRCCDI w/CI Grate & Frame, Item 531
	145.	D-17 ACCOMP Vertical Riser
	146.	E-1 Barricades, Signs & Lights (Roadway)
	147.	E-2 Barricades, Signs & Lights (Bridge)
	148.	E-31 Federal Aid Construction Identification Signs
	149.	F-1 Property Line Fence, Item 585
	150.	G-2a Two Cable Guard Rail, Item 543
	151.	G-2b Two Cable Guard Rail, Dead End Anchorage
	152.	G-3 Three Cable Guard Rail, Item 542
	153.	G-3a Three Cable Guard Rail Dead End Anchorage at Bridge Approach
	154.	G-4 Wood & Steel Marker Posts, Item 547
	155.	J-1 Erection of Project Markers
	156.	SCB-24-65 166 SCB-09-65
	157.	SCB-38-65 167 & 167-A SB-81-64 SHEETS 1 & 2
	158.	SCB-01-65 168 SB-82-65
	159.	SCB-02-65 169 Blank
	160.	SCB-03-65 170-298. Cross Section Sheets
	161.	SCB-04-65
	162.	SCB-05-65
	163.	SCB-06-65
	164.	SCB-07-65
	165.	SCB-08-65

STATE OF VERMONT

DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

TOWNS OF ST. ALBANS--SWANTON

COUNTY OF FRANKLIN

INTERSTATE ROUTE 89

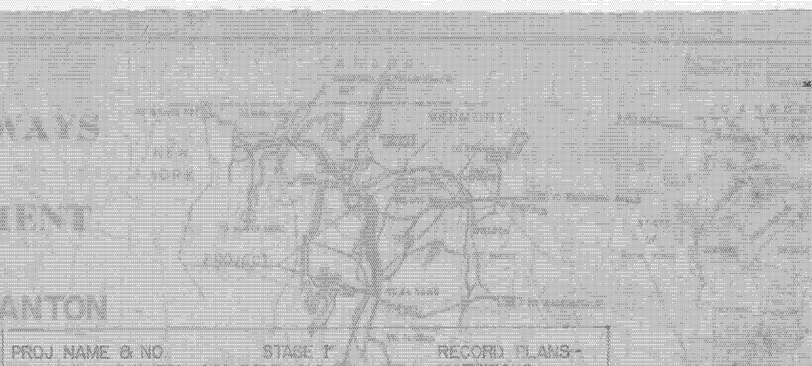
BURLINGTON-PHILIPSBURG, QUE. ROAD

CONTRACT #1

BEGINNING AT A POINT 3.795 MILES SOUTHERLY OF THE ST. ALBANS--SWANTON TOWN LINE AND EXTENDING NORTHERLY 3.337 MILES.

LENGTH OF ROADWAY	17,474.9	FEET = 3.310	MILES
LENGTH OF BRIDGE	143.0	FEET = 0.027	MILE
LENGTH OF CONTRACT	17,617.90	FEET = 3.337	MILES

1966 ADT 2530
1986 ADT 6090
DHV 1000
D 57.5%
T 7.0%
V 60 MPH

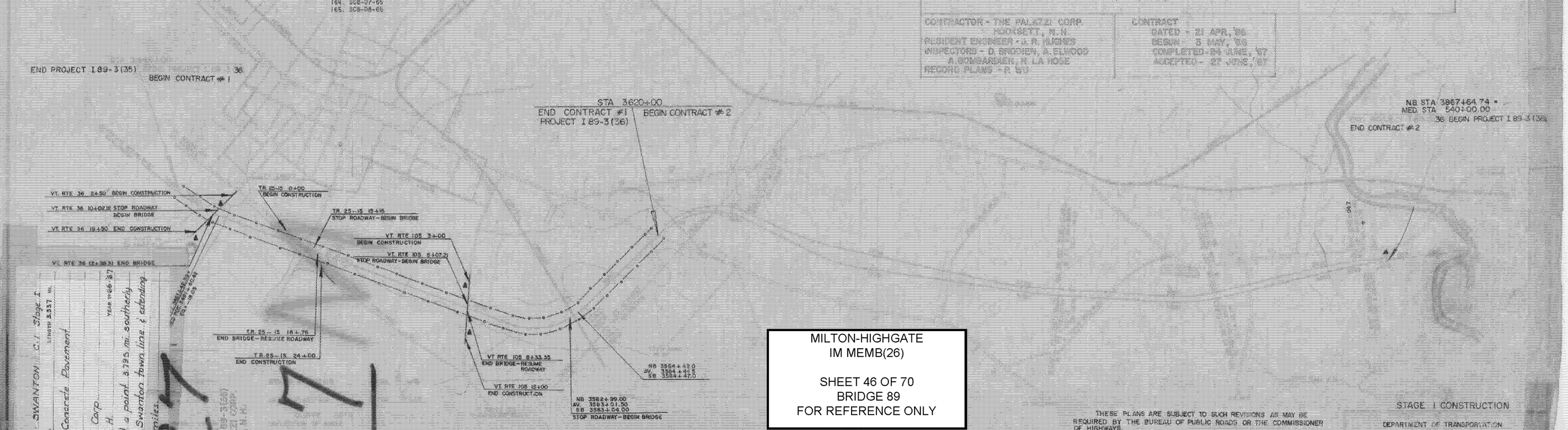


PROJ NAME & NO.	STAGE	YR	RECORD PLANS - MATERIALS
ST. ALBANS-SWANTON I 89-3(36)	C-I	1968	

SUB-BASE OF GRAVEL - SMITH PIT, ST. ALBANS, VT.
SUB-BASE OF SAND - GRATTON PIT NO. 2, ST. ALBANS, VT.
SUB-BASE OF CR. ROCK & STONE DRITS - SWANTON LIME WORKS, SWANTON, VT.
TACK COAT, TYPE RC-2 OUTBACK ASPHALT - KOMBLE OIL CO., EVERETT, MASS.
TAR EMULSION FOR BRIDGE FLOORS - TECK CHEMICAL CORP., GREENWICH, CONN.
BITUMINOUS CONCRETE PAVEMENT - L.W. PIKE & SONS, SWANTON, VT.
JOINT SEALER, HOT POURED - DEWEY & ALMY CHEM. DIV., W.R. GRACE & CO., CAMBRIDGE, MASS.
PREFORMED JOINT SEALER - D.S. BROWN CO.
CONC. CLASS "B" - A.E. ANDERSON, SWANTON, VT.
REINFORCING STEEL - BETHLEHEM STEEL CORP., BETHLEHEM, PA.
CAST IRON COVERS, METAL PIPE CULVERTS - U.S. METAL CULV. CO., WHITE RIVER JCT., VT.
CAST IRON GRATES, TYPE "A" & "B" - W.F. WYMAN - SHELBURNE FALLS, MASS.
GUARD RAIL ITEMS, PROPERTY LINE FENCE, ANCHORS, RUBRAIL - ST. GRISWOLD, ESSEX JCT., VT.
JOINT SEALER, PREFORMED, STEEL PILING, SHEAR CONNECTORS, BRIDGE RAILING - VT. STR. STEEL, BURLINGTON, VT.
WATER REPELLENT - SPENCER-KELLOGG DIV. OF TEXTRON, INC., BUFFALO, N.Y.
STRUCTURAL STEEL - DOMINION BRIDGES CO., LTD., LACHINE, QUEBEC, CANADA
BRIDGE RAILING - WARD WELLER CO. INC., WATER, MASS.
TREATED TIMBER PILING - N.E. POLE & WOOD TREATING CORP., MERRIMACK, N.H.
BRIDGE PAINT - AMSTERDAM COLOR WORKS, INC., N.Y., N.Y.

CONTRACTOR - THE PALAZZI CORP.
RESIDENT ENGINEER - J.A. HUGHES
INSPECTORS - D. BROCHEY, A. ELWOOD, A. BOMGARDNER, R. LA ROSE
RECORD PLANS - P. WU

CONTRACT
DATED - 21 APR., '66
BEGUN - 3 MAY, '66
COMPLETED - 24 JUNE, '67
ACCEPTED - 27 JUNE, '67



MILTON-HIGHGATE
IM MEMB(26)

SHEET 46 OF 70
BRIDGE 89
FOR REFERENCE ONLY

FOR R.O.W. DETAILS, SEE R.O.W. PLANS FOR THIS PROJECT

THESE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE REQUIRED BY THE BUREAU OF PUBLIC ROADS OR THE COMMISSIONER OF HIGHWAYS.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL, 1964, AS APPROVED BY THE BUREAU OF PUBLIC ROADS ON OCTOBER 12, 1964, INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS

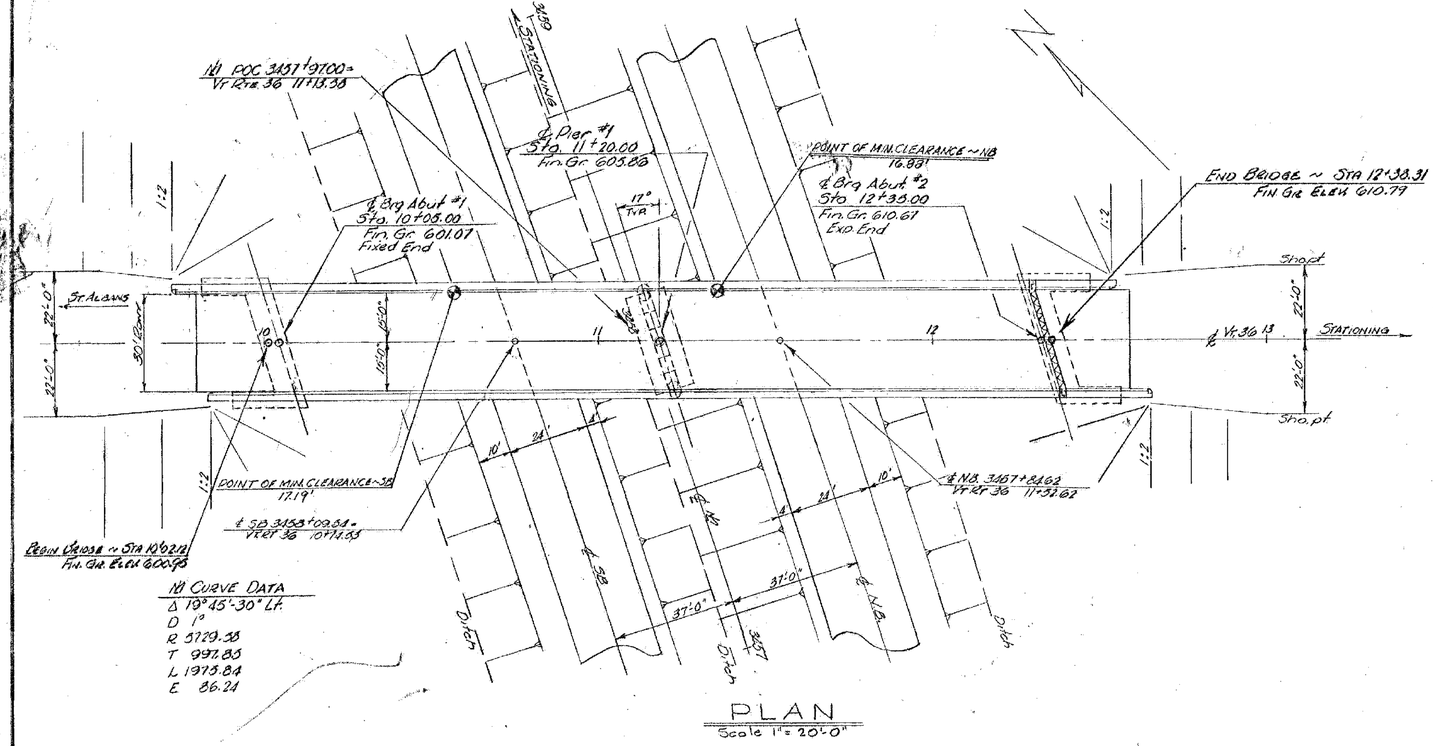
R H Arnold 12/15/65
E H Blakney 12/9/65
Lloyd Byors 12/15/65
B M Blanchard 9/21/64
D M Lane 12/15/65
A D Bishop 12/15/65

STAGE I CONSTRUCTION

DEPARTMENT OF TRANSPORTATION

36

CONTRACT #1



GENERAL NOTES:-

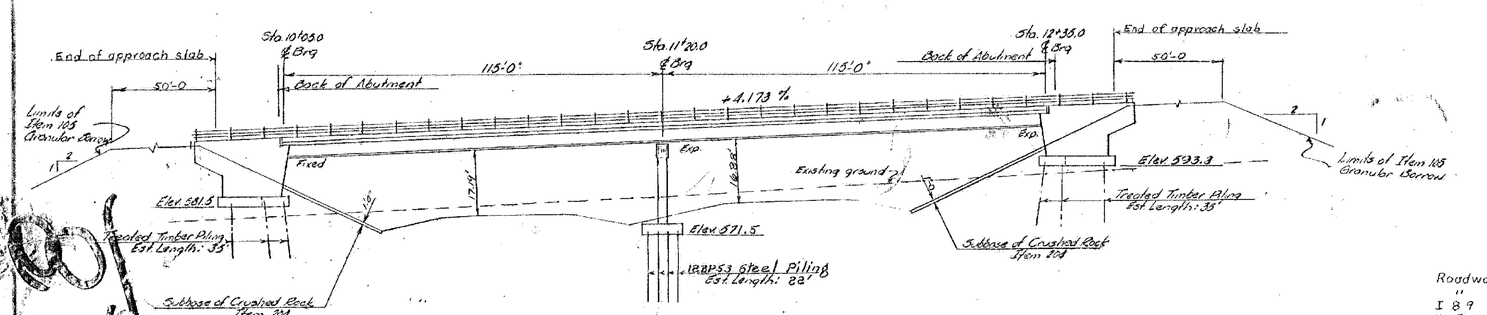
1. Elevation datum is geo. level based on nearest U.S. Government vertical control.
2. For additional notes, see SCB-01-65 and detail sheets.
3. All piles are to be driven to design load as shown on abutment and pier sheets. All piling is to be driven a minimum of 10 ft. into original ground.
4. Item 505 Pile Loading Tests shall be used only when ordered in writing by the Engineer.

LIST OF SHEETS

BR. 100 - Plan & Elevation
101 - Bridge Quantity Sheet
102 - Preliminary Information Sheet
103 - Borings
104 - Girder Details
105 - Bracing Details & Bearing Devices
106 - Expansion Dam Details
107 - Abutment #1
108 - Abutment #2
109 - Pier
110 - Curb & Railing Detail
111 - Approach Slab #1
112 - Approach Slab #2
BR. 113 - Reinforcing Steel Schedule

MILTON-HIGHGATE
IM MEMB(26)

SHEET 47 OF 70
BRIDGE 89
FOR REFERENCE ONLY



ELEVATION
Scale: 1" = 20'-0"

STANDARD SHEETS

G-3a
SCB-01-65
SCB-04-65
SCB-06-65
SB-121-64 ~ Shts. #1 & #2
SB-122-65

REFERENCE SHEETS

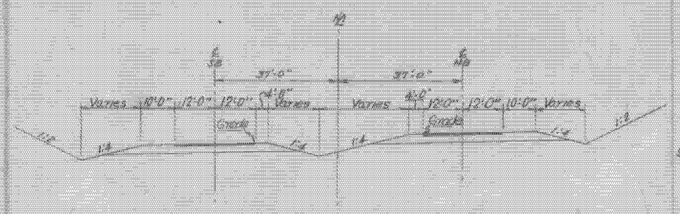
Roadway Plan Sheet	Sta 3444+0 – 3460+0
" Profile "	Sta 3444+0 – 3460+0
I 89 Sections	Sta 3457+0 – 3460+0
Vt. Route 36 Plan Sh.	Sta 1+0 – 16+0
" " " Profile Sh.	Sta 1+0 – 16+0
" " " Sections	Sta 7+0 – 16+0

REVISION 1 WMS 6/6/66	TREATED TIMBER PILES CHANGED TO 12BPS3 STEEL PILES UNDER PIER

BR 100 OF 113 REV. SHEET

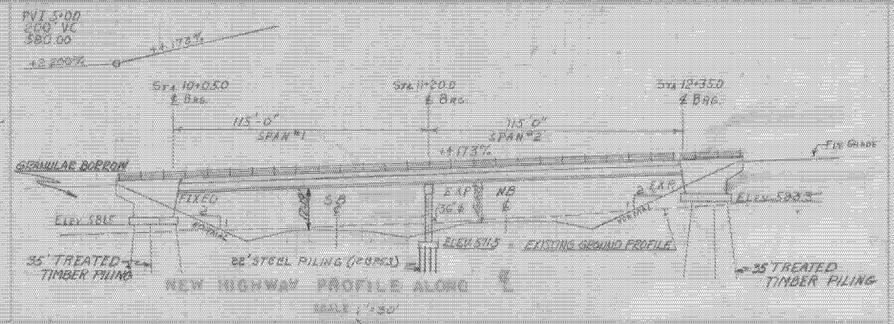
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF St. Albans - Swanton
ROAD NO. Vt. Rte 36 BRIDGE NO. ____
Vt. Rte. 36 over I-89 @ Sta. 3457+97
PLAN & ELEVATION
SCALE 1" = 20'-0"
SURVEYED BY Spaulding
DRAWN BY W CHECKED BY AGC
PROJECT NO. I-89-3(36) 1A(42)
SHEET 93 OF 113



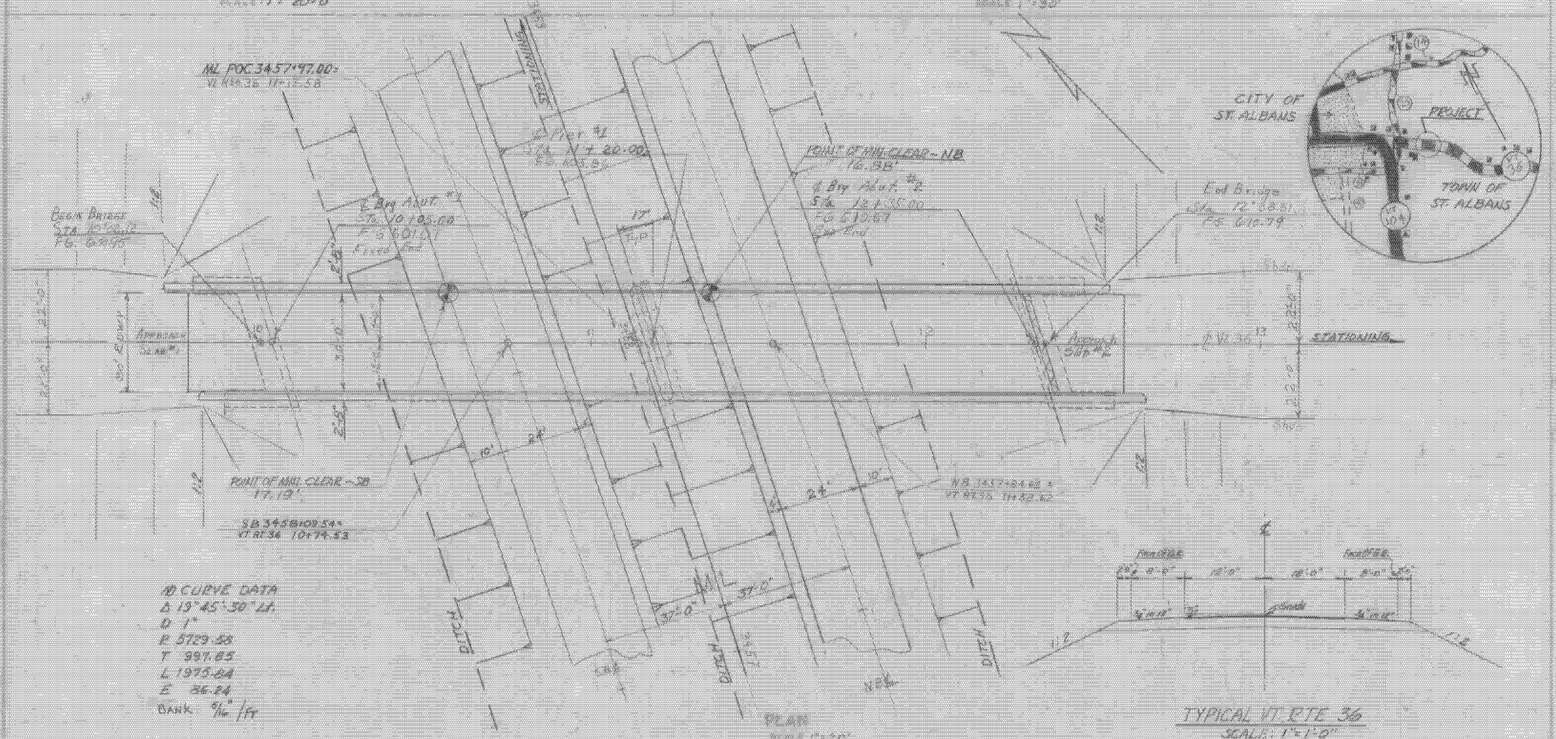
NEW HIGHWAY SB CT. STA. 3456+0 TO STA. 3460+0

SCALE: 1"= 20'-0"



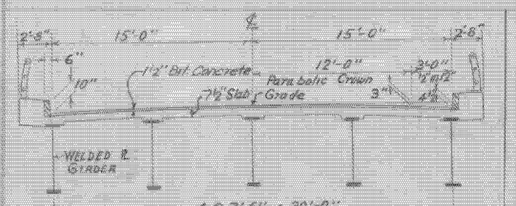
NEW HIGHWAY PROFILE ALONG ℄

SCALE 1"=30'



TYPICAL VT. RTE 36

SCALE: 1"=1'-0"



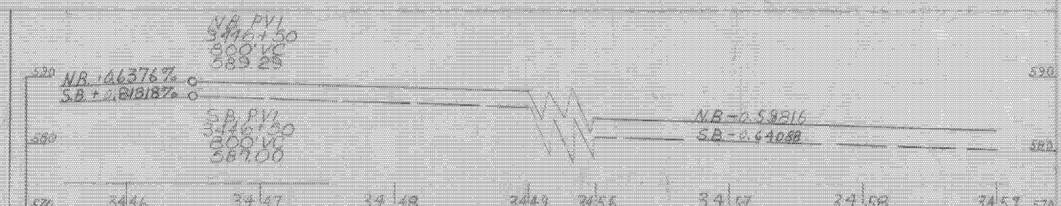
FOR DETAILS OF DECK CONSTRUCTION SEE SCB-30-65

FOR CURB DETAILS SEE SCB-06-65 DET. A

FOR RAILING DETAILS SEE SB-80-64 (SHTS 1 & 2) & SB-82-65

TYPICAL SECTION

SCALE 1"=5'



PROFILE OF PROPOSED I-89

SCALE HOR. 1"=50'
VERT. 1"=10'

ROADWAY NO.	VT. RTE. 36	NAME OF ROADWAY: ST. ALBANS – BAKERSFIELD ROAD
STRUCTURE NO.		COUNTY: FRANKLIN TOWN: ST. ALBANS
PROJECT NO.	I 89-3(36)	LOCATION: ST. ALBANS – SWANTON – VT. RTE 36 OVER I 89

EXISTING STRUCTURE

1 WIDTH CURBING OF EXISTING STRUCTURE
2 TYPE OF EXISTING STRUCTURE
3 UNSATISFACTORY FEATURES – CONDITION OF EXISTING STRUCTURE
4 WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE: DISPOSAL 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 SHOWN ELEV. AT EXISTING STRUCTURE: WATERWAY TO ORDINARY H.W.
8 CAPACITY HIGH WATER AT EXISTING STRUCTURE: WATERWAY TO OVERFLOW H.W.
9 SPAN OF EXISTING BRIDGE, STRUCTURE: WATERWAY TO OVERFLOW H.W.
SPAN OF EXISTING BRIDGE, STRUCTURE: WATERWAY TO OVERFLOW H.W.
10 TYPE OF FOUNDATION OF EXISTING ABUTMENTS
11 WHEN ALL WATER OF FLOOD ELEVATION MUST THROUGH EXISTING STRUCTURE
12 IS NOT ABOVE ELEVATION IN RELIEF APPROPRIATE
13 ADDITIONAL WATERWAY AREA PROVIDED

NEW STRUCTURE

1 RECOMMENDED TYPE OF STRUCTURE: 2-SPAN CONTINUOUS WELDED GIRDER
2 RECOMMENDED CLEAR SPAN OR SPANS: 115' – 115' ℄ Brgs
3 ALIGNED: PARALLEL TO ℄ NEW HIGHWAY
SKEWED AT ROAD ANGLE TO ℄ STREAM: N/A
4 ARE THERE CONDITIONS TO A RISE IN THE STREAM, ANSWER YES OR NO: N/A
5 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE: N/A
6 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE: SOURCE OF INFORMATION: N/A
7 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE?: N/A
8 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION AGAINST OR ORDINARY HIGH WATER: N/A
9 LOW WATER ELEVATION AT NEW STRUCTURE: N/A
10 IS DRAINAGE AREA IN WHOLE OR IN PART: CHARACTER OF TERRAIN: N/A
11 IS STREAM EVER DRY: N/A
12 VELOCITY OF STREAM AT HIGH WATER STAGE: ESTIMATED DISCHARGE: N/A
13 AREA POOL SPREADS: AREA BELOW ORDINARY H.W.: N/A
14 CONSTRUCTION OF WOOD: BODY: KIND: N/A
15 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE: N/A
16 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION: N/A
17 ARE CULVERTS OR BRIDGES, IF SO ON WHAT LINE: NONE
18 RECOMMENDED TYPE OF PAVEMENT: 1½" Bitum. Concrete Wearing Surface
19 IS TRAFFIC TO BE MAINTAINED UNDER THIS NO.: N/A ONE OR TWO WAY: PROJECT NO.
20 PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE: N/A
21 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES: No
22 ESTIMATED ALLOWABLE LOAD TO BE CARRIED BY NEW STRUCTURE: 15 Ton/Axle FOR OR USED: Yes SAFE LOAD: 35 Max. 40 Ton/Axle Steel

FOUNDATION INFORMATION

OBTAINED FOR DESIGN PURPOSES ONLY AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BORINGS MAY BE ENCOUNTERED AT ANY POINT OR ELEVATION WITHIN

DESIGN LOADING: HS 20 - 44

DESIGN STRESSES: A 36 STEEL f_s = 20,000 psi.
CONCRETE f'_c = 3,000 psi
REINF. STEEL f_s = 20,000 psi. (TENSION)

MILTON-HIGHGATE
IM MEMB(26)

SHEET 48 OF 70
BRIDGE 89
FOR REFERENCE ONLY

SHT 102 OF 113 REV. SHEET

Recommended for Approval:	Bridge Engineer	Date	
	Const. Engineer	5/6/65	
		5/13/65	
		5/13/65	

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

I 89 IN THE TOWN OF
ST. ALBANS - SWANTON
ROUTE NO. LOC. SEC.
VT RT 36 OVER INTERSTATE 89

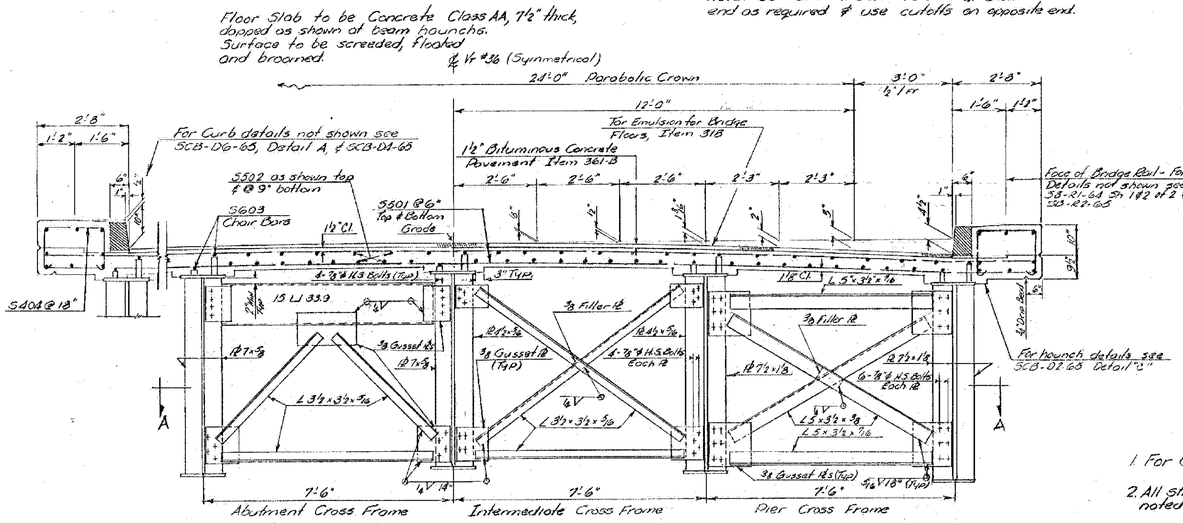
DRAWN BY: KMK CHECKED BY: KS SCALE: AS NOTED DATE: MAR 1965

PROJECT NO. I 89-3(36) SHEET NO. 634 278
CONT. # 1

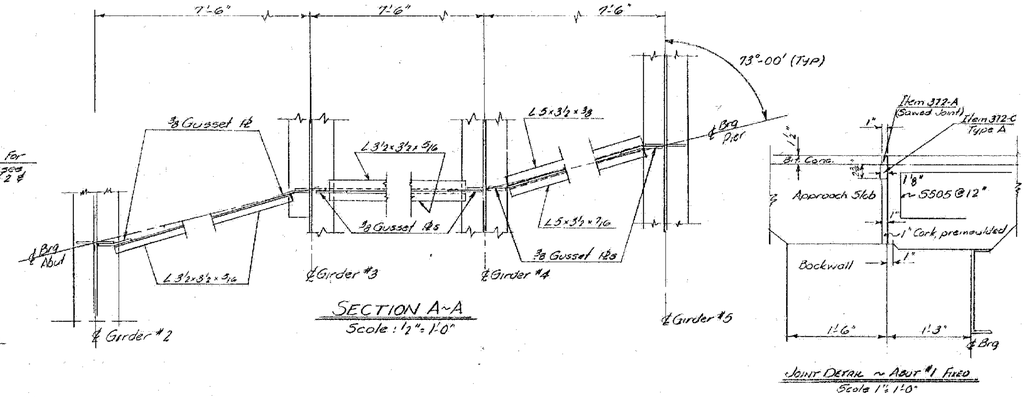
REV. MAR 1965 RHH CHK. MAR 1965 RLM

Floor Slab to be Concrete Class AA, 7½" thick, dapped as shown at beam haunches. Surface to be screeded, floated and broomed.

Note: Cut S501 transverse bars at skew end as required & use cutoffs on opposite end.



TYPICAL BRIDGE SECTION
Scale: ½"=1'-0"



SECTION A-A
Scale: ½"=1'-0"

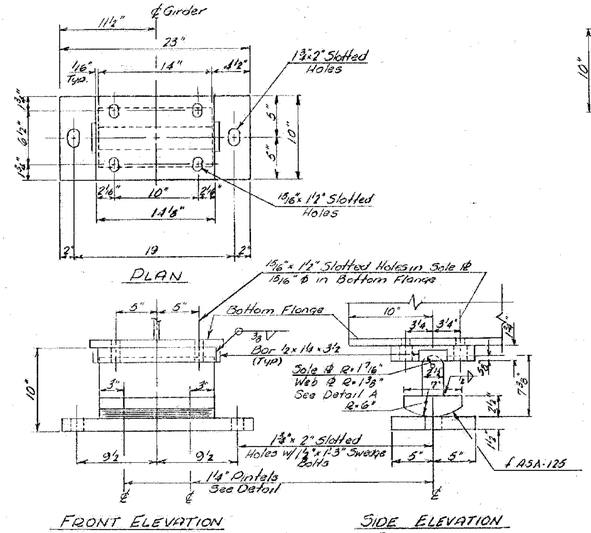
JOINT DETAIL - ABUT #1 FIXED
Scale 1"=1'-0"

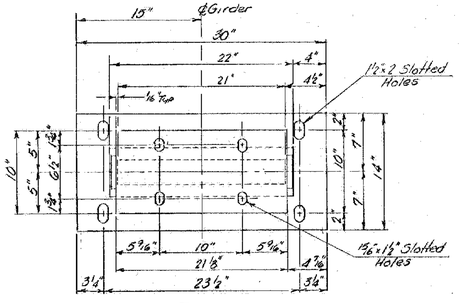
SUPERSTRUCTURE NOTES

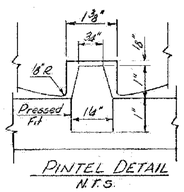
1. For General Notes see Std. Sh. SCB-D1-65 and Br. 100.
2. All structural steel shall be ASTM A36-62T unless otherwise noted on the plans.
3. All field connections shall be made with ⅞" ϕ High Strength bolts in 1⅜" holes unless otherwise noted on the plans.
4. Water Repellent, Item 490 shall be applied to safety walk, fascia and bottom of slab back to drip bead.

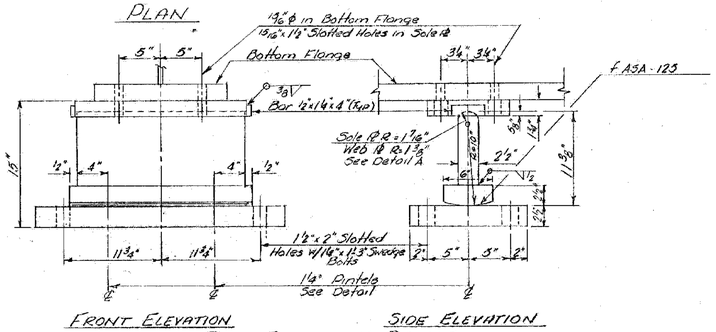
BEARING DEVICE NOTES

1. Preformed Fabric Pads or Canvas and Red Lead pads ⅛" thick, equal in size to the bearing plates, shall be used under each bearing, conforming to Spec. 401.02(23).
2. Align devices so that all rocker arm shafts will be vertical at 45°F. For temperatures other than 45°F, adjust rockers and expansion devices by the following amount in feet according to whether bridge is in expanded or contracted position: Length from fixed bearing x 0.0000065 x degree of change from 45° F.
3. Contact surfaces of rockers, to be given shop coat of White Lead & Tallow. Pintel holes are to be filled with graphite at time of placement. Remainder of bearing to be given 3 coats of paint in accordance with Vt. Spec. 404.03. Those parts of bearing, coated with White Lead & Tallow, shall be cleaned prior to erection & coated with graphite & grease as directed by the Engineer.

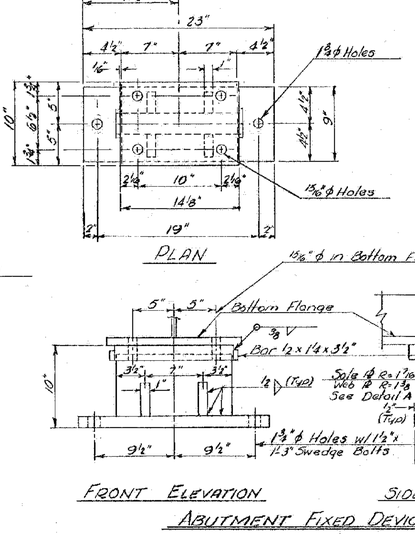


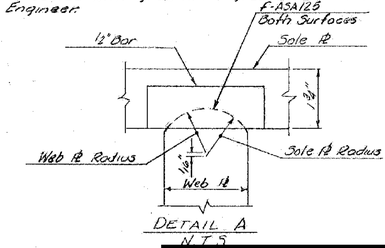






BEARING DEVICES
Scale: 1½"=1'-0"



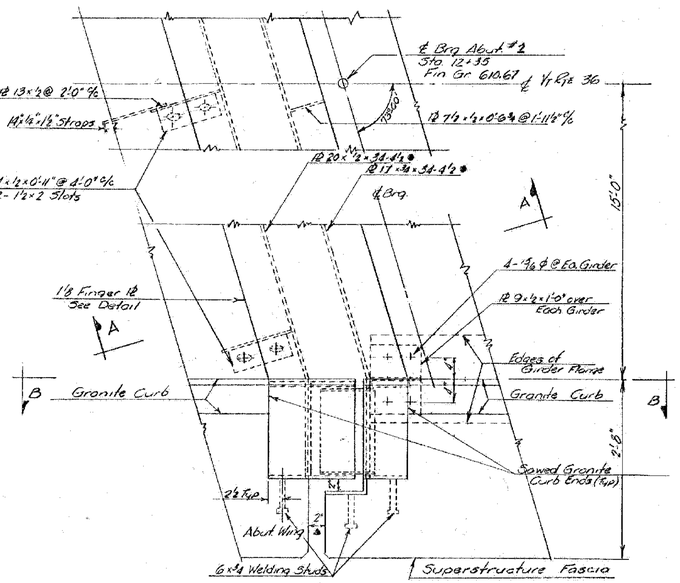


MILTON-HIGHGATE
IM MEMB(26)

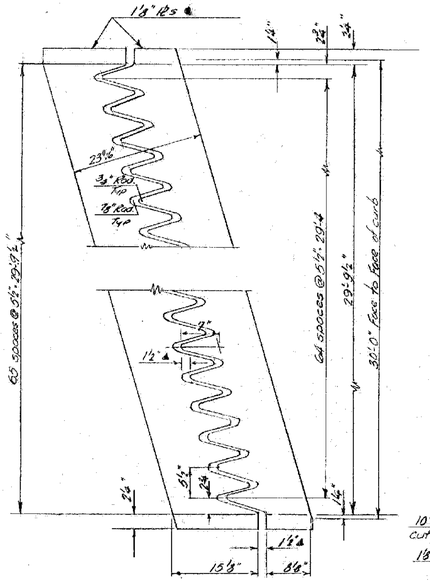
SHEET 49 OF 70
BRIDGE 89
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

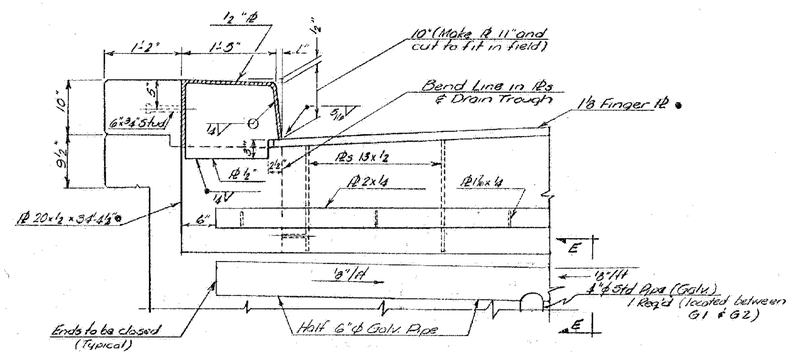
TOWN OF St. Albans ~ Swanton
ROUTE NO. Vermont Rte #36
Vt #36 over I-89 @ Sta. 3497+97
Bracing Details & Bearing Devices
SCALE As Noted
SURVEYED BY
DRAWN BY JJ CHECKED BY AGC
PROJECT NO. I-89-3(36) 4/1
SHEET 66 OF 298



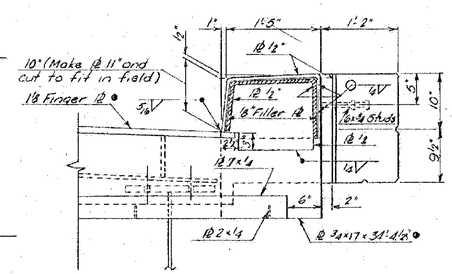
PLAN OF EXPANSION DAM
Scale: 1"=1'0"



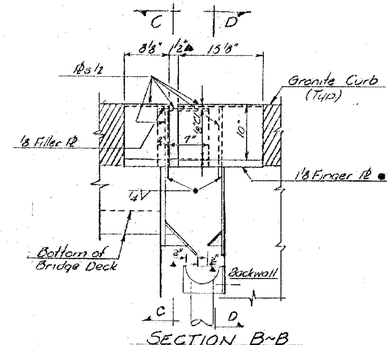
FINGER PLATE DETAIL
Scale: 1"=1'0"



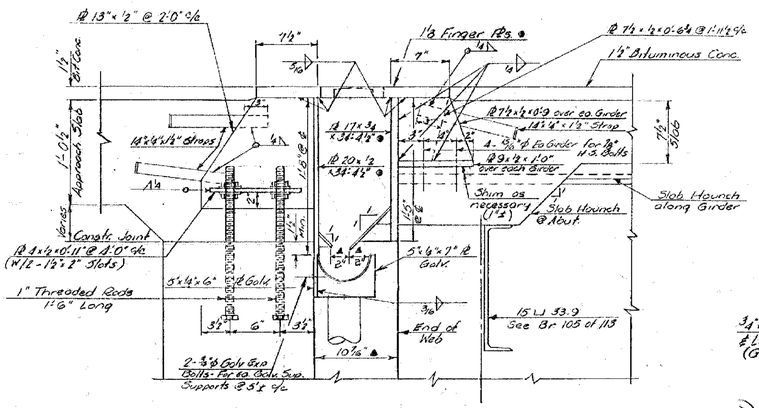
SECTION D-D
Scale: 1"=1'0"



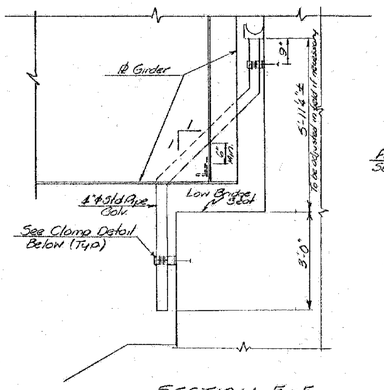
SECTION C-C
Scale: 1"=1'0"



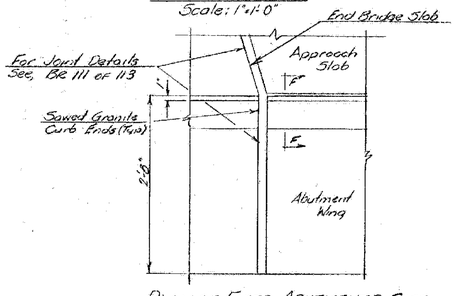
SECTION B-B
Scale: 1"=1'0"



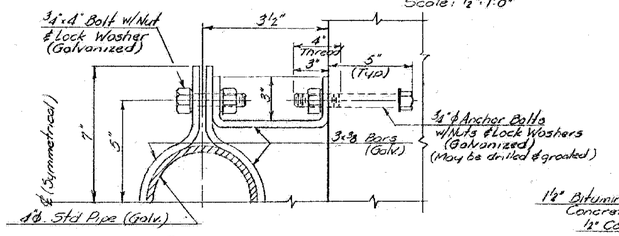
SECTION A-A
Scale: 1½"=1'0"



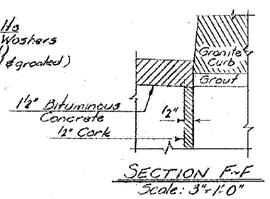
SECTION E-E
Scale: ½"=1'0"



PLAN OF FIXED ABUTMENT @ CURB
Scale: 1"=1'0"



CLAMP DETAIL
NTS



SECTION F-F
Scale: 3"=1'0"

• NOTES •

1. Plates marked • shall conform to the roadway grade and parabolic crown.
2. All clear dimensions indicated ▲ are for 68°F
3. All steel for the Expansion Dam shall be ASTM A-242 unless otherwise noted, except plates completely embedded in concrete may be A-36 Steel.

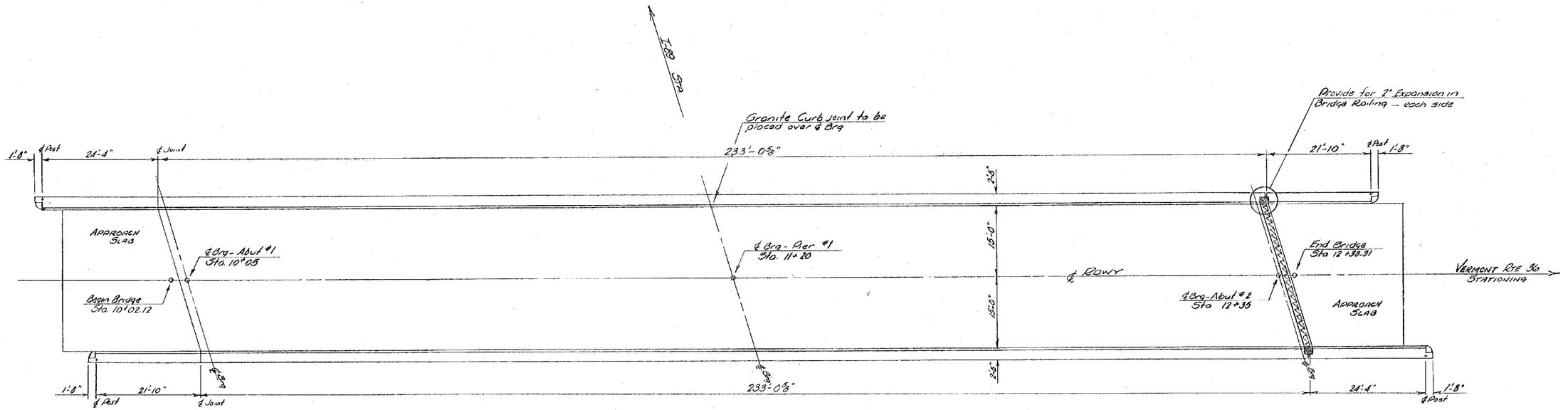
MILTON-HIGHGATE
IM MEMB(26)

SHEET 50 OF 70
BRIDGE 89
FOR REFERENCE ONLY

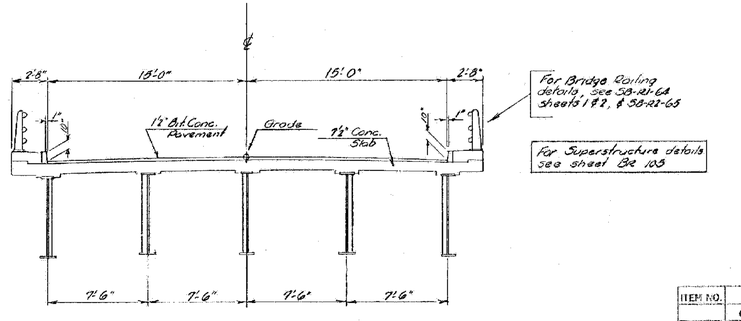
Br. 106 OF 113

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF St ALBANS ~ SWANTON
ROUTE NO. Vt #36
Vt #36 OVER I-89 @ STA 3457+97
EXPANSION DAM & FIXED END CURB DETAILS
SCALE: AS NOTED
SURVEYED BY
DRAWN BY JV CHECKED BY AGC
PROJECT NO. I-89-3(36) S/1
SHEET 67 OF 298



CURB & RAILING PLAN
Scale: 1"= 10'-0"



TYPICAL SECTION
Scale: 1"= 5'-0"

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.				

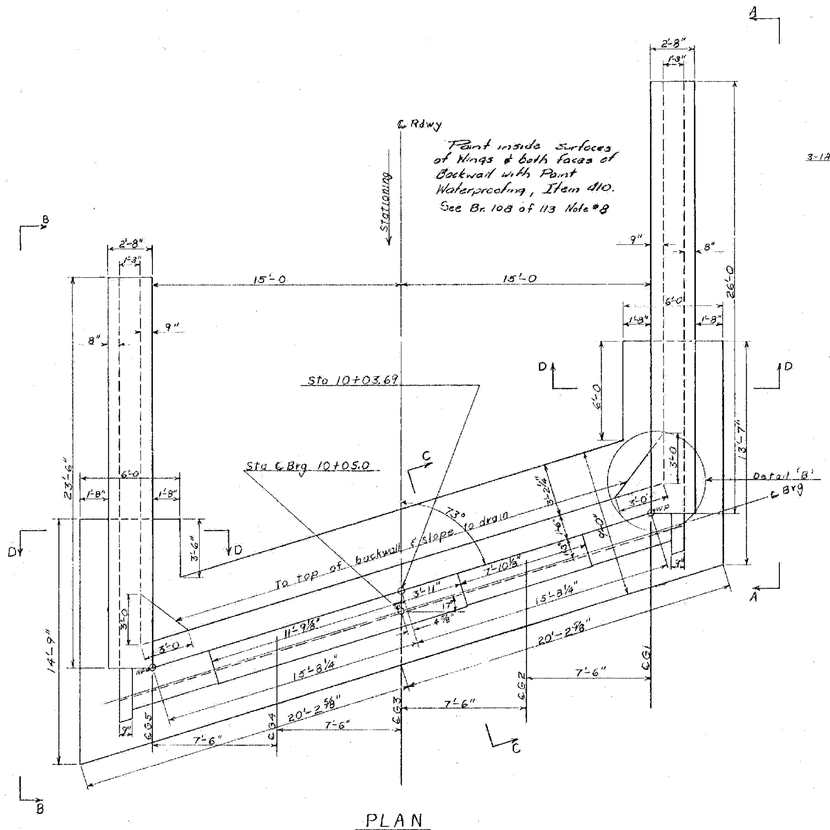
MILTON-HIGHGATE
IM MEMB(26)

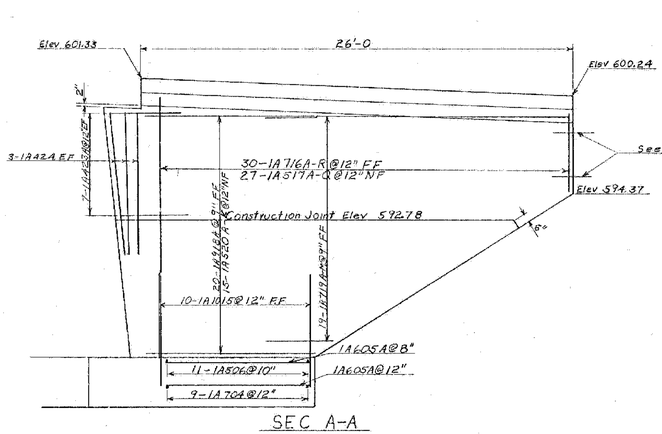
SHEET 51 OF 70
BRIDGE 89
FOR REFERENCE ONLY

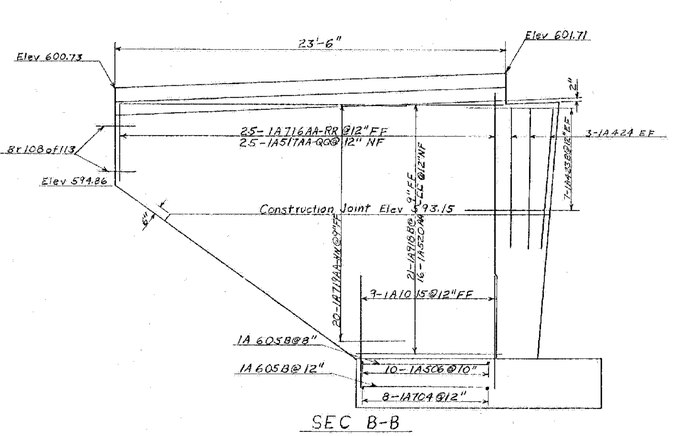
BR 110 OF 113

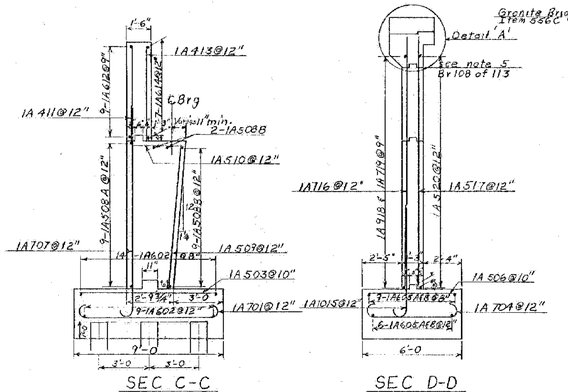
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

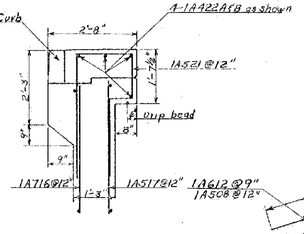
TOWN OF ST. ALBANS ~ SWANTON
ROUTE NO. VT. RTE. 36 LOG STA.
VERMONT RTE. 36 OVER I-89
CURB & RAILING PLAN
SCALE AS NOTED
SURVEYED BY
DRAWN BY JT CHECKED BY AGC
PROJECT NO. I-89-3(36)94
SHEET 71 OF 238

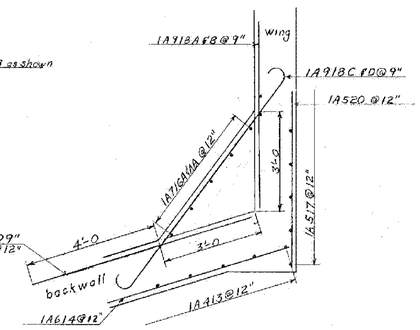


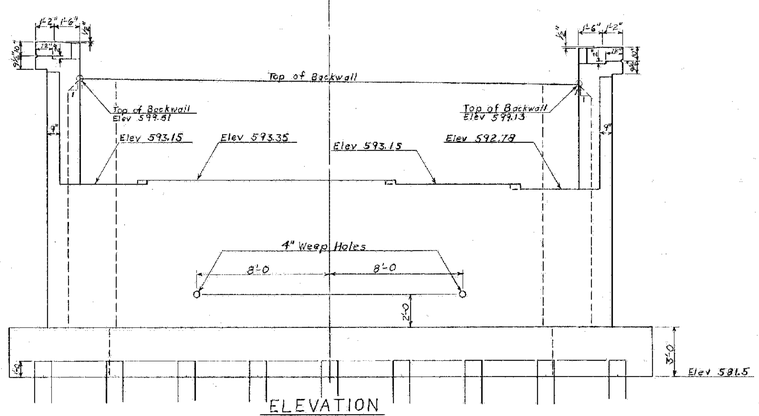


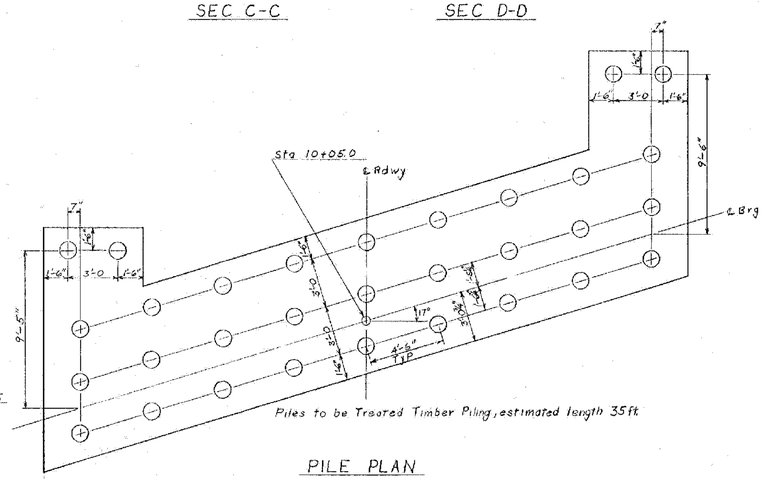












MILTON-HIGHGATE
IM MEMB(26)

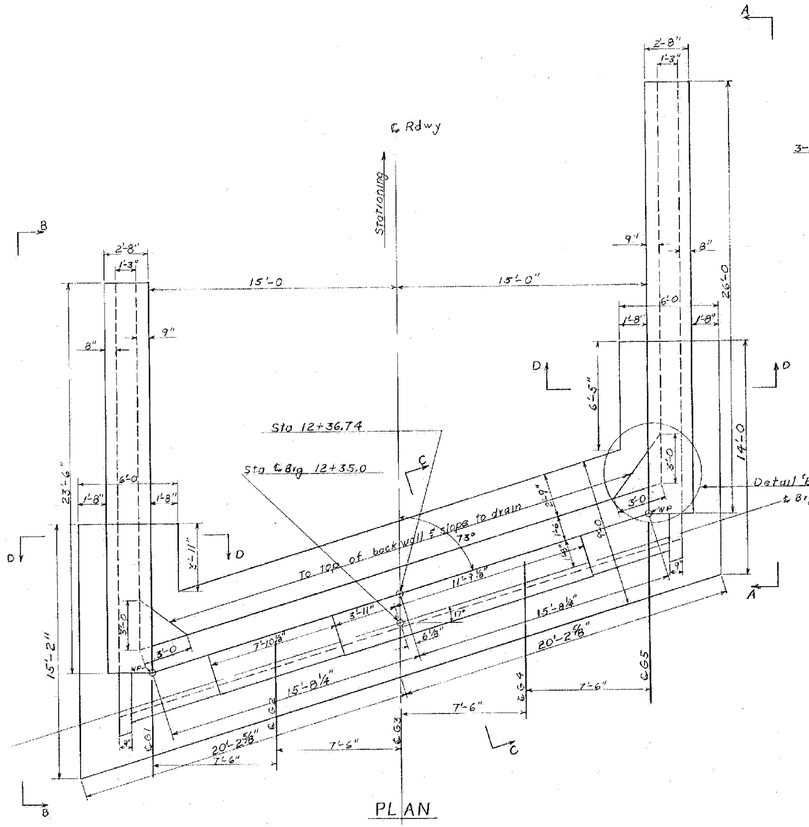
SHEET 52 OF 70
BRIDGE 89
FOR REFERENCE ONLY

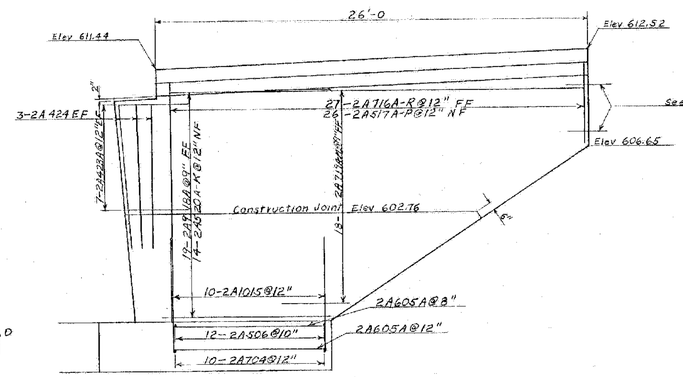
NOTES:
1. For abutment notes see Br 108 of 113

Br 107 of 113

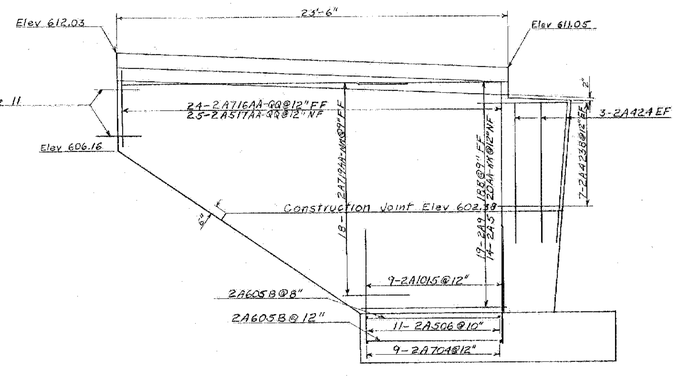
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF ST. ALBANS-SWANTON
ROUTE NO. VT 36 LOG STA.
VT 36 over I 89 @ STA 3457+97
ABUTMENT NO. 1
SCALE 1/8"=1'-0" As Noted
SURVEYED BY
DRAWN BY AGC CHECKED BY DP
PROJECT NO. I-89-3(36) Cont 1
SHEET 68 OF 298

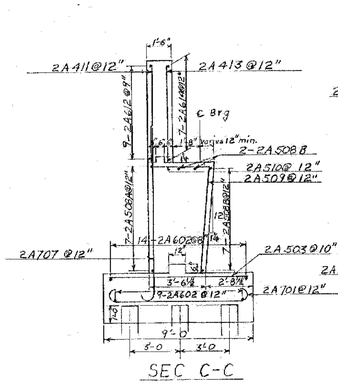




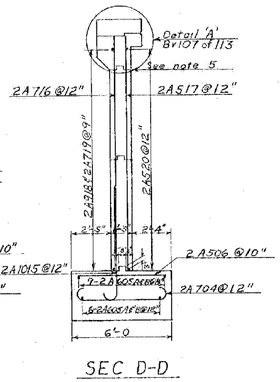
SEC A-A



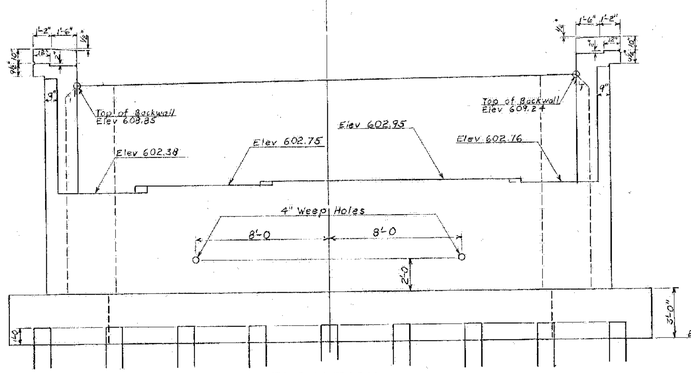
SEC B-B



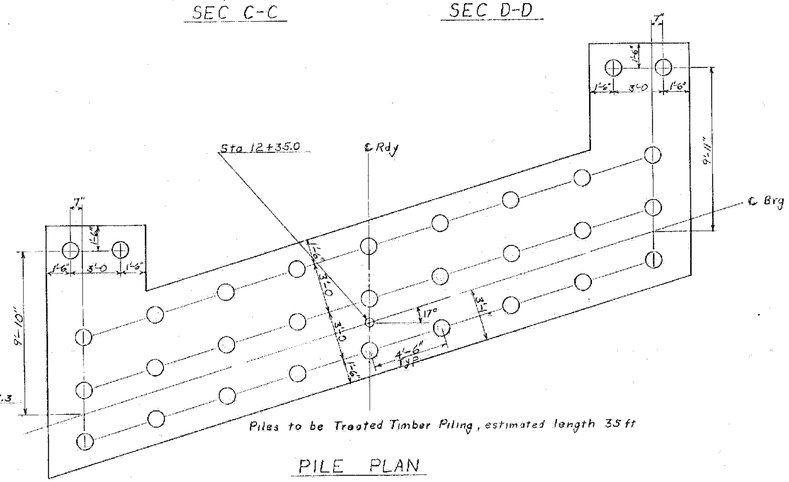
SEC C-C



SEC D-D



ELEVATION



Piles to be Treated Timber Piling, estimated length 35 ft

PILE PLAN

NOTES:
1. For General Notes see Br 100 of 113.
2. Maximum design pile load is 22 Tons.
3. See note 3 on Br 100 of 113 for additional pile notes.
4. All abutment concrete is to be Class B.
5. No concrete is to be placed above this point until Girders have been profiled and final grade is established by the Engineer. This joint may be omitted and joint at adjacent bridge seat used.
6. All reinforcing steel to have minimum cover of 2" except 3" in footing.
7. Slope bridge seats ¼ in. per ft. to drain except under bearings.
8. Front face of backwall above bridge seats and inside face of abutment and wings shall be coated with Item 410, Paint Waterproofing.
9. Item 440, Water Repellent, shall be used on all exposed areas of abutments and wings not otherwise treated.
10. For details of curved granite curb end block see SCB-D4-65.
11. For details of Cable Guard Rail Anchorage see Std Sh G-3A. Bolts are to be cast in abutment wing. Anchors and first post to be paid for as Structural Steel Item 404A.

MILTON-HIGHGATE
IM MEMB(26)

SHEET 53 OF 70
BRIDGE 89
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

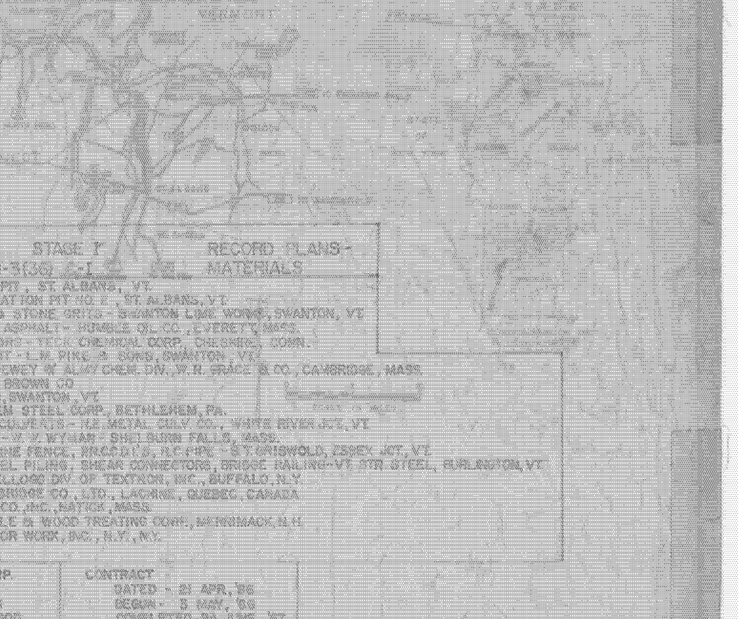
TOWN OF ST. ALBANS - SWANTON
ROUTE NO. VT. 36 LOG STA.
VT 36 OVER I 89 @ STA 3457+97
ABUTMENT NO. 2
SCALE 1/4"=1'
SURVEYED BY
DRAWN BY AGC CHECKED BY P.E.P.
PROJECT NO. I-89-3(36) Cont 1
SHEET 69 OF 298

SHEET NO. 1. Title Sheet
2. Alignment Sheet
3. Typical
4-5. Quantity Sheet
6-7. Drainage and Detail Sheet
8. Underdrain and Miscellaneous
9. Blank
10-20. Earthworks
21-25. LOW Detail
26-60. Layouts & Profiles
VT. #36 OVER I 89 STA. 3457+97± BRIDGE SERIES 100
61. BR-100 Plan & Elevation
62. BR-101 Bridge Quantity Sheet
63. BR-102 Preliminary Info. Sheet
64. BR-103 Borings
65. BR-104 Girder Details
66. BR-105 Bracing Details & Bearing Devices
67. BR-106 Expansion Dam Details
68-69. BR-107 & 108 Abuts. #1 & 2
70. BR-109 Pier
71. BR-110 Curb & Railing Detail
72-73. BR-111 & 112 Approach Slab #1 & 2
74. BR-113 Reinforcing Steel
I-91 #25 & I-5 OVER I 89 STA. 3494+00± BRIDGE SERIES 200
75. BR-200 General Plan & Elevation
76. BR-201 Bridge Quantity Sheet
77. BR-202 Preliminary Info. Sheet
78. BR-203 Cased Borings
79. BR-204 Framing Plan
80. BR-205 Framing Plan-Curb & Railing
81-82. BR-206&207 Abut. #1&2
83. BR-208 Piers 1,2,3,4 Details
84-85. BR-209&210 Reinforcing Steel Details
VT. #105 OVER I 89 STA. 3456+93± BRIDGE SERIES 300
86. BR-300 General Plan & Elevation
87. BR-301 Bridge Quantity Sheet
88. BR-302 Preliminary Info. Sheet
89. BR-303 Boring Layouts & Boring Logs
90. BR-304 Boring Logs
91. BR-305 Framing Plan & Girder Details
92. BR-306 Rail & Curb Lengths
93. BR-307 Typical Section & Bearing Devices
94. BR-308 Exp. Joint Assem. & Fixed End Curb Details
95-96. BR-309 & BR-310 Details of Abutment
97. BR-311 Pier Details
98. BR 312 Details of Pier Reinforcing
99-100 BR-313 & BR-314 Details of Appr. Slabs
101-102. BR-315 & BR-316 Reinforcing Steel Schedule
I 89 OVER CV RWY STA.3584+00± BRIDGE SERIES 400
103. BR-400 General Plan & Elevation
104. BR-401 Bridge Quantity Sheets
105. BR-402 Preliminary Info. Sheet
106. BR-403 Boring Layout
107-109. BR-404 thru 406 Boring Logs
110. BR-407 Framing Plan
111. BR-408 Curb & Railing Plan & Typical Bridge Section
112-115. BR-409 thru 412 Details of Abutments
116. BR-413 Details of Pier No.1 & No.2
117. BR-414 Pier No.1 & No.2 Reinforcing Steel Details
118-121. BR-415 thru 418 Details of Approach Slabs
122-123. BR-419 & 420 Reinforcing Steel Schedule
124-126. Cross Sections CYRR
127-128. Blank
129. A-61 Std.Typical for Slopes in Solid Rock Exca. Drilling & Blasting of Solid Rock Subgrade
130. B-1 Banking Tables
131. B-5 Typical Slope Grading
132. B-6 Muck Excavation, Item 117
133. B-10 Embankment on a Slope
134. B-11 Use of Underdrain w/Shattered Rock Subgrade
135. B-12 Slope Road Intersection
136. B-13 Drive Intersection
137. B-14 Interceptor Ditch
138. B-15 Entrance & Exit Terminals
139. C-1 Treated Timber Curb, Item 558 & Bit.Conc.Curb, Item 555
140. D-2 CBM & Headwalls
141. D-3 Treated Gutters
142. D-4 Met. Elbows, Etc.
143. D-8 RCDI's
144. D-16 PRCCDI w/CI Grate & Frame, Item 531
145. D-17 ACCOMP Vertical Riser
146. E-1 Barricades, Signs & Lights (Roadway)
147. E-2 Barricades, Signs & Lights (Bridge)
148. E-31 Federal Aid Construction Ident. Signs
149. F-1 Property Line Fence, Item 583
150. G-2a Two Cable Guard Rail, Item 543
151. G-2b Two Cable Guard Rail, Dead End Anchorage
152. G-3 Three Cable Guard Rail, Item 542
153. G-3a Three Cable Guard Rail Dead End Anchorage at Bridge Approach
154. G-4 Wood & Steel Marker Posts, Item 547
155. J-1 Erection of Project Markers
156. SCB-24-65 166 SCB-09-65
157. SCB-38-65 167 & 167-A SB-RI-64 SHEETS 1 & 2
158. SCB-D1-65 168 SB-R2-65
159. SCB-D3-65 169± Blank
160. SCB-D5-65 170-298± Cross
161. SCB-D6-65 Section
162. SCB-D5-65 Sheets
163. SCB-D6-65
164. SCB-D7-65
165. SCB-D8-65

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

TOWNS OF ST. ALBANS--SWANTON
COUNTY OF FRANKLIN
INTERSTATE ROUTE 89
BURLINGTON-PHILIPSBURG, QUE. ROAD



CONTRACT #1

BEGINNING AT A POINT 3.795 MILES SOUTHERLY OF THE ST. ALBANS--SWANTON TOWN LINE AND EXTENDING NORTHERLY 3.337 MILES.

LENGTH OF ROADWAY 17,474.9 FEET = 3.310 MILES
LENGTH OF BRIDGE 143.0 FEET = 0.027 MILE

LENGTH OF CONTRACT 17,617.90 FEET = 3.337 MILES

1966 ADT 2530
1986 ADT 6090
DHV 1000
D 57.5%
T 7.0%
V 60 MPH

PROJ NAME & NO.	STAGE I	RECORD PLANS -
ST. ALBANS-SWANTON I 89-3(36)		

MATERIALS

SUB-BASE OF GRAVEL - SMITH PIT, ST. ALBANS, VT.
SUB-BASE OF SAND - GRATTON PIT NO. 2, ST. ALBANS, VT.
SUB-BASE OF CR. ROCK & STONE GRITS - SWANTON LIME WORKS, SWANTON, VT.
TACK COAT, TYPE RC-0 OUTBACK ASPHALT - HUMBLE OIL CO., EVERETT, MASS.
TAN EMULSION FOR BRIDGE FLOORS - TECK CHEMICAL CORP. CHESHIRE, CONN.
BITUMINOUS CONCRETE PAVEMENT - L.W. PIKE & SONS, SWANTON, VT.
JOINT SEALER, HOT POURED - ESSEX W. ALAY CHEM. DIV., W.R. GRACE & CO., CAMBRIDGE, MASS.
PREFORMED JOINT SEALER - D.S. BROWN CO.
CONC. CLASS "B" - A.G. ANDERSON, SWANTON, VT.
REINFORCING STEEL - BETHLEHEM STEEL CORP. BETHLEHEM, PA.
CAST IRON COVERS, METAL PIPE CULVERTS - N.E. METAL CULV. CO., WHITE RIVER JCT., VT.
CAST IRON GRATES, TYPE M & "B" - W. & W. WYMAN - SHELBURN FALLS, MASS.
GUARD RAIL ITEMS, PROPERTY LINE FENCE, RR CROSS'G'S, R.C. PIPE - ST. GAUDENS, ESSEX JCT., VT.
JOINT SEALER, PREFORMED, STEEL PILING, SHEAR CONNECTORS, BRIDGE RAILING - VT. STR. STEEL, BURLINGTON, VT.
WATER REPELLENT - SPENCER-KELLOGG DIV. OF TEXTRON, INC., BUFFALO, N.Y.
STRUCTURAL STEEL - DOMINION BRIDGE CO., LTD., LACHINE, QUEBEC, CANADA
BRIDGE RAILING - WARD WELLER CO. INC., TAUNTON, MASS.
TREATED TIMBER PILING - N.E. POLE & WOOD TREATING CORP., MERRIMACK, N.H.
BRIDGE PAINT - AMSTERDAM COLOR WORKS, INC., N.Y., N.Y.

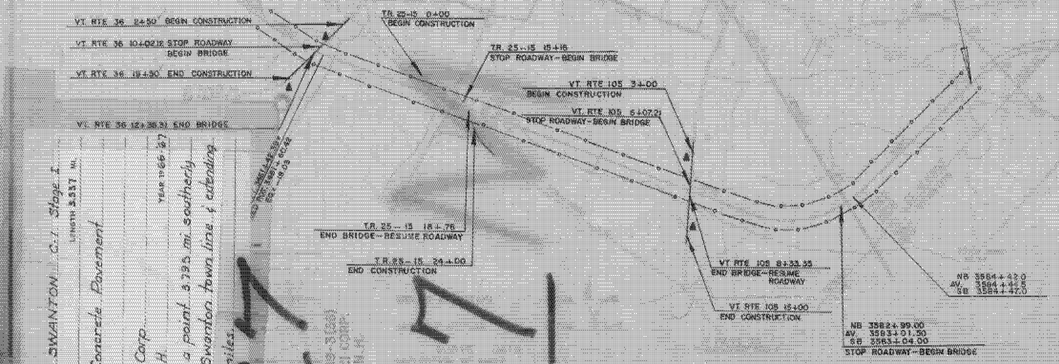
CONTRACTOR - THE PALAZZI CORP.
ROCKSETT, N.H.
RESIDENT ENGINEER - J.R. HUGHES
INSPECTORS - D. BRODNEY, A. ELWOOD
A. BOMBARDIER, R. LA ROSE
RECORD PLANS - P. WU

CONTRACT
DATED - 21 APR, '65
BEGUN - 3 MAY, '65
COMPLETED - 24 JUNE, '67
ACCEPTED - 27 JUNE, '67

END PROJECT I 89-3(35) 36
BEGIN CONTRACT #1

STA 3620+00
END CONTRACT #1 BEGIN CONTRACT #2
PROJECT I 89-3(36)

NB STA 3867+64.74 *
MED. STA 540+00.00
36 BEGIN PROJECT I 89-3(38)
END CONTRACT #2



MILTON-HIGHGATE
IM MEMB(26)

SHEET 54 OF 70
BRIDGE 91
FOR REFERENCE ONLY

PROJECT ST. ALBANS - SWANTON C.I. Stage I
NUMBER I 89-3(36) LENGTH 3.337 mi.
TYPE Bituminous Concrete Pavement YEAR 1966 '67
CONTRACTOR The Palazzi Corp. Hooksett, N.H.
LOCATION Beginning at a point 3.795 mi. southerly of the St. Albans - Swanton town line & extending northerly 3.337 miles
CONTRACTOR - THE PALAZZI CORP. HOOKSETT, N.H.
RESIDENT ENGR. - J.R. HUGHES
RECORD PLANS - P. WU
POINT OF ACCESS A
LIMITS OF ACCESS

227
227

FOR R.O.W. DETAILS, SEE R.O.W. PLANS FOR THIS PROJECT

R.H. Arnold 12/15/65	E.B. Stickney 12/9/65	L.H. Byron 12/15/65	E.M. Blanchard 9/20/65	D.M. Lane 12/15/65	G.D. Bishop 12/15/65

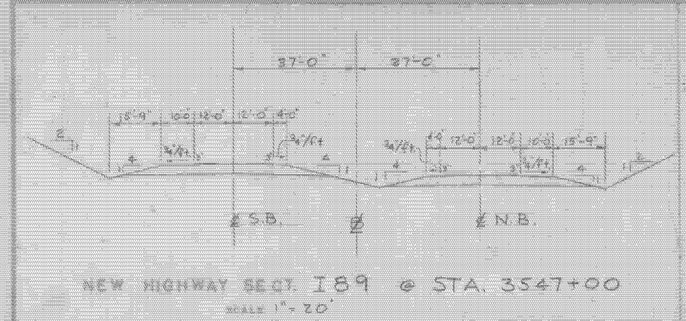
THESE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE REQUIRED BY THE BUREAU OF PUBLIC ROADS OR THE COMMISSIONER OF HIGHWAYS.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL, 1964, AS APPROVED BY THE BUREAU OF PUBLIC ROADS ON OCTOBER 12, 1964, INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

STAGE I CONSTRUCTION

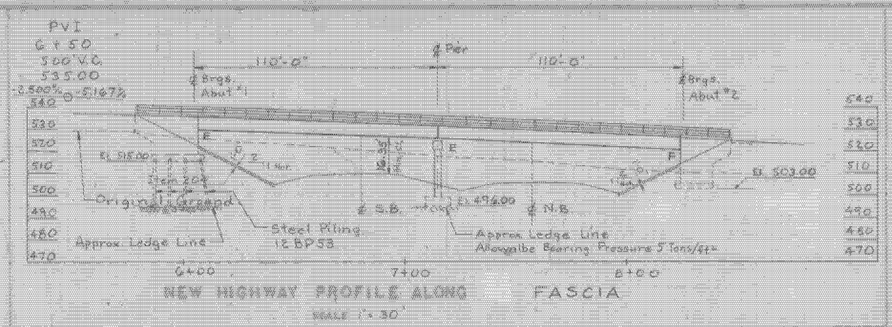
DEPARTMENT OF TRANSPORTATION

36
CONTRACT #1



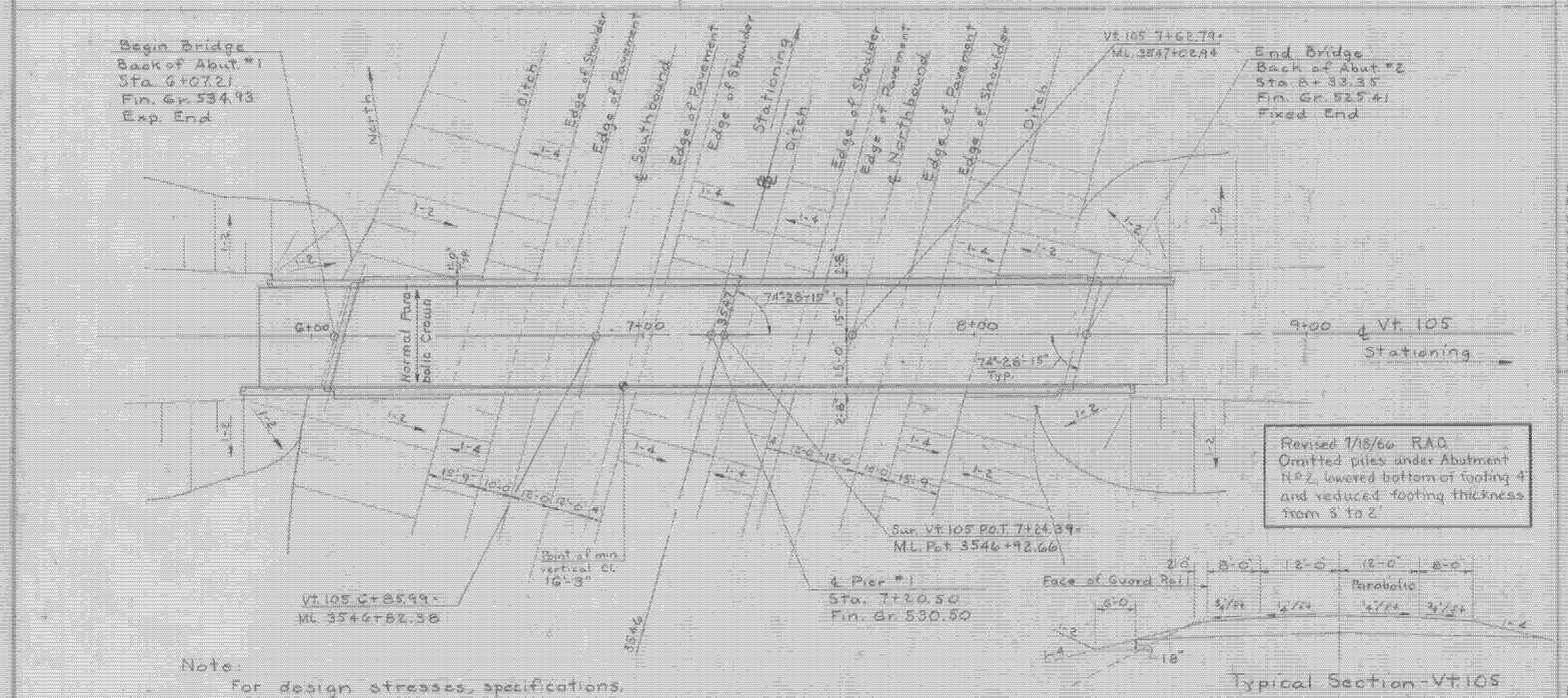
NEW HIGHWAY SECT. I89 @ STA. 3547+00

SCALE 1"= 20'

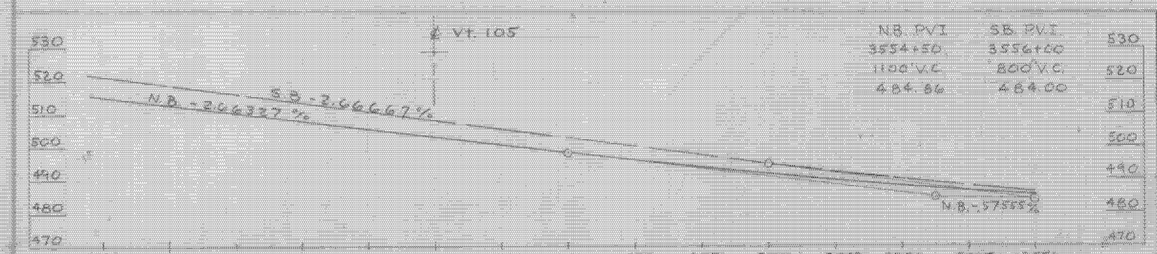


NEW HIGHWAY PROFILE ALONG FASCIA

SCALE 1"= 30'

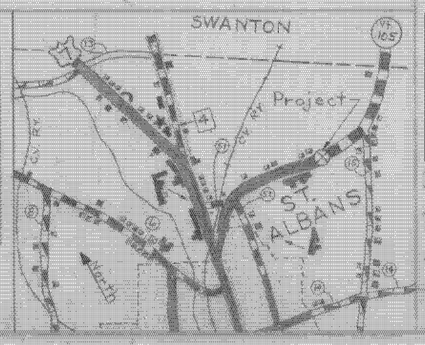


Revised 7/18/66 R.A.O.
Omitted piles under Abutment No. 2, lowered bottom of footing 4' and reduced footing thickness from 5' to 2'



PROFILE OF I89

SCALE



MILTON-HIGHGATE
IM MEMB(26)

SHEET 55 OF 70
BRIDGE 91
FOR REFERENCE ONLY

HIGHWAY NO I 89 NAME OF HIGHWAY Interstate
STRUCTURE NO 53-83 COUNTY Franklin TOWN St. Albans
PROJECT NO I 89-3(36)ST LOCATION St. Albans - Swanton
Vt. 105 over I 89

EXISTING STRUCTURE

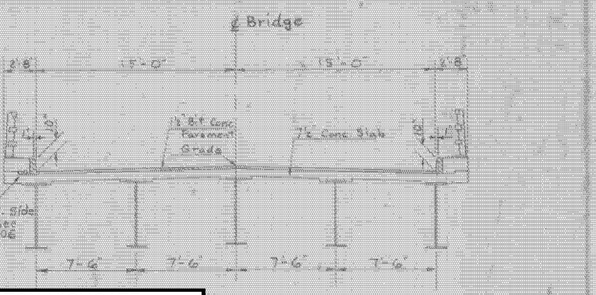
1 POSTED LOADING OF EXISTING STRUCTURE
2 TYPE OF EXISTING STRUCTURE
3 UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE
4 WAY TRAFFIC SHOULD HAVE BEEN CARRIED BY EXISTING STRUCTURE COST OF REMOVAL
5 SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE
6 SHOULD NEW TEMPORARY STRUCTURE BE BUILT
7 ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE WATERWAY TO ORDINARY H.W.
8 EXTREME HIGH WATER AT EXISTING STRUCTURE WATERWAY TO EXTREME H.W.
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
ADDITIONAL WATERWAY AREA PROVIDED

NEW STRUCTURE

1 RECOMMENDED TYPE OF STRUCTURE 1 Span Continuous R. Girder 110' c to c brgs.
2 RECOMMENDED CLEAR SPAN OR SPANS 107'-10"
MEASURED PARALLEL TO ℄ NEW HIGHWAY
MEASURED AT RIGHT ANGLES TO ℄ STREAM
3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE SOURCE OF INFORMATION
6 IS ALL WATER HYDRAULIC TO PASS THROUGH NEW STRUCTURE?
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? IS ORDINARY RISE SUDDEN?
8 LOW WATER ELEVATION AT NEW STRUCTURE
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE CHARACTER OF TERRAIN
10 IS STREAM RIVER ONLY?
11 VELOCITY OF STREAM AT HIGH WATER STAGE ESTIMATED DISCHARGE
12 AREA FULL OPENINGS AREA BELOW ORDINARY H.W.
13 CHARACTER OF BOTTOM DRIFT USE
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE
15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION
16 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE No SAFETY CURBS
17 SUPERSTRUCTURE TYPE OF PAVEMENT 1½" Bit. Conc.
18 TRAFFIC TO BE MAINTAINED UNDER THIS NO. ONE OR TWO WAYS PASSABLE WHEN
19 REMARKS: COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE $170
20 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES Steel
21 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 25 Tons/Sq.Ft. Ledge SHALL BE DESIGN YES SOIL PRESS. 20'
5 Tons/Sq.Ft. Ledge @ Abut #1 only

FOUNDATION INFORMATION

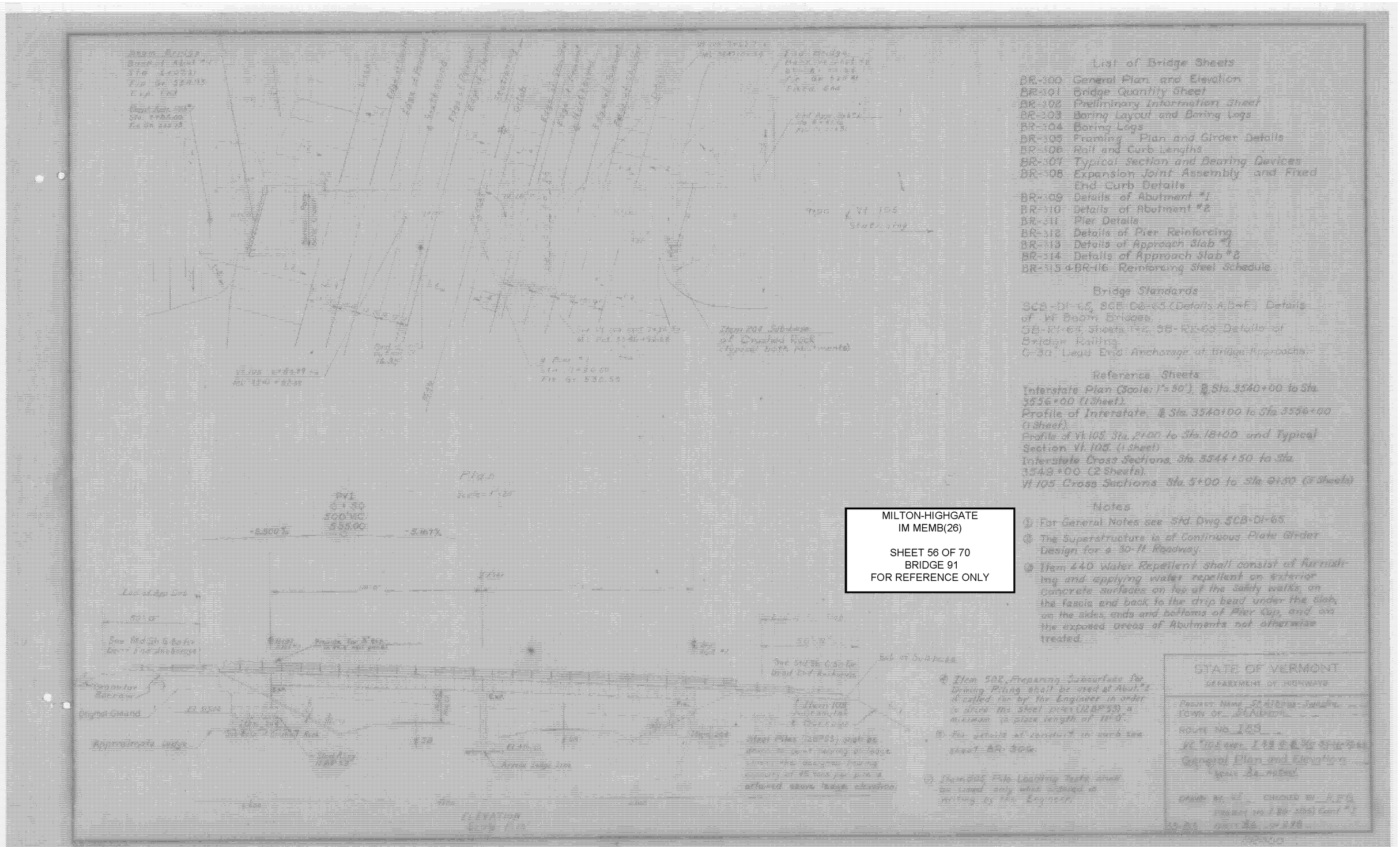
DRAWINGS FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BOREHOLES HAVE BEEN ENCOUNTERED AT ANY TIME OR ANYWHERE ALONGTHEM.



Bridge Section
Scale 1"=5'

Lin Byam	3/4/65	
C.H. Crandall	3/4/65	
A.O.T. Section	3/4/65	

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
Interstate IN THE TOWNS OF St. Albans - Swanton
HIGHWAY NO I 89 AND STH Vt. 105 over I 89
Dsc. Adv. 47½"/24
I 89-3(36) 88 298
Cont. #1
BR-302-A



List of Bridge Sheets

BR-100 General Plan and Elevation
BR-101 Bridge Quantity Sheet
BR-102 Preliminary Information Sheet
BR-103 Boring Layout and Boring Logs
BR-104 Boring Logs
BR-105 Framing Plan and Girder Details
BR-106 Rail and Curb Lengths
BR-107 Typical Section and Bearing Devices
BR-108 Expansion Joint Assembly and Fixed End Curb Details
BR-109 Details of Abutment #1
BR-110 Details of Abutment #2
BR-111 Pier Details
BR-112 Details of Pier Reinforcing
BR-113 Details of Approach Slab #1
BR-114 Details of Approach Slab #2
BR-115 & BR-116 Reinforcing Steel Schedule

Bridge Standards

SCB-01-65, SCE-06-65 (Details A, B-E) Details of W Beam Bridges.
SB-07-65 Sheets 1-2, SB-RR-65 Details of Bridge Railing.
C-30 Leads Ends Anchorage at Bridge Approaches.

Reference Sheets

Interstate Plan (Scale: 1"=50') @ Sta. 3540+00 to Sta. 3556+00 (1 Sheet).
Profile of Interstate @ Sta. 3540+00 to Sta. 3556+00 (1 Sheet).
Profile of VT 105 Sta. 2+00 to Sta. 18+00 and Typical Section VT 105 (1 Sheet)
Interstate Cross Sections Sta. 3544+50 to Sta. 3549+00 (2 Sheets).
VT 105 Cross Sections Sta. 3+00 to Sta. 9+50 (3 Sheets)

Notes

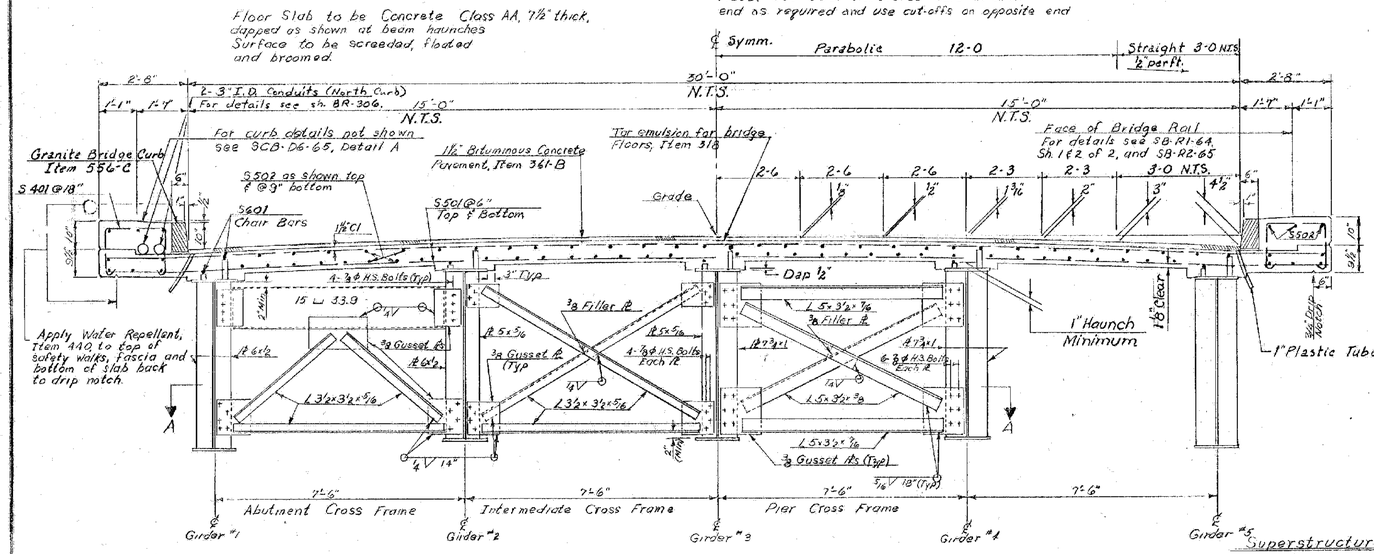
1. For General Notes see Std. Dwg. SCB-01-65.
2. The Superstructure is of Continuous Plate Girder Design for a 30'-11" Roadway.
3. Item 440 Water Repellent shall consist of furnishing and applying water repellent on exterior concrete surfaces on top of the sandy walks, on the fascia and back to the drip bead under the slab, on the sides, ends and bottoms of Pier Cap, and on the exposed areas of Abutments not otherwise treated.

MILTON-HIGHGATE
IM MEMB(26)

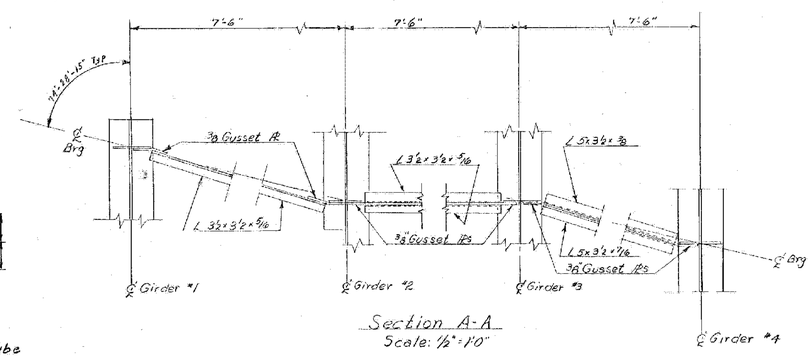
SHEET 56 OF 70
BRIDGE 91
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Project Num. IM 019-1(39)
Town of Highgate
Route No. 120
VT 105 over I 89 & VT 78
General Plan and Elevation
Work to be Performed
Over VT 105 Over I 89 & VT 78



Typical Bridge Section
Scale: ½" = 1'-0"



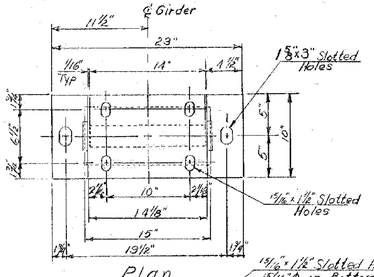
Section A-A
Scale: ½" = 1'-0"

Superstructure Notes

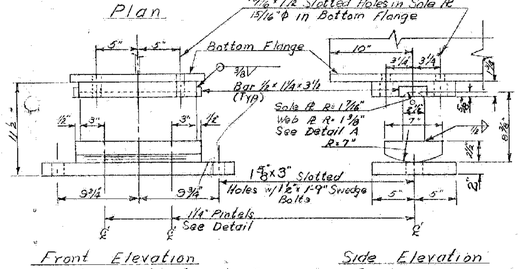
1. For General Notes see Std. Sh. SCB-D1-65 and Br. Sh. 300
2. All structural steel shall be ASTM A 36-62T unless otherwise noted on the plans
3. All field connections shall be made with ⅞" ϕ High Strength bolts in 1⅛" ϕ holes, unless otherwise noted on the plans.

Bearing Device Notes

1. Red Lead and Canvas or Preformed Fabric Pads ⅛" thick, equal in size to the bearing plates shall be used under each bearing conforming to Specification 404.02 (23).
2. Align devices so that all rocker arm shafts will be vertical at 45°F.
3. Contact surfaces of rockers to be given shop coat of white lead and tallow. Pintal holes are to be filled with graphite at time of placement. Remainder of bearing to be given 3 coats of paint in accordance with Vt. Spec. 404.03

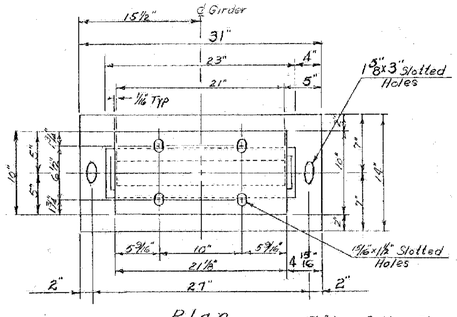


Plan

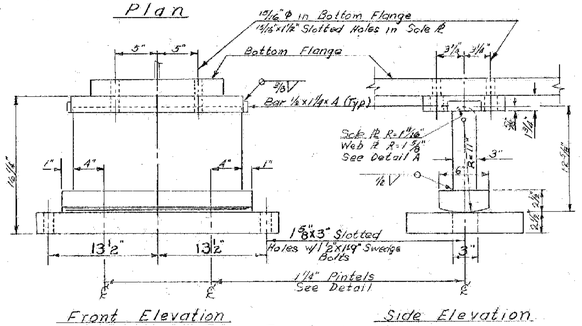


Front Elevation Side Elevation

Abutment Expansion Device



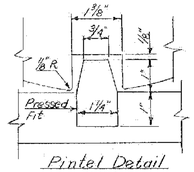
Plan



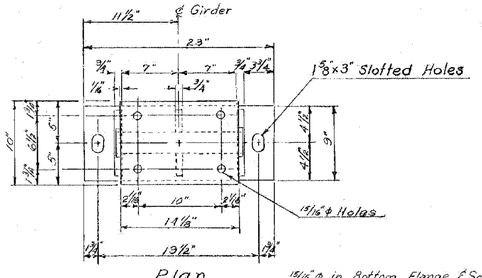
Front Elevation Side Elevation

Pier Expansion Device

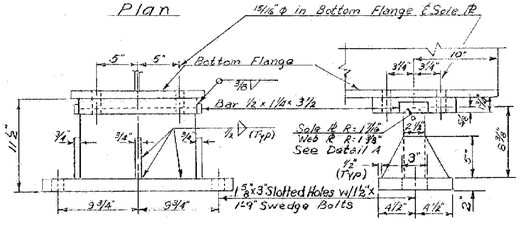
Bearing Devices
Scale: 1½" = 1'-0"



Pintel Detail
N.T.S.
Finish All Over

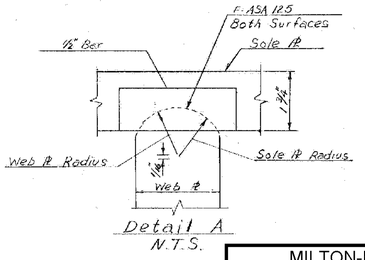


Plan



Front Elevation Side Elevation

Abutment Fixed Device



Detail A
N.T.S.

Bearing Devices
Scale: 1½" = 1'-0"

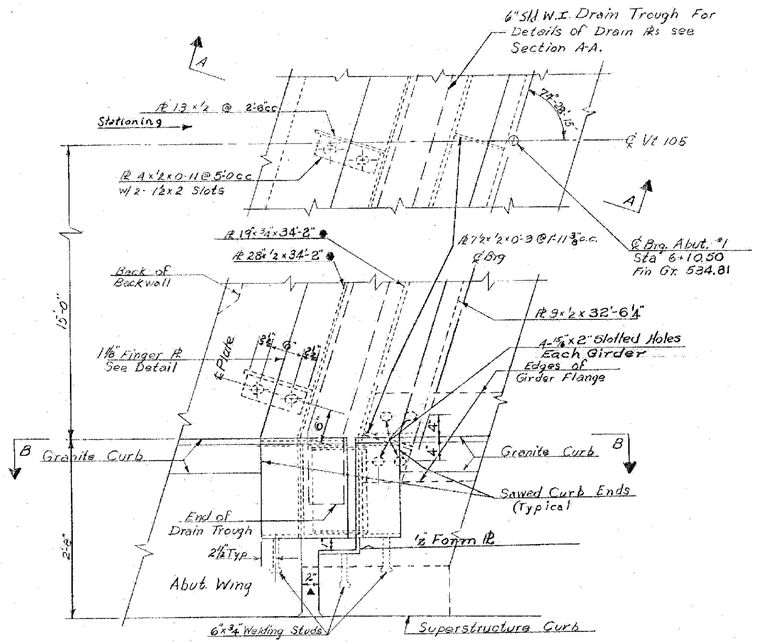
MILTON-HIGHGATE
IM MEMB(26)

SHEET 57 OF 70
BRIDGE 91
FOR REFERENCE ONLY

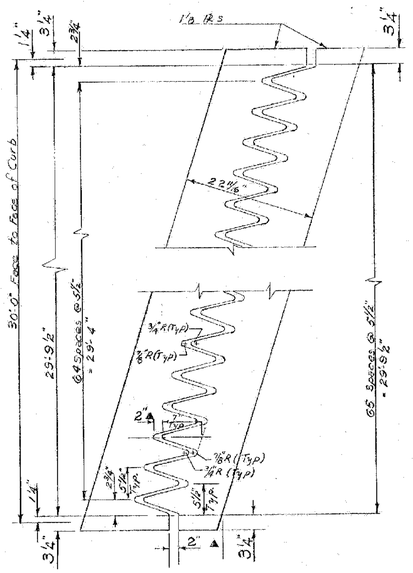
STATE OF
DEPARTMENT OF HIGHWAYS

PROJECT NAME St Albans - Swanton
TOWN OF St. Albans
ROUTE NO. 189
Vt. 105 over I 89 @ Sta 3546+92.66
Typical Section and Bearing Devices
SCALE As noted
SURVEYED BY
DRAWN BY V.F. CHECKED BY A.J.C.
PROJECT NO. I 89-3(36) Cont. #1
SHEET 93 OF 298

BR-307

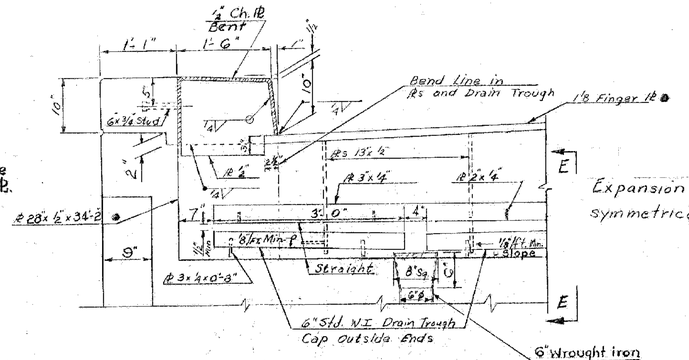


Plan of Expansion Dam.
Scale: 1"=1'-0"



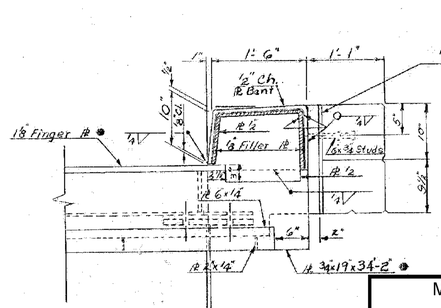
Finger Plate Detail
Scale: 1"=1'-0"

Note:
Fingers to be Symetrical about ℄ of Plate. Flame Cut from 21"x1⅛" Pl.

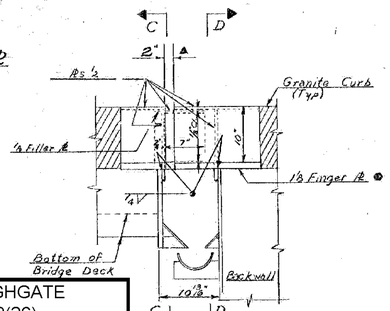


Section D-D
Scale: 1"=1'-0"

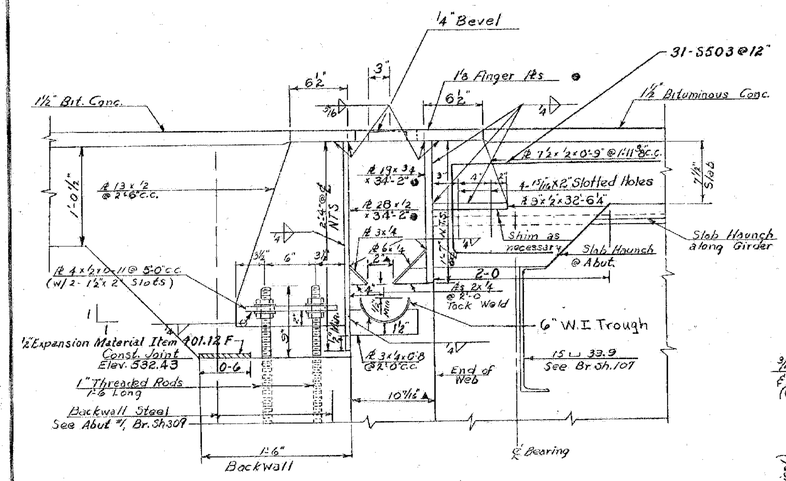
Expansion dam to be symmetrical about ℄.



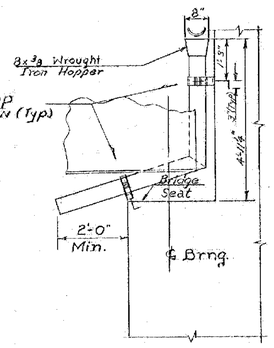
Section C-C
Scale: 1"=1'-0"



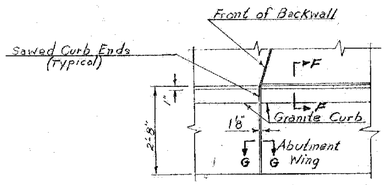
Section B-B
Scale: 1"=1'-0"



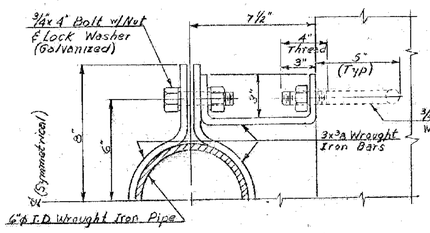
Section A-A
Scale: 1½"=1'-0"



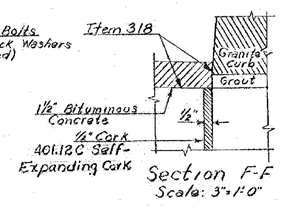
Section E-E
Scale: ½"=1'-0"



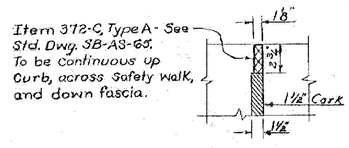
Plan of Fixed Abutment @ Curb
Scale: ½"=1'-0"



Clamp Detail
Scale: 3"=1'-0"



Section F-F
Scale: 3"=1'-0"



Section G-G
N.T.S.

MILTON-HIGHGATE
IM MEMB(26)

SHEET 58 OF 70
BRIDGE 91
FOR REFERENCE ONLY

Notes

1. Plates marked ● shall conform to the roadway grade and parabolic crown
2. All clear dimensions indicated ▲ are for 45° F
3. All steel for the Expansion Dam shall be ASTM A-242 unless otherwise noted, except plates completely embedded in concrete may be A-36 Steel.
4. For details of 3" I.D. utility conduit see sheet BR-306.

Revised: 9/15/66 R.A.O. Substituted Std. W.I. for 20 oz. copper in 6" drain trough.

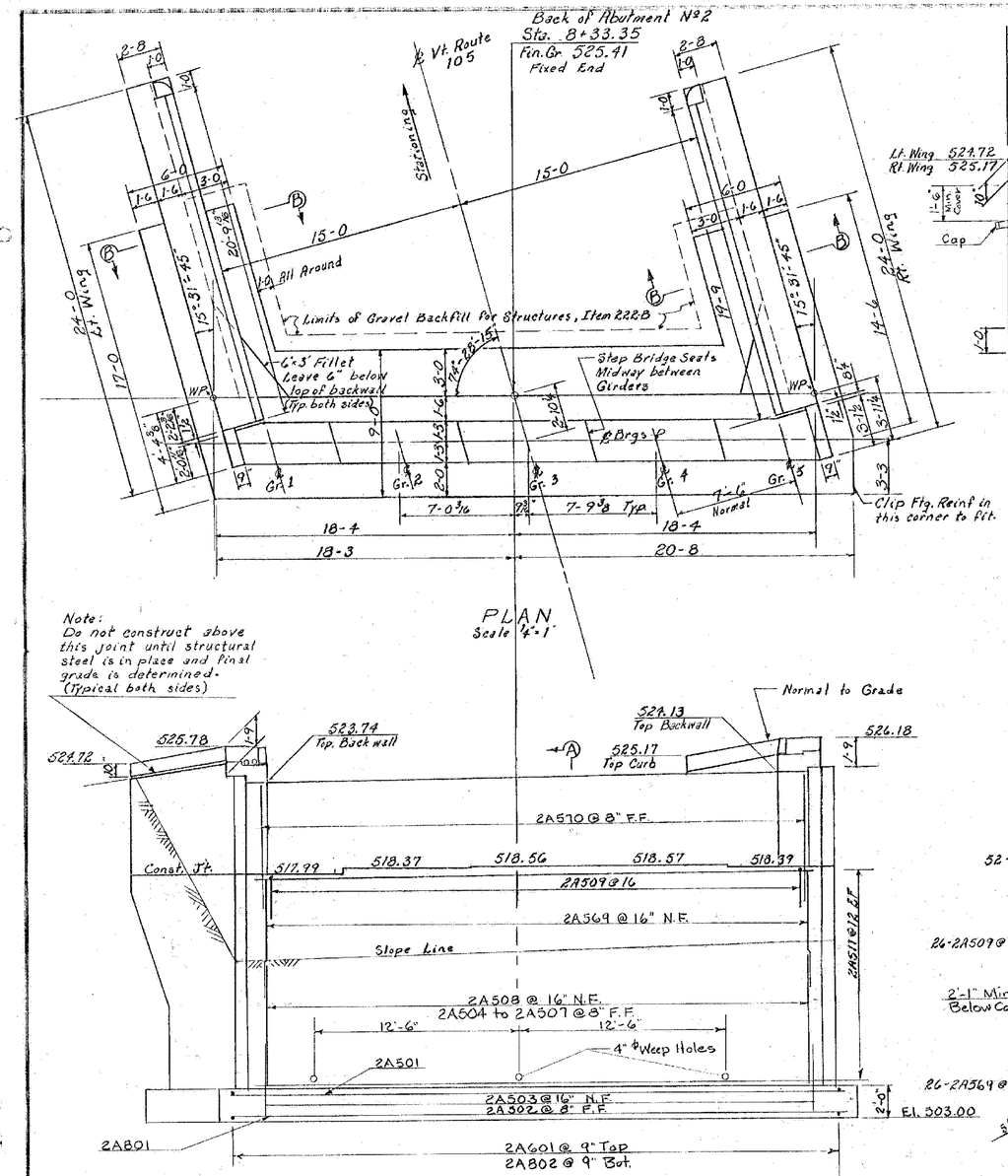
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT NAME St. Albans-Swanton
TOWN OF St. Albans
ROUTE No. I89
Vt. 105 over I89 @ ℄ Sta. 3516+92.66
Exp. Jt. Assembly + Fixed End Curb Details.
SCALE As noted
SURVEYED BY
DRAWN BY V.E CHECKED BY A.J.C.
PROJECT No. I89-3(36) Cont. #1
SHEET 94 OF 298

BR-308-A

MILTON-HIGHGATE
IM MEMB(26)

SHEET 59 OF 70
BRIDGE 91
FOR REFERENCE ONLY



For notes see details of Abutment No 1 Sheet BR 309

Revised 7/18/66 R.A.O.
Omitted piling, lowered bottom of footing 4", added reinforcing steel and reduced footing thickness from 3' to 2'.

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT NAME St ALBANS - SWANTON
TOWN OF St. ALBANS
ROUTE NO. I 89 STA. 3546+92.66
VT 105 over I 89
ABUTMENT No 2
SCALE As Shown
DRAWN BY RPG CHECKED BY J.J.C.
PROJECT NO. I 89-3(36) Contr. #1
SHEET 96 OF 298

BR-310-A

137

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1	TITLE, INDEX, ESTIMATE, ENVIRONMENT, ENTRANCES, PAVEMENT
2	TYPICAL CROSS SECTIONS (RAMP)
3-4	TYPICAL CROSS SECTIONS (S.A. ROAD NO.4)
5-7	ALIGNMENT DATA SHEETS
8	TEMPORARY APPROACH TRANSITION SHEET
9-10	QUANTITY SHEETS (ITEMS)
11-12	QUANTITY SHEETS (DRAINAGE)
13-16	GRADE SHEETS
17-22	EARTHWORK SHEETS
23	BLANK
24-70	PLAN AND PROFILE SHEET
71	BLANK
72	BLANK
73	B-81 (DRILLING AND BLASTING OF SOLID ROCK, SUBGRADE)
74	B-1 (BANKING TABLES)
75	B-5 (TYPICAL SLOPE GRADING)
76	B-6 (MUCK EXCAVATION)
77	BLANK
78	B-15 (ENTRANCE AND EXIT TERMINALS)
79	BLANK
80	B-17 (DETAILS OF U-TURNS)
81	D-2 (UNDERDRAIN AND HEADWALLS)
82	D-3 (GUTTERING AND DITCHING)
83	D-4 (CURBING AND FLUSHING BASINS)
84	BLANK
85	D-8 (DROP INLETS)
86	D-10 (DROP INLET TOPS)
87	D-11 (DROP INLET GRATES AND COVERS)
88	D-18 (PRECAST REINFORCED CONCRETE CURB DROP INLETS)
89	E-7 (BARRICADES, SIGNS AND LIGHTS, ROADWAY)
90	E-8 (BARRICADES, SIGNS AND LIGHTS, BRIDGE)
91	E-31 (CONSTRUCTION IDENTIFICATION SIGNS)
92	G-3 (THREE CABLE GUARD RAIL WITH STEEL POSTS)
93	G-4 (PLANK GUARD RAIL)
94	J-1 (BOUNDARY MARKERS)
95	J-14 (FIELD OFFICE)
96	BLANK
97	10-20-60
98	10-21-56
99-102	SCWTY-30-62
103-104	SR-55-62
105	SCB-30-62
106-116	SCB-21 THROUGH 26-62
117	BLANK
118	6'-6" X 6'-3" RCBOX (TEAM PASS STA 534+00)
119	BR 100 PLAN-SECTION-DETAILS
120	BR 101 REINFORCING STEEL DETAILS
	INTERSTATE BRIDGE OVER MISSISQUOI RIVER
121	BR 200 SUPERSTRUCTURE PLAN AND ELEVATION
122	BR 201 BRIDGE QUANTITY SHEET
123	BR 202 PRELIMINARY INFORMATION SHEET
124	BR 203 BORINGS
125	BR 204 FRAMING AND RAILING PLAN
126	BR 205 DETAILS OF ABUTMENT NO. 1
127	BR 206 DETAILS OF ABUTMENT NO. 2
128	BR 207 DETAILS OF PIER NO. 1
129	BR 208 DETAILS OF PIER NO. 2
130	BR 209 APPROACH SLAB NO. 1 (STD STR. 59-AS-62)
131	BR 210 APPROACH SLAB NO. 2 (STD STR. 59-AS-62)
132	BR 211 REINFORCING STEEL SCHEDULE
133-134	BR 213-215 CHANNEL SECTIONS
	INTERSTATE BRIDGE OVER ST. J AND J.C.RR.
135	BR 300 PLAN ELEVATION
136	BR 301 BRIDGE QUANTITY SHEET
137	BR 302 PRELIMINARY INFORMATION SHEET
138	BR 304 BORING LOGS
139	BR 305 APPROACH SLABS NO. 3 AND NO. 4
140	BR 306 ABUTMENTS NO. 3 AND NO. 4
141	BR 307 PIERS NO. 3 AND NO. 4
142	BR 308 REINFORCING STEEL SCHEDULE
	N.B. INTERSTATE BRIDGE OVER VT. RTE. 78
143	BR 400 PRELIMINARY INFORMATION SHEET
144	BR 401 PLAN AND ELEVATION
145	BR 402 BORINGS
146	BR 403 DETAILS OF ABUTMENTS (NORTH AND SOUTH)
147	BR 404 DETAILS OF PIERS NO. 1 AND NO. 2
148	BR 405 REINFORCING STEEL SCHEDULE
149	BR 406 APPROACH SLAB NO. 1 (STD STR. 59-AS-62)
150	BR 407 APPROACH SLAB NO. 2 (STD STR. 59-AS-62)
	S.A. NO. 4 OVER INTERSTATE 89
151	BR. 500 PLAN AND ELEVATION
152	BR 501 PRELIMINARY INFORMATION SHEET
153-154	BR 502-503 BORINGS
155	BR 504 DETAILS OF ABUTMENT NO. 1
156	BR 505 DETAILS OF ABUTMENT NO. 2
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158	BLANK
159-246	CROSS SECTIONS

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

INTERSTATE PROJECT

RIGHT LANE CONSTRUCTION - STAGE I

TOWNS OF SWANTON & HIGHGATE
COUNTY OF FRANKLIN
ST. ALBANS, VT - PHILIPSBURG, QUE ROAD
PROJECT I 89-3(32)

Dated February 27 1969

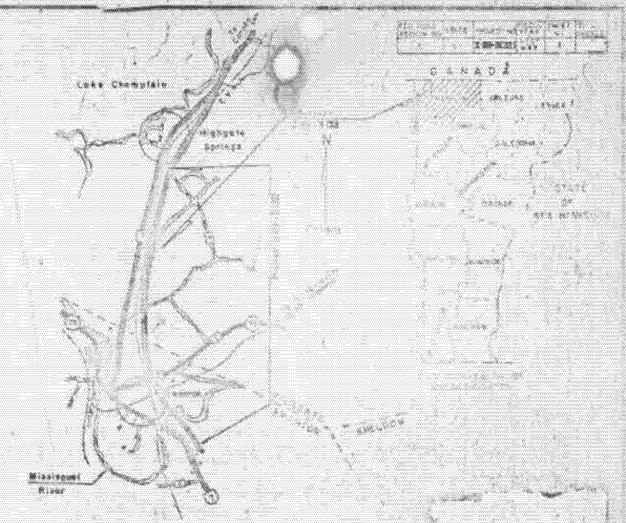
Clarkson Sand & Gravel Co. Inc.
Contractor

Walter Cruickshank Jr.
E. W. Mullin
Contractor

Weston A. Sheridan
By Order of Commissioner of Highways
Commissioner of Highways

Beginning at a point 1.824 miles southerly of the Swanton-Highgate Town Line and extending northerly 4.736 miles

Length of Roadway	24,328.22	Feet ÷ 4.608	Miles
Length of Bridge	679.18	Feet ÷ 0.128	Miles
Length of Project	25,007.40	Feet ÷ 4.736	Miles



MILTON-HIGHGATE
IM MEMB(26)

SHEET 60 OF 70
BRIDGE 99
FOR REFERENCE ONLY

THESE PLANS HAVE BEEN REDUCED PHOTOGRAPHICALLY TO APPROXIMATELY ½ SCALE

WEBSTER - MANTIN, INC.
E. W. Mantin
Submitted March 3, 1969

THESE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE REQUIRED BY THE BUREAU OF PUBLIC ROADS OR THE COMMISSIONER OF HIGHWAYS.

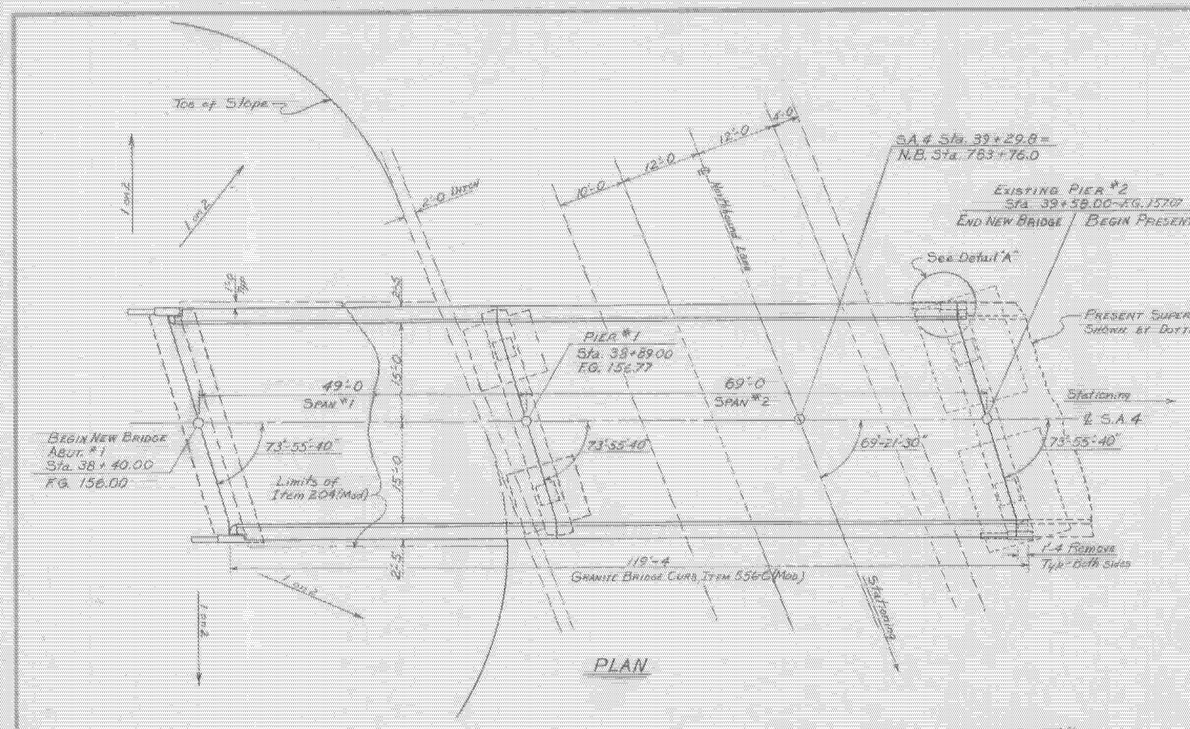
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION OF JANUARY 1956, SUPPLEMENTED BY THE BUREAU OF PUBLIC ROADS FOR APPROVAL, INCLUDING ALL SUPPLEMENTS APPROVED TO DATE AND REVISED SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT AND SUBMITTED WITH THE PLANS.

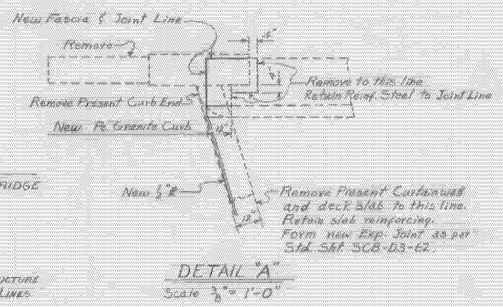
APPROVED	APPROVED	APPROVED	APPROVED	APPROVED	APPROVED
R.H. Crawford	E.H. Ackerman	L.M. Gaines	B.M. Shanley	L.M. Lane	A.O. Bushnell
ASST. CHIEF ENGINEER	DIVISION ENGINEER	BUREAU OF PUBLIC ROADS	DIVISION ENGINEER	CHIEF ENGINEER	COMMISSIONER
DATE 10-7-63	DATE 11/4/63	DATE 11/4/63	DATE 11/6/63	DATE 11/4/63	DATE 11/5/63

DEPARTMENT OF HIGHWAYS
BUREAU OF PUBLIC ROADS

PROJECT I 89-3 (32)
RIGHT LANE - STAGE I CONSTRUCTION

SHEET 1 OF 246 SHEETS





DETAIL "A"
Scale ⅜" = 1'-0"

for breakdown of final quantities see sheets 139, 156 & 157. AE

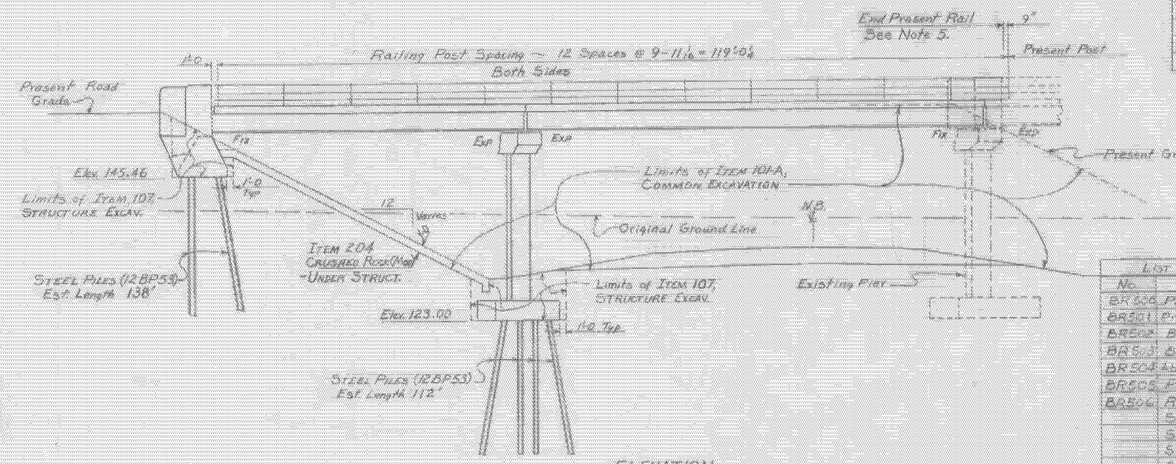
QUANTITY SUMMARY

ITEM NO.	ITEM	UNIT	SUPER.	ABUT #1	PIER #1	TOTAL	FINAL
101-A	Common Excavation	C.Y.	6000*			6000*	AB
107	Structure Excavation	C.Y.		88	80	~~168~~	127
204	Crushed Rock (Mod.-Under Struct.)	C.Y.		63		~~63~~	53
222	Gravel Backfill	C.Y.		22		~~22~~	0
318	Tar Emulsion for Bridge Floors	GAL.	158*			158*	
361-B	Bituminous Conc. Pvt. (Mod.)	TON	38*			38*	
373	Rubber Joint Material	L.F.	22			~~22~~	21
401-AA	Concrete, Class AA (Mod.)	C.Y.	134			~~134~~	132
401-B	Concrete, Class B (Mod.)	C.Y.		48	56	~~104~~	105
402	Reinforcing Steel	LBS.	30000	2020	9600	~~41620~~	42,113
403	Spiral Reinf. @ Sta 783+76 (4000*)	L.S.	1 ✓			1 ✓	1
404-A	Structural Steel	LBS.	112000			~~112000~~	111,305
407	Asphaltic-Asbestos Coating	S.Y.		4	16	20	19
501	Furn. Equipment for Driving Piles	L.S.		Reqd	Reqd	~~1~~ ✓	1
503	Splices for Steel Piling	EA.		18	20	~~38~~	37
504	Steel Piling (12BP53)	L.F.		1104	1792	~~2896~~	2710
556C	Granite Bridge Curb (Mod.)	L.F.	240✓			240✓	240
572	Bridge Railing (Galv. Metal)	L.F.	238			~~238~~	235
	Earth Fill @ 50% Unit Price	L.F.					183

* Indicates quantity to be included in Roadway quantities.

GENERAL NOTES

1. Elevation datum is sea level, based on nearest U.S. Government vertical control.
2. Steel piles shall be driven to point bearing on ledge rock.
3. Standard Structures Sheets are modified so as to eliminate the Approach Slab Bracket.
4. The cost of removing present end posts, curtainwall, and bridge deck to the limits indicated on this sheet, or as directed by the Engineer, shall be included in the unit price bid for Concrete, Class AA, Item 401-AA (Mod.).
5. Rearrange present bridge rails at Pier #2 to avoid splicing more than two rails in any rail span.
6. Standard Structures Sheet SCB-D3-62 Detail (E) is modified to require Expansion Anchors for ⅝" ø bolts which are used to attach brackets for drains to existing Pier @ Sta. 39+58.0.
7. Provide ⅝"x9"x0'-10" shim ℄ under new bearings @ Pier #2.



ELEVATION

LIST OF BRIDGE SHEETS

No.	TITLE
BR500	Plan & Elevation
BR501	Preliminary Information
BR502	Borings
BR503	Borings
BR504	Abut #1 Details
BR505	Pier #1 Details
BR506	Reinforcing Steel Sched.
	SCB-30-62
	SCB-D1-62
	SCB-D2-62
	SCB-D3-62
	SCB-D4-62
	SCB-D5-62
	SCB-D6-62
	SCB-D7-62
	SCB-D8-62
	SCB-D9-62
	SB-56-62 Sheet 1
	SB-56-62 Sheet 2

SUPERSTRUCTURE QUANTITIES

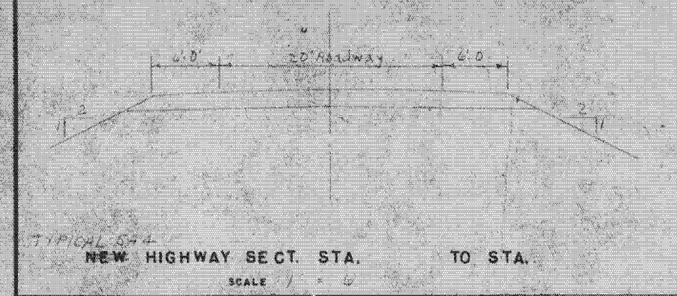
ITEM NO.	ITEM	UNIT	NET		TOTAL	FINAL
101-A	Common Excavation	C.Y.	6,000			AB
	CHAN. EXCAV. OF ROCK	C.Y.				
	UNCLASS. CHAN. EXCAV.	C.Y.				
	STRUCT. EXCAV.	C.Y.				
401-AA	CONC. CLASS AA (MOD.)	C.Y.	~~134~~			132
	CONC. CLASS B (MOD.)	C.Y.				
402	REINF. STEEL	LBS.	See	Reinforcing Schedule		
	ASPHALTIC-ASB. COATING	S.Y.				
	TREATED TIMBER PILING	L.F.				
	SPLICES FOR STEEL PILING	EA.				
318	Tar Emulsion for Bridge Floors	GAL.	158			
361-B	Bituminous Concrete Pvt. (Mod.)	TON	38			
373	Rubber Joint Material	L.F.	~~22~~			21
403	Spiral Reinforcement (4000#)	L.S.	1 ✓			1
404-A	Structural Steel	LBS.	~~112,000~~			111,305
556-C	Granite Bridge Curb (Mod.)	L.F.	240✓			240
572	Bridge Railing (Galv. Metal)	L.F.	~~238~~			235

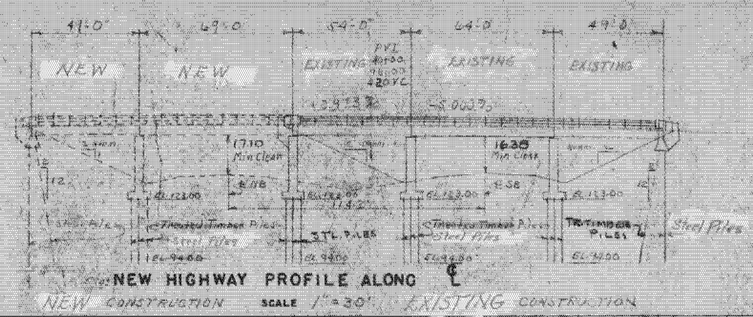
MILTON-HIGHGATE
IM MEMB(26)

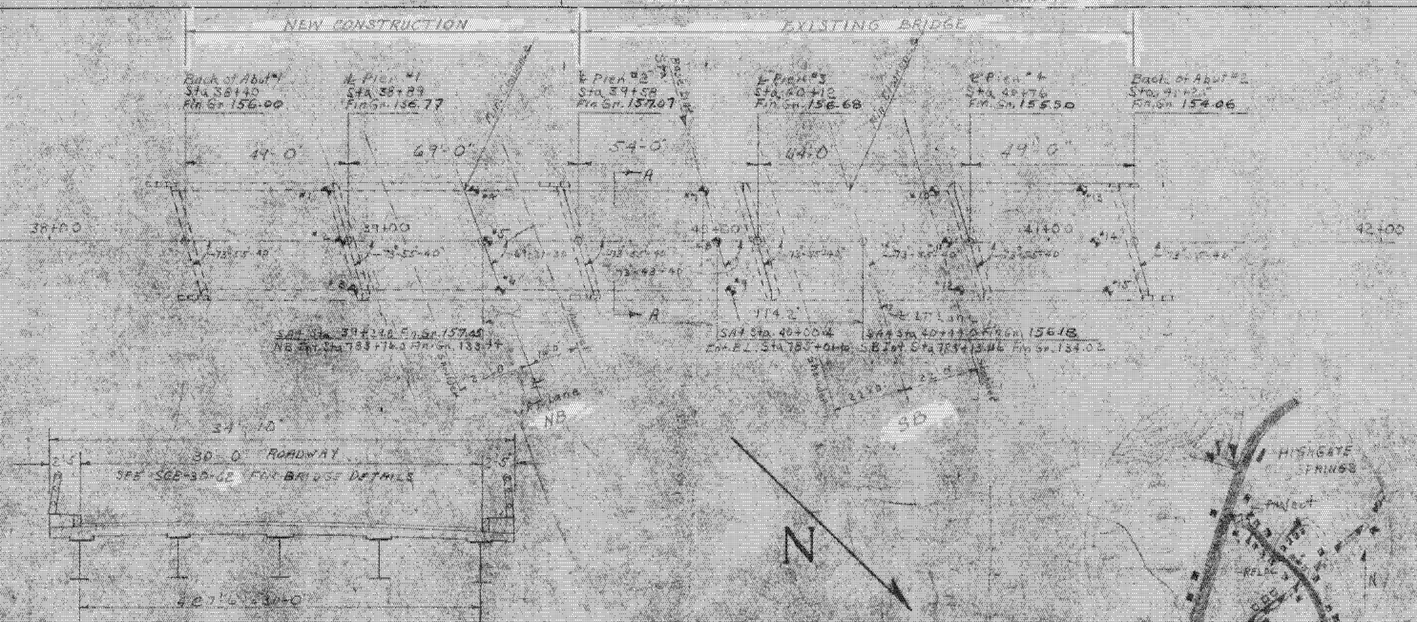
SHEET 61 OF 70
BRIDGE 99
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HIGHGATE
ROUTE NO. I 89 STA. 783+76.0 AHD
HIGHGATE S.A. #4 OVER INTERSTATE
PLAN AND ELEVATION CONSTRUCTION
NORTHBOUND
SCALE 1" = 10'-0" & As Noted
SURVEYED BY
DRAWN BY RLM, JR-SR CHECKED BY NBT
PROJECT NO. I 89-3(32)
SHEET 151 OF 246 BR 500







HIGHWAY NO S A 4 NAME OF HIGHWAY
STRUCTURE NO COUNTY FRANKLIN TOWN HIGHGATE
PROJECT NO I 89-3(1) LOCATION OVER INTERSTATE

EXISTING STRUCTURE

1 RATED LOADING OF EXISTING STRUCTURE NONE
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 WF COMPOSITE 49.67, S4, 64.89
2 RECOMMENDED CLEAR SPAN OR SPANS
MEASURED PARALLEL TO ℄ NEW HIGHWAY 44.84, 44.84, 44.84, 44.84, 44.84
MEASURED AT RIGHT ANGLES TO ℄ STREAM 43.01, 43.29, 43.29, 43.50, 43.03
3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE SOURCE OF INFORMATION
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE?
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? IS ORDINARY RISE RAPID?
8 LOW WATER ELEVATION AT NEW STRUCTURE
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE CHARACTER OF TERRAINE
10 IS STREAM EVER DRY?
11 VELOCITY OF STREAM AT HIGH WATER STAGE ESTIMATED DISCHARGE
12 AREA FULL OPENING AREA BELOW ORDINARY H.W.
13 CHARACTER OF SCOUR DRIFT ICE
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE
15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION
16 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE NO BOTH SIDES
17 RECOMMENDED TYPE OF PAVEMENT BITUMINOUS CONCRETE
18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. ONE OR TWO WAYS PROBABLE COST
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 45 TONS SHOULD PILES BE USED? YES EST. LGTH. NB 72'

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.

FOR BORINGS SEE BORING SHEET

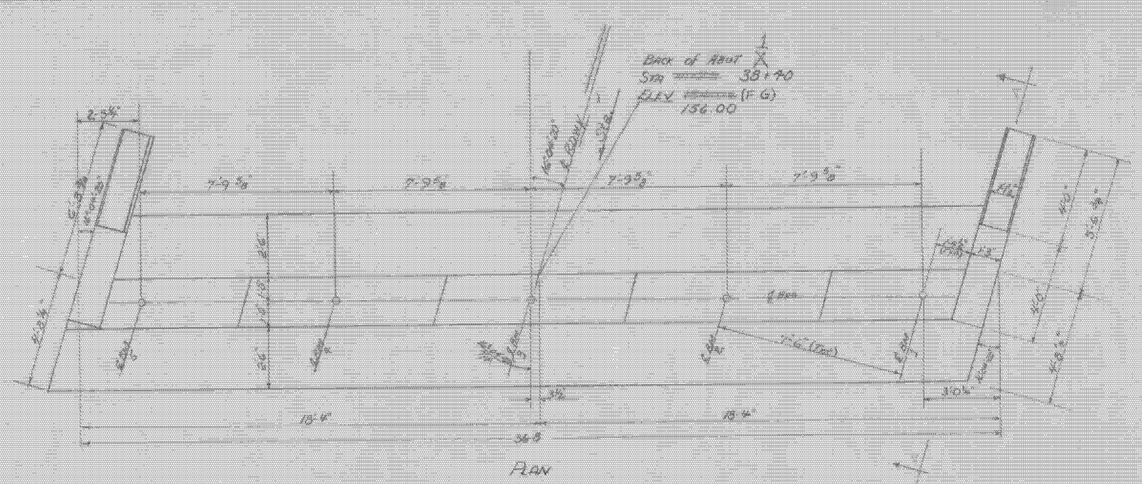
MILTON-HIGHGATE
IM MEMB(26)

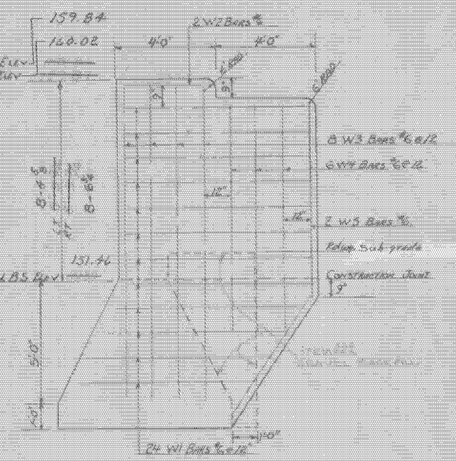
SHEET 62 OF 70
BRIDGE 99
FOR REFERENCE ONLY

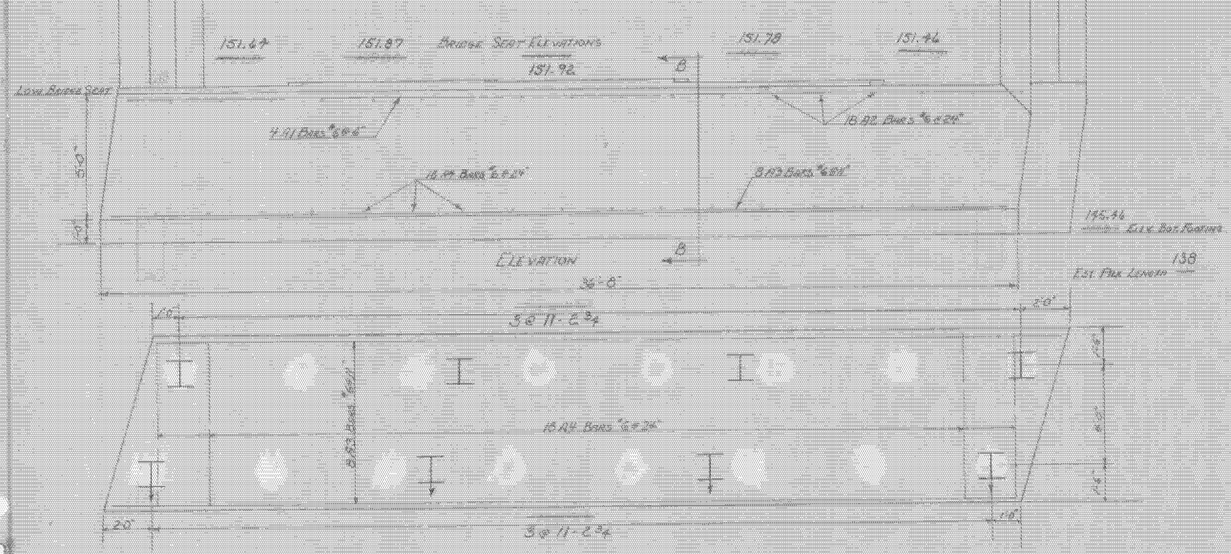
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
S A 4 - OVERPASS IN THE TOWNS OF
MILTON - HIGHGATE
ROUTE NO I 89 STA NB 783+60
NORTHBOUND CONSTRUCTION
PRELIMINARY INFORMATION SHEET
SURVEYED BY U.V. DRAWN BY J.L.C. | CHECKED BY J.L.C. IN CHARGE | SCALE DATE
PROJECT NO I 89-3(1) SHEET 62 OF 246

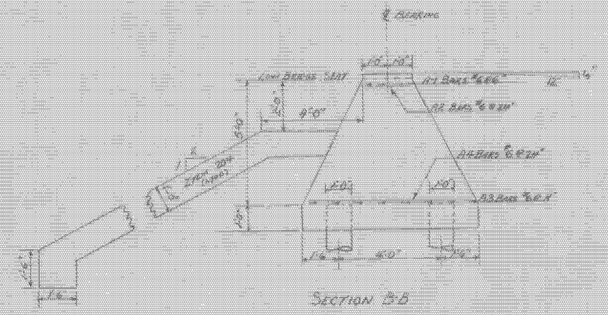
CORRECT 12/19/97 BRIDGE ENGINEER | APPROVED CHIEF ENGINEER

BR501









Indicates battered pile and direction of batter. Batter 2" in 12"

No. of Piles	Size	Est. length of Piles	Splices allowed for piles not exceeding the plan length (To be paid for only if used)	Splices estimated for piles exceeding plan length. (To be paid for only if used)
8	12BP53	138	16	2

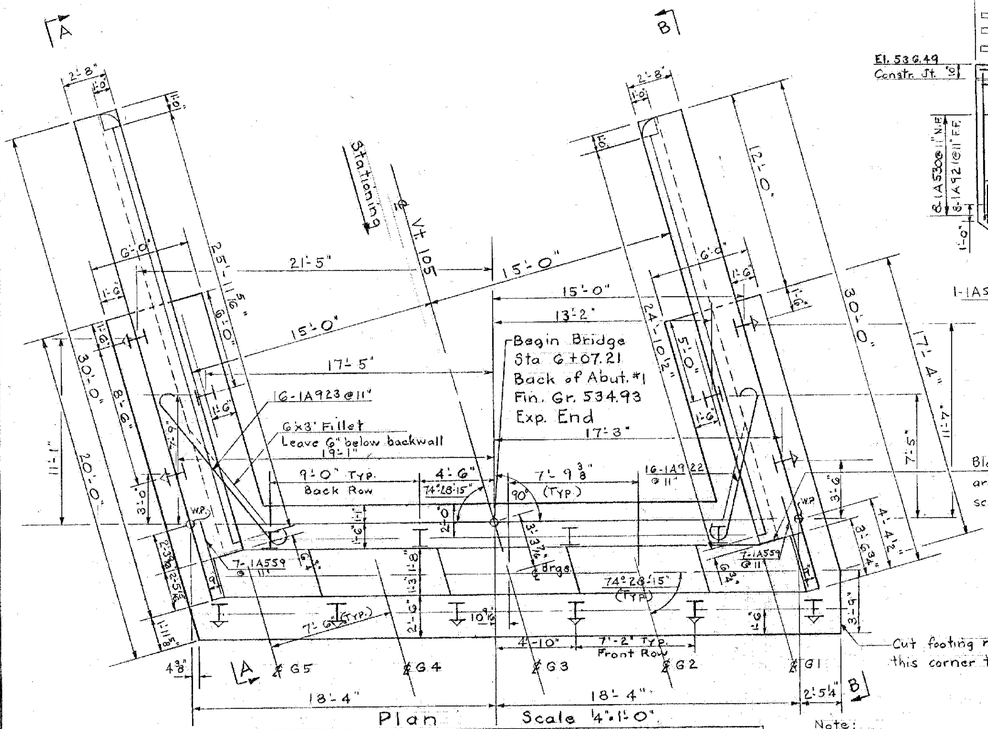
								AB
203.1	Comm. Excav. of Earth	C.Y.						
203.2	Comm. Excav. of Rock	C.Y.						
203.3	Unclassified Comm. Excav.	C.Y.						
206	Structure Excav.	C.Y.	35					86
208.B	Comm. Class B Borrow	C.Y.	48 V					48
401	Reinf. Steel	Lbs.	See Schedule					
601	Concrete Class A	C.Y.	4 V					4
601.01	Concrete Class A (Footing)	C.Y.						
601.02	Concrete Class A (Wall)	C.Y.	15					16
601.03	Concrete Class A (Slab)	C.Y.	1104					1060
603	Piling (In place)	Lin. Ft.						
603.01	Piling (Test)	Lin. Ft.	45					59
603.02	Piling (Furnished)	Lin. Ft.	22					0
501	Furn. Equipment for Driving Piles Cutoffs @ 50% Unit Price	L.S. / L.F.	Repl. V					1/2 / 44

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

Town of Swanton-Highgate
Route No. F-89 N.B. Sta. 783+76.0
Details Abut #1
SA-4 over Interstate
Northbound Const.
Scale 3/8"=1'
Designed by
Drawn by Checked by
Rev. by AFG & KLM 11-63
Approved
Sheet No. 63 of (32)
Bridge 138 on 246
BR 504

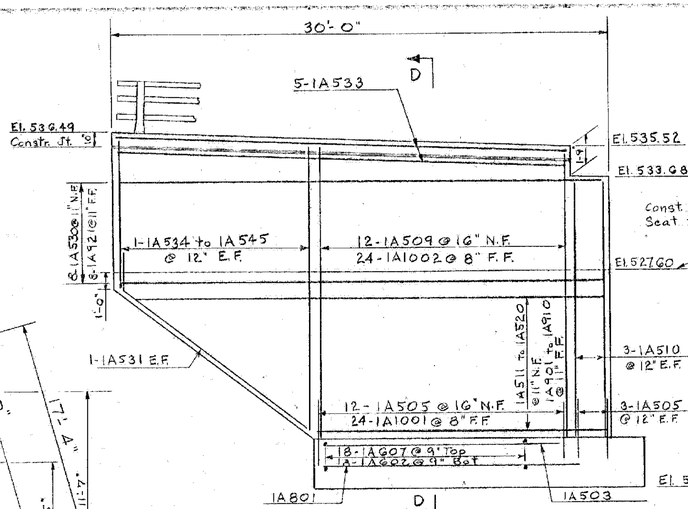
MILTON-HIGHGATE
IM MEMB(26)

SHEET 63 OF 70
BRIDGE 99
FOR REFERENCE ONLY

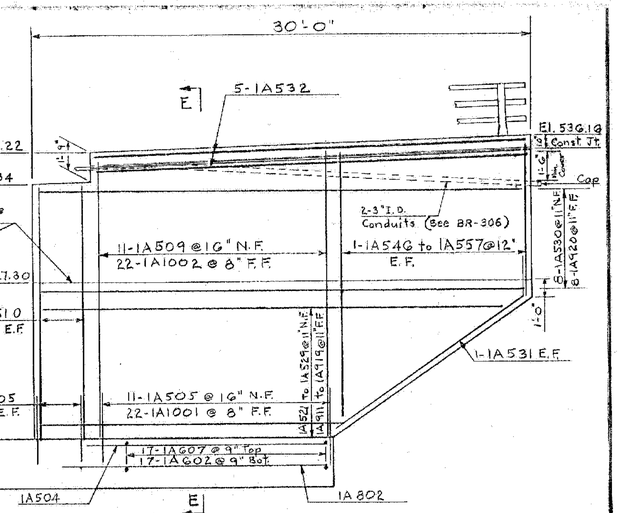


Plan
Scale 1/4"=1'-0"

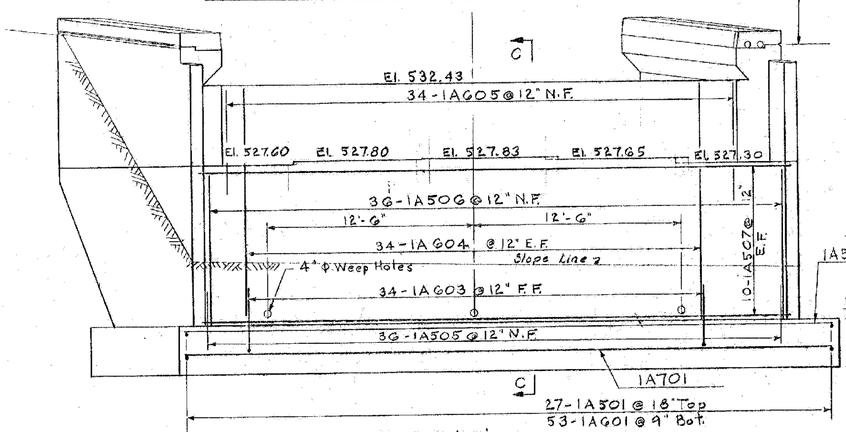
No. of Piles	Size	Est. Length of Piles	Splices allowed for piles not exceeding Plan Length (To be paid for only if used.)	Splices estimated for piles exceeding Plan Length (To be paid for only if used.)
16	12BP53	20'	None	4



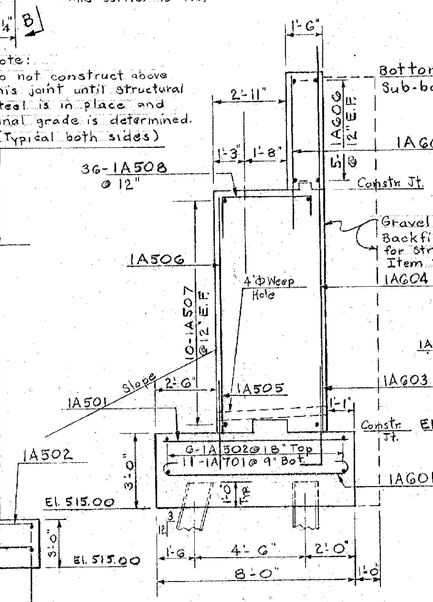
Elevation A-A
Scale 1/4"=1'-0"



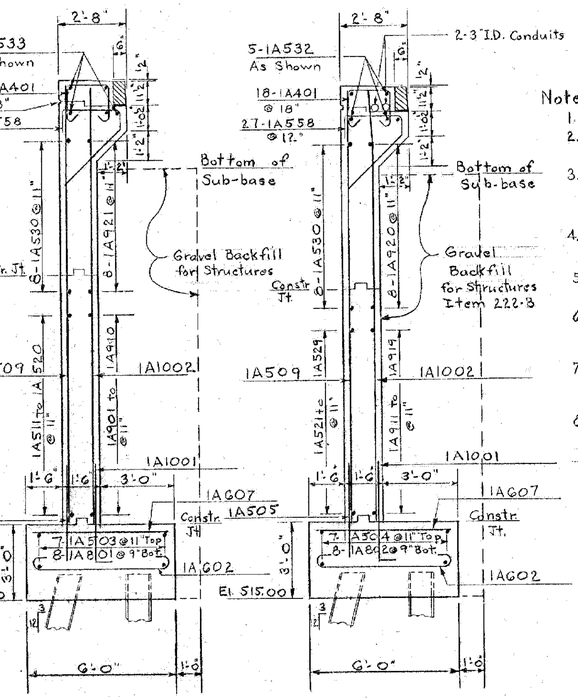
Elevation B-B
Scale 1/4"=1'-0"



Elevation
Scale 1/4"=1'-0"



Section C-C
Scale 3/8"=1'-0"



Section D-D
Scale 3/8"=1'-0"

Section E-E
Scale 3/8"=1'-0"

Notes:
1. For General Notes see SCB-D1-G5 & BR-300.
2. All reinforcing steel to have a minimum clear cover of 2" except 3" in footing.
3. Front face of backwall above bridge seats to be coated with two coats of Item 410, Paint Waterproofing.
4. ⌶ Indicates battered pile of 3" in 12" and direction of batter.
5. Step bridge seats midway between beams.
6. Payment of 4" ℄ Weep Holes in Abutments to be included in the price bid for Concrete Class B, Item 401-B in Spec. (401.10).
7. The minimum accepted in-place length of any pile in these Abutments shall be 11'-0".
8. Steel piles (12BP53) shall be driven to point bearing on ledge unless the designed bearing capacity of 45 tons per pile is attained above ledge elevation.

MILTON-HIGHGATE
IM MEMB(26)

SHEET 64 OF 70
BRIDGE 99
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT NAME St. Albans - Swanton
TOWN OF St. Albans
ROUTE NO. I 89 LOG STA.
Vt 105 over I 89 @ ℄ Sta. 3546+91.66
Abutment # 1
SCALE As Noted
DRAWN BY A.J.C. CHECKED BY RPG
PROJECT NO. I 89-3(39) Cont # 1
SHEET 95 OF 228

BR-309

134

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4	Typical Sections (U.S. 7 Relocation)
5—7	Quantity Sheets (Items)
8	Quantity Sheet (Drainage)
9—11	Grade Sheets
12—17	Earthwork Sheets
18	Alignment Data Sheet
19—33	Plan & Profile Sheets
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39	A-61 Drilling & Blasting of Solid Rock Subgrade
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41	B-5 Typical Slope Grading
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47	D-3 Traveled Gutters
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63	SCB-30-60 Superstructure Details of WF Beam Bridges, 30' Roadway
64	SCB-0-60 Details of WF Beam Bridges
65—66	SB-30-60 Bridge Railing and Granite Curb
67	SB-20-60 Construction Details for WF Beam Bridge
68	SB-32-60 Details of Expansion Joint Over Piers and at Abutments
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73	Framing Plan and Expansion Bearings
74	Expansion End Details
75—76	Approach Slab Details
77	Details of Abutments No. 1 & 2, End Posts
78	Details of Piers No. 1 & 2
79	Reinforcing Steel Schedule
	STRUCTURE NO. 6 (Relocated U.S. 7 Bridge Over Interstate, Sta 890+03.55)
80	Preliminary Information Sheet and Boring Log
81	Plan and Elevation Views
82—83	Details of Abutments A & B
84—85	Details of Piers No. 1, 2, 3, & 4
86	Framing Plan and Approach Slab Details
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89—90	Details of 9'-9" x 6'-7" C.S.M.P.P. Arch at Sta. 827+30.2
91—138	Cross Sections
139—143	Cross Sections (Channel Lines No. 3 & 4)

Dated NOVEMBER 6, 1962

Caledonia Sand & Gravel Co., Inc.

Contractor

Commissioner of Highways
By Order of Commissioner of Highways

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

INTERSTATE ROUTE

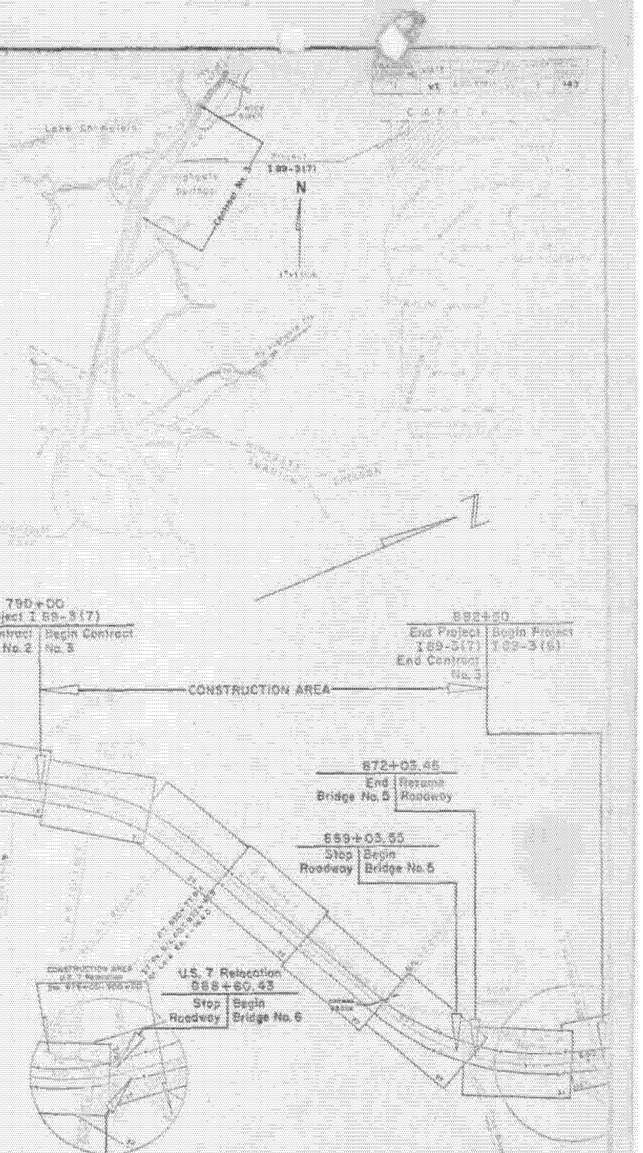
TOWNS OF SWANTON & HIGHGATE
COUNTY OF FRANKLIN
ST. ALBANS, VT.—PHILIPSBURG, QUE. ROAD
PROJECT I-89-3(7)

CONTRACT NO. 3

Total length of U. S. Route 2.975 miles, northerly of the Swanton-Highgate Town Line and continued through 1.941 miles

Length of Roadway	9,550.1 Feet = 1.884 Miles
Length of Bridge	299.9 Feet = 0.057 Miles
Length of Contract	10,250.0 Feet = 1.941 Miles

HIGHWAYS VERMONT CONTRACT PLANS NOV - 6 1962 SIGNED DEPARTMENT OF



THESE PLANS HAVE BEEN REDUCED PHOTOGRAPHICALLY TO APPROXIMATELY ½ SCALE

DESIGN DESIGNATION	
ADT (1958)	900
ADT (1975)	1,930
DHV (1975)	235
D	61%
T	5%
V	70 MPH

CONVENTIONAL SIGNS

COUNTY LINE
TOWN LINE
STATE LINE
STONE WALL
UNFENCED PROPERTY
GUARD RAIL
TRAVELED WAY
RAILROAD
RETAINING WALL
CENTER LINE
SURVEY LINE
CULVERT
DRIVE INLET
TELEPHONE POLE
POWER POLE
TREES
HEDGES
ACCESS CONTROL LINE
R.O.W. FENCE
R.O.W. LINE
SLOPE RIGHTS

ALL ELEVATIONS ARE U.S. ELEVATIONS

SCALE IN FEET
0 500 1000 2000 3000

CURVE DATA

DEFLECTION OR ANGLE	Δ
DEGREE OF CURVE	D
RADIUS OF CURVE	R
TANGENT DISTANCE	T
LENGTH OF CURVE	L
EXTERNAL DISTANCE	E
POINT OF INTERSECTION	P.I.
POINT OF CURVE	P.C.
POINT OF TANGENT	P.T.
POINT ON TANGENT	P.O.T.
POINT ON CURVE TANGENT	P.O.C.T.

LEGEND
X DESIGNATES ACCESS POINTS

MILTON-HIGHGATE
IM MEMB(26)

SHEET 65 OF 70
BRIDGE 101
FOR REFERENCE ONLY

WEBSTER-MARTIN, INC.

E. G. Martin

Submitted March 5, 1962
Date

STATE OF VERMONT JAMES G. WEBSTER No. 183 REGISTERED PROFESSIONAL ENGINEER

THESE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE REQUIRED BY THE BUREAU OF PUBLIC ROADS OF THE DEPARTMENT OF HIGHWAYS.

CONSTRUCTION IS TO BE CARRIED OUT IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION OF JANUARY 1955, SUBMITTED TO THE BUREAU OF PUBLIC ROADS FOR APPROVAL ON APRIL 9, 1956 INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE SUBMITTED WITH THE PLANS.

APPROVED Secretary, Agriculture		APPROVED		APPROVED		APPROVED	
DATE		DATE 11/6/62		DATE 9-6-62		DATE 3/30/62	

CONTRACT NO. 3
STAGE 1 CONSTRUCTION

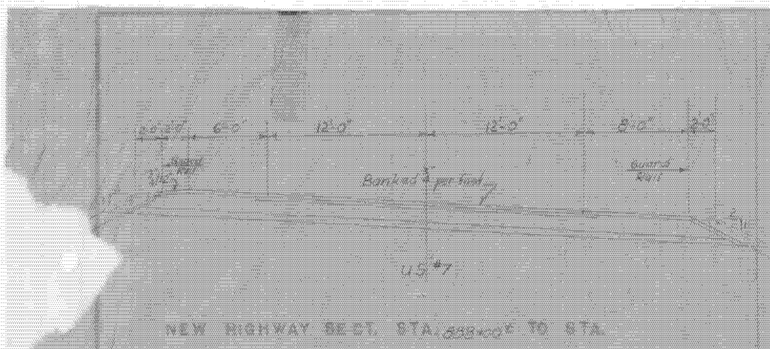
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED
DIVISION ENGINEER

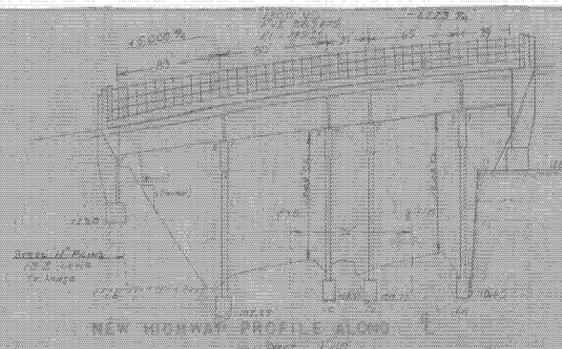
PROJECT 3 NO. 89-3(7)

SHEET 1 OF 143 SHEETS

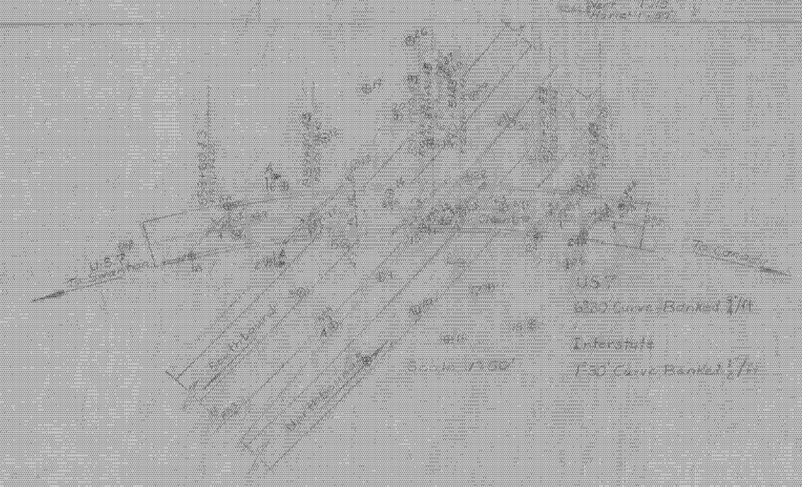
WEBSTER-MARTIN, INC. CONSULTING ENGINEERS
ST. ALBANS, VERMONT



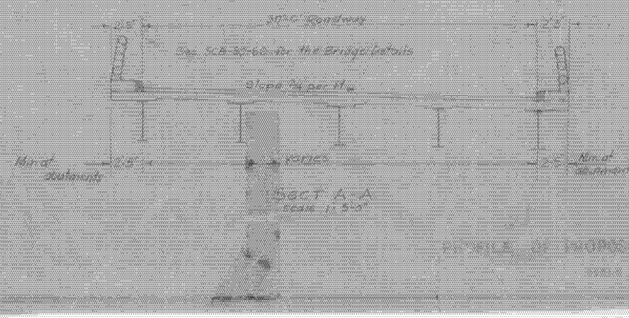
NEW HIGHWAY RT. ST. STA. 588+00 TO STA.



NEW HIGHWAY PROFILE ALONG ℄



PLAN
SCALE



STRUCTURE NO. U.S. #7 OVER (STREAM OR HIGHWAY)

STRUCTURE NO. ____ IN (TOWN) Franklin NEAR Swanton-Highgate

PROJECT NO. I-89-3(1) LOCATION U.S. #7 over Interstate

EXISTING STRUCTURE

1 RATED LOADING OF EXISTING STRUCTURE None
2 TYPE OF EXISTING STRUCTURE None
3 UNDER CLEARANCE ELEVATION OF EXISTING STRUCTURE
4 WAS DEMOLITION METHOD OR MARK OF EXISTING STRUCTURE ____ USE OF REMOVAL
5 SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE
6 SHOULD NEW TEMPORARY STRUCTURE BE USED
7 AVERAGE HIGH WATER SURFACE ELEV. AT EXISTING BRIDGE SITE ____ WATERWAY TO ENTIRELY N.W.
8 ELEVATION HIGH WATER AT EXISTING STRUCTURE
9 RATED AT EXISTING BRIDGE UPSTREAM ____ WATERWAY TO ENTIRELY N.W.
HIGH OF EXISTING BRIDGE DOWNSTREAM ____ WATERWAY TO ENTIRELY N.W.
10 TYPE OF FOUNDATION UNDER EXISTING PIERMENTS
11 DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE
12 IF NOT AT WHAT ELEVATION IS RELIEF APPROVED
13 ADDITIONAL WATERWAY AREA PROVIDED

NEW STRUCTURE

1 RECOMMENDED TYPE OF STRUCTURE 1½" Beams Composite
2 RECOMMENDED SKEW ANGLE ____ 30°-30'-31"-60°-29'
MEASURED ON ____ 82°-30'-31"-29'-29"
DEGREES AT FIRST ABUTMENT
3 ARE THERE OBJECTIONS TO A RISE IN THE STREAM, SHOWN YES OR NO
4 PRESENT HIGH WATER ELEVATION AT NEW STRUCTURE
5 EXPECTED HIGH WATER ELEVATION AT NEW STRUCTURE ____ DEPTH OF FOUNDATION
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE?
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION BANKFULL ____ IN ORDINARY HIGH WATER
8 LOW GIRDER ELEVATION OF NEW STRUCTURE
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE ____ CHARACTER OF TERRAIN
10 IS STREAM EVER DRY
11 VELOCITY OF STREAM AT HIGH WATER STAGE ____ ESTIMATED DISCHARGE
12 ARCH PROJ. OVERHANG ____ AREA BELOW ORDINARY H.W.
13 OBSERVATION OF DISCHARGE DEPTH ____ DATE
14 ESTIMATED ORDINARY AREA ABOVE NATURAL OR ARTIFICIAL STORAGE
15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION
16 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE No ____ WIDTH EACH SIDE
17 RECOMMENDED TYPE OF PAVEMENT Bituminous Concrete
18 TRAFFIC TO BE CONTROLLED UNDER CODE NO. 103 ONE OR TWO WAY 2 PROBABLE COST
19 PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE
20 DETAIL PROVISIONS BE MADE FOR FISHING UTILITIES No
21 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 3.5 Tons PILES BE USED? Yes WHAT KIND Various
12"Ø Pipe

FOUNDATION INFORMATION

OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BORINGS MAY BE SUPPLEMENTED AT ANY TIME BY ADDITIONAL BORINGS

BORINGS

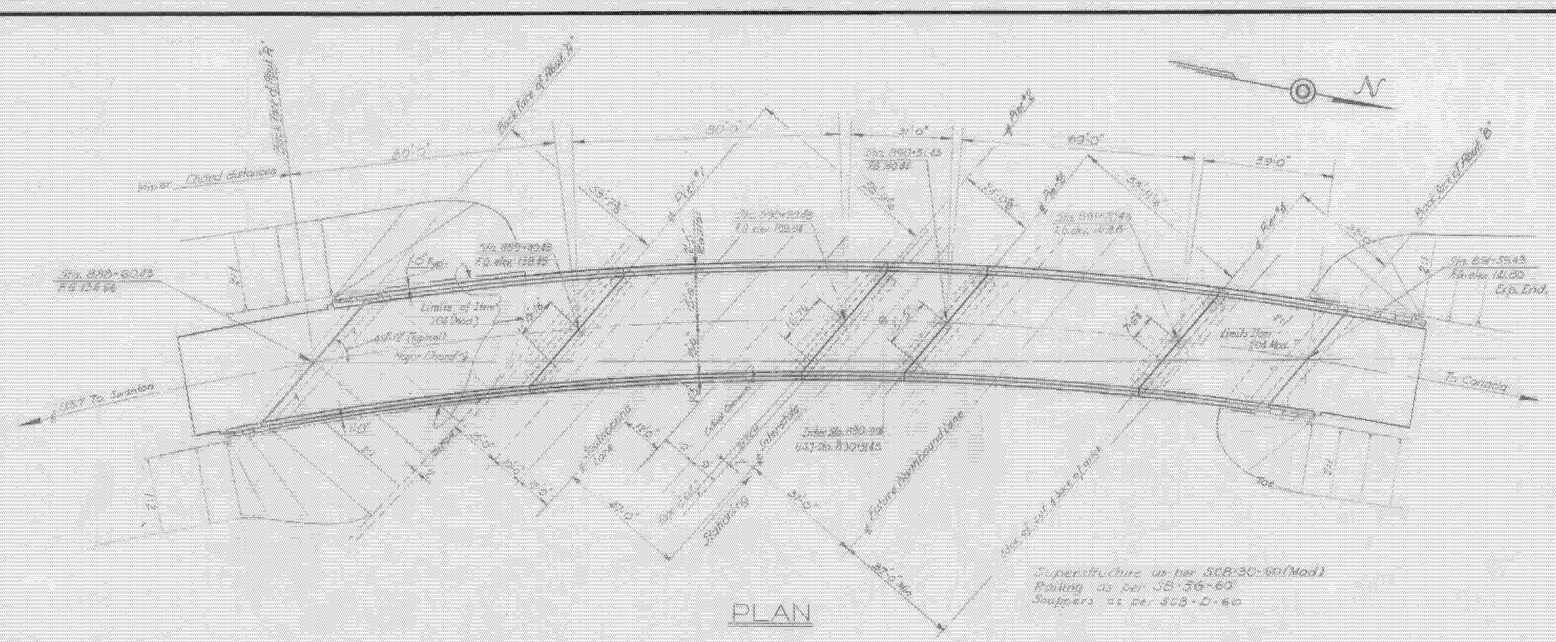
MILTON-HIGHGATE
IM MEMB(26)

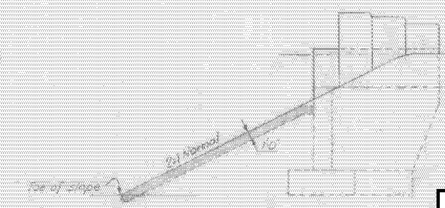
SHEET 66 OF 70
BRIDGE 101
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

Interstate IN THE TOWN OF
Swanton-Highgate
ROUTE NO. I-89 STA. 838+16.96
U.S. #7 Over Interstate
PRELIMINARY INFORMATION SHEET
SCALE
DRAWN
TRACED
DESIGNED
CHECKED
PROJECT NO. I-89-3(1) SHEET 60 OF 113

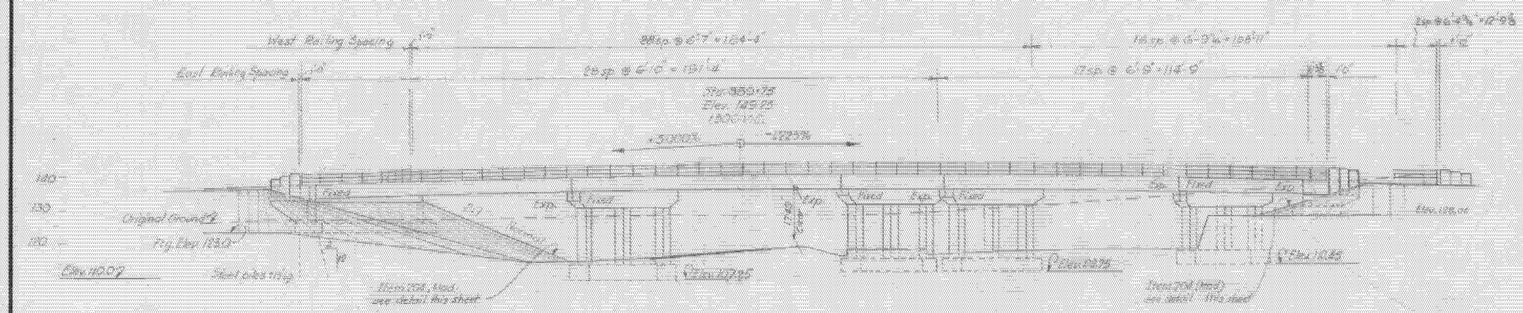
12/15/62 Engineer
Chief Engineer
Contract
Date





ITEM 204 (MOD)

Scale: None



ELEVATION

List of drawings

B226 - Preliminary Information Sheet
B227 - Plan & Elevation
B228 - Roadway 'A' details
B229 - Roadway 'B' details
B230 - Pier #2
B231 - Pier #4
B232 - Framing plan & approach slabs
B233-34 - Joint Seal Details
BE 20 - SES-0-60 - Details of W Beam Railings
B221 - SCB-30-60 - Superstructure
B222 - SB-30-66 Bearing details & shoes
B225 - SCB-D-60 Exp. & Fix. Details
B223-24 - SB-57-60 Railing Details - Sheet 1 & 2

*These items to be included by roadway quantities.

~Summary of Quantities~

ITEM NO.	ITEM	UNIT	NET			FINAL
105-A	GRANULAR BORROW	C.Y.	1170			
401-D	Concrete Class D (Mod)	C.Y.	~~557~~			615
204	Subbase of Crushed Face Top (Abut. & Wing)	C.Y.	~~150~~			127
901-B	Bituminous Concrete Pavement (Mod)	Ton	136			
107	STRUCT. EXCAV.	C.Y.	~~---~~			552
401-B	CONC. CLASS B (MOD.)	C.Y.	~~---~~			430
402	REINF. STEEL	LBS	~~---~~			142,724
407	ASPHALTIC-ASB. COATING	S.Y.	~~---~~			99
413	TAR EMULSION FOR BRIDGE FLOORS	GAL.	695			
	Cu-ells @ 57¢ Unit Price		0			120
504	STEEL PILING (12BP53)	L.F.	~~---~~			217
3726	Shoe Splice - Preformed	L.F.	238			
405	Spiral Reinforcement (6@30")	L.S.	1			1
206-A	Sand Cushion Sheet	Sq.	~~---~~			364,691
501	Furnishing Equipment for Piling piles	L.S.	1			1/2
556-C	Concrete Bridge Curb (Mod.)	L.F.	~~---~~			663
519	Bridge Railing	L.F.	622.4			622
702	Structure Backfill	C.Y.	118			0

AB M

General Notes:

1. All materials and construction shall conform to the State of Vermont, Department of Highways, Standard Specifications for Road & Bridge Construction dated Jan. 1956 and the A.A.S.H.O. Standard Specifications dated 1957 Designed for H20-S16-44 loading.
2. All beams shall be rolled to a true circular camber, the middle ordinate being that shown on the framing plan.
3. Final coat of field paint shall be green, unless otherwise directed by the engineer.
4. All dimensions are measured horizontally or vertically unless otherwise noted.
5. All dimensions given at B.O.F.
6. All reinforcing to have 2" clear cover & unless otherwise noted.
7. All exposed edges of concrete shall be chamfered ¾" unless otherwise noted.
8. Borings indicated on the drawings have been made for design purposes only and are not warranted to show actual subsurface conditions.
9. Steel Bearing Piles shall be driven to ledge rock unless otherwise approved by the Engineer. When Piles are driven in fill, the material should be such as to have no stones large enough to interfere with the driving of piles.
10. The top surface of all piers and abutments shall be sloped ½" per ft. from the back edge of abutments or the centerline of piers, except for bearing seats projecting 1' or more above the general area, which surfaces shall be level. These sloping surfaces shall be coated with asphaltic asbestos coating ¼" thick as per Item 407 of specifications. The application of this item shall be after all painting and incidental items are completed.
11. Where rock is encountered, no footings shall be poured until all blasting in an area, as noted in special provisions has been completed.
12. All dimensions given are measured horizontally or vertically unless otherwise noted.
13. Elevation datum see level based on nearest U.S. Government vertical control.
14. Cross slope of approach slab to conform with the cross slope of bridge.
15. All expansion material shall be premoulded cork containing no bituminous or asphalt.

MILTON-HIGHGATE
IM MEMB(26)

SHEET 67 OF 70
BRIDGE 101
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON-HIGHGATE
ROUTE NO. I-89 LOC. STA. 880+48.98
PLAN AND ELEVATION
U.S.7 OVER INTERSTATE
SCALE 1"=20ft & as noted
SURVEYED BY Hoskin-Markin Inc. DRAWN BY R.M.K. CHECKED BY E.F.P.
PROJECT NO. I-89-3(7)
SHEET 81 OF 143 Contract 3

80.27

FORM 1" JOINT - REMOVE AFTER PLACING BITUMINOUS CONCRETE PAVEMENT AND FILL WITH ITEM 372-A (1)

12 WF 45

6" Bit. Conc. Surface

L 8x8x1/2 Dry Packed Cement Mortar

5"x6" Stud Welded Anchors @ 6" c.c.

10"x6" Stud Welded Anchors @ 6" c.c.

#5 Bars As Shown

10"x6" Stud Welded Anchors @ 6" c.c.

Construction Joint

Approximate Grade

1/2" Bar

3/4" H.S. Bolt 3/4" x 3" Slot Hole in 12"x12"x3/8" Plate See Detail "A"

3/4" High Tensile Bolts in 1" Holes

36 WF 300

18"x4 LJ 42.7

8.5"x1/2"x24"

2'-0" Backwall

1'-8 1/2"

1'-0"

1/2" Masonry Pad

Cent. Bearing

EXP. JT. ABUT. NO. 2
ELEVATION VIEW
FOR BEARING DETAILS SEE SHEET "FINISHING PLAN & EXPANSION BEARINGS"

Cut Plate 2.1"x 1 1/2" A

L 4"x3.5"x 5/16" n1'-8 @ 2'-0" c.c. Weld North 'W' Remove Burrs After Cooling Set

12 WF 45

1'-8"

1/2" B Stiffeners

15'-0"

33 Spaces @ 5 3/8" = 15'-1 1/2"

See Detail 'B'

Shelter Holes 1 1/2"x2 1/2" For 3/4" Bolts

EXPANSION DAM
SCALE 1"= 1'-0"

5 3/4" 5 3/8"

6 1/2"

5 3/8"

DETAIL "B"
Scale 3"=1'-0"

1/2"-6" Std. W.I. Pipe (or equivalent) with 3/4" hold-down bolts @ each Support

See Detail 'A'

18"x4 LJ 42.7

5"x1/2"x26'-8"

A

1'-4"

3" Plate

1'-2 1/2"

1'-3" End Post

Downspout Trough and Breakth. or Low Side Only

EXP. DEVICE AT CURB
ELEVATION VIEW

End Granite Curb

1'-3 1/2"

End Granite Curb

1/2" Exp. Mat.

8"x1/2" Stud Welded Anchors @ 2' c.c.

EXP. DEVICE AT CURB
PLAN VIEW

3" Checkered R

2" Plate

8"x2" Stud Welded Anchors @ 6" c.c.

End Granite Curb

5"-8"x12" Stud Welded Anchors @ 6" c.c.

Stream Face of Backwall

3" Std. W.I. Pipe

1/2"-6" Std. W.I. Pipe or equivalent

SECTION A-A

36 WF 300

8 5/8"

12 WF 45

Varies

Shim as Directed by the Engineer

16 5/8" x 8" R

36 WF 300

DETAIL "A"
Scale 3"=1'-0"

Notes:

1. The finger plate assembly is to be completely fabricated upon delivery at job site. This assembly to include the 12 WF 45 with all welded attachments including trough and apron, the finger plates with temporary clips and the L8x8x1/2 with all welded attachments including apron. All weather surfaces are to receive two(2) coats of Stop paint (section 406.03-B State of Vermont Dept of Highways Standard Specifications).
2. The initial 1 1/2" clearance of the finger plates is for a temperature of 68°F at the time of installation. Clearance shall be adjusted 1/8" for each 5°F differ-ence in temperature.

REVISIONS-
(1) CHANGED 372-C TO 372-A 5-27-65 RJB

ITEM NO.	ITEM	UNIT	NET	OVERRUN	TOTAL	FINAL
106-A	CHAN. EXCAV. OF EARTH	C.Y.				
106-B	CHAN. EXCAV. OF ROCK	C.Y.				
106-C	UNCLASS. CHAN. EXCAV.	C.Y.				
107	STRUCT. EXCAV.	C.Y.				
401-B	CONC. CLASS B (MOD.)	C.Y.				
402	REINF. STEEL	LBS.				
407	ASPHALTIC-ASB. COATING	S.Y.				
502-B	TREATED TIMBER PILING	L.F.				
503	SPLICES FOR STEEL PILING	EA.				
504	STEEL PILING	L.F.				
502-A	UNTREATED TIMBER PILING	L.F.				

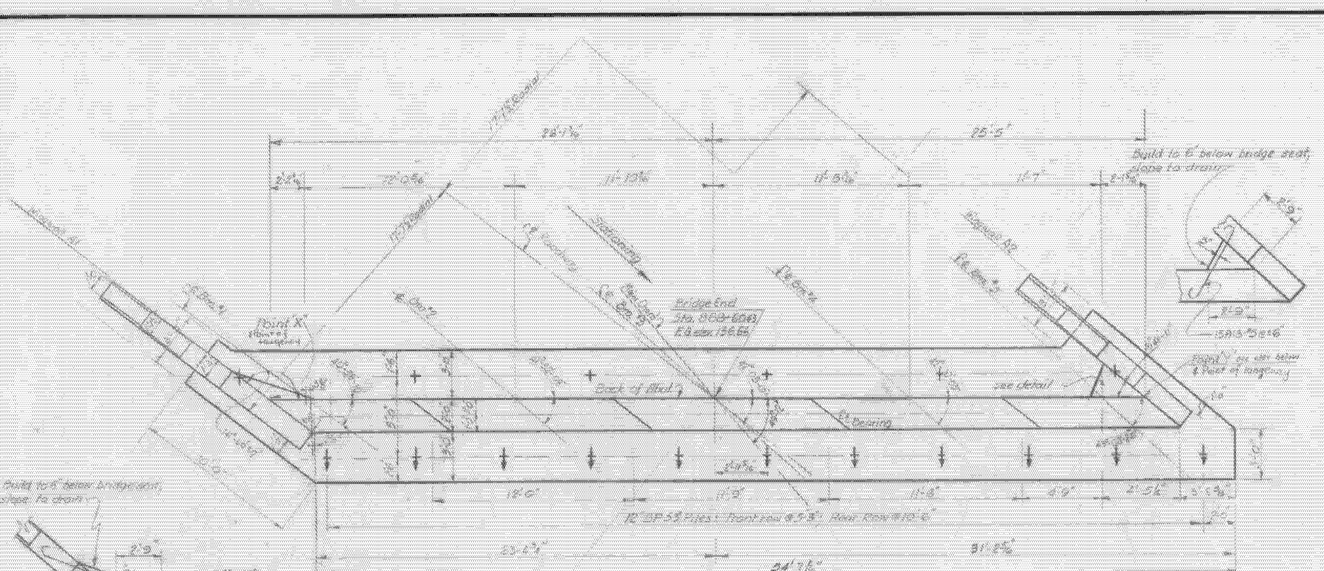
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

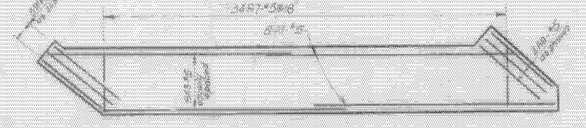
TOWN OF SWANTON-HIGHGATE
ROUTE NO. I 89 STA. 870+50
SOUTHBOUND LANE
EXPANSION END DETAILS
ROCK RIVER
SCALE 1 1/2" = 1'-0"
SURVEYED BY
DRAWN BY RJM CHECKED BY EFP
PROJECT NO. I 89 - 3(7) CONTRACT 3
SHEET 24 OF 143
BRB

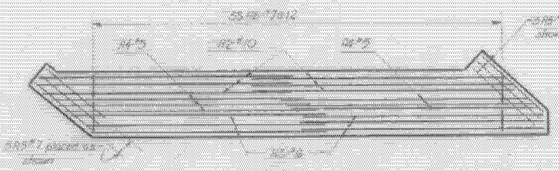
MILTON-HIGHGATE
IM MEMB(26)

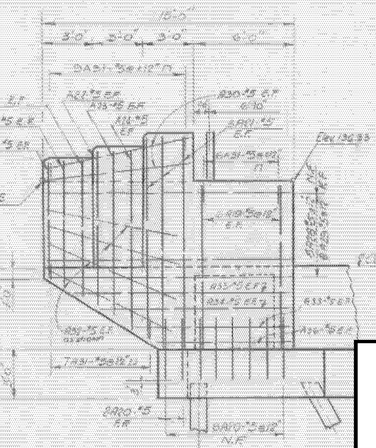
SHEET 68 OF 70
BRIDGE 101
FOR REFERENCE ONLY

HIGHGATE STAGE II PROJECT NO. I-89-3 (26)
SHEET 82 OF 127

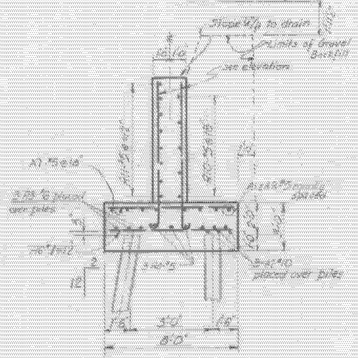


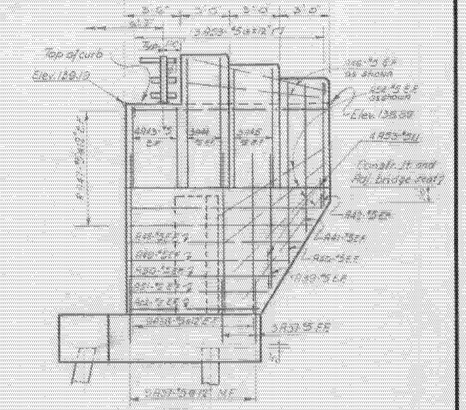






NE - Near Face
FF - Far Face
EF - Each Face
V = Vertical pile
H = Hor. Batter pile





Bridge seat elevations for 6" Brg.
Cost exposed bridge seats with asphaltic asbestos coating (Item 407) to 2' depth after superstructure is in place.
Slope all exposed surfaces to drain.
Top of curb & end post to be parallel to "G" grade
For railing details see Std. Dwg. 518-56-6.0
For scour mark detail and slope treatment (Item 306) see Sht. No. BR-27

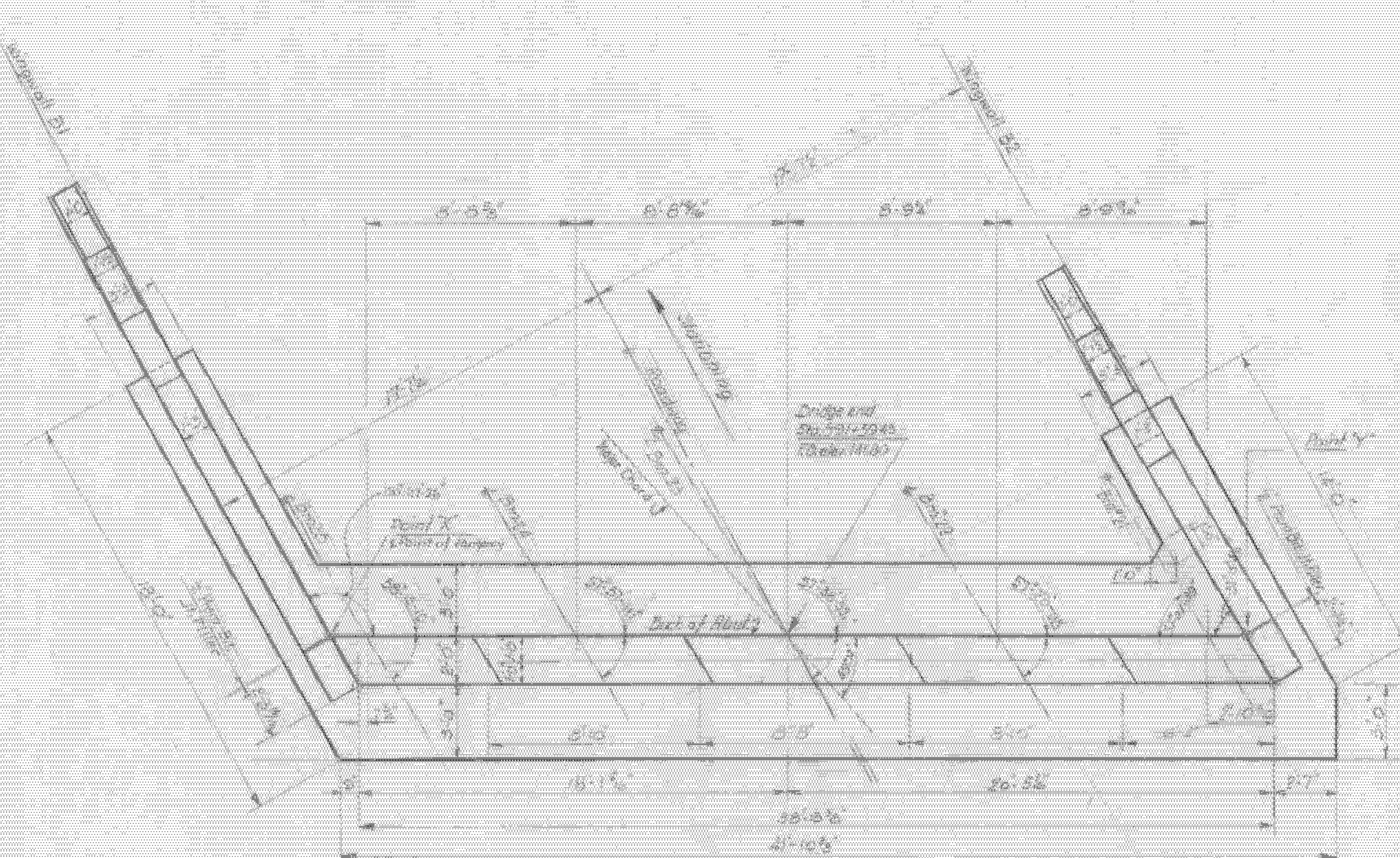
ITEM NO.	ITEM	UNIT	NET	OVERRUN	TOTAL	AD FINAL
106-A	CHAN. EXCAV. OF EARTH	C. Y.				
106-B	CHAN. EXCAV. OF ROCK	C. Y.				
106-C	UNCLASS. CHAN. EXCAV.	C. Y.				
107	STRUCT. EXCAV.	C. Y.	22 ±			22
401-D	CONC. CLASS D (MOD.)	C. Y.	93 ±			93
402	REINF. STEEL	LBS.				See reinf. schedule
407	ASPHALTIC-ASB. COATING	S. Y.	6 ±			6
502-B	TREATED TIMBER PILING	L. F.				
503	SPLICES FOR STEEL PILING	EA.				
504	STEEL PILING (12" BP 53)	L. F.	217			217
502-A	UNTREATED TIMBER PILING	L. F.				
538	Gravel Backfill	C.Y.	12 ±			12

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

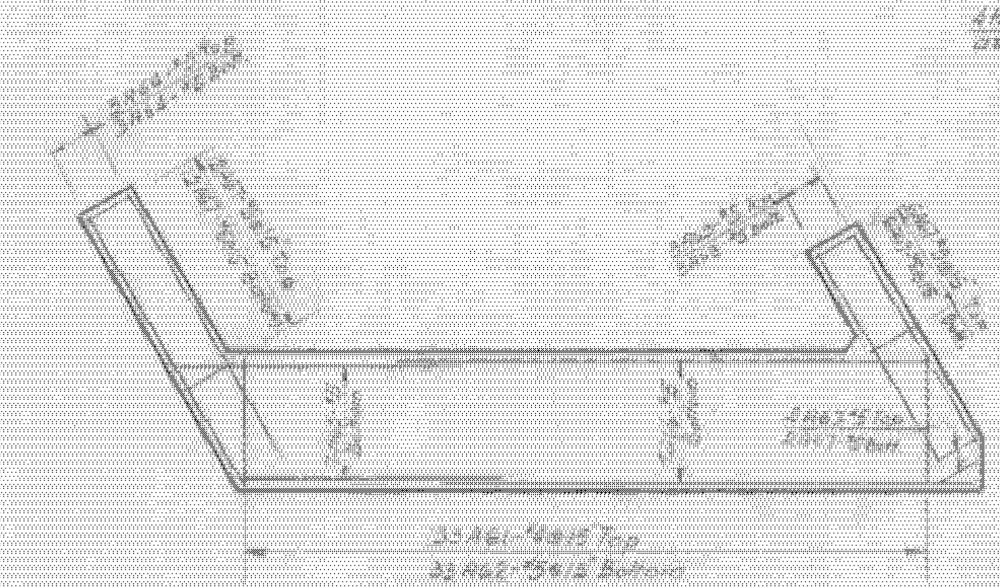
TOWN OF SWANTON-HIGHGATE
ROUTE NO. I-89 LOG STA. 890+18.98
ABUTMENT "A" - DETAILS
U57 OVER INTERSTATE
SCALE 1/4" = 1'-0" except as noted.
SURVEYED BY WEBSTER-MARTEL INC.
DRAWN BY R.W.K. CHECKED BY E.F.P.
PROJECT NO. I-89-3(17)
SHEET 22 OF 141 Contract 3

MILTON-HIGHGATE
IM MEMB(26)

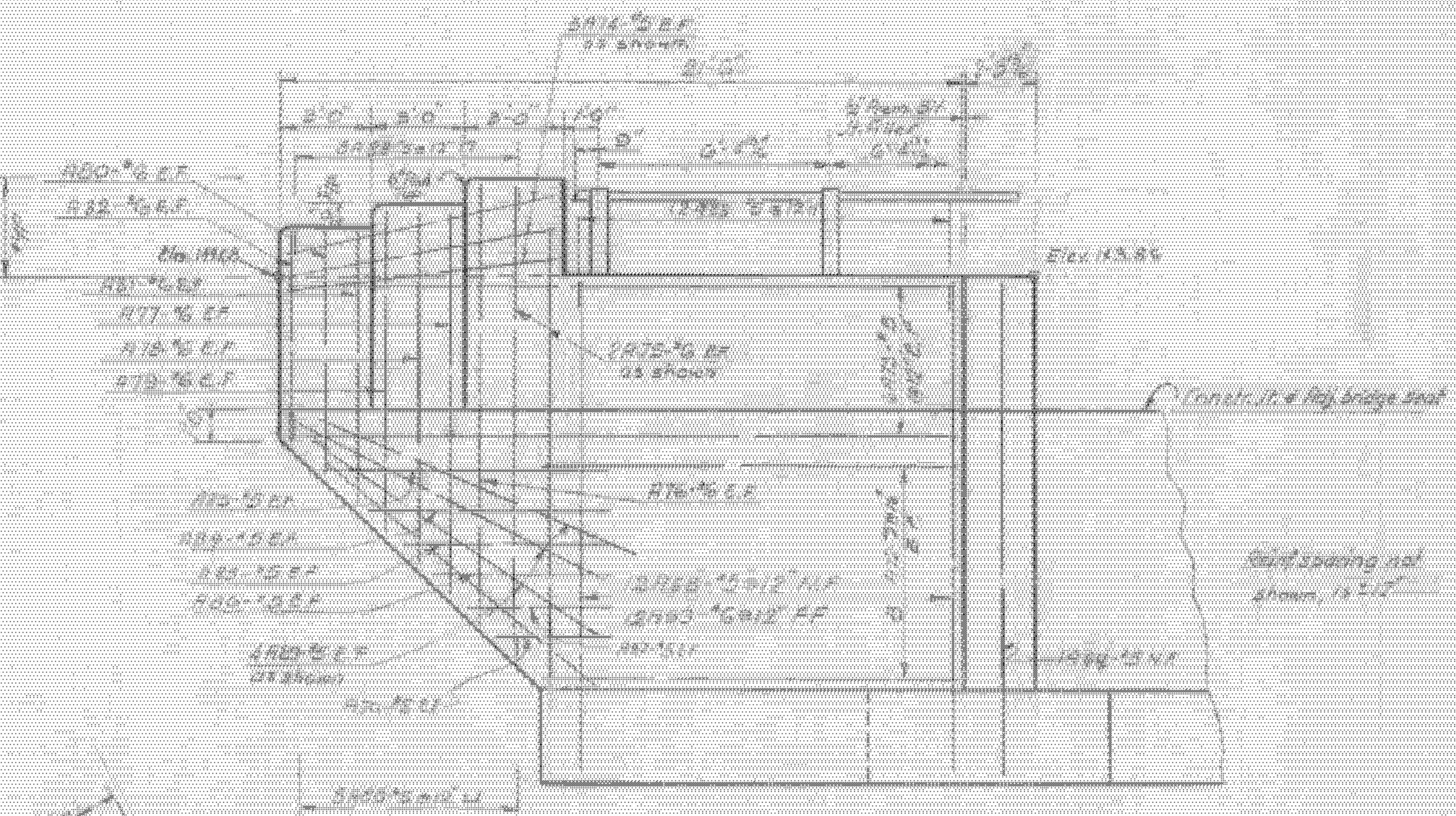
SHEET 69 OF 70
BRIDGE 101
FOR REFERENCE ONLY



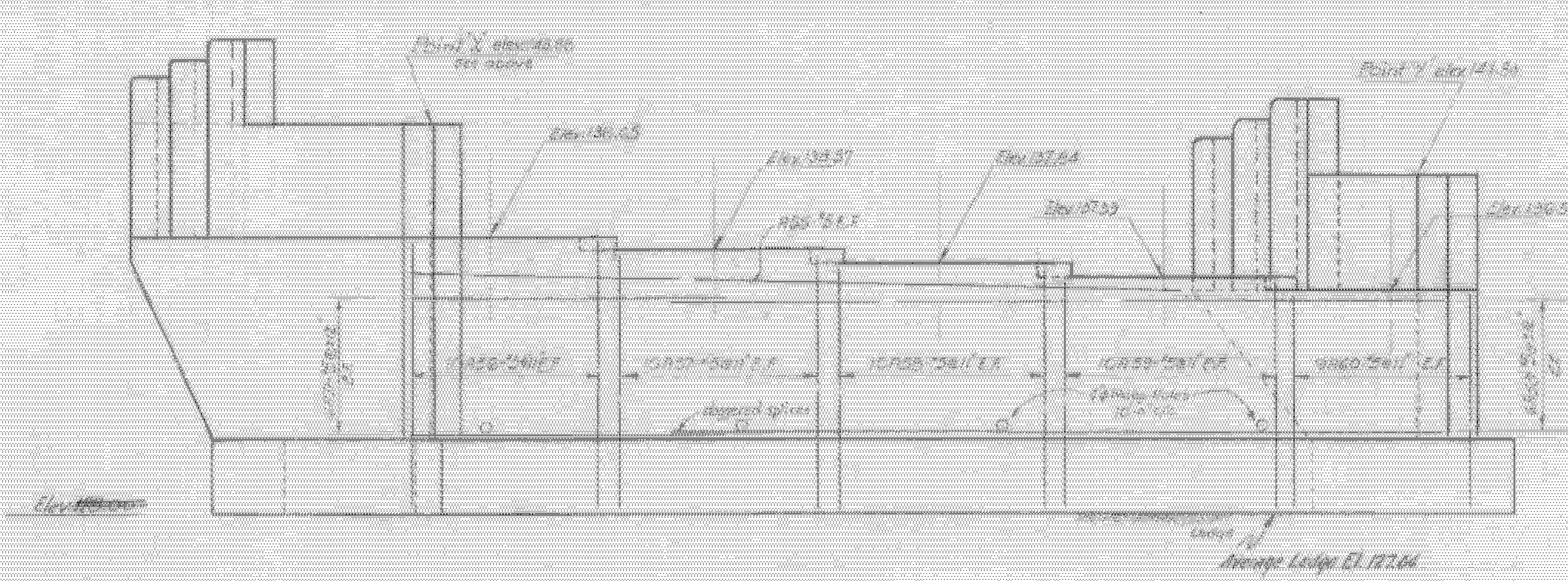
PLAN
scale 1/8" = 1 Ft.



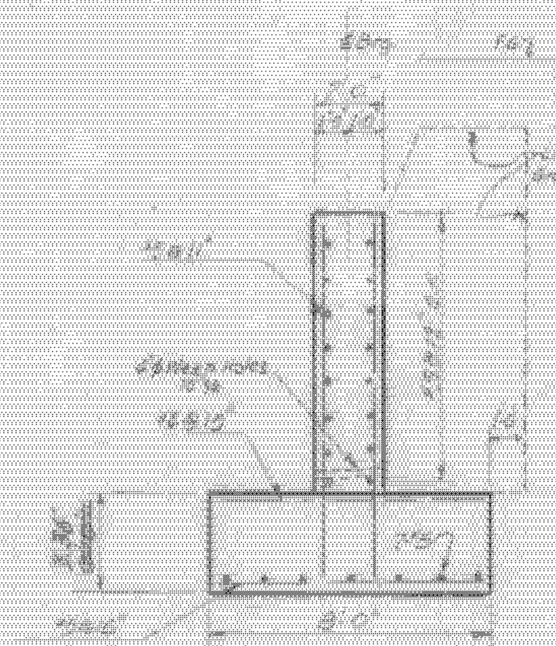
FOOTING REINF.
scale 1/8" = 1 Ft.



WINGWALL B1
scale 1/4" = 1 Ft.

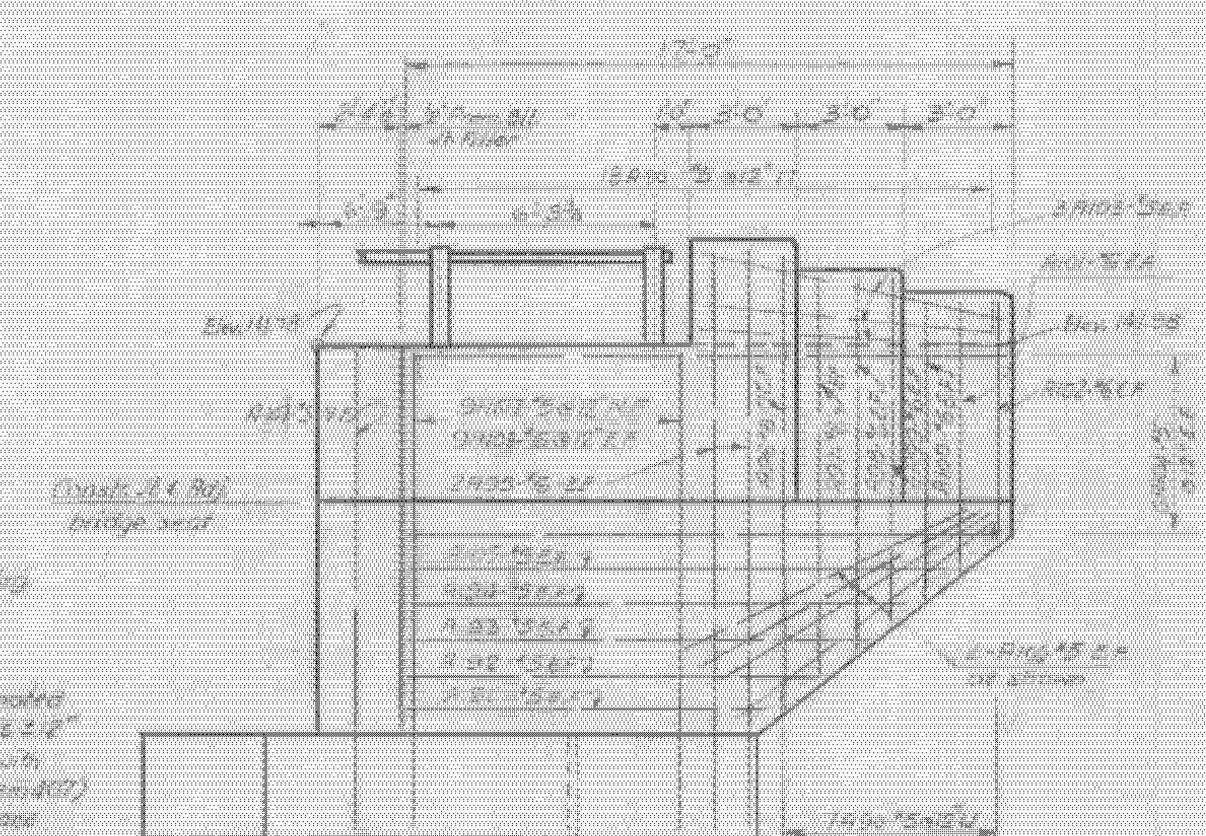


ELEVATION
scale 1/4" = 1 Ft.



TYP. ABUT. SECTION
scale 1/4" = 1 Ft.

Bridge seat elev's are for ℄ Brg.
N.F. - Near Face
F.F. - Far Face
E.F. - Each Face
Reinf. clearance 3" except as noted
Reinf. spacing not indicated, is 1'-2"
Coat exposed bridge seats with asphaltic-asbestos coating (item 407) 1/4" depth after superstr. is in place
Slope all exposed surfaces to drain.
Top of curb and post to follow grade
for railing details see dwg. # 58-56 6a
for score mark detail and slope treatment (item 208) see dwg. # 58-30 6a
½" Prem. Bit. Jt. Filler or ¾" cork shall be included in concr. price.



WINGWALL B2
scale 1/4" = 1 Ft.

MILTON-HIGHGATE
IM MEMB(26)

SHEET 70 OF 70
BRIDGE 101
FOR REFERENCE ONLY

ITEM NO.	ITEM	UNIT	NET	OVERRUN	TOTAL	FINAL
106-A	CHAN. EXCAV. OF EARTH	C.Y.				
106-B	CHAN. EXCAV. OF ROCK	C.Y.				
106-C	UNCLASS. CHAN. EXCAV.	C.Y.				
107	STRUCT. EXCAV.	C.Y.	~~[illegible]~~			218
401-D	CONC. CLASS D (MOD.)	C.Y.	~~[illegible]~~			92
402	REINF. STEEL	LBS.		see bar schedule		
407	ASPHALTIC-ASB. COATING	S.Y.	~~[illegible]~~			5
502-B	TREATED TIMBER PILING	L.F.				
503	SPLICES FOR STEEL PILING	EA.				
504	STEEL PILING	L.F.				
502-A	UNTREATED TIMBER PILING	L.F.				
222	Gravel backfill	C.Y.	~~55~~			0

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON-HIGHGATE
ROUTE NO. I-89 ~~LOG~~ STA. 590+18.98
ABUTMENT "B" DETAILS
U.S. 7 OVER INTERSTATE
SCALE as noted
SURVEYED BY Webster-Martin Inc.
DRAWN BY R.W.K. CHECKED BY E.F.P.
PROJECT NO. I 89-3(1)
BR 29 SHEET 83 OF 145 Contract 3