

STATE OF VERMONT
AGENCY OF TRANSPORTATION

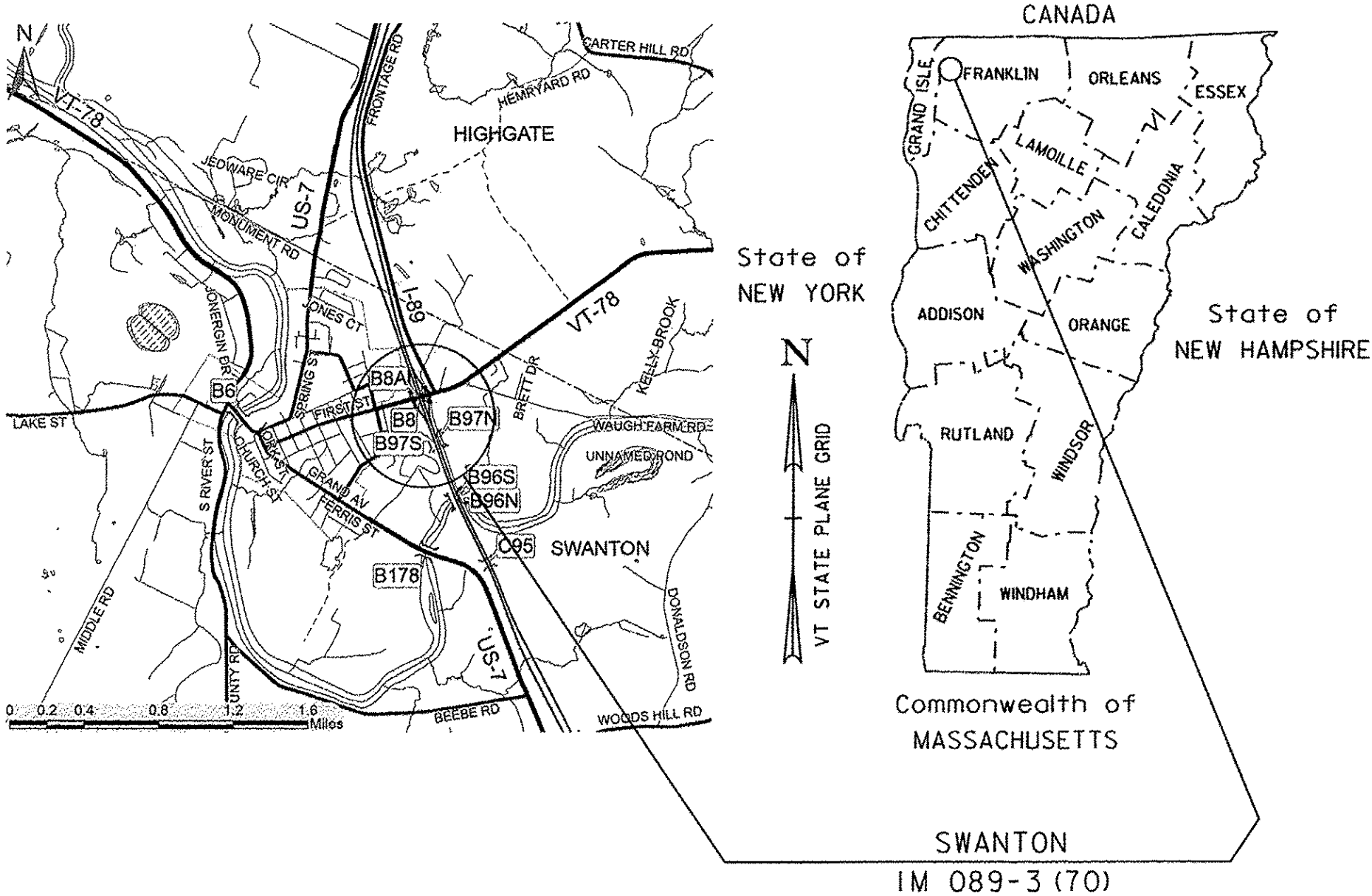


PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF SWANTON
COUNTY OF FRANKLIN

ROUTE NO : INTERSTATE 89 BRIDGE NO : 97N, 97S, 98N, 98S

PROJECT LOCATION : BRIDGE 97 N & S OVER RECREATION PATH (MM 123.118)
 BRIDGE 98 N & S OVER VT ROUTE 78 (EXIT 21) (MM 123.368)

PROJECT DESCRIPTION : PAVE AND MEMBRANE BRIDGES 97N, 97S, 98N WITH
 SUBSTRUCTURE WORK ON BRIDGES 97N, 97S, 98N, 98S



RECORD PLANS

CONTRACTOR: COLD RIVER BRIDGES, LLC- KEENE, NH

RESIDENT ENGINEER: SCOTT WHEATLEY

CONSTRUCTION BEGAN: JUNE 20, 2013

CONSTRUCTION COMPLETE: JUNE 5, 2014

RECORD PLANS BY: SCOTT WHEATLEY & CRAIG PIERCE

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

BY Scott Wheatley RESIDENT ENGINEER

DATE 2-23-16

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.

QUALITY ASSURANCE PROGRAM: LEVEL 1

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

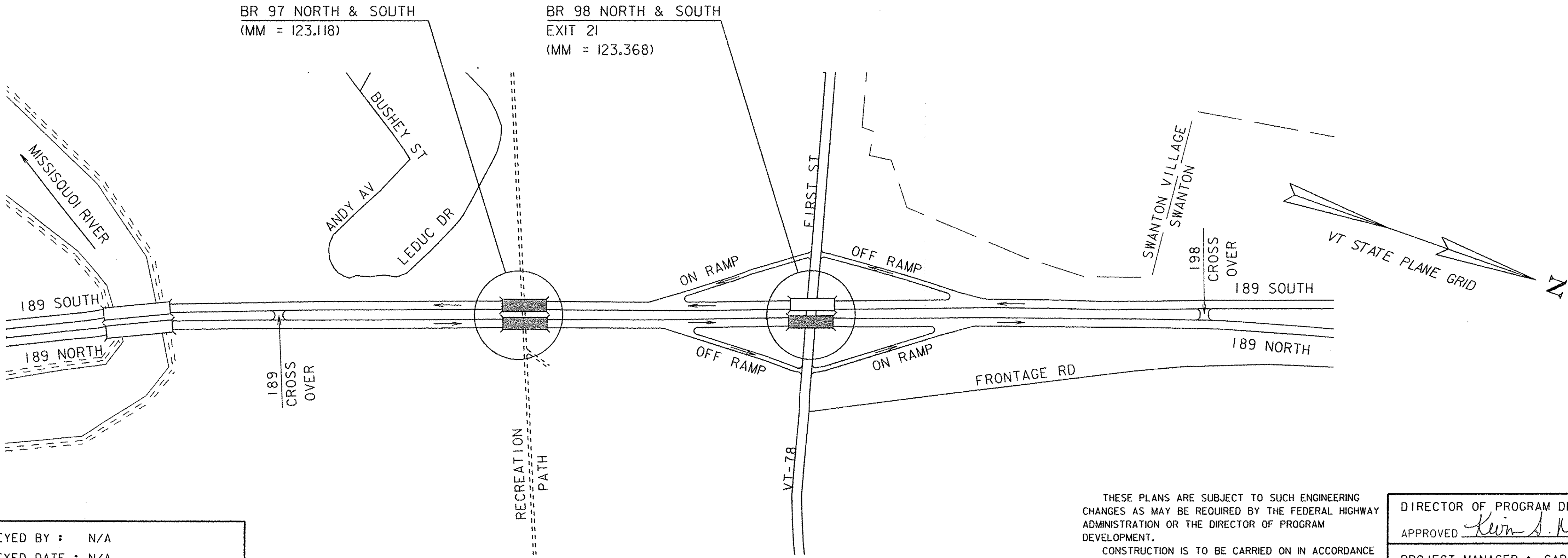
DATUM

VERTICAL : N/A

HORIZONTAL : N/A

SCALE 1" = 300'-0"

300 0 300



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 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT

APPROVED Kevin J. Plavick DATE 3/21/13

PROJECT MANAGER : CAROLYN CARLSON

PROJECT NAME : SWANTON

PROJECT NUMBER : IM 089-3 (70)

SHEET 1 OF 31 SHEETS

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GENERAL

- 1 ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FIFTH EDITION, DATED 2010 AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS THIRD EDITION, DATED 2010 AND ITS LATEST REVISIONS.
- 2 DIMENSIONS, ANGLES, BEARINGS, AND ELEVATIONS OF THE EXISTING BRIDGES SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND LIMITED FIELD INVESTIGATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING STRUCTURE COMPONENTS TO ASSURE CONSISTENCY WITH THE PROPOSED MODIFICATIONS. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER, BEFORE ADVANCING THE WORK. ALL REFERENCE SHEETS WERE SCANNED IN, AND ARE NO LONGER TO SCALE.
- 3 UNLESS OTHERWISE PROVIDED, ALL REMOVED MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF/RECYCLED AS AUTHORIZED BY THE ENGINEER.
- 4 THE PLANS AND PICTURES SHOW THE TYPE OF WORK REQUIRED BUT DO NOT NECESSARILY SHOW ALL WORK NEEDED.
- 5 BRIDGES 97 NORTH AND SOUTH PASS OVER RECREATION PATH AND BRIDGES 98 NORTH AND SOUTH PASS OVER VT-78, THESE FEATURES WILL NEED TO BE PROTECTED FROM CONSTRUCTION ACTIVITIES. THIS WORK WILL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)".
- 6 THE INTENTION OF THESE PLANS IS TO SHOW THE TYPE OF CONCRETE REPAIR WORK NEEDED. QUANTITIES FOR CONCRETE REPAIR HAVE BEEN ESTIMATED BASED ON SITE VISITS.

PAVEMENT REMOVAL NOTES

- 7 THE FINAL ONE HALF INCH OF PAVEMENT ON THE BRIDGE DECK AND APPROACH SLABS SHALL BE REMOVED BY LOADER, GRADER, OR EQUIPMENT APPROVED BY THE ENGINEER. USE OF COLD PLANER TO REMOVE BRIDGE AND APPROACH SLAB PAVEMENT SHALL BE INCIDENTAL TO ITEM 529.10 "REMOVAL OF BRIDGE PAVEMENT". THE REMOVAL OF EXISTING SHEET MEMBRANE SHALL BE INCIDENTAL TO ITEM 580.16 SURFACE PREPARATION FOR MEMBRANE.

- 8 DURING BRIDGE AND APPROACH SLAB PAVEMENT REMOVAL, THE CONTRACTOR SHALL EXERCISE CARE TO ENSURE THAT NO DAMAGE OCCURS TO THE EXISTING PORTLAND CEMENT CONCRETE DECK OR THE APPROACH SLABS. IF THE CONTRACTOR DAMAGES AREAS OF THE DECK OR APPROACH SLABS, THEN THE REQUIRED REPAIRS SHALL BE AS PER SECTION 580 OF THE SPECIFICATION AND WILL BE AT THE CONTRACTOR'S EXPENSE.

- 9 WHERE TRAFFIC IS TO BE MAINTAINED ON ONE LANE OF A BRIDGE WHILE THE OTHER LANE IS BEING REPAIRED, THE EXISTING PAVEMENT SHALL BE RETAINED TO ENSURE A SMOOTH RIDE AND LESS IMPACT DAMAGE TO THE REPAIRS MADE.

DECK REPAIR NOTES

- 10 AN ESTIMATED QUANTITY OF 3CY HAS BEEN INCLUDED FOR ITEM 580.12 "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III" FOR ANY AREAS THAT REQUIRE FULL DEPTH REPAIR. THIS SHALL INCLUDE ANY AREAS INDICATED BY POP OUTS ON THE SOFFIT, FASCIA, AND CURBS; OR ANY SECTION OF THE DECK THAT THE ENGINEER DETERMINES TO REQUIRE FULL DEPTH REPAIR AFTER CLASS II REMOVAL.

- 11 AFTER CLASS II AND CLASS III REMOVAL THE REINFORCING STEEL SHALL BE INSPECTED AND ANY REMAINING RUST SHALL BE CLEANED OFF OF THE BARS BEFORE ANY CONCRETE IS PLACED. ANY SECTIONS OF REINFORCING STEEL ORDERED REMOVED BE THE ENGINEER SHALL BE REMOVED AND REPLACED WITH #5 BARS, CUT TO FIT. AN ESTIMATED QUANTITY OF 1000 LBS OF ITEM 507.11 "REINFORCING STEEL, LEVEL 1" IS INCLUDED FOR THIS PURPOSE.

- 12 IF THERE IS INSUFFICIENT COMPETENT EXISTING STEEL FOR LAPPING WITH THE NEW STEEL, THE TWO BARS SHALL BE CONNECTED USING MECHANICAL BAR CONNECTORS UNDER ITEM 507.19 "MECHANICAL BAR CONNECTORS", AN ESTIMATED QUANTITY OF 50 MECHANICAL BAR CONNECTORS ARE INCLUDED FOR THIS PURPOSE, INCLUDING 3 CONNECTORS FOR TESTING UNDER SUBSECTION 713.02.

- 13 A QUANTITY OF 30 FEET OF DRILLING AND GROUTING DOWELS WAS ADDED IN THE EVENT THERE IS NOT ENOUGH REBAR TO LAP SPLICE OR TO USE MECHANICAL BAR CONNECTORS AT THE CURB LINES.

WATER PROOFING NOTES

- 14 FOLLOWING REMOVAL OF BRIDGE PAVEMENT, THE CONCRETE BRIDGE DECK SHALL BE CLEANED AND PREPARED IN ACCORDANCE WITH SUBSECTION 580.04 AND TO THE SATISFACTION OF THE ENGINEER. THIS WORK SHALL BE PAID FOR AS ITEM 580.16 "SURFACE PREPARATION FOR MEMBRANE".

- 15 ANY AREA OF THE BRIDGE THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE SOLE COST OF THE CONTRACTOR. ANY AREA OF CONCRETE BELOW THE MEMBRANE THAT IS FOUND TO BE UNSOUND SHALL BE IDENTIFIED BY THE CONTRACTOR AND BROUGHT TO THE ATTENTION OF THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO HOW TO REPAIR THE DETERIORATED PORTION OF THE DECK AND AS TO THE EXTENT OF REPAIRS.

- 16 UPON APPROVAL OF THE DECK CONDITION BY THE ENGINEER, SHEET MEMBRANE WATERPROOFING, TORCH APPLIED, SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 519. IF THE DECK CANNOT BE WATERPROOFED AND PAVED IN ITS ENTIRETY, IN A CONTINUOUS OPERATION, OR IF TRAFFIC IS TO BE MAINTAINED ON ONE LANE WHILE THE OTHER LANE IS BEING REPAIRED, THE FOLLOWING SHALL APPLY:

- a. THE MEMBRANE SHALL EXTEND 1 +/- FOOT BEYOND THE LANE LINE OF THE REPAIRED LANE SO THAT THE MEMBRANE CAN BE LAPPED ONTO WHEN WATERPROOFING THE SECOND LANE OF WHEN CONSTRUCTION OPERATIONS HAVE RESUMED.
- b. PAVEMENT SHALL BE PLACED ON THE NEWLY INSTALLED MEMBRANE FOR THE ENTIRE LENGTH OF THE BRIDGE PRIOR TO ALLOWING TRAFFIC ONTO THIS LANE.
- c. THAT PART (1'+/-) OF THE MEMBRANE THAT EXTENDS BEYOND THE NECESSARY LANE WIDTH TO MAINTAIN TRAFFIC SHALL BE COVERED WITH RELEASE PAPER AND BITUMINOUS CONCRETE PAVEMENT. WHEN WATERPROOFING THE SECOND LANE, REMOVAL OF THE PAVEMENT ON THE RELEASE PAPER IN ORDER TO OVERLAP THE MEMBRANE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.680 "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".

- 17 WATER REPELLENT, SILANE, SHALL BE APPLIED TO ALL EXPOSED CONCRETE, EXCEPT FOR THE UNDERSIDE OF THE DECK BETWEEN THE DRIP NOTCHES. THIS WORK SHALL BE PAID FOR AS ITEM 514.10 "WATER REPELLENT, SILANE".

AIR HAMMER REMOVAL NOTES

- 18 THE ANGLE BETWEEN THE DECK AND AIR HAMMER AXIS SHALL BE FROM ZERO (0) DEGREES TO FORTY-FIVE (45) DEGREES. AIR HAMMERS USED FOR THE REMOVAL OF UNSOUND AND DETERIORATED CONCRETE SHALL HAVE A MAXIMUM RATING OF THIRTY (30) POUNDS AND SHALL USE CHISEL POINTS ONLY. IF REINFORCING STEEL IS DAMAGED, OR IF CONCRETE IS DEBONDED, DELAMINATED, OR OTHERWISE DAMAGED BEYOND THE DEFINED LIMITS OF REMOVAL BECAUSE OF THE IMPROPER USE OF THE AIR HAMMER, THEN THE CONTACTOR SHALL REPAIR THE DAMAGED AREAS BY REMOVING AND REPLACING THE CONCRETE AND/OR REINFORCING STEEL AT THEIR OWN EXPENSE.

PAVEMENT NOTES

- 19 FOLLOWING INSTALLATION OF SHEET MEMBRANE WATERPROOFING ON THE BRIDGE DECKS; THE BRIDGE DECKS AND AT-GRADE APPROACH SLABS SHALL BE PAVED CURB TO CURB WITH ITEM 900.680 "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".

- 20 CARE SHALL BE EXERCISED TO SMOOTHLY TRANSITION THE NEW APPROACH SLAB PAVEMENT INTO THE EXISTING PAVEMENT (50' MINIMUM, SEE SHEET 6). ANY COLD PLANING NECESSARY FOR SHAPING BRIDGE APPROACHES ALONG THE EXISTING MAIN LINE SHALL BE PAID FOR UNDER ITEM 210.10 "COLD PLANING, BITUMINOUS PAVEMENT". ANY COLD PLANING ALONG SIDE ROADS SHALL BE DONE AT THE RESIDENT ENGINEER'S DISCRETION.

- 21 LONGITUDINAL JOINTS IN THE PAVEMENT SHALL BE TAPERED IN ACCORDANCE WITH SECTION 490.

- 22 EMULSIFIED ASPHALT SHALL BE APPLIED TO TACK CONTACT SURFACES AT A RATE OF 0.025 GAL/SY.

- 23 TESTING FOR PAVEMENT DENSITY WILL REQUIRE CORES OF THE PAVEMENT ON THE BRIDGE DECK, POSSIBLY RESULTING IN DAMAGE TO THE MEMBRANE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY DAMAGED MEMBRANE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 900.680 "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".

CONCRETE NOTES

- 24 DUPLICATE PAYMENT WILL NOT BE MADE FOR REPAIR OF CONCRETE SURFACES IN ANY AREA. NO PAYMENT FOR ITEM 580.11 "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II" SHALL BE MADE WITHIN AREAS OF CLASS III REPAIR. FOR EXAMPLE, IF AN AREA IS ORIGINALLY TO BE REPAIRED AS CLASS II, AND THE ENGINEER ORDERS A CHANGE TO CLASS III DEPTH, THE AREA IN QUESTION WILL BE PAID AS CLASS III.

- 25 ALL EDGES OF REPAIR AREAS ARE TO BE SAWCUT SQUARE AND TO A MINIMUM DEPTH OF 1". EXCEPT AT THE CURB LINES WHERE THE EDGE WILL BE CHIPPED.

ENVIRONMENTAL

- 26 EROSION CONTROL MEASURES SHALL BE UTILIZED AS REQUIRED AND SHALL BE PER SECTION 105 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE AGENCY OF NATURAL RESOURCES LOW-RISK HANDBOOK FOR CONSTRUCTION SITES. SEE SUBSECTION 105.23 FOR EROSION CONTROL PLAN REQUIREMENTS. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ALL OTHER CONTRACT ITEMS.

TRAFFIC CONTROL

- 1 A MINIMUM OF ONE WAY TRAFFIC SHALL BE MAINTAINED ON I-89 THROUGH OUT ALL PHASES OF THIS PROJECT. WORK IS TO BE PERFORMED IN ACCORDANCE WITH MUTCD(2011), AND THE APPROPRIATE VTRANS STANDARD DRAWINGS.

- 2 ALL SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES SHALL BE CLEANED WEEKLY OR AS DIRECTED BY THE RESIDENT ENGINEER. EXISTING PERMANENT SIGNS THAT CONTRADICT TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE REMOVED AND REPLACED OR COVERED FOR THE PERIOD OF TIME THAT THE TRAFFIC CONTROL PLAN IS IMPLEMENTED. COST FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)

- 3 THE COST FOR ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN; INCLUDING BUT NOT LIMITED TO TEMPORARY TRAFFIC BARRIER, TEMPORARY PAVEMENT MARKINGS, AND CONSTRUCTION SIGNS, WILL BE INCLUDED UNDER CONTRACT ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

- 4 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING THE LOCAL TRAFFIC CONTROL PACKAGE IDENTIFYING THE PROJECT BEFORE, DURING AND AFTER THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAILED TRAFFIC CONTROL PLAN TO THE ENGINEER FOR ALL STAGES OF CONSTRUCTION. NO WORK SHALL BEGIN UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. ALL COST SHALL BE INCLUDED IN ITEM 900.645 "SPECIAL PROVISION, (TRAFFIC CONTROL, ALL-INCLUSIVE)".

- 5 THE CONTRACTOR SHALL ADD SIGN G20-5AP TO THE TOP OF ALL TEMPORARY SPEED LIMIT SIGNS AS DETAILED IN THE MUTCD.

- 6 A MINIMUM OF TWO WAY TRAFFIC SHALL BE MAINTAINED ON VT 78 THROUGH OUT ALL PHASES OF THIS PROJECT. WORK IS TO BE PERFORMED IN ACCORDANCE WITH MUTCD(2011), AND THE APPROPRIATE VTRANS STANDARD DRAWINGS.

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2o276pi.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
INDEX & PROJECT NOTES SHEET

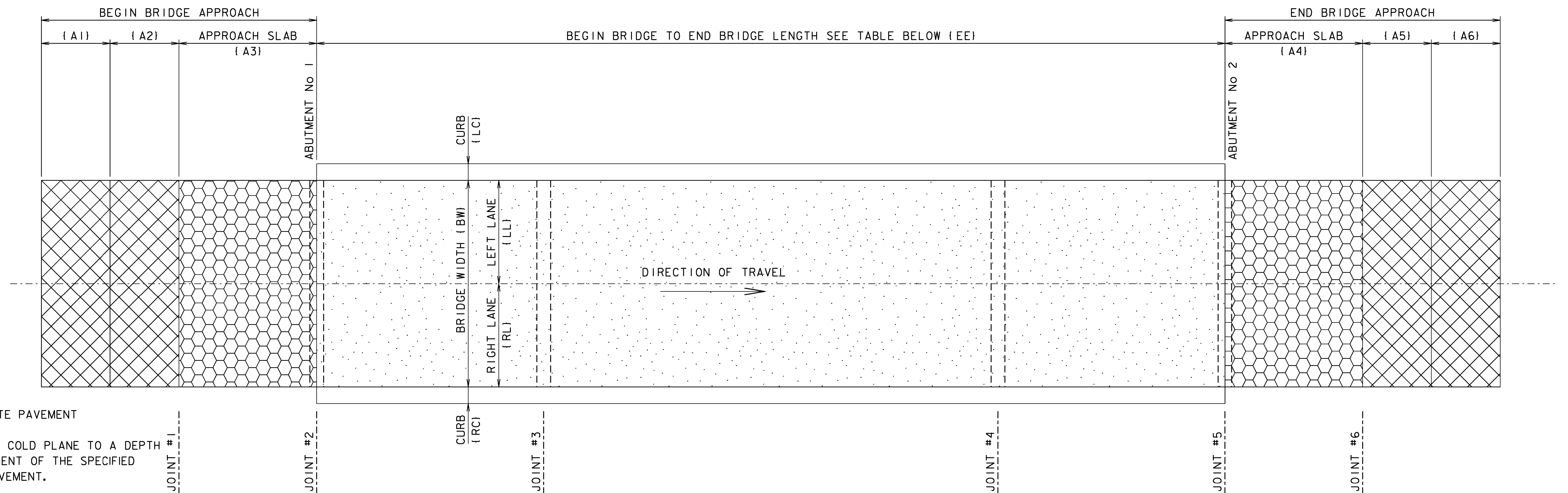
PLOT DATE: 26-MAR-2013
DRAWN BY: R. PELLETT
CHECKED BY: H. SALLS
SHEET 2 OF 31

AS BUILT "REBAR" DETAIL		
LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

STATE OF VERMONT AGENCY OF TRANSPORTATION												QUANTITY SHEET 1									
SUMMARY OF ESTIMATED QUANTITIES												TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
						ROADWAY	BRIDGE 97N	BRIDGE 97S	BRIDGE 98N	BRIDGE 98S	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					
							468	654	468			1590		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10					
							200	200	200			600		LF	MILLED RUMBLE STRIPS	213.10					
							12	17	12			41		CWT	EMULSIFIED ASPHALT	404.65					
						1						1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50					
							250	250	500			1000		LB	REINFORCING STEEL, LEVEL I	507.11					
							10	10	10			30		LF	DRILLING AND GROUTING DOWELS	507.16					
							10	10	30			50		EACH	MECHANICAL BAR CONNECTOR	507.19					
							50	50	50	50		200		GAL	WATER REPELLENT, SILANE	514.10					
							120	168	120			408		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10					
							510	710	540			1760		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20					
															BEGIN OPTION AA						
							60	84	60			204		LF	JOINT SEALER, HOT POURED	524.11					
							60	84	60			204		LF	JOINT SEALER, COLD POURED	524.13					
															END OPTION AA						
							510	710	540			1760		SY	REMOVAL OF BRIDGE PAVEMENT	529.10					
							51	71	54			176		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I	580.10					
							152	213	162			527		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II	580.11					
							3	3	3			9		CY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III	580.12					
							15	20	14	14		63		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13					
							5	7	5	5		22		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14					
							510	710	540			1760		SF	SURFACE PREPARATION FOR MEMBRANE	580.16					
							2	2	2	2		8		GAL	REPOINTING GRANITE BRIDGE CURB	616.225					
							250	250	250	250		1000		HR	UNIFORMED TRAFFIC OFFICERS	630.10					
							100	100	400	400		1000		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					
							588	588	603			1779		LF	6 INCH WHITE LINE	646.214					
							292	292	302			886		LF	6 INCH YELLOW LINE	646.215					
									126	126		252		LF	SPECIAL PROVISION (FIBER REINFORCED POLYMER (FRP), SAFSTRIP)	900.640					
							1					1		LS	SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)(I-89 BRIDGE NO. 97N)	900.645					
								1				1		LS	SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)(I-89 BRIDGE NO. 97S)	900.645					
									1			1		LS	SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)(I-89 BRIDGE NO. 98N)	900.645					
										1		1		LS	SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)(I-89 BRIDGE NO. 98S)	900.645					
										1		1		LS	SPECIAL PROVISION (TRAFFIC CONTROL ALL-INCLUSIVE TRAFFIC)(I-89 BRIDGE NO. 98S)	900.645					
																	PROJECT NAME: SWANTON				
																	PROJECT NUMBER: IM 089-3(70)				
																	FILE NAME: sl2a276qs.dgn				
																	PROJECT LEADER: C. CARLSON				
																	DESIGNED BY: H. SALLS				
																	QUANTITY SHEET 1				
																	PLOT DATE: 11-APR-2013				
																	DRAWN BY: R. PELLETT				
																	CHECKED BY: H. SALLS				
																	SHEET 3 OF 31				

QUANTITY SHEET 2

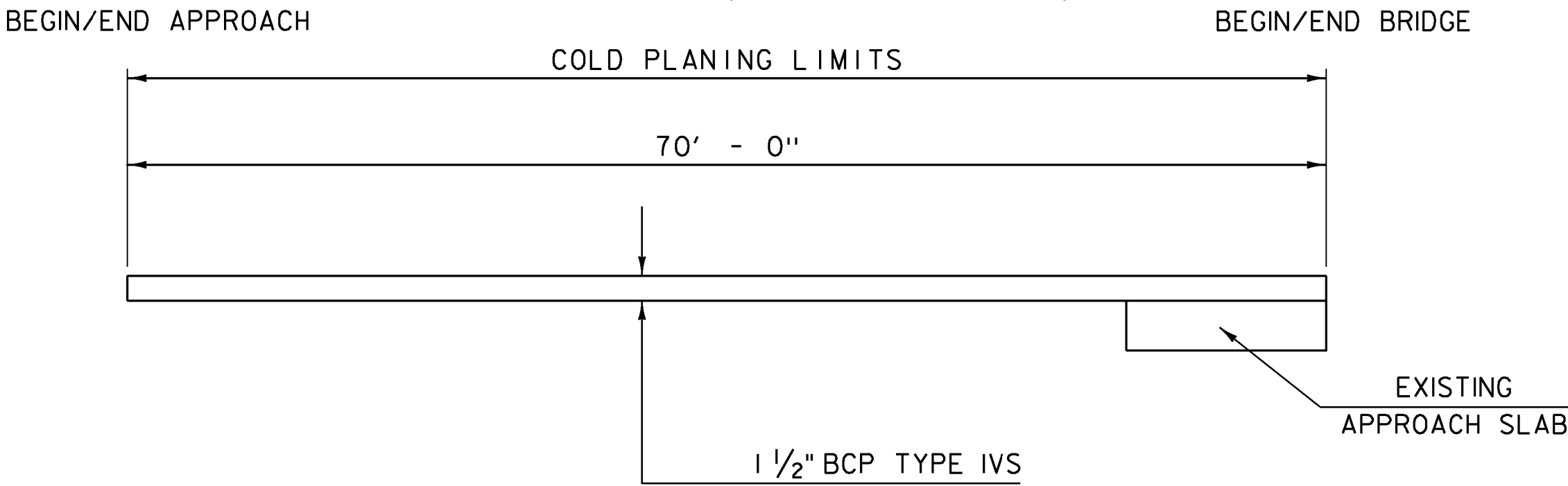
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NOTES:

BCP - BITUMINOUS CONCRETE PAVEMENT

THE INTENTION IS TO ONLY COLD PLANE TO A DEPTH THAT ALLOWS FOR PLACEMENT OF THE SPECIFIED LIFT OR LIFTS OF NEW PAVEMENT.

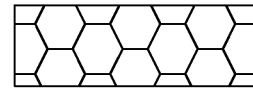
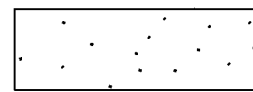


MATERIAL TRANSITION DETAIL

BRIDGE TYPICAL BITUMINOUS CONCRETE REMOVAL & REPLACEMENT PLAN

BRIDGE No. 97 SOUTH & BRIDGE No. 97 NORTH & BRIDGE No. 98 NORTH

- 1. COLD PLANING WILL BE PAID FOR UNDER ITEM 210.10 EXCEPT AS OTHERWISE SPECIFIED.
 - 2. REMOVAL OF THE BITUMINOUS CONCRETE PAVEMENT AND MEMBRANE WILL BE PAID FOR UNDER ITEM 529.10.
 - 3. PREPARATION OF SURFACE FOR PLACEMENT OF MEMBRANE WILL BE PAID FOR UNDER ITEM 580.16.
 - 4. NEW MEMBRANE SHALL BE PLACED ON THE PREPARED BRIDGE DECK. PAYMENT WILL BE MADE UNDER ITEM 519.20.
 - 5. NEW PAVEMENT WILL BE PAID FOR UNDER ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY).
- WO #6 ADDED ITEM 406.27, MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT

-  COLD PLANE - 1 1/2 "
-  COLD PLANE - 1 1/2 " TO EXPOSE APPROACH SLAB
-  REMOVE BITUMINOUS CONCRETE PAVEMENT TO TOP OF BRIDGE DECK. REMOVE EXISTING BARRIER MEMBRANE.

BRIDGE LAYOUT DIMENSION AND GEOMETRY TABLE																							
BRIDGE No.	LENGTH (FT)	WIDTH (FT)					BEGIN BRIDGE APPROACH			END BRIDGE APPROACH			EXPANSION JOINT (NEW PLUG JOINT)						EXPANSION JOINT (HOT POURED JOINT)				
	EE	BW	RL	LL	RC	LC	A1	A2	A3	A4	A5	A6	#2	#3	#4	#5	TOTAL EXP	LENGTH (FT)	#1	#6	TOTAL EXP	LENGTH (FT)	
97 N	152.00	30.00	15.00	15.00	2.42	2.42	25.00	25.00	20.00	20.00	25.00	25.00	PLUG	PLUG	PLUG	PLUG	4	120.0	SAW	SAW	2	60.0	
97 S	152.00	42.00	27.00	15.00	2.42	2.42	25.00	25.00	20.00	20.00	25.00	25.00	PLUG	PLUG	PLUG	PLUG	4	168.0	SAW	SAW	2	84.0	
98 N	162.00	30.00	15.00	15.00	2.42	2.42	25.00	25.00	20.00	20.00	25.00	25.00	PLUG	PLUG	PLUG	PLUG	4	120.0	SAW	SAW	2	60.0	

PROJECT NAME: SWANTON

PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2a276sup.dgn

PROJECT LEADER: C. CARLSON

DESIGNED BY: H. SALLS

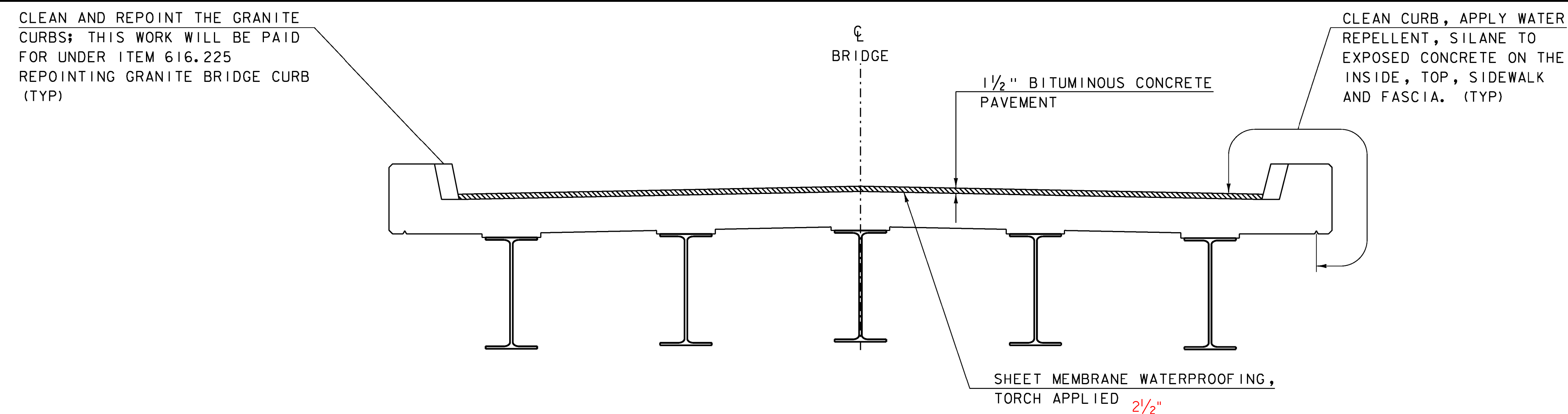
BITUMINOUS CONCRETE REMOVAL PLAN

PLOT DATE: 19-MAR-2013

DRAWN BY: M. LONGSTREET

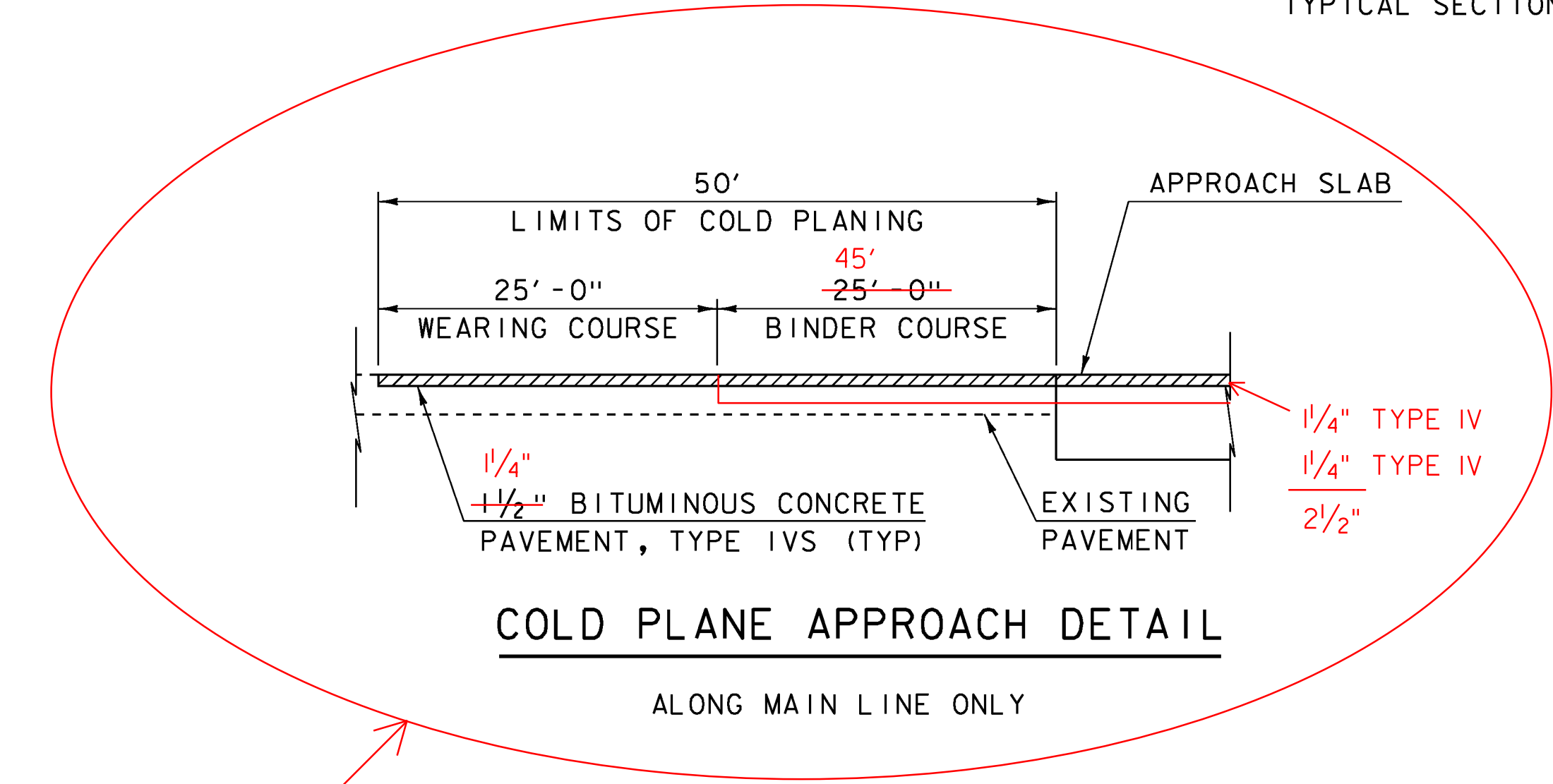
CHECKED BY: H. SALLS

SHEET 5 OF 31



TYPICAL BRIDGE SECTION

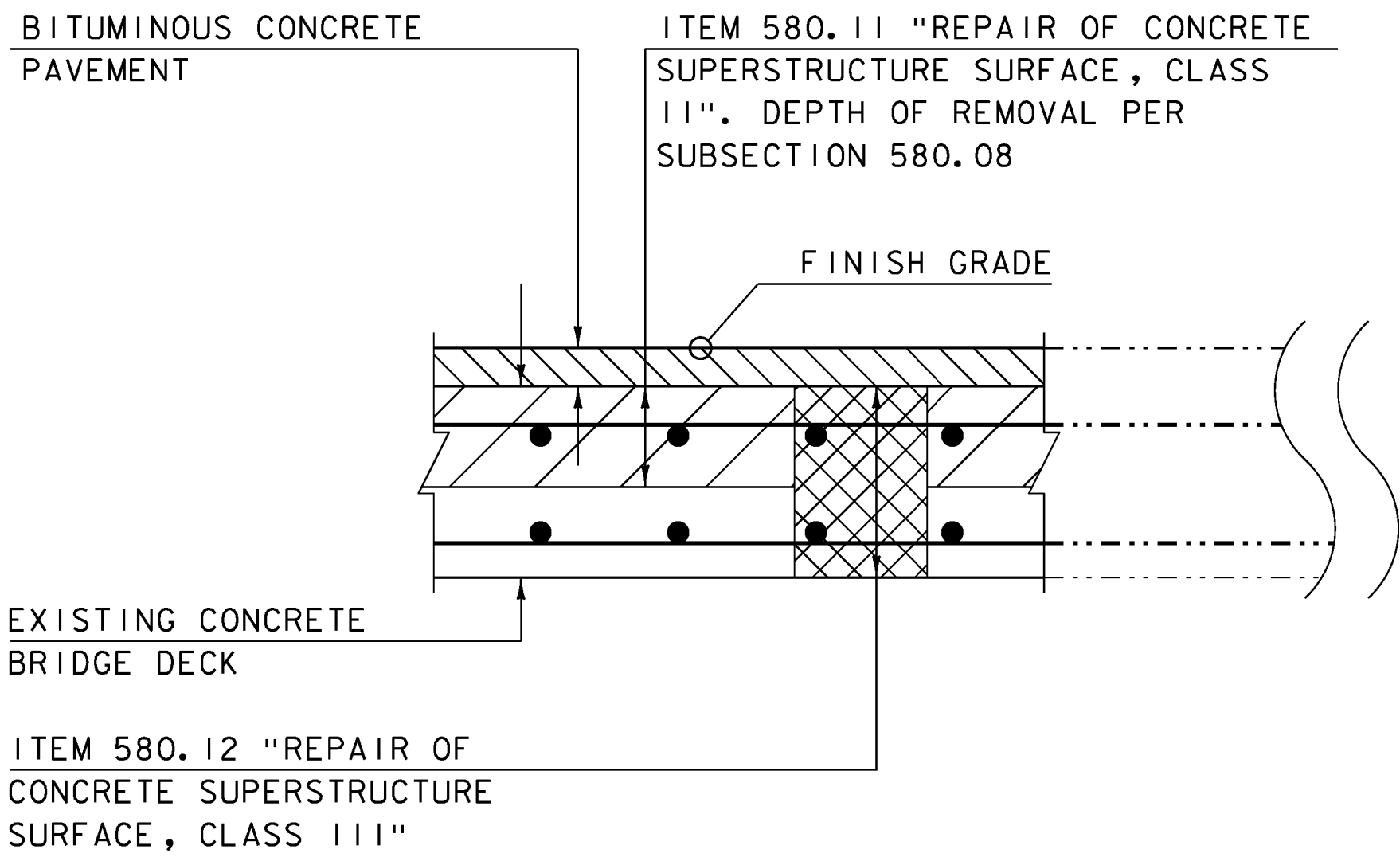
NOTE: EXISTING BRIDGE GEOMETRY VARIES BY LOCATION
TYPICAL SECTION SHOWN FOR SCHEMATIC PURPOSES ONLY.



COLD PLANE APPROACH DETAIL

ALONG MAIN LINE ONLY

SEE NEW TYPICAL
DETAILED IN WRITTEN
ORDER #6. (8-23-13)



CONCRETE REPLACEMENT
PAY LIMIT DETAIL

BRIDGE NUMBER	CROSSING OVER	LENGTH OF BRIDGE (FT)	CURB TO CURB PAVEMENT WIDTH (FT)	TOWN	MILE MARKER
1 89 BR 97 N	RECREATION PATH	152.00	30.00	SWANTON	123.118
1 89 BR 97 S	RECREATION PATH	152.00	42.00	SWANTON	123.118
1 89 BR 98 N	VT 78	162.00	30.00	SWANTON	123.368
1 89 BR 98 S	VT 78	162.00	30.00	SWANTON	123.368

BRIDGE LOCATION TABLE

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE
SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2q276sup.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
SUPERSTRUCTURE DETAILS
PLOT DATE: 11-APR-2013
DRAWN BY: R. PELLETT
CHECKED BY: H. SALLS
SHEET 6 OF 31

DRAWING NOT TO SCALE UNLESS NOTED OTHERWISE

ASPHALTIC PLUG JOINT NOTES

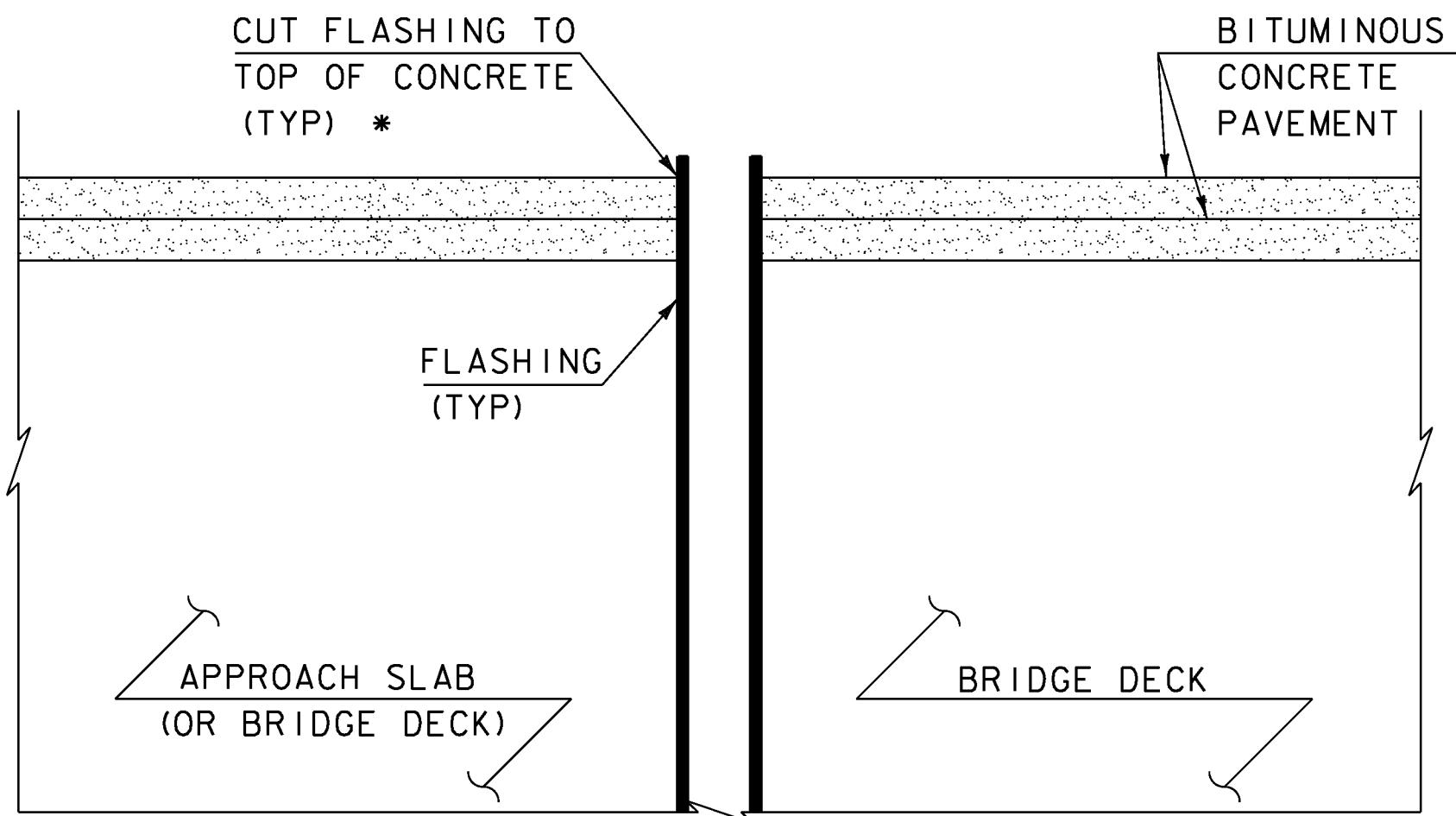
INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. REPAIR MATERIAL GREATER THAN 4 INCHES FROM FINISHED GRADE WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
5. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
6. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
7. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.
8. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.
9. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
10. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
11. ONCE THE JOINT REACHES 82 DEG C (180 DEG F) +/-, WATER MAY BE USED TO EXPEDITE THE COOLING PROCESS.
12. PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C (125 DEG F) +/-.

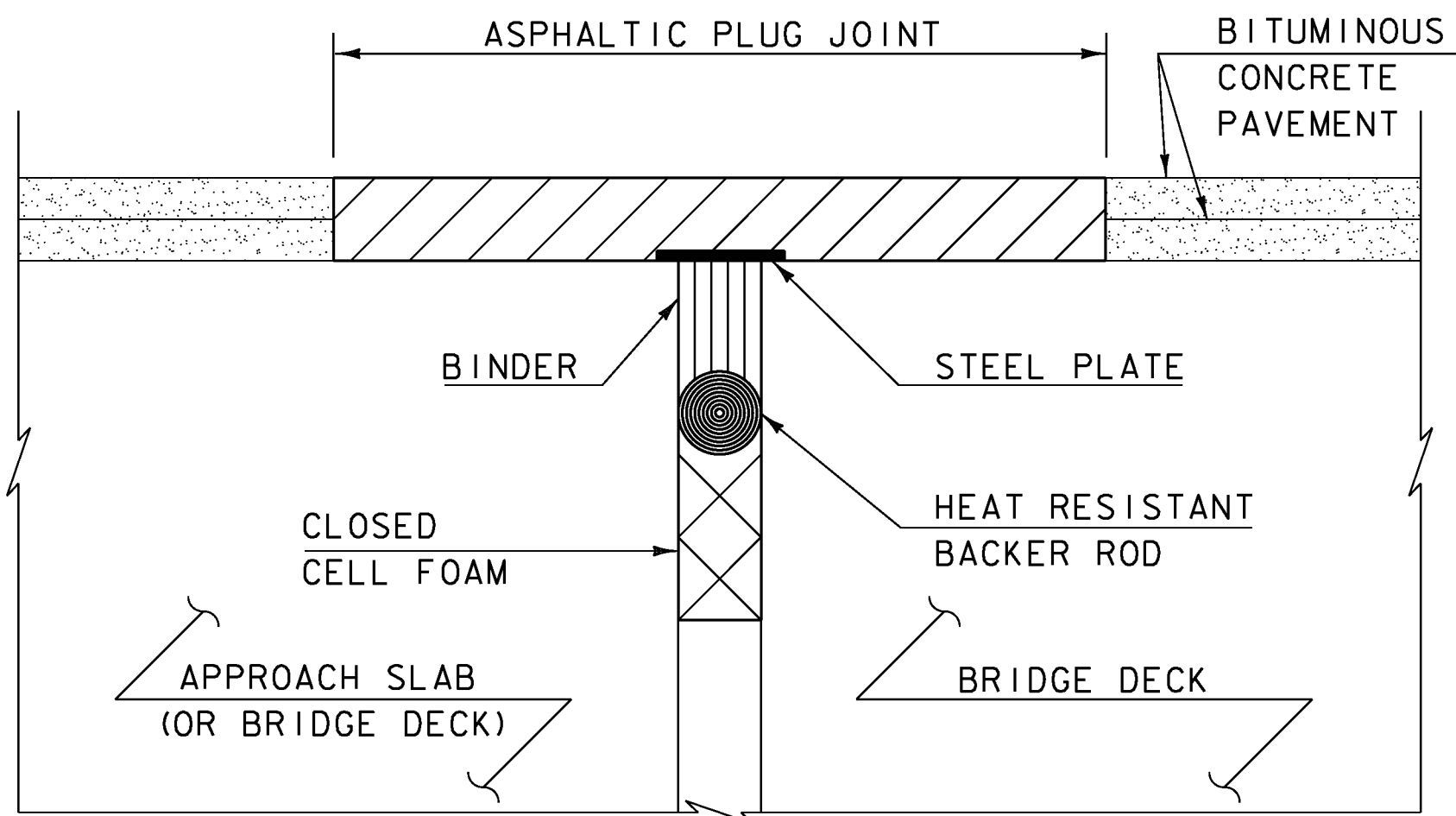
WEATHER LIMITATIONS

APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

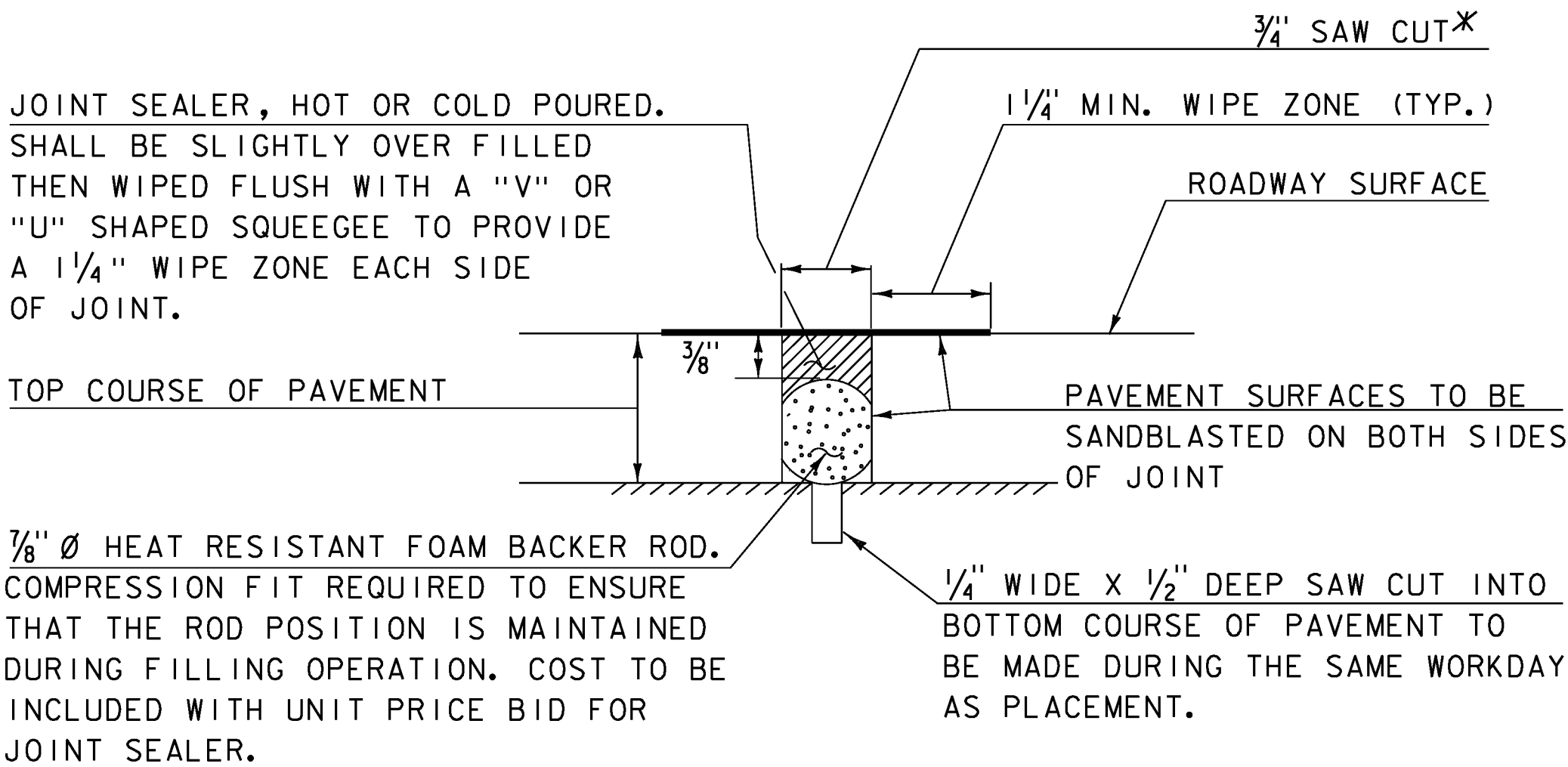
1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.



EXISTING BRIDGE JOINT



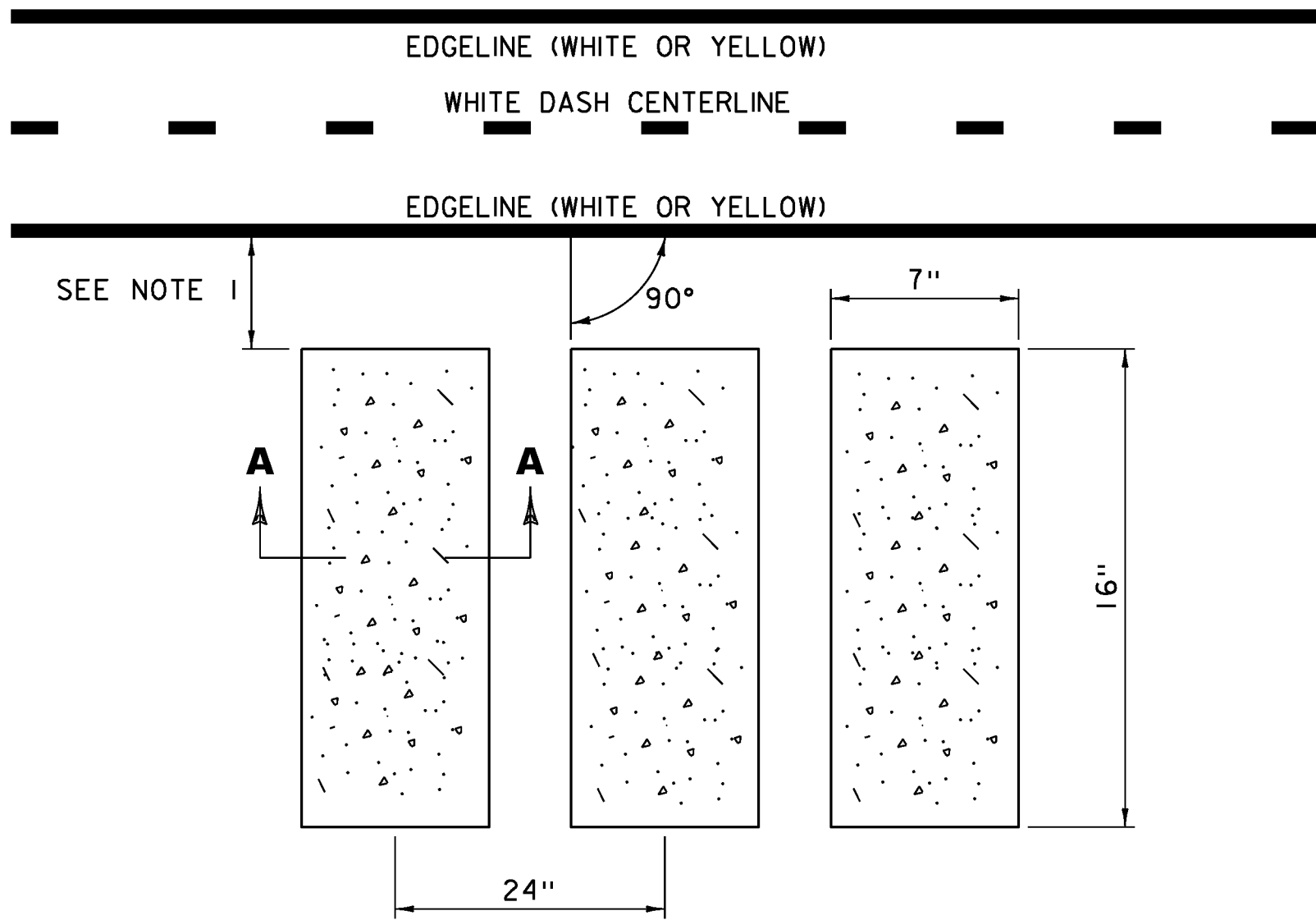
ASPHALTIC PLUG-TYPE JOINT DETAIL



SAWED PAVEMENT JOINT DETAIL

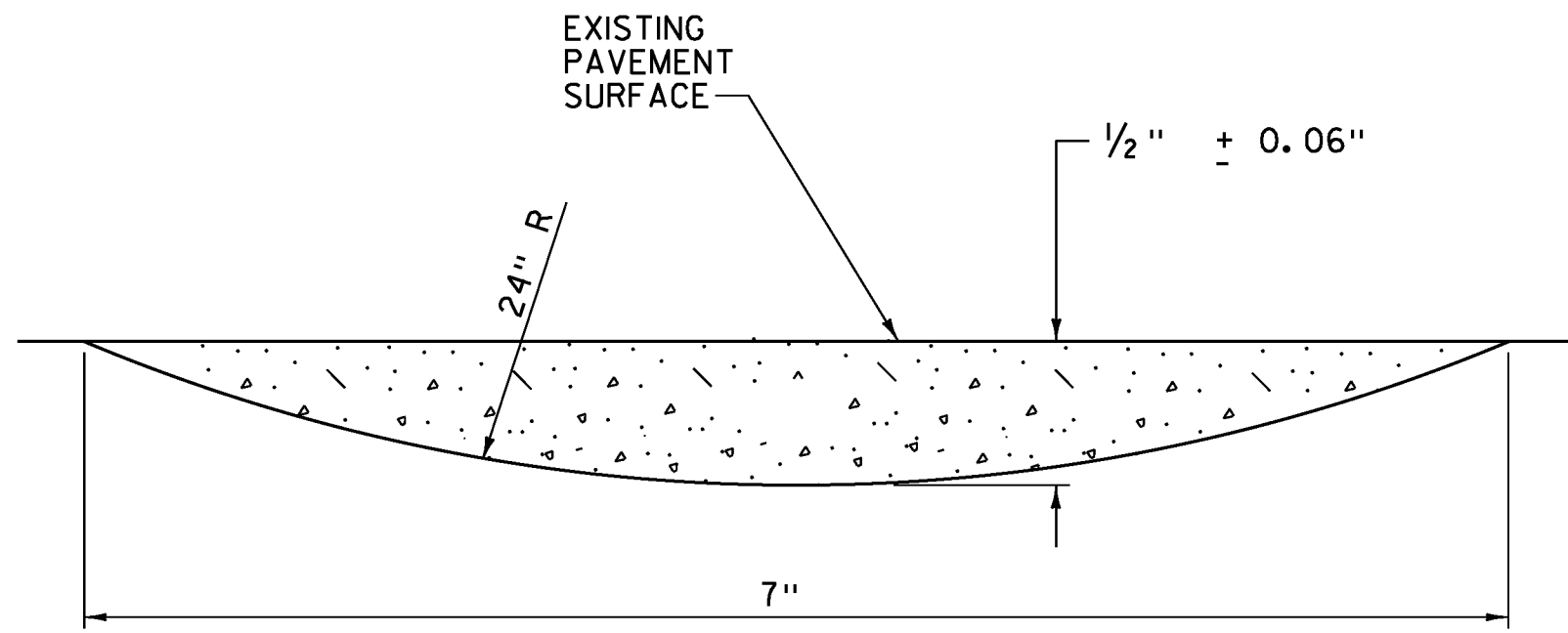
* JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING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

PROJECT NAME: SWANTON	
PROJECT NUMBER: IM 089-3(70)	
FILE NAME: sl2a276sup.dgn	PLOT DATE: 19-MAR-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: H. SALLS
JOINT DETAILS	SHEET 7 OF 31

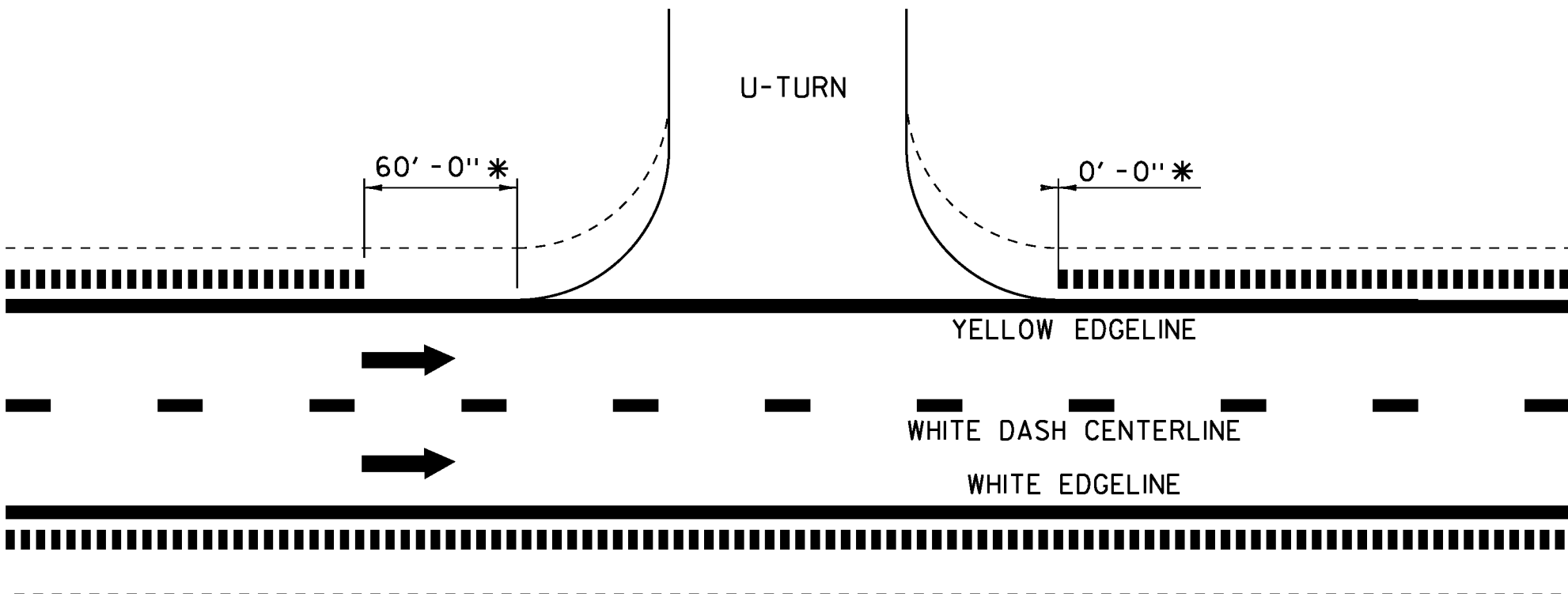


RUMBLE STRIP MILLING DETAIL

NOTES:
1. MILL RUMBLE STRIPS 30 INCHES FROM EDGE LINE FOR ALL SHOULDERS 6 FEET OR WIDER; MILL RUMBLE STRIPS 6 INCHES FROM EDGE LINE FOR ALL SHOULDERS LESS THAN 6 FEET WIDE.
2. IN GUARDRAIL AREAS, STOP MILLED RUMBLE STRIPS WHEN THE SHOULDER NARROWS TO 4 FEET WIDE.

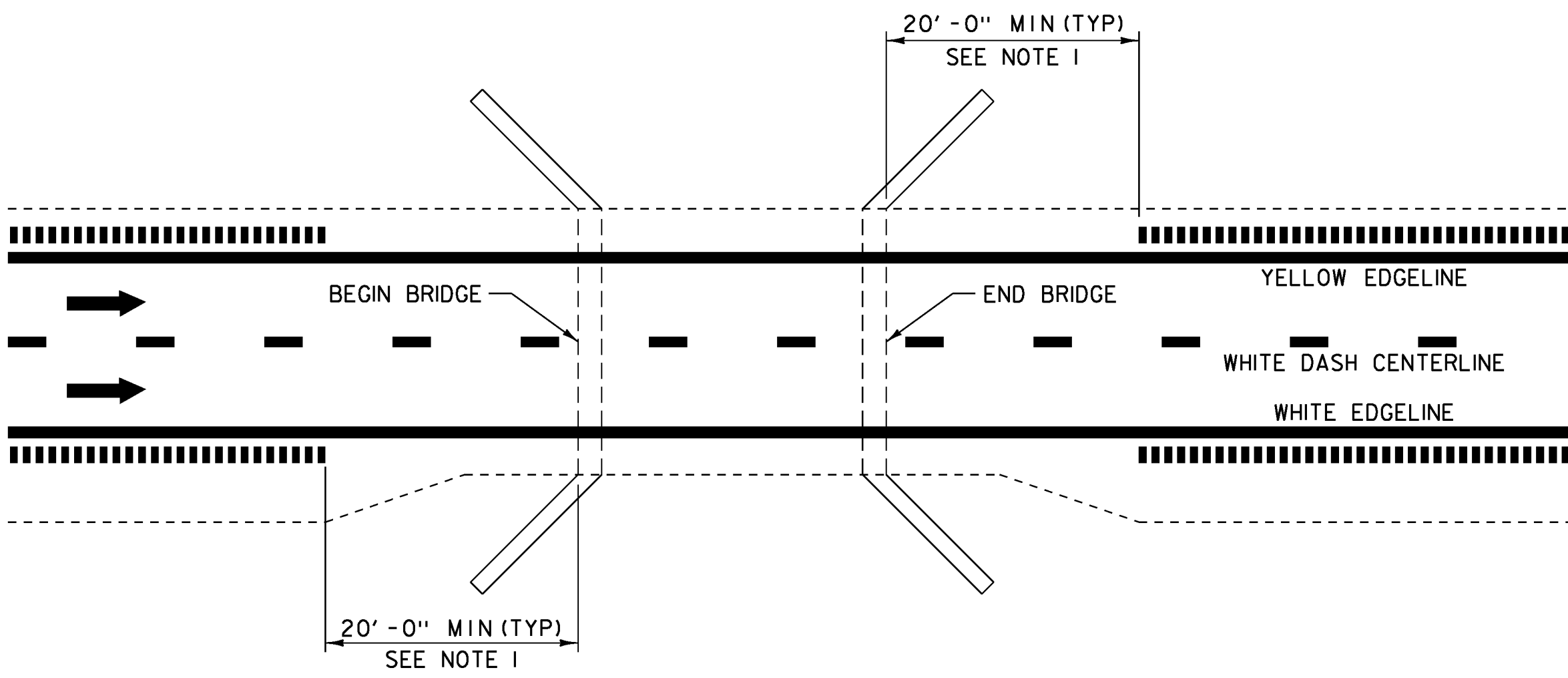


SECTION A-A



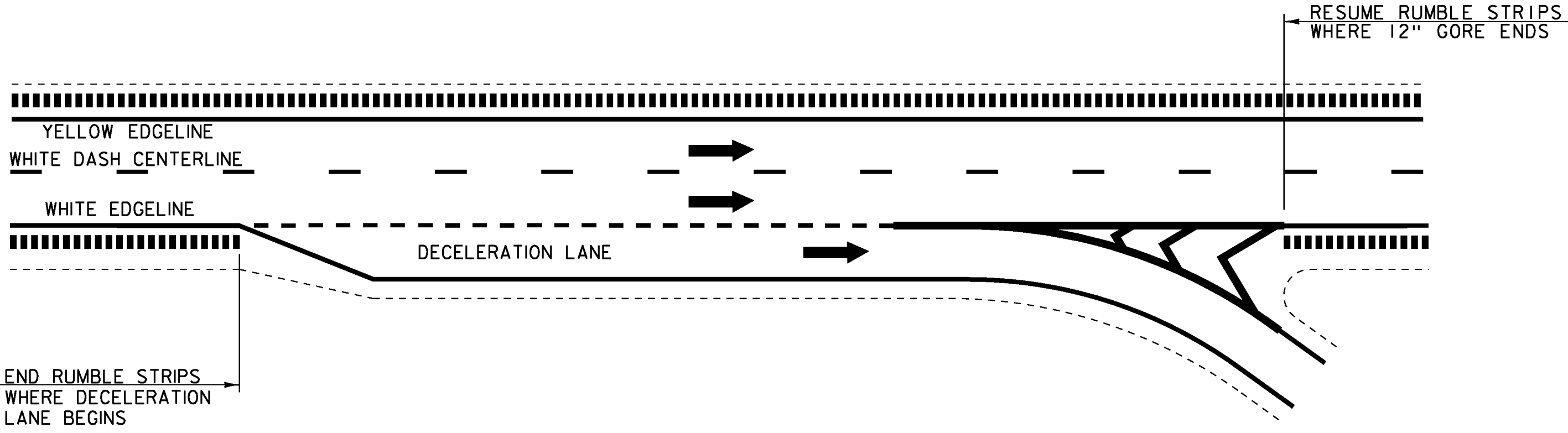
RUMBLE STRIP U-TURN DETAIL

* THE DIMENSIONS MAY VARY DEPENDING ON ACTUAL FIELD CONDITIONS, AND MAY BE MODIFIED AT THE RESIDENT ENGINEER'S DISCRETION.

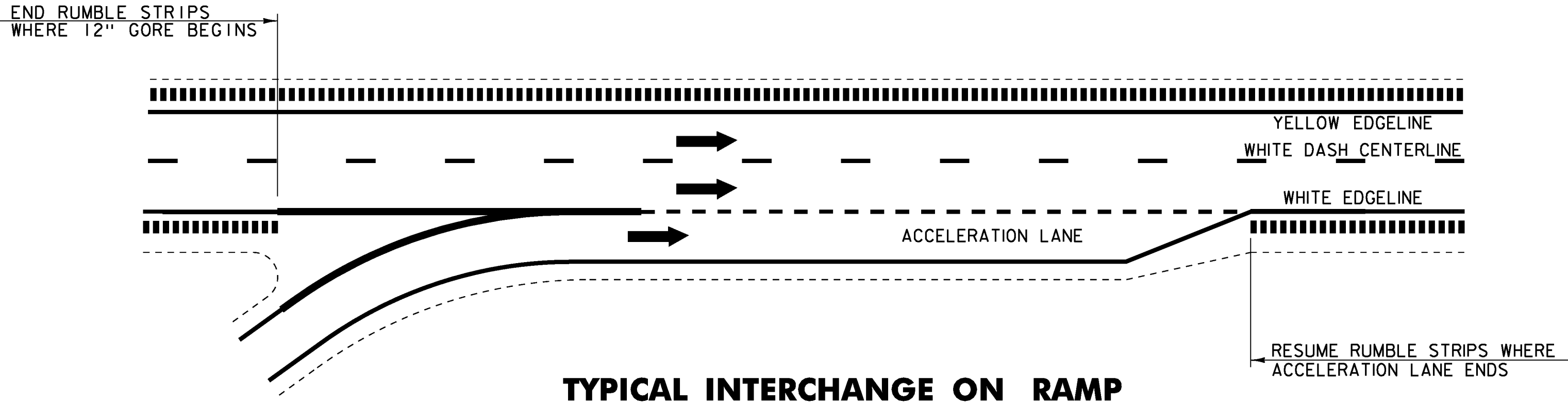


RUMBLE STRIP BRIDGE DETAIL

NOTES:
1. NO RUMBLE STRIPS SHALL BE MILLED WITHIN 20 FEET OF THE BEGIN AND END OF BRIDGE. DO NOT BEGIN RUMBLE STRIPS UNTIL THE SHOULDER IS AT LEAST 4 FEET WIDE.
2. AT NO TIME SHALL THE RUMBLE STRIPS BE MILLED INTO ANY APPROACH SLAB.



TYPICAL INTERCHANGE OFF RAMP



TYPICAL INTERCHANGE ON RAMP

LEGEND

- ← DIRECTION OF TRAFFIC FLOW
- MILLED RUMBLE STRIPS
- EDGE OF PAVEMENT

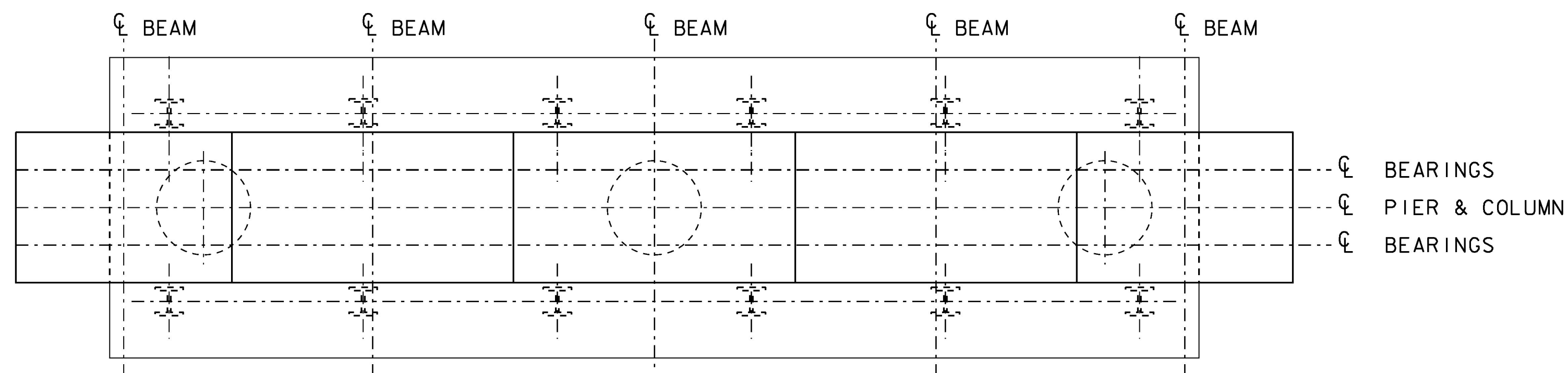
COMPOSITE
MILLED
RUMBLE
STRIP
DETAILS

DRAWING NOT TO SCALE UNLESS NOTED OTHERWISE

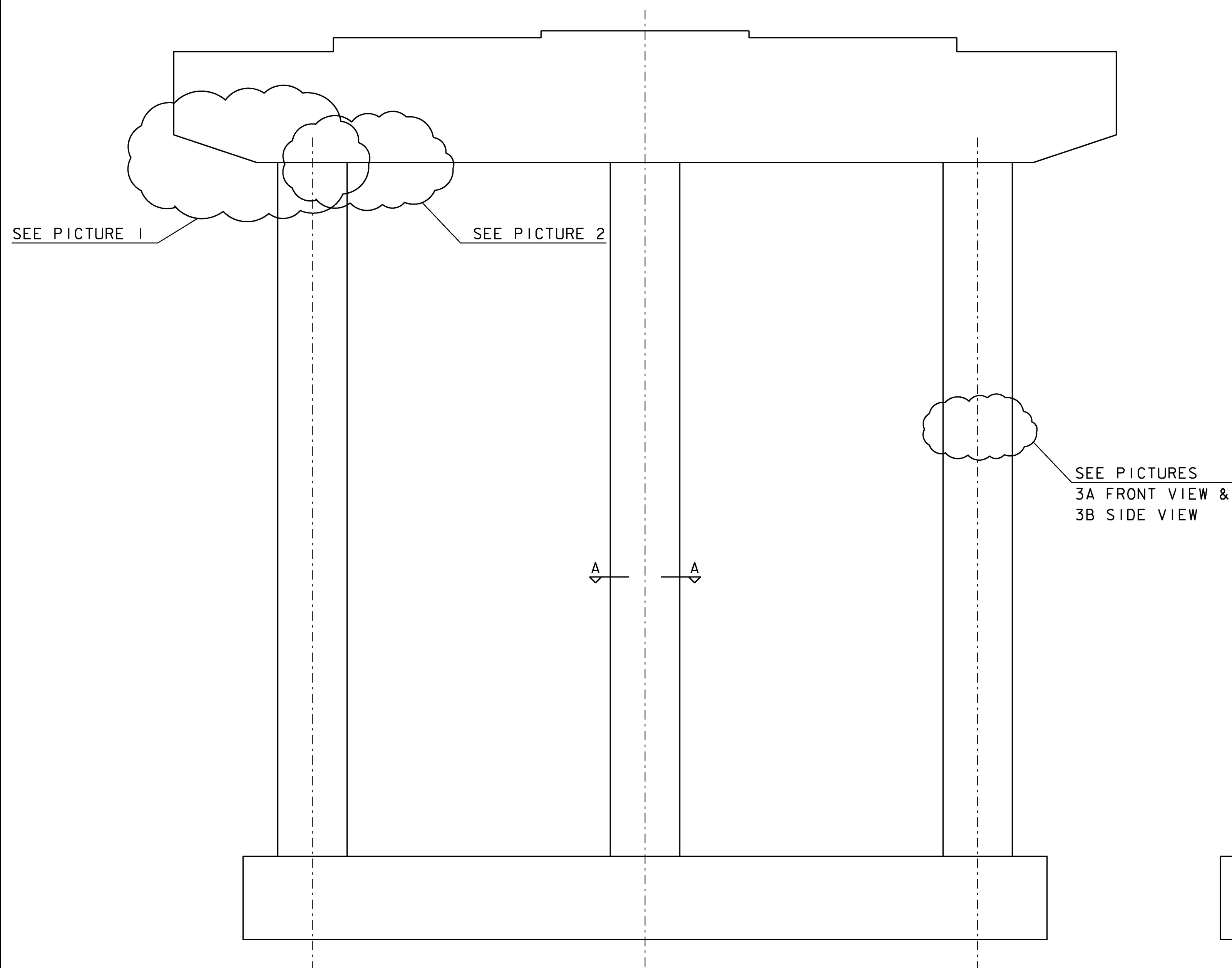
PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2a276Rumble Strips.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
RUMBLE STRIP DETAILS

PLOT DATE: 19-MAR-2013
DRAWN BY: R. PELLETT
CHECKED BY: EPD
SHEET 8 OF 31



PLAN
SCALE $\frac{3}{8}" = 1' - 0"$

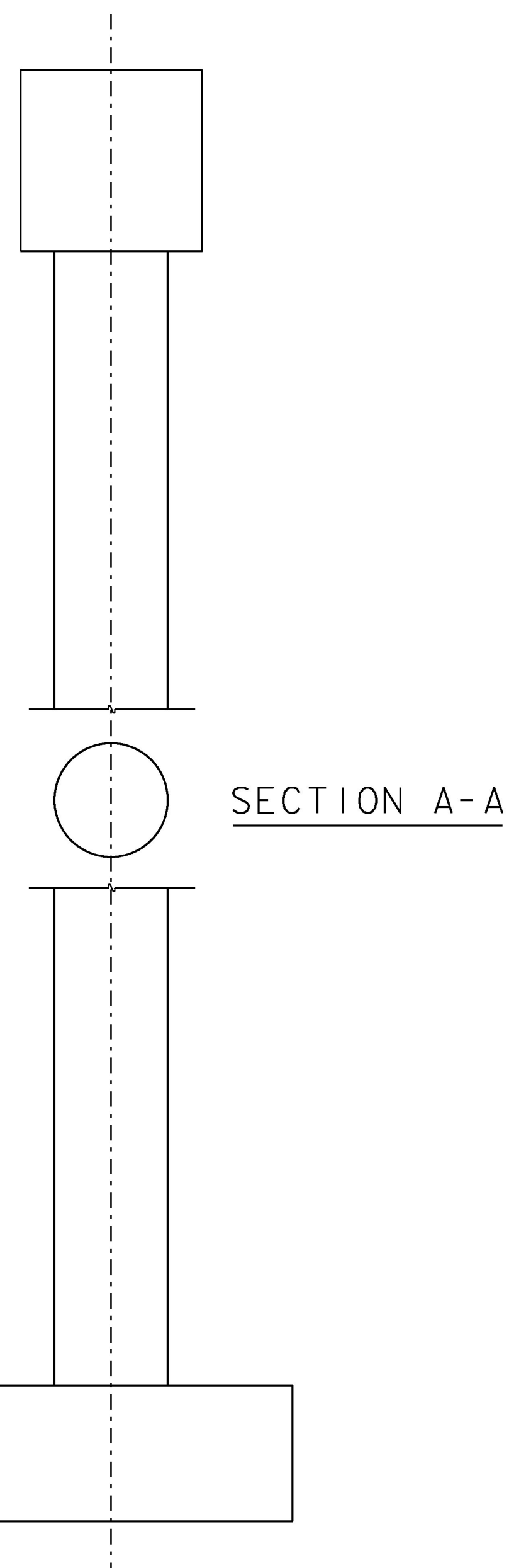


ELEVATION
SCALE $\frac{3}{8}" = 1' - 0"$

SUBSTRUCTURE NOTES

IT IS ANTICIPATED THAT 30% OF THE SUBSTRUCTURE WILL REQUIRE A CLASS I SUBSTRUCTURE REPAIR; WHILE 10% WILL REQUIRE A CLASS II SUBSTRUCTURE REPAIR. THE ENGINEER WILL DETERMINE THE LEVEL OF REPAIR NEEDED.

THE PICTURES REPRESENT THE EXISTING CONDITION OF THE SUBSTRUCTURES BUT DO NOT SHOW ALL THE AFFECTED AREAS.



TYPICAL SECTION
SCALE $\frac{3}{8}" = 1' - 0"$

PICTURE 1



PICTURE 2



PICTURE 3A

FRONT VIEW



PICTURE 3B

SIDE VIEW

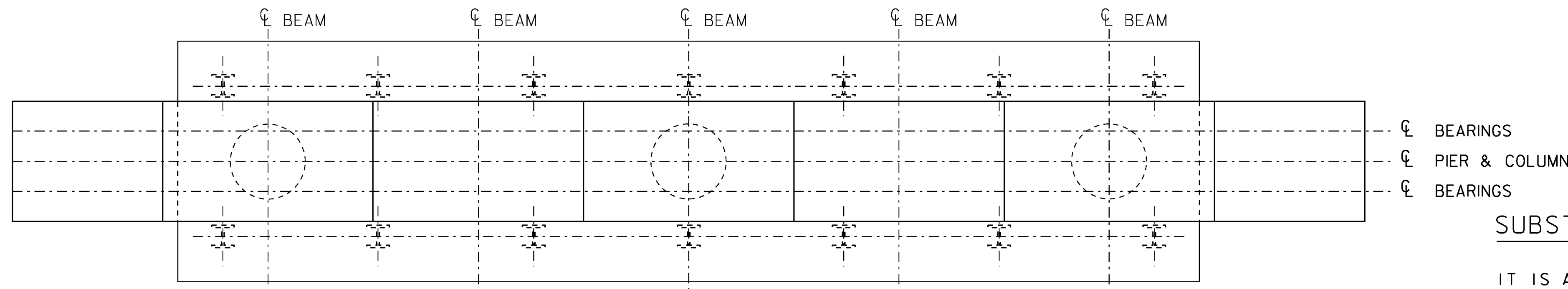


NOTE:
FOR MORE DETAILED INFORMATION VIEW THE
REFERENCE PLANS.

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2a276sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BRIDGE 97 NORTH - PIERS NO. 3 & 4

PLOT DATE: 19-MAR-2013
DRAWN BY: DZENAN K.
CHECKED BY: H. SALLS
SHEET 9 OF 31



PLAN
SCALE $\frac{3}{8}$ " = 1' - 0"

SUBSTRUCTURE NOTES

IT IS ANTICIPATED THAT 30% OF THE SUBSTRUCTURE WILL REQUIRE A CLASS I SUBSTRUCTURE REPAIR; WHILE 10% WILL REQUIRE A CLASS II SUBSTRUCTURE REPAIR. THE ENGINEER WILL DETERMINE THE LEVEL OF REPAIR NEEDED.

THE PICTURES REPRESENT THE EXISTING CONDITION OF THE SUBSTRUCTURES BUT DO NOT SHOW ALL THE AFFECTED AREAS.

PICTURE 4



PICTURE 5



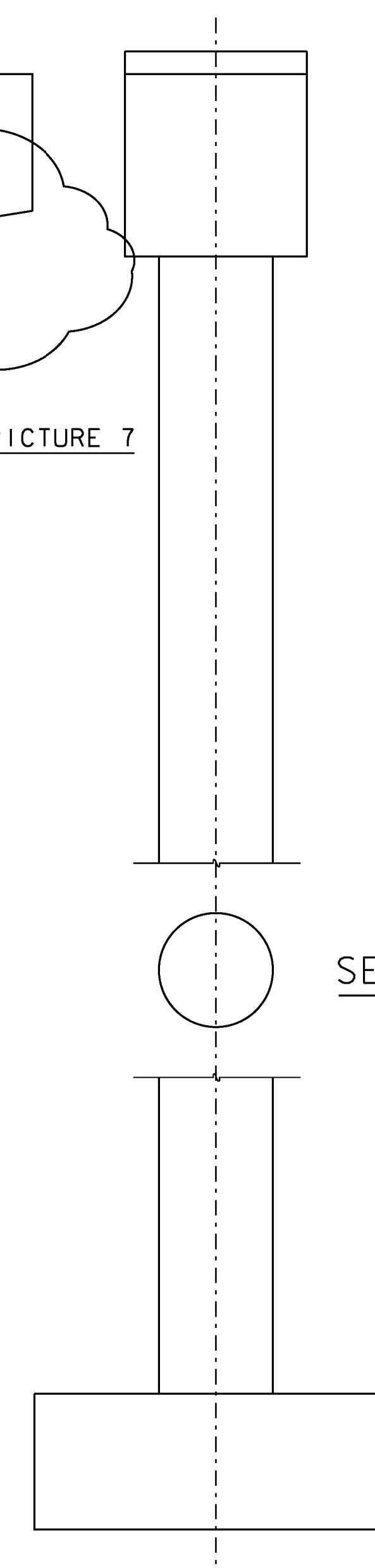
PICTURE 6



PICTURE 7



SECTION A-A



TYPICAL SECTION
SCALE $\frac{3}{8}$ " = 1' - 0"

SEE PICTURE 4

SEE EXTRA WORK
ISSUED IN WRITTEN
ORDER #4 (8-23-13)
AND WO #8 (9-13-13)

SEE PICTURE 6
SEE PICTURE 5

SEE PICTURE 7

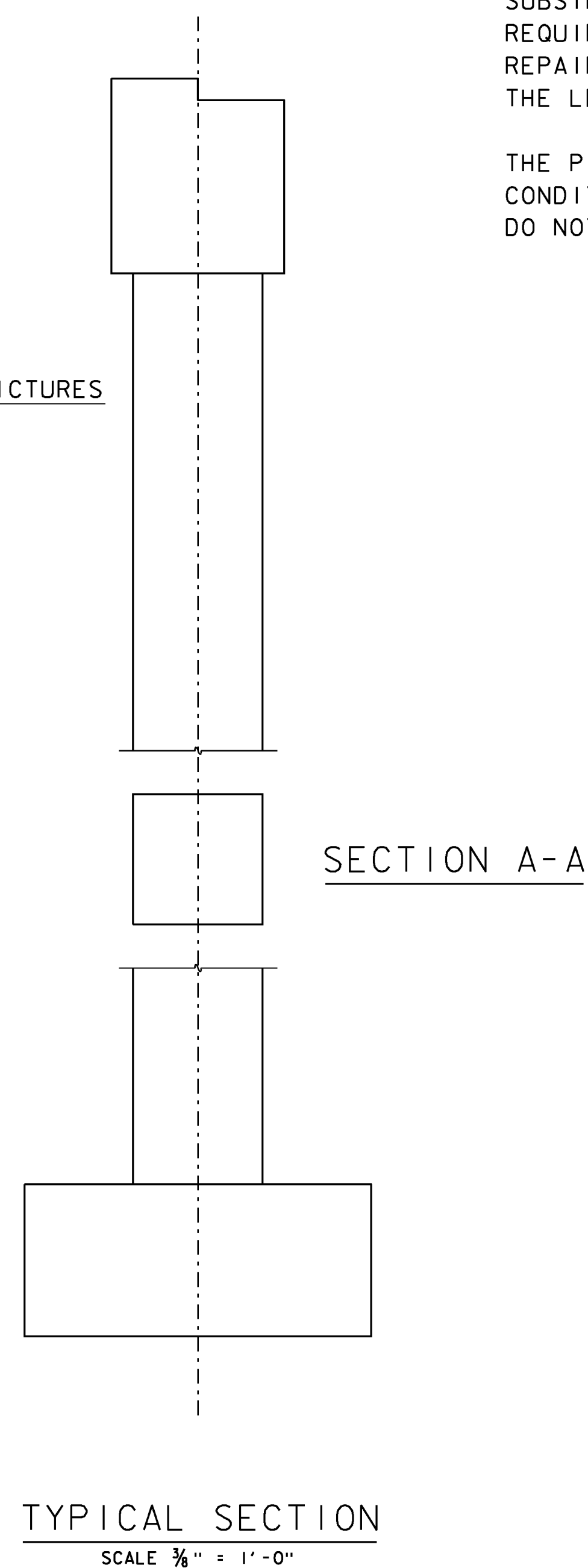
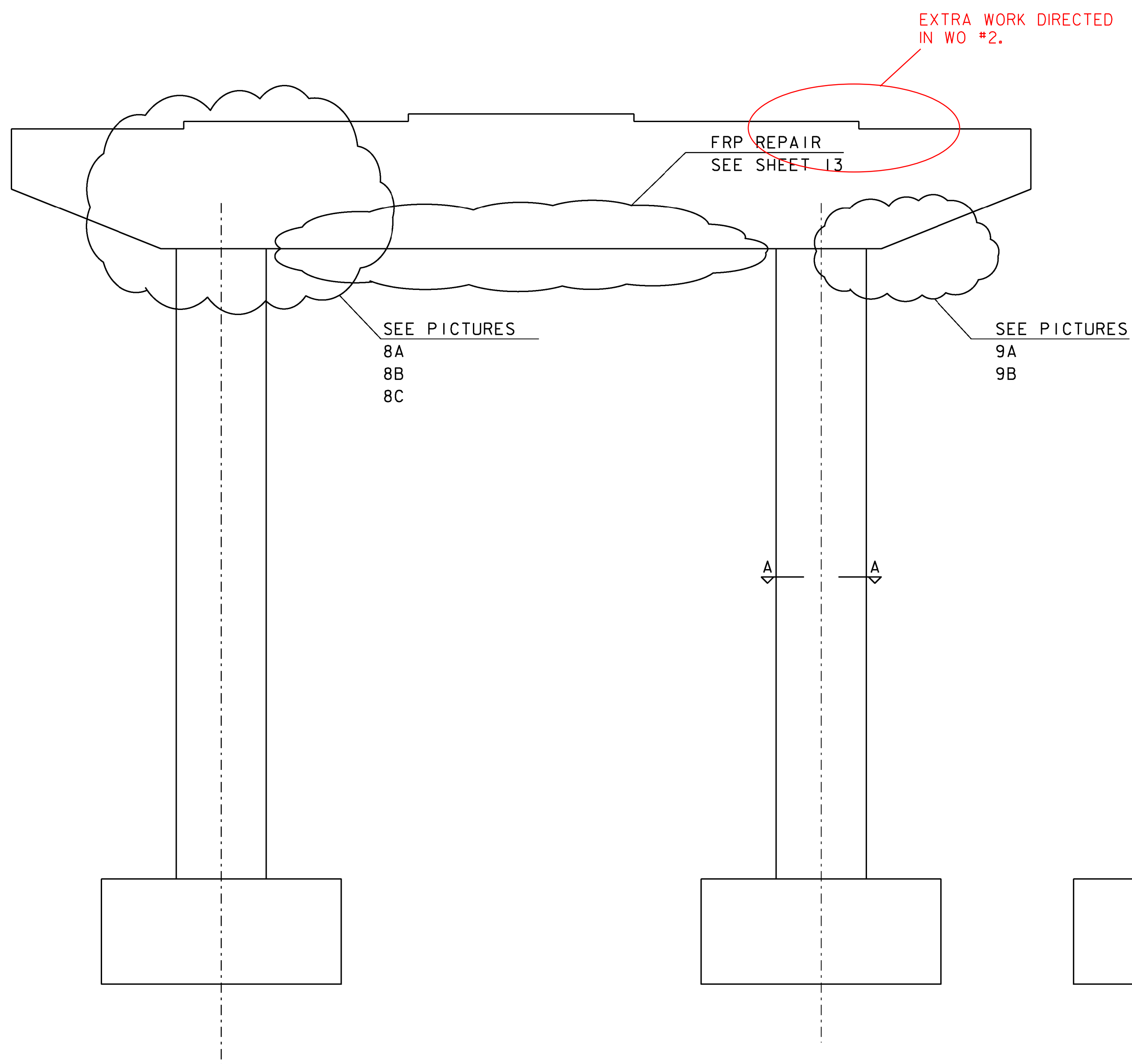
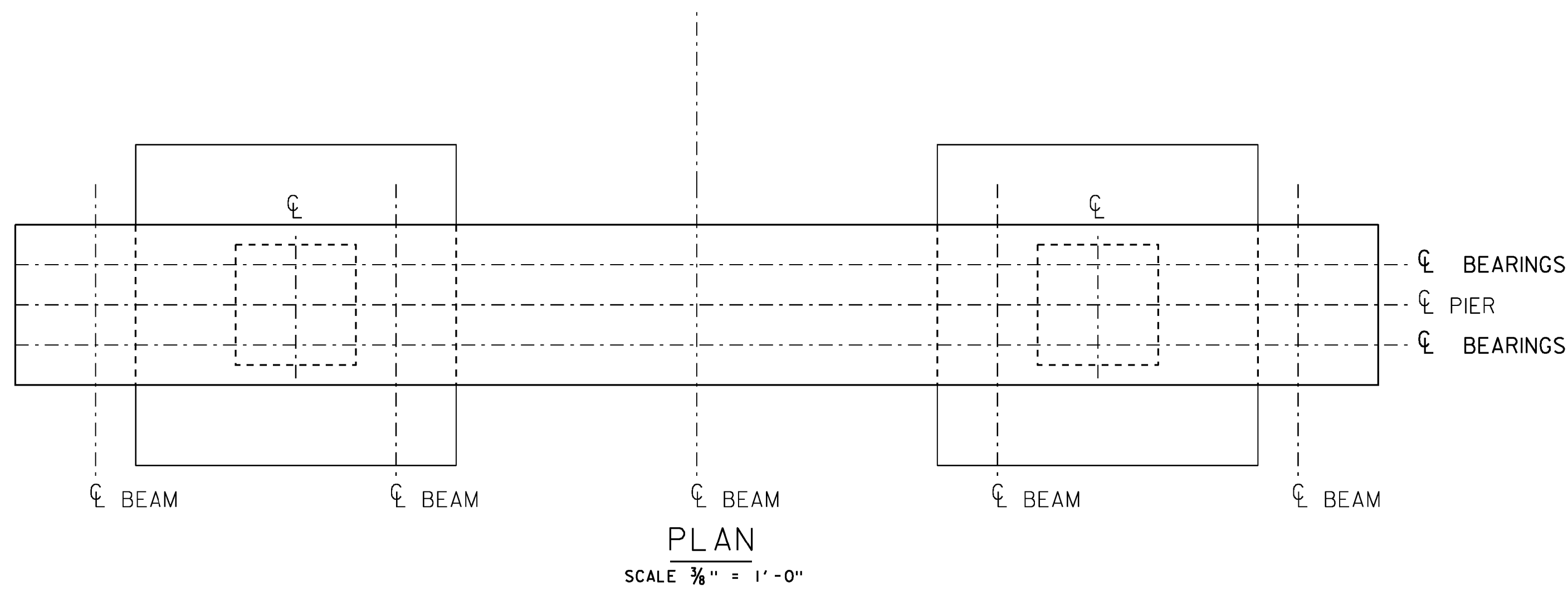
ELEVATION
SCALE $\frac{3}{8}$ " = 1' - 0"

NOTE:
FOR MORE DETAILED INFORMATION VIEW THE
REFERENCE PLANS.

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2a276sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BRIDGE 97 SOUTH - PIERS NO.1 & 2

PLOT DATE: 19-MAR-2013
DRAWN BY: DZENAN K.
CHECKED BY: H. SALLS
SHEET 10 OF 31



PICTURE 8A



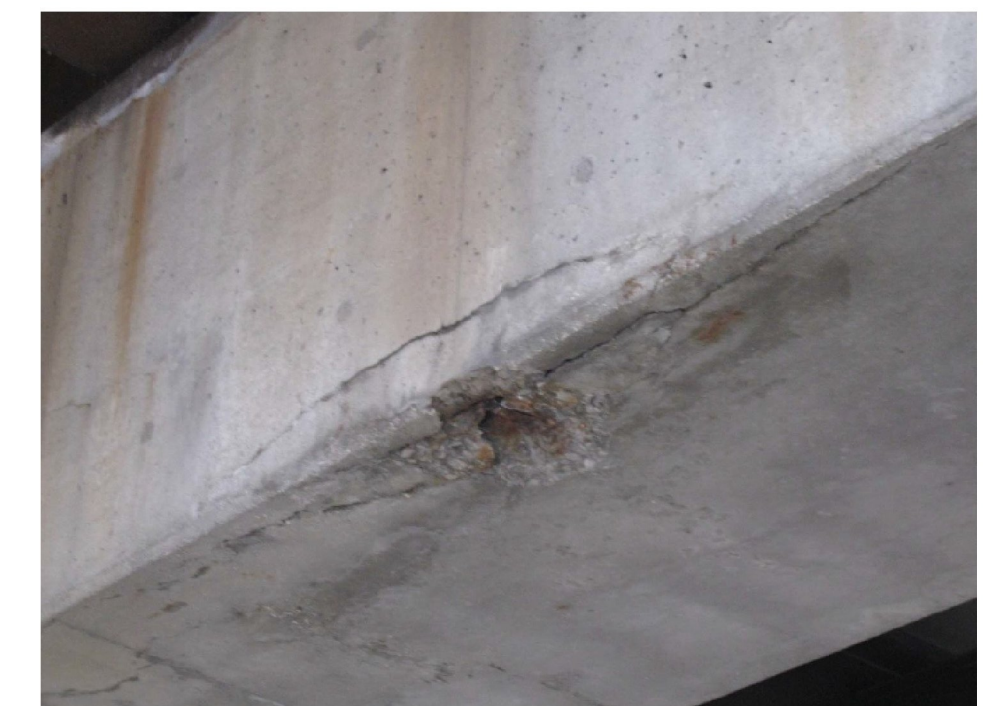
PICTURE 8B



PICTURE 8C



PICTURE 9A



PICTURE 9B



SUBSTRUCTURE NOTES

IT IS ANTICIPATED THAT 30% OF THE SUBSTRUCTURE WILL REQUIRE A CLASS I SUBSTRUCTURE REPAIR; WHILE 10% WILL REQUIRE A CLASS II SUBSTRUCTURE REPAIR. THE ENGINEER WILL DETERMINE THE LEVEL OF REPAIR NEEDED.

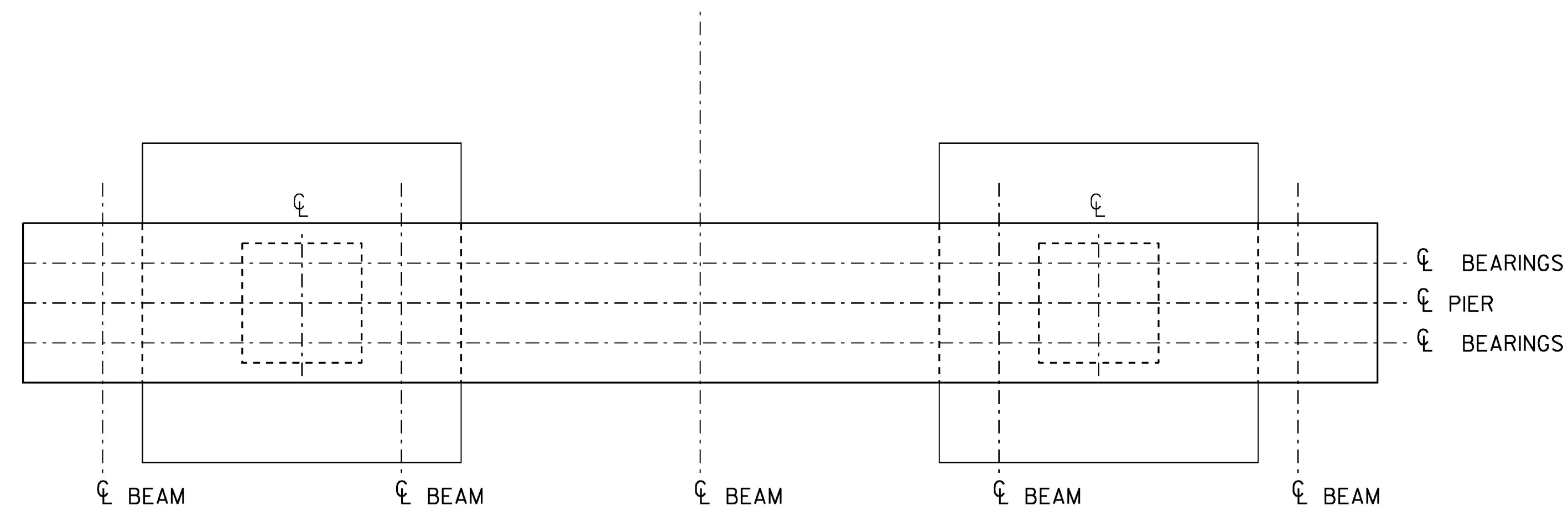
THE PICTURES REPRESENT THE EXISTING CONDITION OF THE SUBSTRUCTURES BUT DO NOT SHOW ALL THE AFFECTED AREAS.

NOTE:
FOR MORE DETAILED INFORMATION VIEW THE
REFERENCE PLANS.

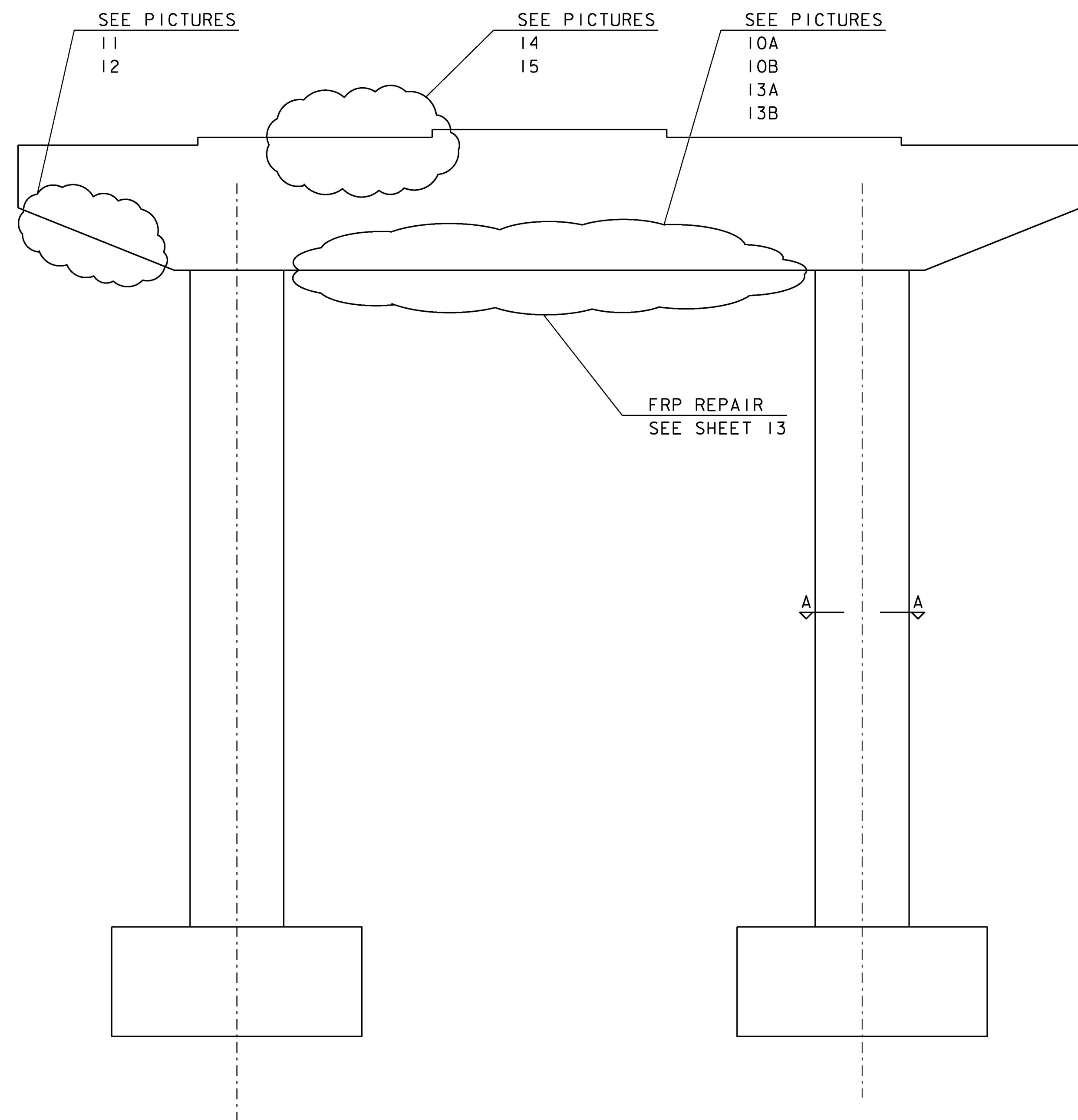
PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2a276sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BRIDGE 98 NORTH - PIERS NO. 1 & 2

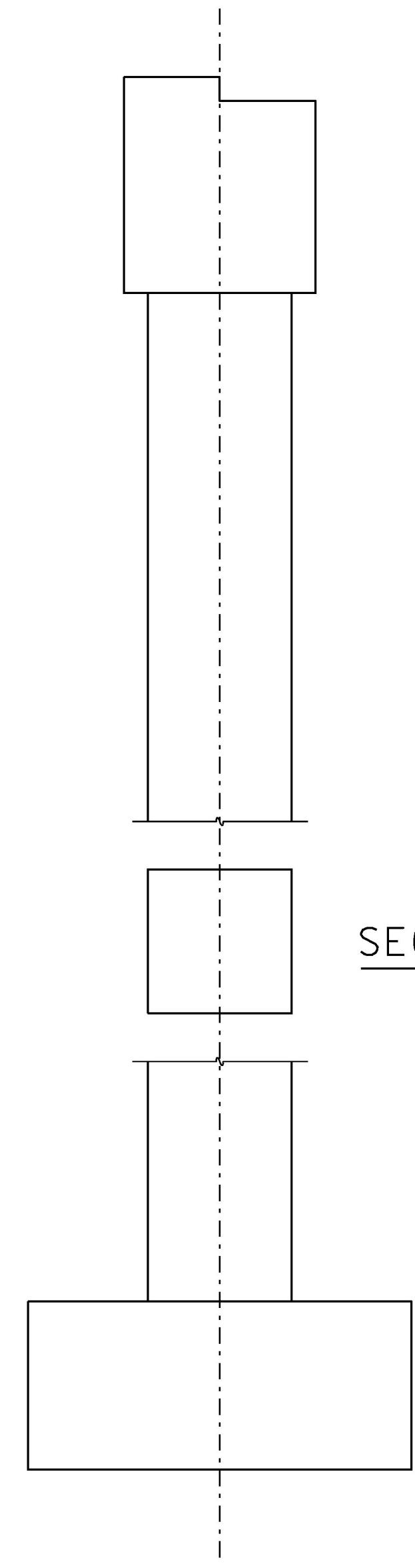
PLOT DATE: 19-MAR-2013
DRAWN BY: DZENAN K.
CHECKED BY: H. SALLS
SHEET 11 OF 31



PLAN
SCALE $\frac{3}{8}$ " = 1'-0"



ELEVATION
SCALE $\frac{3}{8}$ " = 1'-0"



TYPICAL SECTION
SCALE $\frac{3}{8}$ " = 1'-0"

SUBSTRUCTURE NOTES

IT IS ANTICIPATED THAT 30% OF THE SUBSTRUCTURE WILL REQUIRE A CLASS I SUBSTRUCTURE REPAIR; WHILE 10% WILL REQUIRE A CLASS II SUBSTRUCTURE REPAIR. THE ENGINEER WILL DETERMINE THE LEVEL OF REPAIR NEEDED.

THE PICTURES REPRESENT THE EXISTING CONDITION OF THE SUBSTRUCTURES BUT DO NOT SHOW ALL THE AFFECTED AREAS.



PICTURE 10A



PICTURE 10B



PICTURE 11



PICTURE 12



PICTURE 13A



PICTURE 13B



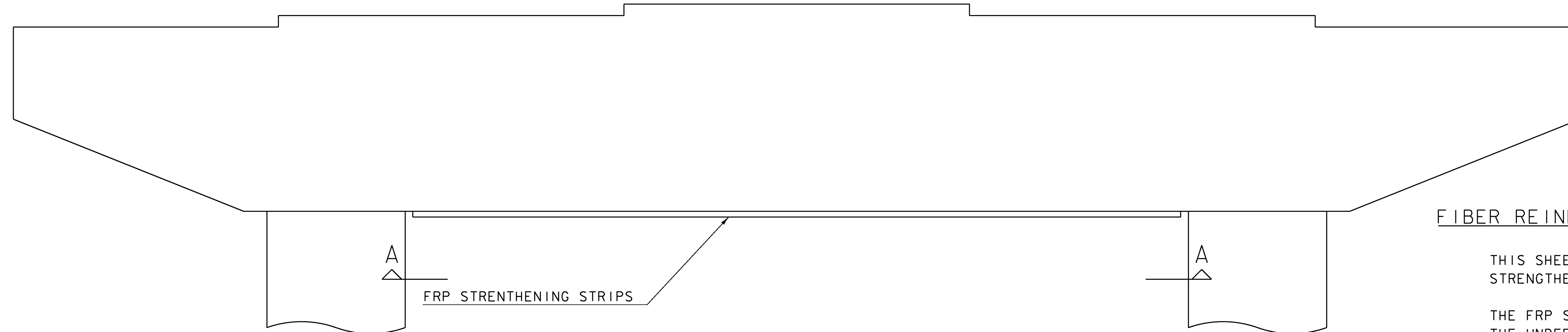
PICTURE 14



PICTURE 15

NOTE:
FOR MORE DETAILED INFORMATION VIEW THE
REFERENCE PLANS.

PROJECT NAME: SWANTON	
PROJECT NUMBER: IM 089-3(70)	
FILE NAME: sl2a276sub.dgn	PLOT DATE: 01-APR-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: DZENAN K.
DESIGNED BY: H. SALLS	CHECKED BY: H. SALLS
BRIDGE 98 SOUTH - PIERS NO. 3 & 4	SHEET 12 OF 31



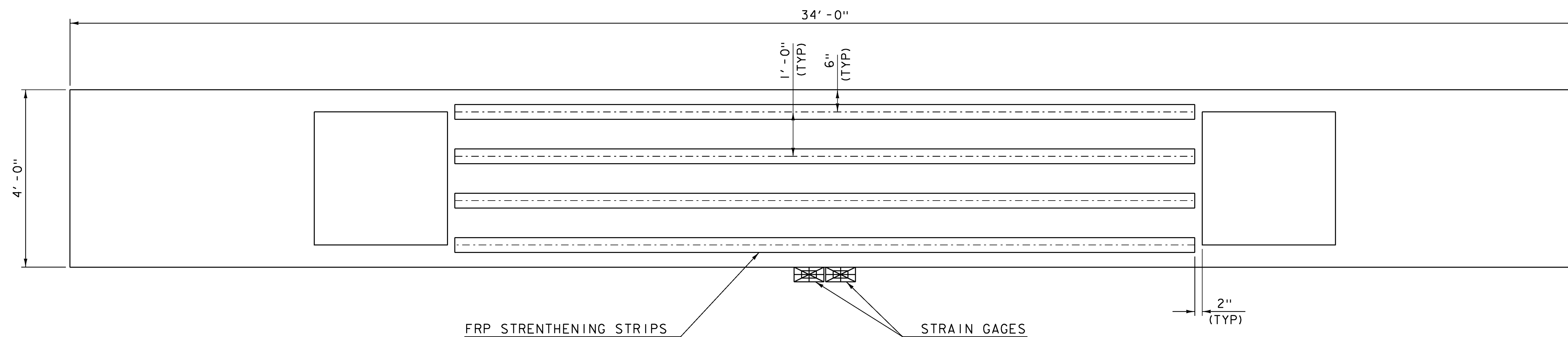
ELEVATION

FIBER REINFORCED POLYMER (FRP) NOTES

THIS SHEET SHOWS THE LAYOUT OF THE FRP STRENGTHENING STRIPS AND BOLT PATTERN.

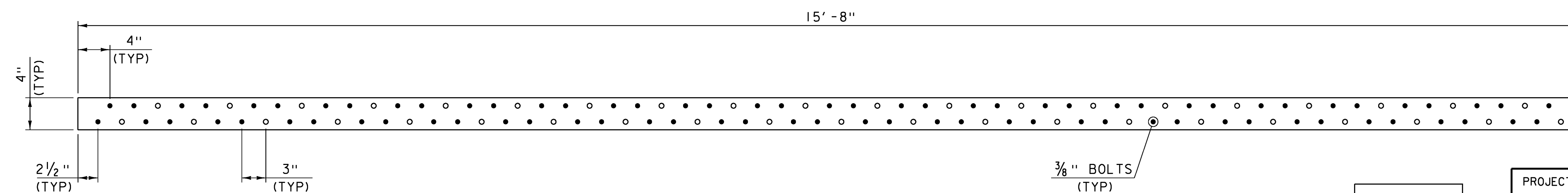
THE FRP STRIPS ARE TO BE ATTACHED TO THE UNDERSIDE OF THE PIER CAPS ON BRIDGES 98N AND 98S AS SHOWN.

THE FRP STRIPS ARE TO BE ANCHORED IN PLACE WITH STAINLESS STEEL WEDGE ANCHOR. DIAMETER, LENGTH AND STRENGTH ARE TO BE DETERMINED BY THE MANUFACTURER OF THE FRP STRIPS. FOR MORE INFORMATION ON THE FRP STRIPS SEE THE SPECIAL PROVISIONS.



PLAN

SCALE $\frac{3}{4}$ " = 1'-0"



SECTION A-A

SCALE $\frac{3}{4}$ " = 1'-0"

KEY	
•	BOLT
○	NO BOLT

PROJECT NAME: SWANTON	
PROJECT NUMBER: IM 089-3(70)	
FILE NAME: sl2a276sub.dgn	PLOT DATE: 19-MAR-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: DZENAN K.
DESIGNED BY: H. SALLS	CHECKED BY: H. SALLS
SUBSTRUCTURE DETAILS	SHEET 13 OF 31

DRAWING NOT TO SCALE UNLESS NOTED OTHERWISE

SWANTON - Highgate
I-89-3(32)

INDEX OF SHEETS

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3	TYPICAL CROSS SECTIONS (RAMP)
4	TYPICAL CROSS SECTIONS (S.A. ROAD #6)
5-7	ALIGNMENT DATA SHEETS
8	TEMPORARY APPROACH TRANSITION SHEET
9-10	QUANTITY SHEETS (ITEMS)
11-12	GRADE SHEETS (DRAINAGE)
13-16	EARTHWORK SHEETS
17-22	BLANK
23	PLAN AND PROFILE SHEET
24-70	BLANK
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72	BLANK
73	A-61 (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 (JUTE MATTING AND GUTTERS)
83	D-4 (ELBOWS 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-16 (PRECAST REINFORCED CONCRETE CURB DROP INLETS)
89	E-1 (BARRICADES, SIGNS AND LIGHTS) ROADWAY
90	E-2 (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-4 (FIELD OFFICE)
96	BLANK
97	SB-30-60
98	SB-21-56
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103-104	SB-56-62
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116	BR-100 PLAN-SECTION-DETAILS
117	BR-101 REINFORCING STEEL DETAILS
118	BR-200 SUPERSTRUCTURE PLAN AND ELEVATION
119	BR-201 BRIDGE QUANTITY SHEET
120	BR-202 PRELIMINARY INFORMATION SHEET
121	BR-203 BORINGS
122	BR-204 FRAMING AND RAILING PLAN
123	BR-205 DETAILS OF ABUTMENT NO. 1

SHEET NO.

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125	BR-207 DETAILS OF PIER NO. 1
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127	BR-209 APPROACH SLAB NO. 1 (STD STR. SB-AS-62)
128	BR-210 APPROACH SLAB NO. 2 (STD STR. SB-AS-62)
129	BR-211 REINFORCING STEEL SCHEDULE
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135	BR-301 PLAN ELEVATION
136	BR-302 BRIDGE QUANTITY SHEET
137	BR-303 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
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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. SB-AS-62)
150	BR-407 APPROACH SLAB NO. 2 (STD STR. SB-AS-62)
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
157	BR-506 REINFORCING STEEL SCHEDULE
158	BLANK
159-246	CROSS SECTIONS

PROJECT NAME & NUMBER	TYPE - STAGE I
SWANTON-HIGHGATE I 89-3(32)	GRADING & DRAINAGE
RECORD PLANS	
MATERIALS	
SUB-BASE OF GRAVEL (MOD) - LAFRANCE QUARRY - HIGHGATE SPRINGS, VT.	
SUB-BASE OF CRUSHED ROCK (MOD) - LAFRANCE QUARRY - HIGHGATE SPRINGS, VT.	
TAR EMULSION - BORDEN CO. - NEW YORK, N.Y.	
BITUMINOUS CONCRETE PAVEMENT - LINPIKE & SON, INC. - WILLISTON, VT.	
CONCRETE GLASS "AA" & CLASS "B" - A.B. ANDERSON'S PLANT - SWANTON, VT. & ST. ALBANS, VT. & WILLISTON, VT.	
REINFORCING STEEL - BETHLEHEM STEEL CORP. - ALBANY, N.Y.	
STRUCTURAL STEEL & STEEL PILING - VERMONT STRUCTURAL STEEL CORP. - BURLINGTON, VT.	
BRIDGE PAINT - MASTER PRONITE POWDER CO. - CHICAGO, ILL.	
REINFORCED CONCRETE PIPE - P.R.C.C.I. & GUARD RAIL - ST. GRISWOLD & CO. INC. - ESSEX, VT.	

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)

Beginning of 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

CONSTRUCTION AREA

	N. OF INTERCH.	S. OF INTERCH.
ADT 1965	1750	4540
ADT 1985	4200	11400
DHV 1985	830	1780
T	6 V2%	8%
V	70 MPH	70 MPH

METAL CULVERT PIPE - NORTHEASTERN CULVERT CO. - WESTMINSTER, VT.	CONTRACT:
CONTRACTOR - CALEDONIA SAND & GRAVEL CO. INC. - ST. JOHNSBURY, VT.	DATED - FEBRUARY 26, 1964
NILLER CONSTRUCTION INC. - WINDSOR, VT.	STARTED - MARCH 2, 1964
CHIEF RESIDENT ENGINEER - VAUGHN CLIFFORD	COMPLETED - NOVEMBER 3, 1965
RESIDENT ENGINEER - JOHN R. HUGHES	ACCEPTED - NOVEMBER 3, 1965
INSPECTORS - W. DOYLE, H. WATSON, A. FIDGON, J. BUSHEY	
RECORD PLANS - K. L. BRIDGEMAN	

NOTE: ANY FURTHER INFORMATION CONCERNING FINAL QUANTITIES, AMOUNTS OR OTHER DETAILS RELATIVE TO THIS PROJECT MAY BE FOUND IN EITHER THE FIELD BOOKS OR THE ESTIMATE FILE.

1687

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SWANTON-HIGHGATE I 89-3(32)
CONTRACTOR - CALEDONIA SAND & GRAVEL CO. INC. - ST. JOHNSBURY, VT.
NILLER CONSTRUCTION INC. - WINDSOR, VT.

CONST. COMPLETED - NOVEMBER 3, 1965
RECORD PLANS - K. L. BRIDGEMAN

SCALE 1000

LEGEND

RAH Arnold
ASST. CHIEF ENGINEER
11/4/63

E.H. Otte
11/4/63

L.M. Byrne
11/4/63

B.M. Blanchard
11/6/63

G.M. Lane
11/4/63

A.D. Bush
11/5/63

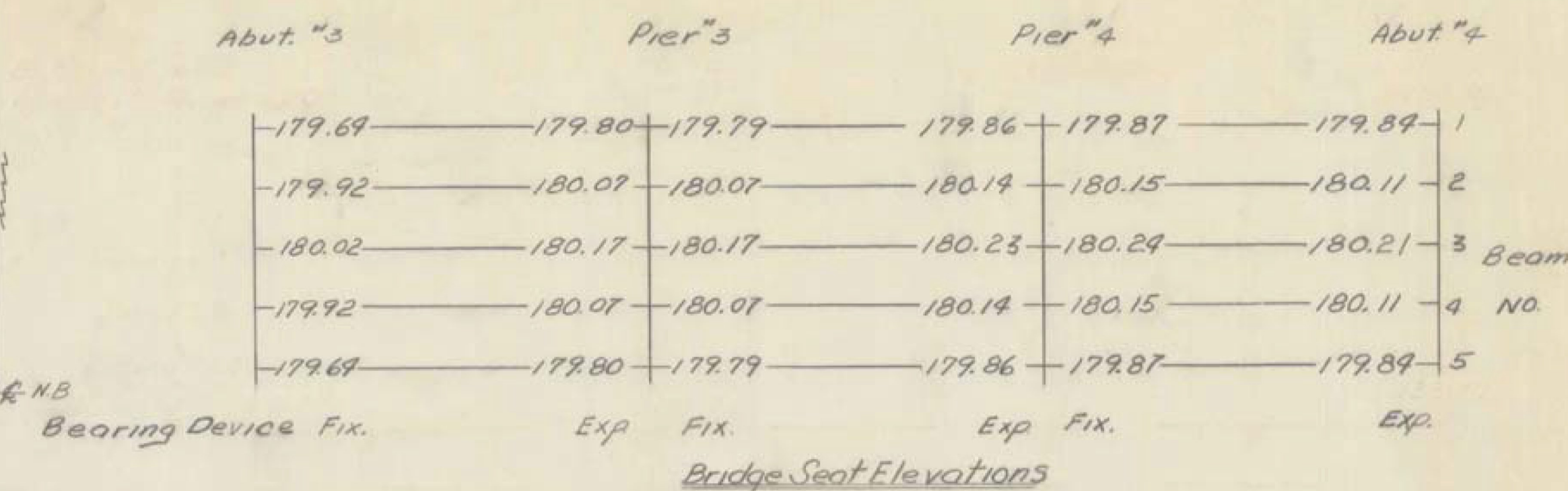
SWANTON
IM 089-3(70)
SHEET 14 OF 31
FOR REFERENCE
ONLY

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2	TYPICAL CROSS SECTIONS (DRAINAGE)
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4	ALIGNMENT DATA SHEETS
5	TEMPORARY APPROACH TRANSITION SHEET
6-10	QUANTITY SHEETS (ITEMS)
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- LIST OF SHEETS -

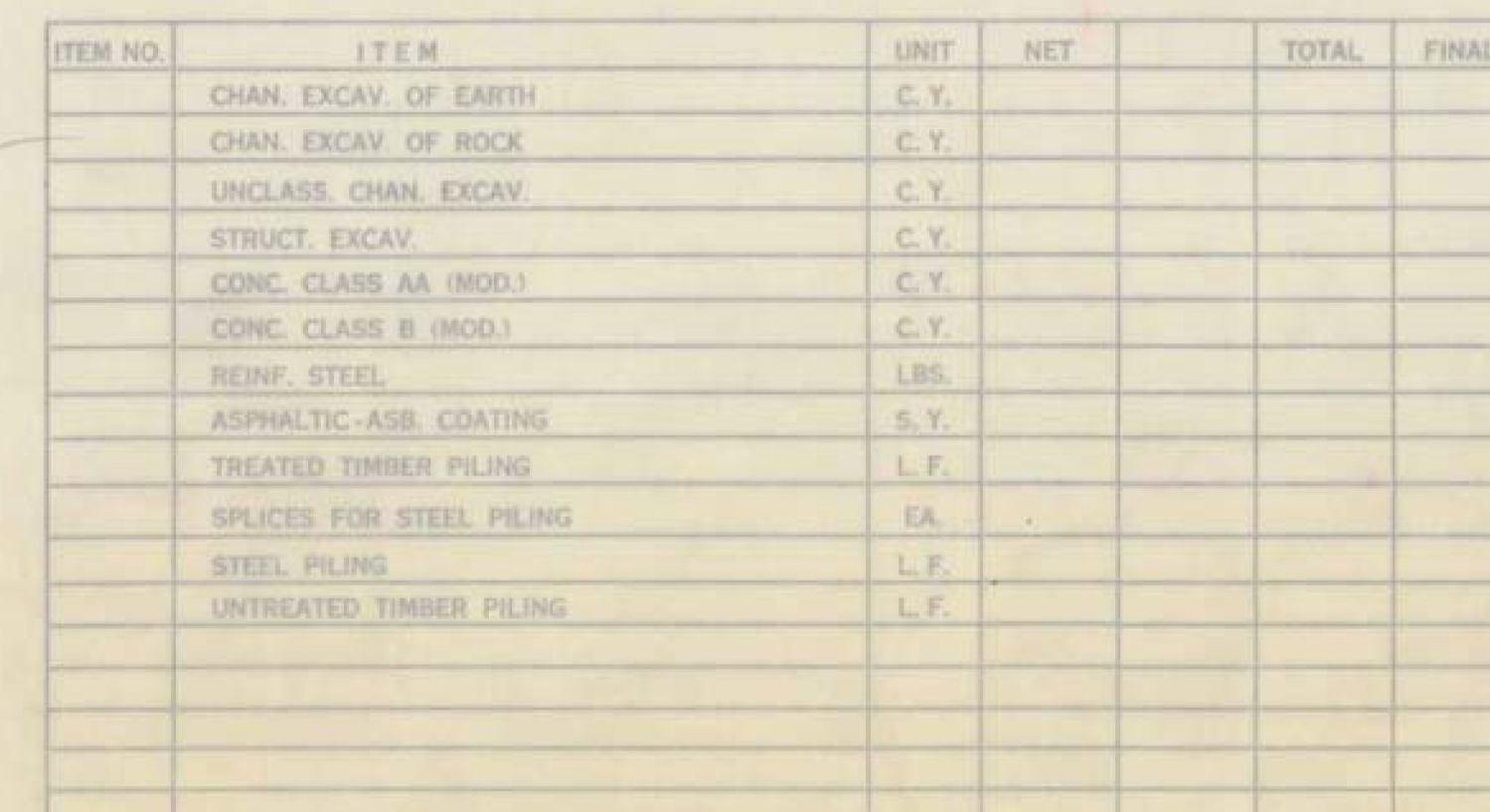
- Br 301 Plan and Elevation
- Br 302 Bridge Quantity Sheet
- Br 303 Preliminary Information Sheet
- Br 304 Boring Logs
- Br 305 Approach Slabs #3 and #4
- Br 306 Abutments #3 and #4
- Br 307 Piers #3 and #4
- Br 308 Reinforcing Steel Schedule

- BRIDGE STANDARDS -

SCB-30-62
SCB-D1 thru D9-62
SB-56-62 Sheets #1 & #2

- GENERAL NOTES -

1. Elevation datum sea level based on nearest U.S. Government Vertical Control.
2. For additional notes see SCB-D1-62.
3. For Bearing Devices see SCB-D8-62, Detail A.
- 4 Bridge Railing Item 572 shall be the Galvanized Metal as indicated in detail (A) on sheet 2 of 2 of standard SB-56-62.



BR. 301 OF 308

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON-HIGHGATE

ROAD NO. _____ BRIDGE NO. _____
 NBI-89 OVER ST. J. & L.C. R.R.

PLAN AND ELEVATION

SCALE 1" = 10'

SURVEYED BY _____
DRAWN BY SHSFX CHECKED BY RLO

PROJECT NO. I-89-3 (38)

SHEET 135 OF 246

Sheet 715 of 122

Sheet 715 of 122

[illegible]

BRIDGE QUANTITY SHEET														STATE OF VERMONT DEPARTMENT OF HIGHWAYS BRIDGE DIVISION			
NO.	ITEM	UNIT	QUANTITY BREAKDOWN										STAGE I		STAGE II		
			SUPER- STRUCTURE	ABUT.*3	ABUT.*4	PIER*3	PIER*4					APPROACH SLAB*3	APPROACH SLAB*4	TOTAL	FINAL	TOTAL	FINAL
107	STRUCTURE EXCAVATION	CY		10	10	7	7							34			
204	SUB-BASE OF CRUSHED ROCK-(MOD.) (UNDER STRUCTURE)	CY												147			
204	Gravel Roadfill	CY		11	11									22			
318	TAR EMULSION FOR BRIDGE FLOORS	GAL	202								27	27				256	
361-B	BITUMINOUS CONCRETE PAVEMENT (DENSE GRADED TOP COURSE)	TONS	50								6	6				62	
372-A	JOINT SEALER - HOT POURED	L.F.									30	30				60	
373	RUBBER JOINT MATERIAL	L.F.	22								41	41		104			
401-A	CONCRETE CLASS AA (MOD)	CY	194											194			
401-B	CONCRETE CLASS B (MOD)	CY		37	37	60	60				25	25		244			
402	REINFORCING STEEL	LB	38,680	1630	1610	2250	6080				3550	3520		65,320			
403	SPIRAL REINFORCEMENT	LS	1											1			
404-A	STRUCTURAL STEEL @ 5'x 59' + 64'	LB	127,360											127,360			
407	ASPHALTIC-ASBESTOS COATING	SY		4	4	15	15							38			
501	FURNISHING EQUIPMENT FOR DRIVING PILES	LS												1/3			
503	SPLICES FOR STEEL PILING	EA		10	10	2	2							24			
504	STEEL PILING @ 5'x 59' + 64'	L.F.		680	600	660	660							2400			
556-C	GRANITE BRIDGE CURB	L.F.	304								16	16		320			
572	BRIDGE RAILING (Balanced Metal)	L.F.	275											275			

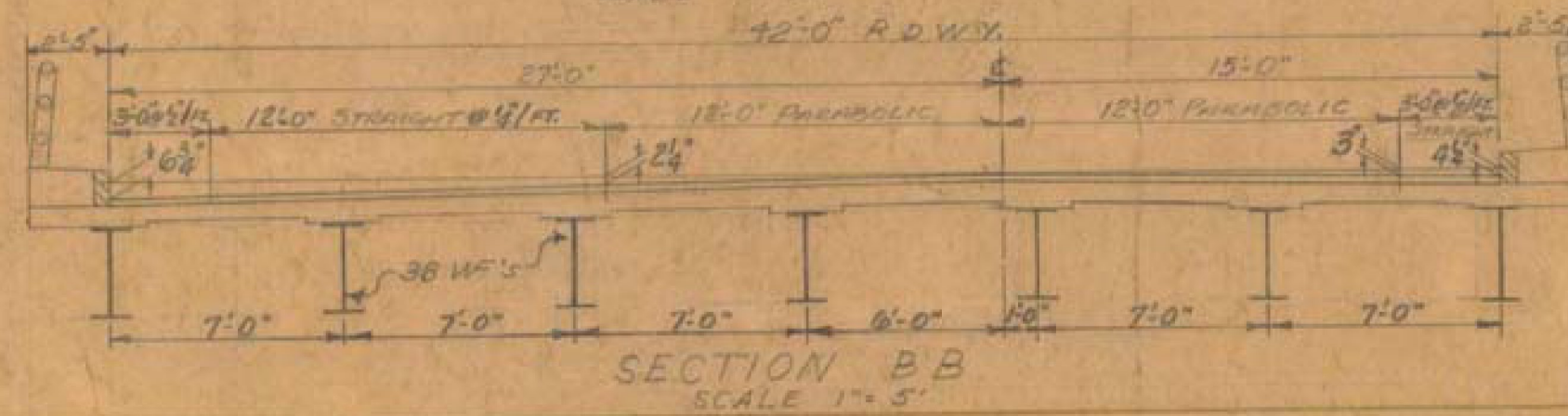
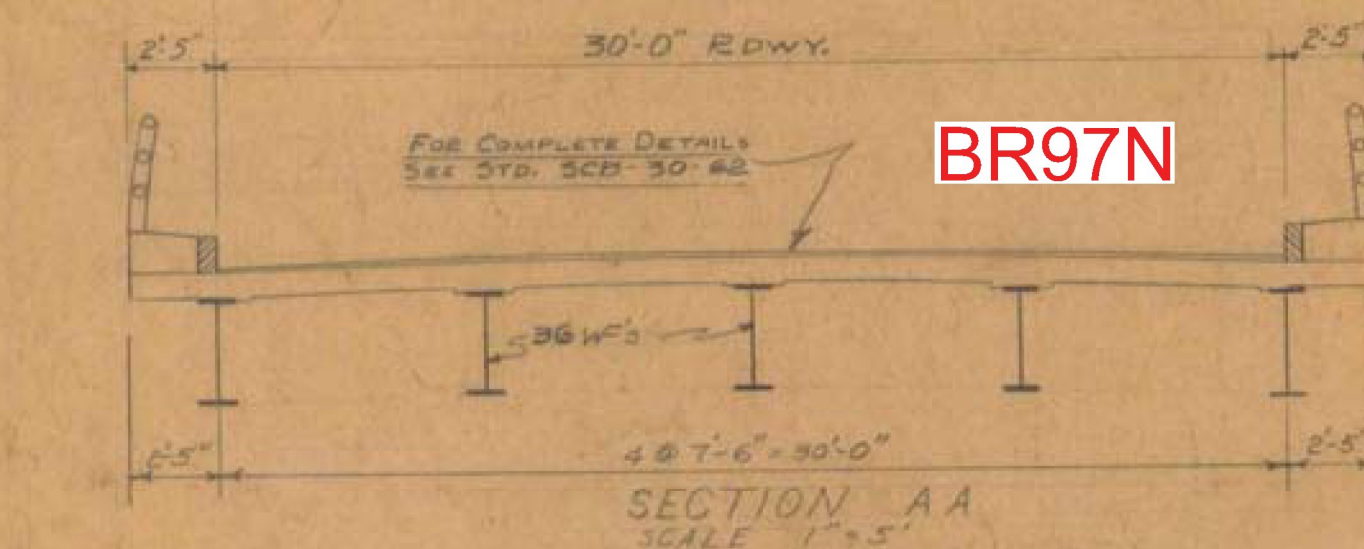
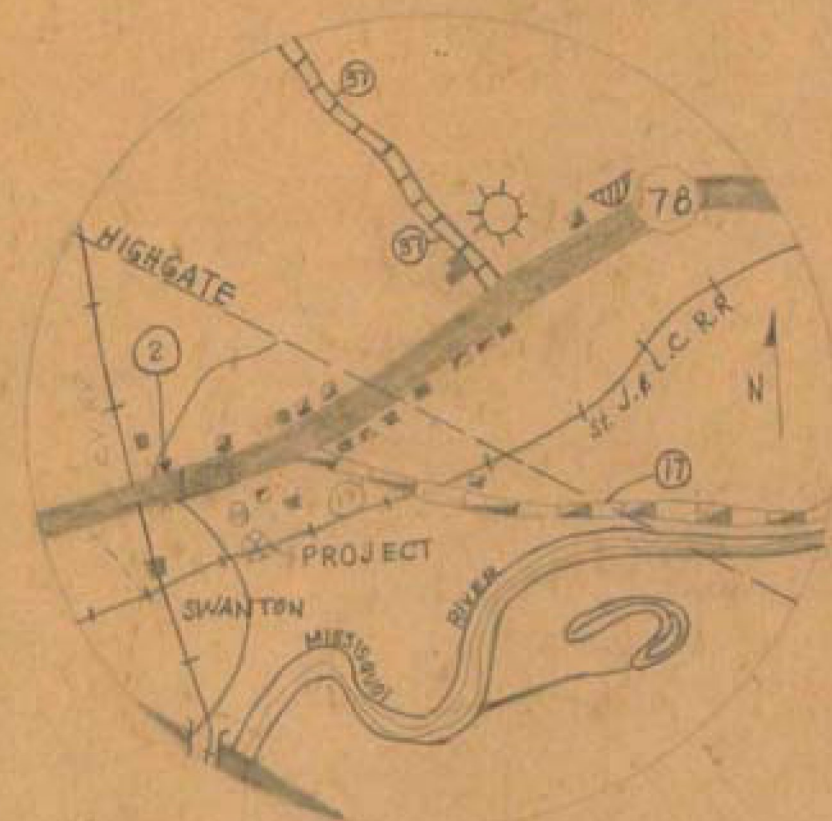
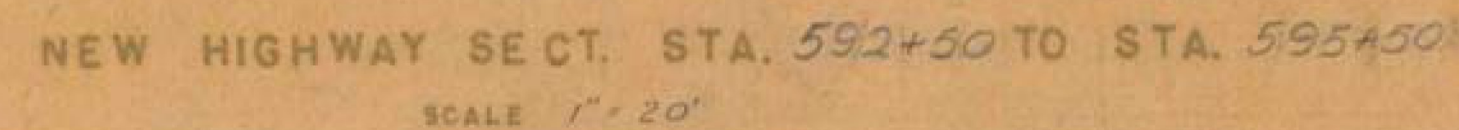
SWANTON
 IM 089-3(70)
 SHEET 17 OF 31
 FOR REFERENCE
 ONLY

BRIDGE(S) AT STATION(S) 591+64 N.B. I-89 Over St. J. & L.C. Railroad
 LOCATION(S) SWANTON

PROJECT NO. I 89-3 (50)
 BR 302 OF 308 SHEET NO. 136 OF 246

SWANTON
IM 089-3(70)
SHEET 17 OF 31
FOR REFERENCE
ONLY

PROJECT NO. 189-3 (58)
BR 302 OF 308 SHEET NO. 136 OF 246



ONLY NORTH BOUND LANE TO BE BUILT AT PRESENT TIME

HIGHWAY NO 89 NAME OF HIGHWAY Interstate
STRUCTURE NO _____ COUNTY Franklin TOWN Swanton
PROJECT NO I 89-3(1) LOCATION Survey Station 591+64.3
Interstate over St. J. & L.C. Railroad (Two Structures)

EXISTING STRUCTURE	None
RATED LOADING OF 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. _____
10 SPAN OF EXISTING BRIDGE DOWNSTREAM _____ WATERWAY TO EXTREME H.W. _____
11 TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS _____
12 DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE _____
13 IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED _____
14 ADDITIONAL WATERWAY AREA PROVIDED _____

3 ADDITIONAL WATERWAY EA PROVIDED

NEW STRUCTURE

1 RECOMMENDED TYPE OF STRUCTURE *Composite W Beam 49'0"; 54'0"; 49'0" (Spaced)*

2 RECOMMENDED CLEAR SPAN OR SPANS

3 MEASURED PARALLEL TO NEW HIGHWAY *45'0"; 50'0"; 45'0"*

4 MEASURED AT RIGHT ANGLES TO STREAM *NA*

5 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO. *NA*

6 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE *NA*

7 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE *NA* SOURCE OF INFORMATION *NA*

8 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? *NA*

9 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? *NA* IS ORDINARY RISE RAPID? *NA*

10 LOW WATER ELEVATION AT NEW STRUCTURE *NA*

11 DRAINAGE AREA IN ACRES ABOVE STRUCTURE *NA* CHARACTER OF TERRAINE *NA*

12 IS STREAM EVER DRY? *NA*

13 VELOCITY OF STREAM AT HIGH WATER STAGE *NA* ESTIMATED DISCHARGE *NA*

14 AREA FULL OPENINGS *NA* AREA BELOW ORDINARY H.W. *NA*

15 CHARACTER OF SCOUR *NA* DRIFT *NA* ICE *NA*

16 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE *NA*

17 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION *Top of Rail: 22.16' (Min)*

18 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE *No* BOTH SIDES *No*

19 RECOMMENDED TYPE OF PAVEMENT *Conc. slab with Bituminous Concrete Surface*

20 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. *NA* ONE OR TWO WAYS *NA* PROBABLE COST *NA*

21 PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE *NA*

22 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES?

23 ~~23~~ ALLOWABLE LOAD ON ~~Structure~~ *80 Tons* SHOULD PILES BE USED? *YES* EST. LTH *25' to 30'*

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 SPECIFICATIONS
AASHTO 1961 EDITION AND AS MODIFIED
BY VERMONT DEPT OF HIGHWAYS.

For Boring Log see Boring Logs.

LIVE LOAD:
H 20 516-44 AND MILITARY LOADING

DESIGN STRESSES:
STRUCT. STEEL 20 KSI
REINF. STEEL 20 KSI
CONCRETE 3000 PSI

SWANTON
IM 089-3(70)
SHEET 18 OF 31
FOR REFERENCE
ONLY

BR97 N AND S

BR 303 OF 308

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

INTERSTATE BRIDGE IN THE TOWNS OF
SWANTON - HIGHGATE

ROUTE NO. 89 ~~100~~ STA. 591+64.3
OVER ST. J. & L. C. RAILROAD

PRELIMINARY INFORMATION SHEET

SUNNYVIEW BY WAB-MAC CHECKED BY SCALE AS NOTED
 DRAWN BY BEHNSCO IN CHARGE DATE FEB. 25, 1954
 PROJECT NO. I-89-3 SHEET 127 OF 241

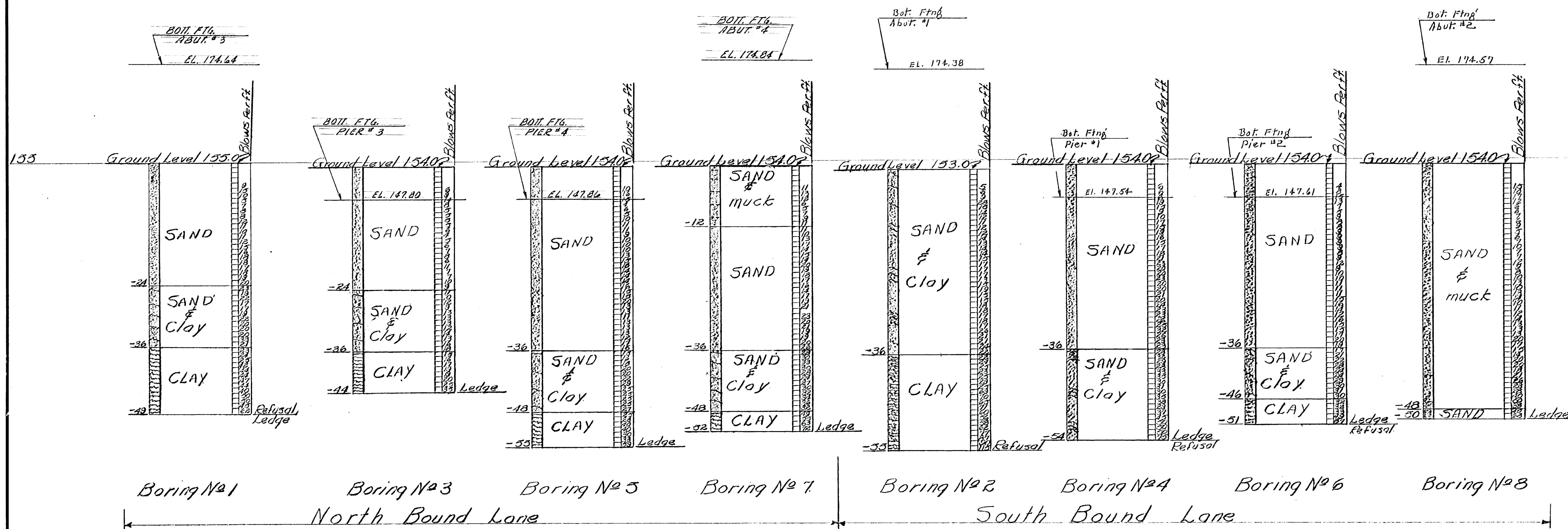
(30)
Contract
Sheet 117 of 122

CORRECTED <i>W.D. Buehler</i> BRIDGE ENGINEER	APPROVED <i>H.E. Langford</i> CHIEF ENGINEER
---	--

Sheet 117 of 122

RECEIVED JULY 13 1959

Elev. OF B.M. = Top OF Rail = 158.0 @ Sta 590+88.6



BR. 304 OF 308

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF Swanton - Highgate

ROUTE No. 89 LOG STA. 591+46

Over St. & L.C. Railroad

Borings

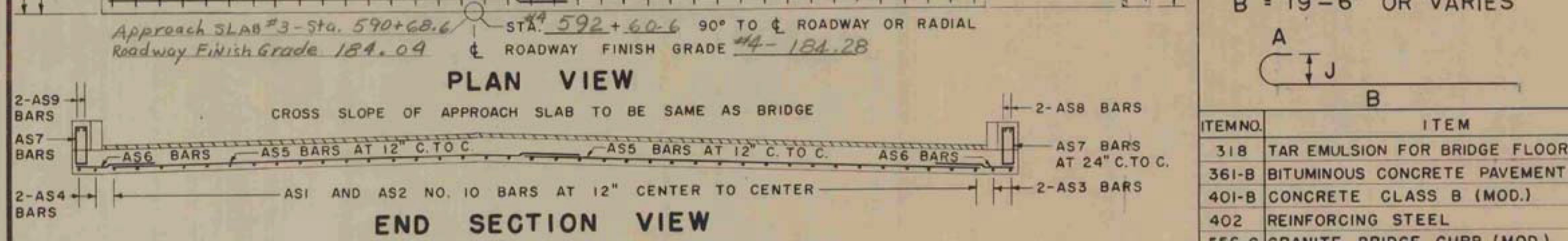
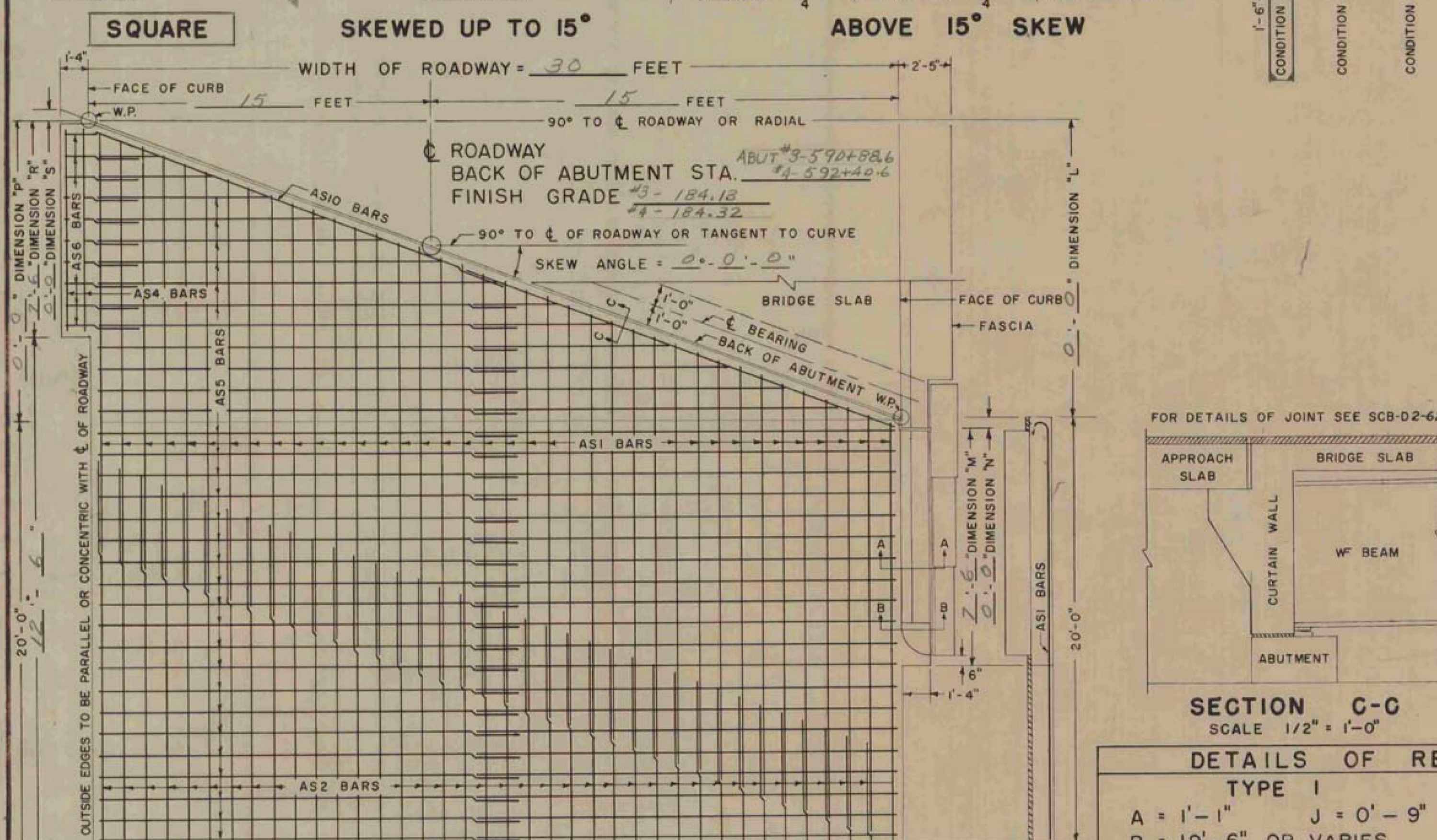
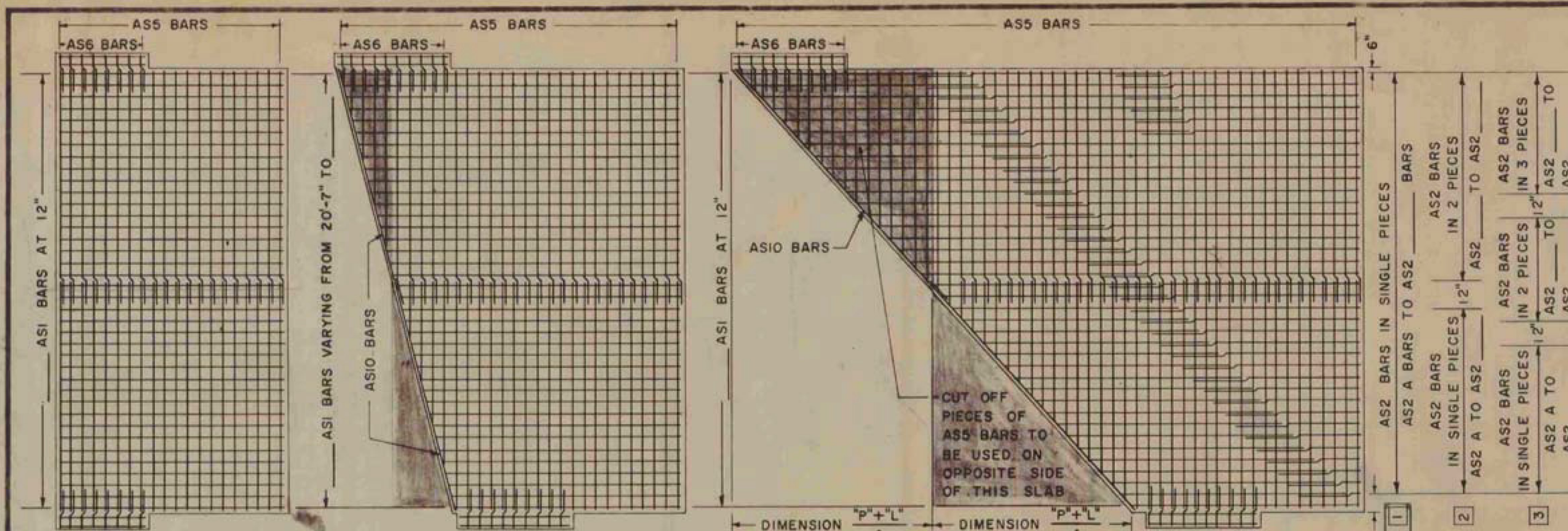
SCALE 1" = 10'-0"

SURVEYED BY Stratton

DRAWN BY Hopkins CHECKED BY EAB

PROJECT No. 187-3(3)

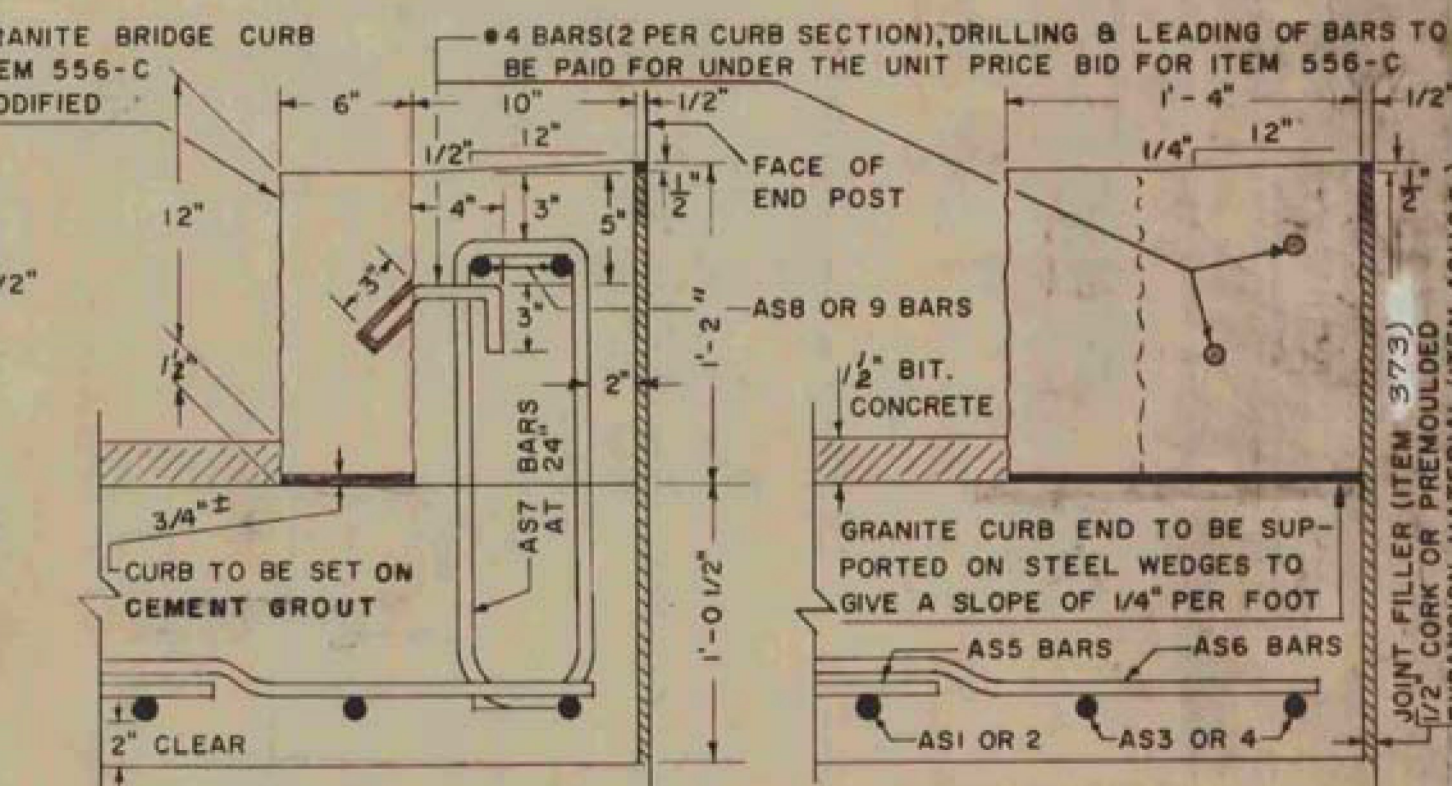
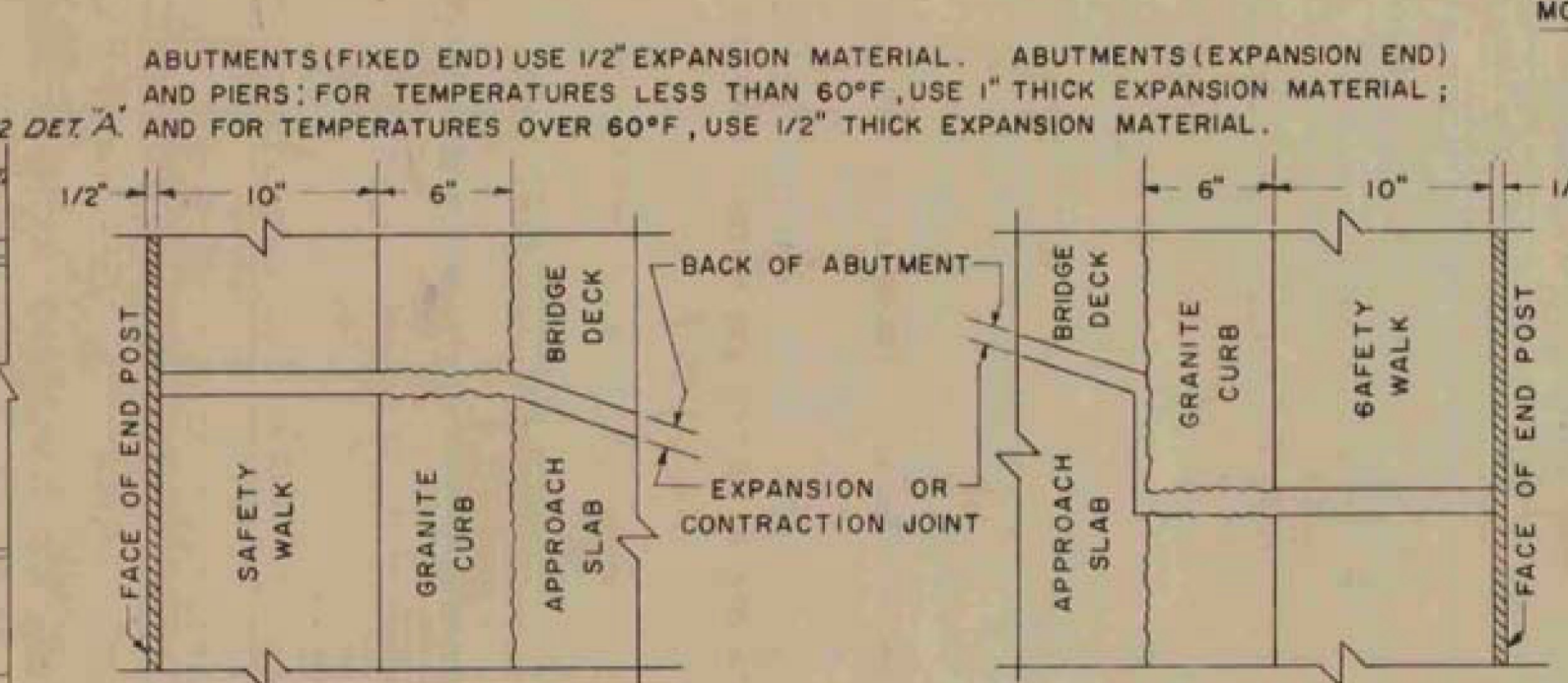
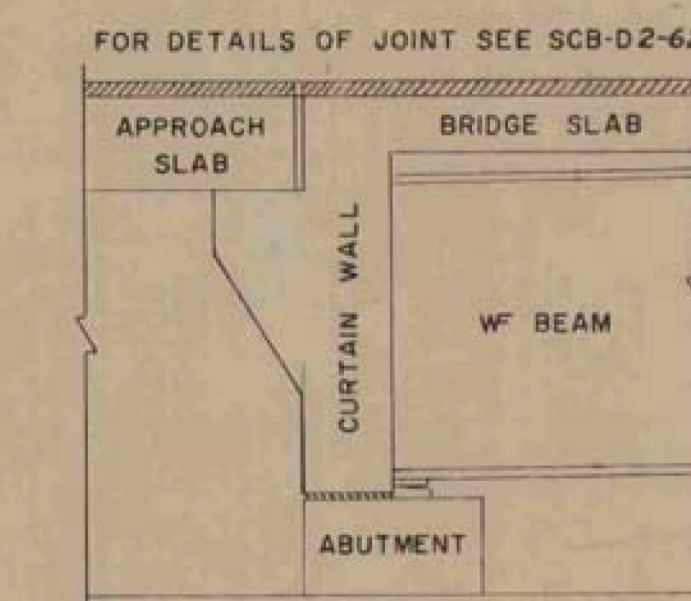
SHEET 138 OF 240



30' ROADWAY							38' ROADWAY							42' ROADWAY							44' ROADWAY							ROADWAY						
NO.	PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO.	PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO.	PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO.	PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO.	PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS
SQUARE OR SKEWED							SQUARE OR SKEWED							SQUARE OR SKEWED							SQUARE OR SKEWED							SQUARE OR SKEWED						
2	10	7-0		AS3	STR.		2	10			AS3	STR.		2	10			AS3	STR.		2	10			AS3	STR.		2	10			AS3	STR.	
2	10	7-0		AS4	STR.		2	10			AS4	STR.		2	10			AS4	STR.		2	10			AS4	STR.		2	10			AS4	STR.	
16	5	3'-6"		AS6	STR.		5	3'-6"			AS6	STR.		5	3'-6"			AS6	STR.		5	3'-6"			AS6	STR.		5	3'-6"			AS6	STR.	
8	5	5'-0"		AS7	S6		5	5'-0"			AS7	S6		5	5'-0"			AS7	S6		5	5'-0"			AS7	S6		5	5'-0"			AS7	S6	
2	5	5-4		AS8	STR.		2	5			AS8	STR.		2	5			AS8	STR.		2	5			AS8	STR.		2	5			AS8	STR.	
2	5	5-4		AS9	STR.		2	5			AS9	STR.		2	5			AS9	STR.		2	5			AS9	STR.		2	5			AS9	STR.	
SQUARE							SQUARE							SQUARE							SQUARE							SQUARE						
30	10	20'-7"		AS1	I		38	10	20'-7"		AS1	I		42	10	20'-7"		AS1	I		44	10	20'-7"		AS1	I		10	20'-7"		AS1	I		
20	5	29'-6"		AS5	STR.		40	5	19'-9"		AS5	STR.		40	5	21'-9"		AS5	STR.		40	5	22'-9"		AS5	STR.		5			AS5	STR.		
SKEWED UP TO 15°							SKEWED UP TO 15°							SKEWED UP TO 15°							SKEWED UP TO 15°							SKEWED UP TO 15°						
30	10		AVE.	AS1	I	1.	38	10		AVE.	AS1	I	1.	42	10		AVE.	AS1	I	1.	44	10		AVE.	AS1	I	1.	10		AVE.	AS1	I	1.	
5	29'-6"			AS5	STR.	2.	5	19'-9"			AS5	STR.	3.	5	21'-9"			AS5	STR.	3.	5	22'-9"			AS5	STR.	3.	5			AS5	STR.	2.	
ALL SKEWED SPANS							ALL SKEWED SPANS							ALL SKEWED SPANS							ALL SKEWED SPANS							ALL SKEWED SPANS						
2	5			AS10	STR.		5				AS10	STR.		5				AS10	STR.		5				AS10	STR.		5				AS10	STR.	
ABOVE 15° SKEW							ABOVE 15° SKEW							ABOVE 15° SKEW							ABOVE 15° SKEW							ABOVE 15° SKEW						
30	10	20'-7"		AS1	I		38	10	20'-7"		AS1	I		42	10	20'-7"		AS1	I		44	10	20'-7"		AS1	I		10	20'-7"		AS1	I		
29	10		AVE.	AS2	STR.	4.	37	10		AVE.	AS2	STR.	4.	41	10		AVE.	AS2	STR.	4.	43	10		AVE.	AS2	STR.	4.	10		AVE.	AS2	STR.	4.	
5	29'-6"			AS5	STR.	2.	5	19'-9"			AS5	STR.	3.	5	21'-9"			AS5	STR.	3.	5	22'-9"			AS5	STR.	3.	5			AS5	STR.	2.	

REMARKS: 1. ASI BAR "B" DIMENSION VARIES FROM 19'-6" TO 20'-0" (IN FEET) = NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. 2. 40 + DIMENSION (P+L) ÷ 2 (IN FEET) = NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. 3. THE LENGTH OF AS2 BARS VARIES FROM 19'-6" TO 20'-0" (IN FEET) = NUMBER OF PIECES. THE AS2 BARS MAY BE DIVIDED INTO TWO OR MORE PIECES, AS MAY BE NECESSARY, TO LIMIT THE MAXIMUM BAR LENGTH TO 30 FEET. THE LOCATION OF SPLICES IS LEFT TO THE OPTION OF THE DESIGNER. THE NO. PIECES SHOWN ARE FOR CONDITION 1. (FOR CONDITION 2 & 3. SEE REINF. SCHEDULE.)

GENERAL NOTES: ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. WHEN A BAR LENGTH VARIES IN INCREMENTS EACH BAR MUST BE DETAILED. SPLICES SHALL BE 2'-1" FOR NUMBER 5 BARS, AND 4'-3" FOR NUMBER 10 BARS. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED JANUARY 1956, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961. DESIGNED FOR H20-S16-44.



DETAILS OF REINFORCING BARS					REINFORCING STEEL					QUANTITY COMPUTATION				
TYPE I					TYPE S6 C					W = WIDTH OF ROADWAY				
A = 1'-1"	J = 0'-9"				A = 0'-6"	B = 1'-9"	C = 0'-6"	D = 1'-9"	G = 0'-6"	W = 30	Z = 20 + DIMENSION (P+L) ÷ 4	T = DIMENSION (M+R) ÷ 2		
B = 19'-6" OR VARIES														
ITEM NO.					ITEM					BITUMINOUS CONCRETE = W x Z x 0.0092 = TONS				
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.	27	27	AS1	30	20'-7"	4.303	2656.67	TAR EMULSION = W x Z x 0.0444 = GALLONS				
361-B	BITUMINOUS CONCRETE PAVEMENT (MOD.)	TONS	5.5	5.5	AS2			4.303		CONCRETE CLASS B = W x Z x 0.0386 + T x 0.1029 + (T - 1.8333) x 0.0733 = CUBIC YARDS				
401-B	CONCRETE CLASS B (MOD.)	CY.	24.5	24.5	AS3	2	7-0	4.303	60.24	[30 x 20 x 0.0386] + [25 x 0.1029] + [(25 - 1.8333) x 0.0733] = 24.35 CUBIC YARDS				
402	REINFORCING STEEL	LB.	3532	3532	AS4	2	7-0	4.303	60.24	GRANITE BRIDGE CURB = 2(T + 0'-3") x LINEAR FEET 2(25 + 0.25) = 15.5 LINEAR FEET				
556-C	GRANITE BRIDGE CURB (MOD.)	LF.	16	16	AS5	20	29'-6"	1.043	615.37	BAR LENGTHS: AS3 BARS = DIMENSION "M" - 0'-6"				
					AS6	16	3'-6"	1.043	58.40	AS4 BARS = DIMENSION "R" - 0'-6"				
					AS7	8	5'-0"	1.043	41.72	AS6 BARS = 3'-6"				
					AS8	2	5'-4"	1.043	11.13	AS7 BARS = 5'-0"				
					AS9	2	5'-4"	1.043	11.13	AS8 BARS = DIMENSION "M" - 2'-2"				
					ASIO			1.043		AS9 BARS = DIMENSION "R" - 2'-2"				
										TOTAL WEIGHT = 3514.90				

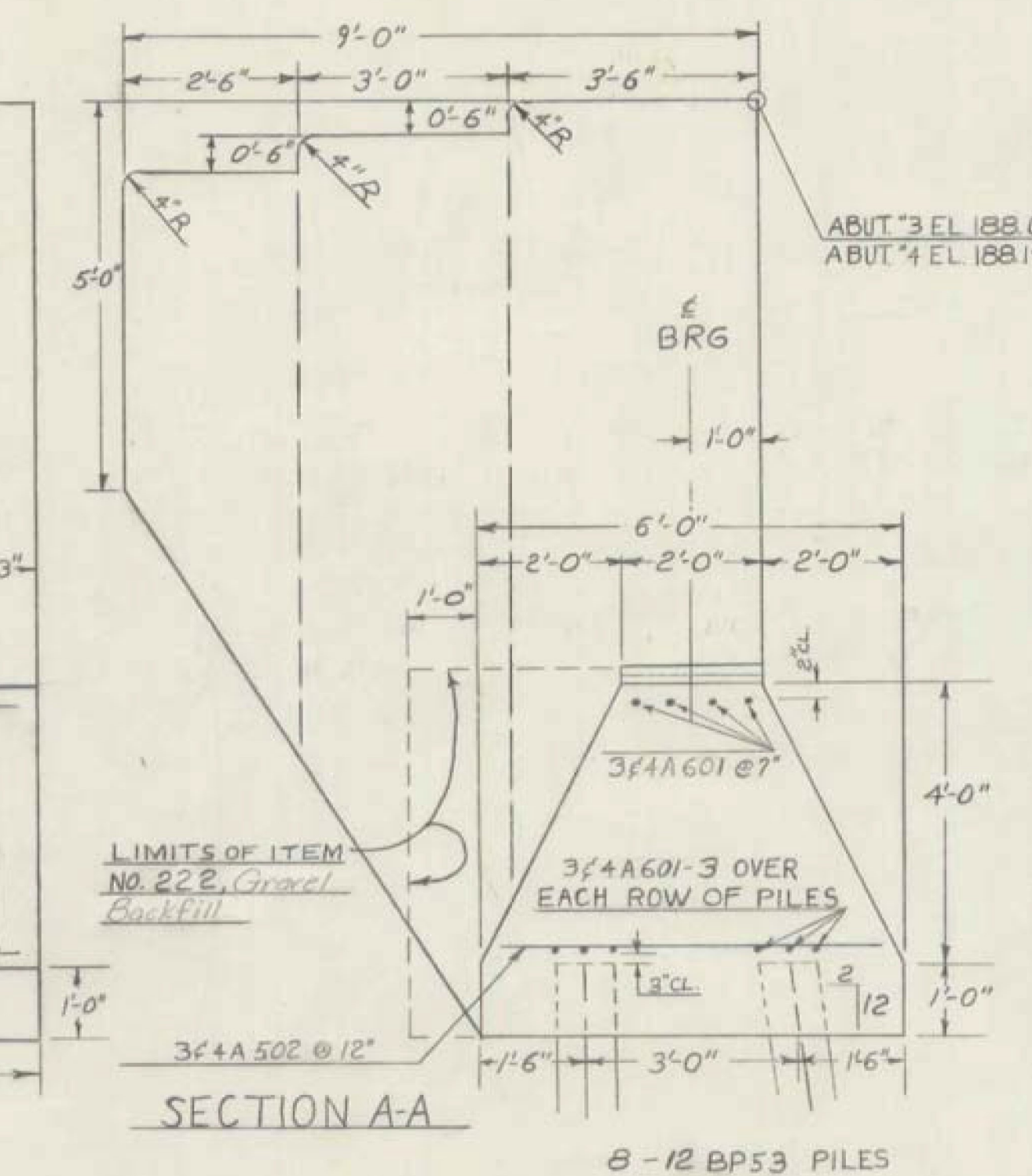
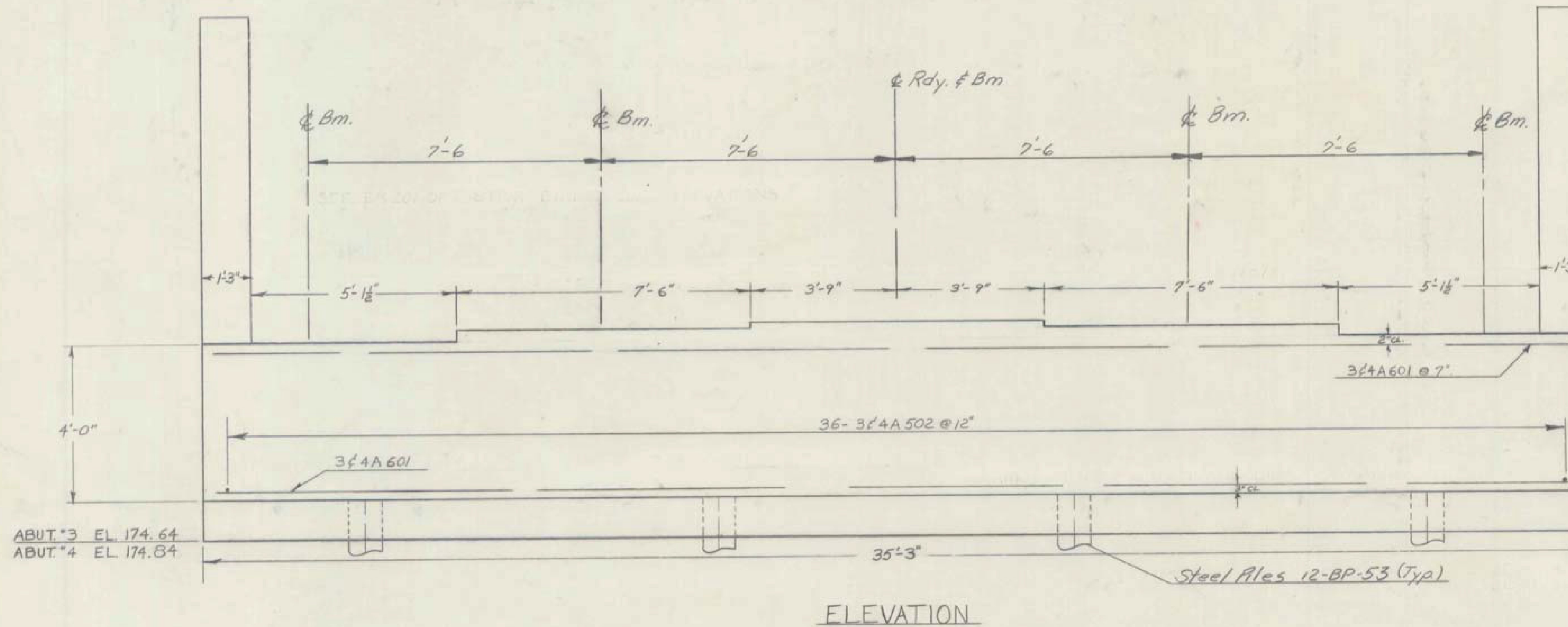
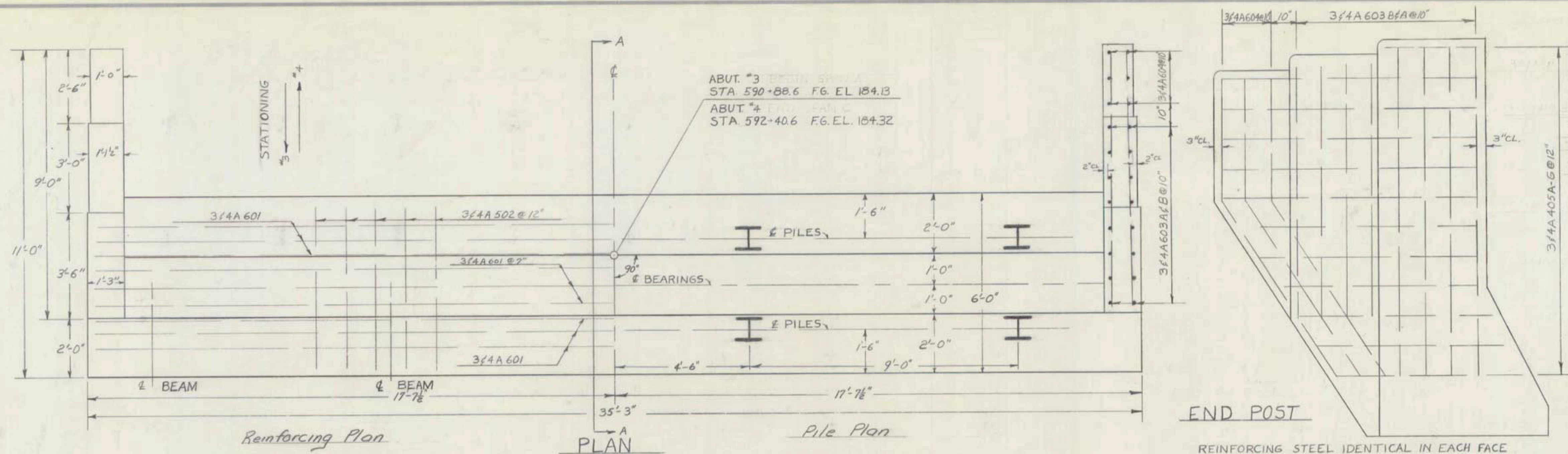
DETAILS OF APPROACH SLAB FOR 30 FOOT BRIDGE TO BE USED FOR BRIDGE AT STATION 591+64.6 LOCATION SWANTON

STATE OF VERMONT DEPARTMENT OF HIGHWAYS STANDARD STRUCTURE SB-AS-62

TOWN OF SWANTON-HIGHGATE ROUTE NO. I-89 NB I-89 over St. J. & L.C. Railroad SCALE AS NOTED DESIGNED BY H CHECKED BY RLO PROJECT NO. I-89-3 (138) BR. 305 OF 308 SHEET 133 OF 240

SWANTON IM 089-3(70) SHEET 20 OF 31 FOR REFERENCE ONLY

APPROVED
DRAWN BY: R.S. HAUP T NOV. 1960
TRACED BY: R.S. HAUP T NOV. 1960
CHECKED BY: A.H. SMALLEY NOV. 1960
Recommended For Approval
Recommended For Approval
Approved By: [Signature] Date: 12/1/62
[Signature] Date: 1/4/63
[Signature] Date: 1/4/63



LOCATION	NO. 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)
ABUT. #3	8	12 BP53	85 Ft.	8	2
PIER #3	12	12 BP53	55 Ft.	—	2
PIER #4	12	12 BP53	55 Ft.	—	2
ABUT. #4	8	12 BP53	75 Ft.	8	2

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.			

SWANTON
IM 089-3(70)
SHEET 21 OF 31
FOR REFERENCE
ONLY

BR. 306 OF 308

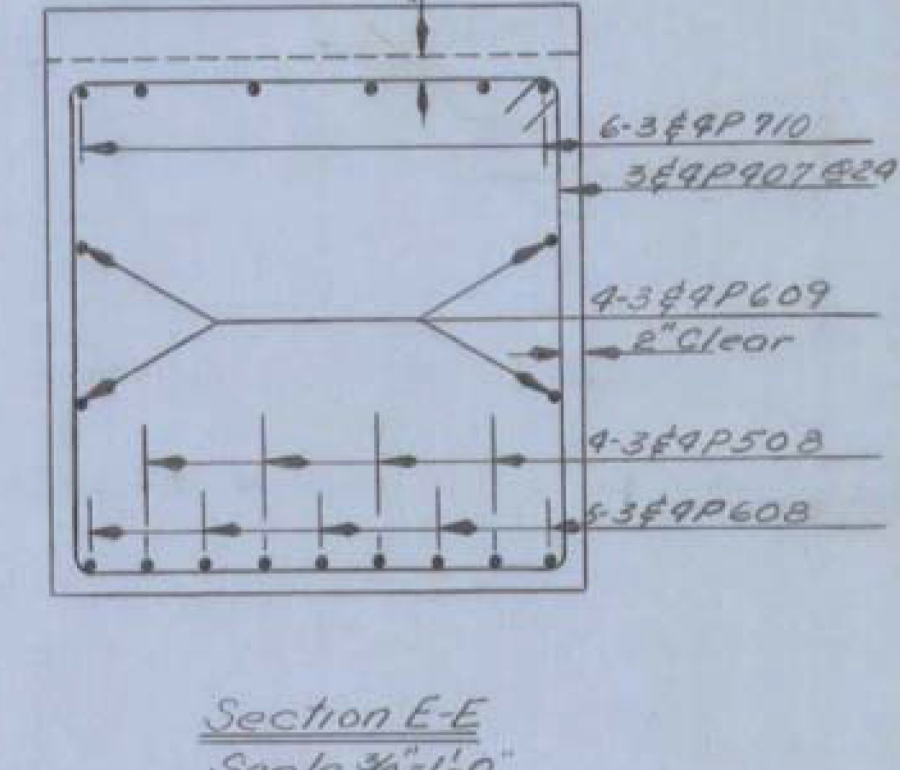
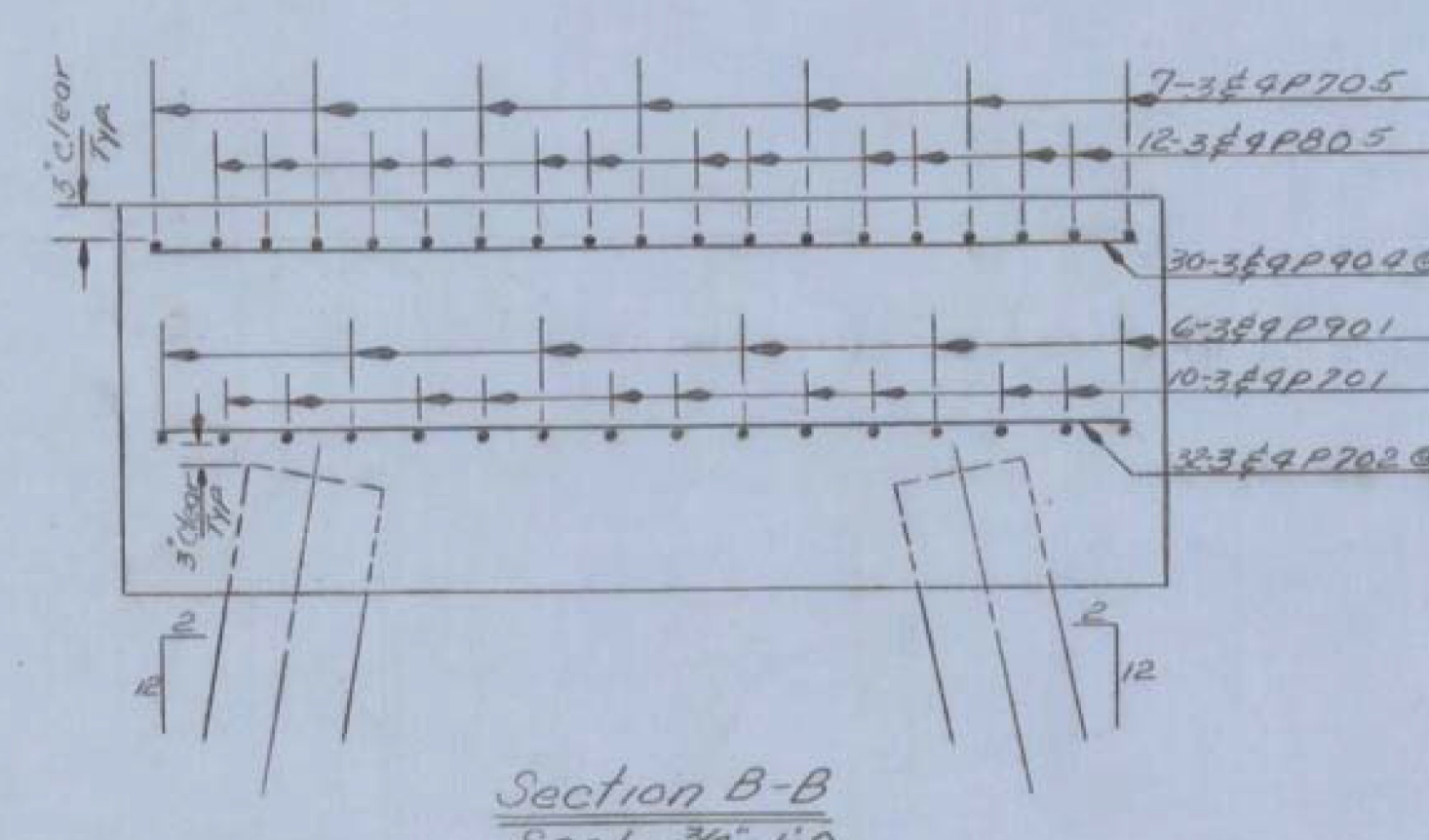
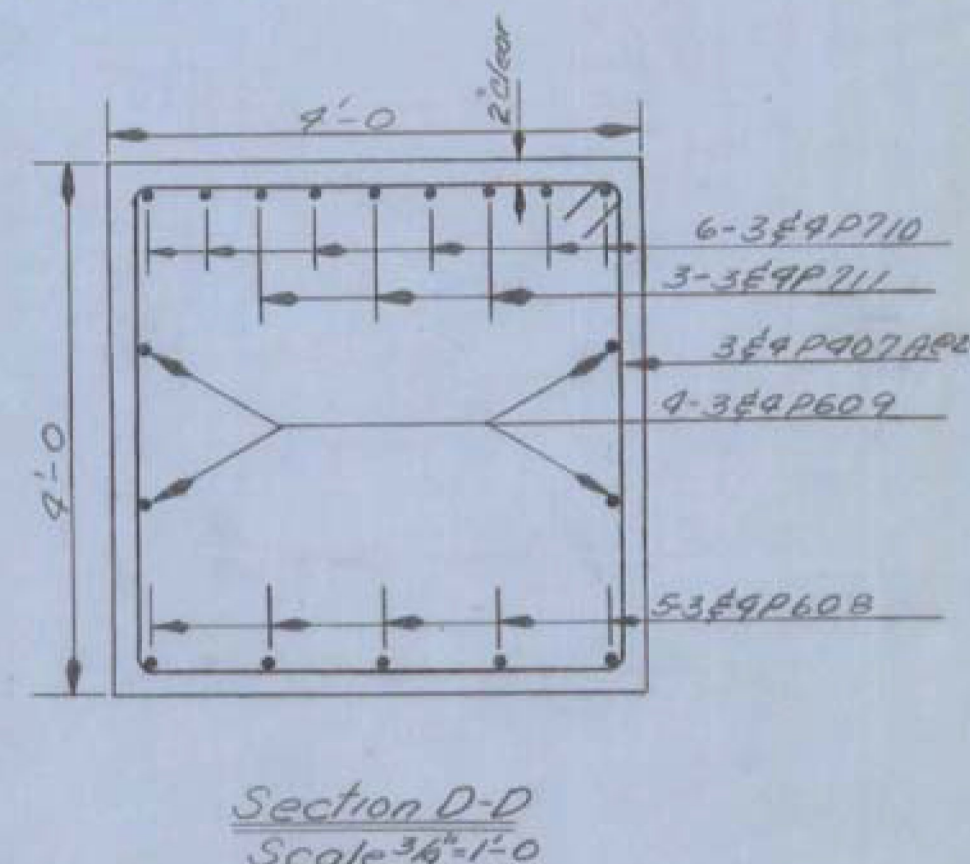
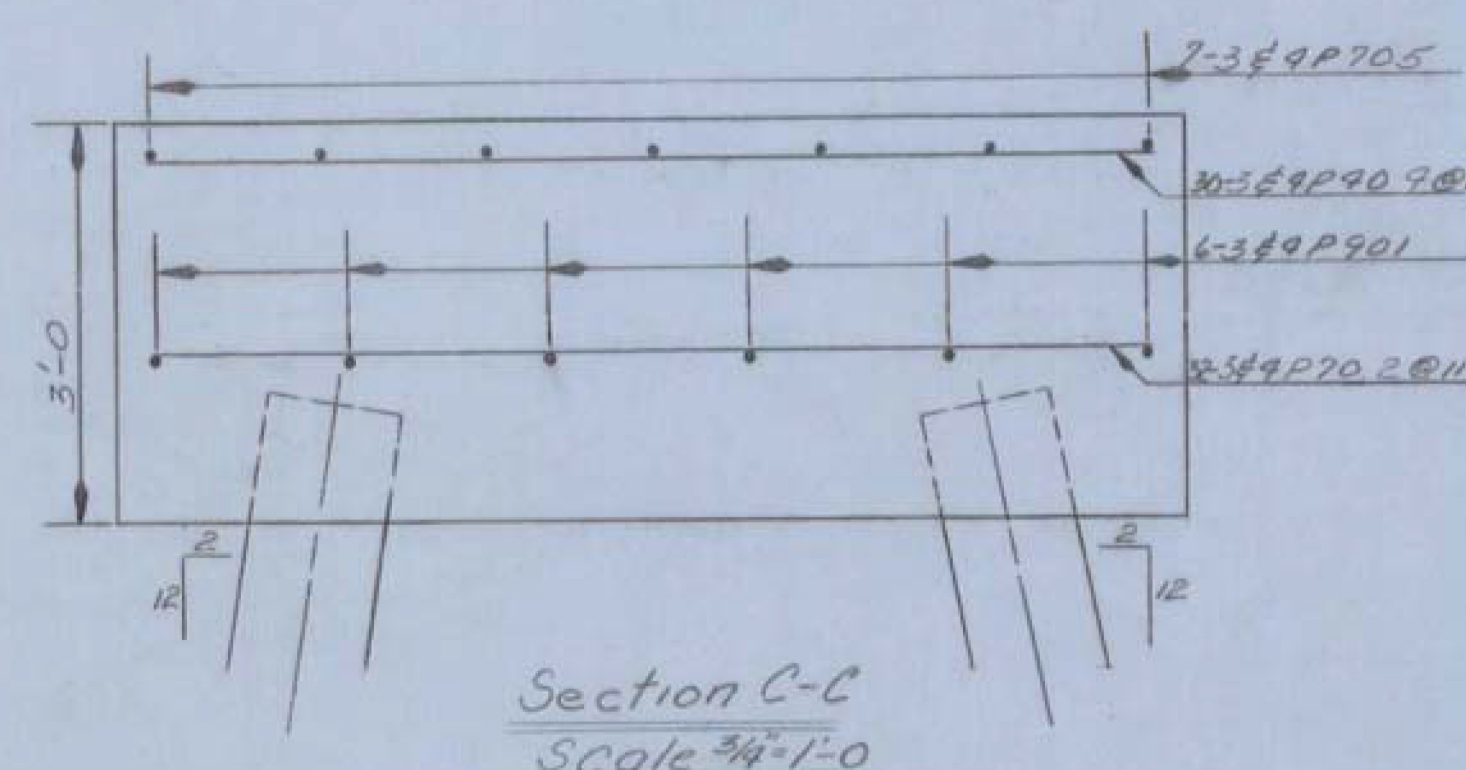
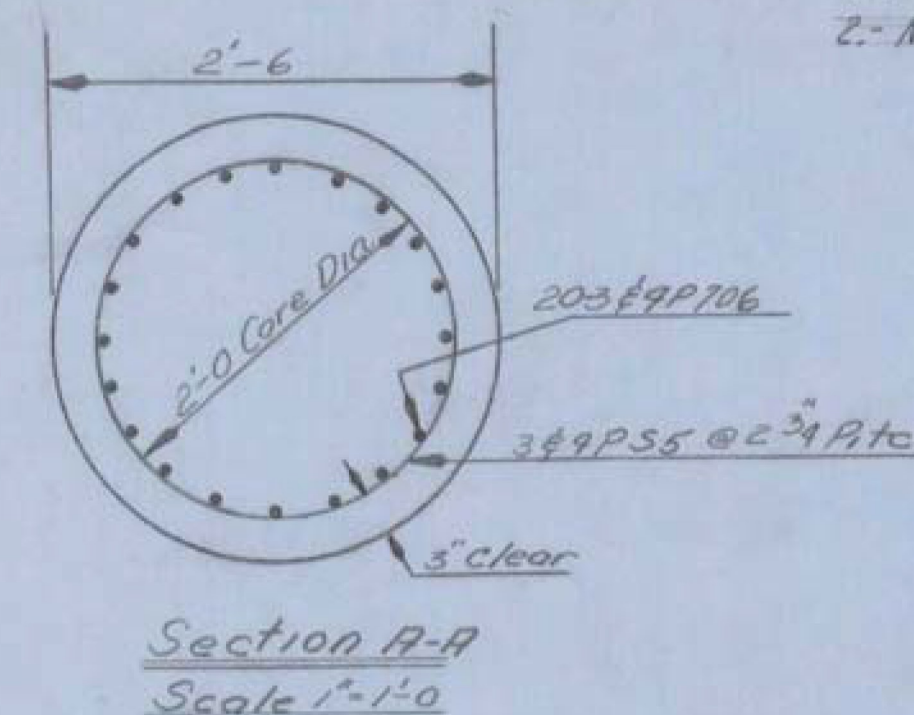
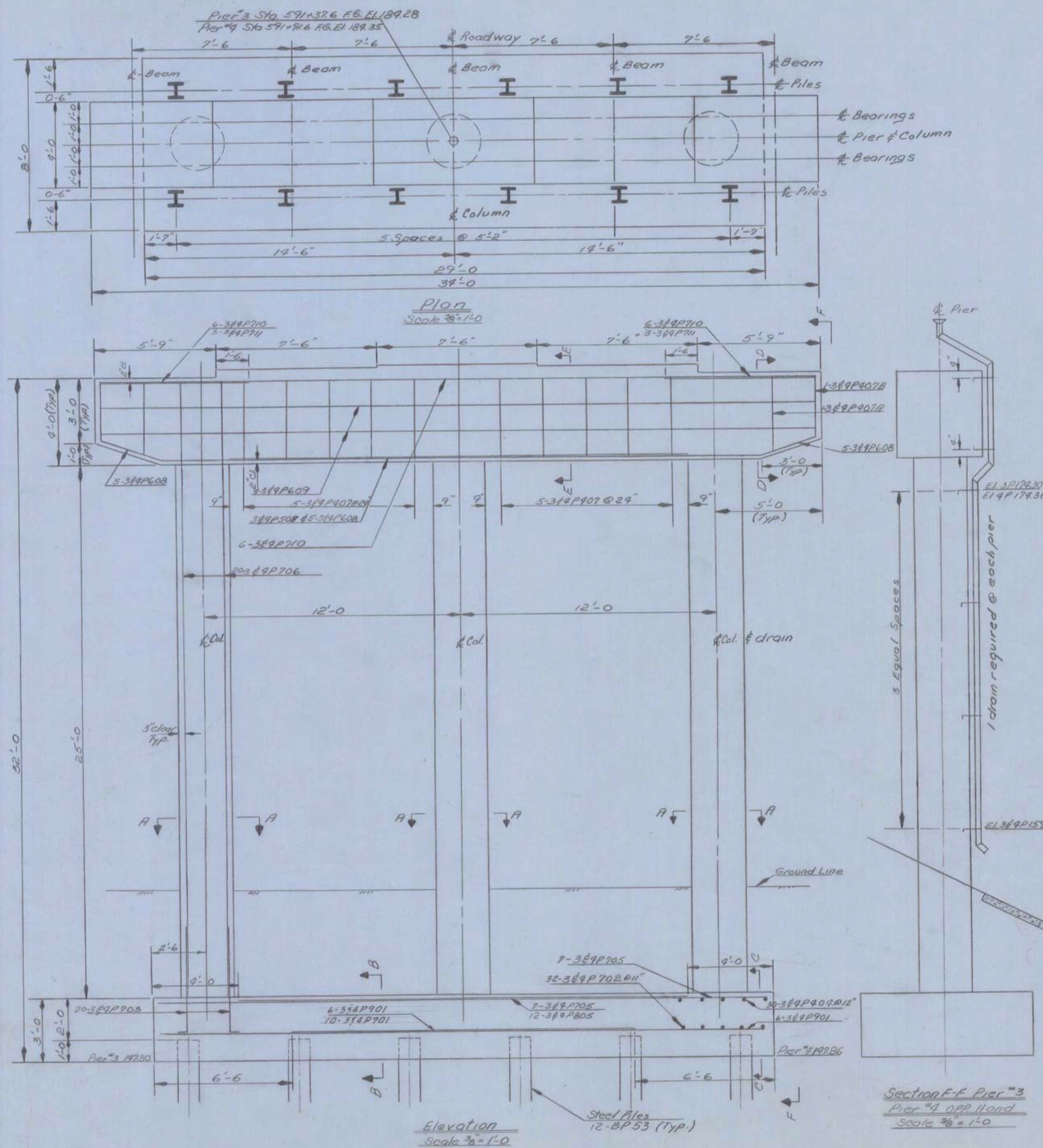
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HIGHGATE INT.
ROUTE No. I 89 STA. 591+64.6
NB I-89 over the St. J. & L. C. Railroad
ABUTMENTS #3 & #4 DETAILS
SCALE 1/2" = 1'-0"
SURVEYED BY _____
DRAWN BY J. LYLES CHECKED BY _____
PROJECT No. I 89-3(32)
SHEET 140 OF 240

NOTES

1. For bridge seat elevations see sheet Br. 301
2. Maximum pile design load is 40 tons per pile.

SWANTON
IM 089-3(70)
SHEET 22 OF 31
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.				
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.				

BR. 301 OF 308

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HIGHGATE
ROAD NO. I-89 BRIDGE NO.
MBI-89 OVER ST. J. & L.C. R.R.
PIERS NO. 3 AND 4
SCALE AS SHOWN

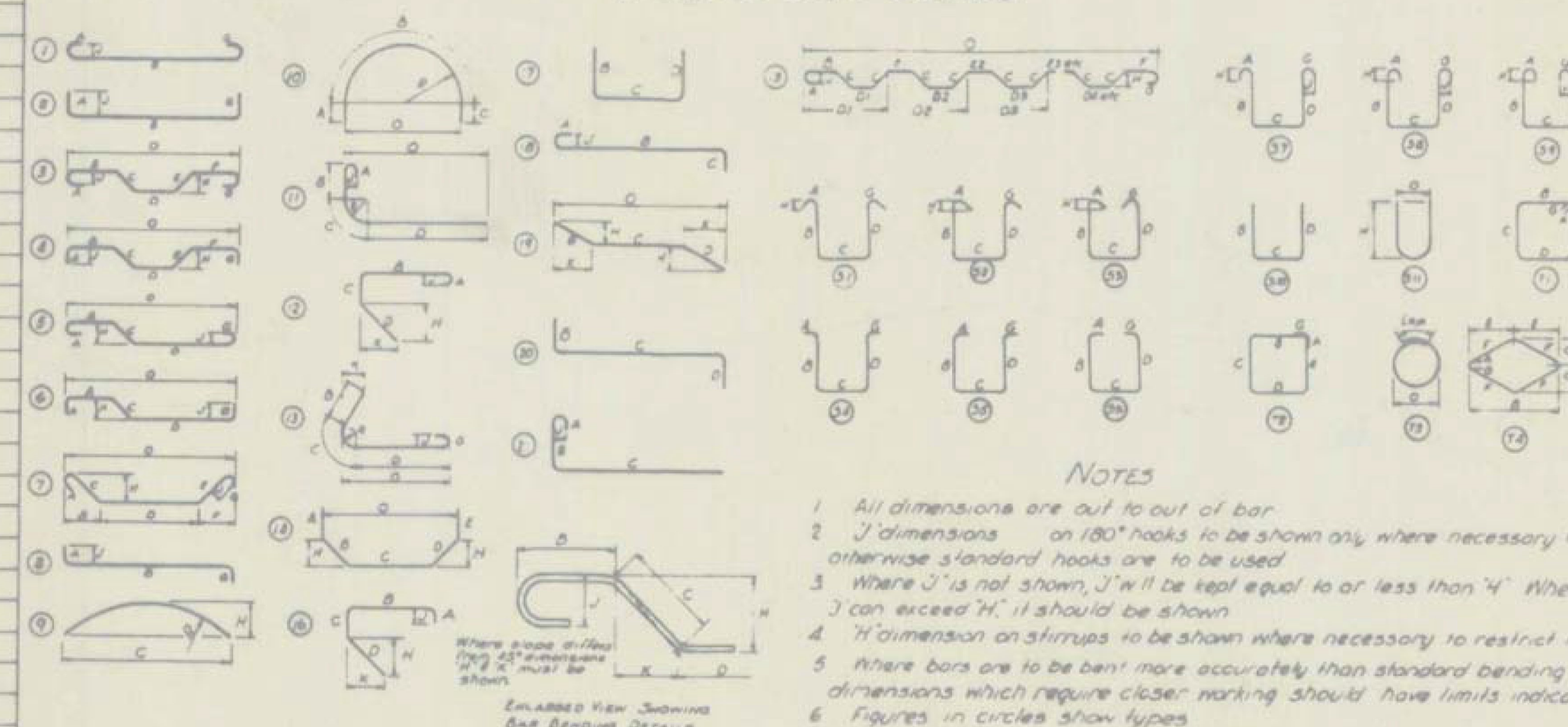
SURVEYED BY
DRAWN BY SHS CHECKED BY RLO
PROJECT NO. I-89-3(70)
SHEET 141 OF 246

Item	No. Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
STAGE I CONSTRUCTION																	
-APPROACH SLAB NO. 3-																	
1	16	5	3-6	3A5506 STR													
2	*3	1	5-4	3A5508													
3	2	1	5-4	3A5509													
4	20	1	29-6	3A5505 STR													
5	8	5	5-0	3A5507 S6	0-6	1-9	0-6	1-9				0-6					
6	*3	10	7-0	3A5504 STR													
7	2	1	7-0	3A5504 STR													
8	30	10	20-7	3A5501	1-1	19-6							0-9				
-APPROACH SLAB NO. 4-																	
Same as Approach Slab #3 except that Mark shall be 4AS in lieu of 3AS and test bars shall be omitted.																	
-SUPERSTRUCTURE-																	
SPAN NO. 4																	
23	66	4	5-3	3S404 S3	0-5	1-6	1-5	1-6				0-5					
24	26	4	7-6	3S406 S5	0-5	3-0	0-8	3-0				0-5					
25	150	5	25-3	3S502 STR													
26	8	1	32-2	3S505 STR													
27	196	1	34-4	3S501 STR													
28	31	5	4-2	3S506 P17		2-6	0-8	1-0									
29	20	6	25-6	3S603 STR													
30	22	6	3-0	3S607	1	0-8	1-8					0-8					
SPAN NO. 5																	
33	72	4	5-3	3S404 S3	0-5	1-6	1-5	1-6				0-5					
34	150	5	27-9	3S502 STR													
35	216	5	34-4	3S501 STR													
36	62	5	4-2	3S506 P17		2-6	0-8	1-0									
37	*21	6	28-0	3S603 STR													
38	*1	4	4-0	3S400 STR													
SPAN NO. 6																	
Same as Span No. 4 except that Mark shall be 6S in lieu of 4S.																	
-SUBSTRUCTURE-																	
ABUTMENT NO. 3																	
47	4	4	3-0	3A405G STR													
48	12	1	6-1	A													
49	4	1	6-6	B													
50	4	1	7-1	C													
51	4	1	7-9	D													
52	4	1	8-4	E													
53	16	4	8-6	3A405F													
54	*37	5	5-2	3A502													
55	*17	6	8-6	3A603B													
56	16	1	11-0	3A603A													
57	10	1	34-9	3A601 STR													
58	12	6	11-1	3A604	16	3-9	7-4					6-3	3-9				
ABUTMENT NO. 4																	
Same as Abut. No. 3 except that Mark shall be 4A in lieu of 3A and test bars shall be omitted.																	
PIER NO. 3																	
63	30	4	7-6	3P404 STR													
64	2	1	13-5	3P407B T1	0-4 1/2	3-8	2-8	3-8	2-8			0-4 1/2					
65	2	1	15-1	3P407A T1	0-4 1/2	3-8	3-6	3-8	3-6			0-4 1/2					
66	10	4	15-5	3P407 T1	0-4 1/2	3-8	3-8	3-8	3-8			0-4 1/2					
67	4	5	21-6	3P508 STR													
68	4	6	33-6	3P609 STR													
69	5	6	33-6	3P608	14	2-9	28-0	2-9				1-0					
70	*7	7	7-0	3P711 STR													
71	32	4	7-6	3P702													
72	10	1	16-0	3P701													
73	7	1	28-6	3P705													
74	60	1	28-10	3P706													
75	6	1	33-6	3P710 STR													
76	60	7	5-4	3P703	2	0-5	4-11										
77	*13	8	21-0	3P805 STR													
78	*7	9	28-6	3P901 STR													

Minimum bends to be as follows:

"Stirrups and tie bars shall be bent around a pin having a diameter not less than two times the minimum thickness of the bar. Bends for other bars shall be made around a pin having a diameter not less than six times the minimum thickness except for bars larger than 1 inch, in which case the bends shall be made around a pin of eight bar diameters."

TYPICAL BAR BENDS



NOTES

- All dimensions are out to out of bar.
- J dimensions on 180° hooks to be shown only, where necessary to restrict hook size otherwise standard hooks are to be used.
- Where J is not shown, J will be kept equal to or less than 4". Where J can exceed 4", it should be shown.
- H dimension on stirrups to be shown where necessary to restrict hooks.
- Where bars are to be bent more accurately than standard bending tolerances bending dimensions which require closer marking should have limits indicated.
- Figures in circles show types.
- No allowance for bend curvature is to be made except for standard hook (radius) in excess of same.

Item	No. Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
163																	
164																	
165																	
166																	
167																	
168																	
169																	
170																	
171																	
172																	
173																	
174																	
175																	
176																	
177																	
178																	
179																	
180																	
181																	
182																	
183																	
184																	
185																	
186																	
187																	
188																	
189																	
190																	

* Denotes 1 Bar added for testing purposes.

Bar reinforcement metal shall conform to the requirements of the Standard Specifications for new Billet-Steel Concrete Reinforcement Bars (Intermediate Grade) Serial Designation AAS.H.O. M31-48 or its latest revision. All bars shall be deformed to conform with ASTM Specifications A305-49.

ESTIMATED QUANTITIES

Location	Pounds	FINAL
STAGE I CONSTRUCTION		
Approach Slab No. 3	3,550	
Approach Slab No. 4	3,520	
Sub-Total	7,070	
Abutment No. 3	1,630	
Abutment No. 4	1,610	
Span No. 4	12,600	
Span No. 5	13,480	
Span No. 6	12,600	
Pier No. 3	8,250	
Pier No. 4	8,250	
Sub-Total	58,250	
GRAND TOTAL	65,320	

BR.308 OF 308

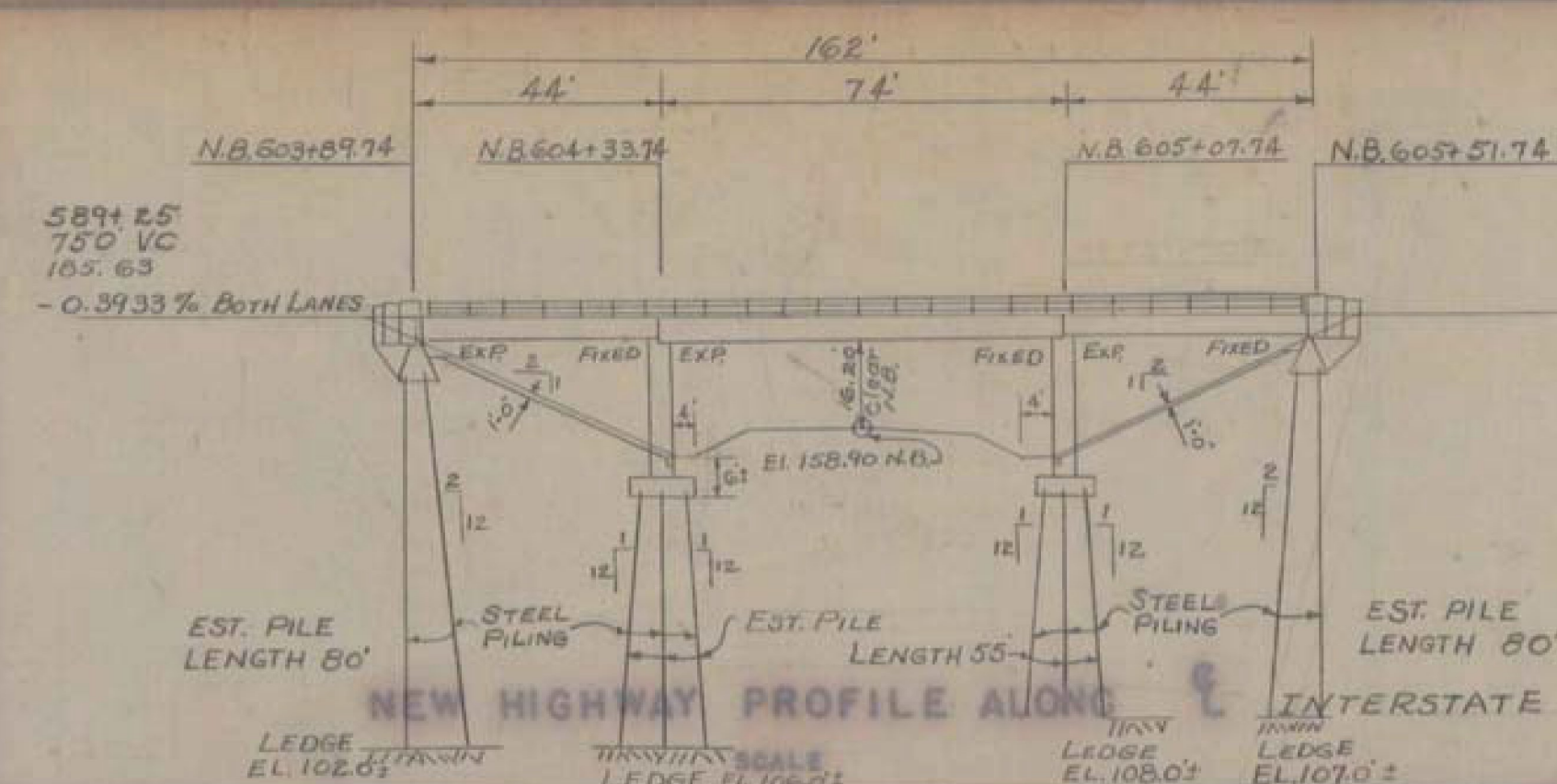
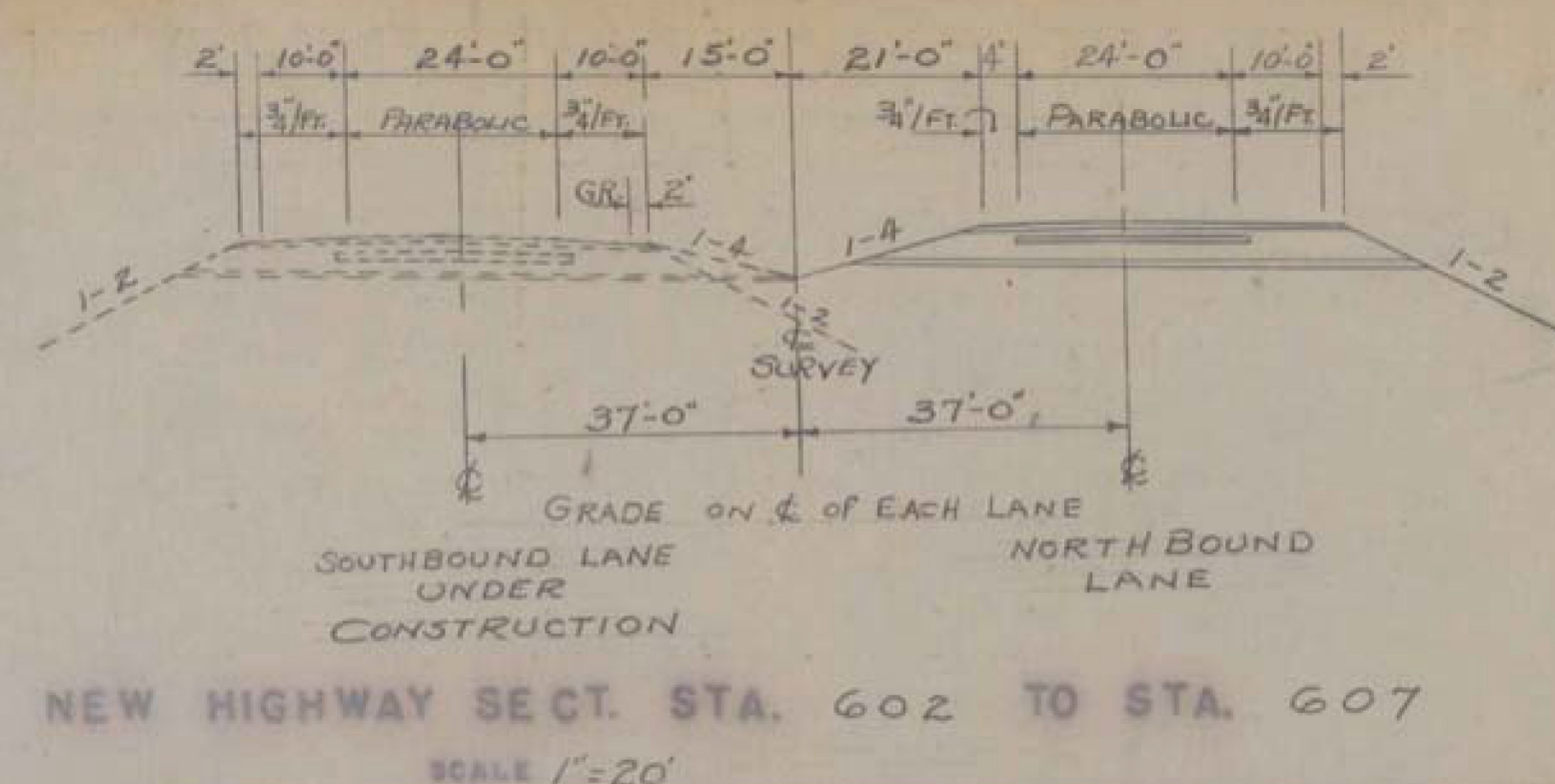
SWANTON-HIGHGATE
North Bound
I 89 OVER ST. J. & L.C. R.R.
REIN. STEEL SCHEDULE

PROJECT No. I-89-3(32)

DRAWN BY: K. CHECKED BY: RLO

SHEET 142 OF 240

SWANTON
IM 089-3(70)
SHEET 23 OF 31
FOR REFERENCE
ONLY



PVI-Both LANES
607+25
400' V.C.
178.55
-1.000%
180' Both LANES
160
140
120
100

HIGHWAY NO. INTERSTATE NAME OF HIGHWAY SWANTON-HIGHGATE
STRUCTURE NO. COUNTY FRANKLIN TOWN SWANTON
PROJECT NO. I-89-3(32) LOCATION 3/4 Mile east from intersection of Route 7

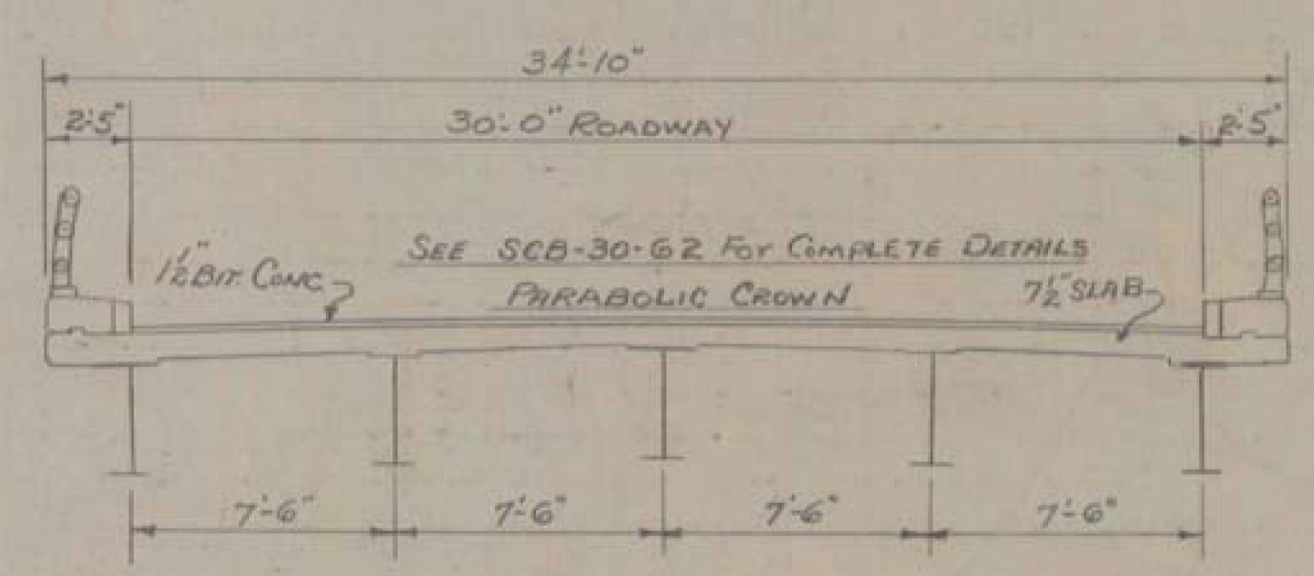
EXISTING STRUCTURE	
1 RATED LOADING OF EXISTING STRUCTURE	NA
2 TYPE OF EXISTING STRUCTURE	NA
3 UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE	NA
4 WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE	NA COST OF REMOVAL
5 SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW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

NEW STRUCTURE	
1 RECOMMENDED TYPE OF STRUCTURE	VF COMPOSITE
2 RECOMMENDED CLEAR SPAN OR SPANS	40' 70' 40'
3 MEASURED PARALLEL TO & NEW HIGHWAY	40' 70' 40'
4 MEASURED AT RIGHT ANGLES TO & STREAM	40' 70' 40'
5 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO	NA
6 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE	NA SOURCE OF INFORMATION
7 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE	NA
8 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE?	NA
9 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY?	NA IS ORDINARY RISE RAPID?
10 LOW WATER ELEVATION AT NEW STRUCTURE	NA
11 DRAINAGE AREA IN ACRES ABOVE STRUCTURE	NA CHARACTER OF TERRAINE
12 IS STREAM EVER DRY?	NA
13 VELOCITY OF STREAM AT HIGH WATER STAGE	NA ESTIMATED DISCHARGE
14 AREA FULL OPENING	NA AREA BELOW ORDINARY H.W. NA
15 CHARACTER OF SOIL	NA DRIFT ICE
16 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE	NA
17 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION	NA
18 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE	NO BOTH SIDES
19 RECOMMENDED TYPE OF PAVEMENT	BIT. CONCRETE
20 TRAFFIC TO BE MAINTAINED UNDER (ITEM NO.)	NA ONE OR TWO WAYS PROBABLE COST
21 PROBABLE COST OF CLEANING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE	NA
22 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES?	NA
23 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS	35 TONS SHOULD PILES BE USED (STEEL) AND LENGTH 55'-80'

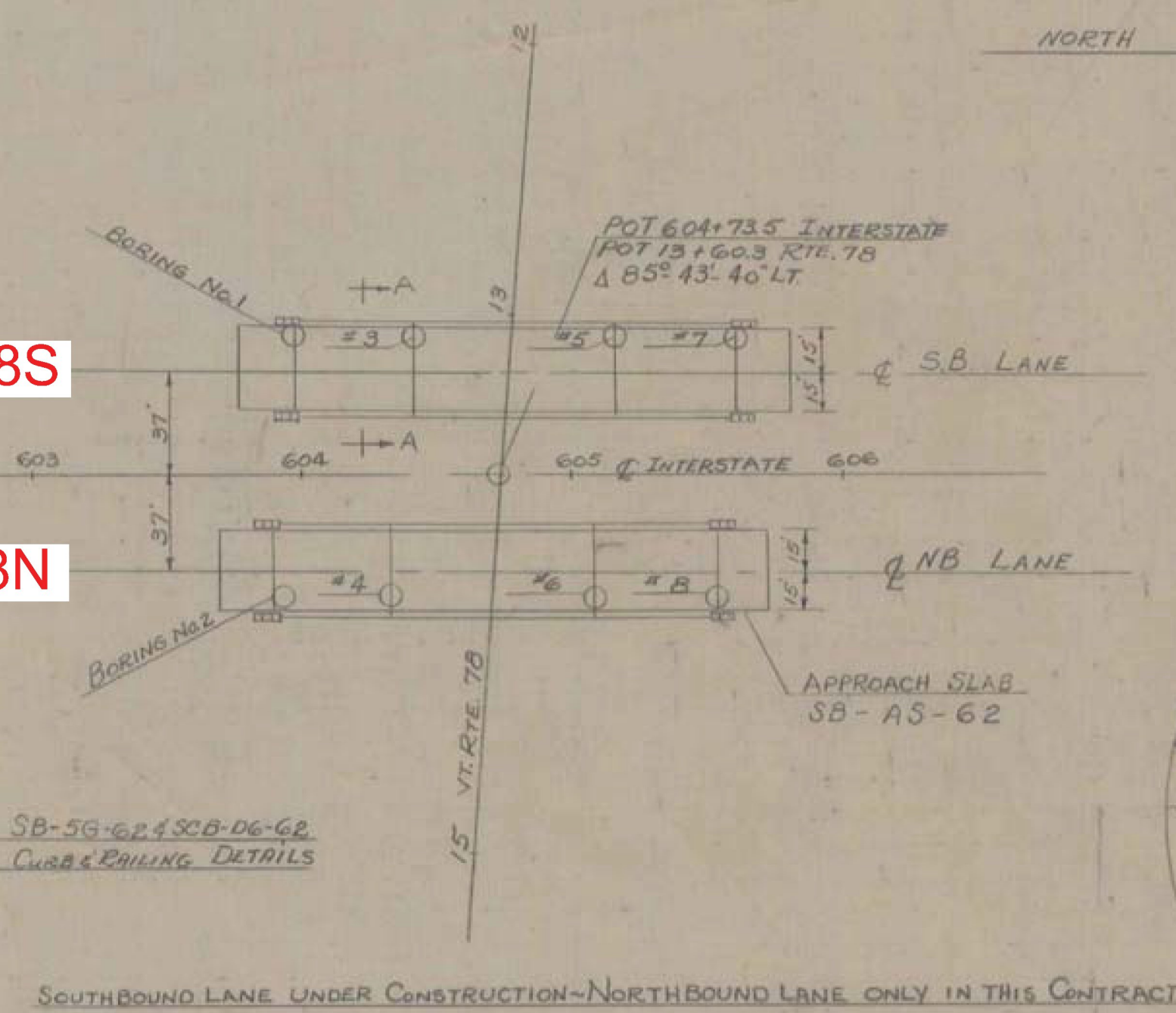
FOUNDATION INFORMATION
OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BOULDERS MAY BE ENCOUNTERED AT ANY PIER OR ABUTMENT LOCATION.
FOR BORINGS SEE BR SHEET #402

BR98S

BR98N

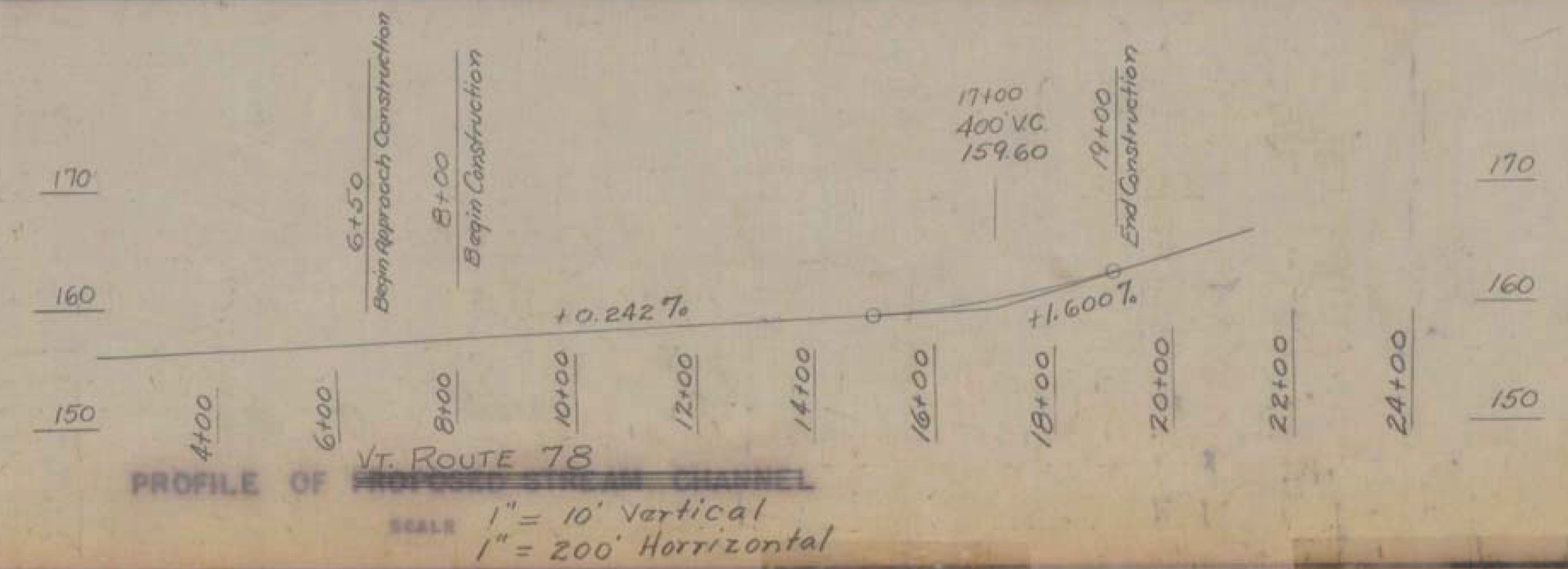


See SB-5G-62 & SB-06-62
FOR CURB & PILING DETAILS



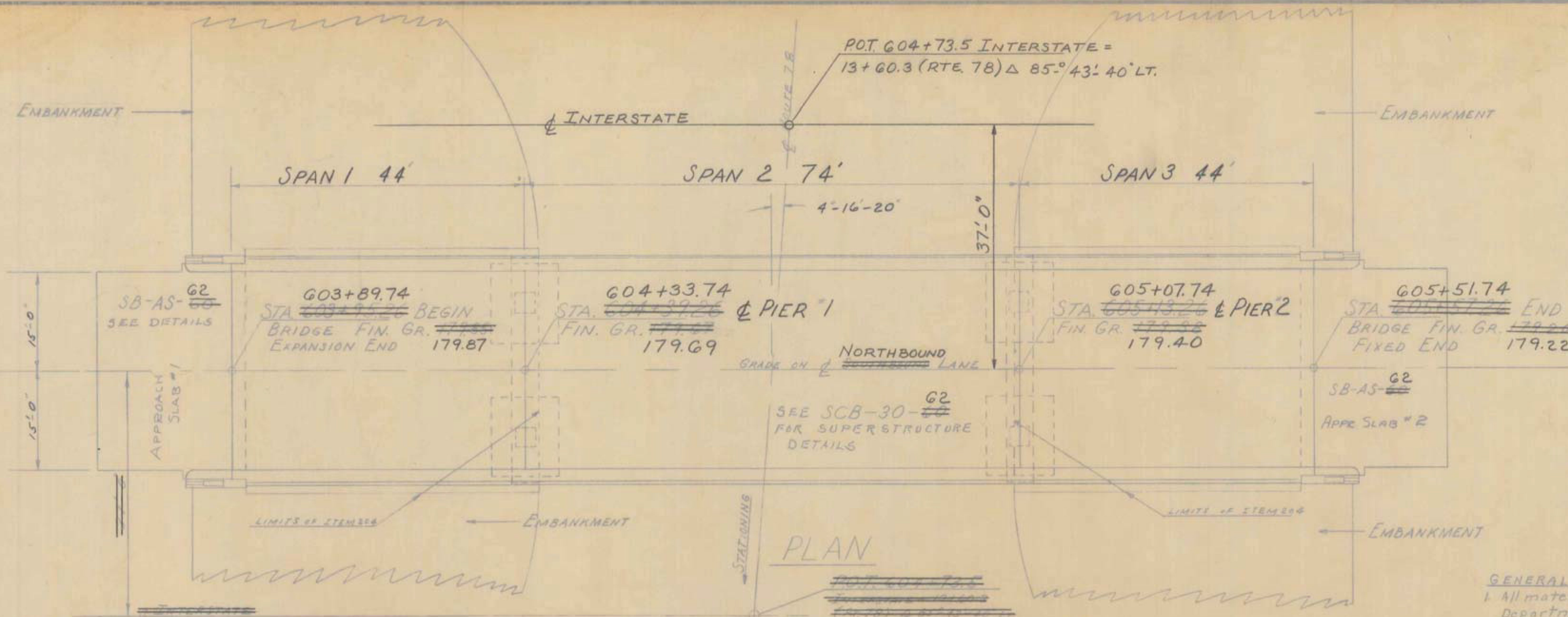
SOUTHBOUND LANE UNDER CONSTRUCTION-NORTHBOUND LANE ONLY IN THIS CONTRACT.

BR98N&S



SWANTON
IM 089-3(70)
SHEET 24 OF 31
FOR REFERENCE
ONLY

STAGE I & II CONSTRUCTION
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
INTERSTATE BRIDGE IN THE TOWNS OF
SWANTON-HIGHGATE
ROUTE NO I89-3(32) STA 604+73.5
INTERSTATE OVER VT 78
PRELIMINARY INFORMATION SHEET
SURVEYED BY W.B.M.M. CHECKED BY A.J.C. SCALE AS NOTED
DESIGNED BY J.T.C. IN CHARGE W.M.S. DATE 10-27-69
PROJECT NO I89-3 SHEET 143 OF 246
(30) BR 400 of 407
Sheet 119 of 122



ITEM	ITEM	UNIT	NET	TOTAL STAGE I	TOTAL STAGE II	FINAL
107	STRUCTURE EXCAVATION	C.Y.	130			130
204	SUB-BASE OF CRUSHED ROCK, MOD. UNDER STRUCTURE	C.Y.	109			109
222	Gravel Backfill	C.Y.	0			0
318	TAR EMULSION FOR BRIDGE FLOORS	GAL	270			270
373	RUBBER JOINT MATERIAL	L.F.	122			122
361-B	BIT. CONC. PAV'T.	TON	66			66
401-B	CONCRETE CLASS B, MOD.	C.Y.	245			245
402	REINFORCING STEEL	LB	66,499			66,499
403	SPIRAL REINFORCEMENT @2040	L.S.	1			1
404-A	STRUCTURAL STEEL	LB	156,172			156,172
407	ASPHALTIC-ASBESTOS COATING	S.Y.	36			36
501	FURNISHING EQUIPMENT FOR DRIVING PILES	L.S.	14			14
401-AA	CONCRETE CLASS AA, MOD. C.Y.		183			183
503	SPICES FOR STEEL PILING	E.A.	20			20
504	STEEL PILING (12BPS)	L.F.	3,287			3,287
556-C	GRANITE BRIDGE CURB MOD.	L.F.	335			335
572	BRIDGE RAILING (GALVANIZED METAL)	L.F.	315			315
372-A	JOINT SEALER HOT BURED	L.F.	60			60
594	UNIFORMED TRAFFIC OFFICERS	MAN HR.	0			0
102-A	GRANULAR BORROW	C.Y.	2160			2160
* Note: These items to be included in roadway quantities						
Cur-offs @ 50% Unit Price		L.F.	0			333

GENERAL NOTES

- All material and construction shall conform to the State of Vermont Department of Highway, Standard Specifications for Road and Bridge Construction dated Jan. 1956 and the AASHTO Standard Specs. dated 1957, designed for AASHTO leading modified for National System of Interstate Highways applied in accordance with the provision of the AASHTO Standard Specifications, Article 1.2.8.
- Where rock is encountered no blasting shall be poured until all blasting in an area 300 feet from the structure has been completed.
- Final coat of field paint shall be green unless otherwise directed by the Engineer.
- All dimensions given are measured horizontally or vertically unless otherwise noted.
- All dimensions given at 68°F.
- All reinforcing steel to have a clearance of 3" unless otherwise noted.
- All exposed edges of concrete shall be chamfered 1" x 1" unless otherwise noted.
- Borings indicated on the drawings have been made for design purposes only and are not warranted to show actual subsurface conditions.
- Elevation sea level based on nearest U.S. Government Vertical Control.
- 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.
- Cross slope of approach slab to conform with the cross slope of bridge.
- The top surfaces of all piers and abutments shall be sloped 4" per foot from the front edge of abutment curtain wall or center line of piers, except for bearing pads projecting 1" or more above the general area, which surfaces shall be level. The entire exposed top surface of abutment and piers shall be coated with asphaltic Asbestos coating 6" thick as per item 407 of the specs. The application of this item shall be after all painting and incidental items are completed.
- Unless otherwise called for all beams shall be cambered as specified on Standard Structures SCB-DI-G2.
- All expansion material shall be premoiled cork containing no Tar or asphalt.

ESTIMATED SUPERSTRUCTURE QUANTITIES

ITEM	ITEM	UNIT	NET	FINAL
361-B	BIT. CONC. PAVEMENT	TON	54	
401-AA	CONCRETE CLASS AA MOD.	C.Y.	183	
402	REINFORCING STEEL	LB	SEE REIN. SCHEDULE	
403	SPIRAL REINFORCEMENT @2040	L.S.	1	
318	TAR EMULSION FOR BRIDGE FLOORS	GAL	216	
404-A	STRUCTURAL STEEL	LB	156,172	
556-C	GRANITE BRIDGE CURB MOD.	L.F.	324	
572	BRIDGE RAILING (GALVANIZED METAL)	L.F.	315	
372-A	JOINT SEALER HOT BURED	L.F.	60	
373	RUBBER JOINT MATERIAL	L.F.	122	
APPROACH SLAB QUANTITIES				
361-B	BIT. CONC. PAVE.	TON	12	
401-B	CONCRETE CLASS B, MOD.	C.Y.	49	
402	REINFORCING STEEL	LB	SEE REIN. SCHEDULE	
556-C	GRANITE BRIDGE CURB MOD.	L.F.	32	
318	TAR EMULSION FOR BRIDGE FLOORS	GAL	54	
* Note: These items to be included in roadway quantities				

STAGE I & II CONSTRUCTION

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HIGHGATE

ROAD NO. I-89 BRIDGE NO.

INTERSTATE OVER ROUTE 78

PLAN & ELEVATION (N.B.)

SCALE 1" = 10'-0"

SURVEYED BY WHEELER & WHEELER JJC (N.B.)

DRAWN BY A.J.C. CHECKED BY WHEELER

PROJECT NO. I-89-3 (3a)

SHEET 122 OF 246

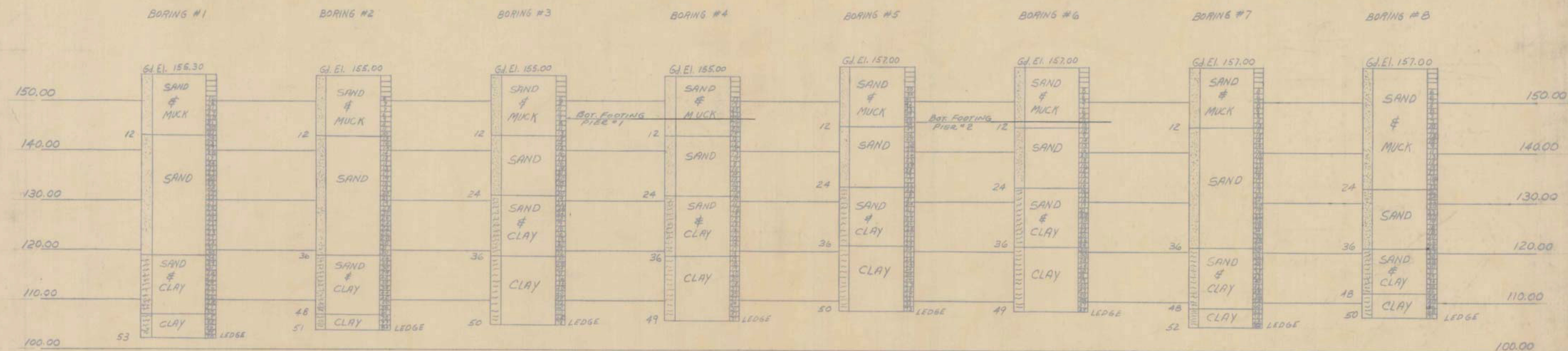
BR401 of 407 Sheet 120 of 122

SHEET NO.	TITLE
BR # 400	PRELIMINARY INFORMATION
BR # 401	PLAN & ELEVATION
BR # 402	BORINGS
BR # 403	DETAILS OF ABUTTS. (NORTH)
BR # 404	DETAILS OF PIER 1 & 2
BR # 405	REINFORCING STEEL SCHEDULE
BR # 406-407	SB-AS G2
	SCB-30-G2
	SCB-DI-G2 THRU SCB-D9-G2
	SB-56-G2 SHEET 1 & 2
	SB-56-G2
	SB-56-G2
	Std. E-2, Barricades, Signs & Lights (for Bridges)

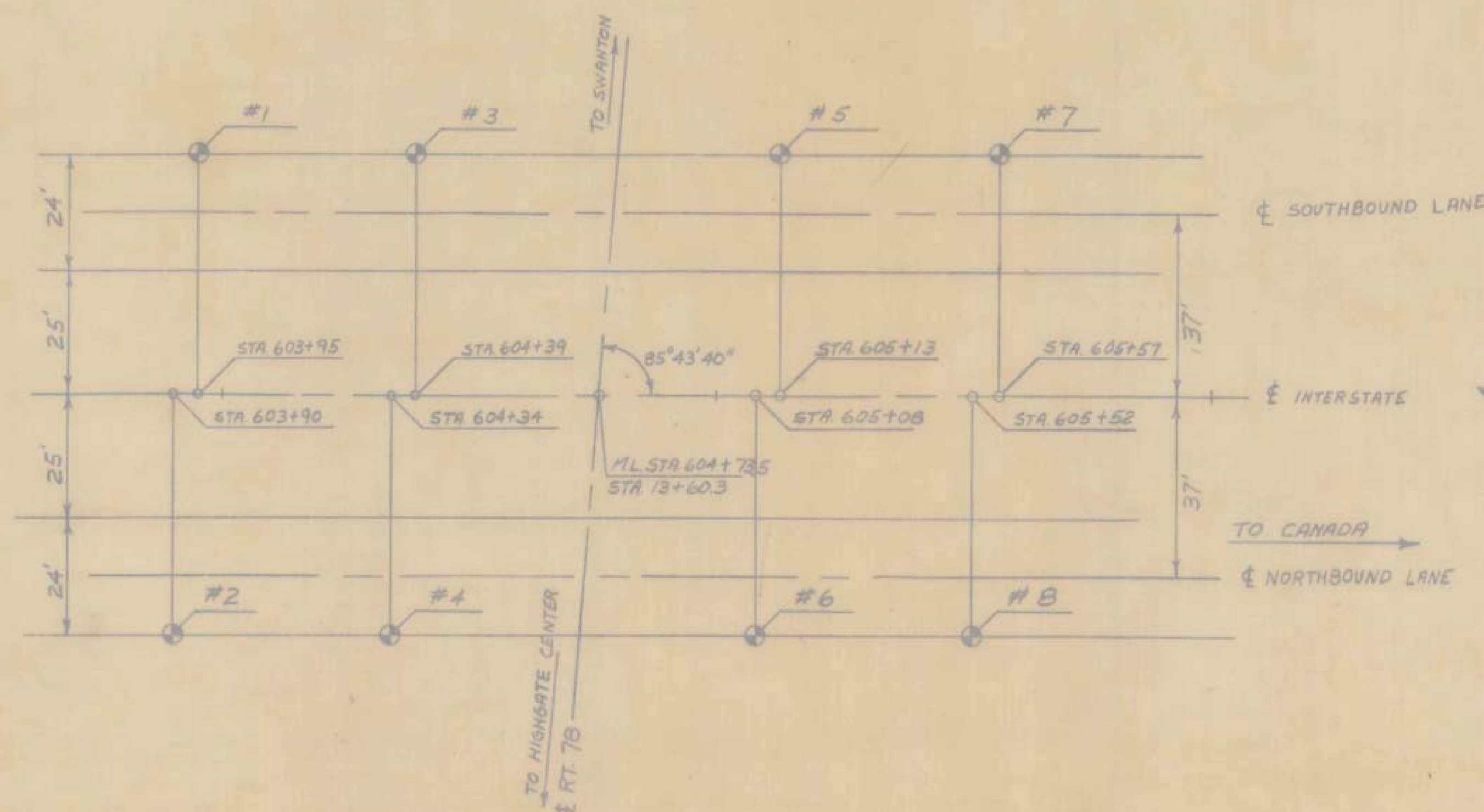
ELEVATION

BR98N&S

SWANTON
IM 089-3(70)
SHEET 25 OF 31
FOR REFERENCE
ONLY



BORING SCALE 1" = 10' VERTICAL



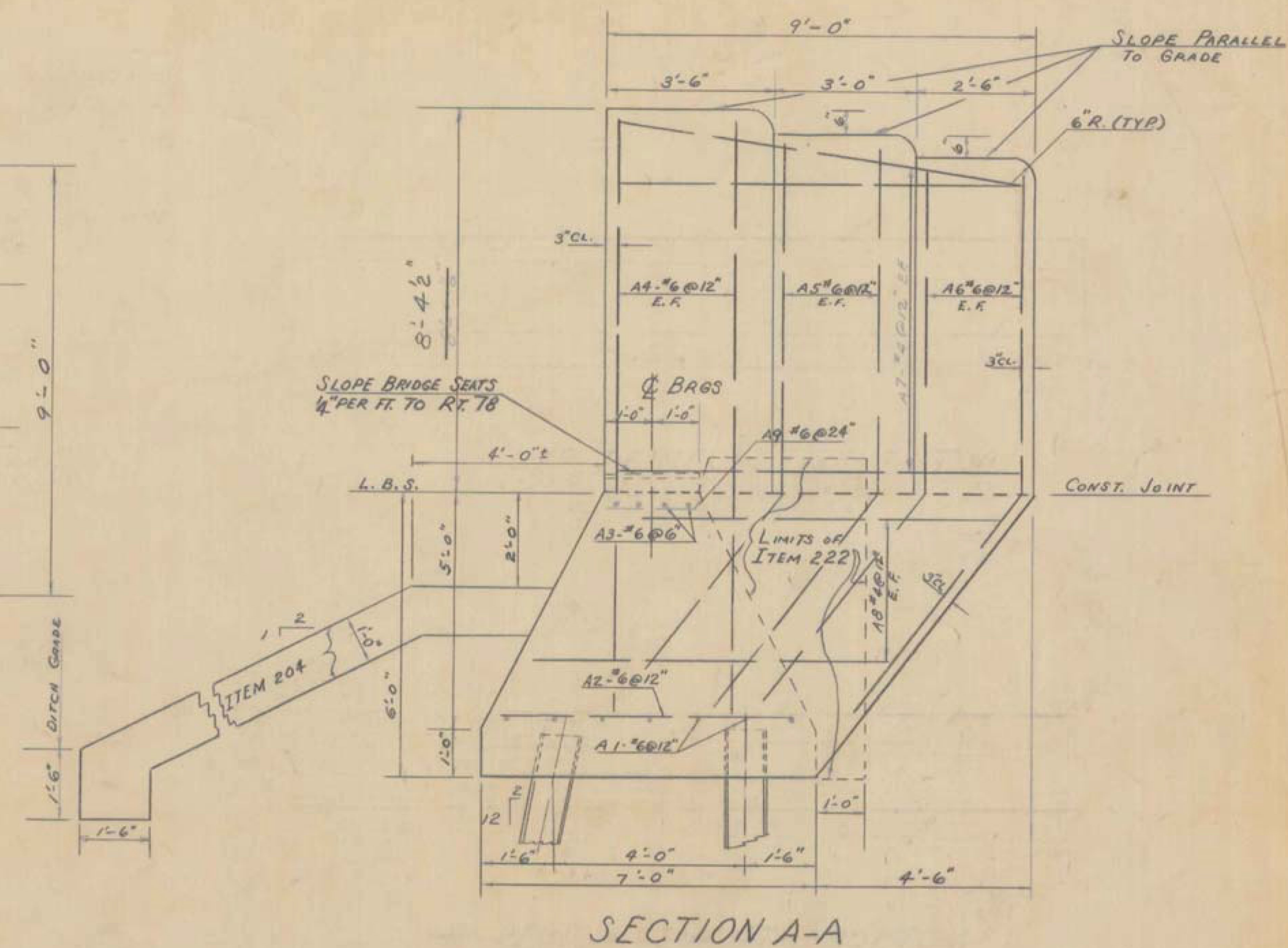
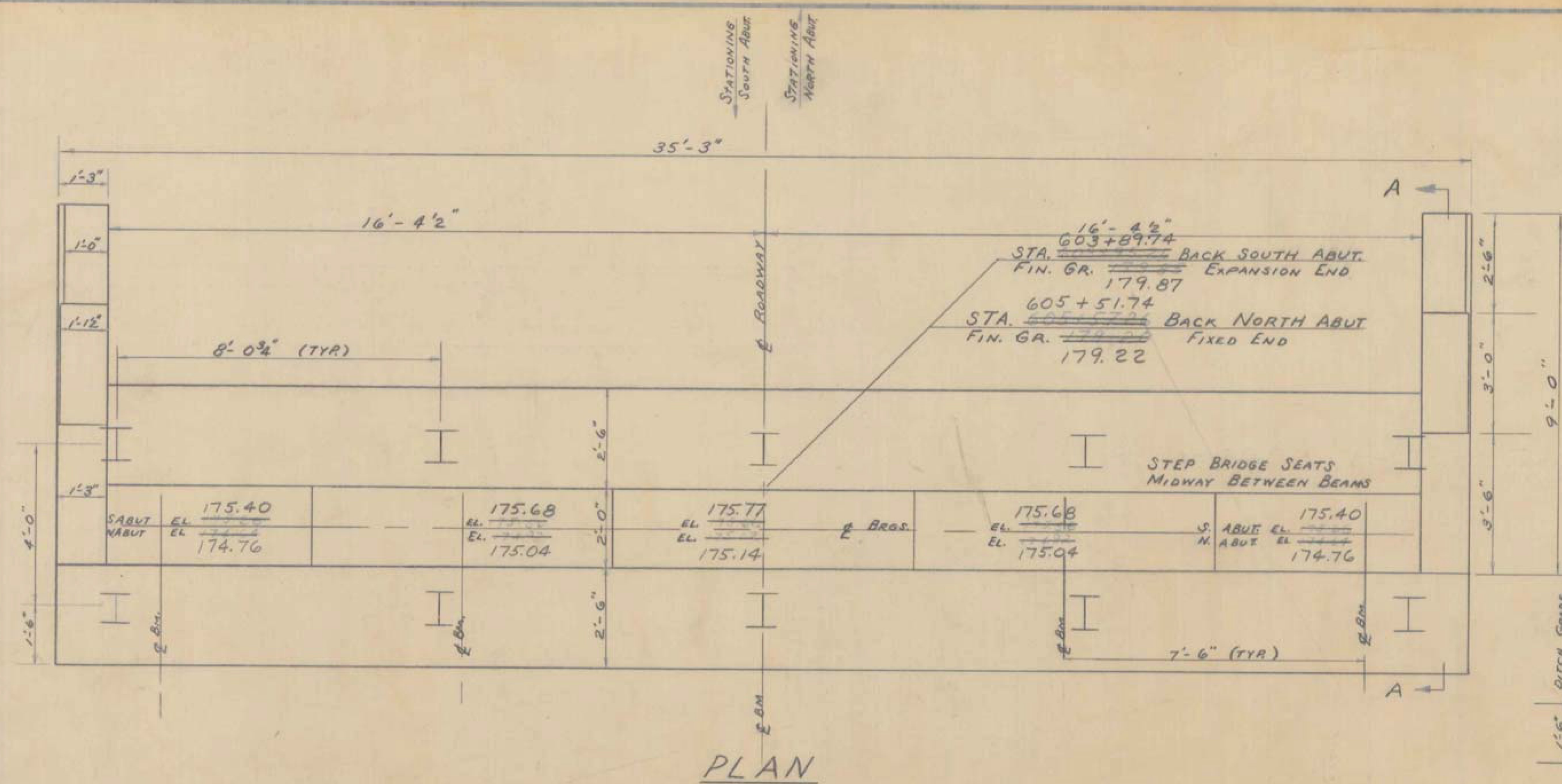
PLAN BORING LOCATIONS
SCALE 1" = 20'

SWANTON
IM 089-3(70)
SHEET 26 OF 31
FOR REFERENCE
ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HENEGATE
ROUTE No. I-89 Log Sta
BORINGS
ML STA 604+73.5 - RT. 78 Sta 13+60.3
SCALE AS NOTED
SURVEYED BY STANTON
DRAWN BY PPA
PROJECT No. I-89-3(32)
SHEET 115 246

BR 402 OF 407



	No. PILES	SIZE	EST. LENGTH OF PILES	SPICES ALLOWED FOR PILES NOT EXCEEDING PLAN LENGTH (TO BE PAID FOR ONLY IF USED)	SPICES ESTIMATED FOR PILES EXCEEDING PLAN LENGTH (TO BE PAID FOR ONLY IF USED)
ABUT #1	10	12BP53	85'	10	2
ABUT #2	10	12BP53	85'	10	2

—NOTES—

1. COAT EXPOSED BRIDGE SEATS WITH ITEM 407 ASPHALTIC-Asph. COATING, $\frac{1}{2}$ " THICK, AFTER SUPERSTRUCTURE IS IN PLACE.
2. PILES TO BE 128P53, EST. LGTH. $\approx$ 80'
3. PILES DRIVEN TO 35 TON BEARING CAPACITY.
4. BRIDGE SEAT ELEVATIONS ARE FOR $\varnothing$ BRGS.
5. BOTTOM OF ALL PILES TO BE AT LEDGE.
6. SEE GENERAL NOTES SHEET BR = 401

ITEM NO	ITEM	UNIT	NET	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.	25		0
401-B	CONC. CLASS B MOD.1	C.Y.	73		0
402	REINF. STEEL	LBS.	(SEE REINF. SCHEDULE)		
407	ASPHALTIC ASB. COATING	S.Y.	84		8
502-B	TREATED TIMBER PILING	L.F.			
503	SPICES FOR STEEL PILING	EA.	24		20
504	STEEL PILING (120P53) (In place)	L.F.	1700		1533
502-A	UNTREATED TIMBER PILING	L.F.			
204	SUBBASE OF CRUSHED ROCK, MODIFIED, (UNDER STRUCTURE)	C.Y.	731		109
222	Gravel Backfill	C.Y.	36		0
	Cut-offs @ 50% Unit Price	L.F.			167

STAGE I CONSTRUCTION

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON-HIGHGATE
ROUTE NO. I-89 LOG STA. _____
INTERSTATE OVER ROUTE 78

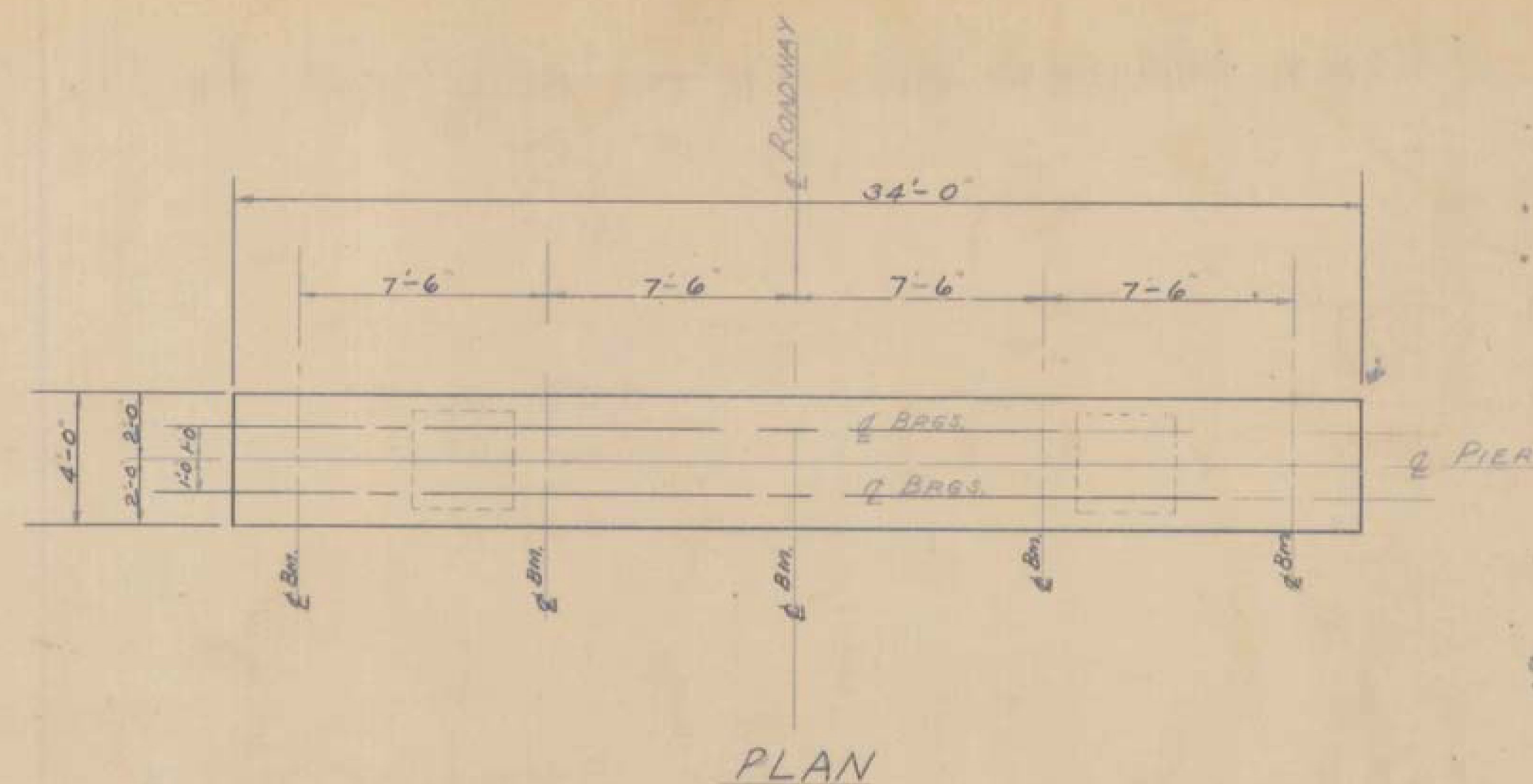
DETAILS OF ABUTS. { NORTH
SOUTH
SCALE $\frac{1}{2}" = 1'-0"$ (N.B)

SURVEYED BY WEBSTER-MARTIN
A.J.C. (NAB) JTC. (NAB)
DRAWN BY A.J.C. CHECKED BY JTC.

PROJECT NO. I-69-9(32)

SHEET 146 OF 246

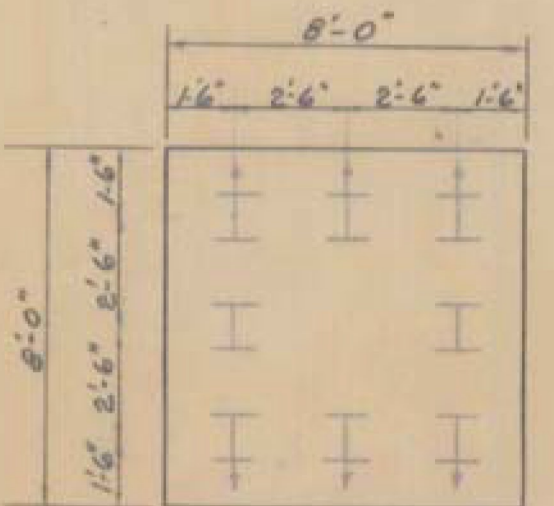
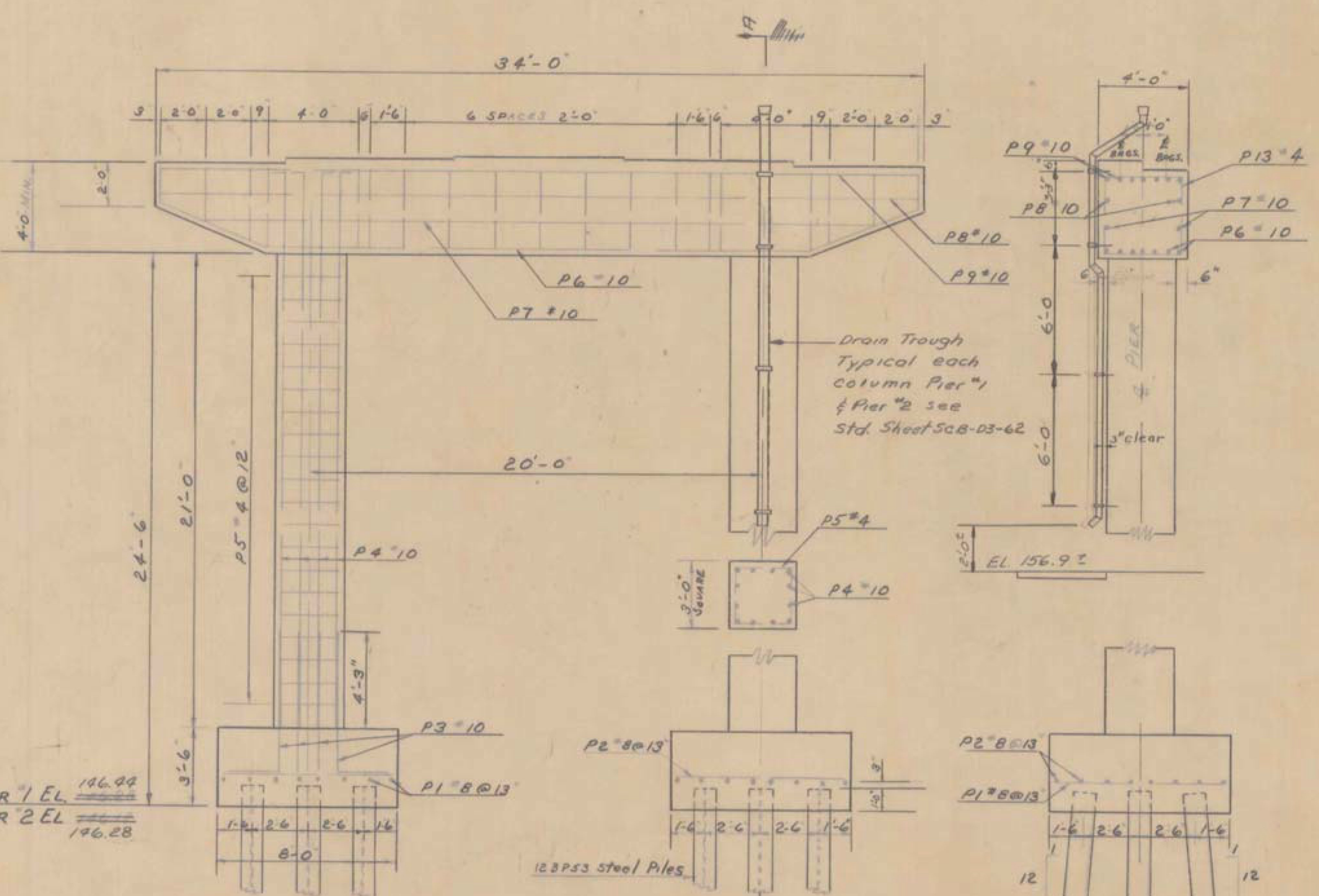
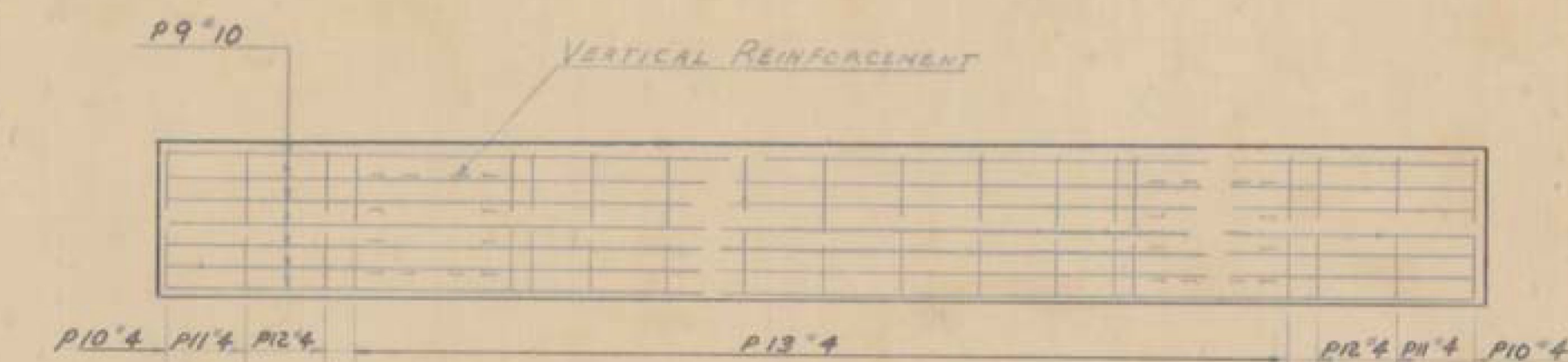
BR 100 6
403 407



175.23	174.94	q. BM	174.78	174.99
175.51	175.21	q. BM	175.06	175.21
175.61	175.31	q. BM	175.16	175.31
175.51	175.21	q. BM	175.06	175.21
175.23	174.94	q. BM	174.78	174.99

STATIONING

PIERS - BRIDGE SEAT ELEVATIONS



	No. 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)
Pier #1	16	12BP53	60	—	4
Pier #2	16	12BP53	60	—	4



- NOTES
1. BRIDGE SEAT ELEVATIONS ARE FOR 6 BRGS.
 2. SLOPE BRIDGE SEATS 4" PER FOOT FOR DRAINAGE.
 3. COAT BRIDGE SEATS WITH ASPHALTIC-ASBESTOS COATING, ITEM 407, AFTER SUPERSTRUCTURE IS IN PLACE.
 4. 12BP53 STEEL PILES TO BE DRIVEN TO 35 TON BEARING CAPACITY. ESTIMATED LENGTH = 53 FEET.
 5. BOTTOM OF ALL PILES TO BE AT LEDGE.
 6. FOR GENERAL NOTES SEE SHEET BR-401.

SWANTON
IM 089-3(70)
SHEET 28 OF 31
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.	135		130	
401-B	CONC. CLASS 8 (MOD.1)	C.Y.	44		102	
402	REINF. STEEL	LBS.	SEE REINF. SCHEDULE			
407	ASPHALTIC-ASE. COATING	S.Y.	27		28	
502-B	TREATED TIMBER PILING	L.F.				
503	SPICES FOR STEEL PILING	EA.	8		0	
504	STEEL PILING (12BP53) (In place)	L.F.	1725		1,754	
502-A	UNTREATED TIMBER PILING	L.F.				
	Cut-offs @ 50% Unit Price				166	

Stage I Construction

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HIGHGATE

ROUTE NO. I-89 LOG STA.

INTERSTATE OVER ROUTE 78

DETAILS - PIERS #1 & 2 (N.B.)

SCALE 1/2" = 1'-0"

SURVEYED BY NESTER-MARTIN
A.J.C. (N.B.) J.J.C. (N.B.)

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

PROJECT NO. I-89-3(32)

SHEET 147 OF 246

BR 409 OF 407

SWANTON
IM 089-3(70)
SHEET 29 OF 31
FOR REFERENCE
ONLY

South Abutment.

North Abutment same as South
Abutment except No Test Bars and
Prefix 2A1, 2A2 etc.

PIER No. 1

Pier No. 2 Same as Pier No. 1
except No Test Bars and Prefix 2P1, 2P2 etc.

Approach Slab No.1

Approach Slab No.2 Same as
Approach Slab No.1 Except Prefix 2AS1, 2AS2 etc
and no Test Bars.

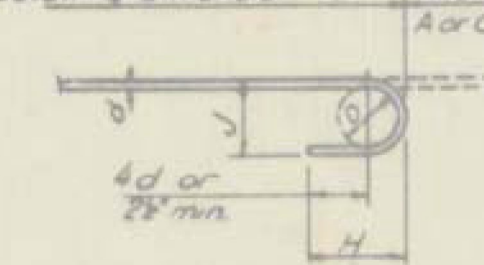
[illegible]

NOTES

1. All dimensions are out to out of bar.
2. 'J' dimensions on 180° hooks to be shown only where necessary to restrict hook size otherwise standard hooks are to be used
3. Where 'O' is not shown, 'J' will be kept equal to or less than 'H'. Where  $O + J \leq H$
4. 'H' dimension on stirrups to be shown where necessary to restrict hooks.
5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer marking should have limits indicated.
6. Figures in circles show types.
7. No allowance for bend curvature is to be made except for standard hook & radii in excess of some.

[illegible]

Detailing Dimension of Nook



STANDARD HOOK DETAIL

BAR SIZES

Equivalent Size	Present (Numbers)
$\frac{1}{2}$ "	#2
$\frac{3}{8}$ "	#3
$\frac{1}{4}$ "	#4
$\frac{3}{16}$ "	#5
$\frac{5}{16}$ "	#6
$\frac{3}{8}$ "	#7
$\frac{7}{16}$ "	#8
$\frac{1}{2}$ "	#9
$\frac{9}{16}$ "	#10
$\frac{5}{8}$ "	#11

* One bar included for testing

Minimum bends to be as follows:
Stirrups and tie bars shall be bent around a pin having a diameter not less than two times the minimum thickness of the bar. Bends for other bars shall be made around a pin having a diameter not less than six times the minimum thickness except for bars larger than 1 inch, in which case the bends shall be made around a pin of eight bar diameters.

8. Bar reinforcement metal shall conform to the requirements of the Standard Specifications for new Billet Steel Concrete Reinforcement Bars (Intermediate Grade) Serial Designation AASHTO M31-48 or its latest revision.
All bars shall be deformed to conform with ASTM Specifications A305-49.

ESTIMATED QUANTITIES

Location	Pounds
SPAN No.1	11,430
SPAN No.2	18,471
SPAN No.3	11,366
South Abutment	1,910
North Abutment	1,900
Pier No.1	7,250
Pier No.2	7,200
Approach Slab No.1	3,520
Approach Slab No.2	3,520
Total	66,566

Stage I Construction

SWANTON - HIGHGATE

Interstate over Rte 78
(N.B.)

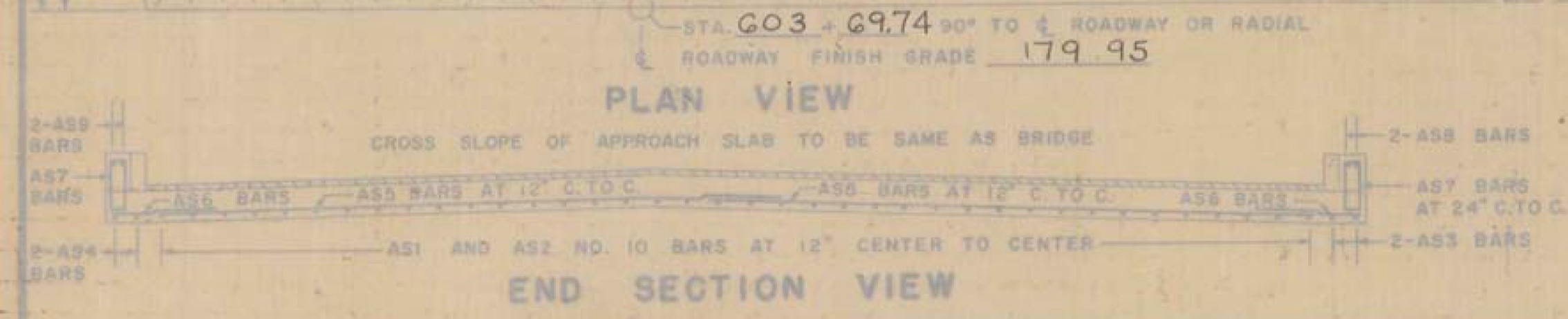
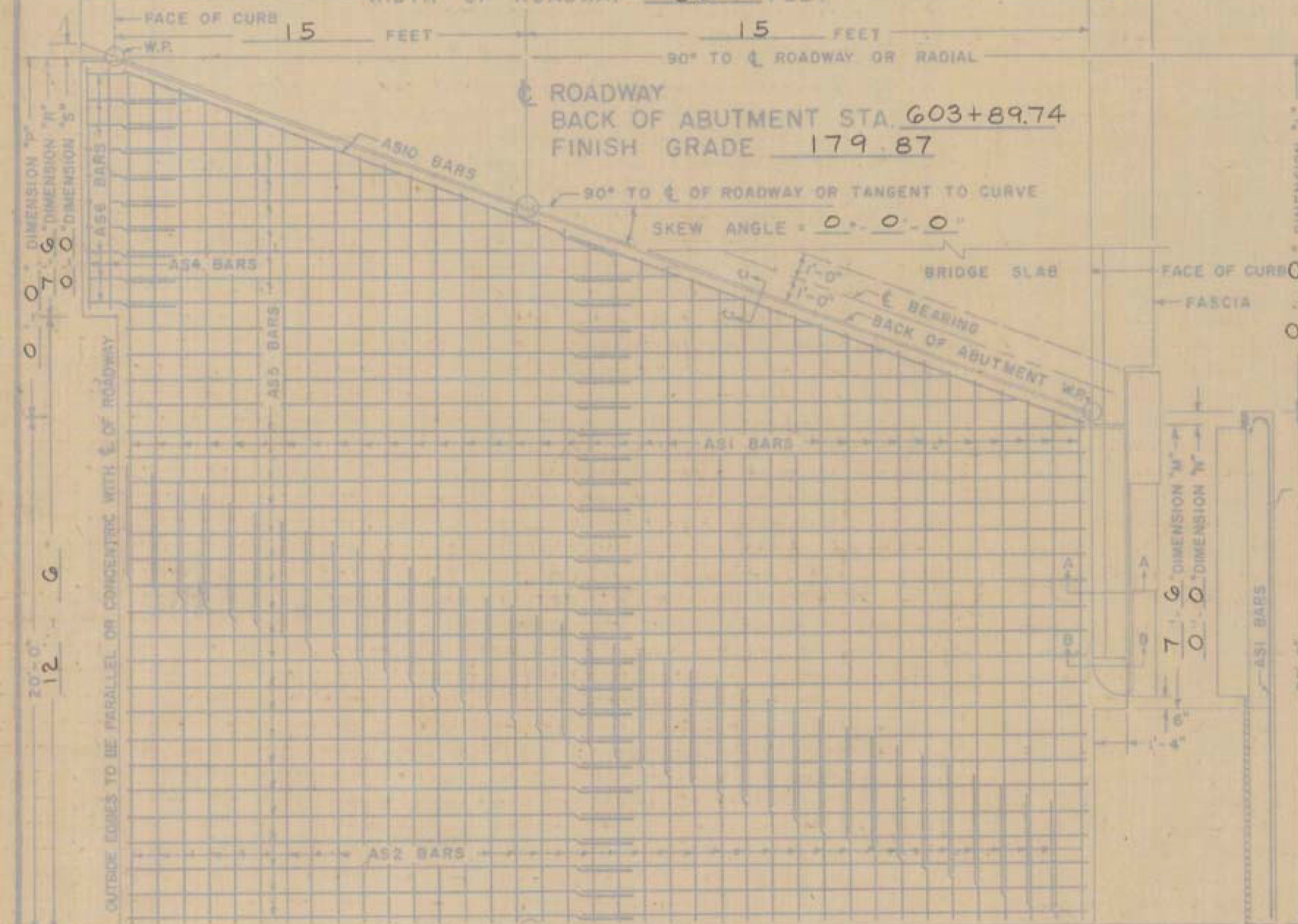
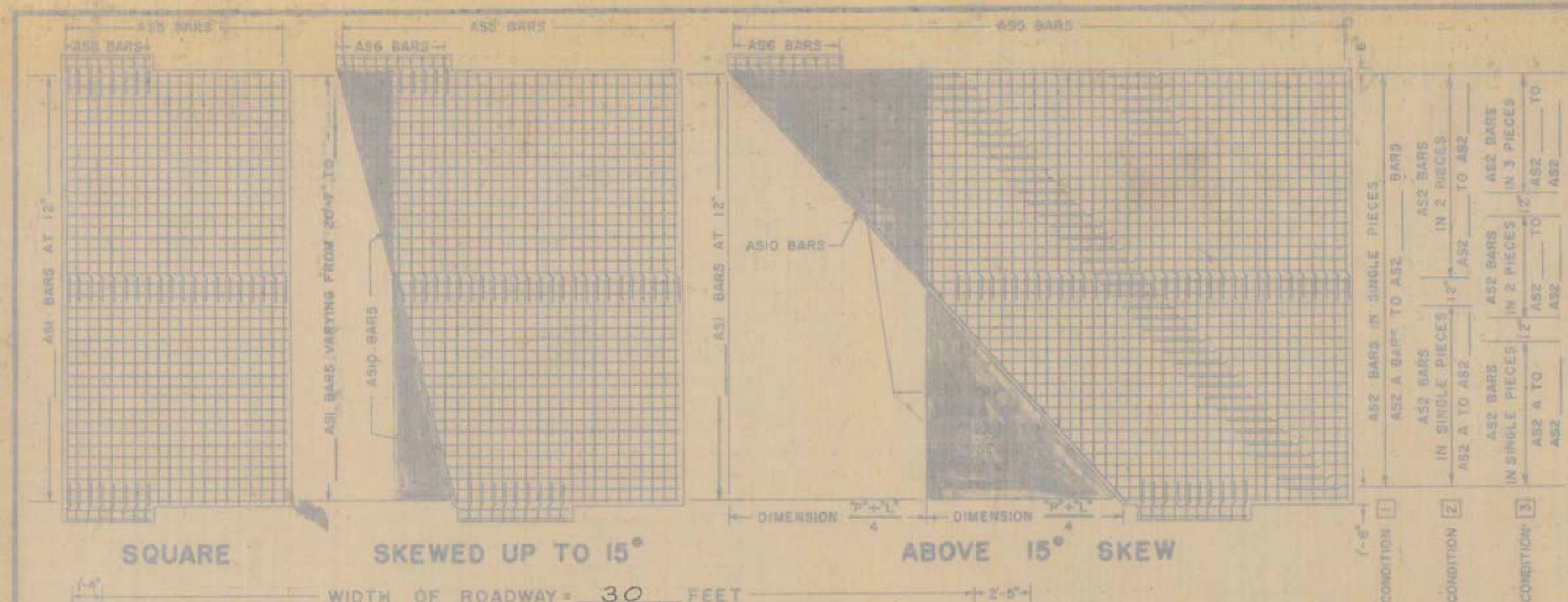
Reinforcing Schedule

T89-3(7) Contr. #1

Prepared by: JJC.

Checked by: A.J.C.

BR 405 of 407
Sheet 148 of 246



REVISIONS AND CORRECTIONS

APPROVED

DRAWN BY: R.S. HAUT NOV. 1960

TRACED BY: R.S. HAUT NOV. 1960

CHECKED BY: A.H. SMALLEY NOV. 1960

Recommended For Approval: *[Signature]* 11/1/60

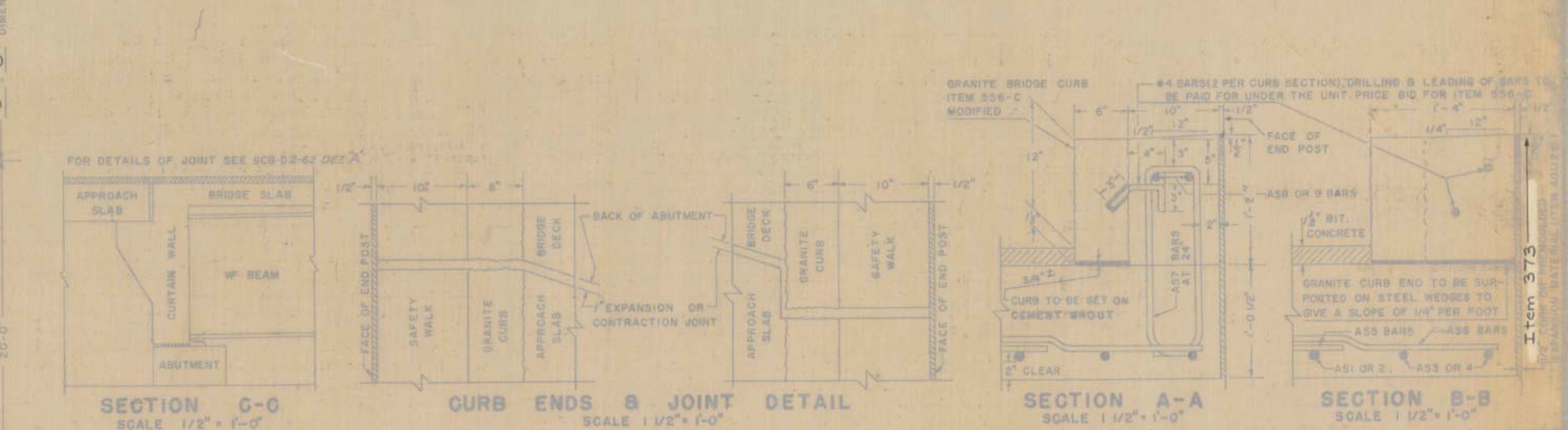
Recommended For Approval: *[Signature]* 11/1/60

Approved By: *[Signature]* 11/1/60

AS2 BARS IN SINGLE PIECES AS2 A BARS TO AS2 AS2 BARS AS2 BARS IN SINGLE PIECES AS2 A TO AS2 AS2 BARS IN SINGLE PIE

REMARKS: AS1 BAR "I" DIMENSION VARIES FROM 19'-6" TO 20'-0" (IN FEET) * NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. AS2 BAR "I" DIMENSION VARIES FROM 19'-6" TO 20'-0" (IN FEET) * NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. THE LENGTH OF AS2 BARS VARIES FROM 19'-6" TO 20'-0" (IN FEET) * NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. THE LOCATION OF SPLICES IS LEFT TO THE OPTION OF THE DESIGNER. THE NO. PIECES SHOWN ARE FOR CONDITION 1 (FOR CONDITION 2 & 3 SEE REIN. SCHEDULE).

GENERAL NOTES: ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. WHEN A BAR LENGTH VARIES IN INCREMENTS EACH BAR MUST BE DETAILED. SPLICES SHALL BE 2'-1" FOR NUMBER 5 BARS, AND 4'-3" FOR NUMBER 10 BARS. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED JANUARY 1956, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1962. DESIGNED FOR H20-S16-44.



DETAILS OF REINFORCING BARS					REINFORCING STEEL					QUANTITY COMPUTATION				
TYPE I					TYPE S6 C					W = WIDTH OF ROADWAY				
A = 1'-1"	J = 0'-9"				A = 0'-6"	B = 1'-9"	C = 0'-6"	D = 1'-9"	G = 0'-6"	W = 30	Z = 20	T = 7'-6"		
B = 19'-6" OR VARIES														
ITEM NO.					ITEM					BITUMINOUS CONCRETE * W x Z x 0.0099 = TONS				
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.			27					30 x 20 x 0.0099 = 5.52 TONS				
361-B	BITUMINOUS CONCRETE PAVEMENT (MOD.)	TONS			25					TAR EMULSION * W x Z x 0.0444 = GALLONS	30 x 20 x 0.0444 = 26.64 GALLONS			
401-B	CONCRETE CLASS B (MOD.)	CY.			25					CONCRETE CLASS B * W x Z x 0.0366 + T x 0.1029 + (T - 1.8333) x 0.0733 = CUBIC YARDS	30 x 20 x 0.0366 + 7.5 x 0.1029 + (7.5 - 1.8333) x 0.0733 = 24.35 CUBIC YARDS			
402	REINFORCING STEEL	LB.			35520					GRANITE BRIDGE CURB * (2(T+0'-3")) x LINEAR FEET	2(7.5 + 0.25) x 15.50 = 240.50 LINEAR FEET			
556-C	GRANITE BRIDGE CURB (MOD.)	LF.			16					BAR LENGTHS: AS3 BARS * DIMENSION "M" - 0'-6"				
										AS4 BARS * DIMENSION "R" - 0'-6"				
										AS6 BARS * 3'-6"				
										AS7 BARS * 5'-0"				
										AS8 BARS * DIMENSION "M" - 2'-2"				
										AS9 BARS * DIMENSION "R" - 2'-2"				
										Stage I & II Construction				
										TOTAL WEIGHT = 3514				

DETAILS OF APPROACH SLAB #1 N.B.

FOR 30 FOOT BRIDGE

TO BE USED FOR BRIDGE AT STATION 604+73.5

LOCATION I 89 over Route Vt. 78

Call 3,520

STATE OF VERMONT

DEPARTMENT OF HIGHWAYS

STANDARD STRUCTURE

SB-AS-60

TOWN OF Swanton-Highgate

ROUTE NO. I 89

LOG STA. 604+73.5

SCALE AS NOTED

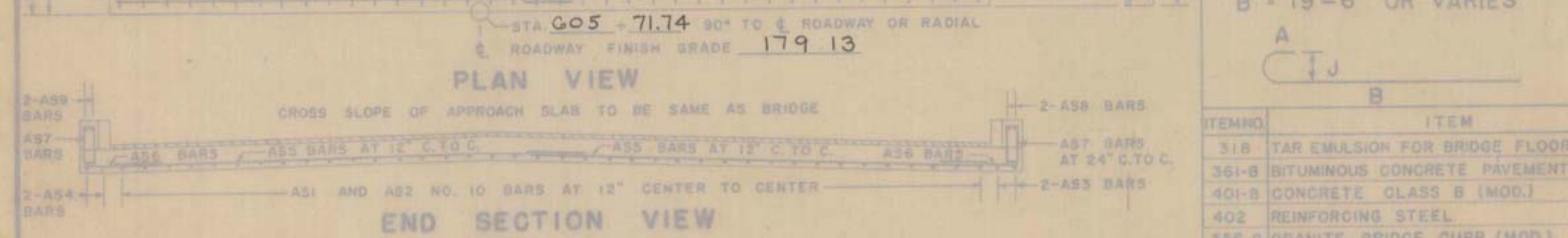
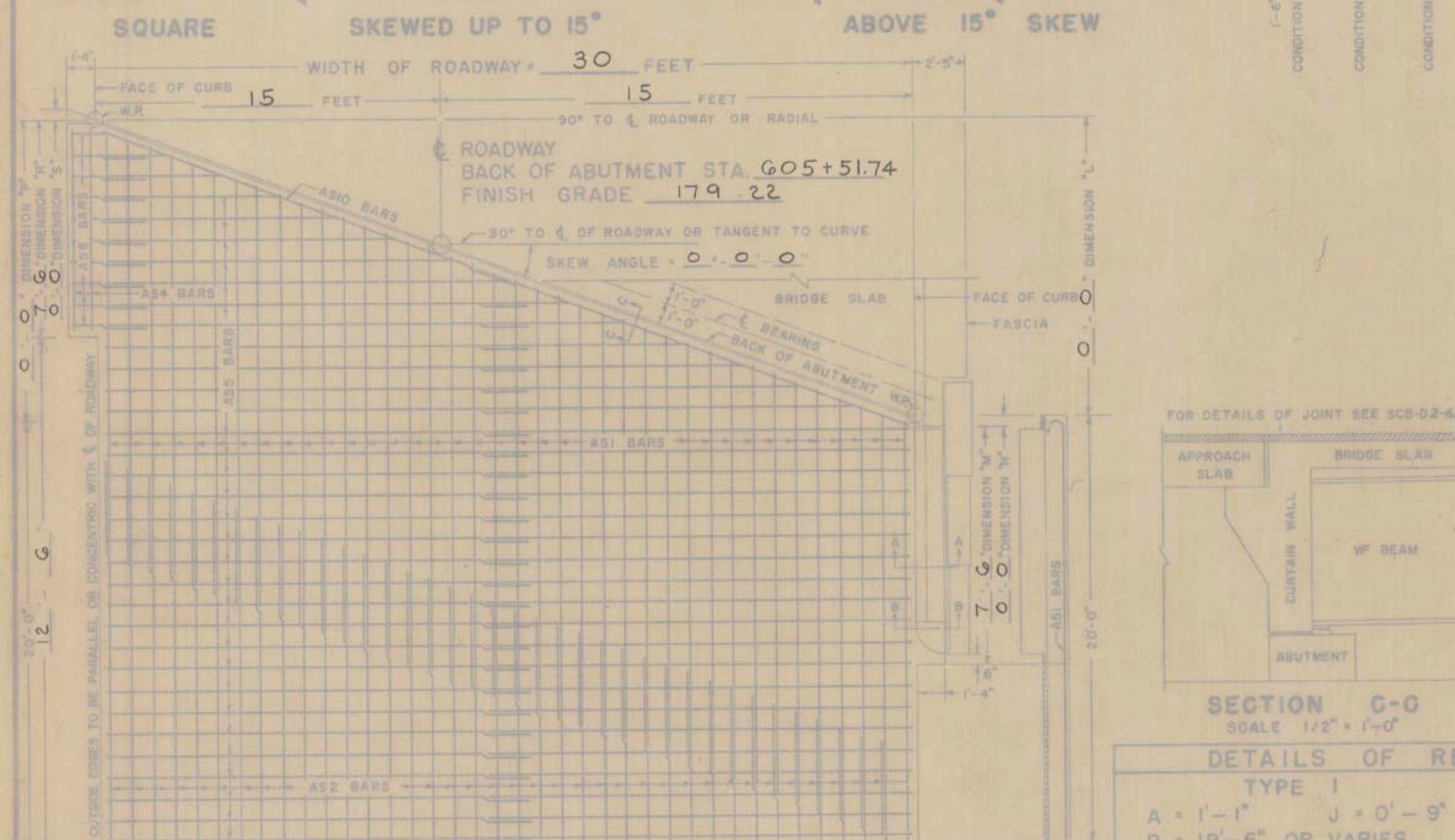
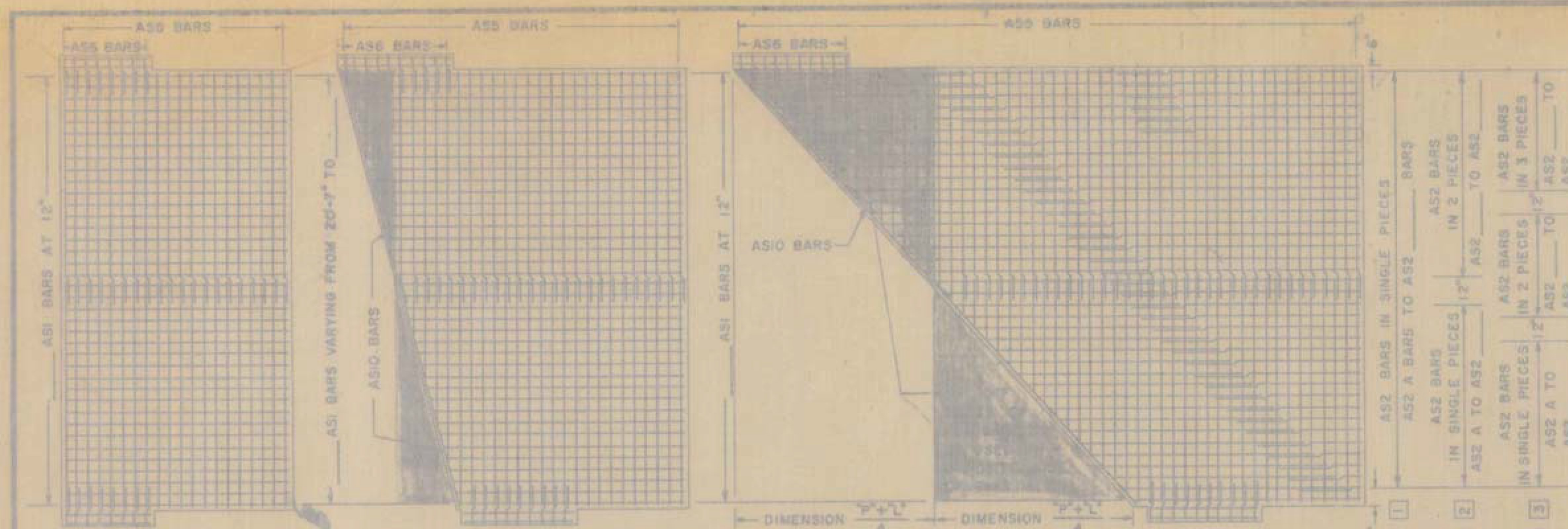
DESIGNED BY A.J.C. CHECKED BY J.J.C.

PROJECT NO. I 89-3 (Gd)

BR. 406 OF 407 SHEET 149 OF 246

Sheet 121 of 122

SWANTON
IM 089-3(70)
SHEET 30 OF 31
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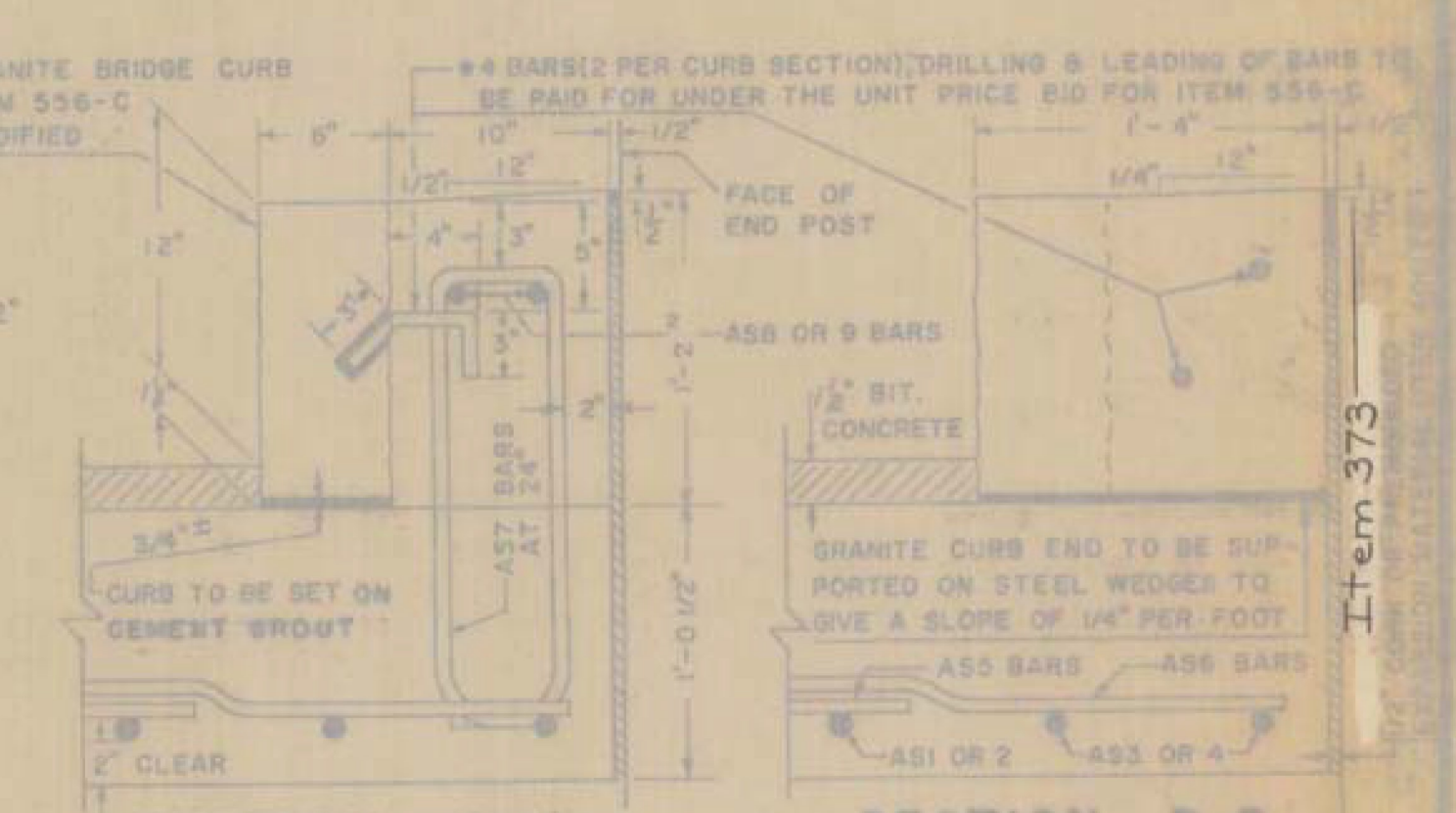
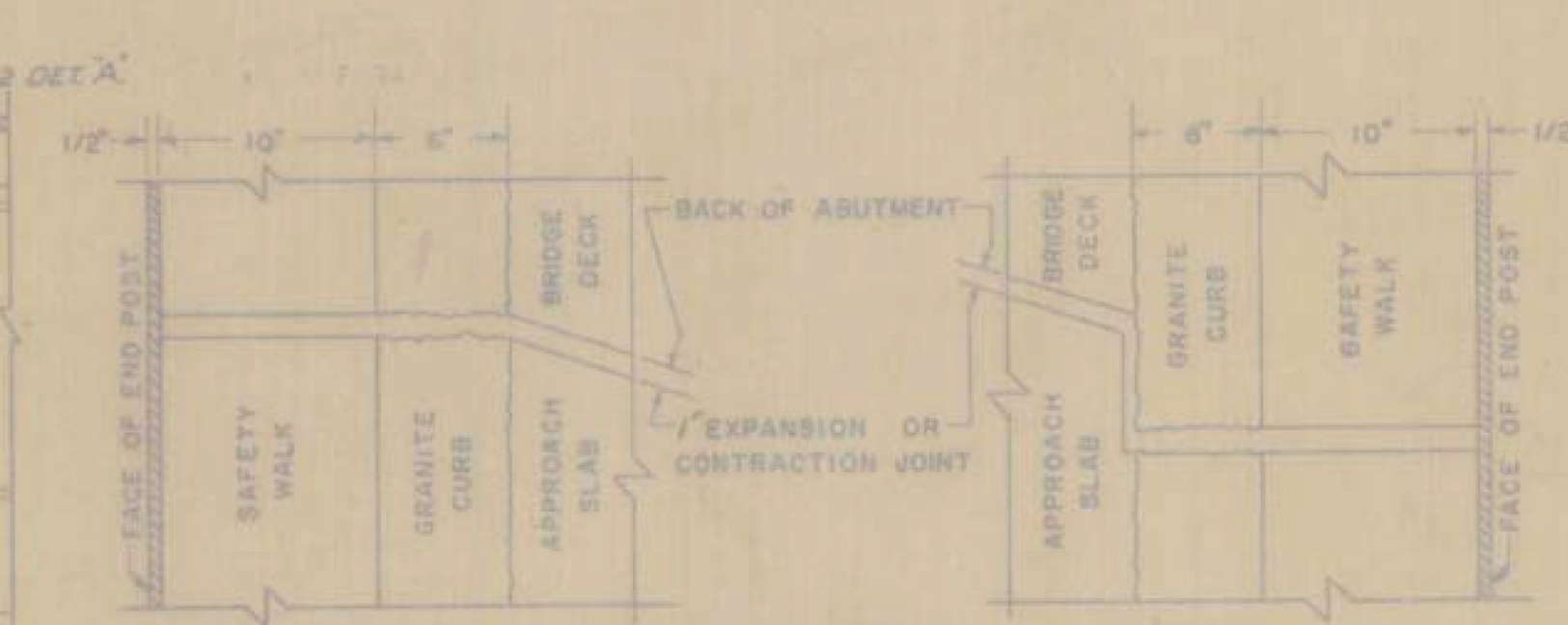
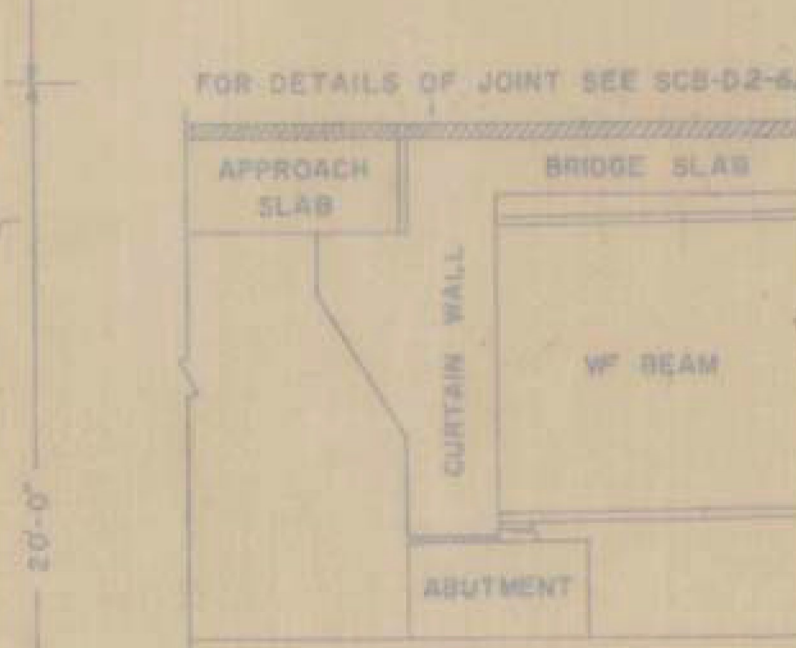


REVISIONS AND CORRECTIONS		APPROVED	
DRAWN BY: R.S. HAUT NOV. 1960		TRACED BY: R.S. HAUT NOV. 1960	
CHECKED BY: A.H. SMALLEY NOV. 1960		RECOMMENDED FOR APPROVAL: <i>[Signature]</i> 11/1/62	
RECOMMENDED FOR APPROVAL: <i>[Signature]</i> 11/1/62		RECOMMENDED FOR APPROVAL: <i>[Signature]</i> 11/1/62	
APPROVED BY: <i>[Signature]</i> 11/1/62		APPROVED BY: <i>[Signature]</i> 11/1/62	

30' ROADWAY					38' ROADWAY					42' ROADWAY					44' ROADWAY					ROADWAY									
NO.	PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO.	PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO.	PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO.	PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS		
SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED					
2	10	7'-0"	AS3	STR.			2	10			AS3	STR.		2	10			AS3	STR.		2	10			AS3	STR.			
2	10	7'-0"	AS4	STR.			2	10			AS4	STR.		2	10			AS4	STR.		2	10			AS4	STR.			
16	5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.		5	3'-6"	AS6	STR.	5	3'-6"	AS6	STR.				
8	5	5'-0"	AS7	S6			5	5'-0"	AS7	S6			5	5'-0"	AS7	S6		5	5'-0"	AS7	S6	5	5'-0"	AS7	S6				
2	5	5'-4"	AS8	STR.			2	5			AS8	STR.		2	5			AS8	STR.		2	5			AS8	STR.			
2	5	5'-4"	AS9	STR.			2	5			AS9	STR.		2	5			AS9	STR.		2	5			AS9	STR.			
SQUARE						SQUARE						SQUARE						SQUARE						SQUARE					
30	10	20'-7"	AS1	I			38	10	20'-7"	AS1	I			42	10	20'-7"	AS1	I			44	10	20'-7"	AS1	I				
20	5	29'-6"	AS5	STR.			40	5	19'-9"	AS5	STR.			40	5	21'-9"	AS5	STR.			40	5	22'-9"	AS5	STR.				
SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°					
30	10	AVE.	AS1	I	I		38	10	AVE.	AS1	I	I		42	10	AVE.	AS1	I	I		44	10	AVE.	AS1	I	I			
5	29'-6"	AS5	STR.	2			5	19'-9"	AS5	STR.	3			5	21'-9"	AS5	STR.	3			5	22'-9"	AS5	STR.	3				
ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS					
2	5	AS10	STR.				5	AS10	STR.				5	AS10	STR.			5	AS10	STR.		5	AS10	STR.					
ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW					
30	10	20'-7"	AS1	I			38	10	20'-7"	AS1	I			42	10	20'-7"	AS1	I			44	10	20'-7"	AS1	I				
29	10	AVE.	AS2	STR.	4		37	10	AVE.	AS2	STR.	4		41	10	AVE.	AS2	STR.	4		43	10	AVE.	AS2	STR.	4			
5	29'-6"	AS5	STR.	2			5	19'-9"	AS5	STR.	3			5	21'-9"	AS5	STR.	3			5	22'-9"	AS5	STR.	3				

REMARKS: 1. ASI BAR "B" DIMENSION VARIES FROM 19'-6" TO 20'-0" (IN FEET) + NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. 2. 40' + DIMENSION (P+L) + 2 (IN FEET) + NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. 3. THE LENGTH OF AS2 BARS VARIES FROM 19'-6" TO 20'-0" (IN FEET) + NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. 4. THE AS2 BARS MAY BE DIVIDED INTO TWO OR MORE PIECES, AS MAY BE NECESSARY, TO LIMIT THE MAXIMUM BAR LENGTH TO 30 FEET. THE LOCATION OF SPLICES IS LEFT TO THE OPTION OF THE DESIGNER. THE NO. PIECES SHOWN ARE FOR CONDITION 1. (FOR CONDITION 2 & 3, SEE REIN. SCHEDULE.)

GENERAL NOTES: ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. WHEN A BAR LENGTH VARIES IN INCREMENTS EACH BAR MUST BE DETAILED. SPLICES SHALL BE 2'-1" FOR NUMBER 5 BARS, AND 4'-3" FOR NUMBER 10 BARS. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED JANUARY 1956, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1962. DESIGNED FOR H20-S16-44.



SECTION C-G SCALE 1/2" = 1'-0"				CURB ENDS & JOINT DETAIL SCALE 1/2" = 1'-0"				SECTION A-A SCALE 1/2" = 1'-0"				SECTION B-B SCALE 1/2" = 1'-0"					
DETAILS OF REINFORCING BARS				REINFORCING STEEL				QUANTITY COMPUTATION									
TYPE I		TYPE S6 C		A		B		C		A X B X C		W = WIDTH OF ROADWAY		Z = 20 + DIMENSION $\frac{P+L}{4}$		T = DIMENSION $\frac{W+Z}{2}$	
A = 1'-1" B = 19'-6" OR VARIES		A = 0'-6" B = 1'-9" C = 0'-6" D = 1'-9" G = 0'-6"		BAR NO.		NO. PIECES		LENGTH		WEIGHT PER FT.		W = 30		Z = 20		T = 7'-6"	
				AS1		30		20'-7"		4.303		2657		BITUMINOUS CONCRETE = W x Z x 0.0092 = TONS		30 x 20 x 0.0092 = 5.52 TONS	
				AS2						4.303				TAR EMULSION = W x Z x 0.0444 = GALLONS		30 x 20 x 0.0444 = 26.64 GALLONS	
				AS3		2		7'-0"		4.303		60		CONCRETE CLASS B = W x Z x 0.0386 + T x 0.1029 + (T - 1.8333) x 0.0733 = CUBIC YARDS		30 x 20 x 0.0386 + [7.5 x 0.1029] + [(7.5 - 1.8333) x 0.0733] = 24.35 CUBIC YARDS	
				AS4		2		7'-0"		4.303		60					
				AS5		20		29'-6"		1.043		615		GRANITE BRIDGE CURB = 2(T + 0'-3") x LINEAR FEET		2(7.5 + 0.25) x 15.50 = 24.35 CUBIC YARDS	
				AS6		16		3'-6"		1.043		58		BAR LENGTHS: AS3 BARS x DIMENSION "W" - 0'-6"			
				AS7		8		5'-0"		1.043		42		AS4 BARS x DIMENSION "W" - 0'-6"			
				AS8		2		5'-4"		1.043		11		AS5 BARS x DIMENSION "W" - 0'-6"			
				AS9		2		5'-4"		1.043		11		AS6 BARS x DIMENSION "W" - 0'-6"			
				AS10						1.043				AS7 BARS x DIMENSION "W" - 0'-6"			
														AS8 BARS x DIMENSION "W" - 2'-2"			
														AS9 BARS x DIMENSION "W" - 2'-2"		Stage I & II Construction	
				</													

DETAILS OF APPROACH SLAB #2 N.B. FOR 30 FOOT BRIDGE TO BE USED FOR BRIDGE AT STATION 604+73.5 LOCATION I 89 over Route Vt. 78

STATE OF VERMONT DEPARTMENT OF HIGHWAYS STANDARD STRUCTURE SB-AS-62

TOWN OF Swanton-Highgate ROUTE NO. I 89 LOG STA. 604+73.5 SCALE AS NOTED DESIGNED BY A.J.C. CHECKED BY JJC. PROJECT NO. I 89-3(22) (3a) BR. 407 OF 407 SHEET 120 OF 246

SWANTON
IM 089-3(70)
SHEET 31 OF 31
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