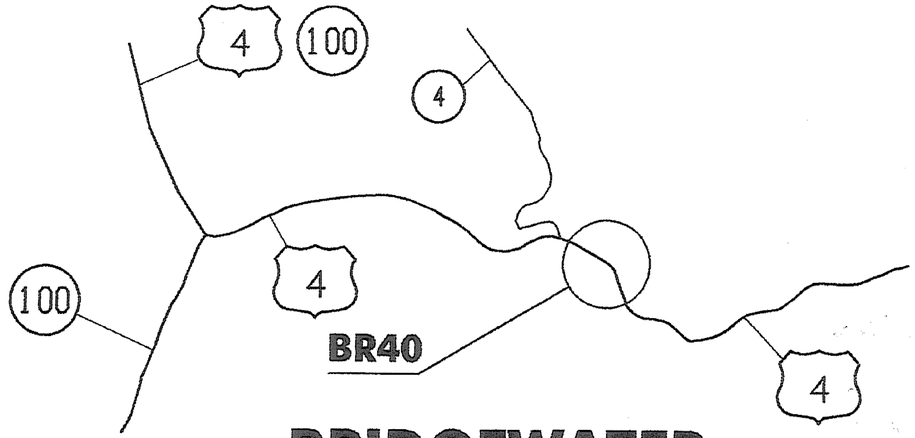
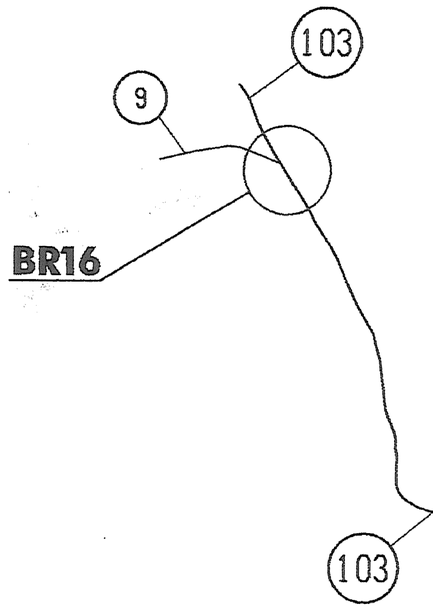
EAST OF THE JUNCTION OF VT ROUTE 100 AND U.S. ROUTE 4, IN TH
BRIDGE 16 IS LOCATED ON VT ROUTE 103 OVER THE WILLIAMS RIVER,
OF THE JUNCTION OF VT ROUTE 10 AND VT ROUTE 103, IN THE TOWN
BRIDGE 25 IS LOCATED ON VT ROUTE 113 OVER THE OMPOMPANOOSUC
SOUTH OF THE JUNCTION OF VT ROUTE 244 AND VT ROUTE 113, IN T

PROJECT DESCRIPTION: THIS PROJECT INVOLVES CLEANING AND REPAINTING THE EXISTING S
ASSOCIATED WORK.





CONVENTIONAL SYMBOLS

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

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

DATUM

VERTICAL N/A
HORIZONTAL N/A

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES			TOTALS		DESCRIPTIONS			
VT 103-BR. NO. 16	U.S. 4-BR. NO. 40	VT 113-BR. NO. 25	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
	1		1		LS	STRUCTURAL PAINTING, FIELD APPLIED (U.S. 4-BRIDGE NO. 40) (85 TONS)	513.30	
1			1		LS	STRUCTURAL PAINTING, FIELD APPLIED (VT 103-BRIDGE NO. 16) (97 TONS)	513.30	
		1	1		LS	STRUCTURAL PAINTING, FIELD APPLIED (VT 113-BRIDGE NO. 25) (85 TONS)	513.30	
	1		1		LS	CONTAINMENT & ENVIRONMENTAL PROTECTION, FIELD (U.S. 4-BRIDGE NO. 40)	513.36	
1			1		LS	CONTAINMENT & ENVIRONMENTAL PROTECTION, FIELD (VT 103-BRIDGE NO. 16)	513.36	
		1	1		LS	CONTAINMENT & ENVIRONMENTAL PROTECTION, FIELD (VT 113-BRIDGE NO. 25)	513.36	
	1		1		LS	SURFACE PREPARATION, FIELD (U.S. 4-BRIDGE NO. 40) (85 TONS)	513.41	
1			1		LS	SURFACE PREPARATION, FIELD (VT 103-BRIDGE NO. 16) (97 TONS)	513.41	
		1	1		LS	SURFACE PREPARATION, FIELD (VT 113-BRIDGE NO. 25) (85 TONS)	513.41	
400	400	240	1040		HR	FLAGGERS	630.15	
0.34	0.33	0.33	1		LS	TESTING EQUIPMENT, PROTECTIVE COATINGS	631.16	
0.37	0.37	0.26	1		LS	MOBILIZATION/DEMOBILIZATION	635.11	
	1		1		LS	TRAFFIC CONTROL (U.S. 4-BRIDGE NO. 40)	641.10	
1			1		LS	TRAFFIC CONTROL (VT 103-BRIDGE NO. 16)	641.10	
		1	1		LS	TRAFFIC CONTROL (VT 113-BRIDGE NO. 25)	641.10	
2	2	2	6		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.19	
		5	5		EACH	SPECIAL PROVISION (REMOVE AND REPLACE EXISTING BRIDGE RAILING SPINDLES)	900.820	
						TIE COAT APPLIED BETWEEN OLD PAINT AND NEW PAINT. THIS ITEM ADDED PER CHANGE ORDER.		

DETAILED SUMMARY OF QUANTITIES		
QUANTITIES	UNIT	ITEMS

Stantec

PROJECT NAME: BRIDGEWATER-CHESTER-THETFORD
PROJECT NUMBER: ST BPNT(2)

FILE NAME: ...\Qty sheet.dgn
PROJECT LEADER: C. BOGUE
DESIGNED BY: S. BURBANK
QUANTITY SHEET

PLOT DATE: 7/3/2008
DRAWN BY: J. SOTER
CHECKED BY: M. CHENETTE
SHEET 2 OF 16

PROJECT NOTES

GENERAL

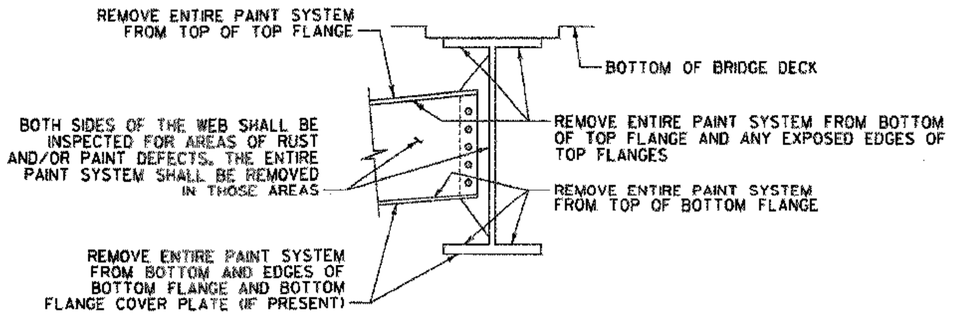
1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.
2. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY LIMITS. UNLESS SHOWN OTHERWISE ON REFERENCE PLANS, THE RIGHT-OF-WAY LIMIT SHALL BE ASSUMED TO BE 3 RODS.
3. CLEANING AND PAINTING ON BRIDGE 25 SHALL INCLUDE THE METAL BRIDGE RAILING ON BOTH SIDES OF THE BRIDGE. THE EXISTING PAINT SHALL BE REMOVED IN ITS ENTIRETY AND REPLACED WITH THE SAME PAINT SYSTEM USED ON THE SUPERSTRUCTURE STEEL.
4. PRIOR TO PAINTING THE METAL RAILING ON BRIDGE 25 THE EXISTING SPINDLES THAT ARE BENT OR CORRODED THROUGH SHALL BE REPLACED. REFER TO REFERENCE SHEET 14 OF 16 FOR EXISTING DETAILS. THE EXISTING SPINDLES SHALL BE REPLACED WITH ½" NOMINAL DIAMETER SCHEDULE 40 PIPE (ASTM A53 GRADE B). THE NEW SPINDLES SHALL BE FIELD WELDED TO THE EXISTING RAIL USING A ¼" FILLET WELD AND THEN GROUND SMOOTH. REMOVAL AND REPLACEMENT OF BRIDGE RAILING SPINDLES WILL BE PAID FOR UNDER ITEM 900.620, "SPECIAL PROVISION (REMOVE AND REPLACE EXISTING BRIDGE RAILING SPINDLES)".

PROTECTIVE COATINGS

5. THE SURFACE PREPARATION OF THE EXISTING STEEL ON BRIDGES 16, 25 AND 40 SHALL INCLUDE PARTIAL REMOVAL OF THE EXISTING PAINT SYSTEM. SEE DETAIL THIS SHEET.
6. THE COLOR OF THE FINAL COAT OF PAINT SHALL BE GREEN CONFORMING TO SUBSECTION 708.03.
7. THE ENDS OF THE BEAMS AT THE PIERS ON BRIDGE NO. 16 (CHESTER) SHALL BE GREASE COATED IN ACCORDANCE WITH SUBSECTION 513.06(d)(1) OF THE SPECIFICATIONS.
8. CLEANING AND PAINTING OF ANY DOWNSPOUTS AND/OR ANY STEEL CONNECTORS FOR DRAIN TROUGHS SHALL BE INCLUDED AS PART OF THE WORK.

TRAFFIC CONTROL

9. UNLESS COVERED UNDER INDIVIDUAL PAY ITEMS, ALL COSTS 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.



NOTE: AREAS WHERE THE PAINT SYSTEM HAS BEEN COMPLETELY REMOVED SHALL RECEIVE A PRIMER AND INTERMEDIATE COAT OF PAINT. THE FINAL COAT OF PAINT SHALL BE PLACED ON ALL OF THE STEEL SURFACES.

AREAS OF PAINT REMOVAL FOR BRIDGES 16, 25 & 40

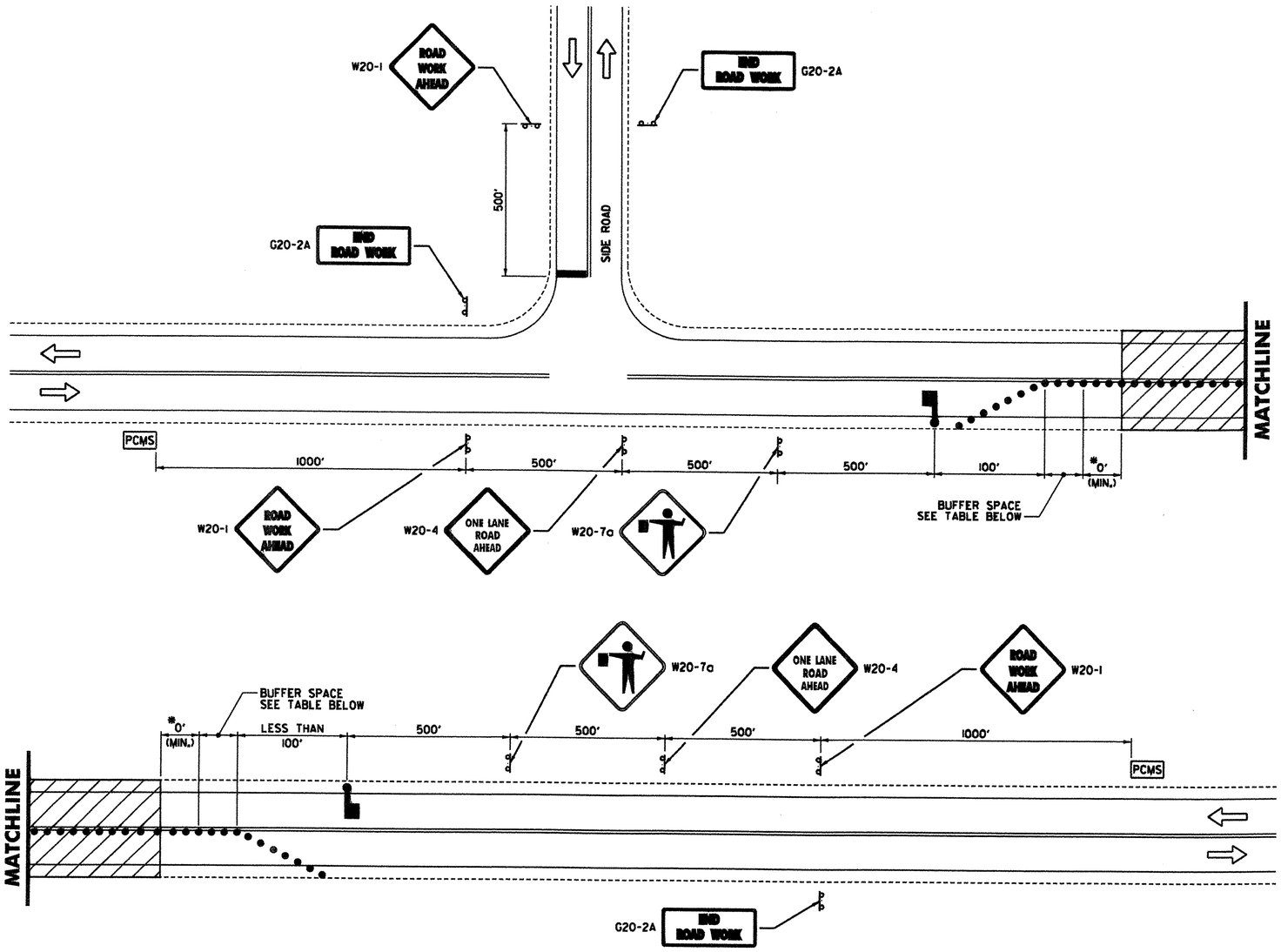
NOT TO SCALE

TIE COAT APPLIED BETWEEN OLD PAINT AND NEW PAINT. THIS ITEM ADDED PER CHANGE ORDER.

Stantec

PROJECT NAME: BRIDGEWATER-CHESTER-THETFORD
PROJECT NUMBER: ST BPNT(2)

FILE NAME: ...\Bridge_Chest_Thet\Notes.dgn PLOT DATE: 7/3/2008
PROJECT LEADER: G. BOGUE DRAWN BY: J. SOTER
DESIGNED BY: S. BURBANK CHECKED BY: M. CHENEYTTE
PROJECT NOTES AND DETAILS SHEET 4 OF 16



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

TRAFFIC CONTROL PLAN

NOT TO SCALE

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- WORK AREA
- FLAGGER
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN

BUFFER SPACE TABLE

POSTED SPEED (MPH)	MINIMUM BUFFER SPACE LENGTH (FT)
35	250
40	305
45	360
50	425

GENERAL NOTES:

1. THE TRAFFIC CONTROL PLAN SHOWN IS A SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN FOR EACH BRIDGE TO VTRANS FOR APPROVAL. PAYMENT FOR PREPARING AND SUBMITTING THE TRAFFIC CONTROL PLAN, AND MAKING ANY NECESSARY REVISIONS TO THE PLAN, WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.10. THE CONTRACTOR SHALL ALLOW TWO WEEKS FOR APPROVAL OF THE TRAFFIC CONTROL PLAN. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS AN APPROVED TRAFFIC CONTROL PLAN.
2. ANY PARKING AREAS OR DRIVES WITH AN ENTRANCE/EXIT BETWEEN THE FLAGGER AND THE WORK ZONE SHALL HAVE THAT ENTRANCE/EXIT CLOSED WITH CONES OR DRUMS, PROVIDED ADDITIONAL ENTRANCES/EXITS EXIST IN THE AREA APPROACHING THE FLAGGER.
3. ANY PUBLIC HIGHWAYS BETWEEN THE FLAGGER AND THE WORK ZONE WILL REQUIRE AN ADDITIONAL FLAGGER TO MAINTAIN TRAFFIC CONTROL FOR THE PUBLIC HIGHWAY.
4. SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS OR CORNER SIGHT DISTANCE FROM TOWN HIGHWAYS OR DRIVES.
5. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS" BOOK (SHS) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).
6. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) TYPE VII, VIII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED.
7. ROLL UP SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM TYPE VI.
8. SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
9. FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF 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.
10. 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.
11. WHERE SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL BE "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 COMPLIANT. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POST(S). WHEN ANCHORS ARE INSTALLED STUB SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.
12. THE NUMBER OF CHANNELIZING DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BY THE CONTRACTOR AND SHOWN ON THE TRAFFIC CONTROL PLAN SUBMITTED BY THE CONTRACTOR. WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
13. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS'S) SHALL BE USED AT THE DISCRETION OF THE ENGINEER. THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.55 OF THE MUTCD. THE PCMS'S SHALL READ "ONE WAY TRAFFIC AHEAD BE PREPARED TO STOP".
14. THE CONTRACTOR MAY REDUCE TRAFFIC TO ONE LANE DURING WORKING HOURS 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. NORMAL TRAFFIC LANES SHALL BE RESTORED DURING NON-WORK PERIODS AND TEMPORARY TRAFFIC SIGNS REMOVED OR COVERED. PAYMENT FOR THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.10.

Stantec

PROJECT NAME: BRIDGEWATER-CHESTER-THETFORD
PROJECT NUMBER: ST BPNT(2)

FILE NAME: ...\Bridge_Chest_Thet\TCP l.dgn PLOT DATE: 7/3/2008
PROJECT LEADER: G. BOGUE DRAWN BY: J. SOTER
DESIGNED BY: S. BURBANK CHECKED BY: M. CHENETTE
TRAFFIC CONTROL PLAN SHEET 3 OF 16

INDEX OF SHEETS

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

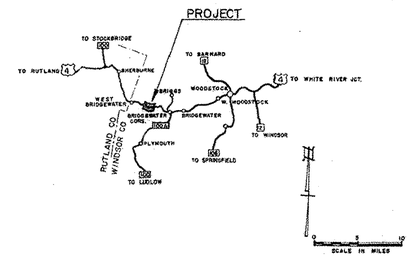
FEDERAL AID PROJECT

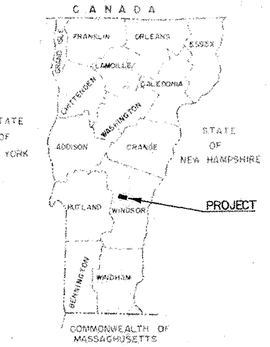
TOWN OF BRIDGEWATER
COUNTY OF WINDSOR
U.S. ROUTE 4
RUTLAND-WHITE RIVER JCT. ROAD

BEGINNING AT A POINT 11,231.1 FEET EASTERLY OF THE SHERBURNE-BRIDGEWATER TOWN LINE AND EXTENDING EASTERLY 11,121.3 FEET.

LENGTH OF ROADWAY 10,854.3 FEET = 2.056 MILES
LENGTH OF BRIDGES 267.0 FEET = 0.050 MILE
LENGTH OF PROJECT 11,121.3 FEET = 2.106 MILES

ADT 1960	1300
ADT 1980	2550
DHV 1980	360
D	58%
T	10%
V	50 MPH.





FED. ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	VT	F 020-2(5)	1962	1	141

PROJECT NAME & NUMBER	TYPE	PAVEMENT AREA
BRIDGEWATER F 020-2(5)	BIT. CONC. PAVM'T.	32,536 S.Y.

RECORD PLANS

MATERIALS

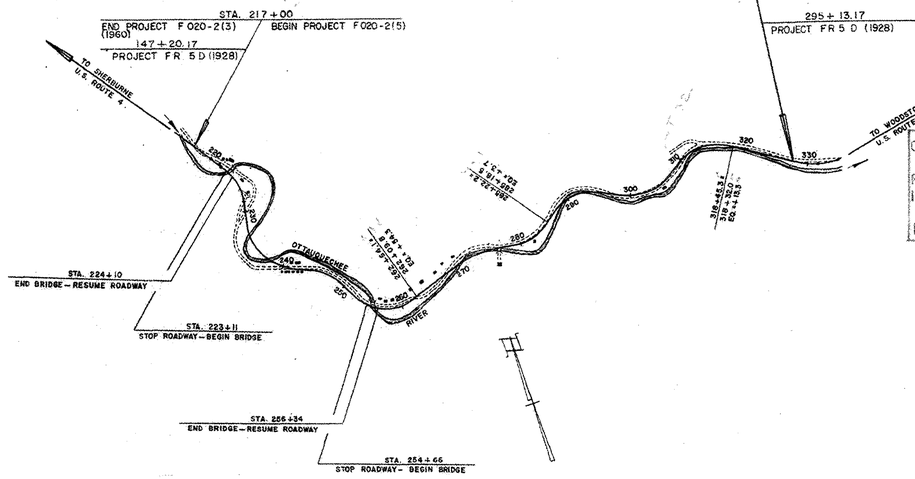
GRANULAR BORROW - ERNEST ADAMS — BRIDGEWATER, VERMONT.
SUB-BASE OF GRAVEL & SUB-BASE OF SAND-EDGAR PIT—SHERBURNE, VT.
SUB-BASE OF CRUSHED ROCK & PENETRATION MACADAM CRUSHED STONE BASE COURSE - FARMERS LIME CO.-BRIDGEWATER, VERMONT.
REFINED TAR & CUTBACK ASPHALT - ALLSTATES ASPHALT CO.-SUNDERLAND, MASS.
TAR EMULSION — KOPPERS CO. — EVERETT, MASS.
ASPHALT CEMENT — ALL STATES ASPHALT CO. - SUNDERLAND, MASS.
BITUMINOUS CONCRETE - L.M. PIKE & SON INC. - (W. LEBANON PLANT) LACONIA, N.H.
REINFORCING & STRUCTURAL STEEL & STEEL PILING - BETHLEHEM STEEL CO. - BETHLEHEM, PA.
REINFORCED CONCRETE PIPE - AMERICAN MARIETTA CO. - WINDSOR, VT.
ASPH. CTD. CORR. GALV. METAL PIPE - NEW ENGLAND METAL CULVERT CO. — WHITE RIVER JUNCTION, VERMONT.
THREE CABLE GUARD RAIL, STEEL GUIDE & MARKER POSTS - — S.T. GRISWOLD & CO. INC. - ESSEX JUNCTION, VT.
BRIDGE RAILING - WARD-WELLER CO. INC. - NEWTON LOWER FALLS, MASS.
GRANITE BRIDGE CURB - BARRETTO GRANITE - MILFORD, N.H.

CONTRACTOR - S.V. ROSSI CONST. CO. INC.
TORRINGTON, CONN.
RESIDENT ENGINEER - PAUL J. JETTE.
INSPECTORS - A. DAVIS, C. HARPAN, E. NEWTON & T. BIRT.
RECORD PLANS - PAUL J. JETTE.

CONTRACT:
DATED - APRIL 18, 1961.
STARTED - MAY 3, 1961.
COMPLETED - OCTOBER 31, 1962.
ACCEPTED - OCTOBER 31, 1962

BRIDGE 40
FOR REFERENCE ONLY

SHEET 5 OF 16



SCALES

TITLE		1" = 1000'
TYPICAL		1" = 2'
PLAN		1" = 50'-20'
PROFILE	HORIZONTAL	1" = 50'
	VERTICAL	1" = 10'
CROSS-SECTIONS		1" = 5' & 10'

GROUND ELEVATION	GRADE
GRADE ELEVATION	GRADE

CURVE DATA

DEFLECTION OF ANGLE	Δ
DEGREE OF CURVE	D
RADIUS OF CURVE	R
TANGENT DISTANCE	T
LENGTH OF CURVE	L
EXTERNAL DISTANCE	E
POINT OF INTERSECTION	PI
POINT OF CURVE	PC
POINT OF TANGENT	PT
POINT ON TANGENT	POT
POINT ON SUB-TANGENT	POST

PROJECT BRIDGEWATER F 020-2(5)
CONTRACTOR - S.V. ROSSI CONSTRUCTION CO. INC.
TORRINGTON, CONN.
RECORD PLANS - PAUL J. JETTE.
CONSTRUCTION COMPLETED - OCTOBER 31, 1962.

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

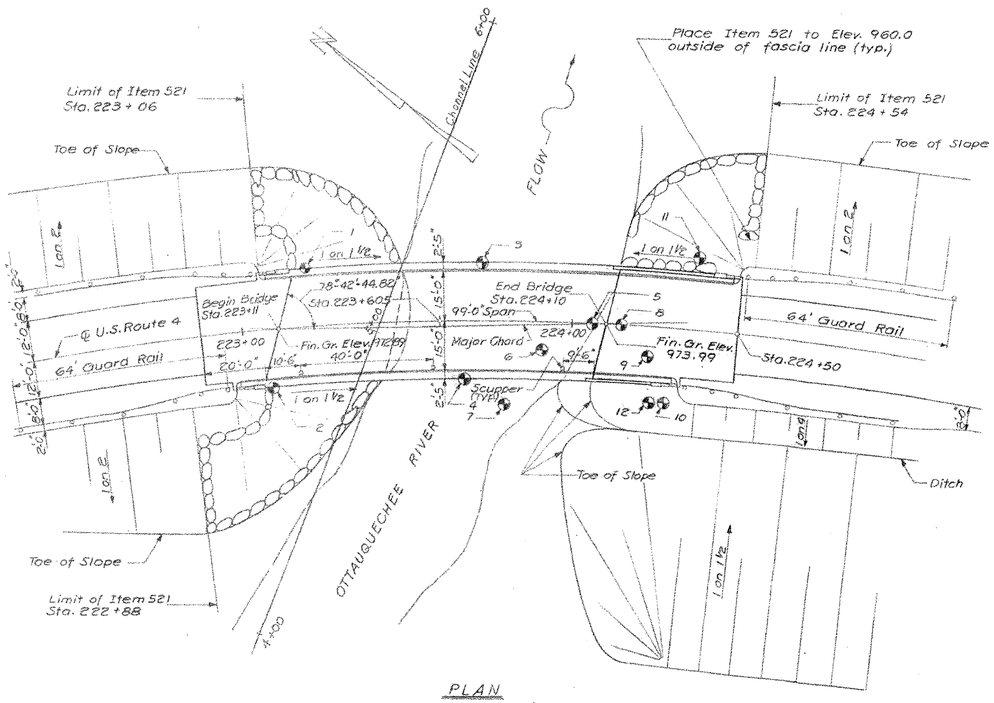
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION OF JANUARY 1956 SUBMITTED TO THE BUREAU OF PUBLIC ROADS AS APPROVED JULY 5, 1956, INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE SUBMITTED WITH THE PLANS.

O.K. A.D.T. Bishop 2/2/61

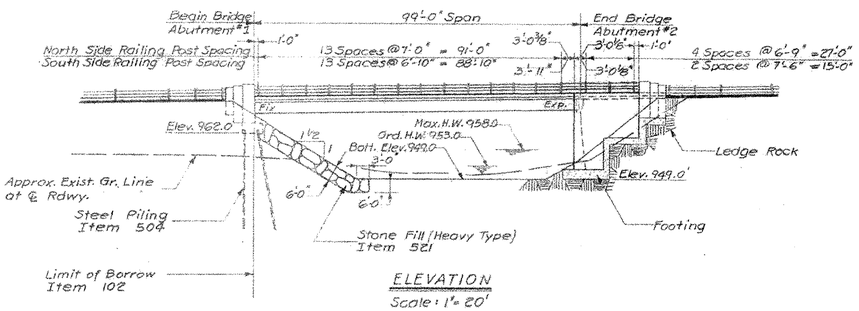
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

APPROVED SECONDARY ENGINEER DATE	APPROVED E.J. Stickney CONSTRUCTION ENGINEER DATE 28 Sept 1959	APPROVED G.O. Burbige BRIDGE ENGINEER DATE 28 Sept 1959	APPROVED G.R. Perkins DISTRICT ENGINEER DATE 25 Sept. 1959	APPROVED G.M. Lane HIGHWAY ENGINEER DATE 29 Sept. 1959	APPROVED H.E. Sargent CHIEF ENGINEER DATE 29 Sept 1959 SUBMITTED BY ORDER OF THE STATE HIGHWAY BOARD

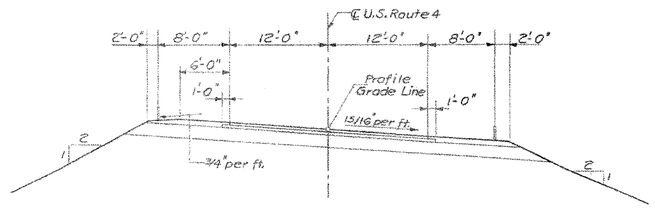
PROJECT F NO. 020-2 (5)
SHEET 1 OF 141 SHEETS



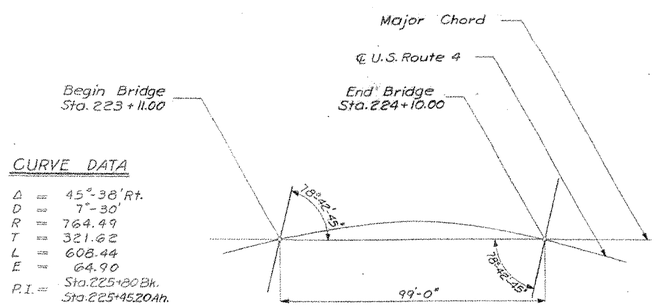
PLAN
Scale : 1" = 20'



ELEVATION
Scale : 1" = 20'



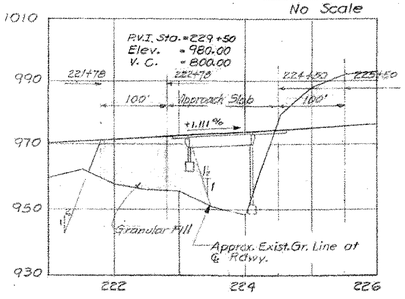
TYPICAL APPROACH SECTION
Scale: 1/8" = 1'-0"



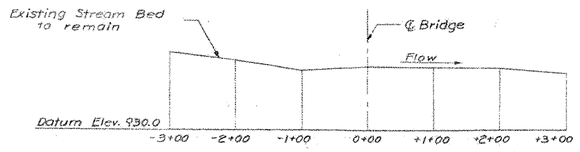
CURVE DATA

Δ	=	45°-38'Rt.
D	=	7°-30'
R	=	764.49
T	=	321.62
L	=	608.44
E	=	64.90
P.I.	=	Sta. 225+80 Bk. Sta. 225+45.20 Ah.

CURVE LAYOUT
No Scale



U.S. ROUTE 4 PROFILE
Scales: Vert.: 1" = 20'
Horiz.: 1" = 100'



PROFILE OF STREAM CHANNEL
Scales : Vert. : 1" = 20'
Horiz. : 1" = 100'

SUMMARY OF QUANTITIES

ITEM-NO	ITEM	UNIT	QUANTITY	FINAL
102-A	Granular Borrow	c.y.	0	232
106-	Unclassified Channel Excavation	c.y.	935 v	935
107	Structure Excavation	c.y.	164	192
222	Gravel Backfill	c.y.	153	202
361-B	Bituminous Concrete Pav't. (Mod.)	ton	98	*
401-B	Concrete Class B (Mod.)	c.y.	511	528
402	Reinforcing Steel	lb.	51,727	49349
403	Spiral Reinforcement (2550#)	l.s.	———	1
404-A	Structural Steel	lb.	192,860	190311
407	Asphaltic Asbestos Coating	s.y.	81	9
442	Removal of Existing Superstructure	l.s.		1
501	Furnishing Equipment for Driving Piles	l.s.	Required	1
504	Steel Piling	l.f.	492	453
521	Stone Fill (Heavy Type)	c.y.	1,222	1306
556-C	Granite Bridge Curb	l.f.	275	276
572	Bridge Railing	l.f.	238	241
503	Splices for Steel Piling	ea.	3	1
318	Tar Emulsion For Bridge Floors	Gal	217	*

GENERAL NOTES: * Roadway Items

1. Material and Construction shall conform to State of Vermont Standard Specification for Highway and Bridge Construction, dated 1956.
2. All design in accordance with A.A.S.H.O. Standard Specifications for Highway Bridges, dated 1957. Loading is H20-S16-44 Truck as Modified for National System of Interstate Highways.
3. Concrete shall attain a minimum strength of 2000 PSI. prior to the addition of any superimposed load.
4. All Concrete to be Class B.
5. All welding to conform with the American Welding Society Standard Specifications for Welded Highway and Railway Bridges.
6. Reinforcing steel in top of abutments shall be placed so as to allow drilling for anchor bolts.
7. All dimensions given are measured horizontally or vertically unless noted.
8. Beam seats to slope 1/4" per ft. and be coated with Asphatic-Asbestos coating, Item 407, except under bearings.
9. Railing posts and pylon lines to be normal to grade and top of pylon to be parallel to grade.
10. The haunch over the beam to vary in order to compensate for camber remaining after D.L. deflection.
11. The beam seat elevations have been lowered to account for difference between actual camber and required camber.
12. Where piles are driven in fill, the material should be such as to have no stones large enough to interfere with driving of piles.
13. All piles to be 10 BP 42 and driven to a minimum bearing capacity of 37 tons.
14. Maximum bearing pressure for foundations is 5 tons per Sq. Ft.
15. Where rock is encountered footings shall not be poured until all blasting has been completed.
16. Cross slope of 15/16" per ft. extends full length of bridge and approach slabs.
17. Piles shall not be spliced, except with the written approval of the Engineer.
18. Minimum cover for reinforcing bars shall be 2" unless noted.
19. Standards SCB-30-58 & SB-5G-57 shall be modified by substituting the following:
Use 2" of Bituminous Concrete pavement in lieu of the 2½" indicated Granite Bridge Curb (Modified) as indicated in the General Special Provisions shall be substituted in lieu of Granite Bridge Curb Type 1. The curb height finish grade to top of curb will therefore be 12".

LIST OF SHEETS:

REFERENCE:

Std. Drwg. SCB-30-58, Sheet 1 & 2: Superstructure
" " SB -5G-57, Sheet 1 & 2: Bridge Railing
" " SB -20-56. : Bearings & Steel Diaphr.
" " SB -AS-15°Skew-57. : Approach Slab
Std. Drwg. SB -22-58 : Exp. Jt's at Abut.s

BRIDGE 40
FOR REFERENCE ONLY

SHEET 6 OF 16

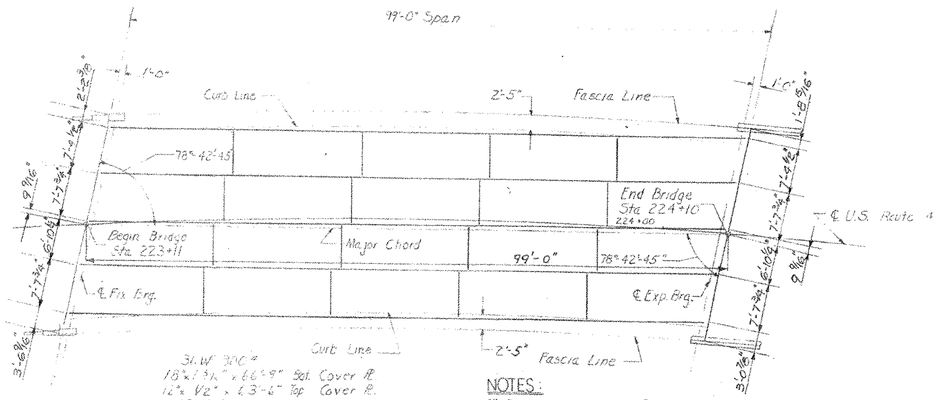
VERMONT
STATE HIGHWAY DEPARTMENT
TOWN OF BRIDGEWATER
U.S. ROUTE 4

BRIDGE AT STA. 223+605
GENERAL PLAN, ELEVATION, PROFILES & SECTIONS

WM. H. McFARLAND
ENGINEER
BINGHAMTON, N.Y.

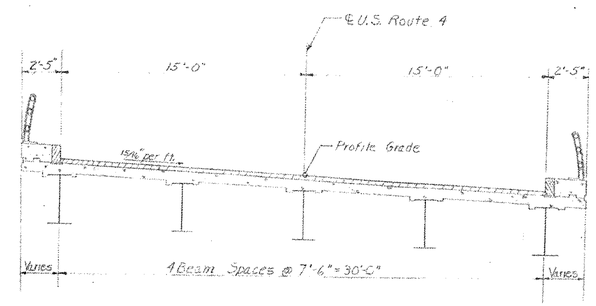
DESIGNED: F.W.C. CHECKED: K.R DATE: 2-6-59
DRAWN: H.H.T. IN CHARGE: H.G.C. SCALE: AS SHOWN
PROJECT NO. F-020-2 (5) SH. 40 OF 141

BRIDGE SHEET 1 OF 7

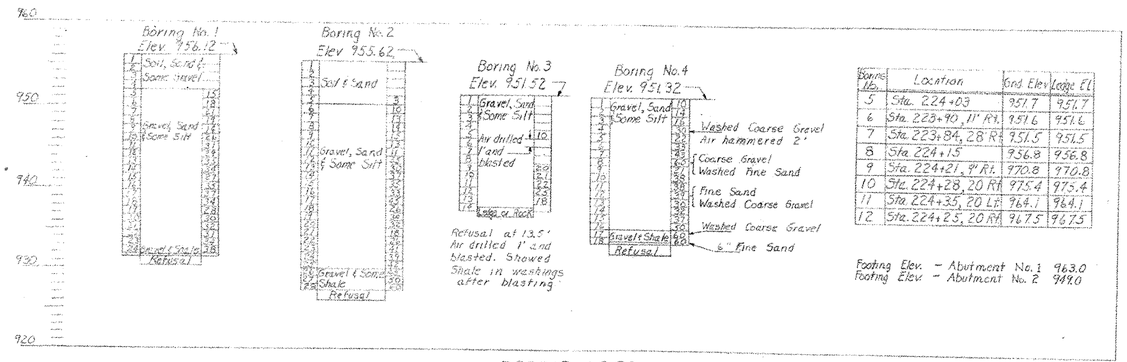


NOTES:
All Beam Lengths = 94'-11½" C-C Bearing
All Diaphragms 18 L 42.7#
All Beams Parallel to Major Chord
Camber shown is minimum camber likely to remain permanent.

FRAMING PLAN
Scale 1"=10'



TYPICAL BRIDGE SECTION
Scale: ¼"=1'-0"



Borings No.	Location	Grd. Elev	Ledge El.
5	Sta. 224+03	951.7	951.7
6	Sta. 223+90, 11' Rt.	951.6	951.6
7	Sta. 223+84, 28' Rt.	951.5	951.5
8	Sta. 224+15	956.8	956.8
9	Sta. 224+21, 9' Rt.	970.8	970.8
10	Sta. 224+28, 20' Rt.	975.4	975.4
11	Sta. 224+35, 20' Lt.	964.1	964.1
12	Sta. 224+25, 20' Rt.	967.5	967.5

Footing Elev. – Abutment No. 1 963.0
Footing Elev. – Abutment No. 2 949.0

BORING LOGS

NOTES:
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 location of borings, see Sheet 1.

NOTE:
1.- For General Notes, see sheet #1.

BRIDGE 40
FOR REFERENCE ONLY

SHEET 7 OF 16

VERMONT
STATE HIGHWAY DEPARTMENT
TOWN OF BRIDGEWATER
US ROUTE 4

BRIDGE AT STA. 223+60.5
BORING LOGS, FRAMING PLAN & TYPICAL BRIDGE SECTION

WM. H. McFARLAND
ENGINEER
BINGHAMTON, N.Y.

DESIGNED: F.W.C. | CHECKED: T.J.S. | DATE: Feb. 6, 1957
DRAWN: E.F.D. | IN CHARGE: H.G.C. | SCALE: AS SHOWN

PROJECT NO. F-020-2(5) SH. 41 OF 141

BRIDGE SHEET 2 OF 7

FED. ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	VT.	F 025-1(8) WAR	1961	1	

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

FEDERAL AID PROJECT

TOWN OF CHESTER

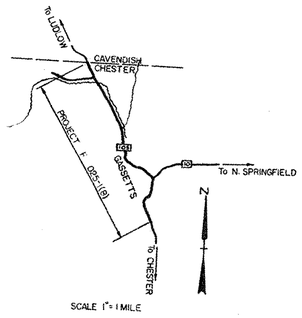
COUNTY OF WINDSOR

VERMONT ROUTE 103

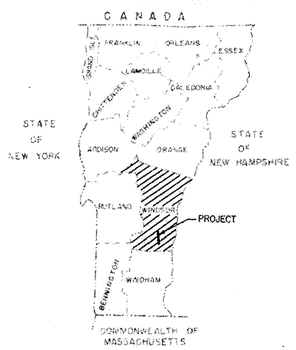
CHESTER-LUDLOW ROAD

BEGINNING AT A POINT APPROXIMATELY 0.55 MILES SOUTH OF THE INTERSECTION OF VERMONT ROUTES 10 & 103 AND EXTENDING NORTHWESTERLY TO THE CAVENDISH CHESTER TOWN LINE.

LENGTH OF ROADWAY 13,428.59FT.= 2.543 MILES
LENGTH OF BRIDGE 522.47FT.= .099 MILES
LENGTH OF PROJECT 13,951.06FT.=2.642 MILES



SCALE 1"= 1 MILE



INDEX OF SHEETS

GENERAL SHEETS

SHEET 1	TITLE PAGE
2	TYPICAL ROADWAY SECTIONS BITUMINOUS CONCRETE PAVEMENT ITEM 361-B, M.00.
3	QUANTITY SHEET, ITEMS
4	QUANTITY SHEET, ITEMS
5	QUANTITY SHEET, DRAINAGE
6,7,8, 8A	EARTHWORK SHEETS
9-12,12A,13-20	PLAN & PROFILE SHEETS
21-23	SUPERELEVATION TRANSITION, TALC MILL UNDERPASS

BRIDGE AT STA. 114+50

24	PRELIMINARY INFORMATION SHEET
25A	BORINGS
25	GENERAL PLAN & ELEVATION
26-32	BRIDGE DETAILS
33	BLANK
34	BLANK

BRIDGE AT STA. 165+40

35	PRELIMINARY INFORMATION SHEET
35A	BORINGS
36	GENERAL PLAN & ELEVATION
37-44	BRIDGE DETAILS

DEPARTMENT STANDARDS

45-59ABC	ROADWAY STANDARDS B-1, B-5, B-6, D-1, D-2, D-3, D-4, D-8, D-10, D-11, D-13, E-1, E-9, G2a, G-3, G-4, H-16, H-16, J-1
67-71	BRIDGE STANDARDS SCB-30-58, SH'T 1; SCB-30-58, SH'T 2; SB-20-56; SB-56-57, SH'T 1; SB-56-57, SH'T 2

CROSS SECTIONS

72-187	HIGHWAY RELOCATION
188-193	ROUTE 10 INTERSECTION, TOWN RD. NO. 19 & 21.
194-200	CHANNEL RELOCATION
201-208	CHANNEL IMPROVEMENT SECTIONS

PROJECT NAME & NUMBER	TYPE PAVEMENT	AREA
CHESTER F 025-1(8)	BIT. CONCRETE	20,756 S.Y.

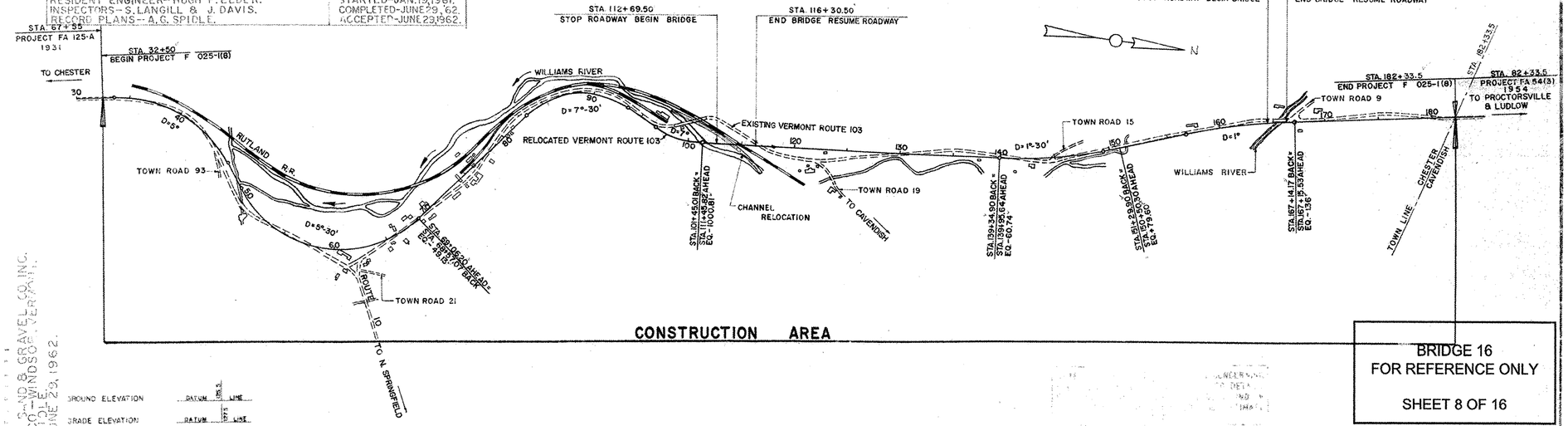
RECORD PLANS

MATERIALS

SUBBASE OF GRAVEL — SCHALLOW PIT — PROCTORSVILLE, VT.
— SHATTUCK PIT — PERKINSVILLE, VT.
CRUSHED STONE BASE COURSE - VERMONT MARBLE CO. - FLORENCE, VT.
ASPHALT & TAR — ALLSTATES ASPHALT CO. INC. - SUNDERLAND, MASS.
BITUMINOUS CONCRETE PAVE. - L.M. PIKE & SON — (PLANT) MANCHESTER, VT.
CONCRETE CLASS "S" - CHARLESTOWN READY MIX INC. - CHARLESTOWN, N.H.
REINFORCING & STRUCTURAL STEEL - CITY IRON WORKS - BRIDGEPORT, CONN.
REINFORCED CONCRETE PIPE — AMERICAN MARIETTA CO. — WINDSOR, VT.
ASPH. COATED CORR. GALV. METAL PIPE & METAL BIN RETAINING WALL
— NEW ENGLAND METAL CULVERT CO. — WESTMINSTER, VT.
GUARD RAIL (CABLE & WOOD) — MAINLINE FENCE CO. — WESTBROOK, MAINE.
BRIDGE RAILING — VERMONT STRUCTURAL STEEL CO. — BURLINGTON, VT.
GRANITE SLOPE EDGING — ROCK OF AGES CORP. — BARRE, VERMONT.

CONTRACTORS - CALEDONIA SAND & GRAVEL CO. INC.
& MILLER CONST. CO. WINDSOR, VT
RESIDENT ENGINEER - HUGH F. ELDER.
INSPECTORS - S. LANGILL & J. DAVIS.
RECORD PLANS - A.G. SPIDLE.

CONTRACT:
DATED - JAN. 19, 1961.
STARTED - JAN. 19, 1961.
COMPLETED - JUNE 29, 62.
ACCEPTED - JUNE 29, 1962.



CONSTRUCTION AREA

BRIDGE 16
FOR REFERENCE ONLY

SHEET 8 OF 16

DESIGN DESIGNATION	
ADT (1955)	2230
ADT (1980)	3800
DHV (1980)	520
D	55%
T	5%
V	50 MPH

PROJECT	CHESTER
ROUTE	F 025-1(8) (ft. 103)
LENGTH	2.642 MI.
TYPE	BITUMINOUS CONCRETE PAVEMENT
CONTRACTOR	CALEDONIA SAND & GRAVEL CO. INC. & MILLER CONST. CO. — WINDSOR, VT. YEAR 1961-62.
LOCATION	Beginning at a point approximately 0.55 miles south of the intersection of Vermont Routes 10 & 103 and extending northwesterly to the Cavendish-Chester Town Line.

CHESTER F 025-1(8) SAND & GRAVEL CO. INC.
CONTRACT INSP. - CONST. CO. - WINDSOR, VERMONT.
RECORD PLANS - A.G. SPIDLE
CONST. COMPLETED - JUNE 29, 1962.

R.O.W. (
COUNTY (
TOWN LIN
FENCE LI
STONE W
UNFENCE
GUARD R
TRAVELE
RAILROA
RETAININ
CENTER
SURVEY
CULVERT
DROP IN
TROLLEY
POWER (
TELEPHO
TREES
HEDGE

GROUND ELEVATION ..... DATUM N.G.V. LINE
GRADE ELEVATION ..... DATUM 1929 LINE

CURVE DATA

DEFLECTION OF 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 SUB-TANGENT	P.O.S.T.

SCALES

TITLE	1"= 500'
TYPICAL	3/8"= 1' & 1/8"= 1'
PLAN	1"= 50'
PROFILE HORIZONTAL	1"= 50'
PROFILE VERTICAL	1"= 10'
CROSS-SECTIONS	1"= 5' & 1"=10'

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 AND BRIDGE CONSTRUCTION OF JANUARY 1956 SUBMITTED TO THE BUREAU OF PUBLIC ROADS AS APPROVED JULY 5, 1956, INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE SUBMITTED WITH THE PLANS.

APPROVED ..... SECONDARY ENGINEER DATE	APPROVED E.F. Stickney CONSTRUCTION ENGINEER DATE 8/3/60	APPROVED L.M. Byam BRIDGE ENGINEER DATE Aug 2, 1960	APPROVED F.S. Chase DISTRICT ENGINEER DATE 7/28/60	APPROVED G.M. Lane HIGHWAY ENGINEER DATE 7/29/60	APPROVED A.D. Bishop CHIEF ENGINEER DATE 8/3/60 SUBMITTED BY ORDER OF THE STATE HIGHWAY BOARD

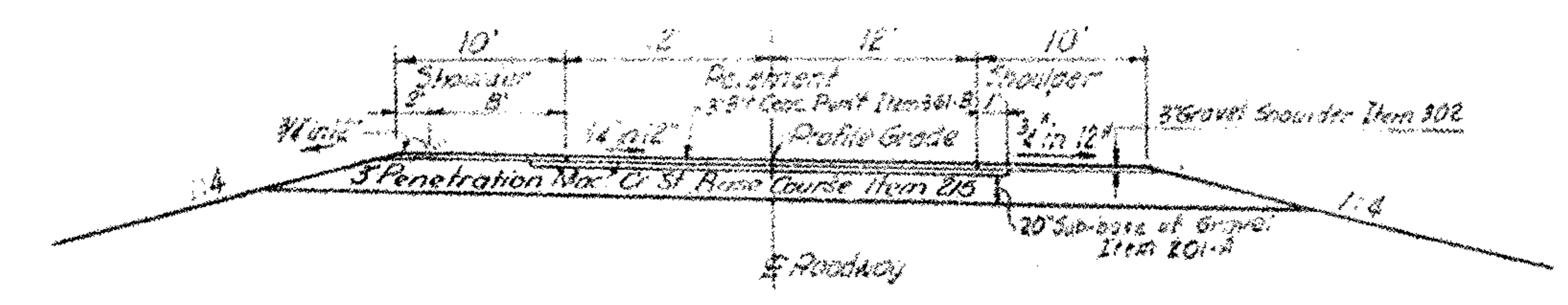
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

DIVISION ENGINEER ..... DATE

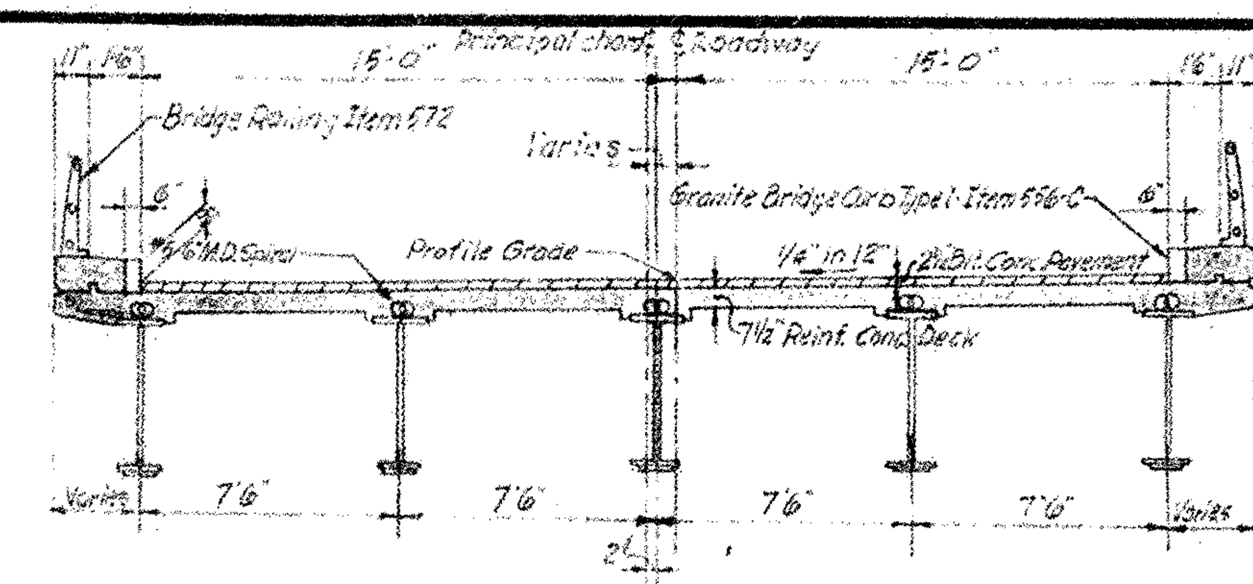
PROJECT F NO. 025-1(8)

SHEET 1 OF 208 SHEETS



NEW HIGHWAY SECT.- ADJACENT TO BRIDGE

SCALE: 1" = 10'



TYPICAL BRIDGE SECTION

SCALE 1" = 5'

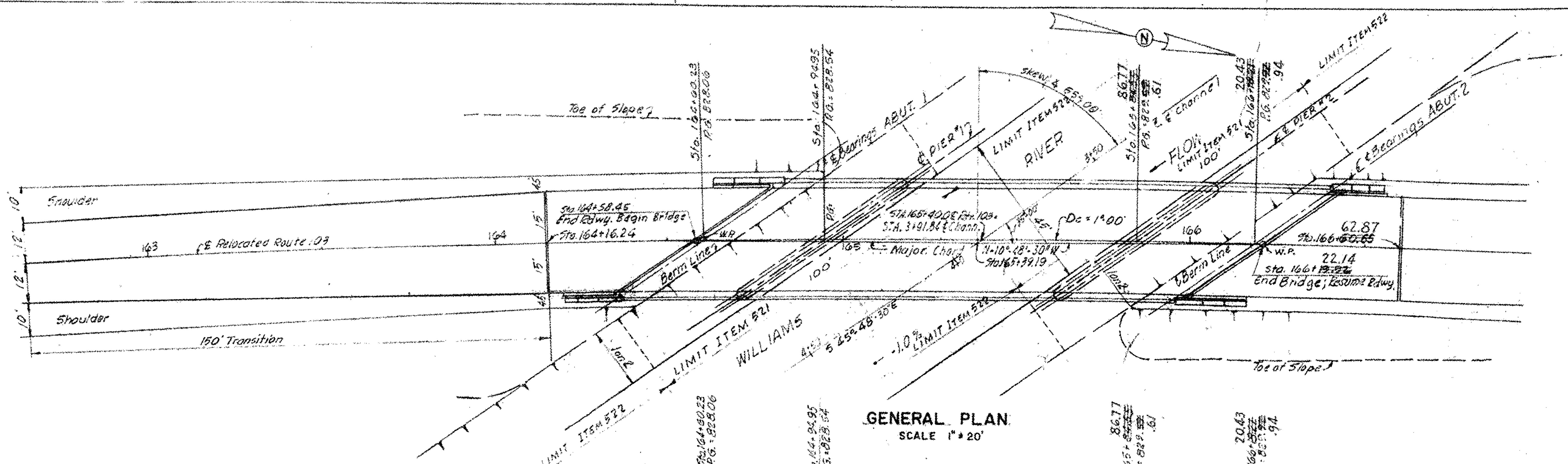
HIGHWAY NO Vt. Rt 103 NAME OF HIGHWAY —
STRUCTURE NO — COUNTY WINDSOR TOWN CHESTER
PROJECT NO F 025-1(8) LOCATION APPROX. 1700' SOUTH OF CHESTER-CAVENDISH TOWN LINE

EXISTING STRUCTURE

1 RATED LOADING OF EXISTING STRUCTURE H15
2 TYPE OF EXISTING STRUCTURE SINGLE SPAN PONY TRUSS
3 UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE 823.4
4 WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE TO STATE COST OF REMOVAL $1000.00
5 SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE NO
6 SHOULD NEW TEMPORARY STRUCTURE BE BUILT YES
7 ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE 817.4 WATERWAY TO ORDINARY H.W. 50 S.F.
8 EXTREME HIGH WATER AT EXISTING STRUCTURE (OBSERVED) 820.9 WATERWAY TO EXTREME H.W. 200 S.F.
9 SPAN OF EXISTING BRIDGE UPSTREAM 34 FT WATERWAY TO EXTREME H.W. 110.5 S.F.
SPAN OF EXISTING BRIDGE DOWNSTREAM 35 FT WATERWAY TO EXTREME H.W. 160.0 S.F.
10 TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS MOIST SAND, COBBLES AND BOULDERS
11 DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE YES
12 IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED —
13 ADDITIONAL WATERWAY AREA PROVIDED NONE

NEW STRUCTURE

1 RECOMMENDED TYPE OF STRUCTURE THREE SPAN, COMPOSITE DECK AND STEEL BEAM BRIDGE
2 RECOMMENDED CLEAR SPAN OR SPANS DEPARTMENT STANDARD SPANS 32'-~~87~~-32' ℄-℄ BRGS. (87.48' NON-STANDARD)
MEASURED PARALLEL TO ℄ NEW HIGHWAY 28.95'-~~82.65~~-28.95' CLEAR SPANS * 84.86'
MEASURED AT RIGHT ANGLES TO ℄ STREAM 16.61'-~~47.40~~-16.61' CLEAR SPANS 48.67
3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO YES
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE 816.5
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE 819.5 SOURCE OF INFORMATION LOCAL RESIDENTS
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? YES
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? NO IS ORDINARY RISE RAPID? 12 HRS.
8 LOW WATER ELEVATION AT NEW STRUCTURE 815.5
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE 11,000 CHARACTER OF TERRAINE HILLY
10 IS STREAM EVER DRY? NO
11 VELOCITY OF STREAM AT DESIGN HIGH WATER STAGE 14.6 FPS ESTIMATED DISCHARGE 7630 CFS
12 AREA FULL OPENING 450 S.F. AREA BELOW ORDINARY H.W. 70 S.F.; BELOW E.H.W. 250 S.F.
13 CHARACTER OF SCOUR NEGLIGIBLE DRIFT POSSIBLE ICE VERY POSSIBLE
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE NOT APPLICABLE
15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION 1.0 FT ± ABOVE DESIGN HIGH WATER
16 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE NONE BOTH SIDES —
17 RECOMMENDED TYPE OF PAVEMENT 2½ INCHES BITUMINOUS CONCRETE ITEM 361-B
18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. 108 ONE OR TWO WAYS TWO PROBABLE COST
19 PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE NONE
20 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES? NO
21 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 2.0 T/SF SHOULD PILES BE USED? NO EST. LGTH. —
22 DESIGN LOADING AASHO H20-S16



GENERAL PLAN

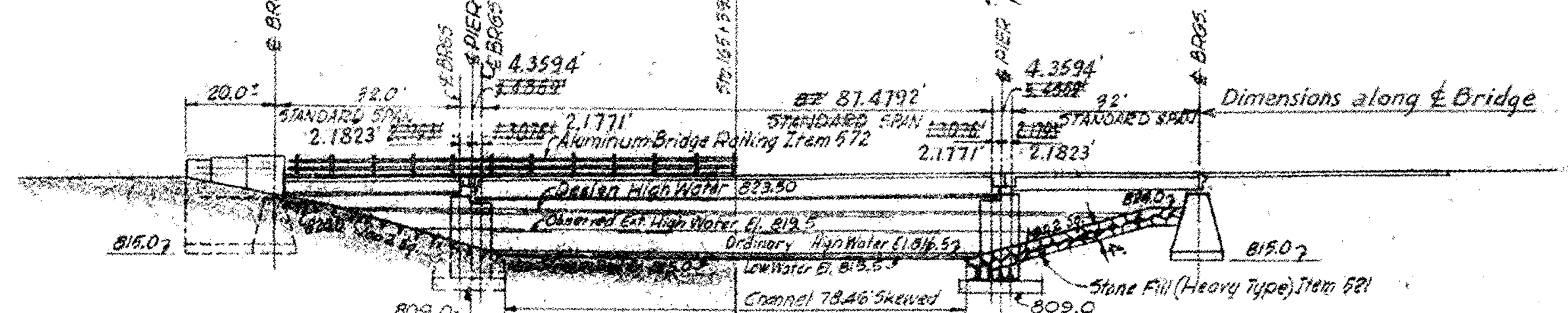
SCALE 1" = 20'

HORIZONTAL CURVE DATA

Bank = ¼" per Ft.
Δ = 10°-17' Rt.
D = 1°-00'
R = 5729.58'
T = 515.55'
L = 1028.33

VERTICAL CURVE DATA

400' Vertical Curve
PVC Sta. 164+00 El. 827.13
PVI Sta. 166+00 El. 830.41
PVT Sta. 168+01.36 El. 831.03
E = 0.67'
g1 = +1.64%
g2 = +0.31%

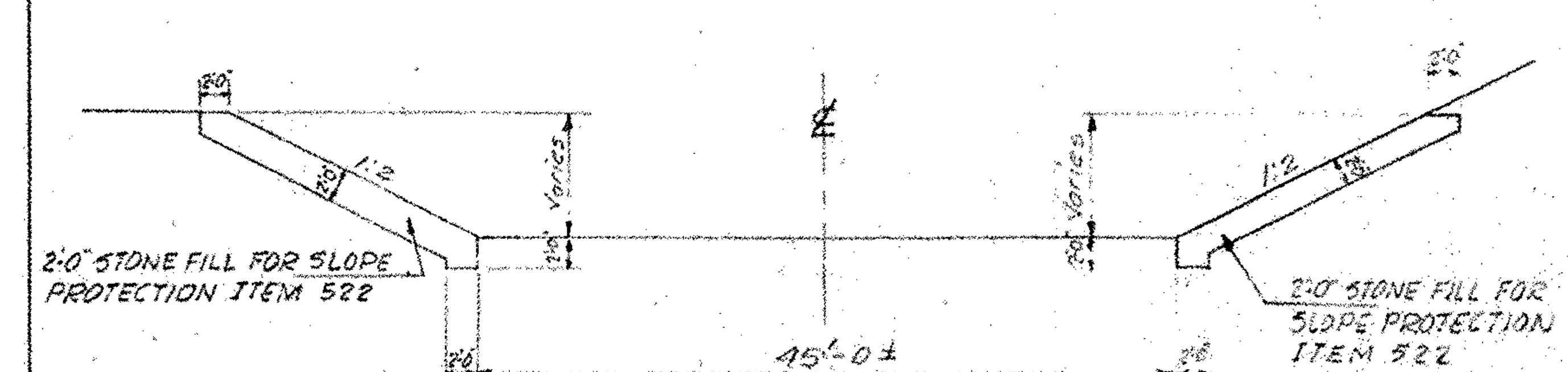


HALF ELEVATION → ← HALF SECTION

SCALE 1" = 20'

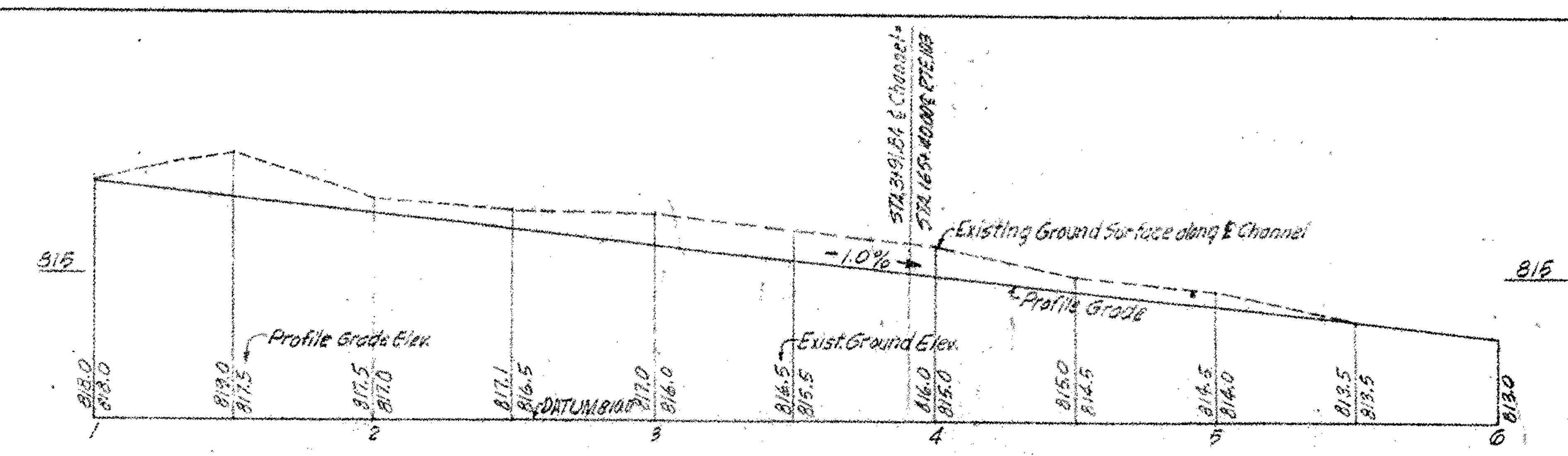
BRIDGE 16
FOR REFERENCE ONLY

SHEET 9 OF 16



TYPICAL SECTION CHANNEL IMPROVEMENT

SCALE 1" = 10'



PROFILE OF PROPOSED STREAM CHANNEL

SCALE HOR. 1" = 40' VERT. 1" = 4'

DEP'T STANDARD BRIDGE SHEET NOS.

1. SCB-30-58 1 OF 2
2. SCB-30-58 2 OF 2
3. SB-20-56
4. SB-SG-57 1 OF 2

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

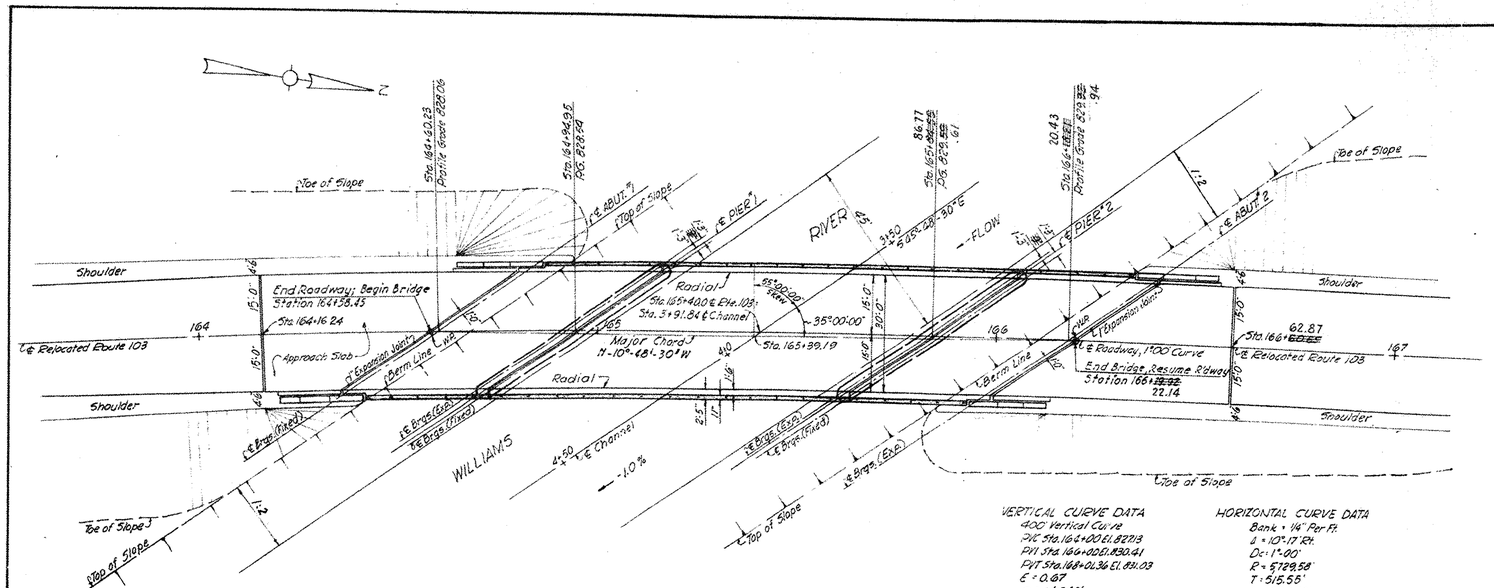
ROUTE 103
CHESTER PROJECT F 025-1(8)
BRIDGE AT STATION 165+40

PRELIMINARY INFORMATION SHEET

SURVEYED BY R.S. CHECKED BY J.T.H. SCALE
DRAWN BY H.R.S. IN CHARGE DATE 27 FEB. 59

PROJECT NO F 025-1(8) SHEET 35 OF 208

CORRECT ____ BRIDGE ENGINEER
APPROVED ____ CHIEF ENGINEER

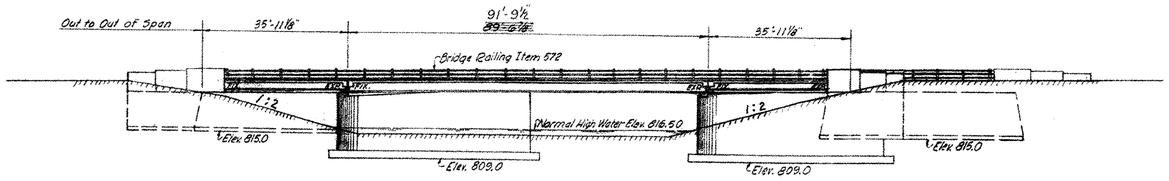


PLAN

1/16" = 1'-0"

VERTICAL CURVE DATA
400' Vertical Curve
PVC Sta. 164+00.01 El. 822.13
PVI Sta. 164+00.01 El. 830.41
PVT Sta. 168+01.36 El. 831.03
E = 0.67
g1 = +1.64 %
g2 = +0.31 %

HORIZONTAL CURVE DATA
Bank = 1/4" Per Ft.
Δ = 10°-17' Rt.
Dc = 1°-00'
R = 5729.58'
T = 515.55'
L = 1028.93'
PC Sta. 156+85.84
PT Sta. 167+14.17 Back =
PT Sta. 167+15.53 Ahead



ELEVATION

1/16" = 1'-0"

GENERAL NOTES:

1. Design in accordance with the "American Association of State Highway Officials Standard Specifications for Highway Bridges, 1957", and the "State of Vermont, Department of Highways, Standard Specifications for Highway & Bridge Construction, 1956".
2. Design Live Loading H20-S16-44.
3. All elevations from U.S.G.S. datum.
4. Foundations shall be taken to elevations given on plans unless otherwise directed by the Engineer.
5. Existing structure shall be dismantled and stored according to the direction of the Engineer, for disposition by the State. The Contractor shall erect a temporary bridge for the purpose of maintaining traffic during construction of the new structure.
6. All concrete shall have an ultimate compressive strength of 3,000 PSI at the age of 28 days.
7. All reinforcing steel shall be intermediate grade with an allowable tensile working stress of 20,000 PSI. Deformations shall conform to ASTM Designation A-305-53T.
8. All structural steel shall conform to ASTM Designation A-7 and shall have an allowable tensile working stress of 18,000 PSI.

ESTIMATE OF BRIDGE QUANTITIES

Final	Item No.	Item Description	Unit	Neat	Overrun	Total
3,441	106-C	Unclassified Channel Excavation	C.Y.	4,987	513	5,500
725	107	Structure Excavation	C.Y.	623	67	690
129	222	Gravel Backfill	C.Y.	156	14	170
* 0	361-B	Bituminous Concrete Pavement	Tons	115	15	130
983	401-B	Concrete Class "B" (MOD)	C.Y.	992	50	1,042
71,201	402	Epitarding Steel	LB.	68,196		68,196
1	403	Spiral Reinforcement - 4620#	LS	1		1
193,600	404-A	Structural Steel	LB.	189,815	3,785	193,600
74	407	Asphaltic-Asbestos Coating	S.Y.	74		74
1	441	Temporary Bridge	LS	1		1
1	448	Removal of Present Superstructure	LS	1		1
875	521	Stone Fill (Heavy Type)	C.Y.	700	70	770
1,245	522	Stone Fill For Slope Protection	C.Y.	900	100	1000
382	556-C	Granite Bridge Curb	L.F.	369		369
354	572	Bridge Railing	L.F.	297		297
220	318	Tar Emulsion For Bridge Floors	Gal	323		323

* Included in Roadway Quantity

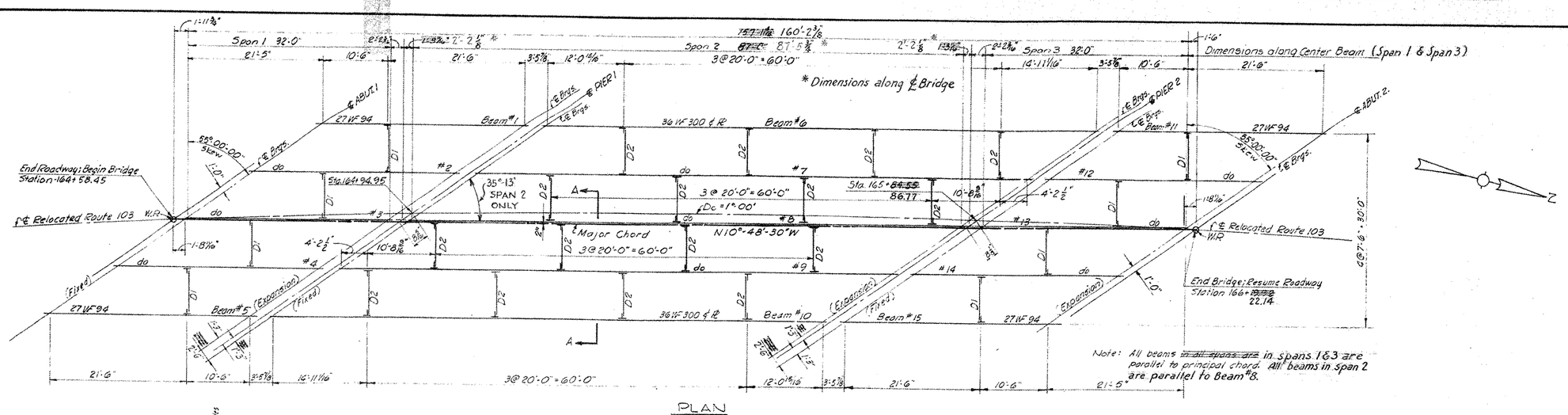
INDEX TO BRIDGE DRAWINGS

BRIDGE 16
FOR REFERENCE ONLY

SHEET 10 OF 16

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF CHESTER
ROUTE NO. 103 LOG STA.
GENERAL PLAN
AND ELEVATION
SCALE AS NOTED
SURVEYED BY R.S.
DRAWN BY H.H.S. CHECKED BY J.T.H.
PROJECT NO. F 025-1(8)
SHEET 36 OF 208



ESTIMATE OF SHEET QUANTITIES						
ITEM NO.	ITEM DESCRIPTION	FINAL	UNIT	NEAT	OVERRUN	TOTAL
404-A	Structural Steel	193,600	LB.	189,815	3.785	193,600

BRIDGE 16
FOR REFERENCE ONLY

SHEET 11 OF 16

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF CHESTER
ROUTE NO. 103 LOG STA.
FRAMING PLAN

SCALE AS NOTED
SURVEYED BY R.S.
DRAWN BY H.H.S. CHECKED BY J.T.H.
PROJECT NO. F 025-1(8)
SHEET 37 OF 208

INDEX OF SHEETS

STANDARD STRUCTURE SHEETS APPROVED BY THE CHIEF ENGINEER, VERMONT STATE DEPARTMENT OF HIGHWAYS.

S-40 JUNE 10, 1950
S-46-45 JAN. 16, 1950
S-47-45 JAN. 16, 1950

S-51-48 NOV. 10, 1947
S-52-48 NOV. 10, 1947

FED. ROAD DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	VT.	S 72 (1)	POST WAR	1	44

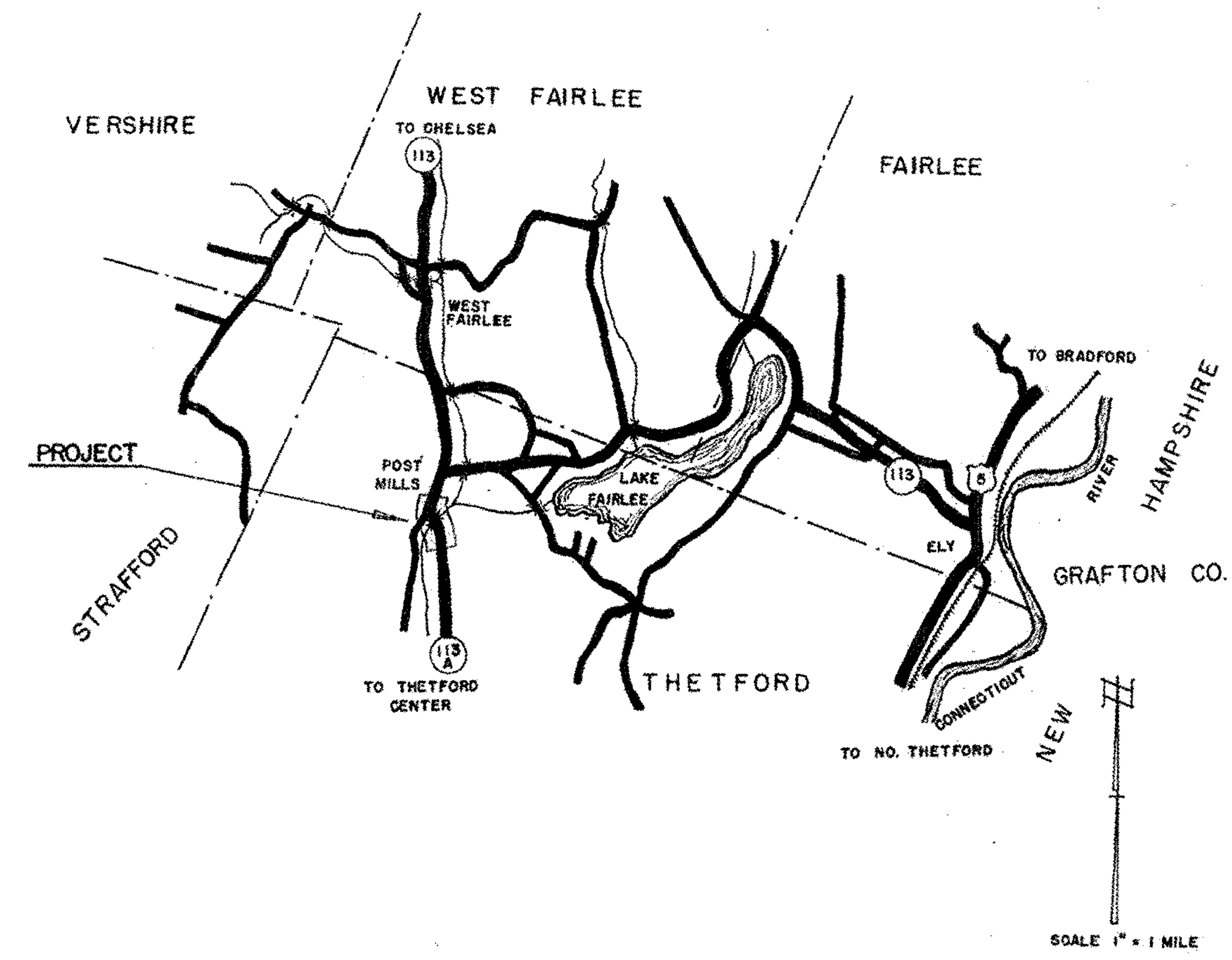
STATE OF VERMONT
STATE HIGHWAY DEPARTMENT

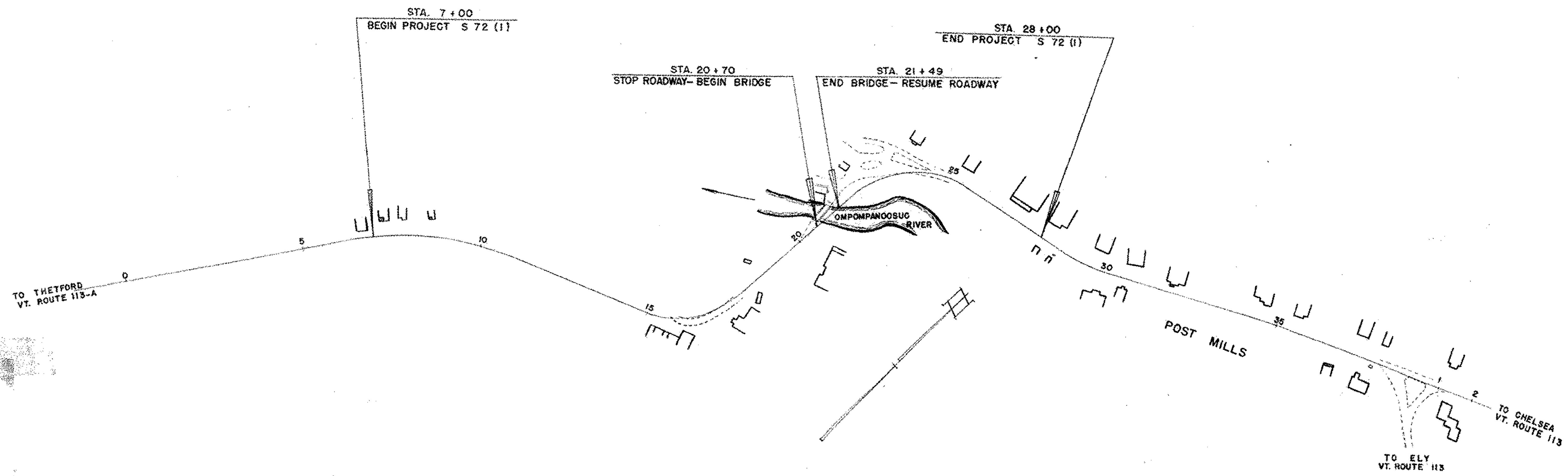
PLAN AND PROFILE OF PROPOSED STATE HIGHWAY

TOWN OF THETFORD
COUNTY OF ORANGE
VERMONT ROUTE 113-A
CHELSEA-THETFORD CENTER ROAD

BEGINNING AT A POINT 3,181.5 FEET SOUTHWESTERLY OF THE INTERSECTION OF VERMONT ROUTES 113-A AND 113 AND EXTENDING NORTHEASTERLY 2,100 FEET ON VERMONT ROUTE 113-A

LENGTH OF ROADWAY	2,021.0 FT. = 0.383 MI.
LENGTH OF BRIDGE	79.0 FT. = 0.015 MI.
LENGTH OF PROJECT	2,100.0 FT. = 0.398 MI.





APPROVED: FEB. 16, 1951
H E Sargent
CHIEF ENGINEER

SUBMITTED BY ORDER OF THE STATE HIGHWAY BOARD

BRIDGE 25
FOR REFERENCE ONLY

SHEET 12 OF 16

GROUND ELEVATION .... DATUM ... LINE

GRADE ELEVATION .... DATUM ... LINE

CURVE DATA

DEFLECTION 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.

SCALES

TITLE		1" = 200'
TYPICAL		1" = 2'
PLAN		1" = 50'
PROFILE	HORIZONTAL	1" = 50'
	VERTICAL	1" = 10'
CROSS SECTIONS		1" = 5'

PROJECT *Thetford - Post Mills Br.* NUMBER *S-72(1)* TYPE *W. Bm. & Conc. Deck - 30' Rdwy - 2-36' Spans* LENGTH *79.0'* CONTRACTOR *Miller Const. Co.* LOCATION *Rt. 113A*

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 ROAD AND BRIDGE SPECIFICATIONS OF 1949, AS APPROVED JULY 25, 1949 BY THE BUREAU OF PUBLIC ROADS, INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE SUBMITTED WITH THE PLANS.

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL

DISTRICT ENGINEER DATE

APPROVED

DIVISION ENGINEER DATE

APPROVED NOV. 13, 1950 *A D Bishop* BRIDGE ENGINEER	APPROVED FEB. 16, 1951 *H. W. Marsett* HIGHWAY ENGINEER	APPROVED *Feb. 24, 1951* DISTRICT HIGHWAY COMMISSIONER	SERIES 5 NO. 72 (1) FILED SHEET 1 OF 44

Bridge Data		
Item	Present	Proposed
Overall Span along ℄ Road	52'-8"	79'-0"
Roadway Width Face to Face of Curb	16'-0"	30'-0"
Clear Span Along ℄ of Road	50'-0"	75'-0"
Clear Span Normal to Stream	47'-0"	71'-0"
Clear Hgt to Low Bridge Seat	29'-0"	2' -0"
Max High Water Elev.	689.2	661.0
Waterway Area To Low Bridge Seat	1000 sq ft	1290 sq ft
Normal To Max. H.W. Elev.	400 sq ft	500 sq ft
To Stream To Normal H.W. Elev.	260 sq ft	300 sq ft
Stream Velocity	10 f/s	10 f/s
Drift & Scour	None	None

Sheet No.	LIST OF SHEETS (Bridge only)
10	Preliminary Information Sheet
9	Plan & Profile
11	Bridge Plan & Elevation
12	Abutment No 1 (Detail)
13	Abutment No 2 & Lt Wing (Details)
14	Abutment No 2 - Rt Wing (Details)
15	Superstructure
16	Std. Pipe & Spindle Rail - Std. Dwg. SB-551
17	Typical Details Std Dwg. SB 20 (Det A, C, D, E, F, H, J, K, & L)
18	Barricades, Signs & Lights Std. Dwg SB-11
24	Steel Beam Guard Rail Std. Dwg. 531-18
25	Steel Beam Guard Rail Std. Dwg. 532-18

ITEM No	ESTIMATED QUANTITIES (BRIDGE ONLY)		FINAL
106	Channel Excavation	83 C.Y.	251
107	Structure Excavation (modified)	775 C.Y.	972
109	Maintenance of Traffic for Br. Projects	1 L.S.	1
381	Bituminous Conc. Pavement (Br. Floors)	35 TONS	36
401 B	Concrete, Class 'B' (modified)	382 C.Y.	666
401 D	Concrete, Class 'D' (modified)	212 C.Y.	169
402	Reinforcing Steel	31661 LBS	52121
403 A	Structural Steel (modified)	125774 LBS	128195
	Asphaltic Asbestos Coating		41
442	Removal of Present Superstruct.	1 L.S.	1
521	Stone Fill (modified)	40 C.Y.	199
	Cement Rubble Masonry (Change in design)		23
	Riprap for Bank Protection (Change in design)		42
572	Bridge Railing	160.10 L.F.	160.1

PARCEL	INSTRUMENT	DATE	GRANTOR	GRANTEE	RECORDED IN THETFORD BOOK	PAGE	DATE	REMARKS
#3A&B	W.D.O.E.	11-1-50	FRANK E. HATCH	ST. OF VT.	37	618-19	12-22-50	
#4A&B	W.D.O.E.	11-14-50	WALTER A. MALMQUIST	ST. OF VT.	39	4-5-6	1-17-51	
#5	W.D.O.E.	10-25-50	CARL S. & LINNA S. KELLEY	ST. OF VT.	37	610-11	12-22-50	
#6	W.D.O.E.	10-25-50	EDWIN S. & CLARA G. KNIGHT	ST. OF VT.	37	617-18	12-22-50	Culvert Right

BRIDGE 25
FOR REFERENCE ONLY

SHEET 13 OF 16

BM #3 16' Rt. 14+56 31 R 30° Elm Stump: Elev. 673.69
BM #4 15' Lt Sta 21+37 Spot on Conc. Loading Platform Elev. 675.11

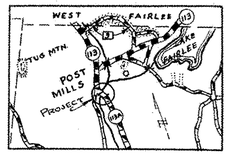
THETFORD
Karnat J. No. 72(1)
Sheet 9 of 44

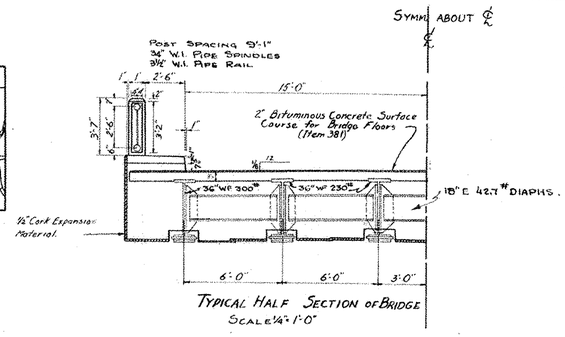
NEW HIGHWAY SECT. See Sheet 2 of 44

SCALE

NEW HIGHWAY PROFILE ALONG ℄ See Sheet 9 of 44

SCALE





TYPICAL HALF SECTION OF BRIDGE

SCALE 1/4" = 1'-0"

PLAN See Sheet 9 of 44

SCALE

PROFILE OF PROPOSED STREAM CHANNEL

SCALE

Highway No. 113-A Name of Highway

Structure No. County ORANGE Town THETFORD

Approved Date

Bridge Engineer, Dist. No. 9

EXISTING STRUCTURE

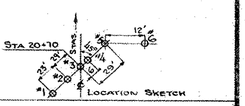
1. Posted loading of existing structure H-10
2. Location and type of existing structure Log. Sta 392+32 Steel Pony Truss. Open Grid Floor
3. Underclearance elevation of existing structure 23'-0"
4. What disposition should be made of the existing structure and probable cost of removal $200.00
5. Should existing structure be utilized to maintain traffic during construction of new structure Yes
6. Should new temporary structure be built No
7. Ordinary high water surface elevation of existing structure or structures up or down stream 645.2
8. Extreme high water of existing structure 653.2
9. Span and waterway area below ordinary high water surface elevation of existing structure 50 ft. Span 400 Sq Ft. Waterway
10. Type of foundation under existing abutments. Ledge
11. If existing structure is to be widened or extended, attach sketch containing complete data to prepare plans for widening or extending and to determine safe loading capacity, substructure, and superstructure

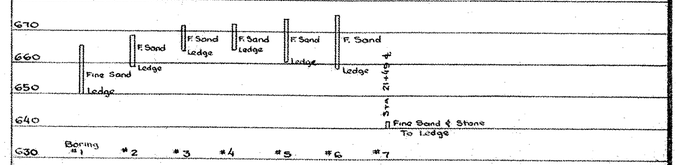
NEW STRUCTURE

1. Recommended type of structure. WF Bm. Concrete Deck
2. Recommended clear span or spans
   Measured parallel to ℄ new highway 75'-0"
   Measured at right angles to ℄ stream 50.2
3. Are there objections to a pier in the stream, answer yes or no. No
4. Ordinary high water elevation at new structure 648
5. Ordinary elevation of water at new structure 645.2
6. Extreme high water elevation at new structure 651
7. Does stream reach its maximum high water elevation rapidly. No Is ordinary rise rapid No
8. Low water elevation at new structure 640.6
9. Drainage area in acres above structure 34,000 Character of terraine. Hilly
10. Is stream ever dry. No
11. Velocity of stream at high water stage. 6 Ft./Sec. ±
12. Recommended waterway area below ordinary high water elevation, measured at ⊥ to ℄ of stream 500 Sq Ft
13. Does erosion occur No
14. Does stream carry light, medium or heavy drift and ice. Light
15. Should roadway be banked? If so how much per foot. No
16. Are sidewalks required? If so, on what side. Both sides? Yes 2'-6" Wide.
17. Recommended type of pavement Reinf. Conc. Slab with Bit. Conc. Wearing Surf.
18. Traffic to be maintained under what item no? 109 One or two ways? One Probable cost $300.00
19. Probable cost of clearing and grubbing stream channel at structure site. None.
20. Should provisions be made for public utilities. None Requested
21. Estimated allowable load on foundations. ⟷ Should piles be used? No Est. lgth. ⟷

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 Abutment Location.





NOTES:—
Casing Dia. 2½" Water Jet, Core Bit Inside.
Ledge Outcropping Throughout Entire Section

BRIDGE 25
FOR REFERENCE ONLY

SHEET 14 OF 16

STATE OF VERMONT

DEPT. OF HIGHWAYS

RECOMMENDED FOR APPROVAL

[redacted]

District Engineer
Public Roads Administration
Federal Works Agency

APPROVED

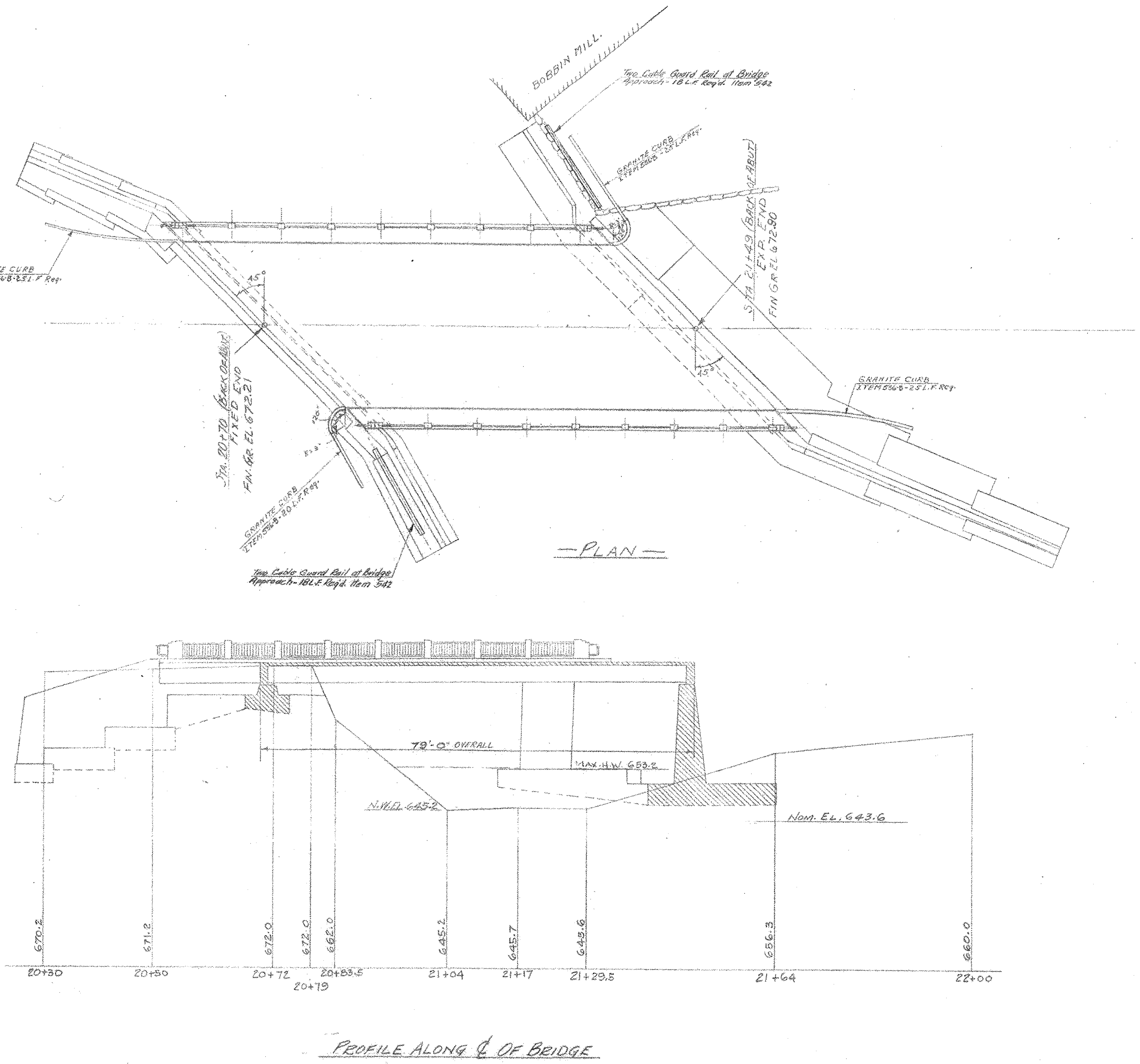
[redacted]

Commissioner
Public Roads Administration
Federal Works Agency

CORRECT _____ APPROVED _____

BRIDGE ENGINEER COMMISSIONER OF HIGHWAYS

PROJECT No. S 72(1)
Sheet 10 of 44 Sheets



BRIDGE 25
FOR REFERENCE ONLY

SHEET 15 OF 16

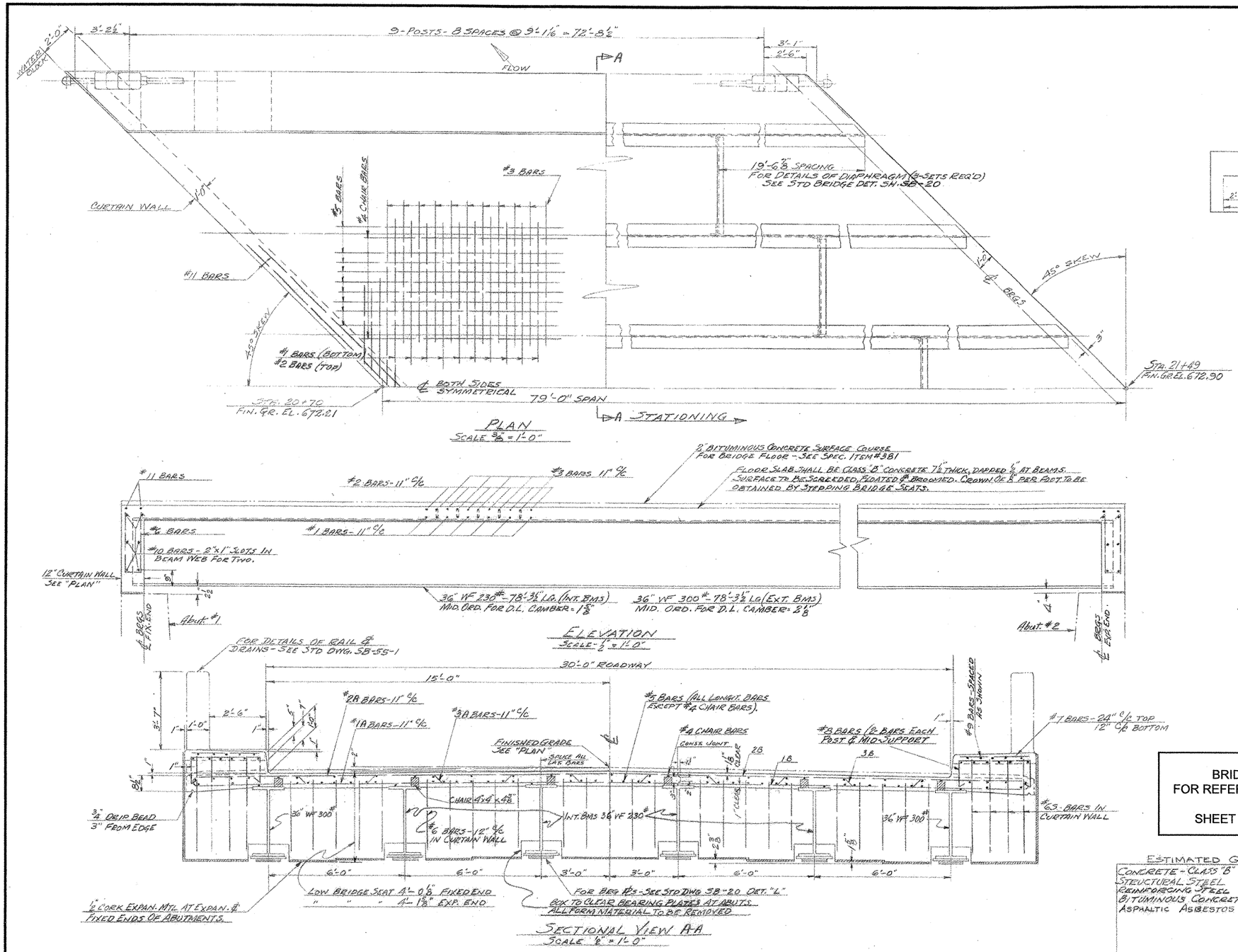
BRIDGE PLAN & ELEVATION

THETFORD (POST MILLS)

ROUTE - 113A

STA. 20+70 - 21+49 (LOG. STA. 392+32)

Surveyed by
Designed by
Drawn by H.R.D. 9/7/50
Traced by
Checked by J.L.H.
Series 5 No. 72(1) Filed
Sheet 11 of 44 Sheets



REINFORCING STEEL
(INTERMEDIATE GRADE BAR STOCK)

BAR NO.	NO. REQ'D	SIZE	TOTAL LGTH.	DETAIL
1A	87	5/8" ø	16'-6"	STRAIGHT
1B	87	5/8" ø	22'-6"	STRAIGHT
2A	87	5/8" ø	17'-4"	16'-4" (2A)
2B	87	5/8" ø	23'-4"	22'-4" (2B)
3B	86	5/8" ø	24'-4½"	22'-5"
4	18	3/4" ø	28'-1"	STRAIGHT
5	204	1/2" ø	27'-6"	STRAIGHT
6	70	1/2" ø	6'-7"	A DIM. 2'-8½"
6S	16	1/2" ø	8'-8"	3'-9"
7	238	5/8" ø	3'-3"	STRAIGHT
8	68	1/2" ø	5'-11"	
9	66	1/2" ø	27'-6"	STRAIGHT
10	24	5/8" ø	27'-4"	STRAIGHT
11	8	5/8" ø	27'-4"	STRAIGHT
3A	86	5/8" ø	18'-1"	16'-5"

NOTES

THIS SHEET DOES NOT INCLUDE QUANTITIES FOR GUARD RAILING AND POSTS.

STRUCTURAL STEEL TO INCLUDE WF BEAMS, THE BEARING PLATE ASSEMBLIES AND INDICATED DIAPHRAGMS. ALL STEEL BEAMS SHALL BE ROLLED TO A TRUE CAMBER. CAMBER, FULL LENGTH OF THE BEAM, AND THE ANGLE OF SKEW TO BE AS NOTED. FOR DIAPHRAGMS USE 18"ℓ #2.7#

ALL STRUCTURAL STEEL SHALL BE PAINTED AS SPECIFIED UNDER ITEM 403 "A OR B" OF THE STATE OF VERMONT, DEPT. OF HIGHWAYS, STD. SPEC. FOR ROAD & BRIDGE CONSTRUCTION, DATED NOVEMBER 1948. THE FINAL COAT OF FIELD PAINT SHALL BE GREEN, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE BITUMINOUS ASBESTOS COATING SHALL BE APPLIED IN WINDSLOTS BEFORE SIDEWALK IS POURED.

ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT, DEPT. OF HIGHWAYS, STD. SPEC. FOR ROAD & BRIDGE CONSTRUCTION, DATED NOVEMBER 1948 AND THE A.A.S.H.O. SPEC. FOR 1949. DESIGNED FOR H 20 (S4) LIVE LOADING, 25#/□' PAVING ALLOWANCE, DEAD LOAD INCLUDES WEIGHT OF BEAMS, SLAB & RAIL.

ALL DIMENSIONS FOR REINFORCING STEEL GIVEN TO ℄ OF BARS.

TRANSVERSE BARS AS ARE FURNISHED AS FOR A SQUARE SPAN. BARS SHALL BE CUT IN FIELD TO FIT ONE SKEW END AND CUT OFF ENDS SHALL BE USED IN OPPOSITE SKEW END.

WELD CUT TRANSVERSE BARS BARS #2 & #3 TO #11 BARS & THE CUT TRANSVERSE BARS #11 TO THE TOP ROW OF #10 BARS. THE COST OF WELDING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR REINFORCING STEEL.

BRIDGE 25
FOR REFERENCE ONLY

SHEET 16 OF 16

SUPERSTRUCTURE
THETFORD
ROUTE #113A
STA. 20+70 TO 21+49
LOG. STA. 392+32

ESTIMATED QUANTITIES

CONCRETE - CLASS "B"	97 - C.Y.
STRUCTURAL STEEL	12577 - Lbs
REINFORCING STEEL	7912 6 - Lbs
BITUMINOUS CONCRETE	30 - TON
ASPHALTIC ASBESTOS COATING	41 S.Y.

SCALE AS NOTED.

Surveyed by
Designed by H/D 6/9/50
Drawn by
Traced by
Checked by J.L.H. QUANTITIES
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