INDEX OF SHEETS

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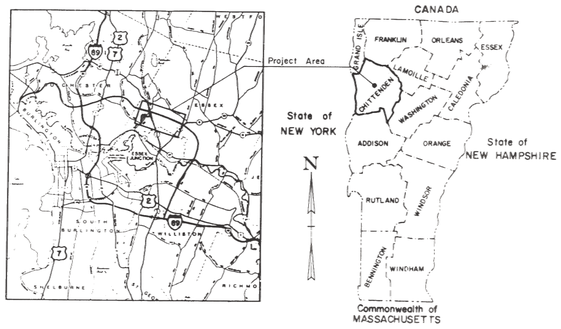
STATE OF VERMONT
AGENCY OF TRANSPORTATION



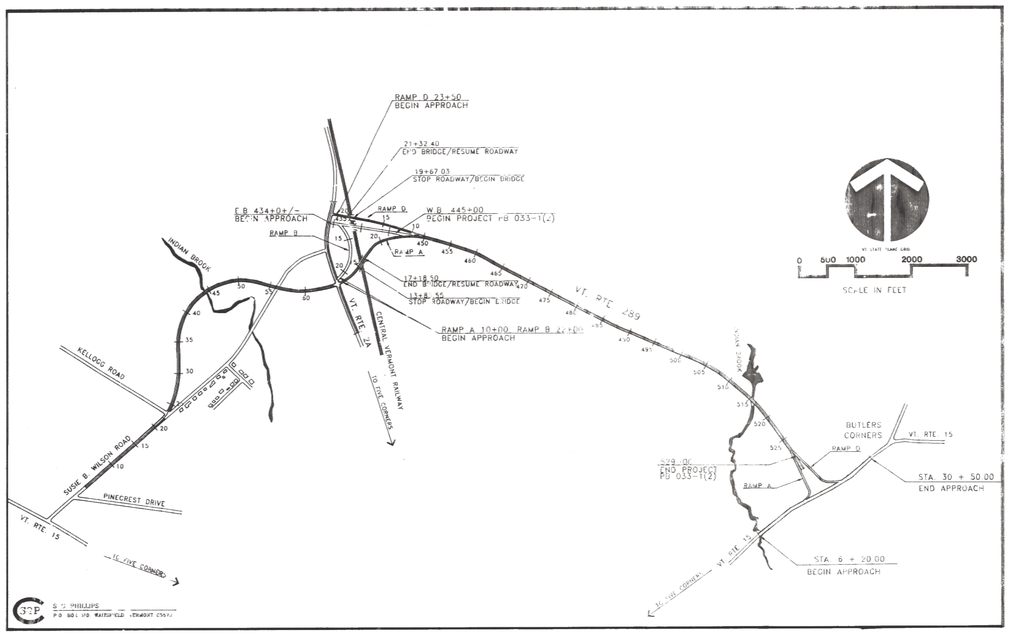
PROJECT DESCRIPTION:
CONSTRUCTION OF 1.590 MILES OF VT 289. TO INCLUDE RECONSTRUCTION OF 0.460 MILES OF VT 15, CONSTRUCTION OF TWO - TWO SPAN STEEL MULTI-GIRDER BRIDGES, THREE PLATE-TYPE STRUCTURES, PREFABRICATED VERTICAL DRAINS, GRADING, EROSION CONTROL, DRAINAGE, SUBBASE , PAVING, GUARDRAIL, SIGNAGE, AND RELATED ITEMS.

PROJECT LOCATION:
BEGINNING APPROXIMATELY 1,500 FEET EASTERLY OF THE CROSSING OF VERMONT ROUTE 2A, AND EXTENDING EASTERLY 1.590 MILES TO APPROXIMATELY 500 FEET WESTERLY OF THE CROSSING OF VERMONT ROUTE 15.

PROPOSED IMPROVEMENT

TOWN OF ESSEX
COUNTY OF CHITTENDEN
PROJECT NO. PB 033-1(2)

CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY
RTE. 289



CONVENTIONAL SIGNS

- 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

DATUM
VERTICAL
HORIZONTAL

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE CHIEF ENGINEER.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1990 AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

AS BUILT 4/19/94

THIS PROJECT DESIGNED UNDER CONTRACT PB 033-1(1)

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD

APPROVED _____ DATE _____

PROJECT MANAGER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

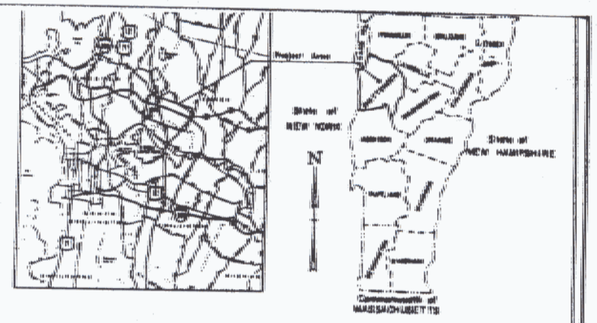
PROJECT Nº

SHEET 1 OF 400 SHEETS

41B112

SEE SHEET 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROJECT DESCRIPTION:
CONSTRUCTION OF 1.580 MILES OF VT 289. TO INCLUDE RECONSTRUCTION OF 0.460 MILES OF VT 15, CONSTRUCTION OF TWO - TWO SPAN STEEL MULTI-GIRDER BRIDGES, THREE PLATE-TYPE STRUCTURES, PREFABRICATED VERTICAL DRAINS, GRADING, EROSION CONTROL, DRAINAGE, SUBBASE, PAVING, GUARDRAIL, SIGNAGE, AND RELATED ITEMS.

PROJECT LOCATION:
BEGINNING APPROXIMATELY 1,800 FEET EASTERLY OF THE CROSSING OF VERMONT ROUTE 2A, AND EXTENDING EASTERLY 1.580 MILES TO APPROXIMATELY 500 FEET WESTERLY OF THE CROSSING OF VERMONT ROUTE 15.

PROPOSED IMPROVEMENT
TOWN OF ESSEX
COUNTY OF CHITTENDEN
PROJECT NO. PB 033-1(2)

Dated: AUG 1 1991

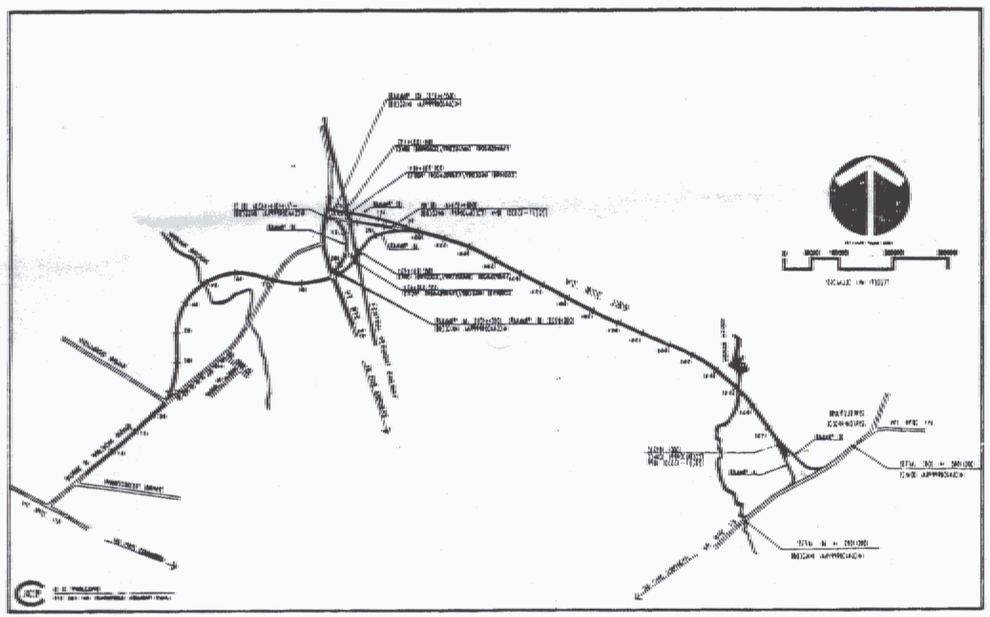
R.S. Audley, Inc.
Contractor

R.S. Audley
Signature

President
Title

Transportation Secretary's Signature

CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY
RTE. 289



CONVENTIONAL SIGNS

DATUM
VERTICAL
HORIZONTAL

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE CHIEF ENGINEER.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1950 AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

THIS PROJECT DESIGNED UNDER CONTRACT PB 033-1(1)

SUBMITTED BY ORDER OF THE SEC. TRANSPORTATION BOARD
APPROVED: PROJECT MANAGER TEL. 5/15/91
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED: DIVISION ADMINISTRATOR DATE
PROJECT NO. PB 033-1(2)
SHEET 1 OF 88 SHEETS

91B112 Pin II
Essex
PB 033-1(2)
Vt 289 Circ Completed

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AGENCY OF TRANSPORTATION

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GENERAL NOTES:

AS BUILT 4/19/94 SC

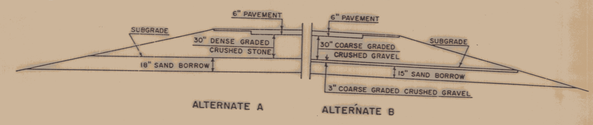
PROJECT NAME WILLISTON-COLCHESTER
PROJECT NUMBER PB 033-1(2)

TYPICAL SECTION – MAINLINE
CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY

		ITEM NUMBERS
PAVEMENT:	6" BITUMINOUS CONCRETE PAVEMENT 1–1/4" TYPE III WEARING COURSE 1–3/4" TYPE II BINDER COURSE 3" TYPE I BASE COURSE	406.25
SHOULDERS:	1–1/4" TYPE III WEARING COURSE	
ALTERNATE A SHOWN BELOW	30" SUBBASE OF DENSE GRADED CRUSHED STONE 18" SAND BORROW	301.35 203.31

NOTE: ALL FROST SUSCEPTIBLE MATERIAL WITHIN 54" (DESIGN FROST DEPTH) OF FINISH GRADE SHALL BE REMOVED AND REPLACED AS SHOWN

SUBBASE ALTERNATE DETAIL



* ROCK SLOPES AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER (REFER TO STANDARD SHEET A–62) SLOPE HEIGHT MEASURED FROM SHOULDER POINT

INITIAL ROUTE 289 TAPER EAST OF ROUTE 2A INTERCHANGE – EASTBOUND CROSS-OVER TRANSITION SECTION

STA. 443+00 TO STA. 465+00

NOTES:

1.) MAINTAIN 8'–0" SHOULDER THROUGH JUNCTION OF W.B. OFF–RAMP. REFER TO CROSS SECTIONS AND PLAN FOR SHOULDER TO GORE TRANSITION.

2.) BEGIN 12'–0" W.B. OFF–RAMP STA. 450+00. MAINTAIN FULL–WIDTH RAMP THROUGH STA. 463+00. TAPER FROM 12'–0" W.B. OFF–RAMP TO 0' AT STA. 465+00. TRANSITION FROM 4'–0" SHOULDER AT STA. 463+00 TO 8'–0" SHOULDER AT 465+00.

3.) BEGIN 12'–0" E.B. ON–RAMP STA. 444+57. MAINTAIN FULL–WIDTH RAMP THROUGH STA. 447+07. TAPER FROM 12'–0" E.B. ON–RAMP TO 0' THROUGH STA. 450+07

4.) CROSS SLOPE VARIES THROUGH E.B. ON–RAMP & W.B.OFF–RAMP JUNCTIONS. REFER TO SUPERELEVATION TABLES AND CROSS–SECTIONS FOR TRANSITION RATES

5.) END DIVIDED HIGHWAY TRANSITION (D.H.T.) MEDIAN/DITCH DETAIL AT STA. 448+00 STA. 448+00 BEGIN DIVIDED HIGHWAY TRANSITION (D.H.T.) FULL DEPTH ASPHALT GORE. END FULL DEPTH ASPHALT GORE AT STA.445+44.48 REFER TO PLAN AND CROSS SECTIONS FOR SPECIFICS.

6.) ALL SHOULDERS LESS THAN 8'–0" WIDE WILL BE BANKED THE SAME AS THE ADJOINING PAVEMENT UNLESS OTHERWISE NOTED. ALL 8'–0" SHOULDERS WILL BE AT A MAXIMUM CROSS SLOPE OF –0.063 FT/FT. IN BANKED SECTIONS MAXIMUM CROSS SLOPE DIFFERENCE AT THE SHOULDER/PAVEMENT JUNCTION WILL BE .07 FT./FT

7.) REFER TO SUPERELEVATION TABLES & CROSS–SECTIONS FOR PAVEMENT CROSS SLOPES THROUGHOUT RAMP JUNCTION.

8.) ENHANCED EMBANKMENT TO BE USED WHERE GUARD RAIL IS ELIMINATED. REFER TO TYPICAL SECTION FOR STA. 427+00 TO STA. 433+00 FOR ENHANCED EMBANKMENT CONSTRUCTION DETAILS.

9.) LEVEL OR VARY TO PROVIDE MIN. STANDARD SUBBASE DEPTH FOR BOTH INITIAL AND ULTIMATE DESIGN PAVEMENT

BUILT AS DESIGNED 4/19/94 SC

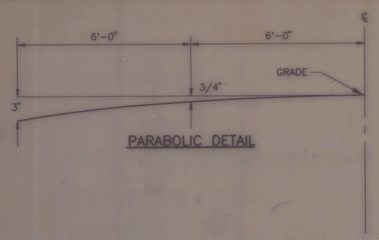
REVISED SUBBASE 6-25-91 DZG
REVISED 2/28/91

SURVEYED BY		DATE	
DRAWN BY	SJS	DATE	12/90
TRACED BY	ATC	DATE	12/90

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON–COLCHESTER NO. PB 033–1(2)
SHEET 3 OF 400

DATUM	
VERTICAL	N.G.V.D. 1929
HORIZONTAL	N.A.D. 1927

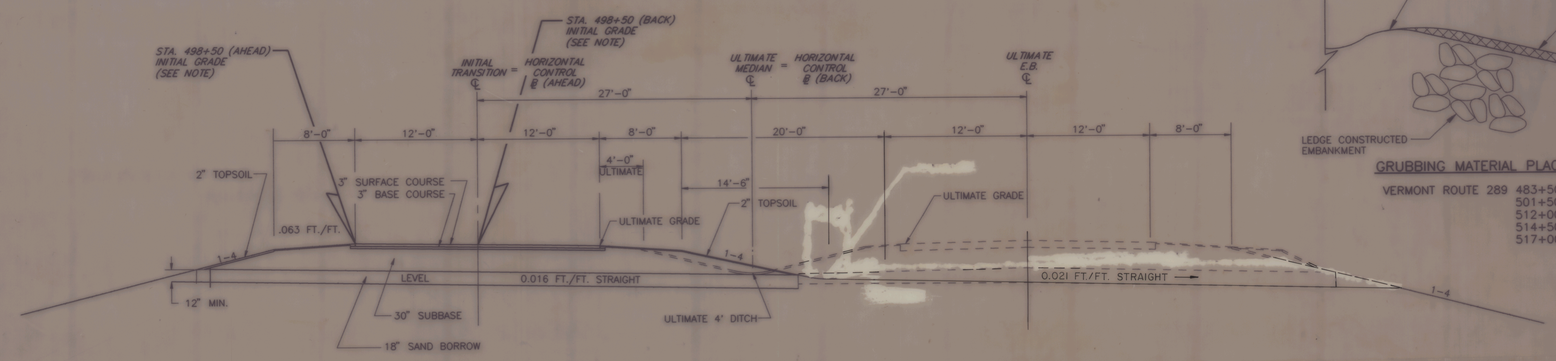
TYPICAL SECTIONS – MAINLINE
CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY

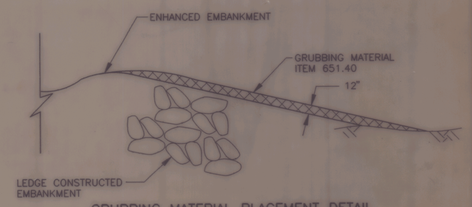


PARABOLIC DETAIL

		ITEM NUMBERS
PAVEMENT:	6" BITUMINOUS CONCRETE PAVEMENT 1-1/4" TYPE III WEARING COURSE 1-3/4" TYPE II BINDER COURSE 3" TYPE I BASE COURSE	406.25
SHOULDERS:	1-1/4" TYPE III WEARING COURSE	
ALTERNATE A / SHOWN BELOW	30" SUBBASE OF DENSE GRADED CRUSHED STONE	301.35
	18" SAND BORROW	203.31

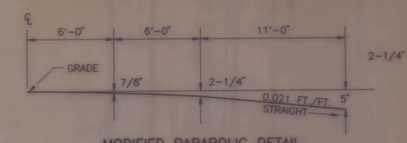
NOTE: ALL FROST SUSCEPTIBLE MATERIAL WITHIN 54" (DESIGN FROST DEPTH) OF FINISH GRADE SHALL BE REMOVED AND REPLACED AS SHOWN





GRUBBING MATERIAL PLACEMENT DETAIL

VERMONT ROUTE 289 483+50 – 492+00 RT.
501+50 – 512+00 RT./LT.
512+00 – 514+50 LT.
514+50 – 517+00 RT./LT.
517+00 – 518+50 LT.



MODIFIED PARABOLIC DETAIL

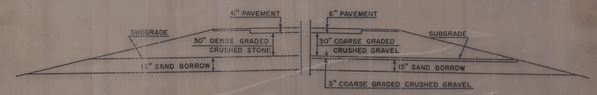
INITIAL SECTION

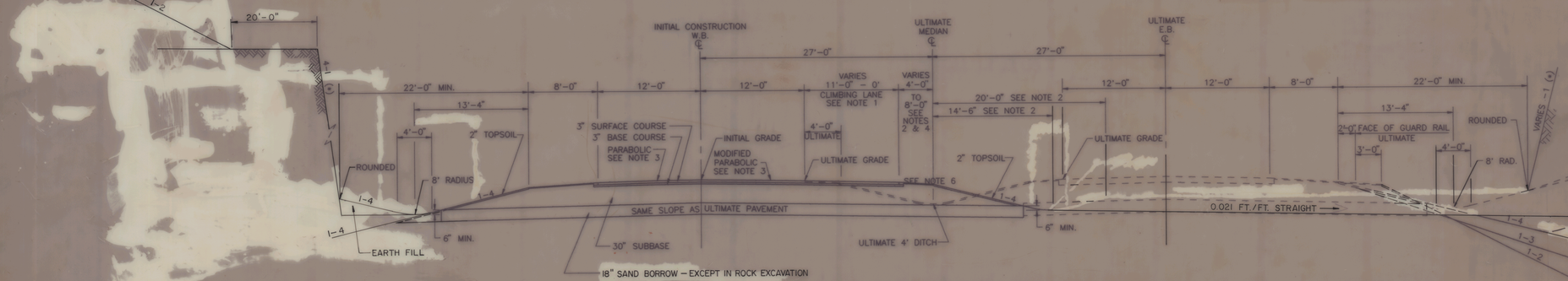
AT HORIZONTAL CONTROL ℄ EQUALITY STA. 501+17.98 (BACK) = T.S. #3 STA. 501+21.47 (AHEAD)

NOTE: AT STA 498+50 (BACK AND AHEAD) INITIAL GRADE (EL. 498.83) BACK, AT ℄ OF PAVEMENT SHIFTS 12' LEFT TO INITIAL GRADE (EL. 498.58) AHEAD, AT LEFT EDGE OF PAVEMENT CONTINUE VERTICAL CONTROL AT LEFT EDGE OF PAVEMENT.

AT STA. 501+17.98 (BACK) = T.S. #3 501+21.47 (AHEAD) HORIZONTAL CONTROL SHIFTS 27' LEFT FROM ULTIMATE MEDIAN ℄ TO ℄ OF PAVEMENT.

SUBBASE ALTERNATE DETAIL





INITIAL AND ULTIMATE NORMAL SECTION WITH INITIAL CLIMBING LANE TRANSITION

STA. 465+00 TO STA. 501+17.98 (BACK) = T.S. #3 STA. 501+21.47 (AHEAD)

NOTES: 1.) TRANSITION CLIMBING LANE FROM 11'–0" AT STA. 495+00 TO 0' AT STA. 500+50.
2.) TRANSITION SHOULDER FROM 4'–0" AT STA. 495+50 TO 8'–0" STA. 500+50. DITCH DIMENSIONS ARE LOCATED FROM INITIAL EDGE OF SHOULDER.
3.) TRANSITION FROM SUPERELEVATED SECITON TO NORMAL SECTION BETWEEN STA. 466+50 AND STA. 470+00.
4.) ALL SHOULDERS LESS THAN 8'–0" WIDE WILL BE BANKED THE SAME AS THE ADJOINING PAVEMENT UNLESS OTHERWISE NOTED.
5.) ENHANCED EMBANKMENT TO BE USED WHERE GUARD RAIL IS ELIMINATED. REFER TO TYPICAL SECTION FOR STA. 427+00 TO 443+00.

* ROCK SLOPES AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER (REFER TO STANDARD SHEET A-62) SLOPE HEIGHT MEASURED FROM SHOULDER POINT

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

REVISED SUBBASE 6-25-91 DLG
REVISED 2/28/91

BUILT AS DESIGNED 4/19/94
SC

SURVEYED BY _____ DATE _____
DRAWN BY SJS DATE 12/90
TRACED BY ATC DATE 12/90

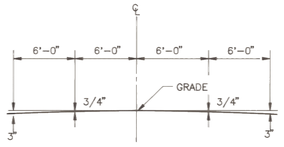
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON – COLCHESTER NO. PB 033-1(2)

SHEET 4 OF 400

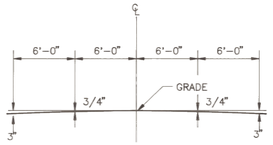
TYPICAL SECTION – MAINLINE
CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY

		ITEM NUMBERS
PAVEMENT:	6" BITUMINOUS CONCRETE PAVEMENT	406.25
	1-1/4" TYPE III WEARING COURSE	
	1-3/4" TYPE II BINDER COURSE	
	3" TYPE I BASE COURSE	
SHOULDERS:	1-1/4" TYPE III WEARING COURSE	
ALTERNATE A SHOWN BELOW	30" SUBBASE OF DENSE GRADED CRUSHED STONE	301.35
	18" SAND BORROW	203.31
	4'-0" SHATTERED ROCK (IN ROCK CUT)	

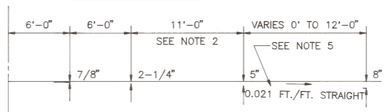
NOTE: ALL FROST SUSCEPTIBLE MATERIAL WITHIN 54" (DESIGN FROST DEPTH) OF FINISH GRADE SHALL BE REMOVED AND REPLACED AS SHOWN



PARABOLIC DETAIL

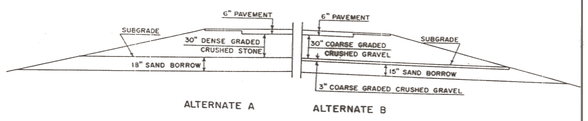


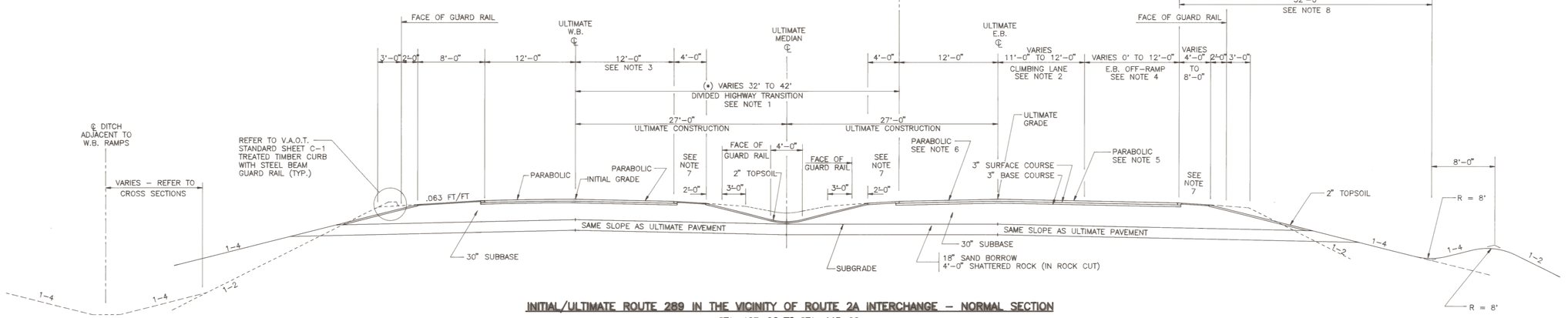
PARABOLIC DETAIL



MODIFIED PARABOLIC DETAIL

SUBBASE ALTERNATE DETAIL





INITIAL/ULTIMATE ROUTE 289 IN THE VICINITY OF ROUTE 2A INTERCHANGE – NORMAL SECTION

STA. 427+00 TO STA. 443+00

BUILT AS DESIGNED 4/19/94 SC

REVISED SUBBASE 6-25-91 DZG

DATUM	
VERTICAL	N.G.V.D. 1929
HORIZONTAL	N.A.D. 1927

7.) ALL SHOULDERS LESS THAN 8'-0" WIDE WILL BE BANKED THE SAME AS THE ADJOINING PAVEMENT UNLESS OTHERWISE NOTED.

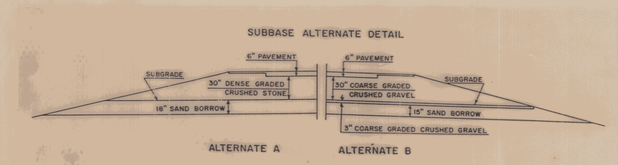
8.) ENHANCED EMBANKMENT TO BE USED WHERE GUARD RAIL CAN BE ELIMINATED.

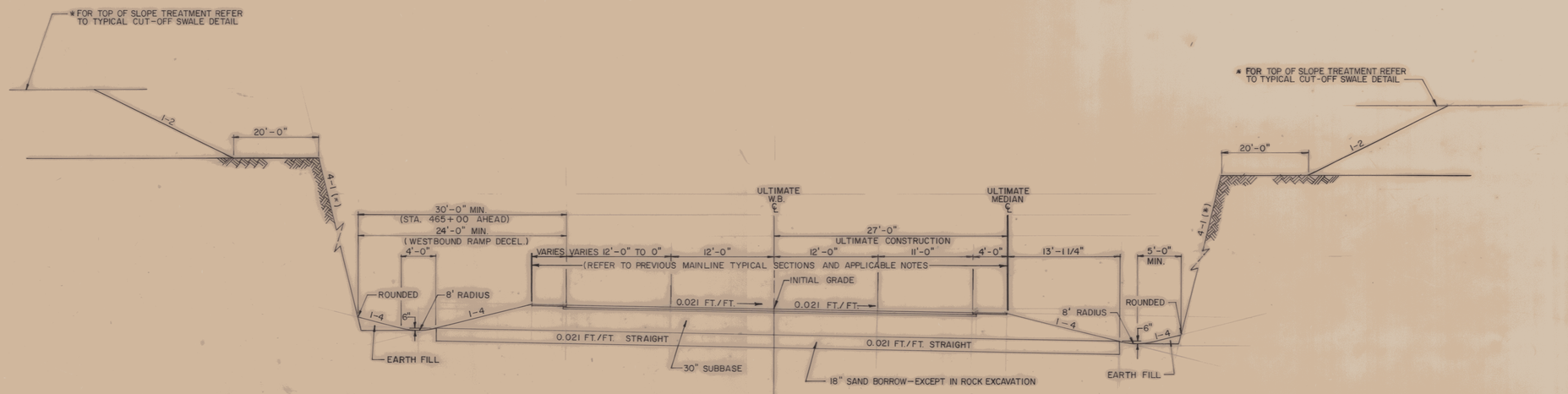
SURVEYED BY	V.S., INC/C.H.A.	DATE	1988-90
DRAWN BY	T. KARIS	DATE	4/89
TRACED BY	J. LUKOVITS	DATE	4/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX

PROJ. WILLISTON–COLCHESTER NO. PB 033-1 (2)

SHEET 5 OF 400





* ROCK SLOPES AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER (REFER TO STANDARD SHEET A-62) SLOPE HEIGHT MEASURED FROM SHOULDER POINT.

DETAIL SECTION FOR ROCK CUT EASTBOUND ON RAMP AND EASTBOUND CLIMBING LANE RIGHT
STA. 448+00 RT. TO STA. 480+00 RT.

DATUM
VERTICAL _____
HORIZONTAL _____

BUILT AS DESIGNED 4/19/94 SC

REVISED SUBBASE 6-25-91 DZG
REVISED 2/28/91

SURVEYED BY _____ DATE
DRAWN BY SJS DATE 12/90
TRACED BY ATC DATE 12/90

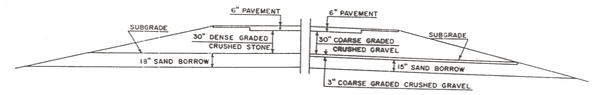
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON-COLCHESTER NO. P.B. 033-1-(2)
SHEET 6 OF 400

TYPICAL SECTION – MAINLINE
CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY

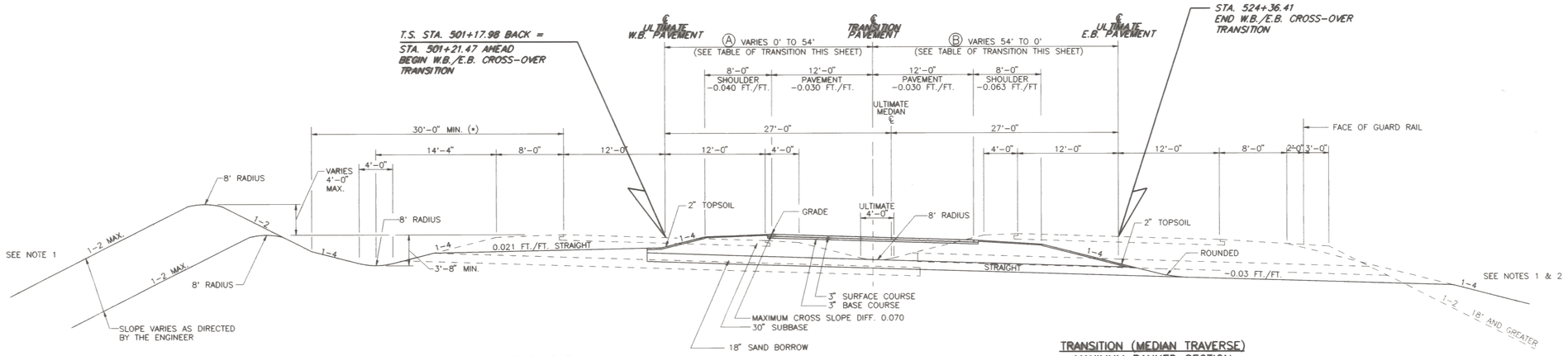
		ITEM NUMBERS
PAVEMENT:	6" BITUMINOUS CONCRETE PAVEMENT 1-1/2" TYPE III WEARING COURSE 1-1/2" TYPE II BINDER COURSE 3" TYPE I BASE COURSE	406.25
SHOULDERS:	1-1/4" TYPE III WEARING COURSE	
ALTERNATE A SHOWN BELOW	30" SUBBASE OF DENSE GRADED CRUSHED STONE	301.35
	18" SAND BORROW	203.31

NOTE: ALL FROST SUSCEPTIBLE MATERIAL WITHIN 54" (DESIGN FROST DEPTH) OF FINISH GRADE SHALL BE REMOVED AND REPLACED AS SHOWN

SUBBASE ALTERNATE DETAIL



ALTERNATE A ALTERNATE B



ENHANCED SCREENING EMBANKMENT SECTION
STA. 503+50 TO STA. 514+00

TRANSITION (MEDIAN TRAVERSE) MAXIMUM BANKED SECTION
e=0.030

INITIAL AND ULTIMATE MAXIMUM BANKED SECTION THROUGH W.B./E.B CROSS OVER TRANSITION
STA. 501+17.98 BACK = T.S. #3 501+21.47 AHEAD TO S.T. #3 STA. 524+36.41

* *THE ENHANCED SCREENING EMBANKMENT MOUND AND CHANNEL WILL BE LOCATED TO ACCOMODATE MINIMUM CLEARANCE FROM PAVEMENT EDGE OF ULTIMATE CONSTRUCTION.*

STA.	Ⓐ	Ⓑ	STA.	Ⓐ	Ⓑ	STA.	Ⓐ	Ⓑ
501+19	----	54.00'	509+50	17.38'	36.62'	517+00	36.47'	17.53'
502+50	0.25'	53.75'	510+00	18.65'	35.35'	+50	37.74'	16.26'
503+00	1.15'	52.85'	+50	19.92'	34.08'	518+00	39.01'	14.99'
+50	2.37'	51.63'	511+00	21.92'	32.81'	+50	40.28'	13.72'
504+00	3.60'	50.40'	+50	22.46'	31.54'	519+00	41.54'	12.46'
+50	4.84'	49.16'	512+00	23.74'	30.26'	+50	42.80'	11.20'
505+00	5.08'	47.92'	+50	25.01'	28.99'	520+00	44.06'	9.94
+50	7.32'	46.68'	513+00	26.28'	27.72'	+50	45.32'	8.68'
506+00	8.57'	45.43'	+50	27.56'	26.44'	521+00	46.57'	7.43'
+50	9.82'	44.18'	514+00	28.83'	25.17'	+50	47.82'	6.18'
507+00	11.07'	42.93'	+50	30.11'	23.89'	522+00	49.07'	4.93'
+50	12.33'	41.67'	515+00	31.38'	22.62'	+50	50.31'	3.69'
508+00	13.59'	40.41'	+50	32.66'	21.34'	523+00	51.55'	2.45'
+50	14.85'	39.15'	516+00	33.93'	20.07'	+50	52.99'	1.21'
509+00	16.12'	37.88'	+50	35.20'	18.80'	524+00	53.72'	0.28'
						524+46	54.00'	----

NOTE 1:
CONSTRUCT ENHANCED EMBANKMENT WHERE GUARDRAIL IS ELIMINATED REFER TO TYPICAL SECTION FOR STA. 427+00 TO STA. 443+00 FOR ENHANCED EMBANKMENT CONSTRUCTION DETAILS.

NOTE 2:
GRUBBING MATERIAL WILL BE PLACED UPON THE FILL SLOPES BETWEEN STA. 483+50 AND STA. 518+50

BUILT AS DESIGNED 4/19/94 SC

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

REVISED SUBBASE 6-25-91 DZG

SURVEYED BY _____ DATE _____
DRAWN BY T. KARIS DATE 5/89
TRACED BY J. LUKOVITS DATE 5/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON–COLCHESTER NO. PB 033-1(2)
SHEET 7 OF 400

(CONTINUED)

TYPICAL SECTIONS

SEEDING FORMULA, ITEM 651.15
RURAL AREAS

% WT.	lbs/A	NAME	PUR. %	GERM %
3.33	2	CROWN VETCH	97	75
50.00	30	CREEPING RED FESCUE	98	85
8.33	5	TIMOTHY	99	85
16.67	10	PERENNIAL RYE GRASS (VAR. PENNFINE)	95	85
8.34	5	ALFALFA (VAR. SARANAC)	99	85
8.33	5	BIRDSFOOT TREFOIL (VAR. EMPIRE)	98	85
5.00	3	HIGHLAND BENT GRASS	92	85
100.00	60			

THE SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40 % BY WEIGHT AND SHALL BE FREE FROM ALL NOXIOUS WEED SEED.
HAY MULCH, ITEM 651.25, TO BE PLACED ON ALL EARTH SLOPES AT THE RATE OF TWO TONS PER ACRE, OR AS DIRECTED BY THE ENGINEER.
FERTILIZER, ITEM 651.18, SHALL BE MIXED AS FOLLOWS:

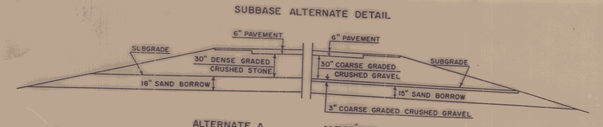
NITROGEN	10%
PHOSPHORUS	20%
POTASH	10%

FERTILIZER SHALL BE DELIVERED IN BAGS OF NOT TO EXCEED 100 LBS. EACH AND IS TO BE APPLIED AT THE RATE OF 500 LBS. PER ACRE OR AS DIRECTED BY THE ENGINEER.
AGRICULTURAL LIMESTONE, ITEM 651.20 TO BE APPLIED TO ALL SLOPES AT THE RATE OF TWO TONS PER ACRE OR AS DIRECTED BY THE ENGINEER.
WOOD MARKER POSTS, ITEM 619.15, TO BE PLACED AS DIRECTED BY THE ENGINEER.
FOR ROUNDING OF SLOPES, SEE STANDARD SHEET B-5.

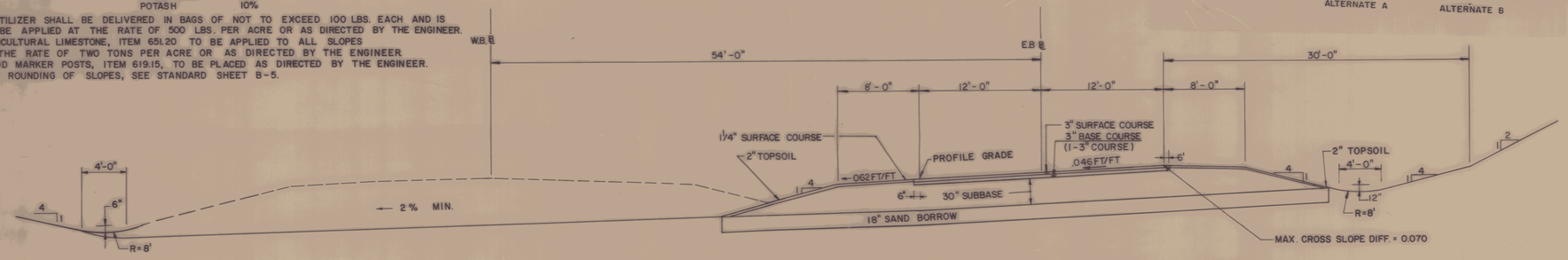
ALTERNATE A SHOWN BELOW
3" BITUMINOUS CONCRETE PAVEMENT - 1 1/4" TYPE III WEARING COURSE, 1 3/4" TYPE II BINDING COURSE
3" BITUMINOUS CONCRETE PAVEMENT, TYPE I - BASE COURSE 1-3" COURSE
30" SUBBASE OF DENSE GRADED CRUSHED STONE
SHOULDERS 1 1/4" BITUMINOUS CONCRETE PAVEMENT
18" SAND BORROW

NOTE:
1. WHEN EXISTING SUBGRADE MATERIAL IN A CUT MEETS OR EXCEEDS THE REQUIREMENTS FOR SAND BORROW, THE EXISTING MATERIAL SHALL REMAIN AND THE SAND BORROW SHALL BE ELIMINATED IN THAT AREA.
2. SAND BORROW SHALL BE ELIMINATED IN LEDGE CUTS

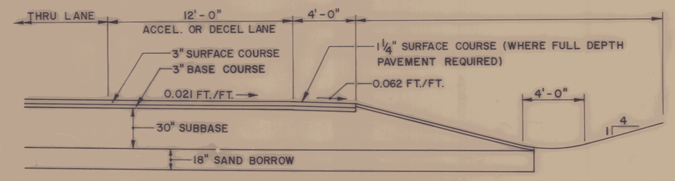
SUBBASE ALTERNATE DETAIL



ALTERNATE A ALTERNATE B

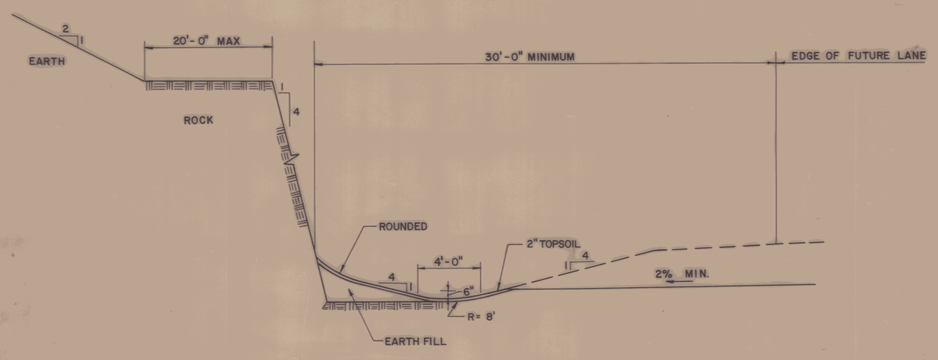


BANKED SECTION

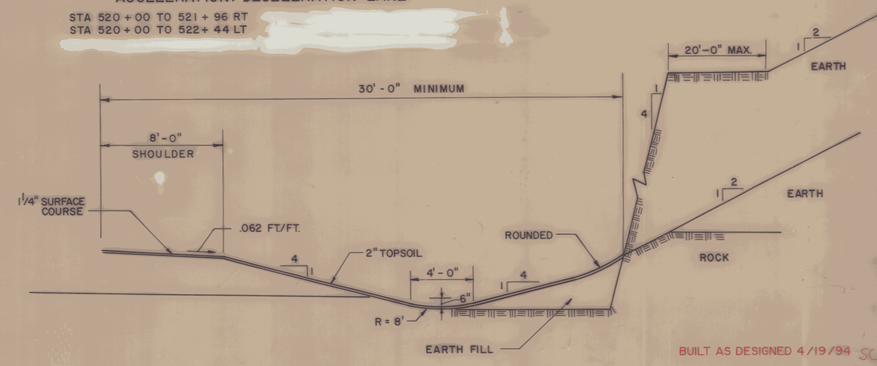


ACCELERATION/DECELERATION LANE
STA 520+00 TO 521+96 RT
STA 520+00 TO 522+44 LT

SHOULDER PAVEMENT TO INCLUDE FULL DEPTH PAVEMENT AND BASE:
ROUTE 289 STA 520+00 TO 521+96 RT



ROCK CUT SECTION
LEFT SIDE



ROCK CUT SECTION
RIGHT SIDE

BUILT AS DESIGNED 4/19/94 SC

REVISED SUBBASE 6-25-91 DLG
REVISED 12/28/90

DATUM
VERTICAL _____
HORIZONTAL _____

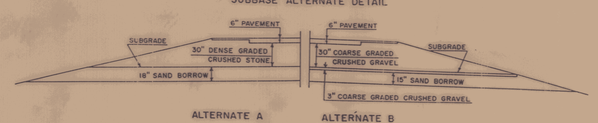
SURVEYED BY _____ DATE _____
DRAWN BY RCA DATE 9/87
TRACED BY NPD DATE 10/87
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO. PB033-1(2)
COLCHESTER
SHEET 8 OF 400

TYPICAL SECTIONS

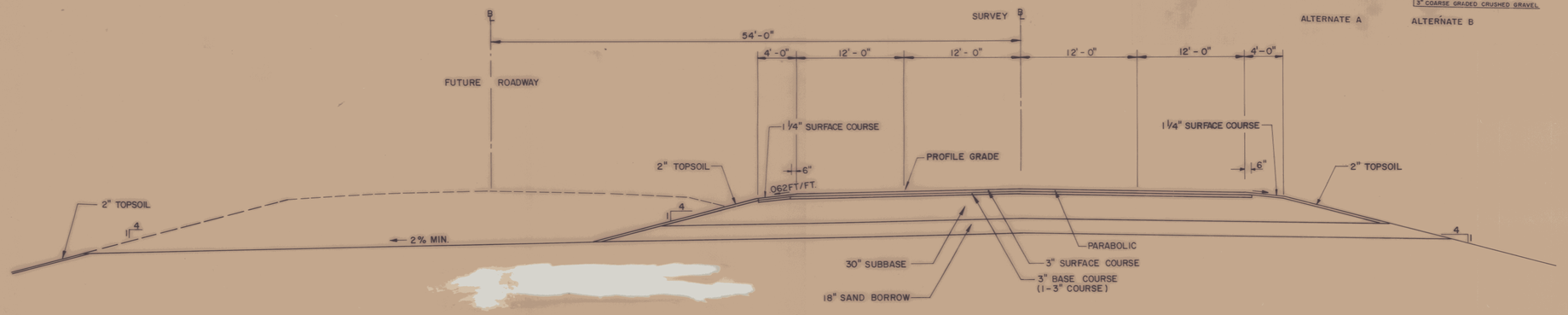
ALTERNATE A SHOWN BELOW

3" BITUMINOUS CONCRETE PAVEMENT - 1 1/4" TYPE III WEARING COURSE, 1 3/4" TYPE II BINDING COURSE
3" BITUMINOUS CONCRETE PAVEMENT, TYPE I - BASE COURSE 1 - 3" COURSE
30" SUBBASE OF DENSE GRADED CRUSHED STONE
SHOULDERS 1 1/4" BITUMINOUS CONCRETE PAVEMENT
18" SAND BORROW

SUBBASE ALTERNATE DETAIL



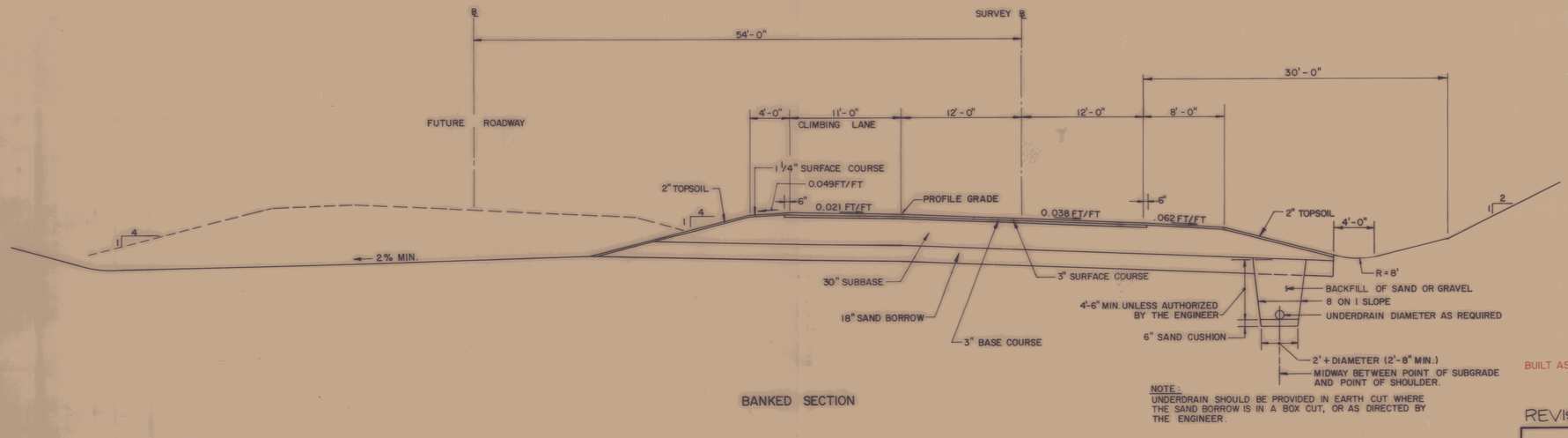
ALTERNATE A ALTERNATE B



NORMAL SECTION

NOTE:
WHEN EXISTING SUBGRADE MATERIAL IN A CUT MEETS OR EXCEEDS THE REQUIREMENTS FOR SAND BORROW, THE EXISTING MATERIAL SHALL REMAIN AND THE SAND BORROW SHALL BE ELIMINATED IN THAT AREA.

SAND BORROW SHALL BE ELIMINATED IN LEDGE CUTS.



BANKED SECTION

NOTE:
UNDERDRAIN SHOULD BE PROVIDED IN EARTH CUT WHERE THE SAND BORROW IS IN A BOX CUT, OR AS DIRECTED BY THE ENGINEER.

BUILT AS DESIGNED 4/19/94 SC

REVISED 12/28/90

DATUM
VERTICAL _____
HORIZONTAL _____

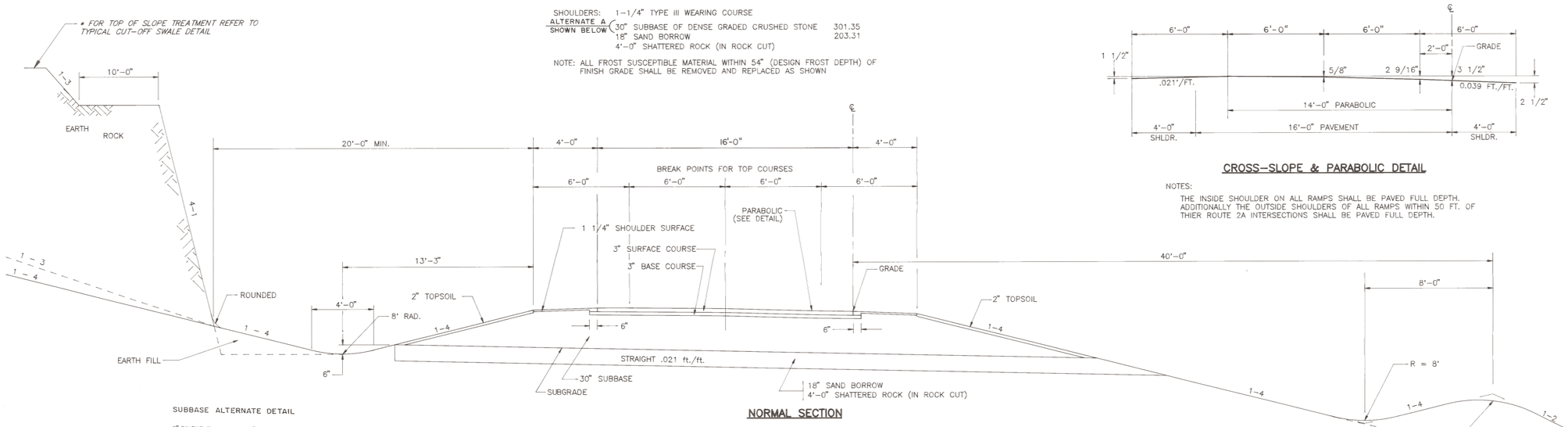
SURVEYED BY _____ DATE _____
DRAWN BY RCA DATE 9/87
TRACED BY NPD DATE 1/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO. PB033-1(2)
COLCHESTER
SHEET 9 OF 400

ONE WAY RAMP TYPICAL SECTIONS
CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY

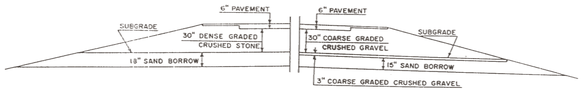
		ITEM NUMBERS
PAVEMENT:	6" BITUMINOUS CONCRETE PAVEMENT 1–1/4" TYPE III WEARING COURSE 1–3/4" TYPE II BINDER COURSE 3" TYPE I BASE COURSE	406.25
SHOULDERS:	1–1/4" TYPE III WEARING COURSE	
ALTERNATE A SHOWN BELOW	30" SUBBASE OF DENSE GRADED CRUSHED STONE	301.35
	18" SAND BORROW	203.31
	4'–0" SHATTERED ROCK (IN ROCK CUT)	

NOTE: ALL FROST SUSCEPTIBLE MATERIAL WITHIN 54" (DESIGN FROST DEPTH) OF FINISH GRADE SHALL BE REMOVED AND REPLACED AS SHOWN



NORMAL SECTION

SUBBASE ALTERNATE DETAIL

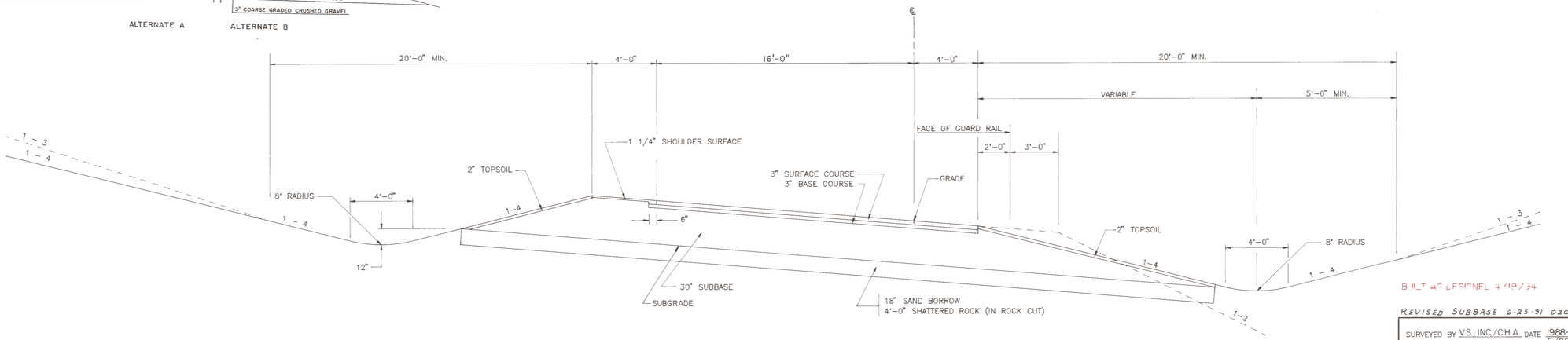


ALTERNATE A ALTERNATE B

CROSS–SLOPE & PARABOLIC DETAIL

NOTES:

THE INSIDE SHOULDER ON ALL RAMPS SHALL BE PAVED FULL DEPTH. ADDITIONALLY THE OUTSIDE SHOULDERS OF ALL RAMPS WITHIN 50 FT. OF THIER ROUTE 2A INTERSECTIONS SHALL BE PAVED FULL DEPTH.



MAXIMUM BANKED SECTION

e=0.080 FT./FT.

BUILT AS DESIGNED 4/19/94

REVISED SUBBASE 6-25-91 DZG

DATUM

VERTICAL N.G.V.D. 1929

HORIZONTAL N.A.D. 1927

SURVEYED BY V.S., INC./C.H.A. DATE 1988–90

DRAWN BY W. PETERSON DATE 5/88

TRACED BY J. LUKOVITS DATE 5/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX

PROJ. WILLISTON–COLCHESTER NO. PB 033–1(2)

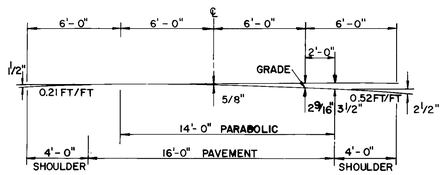
SHEET 10 OF 400

CCCNTYPIC
(CCCNTYPIC)
(CCCNTYPIC)

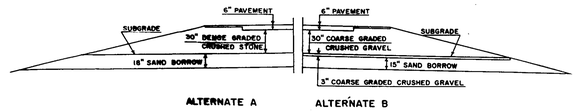
TYPICAL SECTIONS

ALTERNATE A SHOWN BELOW

3" BITUMINOUS CONCRETE PAVEMENT - 1 1/4" TYPE III WEARING COURSE, 1 3/4" TYPE II BINDING COURSE
3" BITUMINOUS CONCRETE PAVEMENT, TYPE I - BASE COURSE 1 - 3" COURSE
30" SUBBASE OF DENSE GRADED CRUSHED STONE
SHOULDERS 1 1/4" BITUMINOUS CONCRETE PAVEMENT
18" SAND BORROW



CROSS-SLOPE & PARABOLIC DETAIL

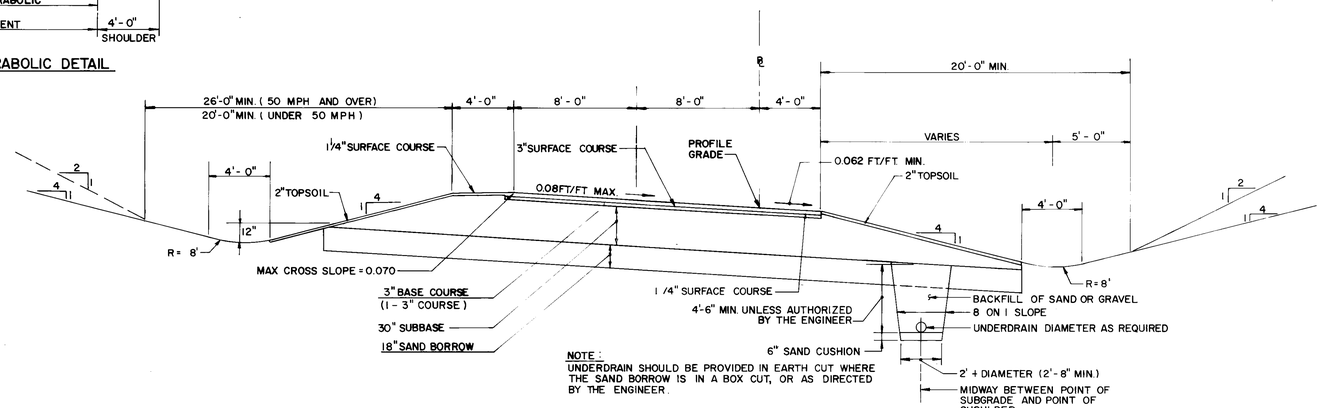


SHOULDER PAVEMENT TO INCLUDE FULL DEPTH PAVEMENT AND BASE:

ROUTE 15 INTERCHANGE

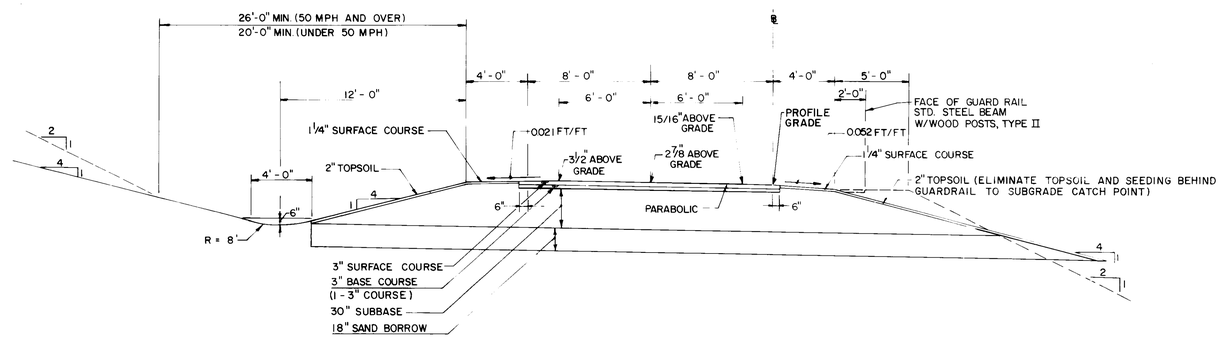
RAMP A STA 9 + 61 TO 15 + 00 RT
STA 21 + 00 TO 24 + 29 RT

RAMP D STA 0 + 00 TO 4 + 00 RT
STA 1 + 00 TO 2 + 00 LT
STA 11 + 00 TO 14 + 78 RT



NOTE :
UNDERDRAIN SHOULD BE PROVIDED IN EARTH CUT WHERE THE SAND BORROW IS IN A BOX CUT, OR AS DIRECTED BY THE ENGINEER.

TYPICAL RAMP - BANKED SECTION



TYPICAL RAMP - NORMAL SECTION

NOTE:
WHEN EXISTING SUBGRADE MATERIAL IN A CUT MEETS OR EXCEEDS THE REQUIREMENTS FOR SAND BORROW, THE EXISTING MATERIAL SHALL REMAIN AND THE SAND BORROW SHALL BE ELIMINATED IN THAT AREA.
SAND BORROW SHALL BE ELIMINATED IN LEDGE CUTS.

BUILT AS DESIGNED 4/19/94

REVISED SUBBASE 6-25-91 DZG
REVISED 12/28/90

DATUM
VERTICAL
HORIZONTAL

SURVEYED BY _____ DATE _____
DRAWN BY RCA DATE 9/87
TRACED BY NPD DATE 11/87

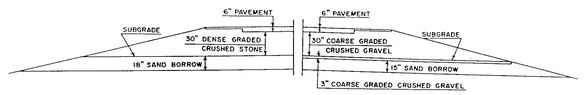
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON NO. PB033-1(2)
COLCHESTER
SHEET 11 OF 400

TYPICAL SECTIONS

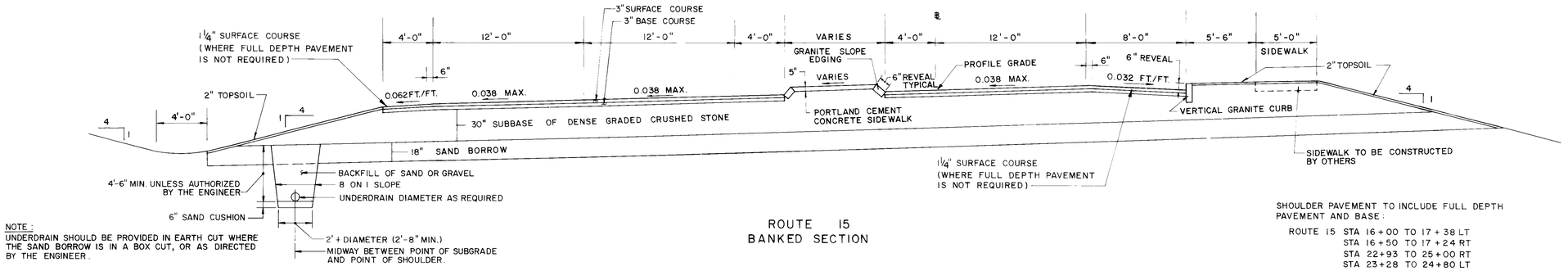
ALTERNATE A SHOWN BELOW

3" BITUMINOUS CONCRETE PAVEMENT - 1 1/4" TYPE III WEARING COURSE, 1 3/4" TYPE II BINDING COURSE
3" BITUMINOUS CONCRETE PAVEMENT, TYPE I - BASE COURSE 1 - 3" COURSE
30" SUBBASE OF DENSE GRADED CRUSHED STONE
SHOULDERS 1 1/4" BITUMINOUS CONCRETE PAVEMENT
18" SAND BORROW

SUBBASE ALTERNATE DETAIL



ALTERNATE A ALTERNATE B



NOTE:
UNDERDRAIN SHOULD BE PROVIDED IN EARTH CUT WHERE THE SAND BORROW IS IN A BOX CUT, OR AS DIRECTED BY THE ENGINEER.

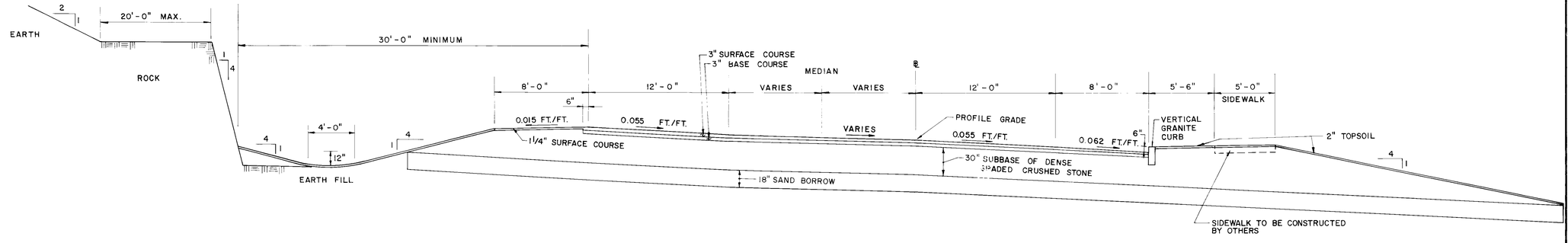
ROUTE 15
BANKED SECTION

SHOULDER PAVEMENT TO INCLUDE FULL DEPTH PAVEMENT AND BASE:

ROUTE 15 STA 16+00 TO 17+38 LT
STA 16+50 TO 17+24 RT
STA 22+93 TO 25+00 RT
STA 23+28 TO 24+80 LT

NOTE:
WHEN EXISTING SUBGRADE MATERIAL IN A CUT MEETS OR EXCEEDS THE REQUIREMENTS FOR SAND BORROW, THE EXISTING MATERIAL SHALL REMAIN AND THE SAND BORROW SHALL BE ELIMINATED IN THAT AREA.

SAND BORROW SHALL BE ELIMINATED IN LEDGE CUTS.



ROUTE 15
BANKED SECTION

NOTE:
STA. 18+78 TO STA. 21+50 TEMPORARY ROADWAY STRUCTURAL SECTION SHALL CONSIST OF 12" OF SUBBASE OF DENSE GRADED CRUSHED STONE, 12" OF SAND BORROW AND 6" OF BITUMINOUS CONCRETE IN THREE LIFTS.

REVISED SUBBASE 6-25-91 DZG
REVISED 1-/22/90

DATUM
VERTICAL _____
HORIZONTAL _____

SURVEYED BY _____ DATE _____
DRAWN BY RCA DATE 9/87
TRACED BY NPD DATE 11/87

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON / COLCHESTER NO. PB033-(12)
SHEET 12 OF 400

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES

WETLAND	UTILITIES	LANG FARM	EROSION CONTROL	STRUCTURES	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.
					1	1	LS	CLEARING AND GRUBBING (28 ACRES PLUS INDIVIDUAL TREES AND STUMPS)	201.10
					1	1	EA	DEMOLIITION AND DISPOSAL OF BUILDING #1 434+25 LT	202.10
					1	1	EA	DEMOLIITION AND DISPOSAL OF BUILDING #2 434+80 LT	202.10
					1	1	EA	DEMOLIITION AND DISPOSAL OF BUILDING #3 443+90 RT	202.10
					1	1	EA	DEMOLITION AND DISPOSAL OF BUILDING #4 RTE 2A RAMP A 11+50 LT	202.10
					1	1	EA	DEMOLITION AND DISPOSAL OF BUILDING #5 RTE 2A RAMP A 12+00 RT	202.10
11,700		4,550			287,566	303,816	CY	COMMON EXCAVATION	203.15
					564,129	564,129	CY	SOLID ROCK EXCAVATION	203.16
					5,000	5,000	CY	MUCK EXCAVATION (EST.)	203.20
				1,630	16,095	17,725	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27
					10,000	10,000	CY	EARTH BORROW (EST.)	203.30
				2,480	50,000	52,480	CY	SAND BORROW (MOD. – AT VERTICAL DRAINS)	203.31
				182,200		182,200	CY	GRANULAR BORROW	203.32
					1,000	1,000	CY	GRAVEL BACKFILL FOR SLOPE STABILIZATION (EST.)	203.35
		5,250			107,898	113,148	SY	FINE GRADING–SUBGRADE	203.40
2,250	438				9,450	12,138	CY	TRENCH EXCAVATION OF EARTH	204.20
					6,673	6,673	CY	TRENCH EXCAVATION OF ROCK	204.21
	150					150	CY	TRENCH EXCAVATION OF ROCK (UTILITY)	204.21
				3,500		3,500	CY	STRUCTURE EXCAVATION	204.25
				630		630	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30
					100	100	LF	DRILLING AND BLASTING OF SOLID ROCK (EST.)	205.10
					43,046	43,046	SY	DRILLING AND BLASTING OF SOLID ROCK SUBGRADE	205.20
					2,022	2,022	SY	SCARIFYING PAVEMENT	212.20
		3,000		400		3400	CY	SUBBASE OF GRAVEL	301.15
		650				650	CY	SUBBASE OF CRUSHED GRAVEL(FINE GRADED)	301.26
		605			19,653	20,258	TON	BITUMINOUS CONCRETE PAVEMENT	406.25
				510		510	CY	CONCRETE–CLASS A	501.22
				992	127	1,119	CY	CONCRETE–CLASS B	501.25
				1		1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10
				12,305		12,305	LF	STEEL PILING (HP 12 X 74)	505.16
				2,150		2,150	SF	TEMPORARY STEEL SHEET PILING	505.36
				1		1	LS	STRUCTURAL STEEL (PLATE GIRDER) – BRIDGE 13 (158,625 LB)	506.75
				1		1	LS	STRUCTURAL STEEL (PLATE GIRDER) – BRIDGE 14 (490,362 LB)	506.75
				122,010	11,781	133,791	LB	REINFORCING STEEL	507.15
				166,930		166,930	LB	EPOXY COATED REINFORCING STEEL	507.17
				1		1	LS	SHEAR CONNECTORS – BRIDGE 13 (2388 EA)	508.15
				1		1	LS	SHEAR CONNECTORS – BRIDGE 14 (1644 EA)	508.15
				1		1	EA	CGM PLATE PIPE (186X.138)(100,688 LBS) STA 502+25	511.15
								BEGIN STRUCTURE OPTIONS	
								BRIDGE 14–4 OPTION – STA 515+63	
				1		1	EA	CGM PLATE PIPE (108X.168)(92,625 LBS)	511.15
				1		1	EA	CORR. ALUM ALLOY PLATE PIPE (108X.200)(39,812.5 LBS)	511.25
								BRIDGE 14–2 OPTION – CVRR STA 36+05 – 40+30 LT	
				1		1	EA	CGM PLATE PIPE (78X.109)(56,950 LBS)	511.15
				425		425	LF	78" CSP .138 (3X1)	601.0148
				425		425	LF	78" CAAP .105 (3X1)	601.0348
								END STRUCTURE OPTIONS	
				76		76	GAL	WATER REPELLANT	514.10
				59		59	LF	GALVANIZED STRUCTURAL STEEL LINER – (60X.1046)	515.10
				31		31	LF	BRIDGE EXPANSION JOINT – BRIDGE 14	516.10
				1,460		1,460	SY	SHEET MEMBRANE WATERPROOFING	519.20
				1,103		1,103	LF	BRIDGE RAILING – 2 RAIL GALV.BOX BEAM	525.31
					400	400	LF	REMOVAL OF EXISTING PIPE 12"–24" DIAMETER	529.50

APPROXIMATE SUMMARY OF QUANTITIES

WETLAND	UTILITIES	LANG FARM	EROSION CONTROL	STRUCTURES	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.
				12		12	EA	BEARING DEVICE ASSEMBLY – STR #3	531.10
				12		12	EA	BEARING DEVICE ASSEMBLY – STR #6	531.10
					92	92	LF	18" CSP .064 (2–2/3X1/2)	601.0015
					380	380	LF	42" PCCSP .109 (2–2/3X1/2)	601.0452
					1,024	1,024	LF	18" RCP CLASS III	601.0815
					56	56	LF	24" RCP CLASS III	601.0825
					158	158	LF	30" RCP CLASS III	601.0835
					2	2	EA	18" CSP ELBOW.064 (2–2/3X1/2)	601.5015
					2	2	EA	18" RCPES CLASS III	601.6815
								BEGIN PIPE OPTIONS	
								OPTION A (OPTION FOR 12" PIPE)	
					342	342	LF	12" CAAP .060 (2–2/3X1/2)	601.0205
					342	342	LF	12" PCCSP .064 (2–2/3X1/2)	601.0405
								OPTION B (OPTION FOR 18" PIPE)	
					420	420	LF	18" CAAP .060 (2–2/3X1/2)	601.0215
					420	420	LF	18" PCCSP .064 (2–2/3X1/2)	601.0415
					420	420	LF	18" RCP CLASS III	601.0815
								OPTION C (OPTION FOR 18" PIPE)	
					2,092	2,092	LF	18" CAAP .060 (2–2/3X1/2)	601.0215
					2,092	2,092	LF	18" PCCSP .064 (2–2/3X1/2)	601.0415
								OPTION D (OPTION FOR 24" PIPE)	
					772	772	LF	24" CAAP .060 (2–2/3X1/2)	601.0225
					772	772	LF	24" PCCSP .064 (2–2/3X1/2)	601.0425
								OPTION E (OPTION FOR 30" PIPE)	
					694	694	LF	30" CAAP .075 (2–2/3X1/2)	601.0236
					694	694	LF	30" PCCSP .079 (2–2/3X1/2)	601.0436
								OPTION F (OPTION FOR 36" PIPE)	
					1,214	1,214	LF	36" CAAP .075 (2–2/3X1/2)	601.0246
					1,214	1,214	LF	36" PCCSP .079 (2–2/3X1/2)	601.0446
								OPTION G (OPTION FOR 42" PIPE)	
					1,144	1,144	LF	42" CAAP .105 (2–2/3X1/2)	601.0252
					1,144	1,144	LF	42" PCCSP .109 (2–2/3X1/2)	601.0452
								OPTION J (OPTION FOR 12" ELBOW)	
					6	6	EA	12" CAAP ELBOW.060 (2–2/3X1/2)	601.5205
					6	6	EA	12" PCCSP ELBOW.064 (2–2/3X1/2)	601.5405
								OPTION K (OPTION FOR 18" ELBOW)	
					2	2	EA	18" CAAP ELBOW.060 (2–2/3X1/2)	601.5215
					2	2	EA	18" PCCSP ELBOW.064 (2–2/3X1/2)	601.5415
								OPTION L (OPTION FOR 18" END SECTION)	
					1	1	EA	18" CSPES.064 (2–2/3X1/2)	601.6015
					1	1	EA	18" CAAPES.060 (2–2/3X1/2)	601.6215
								OPTION M (OPTION FOR 30" END SECTION)	
					1	1	EA	30" CSPES.079 (2–2/3X1/2)	601.6036
					1	1	EA	30" CAAPES.075 (2–2/3X1/2)	601.6236
								OPTION N (OPTION FOR 42" END SECTION)	
					1	1	EA	42" CSPES.109 (2–2/3X1/2)	601.6052
					1	1	EA	42" CAAPES .105 (2–2/3X1/2)	601.6252

NOTE : ALL FINAL QUANTITIES ARE LOCATED IN THE FIELD BOOKS OR ON THE COMPARISON SHEETS.

REVISED 6–25–91 T.R.

PROJECT NAME WILLISTON – COLCHESTER
PROJECT NUMBER PB 033–1(2)

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES

WETLAND	UTILITIES	LANG FARM	EROSION CONTROL	STRUCTURES	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.
								END PIPE OPTIONS	
					38	38	CY	CEMENT RUBBLE MASONRY	602.15
					1	1	EA	PRECAST REINFORCED CONCR. CATCH BASIN W/CAST IRON GRATE	604.20
					2	2	EA	PRECAST PIPE DROP INLET W/CAST IRON GRATE	604.30
					24	24	EA	CAST IRON GRATE W/FRAME-TYPE A	604.45
					18	18	EA	CAST IRON GRATE W/FRAME-TYPE B	604.46
					9	9	EA	CAST IRON GRATE W/FRAME-TYPE D	604.51
					1	1	EA	CAST IRON GRATE W/FRAME-TYPE E	604.52
					11,665	11,665	LF	6" UNDERDRAIN	605.10
					435	435	LF	6" UNDERDRAIN CARRIER PIPE	605.20
					2	2	EA	UNDERDRAIN FLUSHING BASINS	605.95
					100	100	HR	ROADWAY PATROL MAINTENANCE (EST.)	607.10
					1	1	HR	BULLDOZER RENTAL - TYPE II (EST.)	608.11
					1	1	HR	ALL PURPOSE EXCAVATOR RENTAL - TYPE II (EST.)	608.26
					1	1	HR	TRUCK RENTAL (EST.)	608.37
					300	300	MGL	DUST CONTROL WITH WATER (EST.)	609.10
					20	20	TON	DUST AND ICE CONTROL W/CALCIUM CHLORIDE (EST.)	609.15
				837	3,483	4,320	CY	STONE FILL - TYPE I	613.10
				130		130	CY	STONE FILL - TYPE I (MOD. - CULVERT LINER)	613.10
550				670	3,986	5,206	CY	STONE FILL - TYPE II	613.11
					500	500	CY	STONE FILL - TYPE IV (EST.)	613.13
				1		1	LS	TEMPORARY RELOCATION OF STREAM	614.10
					1,245	1,245	LF	GRANITE SLOPE EDGING	616.20
				1,063		1,063	LF	GRANITE BRIDGE CURB	616.22
		290			1,062	1,352	LF	CAST-IN-PLACE CEMENT CONCRETE CURB-TYPE B	616.28
					3	3	TON	BITUMINOUS CONCRETE CURB-TYPE A	616.30
					100	100	LF	TREATED TIMBER CURB (EST.)	616.35
					4	4	EA	RELOCATE MAILBOX - SINGLE SUPPORT	617.10
					132	132	SY	PORTLAND CEMENT CONCRETE SIDEWALK - 5 INCH	618.10
					76	76	EA	BOUNDARY MARKERS	619.10
					13	13	EA	WOOD MARKER POSTS	619.15
					10	10	EA	REMOVING AND RESETTING PROPERTY MARKERS (EST.)	619.20
					26,630	26,630	LF	WOVEN WIRE FENCE W/STEEL POSTS	620.25
					2	2	EA	DRIVE GATE FOR WOVEN WIRE FENCE	620.30
					152	152	EA	STEEL BRACE FOR WOVEN WIRE FENCE	620.40
				155		155	LF	SNOW BARRIER - GALVANIZED	620.75
					588	588	LF	STEEL BEAM GUARD RAIL WITH WOOD POSTS	621.20
					8	8	EA	BREAKAWAY CABLE TERMINAL	621.50
					4	4	EA	GUARD RAIL APPROACH SECTION - TYPE I	621.70
					4	4	EA	GUARD RAIL APPROACH SECTION - TYPE II	621.71
					10	10	EA	SETTLEMENT PLATFORM - TYPE I	623.21
					22	22	EA	SETTLEMENT PLATFORM VIBRATING WIRE	623.23
					850	850	LF	INCLINOMETER	623.30
					25	25	EA	PIEZOMETER VIBRATING WIRE	623.40
					400	400	LF	GROUND WATER OBSERVATION WELL	623.50
					280	280	LF	SLEEVES FOR UTILITIES (6 INCH PVC)	625.10
	178					178	LF	SLEEVES FOR UTILITIES (48 INCH X 0.500 WELDED STEEL)	625.10
					400	400	HR	UNIFORMED TRAFFIC OFFICERS (EST.)	630.10
					2,000	2,000	HR	FLAGGERS (EST.)	630.15
					3,500	(T) 3500	HR	EMPLOYEE TRAINEESHIP (EST.)	634.10
					1	1	LS	MOBILIZATION	635.10
					1	1	LS	TRAFFIC CONTROL	641.10
		1,850			27,830	29,680	LF	4" WHITE LINE	646.20
		3,220			26,420	29,640	LF	4" YELLOW LINE	646.21
		440			265	705	LF	DURABLE 8" WHITE LINE	646.42
		1,300				1,300	LF	DURABLE 8" YELLOW LINE	646.43
		54			55	109	LF	DURABLE 24" STOP BAR	646.46
		4			13	17	EA	DURABLE LETTER OR SYMBOL	646.50

APPROXIMATE SUMMARY OF QUANTITIES

WETLAND	UTILITIES	LANG FARM	EROSION CONTROL	STRUCTURES	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.
					1,500	1,500	LF	TEMPORARY 4" WHITE LINE (EST.)	646.60
					1,500	1,500	LF	TEMPORARY 4" YELLOW LINE (EST.)	646.61
		4,500		5,250	81,200	90,950	SY	GEOTEXTILE FABRIC FOR FILTERS	649.10
		1,200		5,580		6,780	SY	GEOTEXTILE FABRIC FOR SILT FENCE	649.20
					1,775,000	1,775,000	LF	PREFABRICATED VERTICAL DRAIN	650.10
					60,000	60,000	LF	OBSTRUCTION REMOVAL, AUGER	650.15
		50		24	2,750	2,824	LB	SEED	651.15
					300	300	LB	SEED-WINTER RYE	651.17
				200	22,850	23,050	LB	FERTILIZER	651.18
				1	92	93	TON	AGRICULTURAL LIMESTONE	651.20
				1	92	93	TON	HAY MULCH	651.25
		50		9	481	540	EA	HAY BALES FOR EROSION CONTROL	651.26
					100	100	SY	SODDING (EST.)	651.30
					7,158	7,158	CY	TOP SOIL	651.35
				4,000	27,200	31,200	SY	GRUBBING MATERIAL	651.40
				560	9,508	10,068	SY	EROSION MATTING	654.10
		16				16	EA	EVERGREEN TREES-LARIX LARCINA (EASTERN LARCH) 1-1/2 - 2	656.20
		15				15	EA	DECIDUOUS TREES-ACER RUBRUM (RED MAPLE) 1-1/2 - 2	656.30
		12				12	EA	DECIDUOUS TREES-AMELANCHIER CANADENSIS (SHAD BUSH) 1-1/2	656.30
		224				224	EA	DECIDUOUS SHRUBS-ARONIA ARBUTIFOLIA (RED CHOKECHERRY) 24-30 HT.	656.35
		206				206	EA	DECIDUOUS SHRUBS-CORNUS STOLINIFERA (RED OSIER DOGWOOD) 24-30 HT.	656.35
		166				166	EA	DECIDUOUS SHRUBS-ILEX VERTICILLATA (WINTERBERRY) 24-30 HT.	656.35
		98				98	EA	DECIDUOUS SHRUBS-SAMBUCUS CANADENSIS (ELDERBERRY) 24-30 HT.	656.35
		146				146	EA	DECIDUOUS SHRUBS-VIBURNUM DENTATUM (ARROW WOOD) 24-30 HT.	656.35
		88				88	EA	DECIDUOUS SHRUBS-VACCINIUM CORYMBOSUM (HIGH BUSH BLUEBERRY) 24-30 HT.	656.35
		26				26	EA	DECIDUOUS SHRUBS-CORNUS AMOMUM (SILKY DOGWOOD) 24-30 HT.	656.35
		5,000				5,000	EA	GROUND COVERS AND VINES-LEERSIA ORYZOIDES (RICE CUT GRASS) PEAT POTS	656.40
		8,000				8,000	EA	GROUND COVERS AND VINES-SPARGANIUM EURYCARPUM (BURREED) LARGE ROOTS	656.40
		1,250				1,250	EA	GROUND COVERS AND VINES-SAGITTARIA LATIFOLIA (DUCK POTATOE) LARGE TUBERS	656.40
		1,250				1,250	EA	GROUND COVERS AND VINES-SCIRPUS AMERICANUS (COMMON TREE SQUARE) LARGE TUBERS	656.40
					654	654	SF	TRAFFIC SIGNS - TYPE A	675.20
					885	885	SF	TRAFFIC SIGNS - TYPE B	675.21
					1,000	1,000	LB	FLANGED CHANNEL SIGN POSTS	675.30
					14,000	14,000	LB	W-SHAPE STEEL SIGN POSTS	675.31
					1,500	1,500	LB	TUBULAR ALUMINUM SIGN POSTS	675.32
					10	10	EA	FOUNDATION FOR W-SHAPE STEEL POSTS 24" DIAMETER	675.41
					2	2	EA	FOUNDATION FOR W-SHAPE STEEL POSTS 30" DIAMETER	675.42
					10	10	EA	REMOVING SIGNS (EST.)	675.50
					68	68	EA	DELINEATORS W/STEEL POSTS	676.10
					1	1	EA	TRAFFIC CONTROL SIGNAL SYSTEM - (ROUTE 15)	678.15
			1			1	EA	TRAFFIC CONTROL SIGNAL SYSTEM - (LANG FARM)	678.15
					1	1	EA	FLASHING BEACON - STA. 467+00	678.16
					1	1	EA	FLASHING BEACON - STA. 501+00	678.16
					230	230	LF	ELECTRICAL CONDUIT	678.21
		180			250	430	LF	VEHICLE LOOP DETECTOR	678.22
					20	20	EA	PULL BOX	678.25
					1	1	LS	STREET LIGHTING - ROUTE 15	679.15
					1	1	LS	STREET LIGHTING - RTE 2A RAMP D	679.15
								ALTERNATE A	
					39,296	39,296	CY	SAND BORROW	203.31
					81,970	81,970	CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35
					12,000	12,000	CY	SUBBASE OF DENSE GRADED CRUSHED STONE (RECYCLED)	301.35
								ALTERNATE B	
					32,746	32,746	CY	SAND BORROW	203.31
					88,250	88,250	CY	SUBBASE OF CRUSHED GRAVEL (COURSE GRADED)	301.25
					12,000	12,000	CY	SUBBASE OF CRUSHED GRAVEL (COURSE GRADED) (RECYCLED)	301.25
								(T) = TRAINING	
								NOTE: ALL FINAL QUANTITIES ARE SHOWN IN THE FINAL BOOK OF THE SUMMARY SHEETS.	
								REVISED 6-25-91 T.R.	

PROJECT NAME WILLISTON - COLCHESTER
PROJECT NUMBER PB 033-1(2)

ITEM DETAIL AND DRAINAGE SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE STRUCTURES

STA.	STA.	POS.	ASKEW	TYPE IN	TYPE OUT	DITCH IN	DITCH OUT	REM/RST S IN	REM/RST L FT	PIPE D IN	PIPE L FT	PIPE OPT	OPTIONS CSP TH	OPTIONS RCP CL	OPTIONS PCCSP TH	OPTIONS CAAP TH	OPTIONS CGMPP TH	NO. PIPE ELBOW EA	ELBOWS D IN	ELBOWS TOP DEG	ELBOWS BOT DEG	ELBOWS 24" CPLG EA	ELBOWS ELB OPT	END SECTION EA	END SECTION OPT	DEPTH DI FT	CONC CL B CY	REIN STEEL LBS	DI GRATE TYPE	CHAN ELEV	C R M CY	TR EXCAV EARTH CY	TR EXCAV ROCK CY	UN-CLASS CHAN CY	COM EXCAV CY	STRUC EXCAV CY	UNDR BKF STRUC CY	STONE FILL TYPE	STONE FILL CY	MRKR POSTS LT	MRKR POSTS RT	REMARKS
MAINLINE																																										
436+40	437+70	RT																																				I	54			SPECIAL DITCH W/TYPE I STONE FILL
441+10	443+23	RT																													90						II	46			SPECIAL DITCH W/TYPE II STONE FILL
443+50	444+00	LT																																			I	19			SPECIAL DITCH W/TYPE I STONE FILL
443+50		CL																								6.0	2.6	246	A											1		
443+50	443+50	CL LT		DI	DI					18	58	C			0.064	0.060																										
443+50		LT																								7.5	3.1	285	A											1		
442+50	443+50	LT LT		DI	PAD					18	114	C			0.064	0.060		2	18	21	21	4	K								1						I	1	1		OUTLET PAD (8'X4'X1')
444+10	444+10	LT RT		HDWL	HDWL					42	380				0.109															12.8	371									W/CRADLE HEADWALLS
444+00	445+00	LT																																			II	345			SPECIAL DITCH W/TYPE II STONE FILL
445+00	447+50	LT																																			II	438			SPECIAL DITCH W/TYPE II STONE FILL
445+50	447+50	RT																																			II	364			SPECIAL DITCH W/TYPE II STONE FILL
445+00	446+75	RT																																							ENHANCED EMBANKMENT DITCH W/EROSION MATTING AND SEEDING
453+40	459+50	LT RT																															1096								EARTH DAM EMBANKMENT
447+00	450+50	LT																															258								TYPICAL CUT-OFF SWALE
450+50	458+00	LT																															2466								TYPICAL CUT-OFF SWALE
447+50	458+00	RT																																							SPECIAL DITCH W/EROSION MATTING AND SEEDING
447+50	458+00	LT																																							SPECIAL DITCH W/EROSION MATTING AND SEEDING
447+25	450+50	RT RT		DI	DI					42	326	G			0.109	0.105															45	387									OUTLET TO SPECIAL DITCH
450+50		RT																								6.0	3.3	307	A			12									
450+50	450+50	LT RT		DI	DI					18	94	C			0.064	0.060																36									
450+50		LT																								3.5	1.8	161	A			7								1	
450+50	453+00	RT RT		DI	DI					42	248	G			0.109	0.105																324									
453+00		RT																								6.0	3.1	307	A			13									
453+00	453+00	LT RT		DI	DI					18	86	C			0.064	0.060																36									
453+00		LT																								4.5	2.1	192	A			9								1	
453+00	456+00	RT RT		DI	DI					36	298	F			0.109	0.105																313									
456+00		RT																								5.5	3.0	279	A			14									
456+00	456+00	LT RT		DI	DI					18	82	C			0.064	0.060																32									
456+00		LT																								3.5	1.8	161	A			7								1	
456+00	459+00	RT RT		DI	DI					36	298	F			0.109	0.105																319									
459+00		RT																								5.5	3.2	279	A			13									
459+00	459+00	LT RT		DI	DI					18	84	C			0.064	0.060																35									
459+00		LT																								4.0	2.0	184	A			10								1	
459+00	463+00	RT RT		DI	DI					36	398	F			0.109	0.105																345									
463+00		RT																								5.0	2.8	270	A			9									
463+00	463+00	LT RT		DI	DI					36	84	F			0.109	0.105																74									
463+00		LT																								5.0	2.8	270	A			9								1	
463+00		LT																													4.9	14								HEADWALL
463+00	463+00	LT LT		HDWL	DI					36	32	F			0.109	0.105																18									
463+00	467+00	RT RT		DI	DI					18	398	C			0.064	0.060																195									
467+00		LT																								3.5	1.8	161	A			6								1	
467+00	467+00	LT RT		DI	DI					18	74	C			0.064	0.060																34									
467+00		RT																								3.5	1.8	161	A			9									1
471+50		LT																													4.9	17								HEADWALL
471+50	471+50	LT LT		HDWL	DI					36	30	F			0.109	0.105																23									
471+50		LT																								7.0	3.8	344	A			14								1	
471+50	471+50	LT RT								36	74	F			0.109	0.105																109									
471+50		RT																								7.5	3.8	353	A			20									
471+50	471+50	RT RT								42	42	G			0.109	0.105																85									
471+50		RT																								8.0	4.4	382	A			21									
471+50	473+45	RT RT		DI	PAD					42	276	G			0.109	0.105								1	N						897	154					II	6			OUTLET PAD (6'X4'X2')
458+00	463+00	LT																															1076								TYPICAL CUT-OFF SWALE
463+00	469+00	LT																															895								TYPICAL CUT-OFF SWALE
469+00	471+50	LT																															218								TYPICAL CUT-OFF SWALE
471+50	473+00	LT																															306								TYPICAL CUT-OFF SWALE
458+00	473+00	LT																																							SPECIAL DITCH W/EROSION MATTING AND SEEDING
458+00	473+00	RT																																							SPECIAL DITCH W/EROSION MATTING AND SEEDING
473+00	484+00	LT																																							SPECIAL DITCH W/EROSION MATTING AND SEEDING
473+00	480+00	RT																																							SPECIAL DITCH W/EROSION MATTING AND SEEDING
480+00	481+25	RT																																							SPECIAL DITCH W/EROSION MATTING AND SEEDING
473+00	484+00	LT																															1661								TYPICAL CUT-OFF SWALE
484+00	488+00	LT																																			II	570			SPECIAL DITCH W/TYPE II STONE FILL
471+50	477+50	RT RT		DI	DI					18	598	C			0.064	0.060																290									
477+50		LT																								3.5	1.8	161	A			8								1	
477+50	477+50	LT RT		DI	DI					18	74	C			0.064	0.060																33									
477+50		RT																								4.0	2.0	184	A			7								1	
TOTALS										1662		C						2	K			4	1	N		51.0	4687	19-A		22.6	1404	3061	7976	0	0	0	I	74	11	2	
										1214		F																									II	1769			
										892		G																									IV	0			
										380		42" PCCSP .168																														

FINAL WIDENING AND
SCARIFICATION OF
SHOULDER AT OFF...

TOTALS

UNDERDRAIN

STA.	STA.	TYP.	POS.	D	L	TRENCH E	TRENCH R	CAR	FB	MKR PST
MAINLINE										
446+75	449+00		LT	6	200	7	65	35		2
447+25	450+50		RT	6	300	31	291	25		1
450+50	453+00		RT	6	250		196			
453+00	456+00		RT	6	300		245			
456+00	459+00		RT	6	300		245			
450+50	450+50		LT-RT	6	75		35			
453+00	453+00		LT-RT	6	67		29			
456+00	456+00		LT-RT	6	64		27			
459+00	463+00		RT	6	400		222			
463+00	467+00		RT	6	400		206			
467+00	471+50		LT	6	450	14	262			
467+00	471+50		RT	6	450		330			
459+00	459+00		LT-RT	6	64		30			
463+00	463+00		LT-RT	6	64		38			
467+00	467+00		LT-RT	6	65		29			
471+50	477+50		LT	6	600		343			
471+50	477+50		RT	6	600		350			
471+50	471+50		LT-RT	6	65		82			
477+50	480+00		RT	6	250		158			
477+50	483+50		LT	6	600	65	254			
477+50	477+50		LT-RT	6	65		23			
491+00	495+00		LT	6	400	136	13			
492+00	495+00		RT	6	300	116	30	90		
495+00	499+50		LT	6	450	144	39	35		1
495+00	500+00		RT	6	500	162	6	106		
TOTALS					7279	675	3548	285	0	4

PROJECT NAME WILLISTON - COLCHESTER
PROJECT NUMBER PB 033-1(2)

REVISED 6/25/91 RDH
SHEET 15 OF 400 SHEETS

ITEM DETAIL AND DRAINAGE SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE STRUCTURES

STA.	STA.	POS.	ASKEW	TYPE IN	TYPE OUT	DITCH IN	DITCH OUT	REM/RST S	REM/RST L	PIPE OPTIONS D	PIPE OPTIONS L	PIPE OPTIONS OPT	CSP TH	RCP CL	PCCSP TH	CAAP TH	CGMPP TH	NO. PIPE ELBOW EA	ELBOWS D IN	ELBOWS TOP DEG	ELBOWS BOT DEG	ELBOWS 24" CBLG EA	ELBOWS ELB OPT	END SECTION EA	END SECTION OPT	DEPTH DI FT	CONC CL B CY	REIN STEEL LBS	DI GRATE TYPE	CHAN ELEV	C R M CY	TR EXCAV EARTH CY	TR EXCAV ROCK CY	UN-CLASS CHAN CY	COM EXCAV CY	STRUC EXCAV CY	GRAN BKF STRUC. CY	STONE FILL TYPE	STONE FILL CY	MRKR POSTS LT	MRKR POSTS RT	REMARKS
MAINLINE																																										
487+50	~~487+50~~	LT RT	74°	HDWL	HDWL					42	252	G			0.109	0.105															35											
~~487+50~~	~~488+33~~	RT																												1.5	5						II	196	1		HEADWALL OUTLET TO ENERGY DISIPATION PAD (SEE DETAIL)
487+50		LT																												1.5	12										HEADWALL
495+00		LT																																				1		
495+00	495+00	LT RT		DI	PAD					18	150	C			0.064	0.060										4.0	2.0	184	A				8									OUTLET PAD (14'X14'X1')
500+00	500+00	LT RT		PAD	PAD					24	192	D			0.064	0.060															43	56					I	2	1		
488+00	491+35	LT																													10						II	84			STONE FILL INLET; OUTLET PAD (8'X8'X2')
491+00	496+00	LT																																			II	227			SPECIAL DITCH W/TYPE II STONE FILL
496+00	499+00	LT																														1843								TYPICAL CUT-OFF SWALE
492+00	498+75	LT																														819								TYPICAL CUT-OFF SWALE
498+75	499+60	LT																																						SPECIAL DITCH W/EROSION MATTING AND SEEDING
504+85	504+85	LT RT		HDWL	HDWL					186	286						0.218																				II	95			SPECIAL DITCH W/TYPE II STONE FILL
495+25	500+00	RT																																							CORRUGATED GALVANIZED PLATE PIPE, SEE SHEET BR701
502+00	520+00	LT																																							SPECIAL DITCH W/EROSION MATTING AND SEEDING
506+50		LT																																							SPECIAL DITCH W/EROSION MATTING AND SEEDING
506+50	506+50	LT LT		DI	PAD					12	114	A			0.064	0.060		2	12	21	21	4	J			3.5	1.8	161	A											1		
512+00		LT																														1						I	1			
512+00	512+00	LT LT		DI	PAD					12	52	A			0.064	0.060										3.5	1.8	161	A											1		
517+00		LT																														1						I	1	1		OUTLET PAD (4'X2'X1')
517+00	517+00	LT		DI	PAD					12	58	A			0.064	0.060										3.5	1.8	161	A											1		
515+63		LT RT	37 H	DWL H	DWL					108	325					0.200	0.168																1						I	1	1	C	OUTLET PAD (4'X2'X1')
520+00	522+00	RT																																							ORRUGATED PIPE STRUCTURE OPTION, SEE SHEET BR801
520+00	523+00	LT																														180						II	180			4' WIDE SPECIAL DITCH
520+00	520+00	LT RT		HDWL	RCES					30	158			III																												4' WIDE SPECIAL DITCH
520+00	524+00	LT																												7.0	156										INCLUDES "L" SHAPED HEADWALL
520+10	521+00	RT		MES	DI					30	94	E			0.079	0.075								1	M	5.5	2.5	223	B			180						II	180			4' WIDE SPECIAL DITCH
521+00	524+00	RT		DI	DI					30	300	E			0.079	0.075										4.5	2.1	192	B			172										
527+00	A-14+60	LT RT		DI	DI					18	100			III												5.0	2.3	215	B			357										
529+50	A-17+13	RT		DI	DI					24	56			III												5.5	2.5	223	B			95										
529+50	529+50	LT RT		DI	DI					18	100			III												4.0	2.0	199	B			95										
529+50	531+50	RT		DI	DI					24	200	D			0.064	0.060										6.0	2.6	246	B			72										
531+50	531+50	LT		DI	DI					18	56			III												4.5	2.1	192	B			230										
531+50	531+50	LT RT		DI	DI					18	56			III												5.0	2.3	232	B			50										
																																62										
CVRR																																									
36+05	40+30	LT LT		HDWL	HDWL					78	425	STR	0.138			0.135	0.109																									CORRUGATED PIPE STRUCTURE OPTION, SEE SHEET BR10&1101
41+50		RT LT		HDWL	HDWL					60	59																															GALVANIZED STRUCTURAL STEEL LINER PLATE PIPE SEE SHEET BR10&1103
39+95	44+50	RT																														2380						II	1255			SPECIAL DITCH ALONG CVRR W/TYPE II STONE FILL
44+50	53+50	RT																														1164						I	737			SPECIAL DITCH ALONG CVRR W/TYPE I STONE FILL
44+50	53+50	LT																														1913						I	532			SPECIAL DITCH ALONG CVRR W/TYPE I STONE FILL
41+05																																									EXISTING BOX CULVERT TO BE CLEANED
43+17	44+47	LT		HDWL	HDWL					24	130	D			0.064	0.060																										
ROUTE 2A	RAMP A																																									
11+50	13+00	RT																																			I	22			ENHANCED EMBANKMENT DITCH W/TYPE I STONE FILL
15+00	17+50	RT																																			I	429			SPECIAL DITCH W/TYPE I STONE FILL
17+25	20+60	LT																																			I	159			SPECIAL DITCH W/TYPE I STONE FILL
17+50	22+50	RT																																							ENHANCED EMBANKMENT DITCH W/EROSION MATTING AND SEEDING
ROUTE 2A	RAMP B																																									
12+00	20+00	RT																																			I	110			ENHANCED EMBANKMENT DITCH W/TYPE I STONE FILL
18+50	22+20	LT																																							SPECIAL DITCH W/EROSION MATTING
ROUTE 2A	RAMP D																																									
12+00	13+00	RT																																							ENHANCED EMBANKMENT DITCH
13+00	19+00	RT																																			I	89			ENHANCED EMBANKMENT DITCH W/TYPE I STONE FILL
14+50	20+10	LT																																			I	249			SPECIAL DITCH W/TYPE I STONE FILL
19+00		RT																								4.0	2.0	184	A											1		
19+00	19+00	RT RT		DI	PAD					12	76	A			0.064	0.060		2	12	21	21	4	J															I	1	1		OUTLET PAD (8'X4'X1')
19+20		LT																								PRCC															
19+20	19+20	LT LT		DI	DITCH					12	28	A			0.064	0.060		2	12	21	21	4	J																	1		
21+60		LT																								PRCC															
21+60	21+60	LT LT		DI	DITCH					12	14	A			0.064	0.060																								1		
21+45	113+30 2A	LT RT																																			I	178			SPECIAL DITCH W/TYPE I STONE FILL
21+20	117+80 2A	RT RT																																			I	152			SPECIAL DITCH W/TYPE I STONE FILL
										OPTIONS				RCP	DIA																												
TOTALS										342		A		312	18			6	OPT. J		12		1	M		27.6	2573	5-A		15.4	1860	64	8119	0	0	0	II	2663	8	3	
										150		C		56	24														8-B									II	2217			
										522		D		158	30																							IV	0			
										394		E																													
										252		G																													

TOTALS

UNDERDRAIN

STA.	STA.	TYP.	POS.	D	L	TRENCH E	TRENCH R	CAR	FB	MKR PST
CARRIED	FORWARD			7279	675	3548	285	0		4
MAINLINE										
520+00	521+00	RT	6	86	71		20			
520+00	525+75	LT	6	560	388		20			
521+00	524+00	LT	6	300	200					
527+00	530+50	LT	6	350	233					
528+50	529+50	RT	6	100	66					
529+50	530+50	RT	6	100	66					
ROUTE 15	RAMPS									
A-11+60	A-14+60	RT	6	300	200					
A-14+60	A-17+14	RT	6	250	167					
A-17+13	A-19+13	RT	6	200	133					
D-2+50	D-5+00	RT	6	230	167		20			1
D-5+20	D-11+20	RT	6	575	402		25	1		1
ROUTE 15										
10+50	14+50	LT	6	410	276					
11+60	15+00	RT	6	336	226					
23+50	24+45	LT	6	95	61					
24+51	29+45	LT	6	494	332					
22+40	23+10	LT	6		36		65	1		
TOTALS				11665	3699	3548	435	2		6

FINAL QUANTITIES ARE EQUATED ON THE SUMMARY SHEETS.

PROJECT NAME WILLISTON - COLCHESTER
PROJECT NUMBER PB 033-1(2)

ITEM DETAIL AND DRAINAGE SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE STRUCTURES

STA.	STA.	POS.	ASKEW	TYPE IN	TYPE OUT	DITCH IN	DITCH OUT	REM/RST S	REM/RST L	PIPE OPTIONS D IN	PIPE OPTIONS L FT	OPT	CSP TH	RCP CL	PCCSP TH	CAAP TH	CGMPP TH	NO. PIPE ELBOW EA	ELBOWS D IN	ELBOWS TOP DEG	ELBOWS BOT DEG	24" CSLG EA	ELB OPT	END SECTION EA	END SECTION OPT	DEPTH DI FT	CONC CL B CY	REIN STEEL LBS	DI GRATE TYPE	CHAN ELEV	C & M CY	TR EXCAV EARTH CY	TR EXCAV ROCK CY	UN-CLASS CHAN CY	COM EXCAV CY	STRUC EXCAV CY	CHAN BNK STRUC CY	STONE FILL TYPE	STONE FILL CY	MRKR POSTS LT	MRKR POSTS RT	REMARKS
ROUTE 15	RAMP A																																								
11+60	14+60	RT		DI	DI					30	300	E			0.079	0.075										6.0	2.6	246	B			357										
14+60	17+14	RT		DI	DI					24	250	D			0.064	0.060										10.0	3.9	370	B			308										
23+50	23+62	LT RT		DI						18	92		0.064					2	18	13	12	4	CSP			6.0	2.6	246	B			1										
17+13	20+50	LT																														100						I	100			CONSTRUCT SPECIAL DITCH 1' DEEP
ROUTE 15	RAMP D																																								
1+20	1+00	LT RT		DI	DI					18	56			III												7.5	3.1	285	B			35									2	
1+00	1+50	RT		DI						18	48	B		III	0.064	0.060										5.0	2.3	215	B			22										
1+50	9+70	RT																														200						I	200			CONSTRUCT SPECIAL DITCH 1' DEEP
9+70	13+25	RT																														100						I	100			CONSTRUCT SPECIAL DITCH 1' DEEP
2+50	7+75	LT																														155						I	155			CONSTRUCT SPECIAL DITCH 1' DEEP
ROUTE 15																																								
6+16	8+10	RT																														445						I	68			SPECIAL DITCH, TAPER 6' TO 4'
8+10	8+36	RT								18	26	C			0.064	0.060																17										DRIVEWAY CULVERT
8+36	11+27	RT																														122						I	122			SPECIAL DITCH, 4' WIDE
10+50	10+50	LT RT		DI	RCES					18	76			III												3.0	1.7	153	B			60									1	1
11+30	11+60	RT		MES	DI					18	34	C			0.064	0.060								1	L	6.0	2.6	246	D			17									1	
11+60	13+00	RT		DI	DI					18	136			III												6.0	2.6	246	D			145										
16+90	16+76	LT RT		RCES	PRCB					18	118			III										1	RCP	16.5			E													PRECAST REINFORCED CONCRERTE CATCH BASIN W/CAST IRON GRATE
16+76	16+64	RT LT		DI	DI					18	94			III												7.5	3.1	285	B													
16+64	16+43	RT		RCES						18	48			III										1	RCP							37										
18+40	18+70	LT		DI	DI					18	40			III												6.5	2.8	254	D													
18+70	18+90	LT		DI	DI					18	38			III												6.0	2.6	246	D													
21+12	21+30	LT			DI					18	64	B			0.064	0.060										6.0	2.6	246	D			5						I	1	1		OUTLET PAD (3'X6'X1')
21+86	21+90	LT			DI					18	4	B		III	0.064	0.060																1										STUB PIECE
22+40	23+50	LT		DI	DI					18	112	B		III	0.064	0.060										5.5	2.5	223	D			94										
23+50	23+64	LT		DI	DI					18	50			III												7.5	3.1	285	D			27										
23+50	24+50	LT		DI	DI					18	96	B		III	0.064	0.060										6.0	3.3	299	B-2			84									1	4'X6' DI, W/DOUBLE GRATE
23+64	24+00	LT RT		DI	DI					18	40			III												6.0	2.6	246	D			18										
24+50	25+50	LT		DI	DI					18	96	B		III	0.064	0.060										4.0	2.0	184	B			61										
25+50	26+10	LT		DI						18	60	C			0.064	0.060																23										
26+75	27+05	LT								18	30	C			0.064	0.060																11										DRIVEWAY CULVERT
29+04	29+42	LT								18	40	C			0.064	0.060																12										DRIVEWAY CULVERT
18+90	18+90	LT RT		DI	DI					18	16			III												6.0	2.6	246	D													
LANG FARM	ACCESS ROAD																																								
104+50	105+00	RT LT								18	90	C			0.064	0.060																30										
PAGE TOTALS										OPTIONS 420	B		RCP 712	DIA 18				2	18" CSP				2	18" RCP	48.7	4521	10-B		0.0	2487	0	0	0	0	0	I	746	5	2	
										280	C													1	L			9-D										II	0			
										250	D																	1-E										IV	0			
										300	E																														
										0	G																														
										92	18" CSP																														
GRAND TOTALS										342	A		1024	18				6	OPT J				1	L	127.4	11781	24-A		38.0	5751	3125	16095	0	0	0	I	3483	24	7	
										420	B		56	24				2	OPT K				1	M			18-B										II	3986			
										2092	C		158	30				2	18" CSP				1	N			9-D										IV	0			
										772	D													2	18" RCP			1-E														
										694	E																														
										1214	F																														
										1144	G																														
										92	18" CSP																														
										380	42" PCCSP .168																														

FINAL QUANTITIES ARE LOCATED ON THE COMPARISON SHEET.

UNDERDRAIN

STA.	STA.	TYP.	POS.	D	L	TRENCH E	TRENCH R	CAR	FB	MKR PST
TOTALS										

PROJECT NAME WILLISTON - COLCHESTER
PROJECT NUMBER PB 033-1(2)

SHEET 17 OF 480 SHEETS

EARTHWORK SHEET

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

GRADES V.C.	GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVES	CORR V.C.	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	AREA	CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		MAINLINE												
		433+00	390.75								0			
						50							C	0
		+50	391.74								0		R	0
						50						764	FAC	1.3
		434+00	392.72								825		F	12666
						50						4918	FAC	1.15
		+50	393.70								4486		EXF	14566
						50						6984		
		435+00	394.69								3057			
						50						6061		
		+50	395.68								3489			
						50						7087		
		436+00	396.66								4165			
						50						9378	C	0
		+50	397.64								5963		R	0
						50						8184	FAC	1.3
		437+00	398.63								2876		F	36337
						50						2845	FAC	1.15
		+50	399.62								197		EXF	41788
						50						182		
		438+00	400.60								0			
						50								
		+50	401.58								0			
						50								
		439+00	402.57								0			
						50						756		
		+50	403.56								816			
						50						1844		
		440+00	404.54								1175			
						50						16786		
		+50	405.52								9850			
						50						18168		
		441+00	406.51								9771			
						50						17746		
		+50	407.50								9395			
						50						15190		
		442+00	408.48								7010			
						50						9565	C	140
		+50	409.46								3320		R	0
						50						5829	FAC	1.3
		443+00	410.45	410.45	0.00						2975		F	12391
						50						5509	FAC	1.15
		+50	411.44	411.48	0.04		0				2975		EXF	14236
						50		26				9903		
		444+00	412.42	412.60	0.18		28				7720			
						50		58				13536		
		+50	413.41	413.79	0.38		35				6899			
						50		56				11682		
		445+00	414.39	415.07	0.68		25				5718			

FINAL QUANTITIES ARE LOCATED ON THE COMPARISON SHEETS.

CARRIED FORWARD		0	0	0		
COLUMN FOOTINGS		140	0	172917		

+1.97%

600' V.C. K=296

1200' V.C. K=366

+4.00%

GRADES V.C.	GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVES	CORR V.C.	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	AREA	CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		MAINLINE												
		445+00	414.39	415.07	0.68		25				5718			
						50		45				9782		
		+50	415.38	416.43	1.05		24				4847			
						50		71				8567		
		446+00	416.39	417.88	1.49		53				4405			
						50		159				6097		
		+50	418.36	419.42	1.06		119				2180			
						50		144				2380		
		447+00	420.36	421.04	0.68		36				390			
						50		1731				361	C	48329
		+50	422.36	422.74	0.38		1834		0		0		R	42228
						50		5350		2602			FAC	1.3
		448+00	424.36	424.53	0.17		3944		2810				F	27187
						50		7137		6087			FAC	1.15
		+50	426.36	426.40	0.04		3764		3764				EXC	29732
						50		8225		8225				
		449+00	428.36	428.36	0.00		5119		5119					
						50		10995		10995				
		+50	430.36				6756		6756					
						50		14472		14319				
		450+00	432.36				8874		8709					
						50		19746		19594				
		+50	434.36				12452		12452					
						50		23909		23909				
		451+00	436.36				13370		13370					
						50		24210		24210				
		+50	438.36				12777		12777					
						50		22914		22388				
		452+00	440.36				11970		11402					
						50		21937		20312			C	202462
		+50	442.36				11722		10535				R	191487
						50		20447		19282			FAC	1.3
		453+00	444.36				10361		10290				F	0
						50		18454		17898			FAC	1.15
		+50	446.36				9569		9040				EXC	259908
						50		17341		15639				
		454+00	448.36				9159		7850					
						50		16894		14231				
		+50	450.36				9086		7520					
						50		16610		14024				
		455+00	452.36				8853		7626					
						50		16153		13869				
		+50	454.36				8592		7353					
						50		16360		13517				
		456+00	456.36				9077		7245					
						50		16181		13583				
		+50	458.36				8398		7425					
						50		15228		12954				
		457+00	460.36				8048		6565					
						50		14078		11132			C	133434
		+50	462.36				7156		5458				R	107843
						50		12506		9216			FAC	1.3
		458+00	464.36				6350		4495				F	0
						50		11741		8085			FAC	1.15
		+50	466.36				6330		4237				EXC	165787
						50		11424		8444				
		459+00	468.36				6008		4883					
		+20	469.16	469.16	0.00	50		10401		8757				
		+50	470.36	470.35	-0.01		5225		4575					
						50		9362		8286				
		460+00	472.36	472.27	-0.09		4886		4374					
						50		8862		8022				
		+50	474.36	474.13	-0.23		4685		4290					
						50		8530		6931				
		461+00	476.36	475.92	-0.44		4527		3196					
						50		9433		3849				
		+50	478.36	477.64	-0.72		5661		961					
						50		9101		2237				
		462+00	480.36	479.29	-1.07		4168		1455					
						50		6295		3463				
		+50	482.36	480.87	-1.49		2631		2285					
						50		4577		3801				
		463+00	484.36	482.38	-1.98		2312		1820				C	66023
						50		4172		3454			R	45327
		+50	486.36	483.83	-2.53		2194		1910				FAC	1.3
						50		4496		3913			F	0
		464+00	488.36	485.21	-3.15		2662		2316				FAC	1.15
						50		5112		4644			EXC	79621
		+50	490.36	486.52	-3.84		2859		2699					
						50		5445		5013				
		465+00	492.36	487.76	-4.60		3022		2715					

CARRIED FORWARD		0	0	0		
COLUMN FOOTINGS		450248	386885	27187		

+0.71170%

GRADES V.C.	GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVES	CORR V.C.	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	AREA	CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		MAINLINE												
		465+00	492.36	487.76	-4.60		3022		2715					
		+20	493.16	488.24	-4.92	50		5605		4580				
		+50	493.38	488.93	-4.45		3031		2231					
						50		5881		4061				
		466+00	493.73	490.03	-3.70		3320		2155					
						50		7009		4810				
		+50	494.09	491.07	-3.02		4250		3040					
						50		8161		6213				
		467+00	494.45	492.04	-2.41		4564		3670					
						50		8725		6852			C	81631
		+50	494.81	492.94	-1.87		4859		3730				R	63199
						50		8794		6773			FAC	1.3
		468+00	495.17	493.77	-1.40		4638		3585				F	0
						50		8873		7898			FAC	1.15
		+50	495.53	494.53	-1.00		4945		4945				EXC	100596
						50		9887		8417				
		469+00	495.88	495.22	-0.66		5733		4145					
						50		9925		7264				
		+50	496.24	495.85	-0.39		4986		3700					
						50		8776		6331				
		470+00	496.60	496.40	-0.20		4492		3137					
						50		7672		5177				
		+50	496.96	496.89	-0.07		3794		2454					
						50		7446		2340				
		471+00	497.32	497.31	-0.01		4248		73					
		+20	497.46	497.46	0.00	50		7654		669				
		+50	497.68				4018		650					
						50		6728		1245				
		472+00	498.04				3248		695					
						50		6044		1273			C	58932
		+50	498.39				3280		680				R	21344
						50		5852		1718			FAC	1.3
		473+00	498.75				3040		1175				F	0
						50		5067		2630			FAC	1.15
		+50	499.11				2432		1665				EXC	65335
						50		4231		2771				
		474+00	499.47				2138		1328					
						50		4049		1984				
		+50	499.83				2235		815					
						50		4189		1537				
		475+00	500.19				2289		845					
						50		4426		3089				
		+50	500.55				2491		2491					
						50		5127		5127				
		476+00	500.90				3046		3046					
						50		6229		6229				
		+50	501.26				3681		3681					
						50		7400		7400				
		477+00	501.62				4311		4311					
						50		7182		7182			C	54350
		+50	501.98				3446		3446				R	47761
						50		6014		5728			FAC	1.3
		478+00	502.34				3049		2740				F	0
						50		5352		4676			FAC	1.15
		+50	502.70				2731		2310				EXC	68678
						50		4681		4012				
		479+00	503.05				2324		2023					
						50		4213		2827				
		+50	503.41				2226		1030					
						50		3726		1491				
		480+00	503.77				1798		580					
						50		2981		1206				
		+50	504.13				1422		723					
						50		2406		744				
		481+00	504.49				1177		80		0			
						50		1545		74		70		
		+50	504.85				492		0		76			
						50		652				556		
		482+00	505.21				212		0		524			
						50		352		19		1012	C	8455
		+50	505.56				168		21		569		R	20624
						50		251		19		1211	FAC	1.3
		483+00	505.92				103		0		739		F	20577
						50		123				2319	FAC	1.15
		+50	506.28				30				1766		EXF	14584
						50		54				4116		
		484+00	506.64				28				2679			
						50		46				5622		
		+50	507.00				22				3393			
						50		45				5666		
		485+00	507.36				27				2726			
						50		48				5518		
		+50	507.72				25				3233			
						50		53				6694		
		486+00	508.07				32				3996			
		+20	508.22	508.22	0.00	50		69				7551		
		+50	508.43	508.42	-0.01		43				4159			
						50		74				8051		
		487+00	508.79	508.71	-0.08		37				4536			

BUILT AS DESIGNED 4/13/94 CARRIED FORWARD		244	0	27814		
COLUMN FOOTINGS		203617	134366	48386		

PROJECT WILLISTON-COLCHESTER

PROJECT NO. PB 033-1(2)
SHEET 16 OF 480 SHEETS

EARTHWORK SHEET

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

V.C.	% GRADE	STATION	GRADES: ELEVATION ON TANGENT	GRADES: ELEVATION ON V CURVES	GRADES: CORR V.C.	DIST	TOTAL EARTH AND ROCK EXCAVATION: AREA	TOTAL EARTH AND ROCK EXCAVATION: CU. YDS.	AREA	CU. YDS.	EMBANKMENT: AREA	EMBANKMENT: CU. YDS.	BASE: AREA	BASE: CU. YDS.
		MAINLINE												
		487+00	506.79	506.71	-0.08		37				4536			
						50		143				8714		
		+50	509.15	506.94	-0.21		117				4875		C	697
						50		143				9132	R	0
		488+00	509.51	509.12	-0.39		37				4988		FAC	1.3
						50		65				9396	F	78411
		+50	509.87	509.23	-0.64		33				5160		FAC	1.15
						50		49				9099	EXF	89476
		489+00	510.22	509.28	-0.94		20				4667			
						50		28				7935		
		+50	510.58	509.27	-1.31		10				3903			
						50		25				6321		
		490+00	510.94	509.20	-1.74		17				2924			
						50		16				4375		
		+50	511.30	509.07	-2.23		0				1801			
						50		21				2795		
		491+00	511.66	508.88	-2.78		23				1218			
						50		86				1884		
		+50	512.02	508.63	-3.39		70				817			
						50		209				1087		
		492+00	512.38	508.32	-4.06		156				357			
		+20	512.52	508.18	-4.34	50		452				540	C	8086
		+50	511.87	507.95	-3.92		332				226		R	0
						50		750				455	FAC	1.3
		493+00	510.78	507.52	-3.26		478				265		F	11750
						50		1007				430	FAC	1.15
		+50	509.69	507.03	-2.66		610				199		EXF	5426
						50		1356				184		
		494+00	508.61	506.48	-2.13		854				0			
						50		1824						
		+50	507.52	505.87	-1.65		1116							
						50		2365						
		495+00	506.43	505.20	-1.23		1438							
						50		2849						
		+50	505.35	504.47	-0.88		1639							
						50		3192						
		496+00	504.26	503.68	-0.58		1808							
						50		3503						
		+50	503.17	502.82	-0.35		1975							
						50		3550						
		497+00	502.09	501.91	-0.18		1859							
						50		3250						
		+50	501.00	500.94	-0.06		1651						C	22500
						50		2422					R	0
		498+00	499.91	499.91	0.00		965						FAC	1.3
		+20	499.48	499.48	0.00	50		1717					F	2088
		+50 BACK	498.83	F.G ● C.L.			889				0		FAC	1.15
		+50 AHEAD	498.58	F.G ● 12' LT		50		1197				116	EXC	20124
		499+00	497.49				404				125			
						50		485				449		
		+50	496.40				120				380			
						50		335				1501		
		500+00	495.32				242				1281			
						50		224				2114		
		+50	494.23				0				1022			
						50		20				1535		
		501+00	493.14				22				636			
						17.96		7				212		
		+17.96	492.75	BACK										
		+21.47	492.75	AHEAD										
						28.53		12				585		
		+50	492.13				0				1108			
						50						4247	C	263
		502+00	491.04								3479		R	0
						50						8956	FAC	1.3
		+50	489.96								6194		F	75807
						50						12897	FAC	1.15
		503+00	488.87								7735		EXF	86915
						50						14525		
		+50	487.78								7952			
						50						15070		
		504+00	486.70								8324			
						50						15666		
		+50	485.61								8695			
						50						8434		
		505+00	484.52									15886		
						50						8507		
		+50	483.44									16062		
						50						8640		
		506+00	482.35									16228		
						50						8886		
		+50	481.26									16173	C	0
						50						8781	R	0
		507+00	480.18									18019	FAC	1.3
						50						8520	F	151215
		+50	479.09									15389	FAC	1.15
						50						8100	EXF	173877
		508+00	478.00									14785		
						50						7888		
		+50	476.92									14258		
						50						7531		
		509+00	475.83									13607		
						50								
		CARRIED FORWARD					0		0		0			
		COLUMN FOOTINGS					31302		0		278427			

V.C.	% GRADE	STATION	GRADES: ELEVATION ON TANGENT	GRADES: ELEVATION ON V CURVES	GRADES: CORR V.C.	DIST	TOTAL EARTH AND ROCK EXCAVATION: AREA	TOTAL EARTH AND ROCK EXCAVATION: CU. YDS.	AREA	CU. YDS.	EMBANKMENT: AREA	EMBANKMENT: CU. YDS.	BASE: AREA	BASE: CU. YDS.
		MAINLINE												
		509+50	474.74								7165			
						50						13008		
		510+00	473.86								6884			
						50						12512		
		+50	472.57								6629			
						50						11949		
		511+00	471.48								6276			
						50						9236		
		+50	470.40								3699			
						50						4706		
		512+00	469.31								1386		C	0
						50						2012	R	0
		+50	468.22								787		FAC	1.3
						50						2336	F	67905
		513+00	467.14								1736		FAC	1.15
						50						4080	EXF	78091
		+50	466.05								2649			
						50						5563		
		514+00	464.96								3359			
						50						7295		
		+50	463.88								4520			
						50						8234		
		515+00	462.79								4373			
		+40	461.92	461.92	0.00	50						8033		
		+50	461.70	461.71	0.01						4303			
						50						7562		
		516+00	460.62	460.71	0.09						3864			
						50						6806		
		+50	459.53	459.85	0.32						3486			
						50						5793		
		517+00	458.44	459.11	0.67						2770		C	5576
						50						4492	R	0
		+50	457.35	458.52	1.17						2081		FAC	1.3
						50						3244	F	39807
		518+00	456.27	458.06	1.79						1423		FAC	1.15
		+40	455.40	457.78	2.38	50						2470	EXF	40202
		+50	455.50	457.72	2.22		0				1245			
						50		381				1280		
		519+00	456.00	457.52	1.52		411				137			
						50		1784				127		
		+50	456.50	457.45	0.95		1516				0			
						50		3411						
		520+00	457.00	457.52	0.52		2168							
						50		3420						
		+50	457.50	457.71	0.21		1526							
						50		2739						
		521+00	458.00	458.04	0.04		1432							
		+40	458.40	458.40	0.00	50		2789						
		+50	456.50				1580							
						50		3035						
		522+00	459.00				1698							
						50		3363					C	38540
		+50	460.50				1934						R	4788
						50		3804					FAC	1.3
		523+00	460.00				2174						F	0
						50		4446					FAC	1.15
		+50	460.50				2630		0				EXC	38977
						50		4787		490				
		524+00	461.00				2540		529					
		+40				50		4835		1804				
		+50	461.50				2682		1203					
						50		5320		2695				
		525+00	462.00				3044		1708					
						50		6087		3531				
		+50	462.50				3510	BACK	2105	BACK				
		+50	462.50				1430	AHEAD	996	AHEAD				
						50		2922		2241				
		526+00	463.00				1726		1424					
						50		3580		2434				
		+50	463.50				2140		1205					
						50		4388		2834				
		527+00	464.00				2599	BACK	1640	BACK				
		527+00	464.00				1351	AHEAD	863	AHEAD			C	36361
						50		2780		1404			R	16875
		+50	464.50				1630		751				FAC	1.3
						50		3181		1256			F	0
		528+00	465.00				1826		805				FAC	1.15
						50		3588		1643			EXC	41364
		+50	465.50				1782		521					
						50		3348		808				
		529+00	466.00				1834		350					
						50		3452		780				
		+50	466.50				1804		492					
						50		3321		4884				
		530+00	467.00				1883		0					
						50		3119					C	3545
		+50	467.50				1675						R	0
						50		2176					FAC	1.3
		531+00	468.00				675						F	0
						20		258					FAC	1.15
		+20	468.20				0						EXC	5548
		CARRIED FORWARD					0		0		0			
		COLUMN FOOTINGS					88232		21484		120720			

V.C.	% GRADE	STATION	GRADES: ELEVATION ON TANGENT	GRADES: ELEVATION ON V CURVES	GRADES: CORR V.C.	DIST	TOTAL EARTH AND ROCK EXCAVATION: AREA	TOTAL EARTH AND ROCK EXCAVATION: CU. YDS.	AREA	CU. YDS.	EMBANKMENT: AREA	EMBANKMENT: CU. YDS.	BASE: AREA	BASE: CU. YDS.
		RAMP A	ROUTE 2A											
	-2.1016%	9+00												
		+37	351.46		0.00	50								
		+50	351.19	351.23	0.04									
	V.C. 156'					50								
		10+00	350.14	351.25	1.11		20					68		
		+15	349.82	351.53	1.71	50		19				219		
		+50	352.16	352.68	0.52		0					168		
		+93	355.04		0.00	50								
		11+00	355.51				0					746		
						50		1898						
		+50	356.85				0					1304		
						50		28				2933		
		12+00	362.20				30					1864		
						50		28				4031	C	75
		+50	365.54				0					2490	R	0
						50						5000	FAC	1.3
	+6.8899%	13+00	368.89									2910	F	27641
						50						5210	FAC	1.15
		+50	372.23									2717	EXF	31712
		+83.92	374.50	BEGIN BRIDGE		50						4690		
		14+00	375.58									2348		
						50						2494		
		+50	378.92									348		
						50						320		
		15+00	378.27									0		
						50								
		+50	385.61				0					0		
						50		135						
		16+00	388.96				146					0		
						50		239				8026		
		+50	392.30		0.00		112					8668		
						50		193				11448		
		17+00	395.63	395.42	-0.21		96					3696	C	1545
		+18.5	396.46	END BRIDGE		50		183				11448	R	0
		+50	398.87	398.00	-0.87		102					8668	FAC	1.3
		+80	399.96	398.88	-1.06	50		178				10853	F	105716
		18+00	400.77	400.33	-0.44		90					9641	FAC	1.15
						50		152				17514	EXF	120026
		+50	402.15	402.12	-0.03		74					9274		
		+70	402.71		0.00	50		152				15781		
		19+00	403.54				90					7770		
						50		161				13383		
		+50	404.93				84					8884		
						50		152				11183		
		20+00	406.31				80					5372		
						50		159				9885		
		+50	407.70				92					4440		
						50		170				8043	C	414
	+2.7711%	21+00	409.08				92					4248	R	0
		+20	409.64			50		85				3931	FAC	1.3
		+50	410.47				0					0	F	21066
						50							FAC	1.15
		22+00	411.87										EXF	23804
						50								
		+50	413.66											
						33.97								
		+88.97	415.03											

EARTHWORK SHEET

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

V.C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVES	CORR V.C.	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	AREA	CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		RAMP B	ROUTE 2A											
			BEGIN SPLINE	GRADIENT										
		10+00												
						50								
		+50	432.78											
						50								
		11+00	391.25											
						50								
		+50	392.23											
		+95.43	392.88			50								
		12+00	392.93											
						50								
		+50	393.33										C	0
						50							R	0
		13+00	393.27		0.00					2622	AHEAD		FAC	1.3
			END SPLINE	GRADIENT						3252			F	30822
		+50	393.21	392.92	-0.29	50				3050			FAC	1.15
						50				6444			EXF	35215
		14+00	393.15	391.97	-1.18					3910				
			393.12	391.27	-1.85	50				8567				
		+50	391.62	390.44	-1.18					5364				
						50				10339				
		15+00	390.90	390.31	-0.29					5802			C	483
						50				10415			R	0
		+50	385.60		0.00					5446			FAC	1.3
						50				9711			F	21541
		16+00	382.59							5042			FAC	1.15
						50				8614			EXF	24299
		+50	379.58							4261				
						50				7764				
		17+00	376.56							4124				
						50				7213				
		+50	373.57							3666			C	0
						50				6258			R	0
		18+00	370.56							3094			FAC	1.3
						50				5330			F	65654
		+50	367.55							2862			FAC	1.15
						50				4222			EXF	75504
		19+00	364.54							1888				
						50				3337				
		+50	361.53							1706				
						50				2791				
		20+00	358.52							1388				
		+44.34	357.07		0.00	50				2084				
		+50	356.91	356.64	0.13					964				
						50				1526			C	358
		21+00	352.51	353.48	0.68					884			R	0
		+44.34	352.37	352.81	2.43	50				1031			FAC	1.3
		+50	349.97	352.18	2.21					420			F	51.3
						50				435			FAC	1.15
		22+00	351.02	351.72	0.70		0			50			EXF	5593
						50		309		46				
		+50	352.07	352.10	0.03		334			0				
		+64.34	352.37		0.00									
		+88.18	352.87											
			CARRIED FORWARD											
			COLUMN FOOTINGS				309		0		101410			

V.C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVES	CORR V.C.	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	AREA	CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		RAMP D	ROUTE 2A											
			BEGIN SPLINE	GRADIENT										
		7+50	434.82											
						50								
		8+00	432.78											
						50								
		+50	430.72											
						50								
		9+00	428.65											
						50								
		+50	426.60											
						50								
		10+00	424.63											
						50								
		+50	422.82											
						50								
		11+00	421.13											
						50								
		+50	419.53											
						50								
		12+00	417.97											
			END SPLINE	GRADIENT										
		+50	416.53			50							C	483
													R	0
		13+00	415.09				98	AHEAD		2512	AHEAD		FAC	1.3
						50		193			5104		F	21541
		+50	413.65				110			3000			FAC	1.15
						50		196			6087		EXF	24299
		14+00	412.21		0.00		102			3552				
						50		94			5809			
		+50	410.77	410.67	-0.10		0			2508				
						50					4781			
		15+00	409.33	408.94	-0.39					2636				
						50					3466			
		+50	407.89	407.02	-0.87					1142				
						50					1774			
		16+00	405.29	404.91	-0.38					774				
						50					2383			
		+50	402.69	402.60	-0.09					1810				
						50					5446			
		17+00	400.10		0.00					4180				
						50					8519			
		+50	397.50							5029			C	0
						50					9835		R	0
		18+00	394.90							4738			FAC	1.3
						50					8279		F	58734
		+50	392.30							4883			FAC	1.15
						50					7407		EXF	65241
		19+00	389.70							3787				
						50					6588			
		+50	387.11							2974				
		+67	386.23	END BRIDGE		50					4011			
		20+00	385.51							1388				
						50					1267			
		+50	381.91							0				
						50								
		21+00	378.31							0				
		+32.37	377.63	END BRIDGE		50					981			
		+50	376.71							1080				
						50					1359			
		22+00	374.11							408				
		+19.89	373.08		0.00	50					561			
		+50	371.53	371.65	0.12		10			196			C	707
						50		19			221		R	0
		23+00	368.93	369.90	0.97		11			41			FAC	1.3
		+21.39	367.81	369.18	1.37	50		144			38		F	4417
		+50	366.10	366.90	0.80		144			0			FAC	1.15
						50		415					EXF	4373
		24+00	367.80	367.67	0.07		304			0				
						22.89		129						
		+22.89	366.62				0							
			CARRIED FORWARD											
			COLUMN FOOTINGS				502		0		82951			

V.C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVES	CORR V.C.	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	AREA	CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		RAMP A	ROUTE 15											
		9+00												
		+50												
		+80.91	457.88											
		10+00	457.88											
						50								
		+50	458.77											
						50								
		11+00	459.27											
						50								
		+50	459.77										C	2
						50							R	1
		12+00	460.27										FAC	1.3
						50							F	0
		+50	460.77										FAC	1.15
						50							EXC	2
		13+00	461.27											
						50								
		+50	461.77											
						50								
		14+00	462.27											
						50								
		+50	462.77		0.00		994	AHEAD	877	AHEAD				
						50		2088		1380				
		15+00	463.27	463.44	0.17		1281		582					
						50		2518		987				
		+50	463.77	464.44	0.67		1458		452					
						50		2984		714				
		16+00	464.27	465.77	1.50		1441		319					
						50		2802		429				
		+50	466.77	467.44	0.67		1389		144				C	187
						50		2376		883			R	370
		17+00	469.27	469.44	0.17		1197		788				FAC	1
						50		2037		730			F	4
		+50	471.77		0.00		1083		0				FAC	1.15
						50		1706					EXC	179
		18+00	474.27				842							
						50		1344						
		+50	476.77				610							
						50		911						
		19+00	479.27				374							
						50		517						
		+50	481.77				184				0			
						50		176				32		
		20+00	484.27				8				35			
		+50	486.77				0				196			
						50						614		
		21+00	489.27								467			
						50						1015		
		+50	491.77								629		C	7
						50						1483	R	0
		22+00	494.27		0.00						973		FAC	1.3
						50						1990	F	121
		+50	496.77	496.32	-0.45						1165		FAC	1.15
						50						3261	EXF	14011
		23+00	499.27	497.46	-1.81						2357			
						50						2993		
		+50	496.15	497.70	-0.45						778			
						50						720		
		24+00	497.03		0.00						0			
						29.4								
		+29.40	496.37											
			BUILT AS PROFILED 4/13/94			CARRIED FORWARD								
						COLUMN FOOTINGS		18970		5083		12222		

PROJECT WILLISTON-COLCHESTER

PROJECT NO. PB 633-1(2)
SHEET 20 OF 400 SHEETS

EARTHWORK

V.C.	% GRADE	STATION	GRADES ELEVATION ON TANGENT	GRADES ELEVATION ON V CURVES	CORR V.C.	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		RAMP D	ROUTE 15									
		0+00	498.27									
	-0.50%	+50	498.02									
		+75	497.90		0.00							
		1+00	497.77	497.67	-0.10		77		0			
						50		207		57		
150' V.C.		+50	497.52	496.64	-0.88		147		62			
						50		230		60		
		2+00	494.92	494.82	-0.10		101		3			
		+25	493.62		0.00	50		299		3		
		+50	492.32				222		0		C	4272
						50		443			R	0
		3+00	489.72				256				FAC	1.3
						50		577			F	120
		+50	487.12				367				FAC	1.15
						50		710			EXC	4134
		4+00	484.52				400					
						50		809				
		+50	481.92				474					
	-5.20%					50		997				
		5+00	479.32				603					
						50		1294				
		+50	476.72				794					
						50		1500				
		6+00	474.12		0.00		826					
						50		1674				
		+50	471.52	471.69	0.17		982					
						50		1996				
		7+00	468.92	469.61	0.69		1174					
						50		2470				
300' V.C.		+50	466.32	467.87	1.55		1494				C	24284
						50		2709			R	3128
		8+00	465.79	466.48	0.69		1432				FAC	1.3
						50		2767			F	0
		+50	465.26	465.43	0.17		1556		0		FAC	1.15
						50		3096		573	EXC	25222
		9+00	464.73		0.00		1788		619			
						50		3374		1135		
		+50	464.20				1856		607			
						50		3404		1420		
		10+00	463.67				1820		927			
	-1.06%					50		3388		1932		
		+50	463.14				1839		1160		C	12093
						50		3368		2316	R	8044
		11+00	462.61				1798		1341		FAC	1.3
						50		3501		2519	F	0
		+50	462.08				1983		1379		FAC	1.15
						50		1836		1277	EXC	14506
		12+00	461.55				0		0			
						50						
		+50	461.02									
						50						
		13+00	460.49									
						50						
		+50	460.21									
						50						
	-0.56%	14+00	459.93									
						50						
		+50	459.65									
		+78.13	459.49									

CARRIED FORWARD												
COLUMN FOOTINGS			40649		11172		120					

EARTHWORK

V.C.	% GRADE	STATION	GRADES ELEVATION ON TANGENT	GRADES ELEVATION ON V CURVES	CORR V.C.	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		ROUTE 15										
		9+00										
		+50										
		10+00	457.30				326	AHEAD				
						50		842				
		+50	460.70				583		0			
						50		1121		489		
		11+00	464.10				628		528		0	
						50		1083		873		9
		+50	467.50				542		415		10	
						50		970		744		11
		12+00	471.00		0.00		506		389		2	
						50		869		650		4
		+50	474.50	474.40	-0.10		433		313		2	
						50		814		582		7
		13+00	478.00	477.58	-0.42		446		316		6	
						50		963		731		6
		+50	481.50	480.56	-0.94		594		473		0	
						50		1036		774		
		14+00	485.00	483.33	-1.67		525		363		0	
						50		922		336		
		+50	488.50	485.90	-2.60		471		0		0	
						50		538				
		15+00	492.00	488.25	-3.75		110				0	
						50		102				251
		+50	495.50	490.40	-5.10		0				271	
						50						894
		16+00	499.00	492.33	-6.67						694	
						50						1731
		+50	502.50	494.06	-8.44						1175	
						50						2194
		17+00	502.25	495.58	-6.67						1194	
						50						2177
		+50	502.00	496.90	-5.10						1157	
						50						2363
		18+00	501.75	498.00	-3.75						1395	
						50						2077
		+50	501.50	498.90	-2.60						848	
						50						1991
		19+00	501.25	499.58	-1.67						1302	
						50						2307
		+50	501.00	500.06	-0.94						1190	
						50						1951
		20+00	500.75	500.33	-0.42						917	
						50		1				1517
		+50	500.50	500.40	-0.10						721	
						50						1125
	-0.50%	21+00	500.25		0.00						494	
						50		1				847
		+50	500.00								421	
						50		29				542
		22+00	499.75								164	
						50		215				242
		+50	499.50									
						50		322				
		23+00	499.25									
						50		298				
		+50	499.00		0.00							
						50		429				
		24+00	498.75	498.89	0.14							
						50		463				
		+50	498.50	499.07	0.57							
						50		459				
		25+00	498.25	499.53	1.28							
						50		560				
		+50	499.70	500.27	0.57							
						50		569				
		26+00	501.15	501.29	0.14							
						50		513				
		+50	502.60		0.00							
						50		528				
		27+00	504.05	503.89	-0.16							
						50		556				
		+50	505.50	504.87	-0.63							
		+65	505.94	505.11	-0.83	50		470				
		28+00	506.00	505.60	-0.40							
						50		546				
		+50	506.00	505.94	-0.06							
		+80	505.94		0.00	50		674				
		29+00	505.00		0.00							
						50		569				
		+50	506.00	506.06	0.06							
						50		364				
		30+00	507.25		0.00							
						50		256				
		+50	508.50									
						50		133				
		31+00										

CARRIED FORWARD												
COLUMN FOOTINGS			17214		5179		22641					

EARTHWORK SUMMARY

STATE OF VERMONT
DEPARTMENT OF
HIGHWAYS

SUMMARY OF BALANCES STATION TO STATION		TOTAL EXCAV. EARTH & ROCK CUBIC YARDS	ROCK EXCAV CUBIC YARDS	EARTH EXCAV CUBIC YARDS	EMBANKMENT CUBIC YARDS	BASE CUBIC YARDS
MAINLINE						
433+50	535+00	0	0	0	12666	
435+00	440+00	0	0	0	36337	
440+00	445+00	140	0	140	123914	
445+00	450+00	48329	42228	6101	27187	
450+00	455+00	202462	191487	10975	0	
455+00	460+00	133434	107843	25591	0	
460+00	465+00	66023	45327	20696	0	
465+00	470+00	81636	63199	18437	0	
470+00	475+00	58932	21344	37588	0	
475+00	480+00	54350	47761	6589	0	
480+00	485+00	8455	2062	6393	20572	
485+00	490+00	697	0	697	78411	
490+00	495+00	8086	0	8086	11750	
495+00	500+00	22500	0	22500	2066	
500+00	505+00	263	0	263	75807	
505+00	510+00	0	0	0	151215	
510+00	515+00	0	0	0	67905	
515+00	520+00	5576	0	5576	39807	
520+00	525+00	38540	4789	33751	0	
525+00	530+00	36361	16675	19686	0	
530+00	531+20	5545	0	5545	0	
ROUTE 15						
10+00	15+00	9158	5179	3979	37	
15+00	20+00	102	0	102	17936	
20+00	25+00	2216	0	2216	4663	
25+00	30+00	5349	0	5349	5	
30+00	31+00	389	0	389	0	
RAMP A	ROUTE 15					
9+60.91	15+00	2088	1360	728	0	
15+00	20+00	16875	3703	13172	32	
20+00	24+29.40	7	0	7	12190	
RAMP D	ROUTE 15					
0+00	5+00	4272	0	4272	120	
5+00	10+00	24284	3128	21156	0	
10+00	14+78.13	12093	8044	4049	0	
RAMP A	ROUTE 2A					
10+00	15+00	75	0	75	27641	
15+00	20+00	1545	0	1545	105716	
20+00	21+50	414	0	414	21059	
RAMP B	ROUTE 2A					
10+00	15+00	0	0	0	30622	
15+00	20+00	0	0	0	65656	
20+00	22+50	309	0	309	5132	
RAMP D	ROUTE 2A					
10+00	15+00	483	0	483	21541	
15+00	20+00	0	0	0	56731	
20+00	24+00	707	0	707	4417	
TOTALS		851695	564129	287566	1021135	

FINAL QUANTITIES ARE LOCATED AT THE SUMMARY SHEETS.

SHEET NO.	COL NO.	EXCAVATION TOTAL CU YDS	EXCAVATION ROCK CU YDS	EMBANKMENT CUBIC YARDS	BASE CUBIC YARDS
	1	140	0	172917	
	2	450248	386885	27187	
	3	203617	134366	48386	
2	1	31302	0	278427	
	2	86022	21464	120720	
	3	2034	0	154416	
3	1	309	0	101410	
	2	1190	0	82689	
	3	18970	5063	12222	
4	1	40649	11172	120	
	2	17214	5179	22641	
TOTALS		851695	564129	1021135	

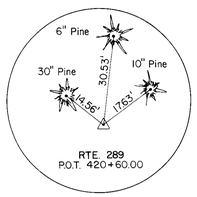
SUMMARY BY COLUMNS

REMARKS	
TOTAL EXCAVATION	885,395
SOLID ROCK EXCAVATION	564,129
ROCK FACTOR	1.30
TOTAL ROCK (FACTORED)	733,368
EARTH EXCAVATION	321,266
TOTAL PLANIMETERED FILL	1,021,135
FILL FACTOR	1.15
TOTAL FILL (FACTORED)	1,174,305
MATERIALS AVAILABLE FOR FILLS:	
EARTH EXCAVATION	321,266
ROCK EXCAVATION (FACTORED)	733,368
UNDERDRAIN EXCAVATION (60%)	4,000
STRUCTURE EXCAVATION (60%)	2,000
CHANNEL EXCAVATION (60%)	10,000
GRANULAR BORROW @ STRUCTURES	189,480
SAND BORROW @ PVD'S	56,440
TOTAL MATERIAL FOR FILLS	1,316,554
TOTAL EXCESS MATERIAL	142,249

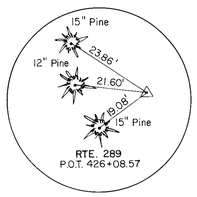
BUILT AS DESIGNED 4/13/24

PROJECT WILLISTON-COLCHESTER

PROJECT NO. PB 033-1(2)
SHEET 21 OF 400 SHEETS



RTE. 289
P.O.T. 420+60.00



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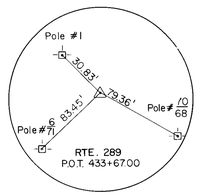
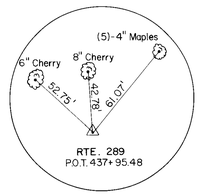
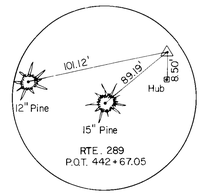
P.O.T. 426+08.57



RTE. 289
P.O.T. 433+67.00



RTE. 289
P.O.T. 437+95.48



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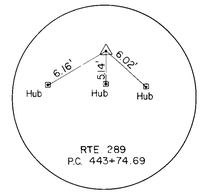
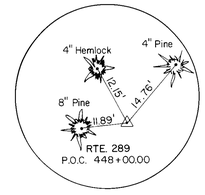
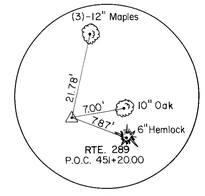
P.O.T. 442+67.05



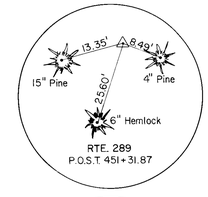
RTE. 289
P.C. 443+74.69



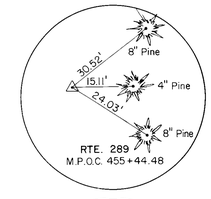
RTE. 289
P.O.C. 448+00.00



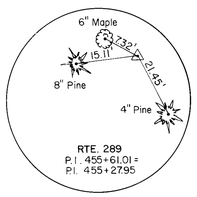
RTE. 289
P.O.C. 451+20.00



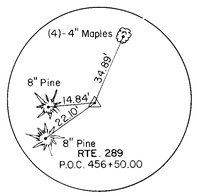
RTE. 289
P.O.S.T. 451+31.87



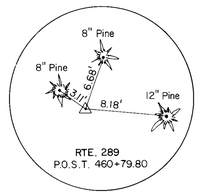
RTE. 289
M.P.O.C. 455+44.48



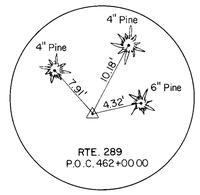
RTE. 289
P.I. 455+61.01 =
P.I. 455+27.95



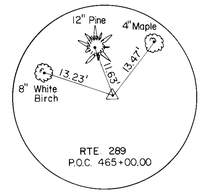
RTE. 289
P.O.C. 456+50.00



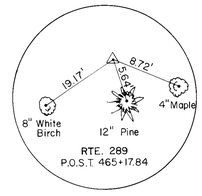
RTE. 289
P.O.S.T. 460+79.80



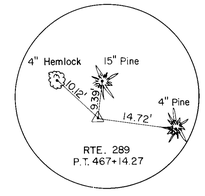
RTE. 289
P.O.C. 462+00.00



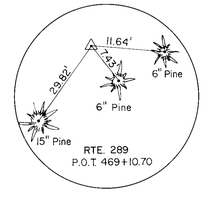
RTE. 289
P.O.C. 465+00.00



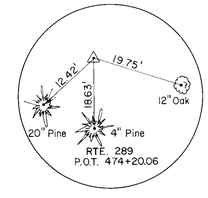
RTE. 289
P.O.S.T. 465+17.84



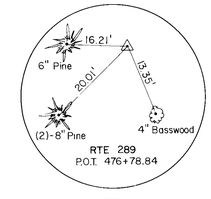
RTE. 289
P.T. 467+14.27



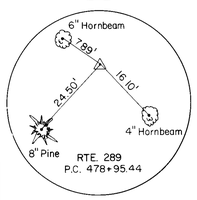
RTE. 289
P.O.T. 469+10.70



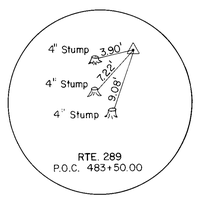
RTE. 289
P.O.T. 474+20.06



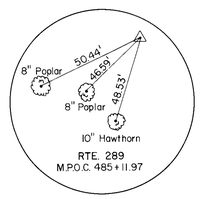
RTE. 289
P.O.T. 476+78.84



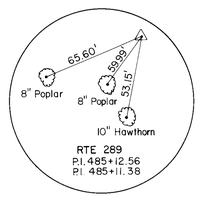
RTE. 289
P.C. 478+95.44



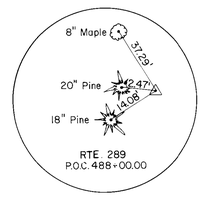
RTE. 289
P.O.C. 483+50.00



RTE. 289
M.P.O.C. 485+11.97



RTE. 289
P.I. 485+12.56
P.I. 485+11.38



RTE. 289
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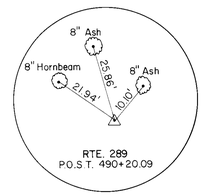
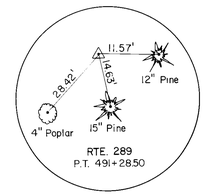
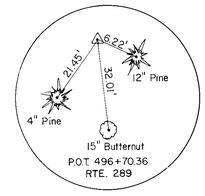


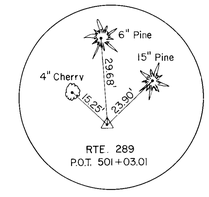
RTE. 289
P.O.S.T. 490+20.09



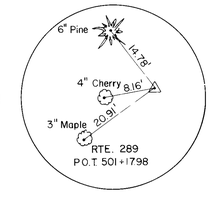
RTE. 289
P.T. 491+28.50



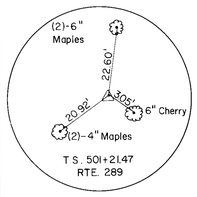
P.O.T. 496+70.36
RTE. 289



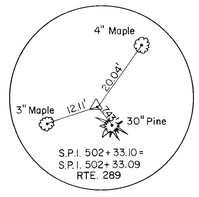
RTE. 289
P.O.T. 501+03.01



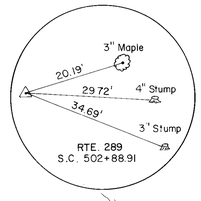
RTE. 289
P.O.T. 501+17.98



T.S. 501+21.47
RTE. 289



S.P.I. 502+33.10 =
S.P.I. 502+33.09
RTE. 289



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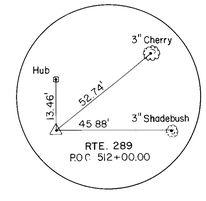
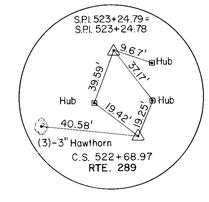
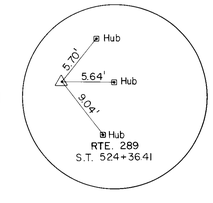
S.C. 502+88.91



RTE. 289
P.O.C. 512+00.00



C.S. 522+68.97
RTE. 289



RTE. 289
S.T. 524+36.41

NOTE : ALL CENTERLINE TIES NO LONGER EXIST DUE TO ROADWAY

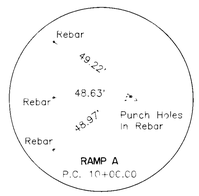
NOTE: SHOWN IN SAME SKETCH.

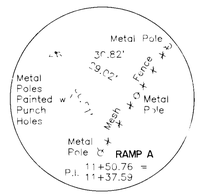
SURVEY TIE SHEET
RTE. 289
NO SCALE

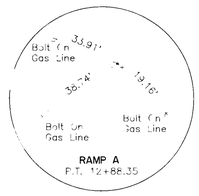
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

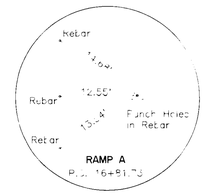
SURVEYED BY VERMONT SURVEY DATE
DRAWN BY J. CRITTLE DATE 9/88
TRACED BY N. GIBSON DATE 9/88

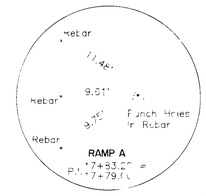
VERMONT ROUTE 289 (FA.P.)
TOWN OF ESSEX
COLCHESTER
PROJ. WILLISTON - NO. PB 033-1( )
SHEET 30 OF 400

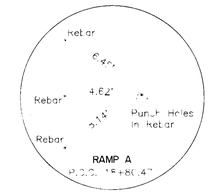


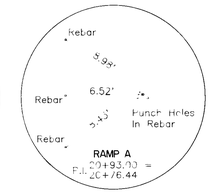


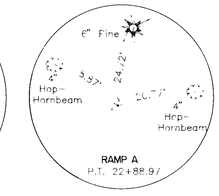


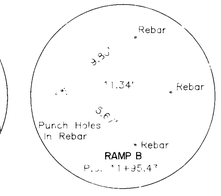


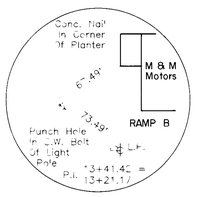


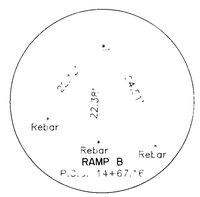


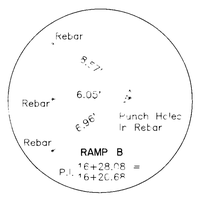


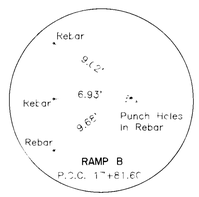


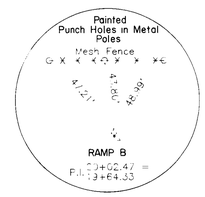


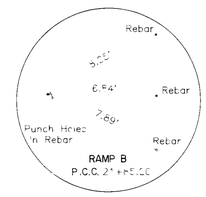


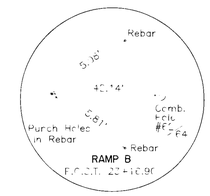


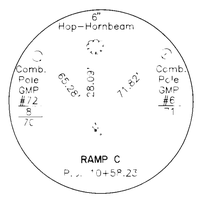


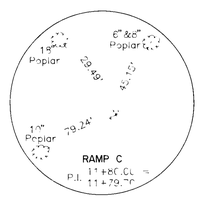


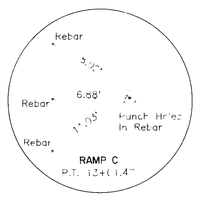


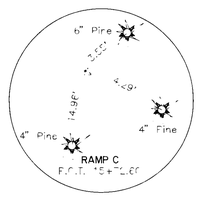


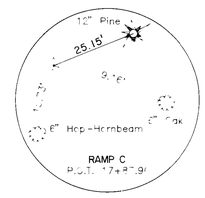


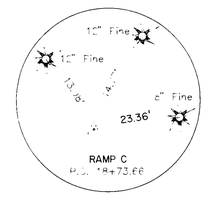


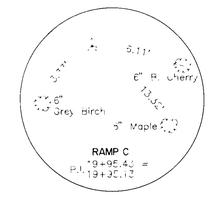


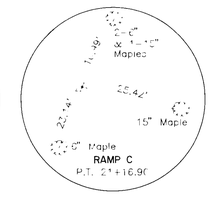


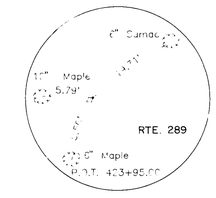




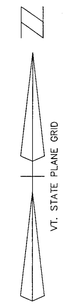








SURVEY TIE SHEET
RAMP A , RAMP B , RAMP C
NO SCALE



DATUM

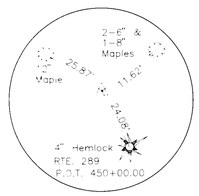
VERTICAL	N.G.V.D. 1929
HORIZONTAL	N.A.D. 1927

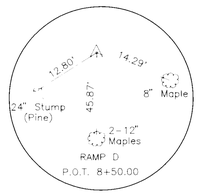
NOTE: ALL TIES TO SOUTHEAST & IF TO ROAD WAY SOUTHWEST

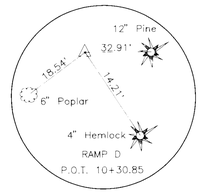
SURVEYED BY VERMONT SURVEY DATE
DRAWN BY DATE
TRACED BY J. LUKOVITS DATE

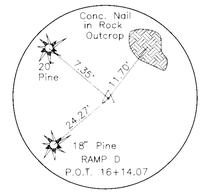
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1(7)
COLCHESTER
SHEET 31 OF 400

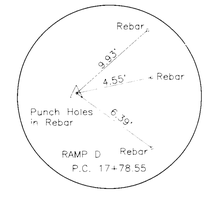
TIESHT2

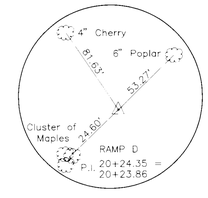


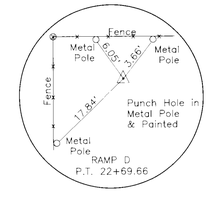


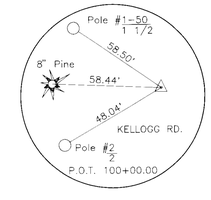


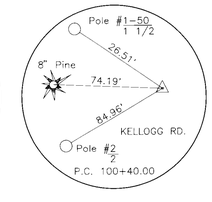


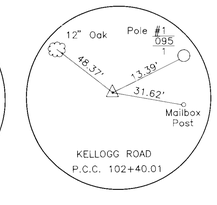




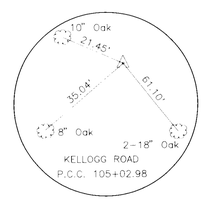


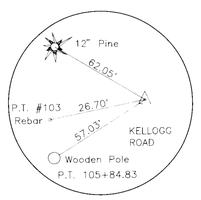


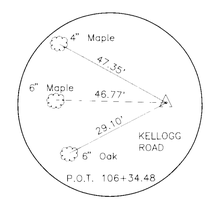


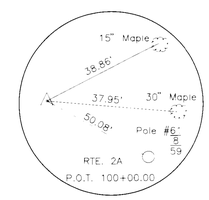


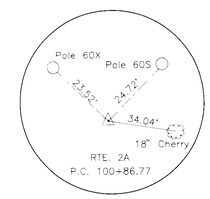


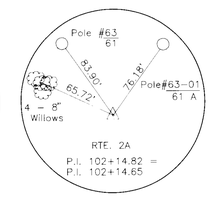


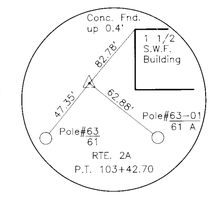


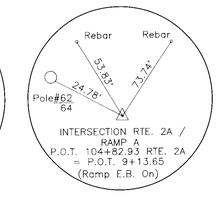


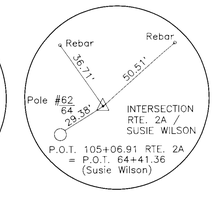


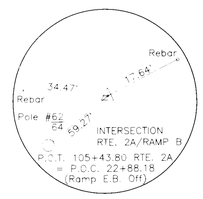


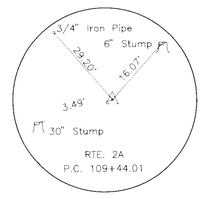


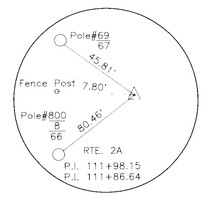


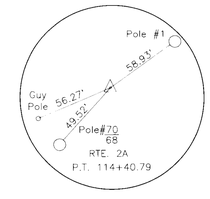


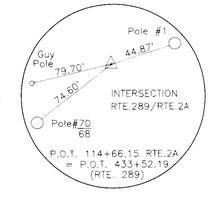


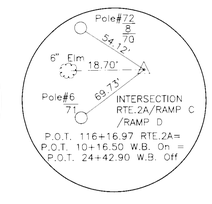


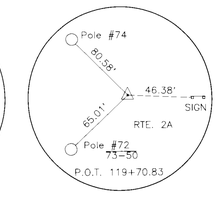


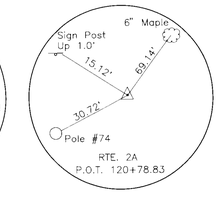


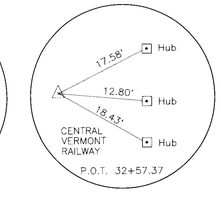


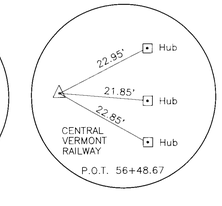


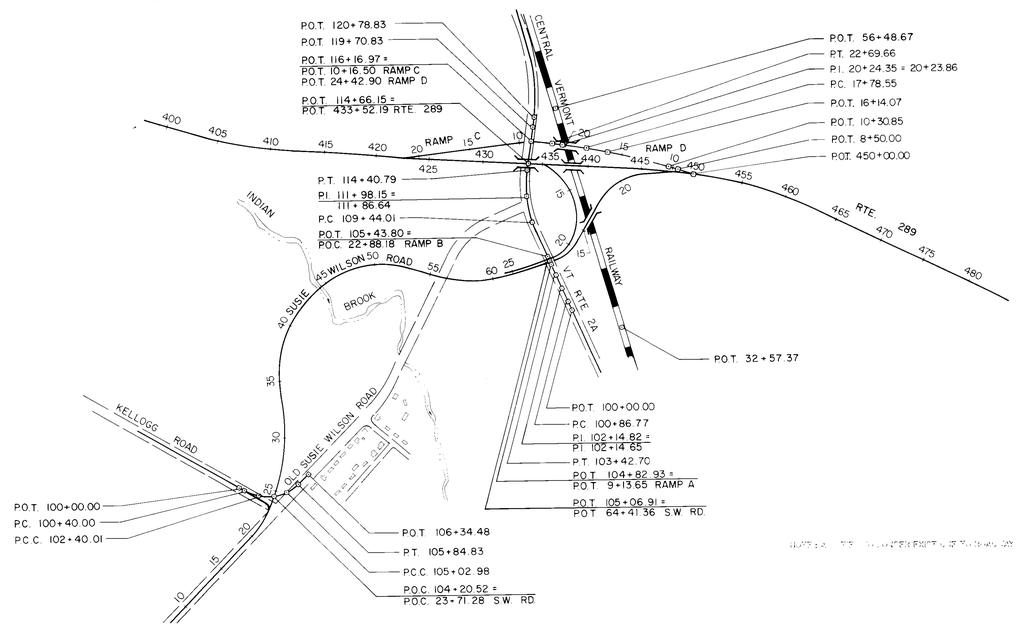












N

VT. STATE PLANE GRID

SURVEY TIE SHEET
KELLOGG ROAD
CENTRAL VERMONT RAILWAY
RAMP D

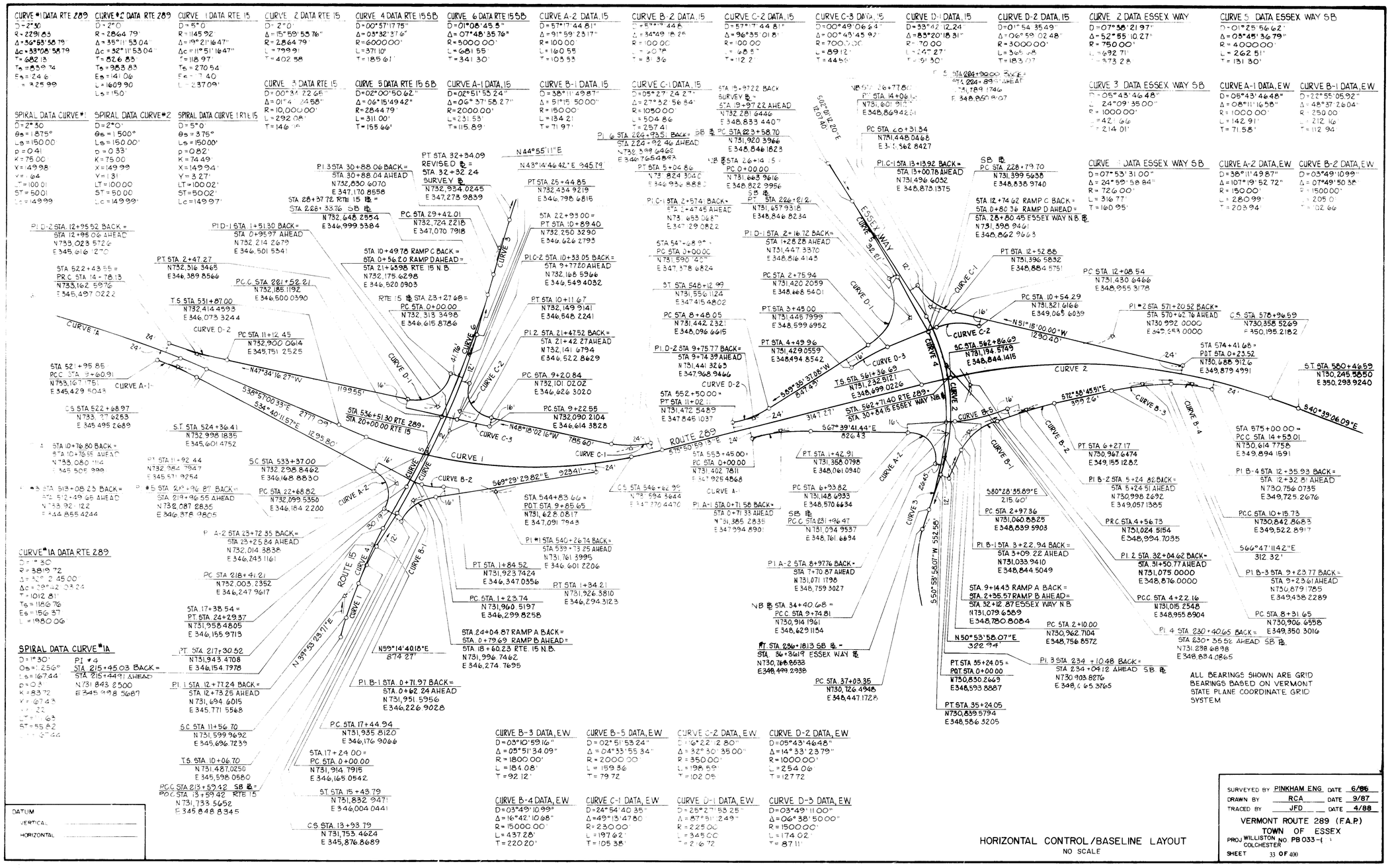
NO SCALE

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

SURVEYED BY VERMONT SURVEY DATE
DRAWN BY W. PETERSON DATE
TRACED BY J. LUKOVITS DATE

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON-- NO. PB 033-1(?)
COLCHESTER
SHEET 32 OF 400

TIESHT3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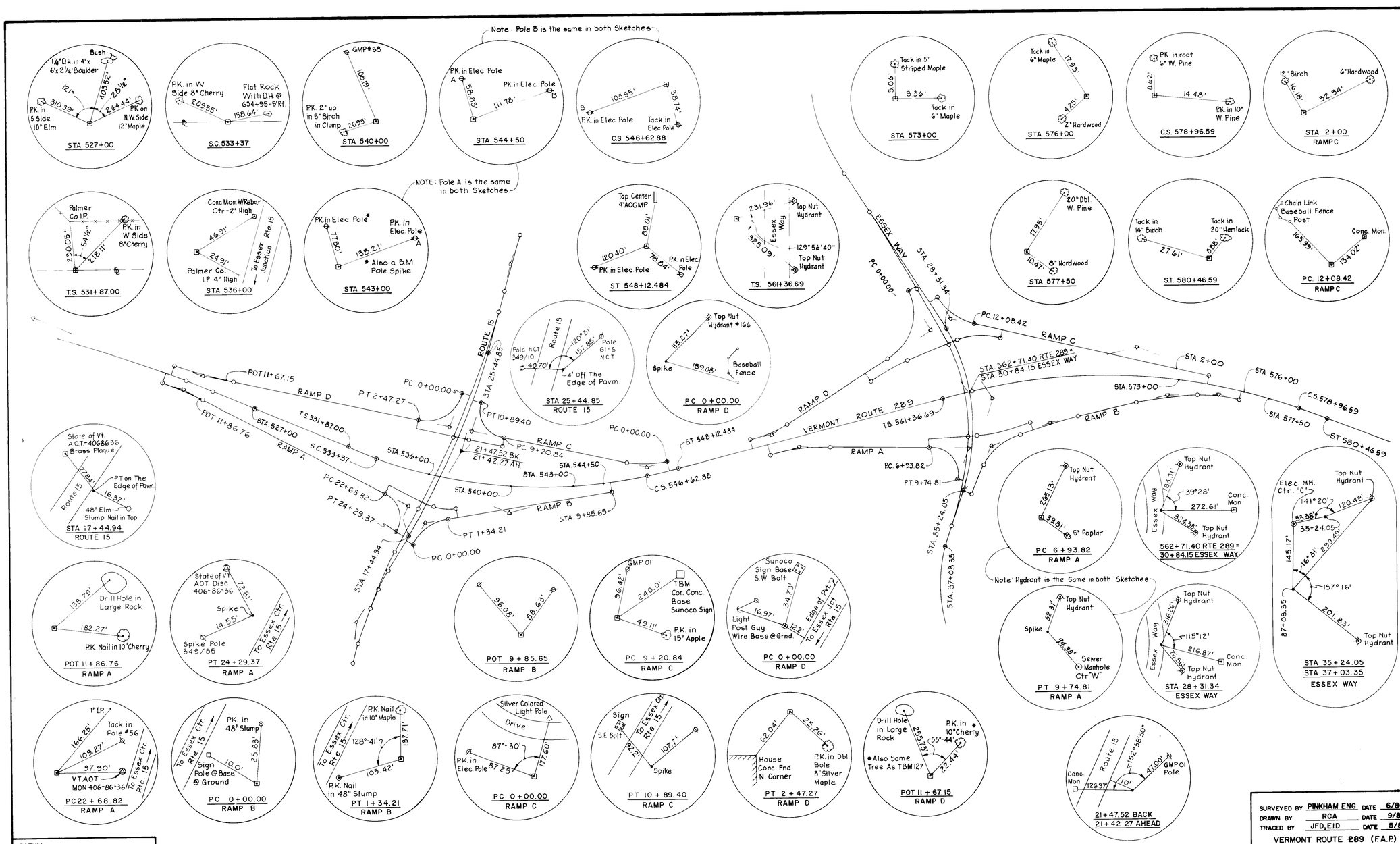
D=2°30'
R=2291.83'
Δ=36°58'58.79"
Δc=33°08'58.79"
T=682.13'
Ta=839.74'
Es=24.6'
L=1325.99'
CURVE #2 DATA RTE 289
D=2°0'
R=2864.79'
Δ=35°11'53.04"
Δc=32°11'53.04"
T=826.83'
Ts=983.83'
Es=141.06'
L=1609.90'
Ls=150'
CURVE 1 DATA RTE 15
D=5°0'
R=1145.92'
Δ=19°21'16.47"
Δc=11°51'16.47"
T=118.97'
Ts=270.54'
Es=13.40'
L=237.09'
CURVE 2 DATA RTE 15
D=2°0'
Δ=15°59'53.76"
R=2864.79'
L=799.9'
T=402.88'
CURVE 4 DATA RTE 15 SB
D=00°57'17.75"
Δ=03°32'37.6"
R=6000.00'
L=371.10'
T=185.61'
CURVE 6 DATA RTE 15 SB
D=01°08'45.5"
Δ=07°48'35.76"
R=5000.00'
L=681.55'
T=341.30'
CURVE A-2 DATA, 15
D=57°17'44.81"
Δ=91°59'23.17"
R=100.00'
L=160.55'
T=103.53'
CURVE B-2 DATA, 15
D=57°17'44.81"
Δ=34°49'18.28"
R=100.00'
L=60.78'
T=31.36'
CURVE C-2 DATA, 15
D=57°17'44.81"
Δ=96°35'01.8"
R=100.00'
L=168.5'
T=112.2'
CURVE C-3 DATA, 15
D=00°49'06.64"
Δ=00°43'45.92"
R=7005.00'
L=89.12'
T=44.56'
CURVE D-1 DATA, 15
D=33°42'12.24"
Δ=83°20'18.31"
R=170.00'
L=247.27'
T=151.30'
CURVE D-2 DATA, 15
D=01°54'35.49"
Δ=06°59'02.48"
R=3000.00'
L=365.28'
T=183.02'
CURVE 2 DATA ESSEX WAY
D=07°38'21.97"
Δ=52°55'10.27"
R=750.00'
L=692.71'
T=373.28'
CURVE 5 DATA ESSEX WAY SB
D=01°25'56.62"
Δ=03°45'36.79"
R=4000.00'
L=262.51'
T=131.30'
SPIRAL DATA CURVE #1
D=2°30'
θs=1.875°
Ls=150.00'
p=0.41'
K=75.00'
X=149.98'
Y=1.64'
LT=100.01'
ST=50.01'
Lc=149.99'
SPIRAL DATA CURVE #2
D=2°0'
θs=1.500°
Ls=150.00'
p=0.33'
K=75.00'
X=149.99'
Y=1.31'
LT=100.00'
ST=50.00'
Lc=149.99'
SPIRAL DATA CURVE 1 RTE 15
D=5°0'
θs=3.75°
Ls=150.00'
p=0.82'
K=74.49'
X=149.94'
Y=3.27'
LT=100.02'
ST=50.02'
Lc=149.97'
CURVE 3 DATA RTE 15
D=00°31'22.65"
Δ=01°4'24.58"
R=10,000.00'
L=292.08'
T=146.06'
CURVE 5 DATA RTE 15 SB
D=02°00'50.62"
Δ=06°15'49.42"
R=2864.79'
L=311.00'
T=155.66'
CURVE A-1 DATA, 15
D=02°51'53.24"
Δ=06°37'58.27"
R=2000.00'
L=231.53'
T=115.89'
CURVE B-1 DATA, 15
D=38°11'49.87"
Δ=51°15'50.00"
R=150.00'
L=134.21'
T=71.97'
CURVE C-1 DATA, 15
D=05°27'24.27"
Δ=27°32'56.84"
R=1050.00'
L=504.86'
T=257.41'
CURVE A-1 DATA, E.W
D=05°43'46.48"
Δ=08°11'16.58"
R=1000.00'
L=142.91'
T=71.58'
CURVE B-1 DATA, E.W
D=22°55'05.92"
Δ=48°37'26.04"
R=250.00'
L=212.16'
T=112.94'
CURVE A-2 DATA, E.W
D=10°19'52.72"
R=150.00'
L=280.99'
T=203.94'
CURVE B-2 DATA, E.W
D=07°49'10.99"
Δ=07°49'50.38"
R=1500.00'
L=205.01'
T=102.66'
CURVE *1A DATA RTE 289
D=1°30'
R=3819.72'
Δ=32°2'45.00"
Δc=29°42'03.24"
T=1012.81'
Ts=1180.76'
Es=156.37'
L=1980.06'
SPIRAL DATA CURVE *1A
D=1°30'
θs=1.256°
Ls=167.44'
p=0.73'
K=83.72'
X=167.43'
Y=2.22'
LT=100.03'
ST=55.82'
Lc=167.46'
PI #4
STA 215+49.91 AHEAD
N731,843.8500
E345,998.5087
PI 1 DATA RTE 15
D=2°0'
Δ=35°11'53.04"
R=2864.79'
T=826.83'
Ts=983.83'
Es=141.06'
L=1609.90'
Ls=150'
PI 2 DATA RTE 15
D=1°45'
Δ=19°21'16.47"
Δc=11°51'16.47"
R=1145.92'
T=118.97'
Ts=270.54'
Es=13.40'
L=237.09'
PI 3 DATA RTE 15
D=0°31'22.65"
Δ=1°4'24.58"
R=10,000.00'
L=292.08'
T=146.06'
PI 4 DATA RTE 15
D=2°30'
Δ=36°58'58.79"
Δc=33°08'58.79"
R=2291.83'
T=682.13'
Ts=839.74'
Es=24.6'
L=1325.99'
PI 5 DATA RTE 15
D=2°0'
Δ=15°59'53.76"
R=2864.79'
L=799.9'
T=402.88'
PI 6 DATA RTE 15
D=1°30'
Δ=19°21'16.47"
R=3819.72'
L=1291.00'
T=651.30'
PI 7 DATA RTE 15
D=1°30'
Δ=19°21'16.47"
R=3819.72'
L=1291.00'
T=651.30'
PI 8 DATA RTE 15
D=1°30'
Δ=19°21'16.47"
R=3819.72'
L=1291.00'
T=651.30'
PI 9 DATA RTE 15
D=1°30'
Δ=19°21'16.47"
R=3819.72'
L=1291.00'
T=651.30'
PI



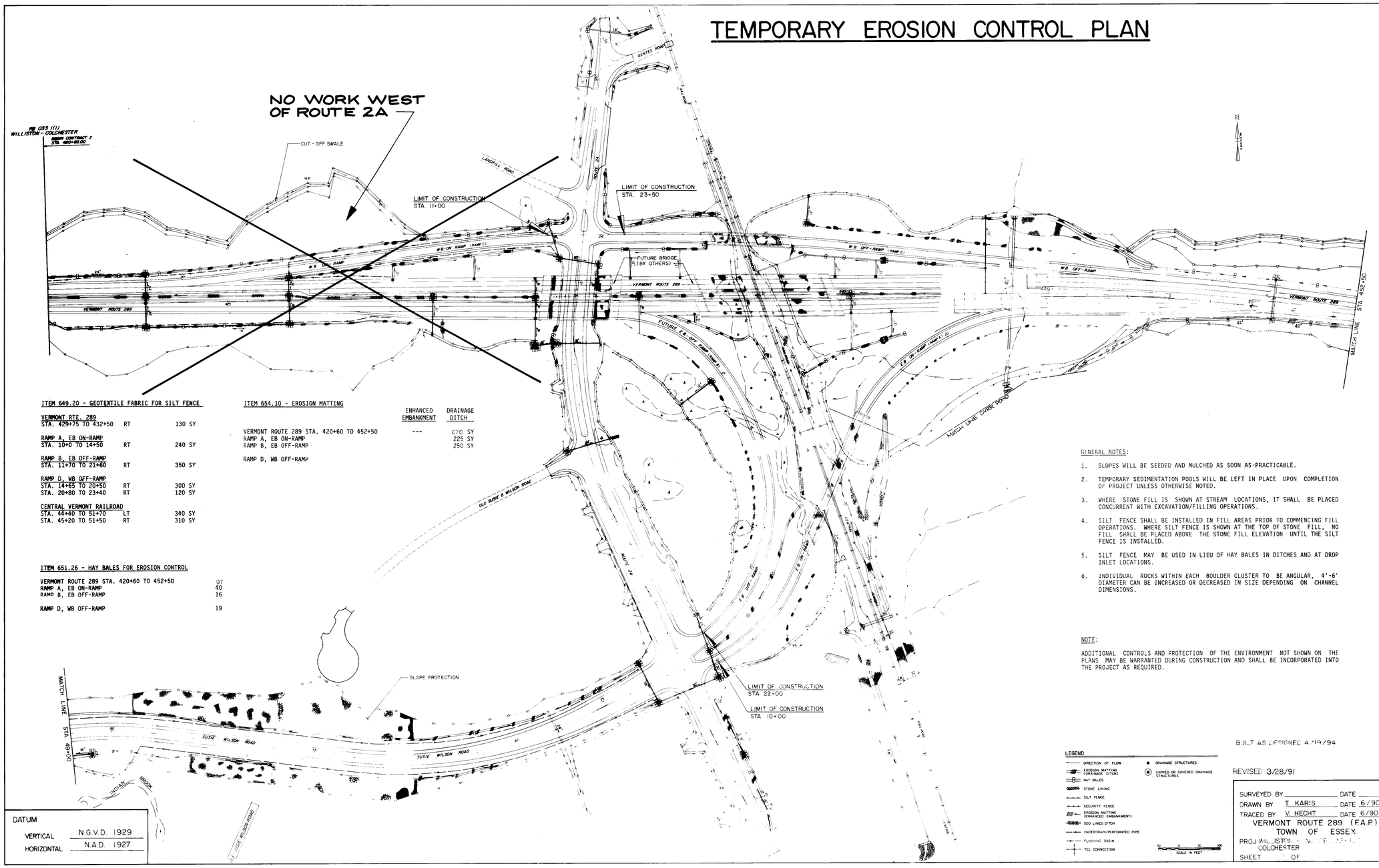
DATUM
VERTICAL _____
HORIZONTAL _____

SURVEY TIE SHEET
NO SCALE

SURVEYED BY PINKHAM ENG. DATE 6/86
DRAWN BY RCA DATE 9/87
TRACED BY JFD, EID DATE 5/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON NO. PB 033-1 ( )
COLCHESTER
SHEET 34 OF 400

TEMPORARY EROSION CONTROL PLAN



ITEM 649.20 - GEOTEXTILE FABRIC FOR SILT FENCE

VERMONT RTE. 289		
STA. 429+75 TO 432+50	RT	130 SY
RAMP A, EB ON-RAMP		
STA. 10+0 TO 14+50	RT	240 SY
RAMP B, EB OFF-RAMP		
STA. 11+70 TO 21+60	RT	350 SY
RAMP D, WB OFF-RAMP		
STA. 14+65 TO 20+50	RT	300 SY
STA. 20+80 TO 23+40	RT	120 SY
CENTRAL VERMONT RAILROAD		
STA. 44+40 TO 51+70	LT	340 SY
STA. 45+20 TO 51+50	RT	310 SY

ITEM 654.10 - EROSION MATTING

	ENHANCED EMBANKMENT	DRAINAGE DITCH
VERMONT ROUTE 289 STA. 420+60 TO 452+50	---	C/O SY
RAMP A, EB ON-RAMP		225 SY
RAMP B, EB OFF-RAMP		250 SY
RAMP D, WB OFF-RAMP		

ITEM 651.26 - HAY BALES FOR EROSION CONTROL

VERMONT ROUTE 289 STA. 420+60 TO 452+50	37
RAMP A, EB ON-RAMP	40
RAMP B, EB OFF-RAMP	16
RAMP D, WB OFF-RAMP	19

GENERAL NOTES:

1. SLOPES WILL BE SEEDED AND MULCHED AS SOON AS-PRACTICABLE.
2. TEMPORARY SEDIMENTATION POOLS WILL BE LEFT IN PLACE UPON COMPLETION OF PROJECT UNLESS OTHERWISE NOTED.
3. WHERE STONE FILL IS SHOWN AT STREAM LOCATIONS, IT SHALL BE PLACED CONCURRENT WITH EXCAVATION/FILLING OPERATIONS.
4. SILT FENCE SHALL BE INSTALLED IN FILL AREAS PRIOR TO COMMENCING FILL OPERATIONS. WHERE SILT FENCE IS SHOWN AT THE TOP OF STONE FILL, NO FILL SHALL BE PLACED ABOVE THE STONE FILL ELEVATION UNTIL THE SILT FENCE IS INSTALLED.
5. SILT FENCE MAY BE USED IN LIEU OF HAY BALES IN DITCHES AND AT DROP INLET LOCATIONS.
6. INDIVIDUAL ROCKS WITHIN EACH BOULDER CLUSTER TO BE ANGULAR, 4'-6' DIAMETER CAN BE INCREASED OR DECREASED IN SIZE DEPENDING ON CHANNEL DIMENSIONS.

NOTE:

ADDITIONAL CONTROLS AND PROTECTION OF THE ENVIRONMENT NOT SHOWN ON THE PLANS MAY BE WARRANTED DURING CONSTRUCTION AND SHALL BE INCORPORATED INTO THE PROJECT AS REQUIRED.

LEGEND

- DIRECTION OF FLOW
- EROSION MATTING (DRAINAGE DITCH)
- HAY BALES
- STONE LINING
- SILT FENCE
- SECURITY FENCE
- EROSION MATTING (ENHANCED EMBANKMENT)
- SOD LINED DITCH
- UNDERDRAIN/PERFORATED PIPE
- FLUSHING BASIN
- TEE CONNECTION
- DRAINAGE STRUCTURES
- CAPPED OR COVERED DRAINAGE STRUCTURES

SCALE IN FEET 0 50 100

DATUM

VERTICAL N.G.V.D. 1929

HORIZONTAL N.A.D. 1927

BUILT AS DESIGNED 4/19/94

REVISED 3/28/91

SURVEYED BY _____ DATE _____

DRAWN BY T. KARIS DATE 6/90

TRACED BY V. HECHT DATE 6/90

VERMONT ROUTE 289 (F.A.P.)

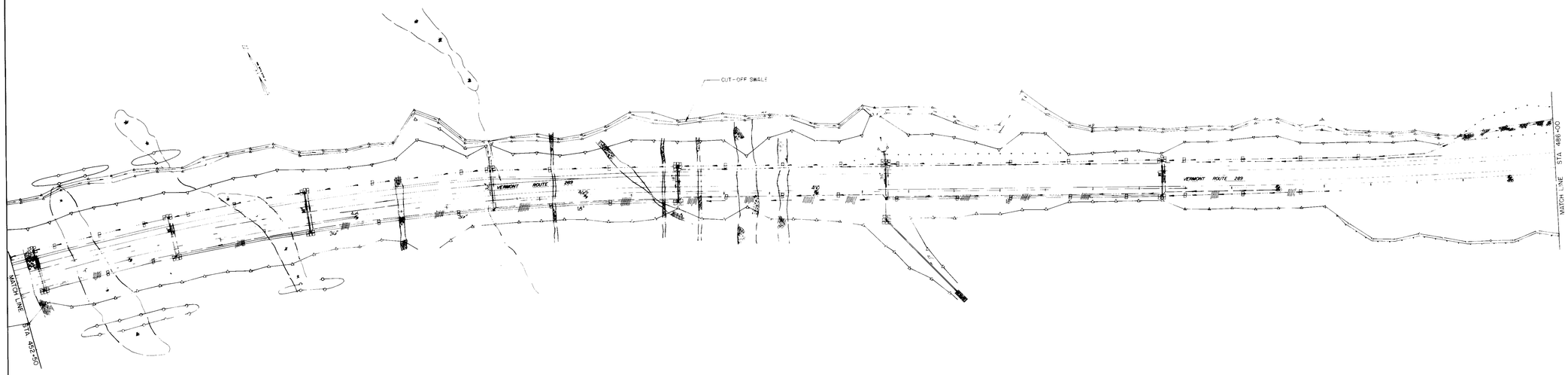
TOWN OF ESSEX

PROJ WILLISTON - N. F. [illegible]

COLCHESTER

SHEET ___ OF ___

TEMPORARY EROSION CONTROL PLAN



ITEM 649.20 - GEOTEXTILE FABRIC FOR SILT FENCE

VERMONT ROUTE 289		
STA. 470+80 TO 475+40	LT	210 SY
STA. 471+0 TO 473+0	RT	90 SY
STA. 481+20 TO 486+0	RT	100 SY
STA. 484+0 TO 486+0	LT	90 SY

ITEM 654.10 - EROSION MATTING

VERMONT ROUTE 289 STA. 452+50 TO 486+00	DRAINAGE DITCH 4,[illegible] SY

ITEM 651.26 - HAY BALES FOR EROSION CONTROL

VERMONT ROUTE 289 STA. 452+50 TO 486+00	202

DATUM

VERTICAL N.G.V.D. 1929

HORIZONTAL N.A.D. 1927

LEGEND

- DIRECTION OF FLOW
- EROSION MATTING (DRAINAGE DITCH)
- HAY BALES
- STONE LINING
- SILT FENCE
- SECURITY FENCE
- EROSION MATTING (ENHANCED EMBANKMENT)
- SOD LINED DITCH
- [illegible]
- DRAINAGE STRUCTURES
- CAPPED OR COVERED DRAINAGE STRUCTURES

REVISED 2/28/91

SURVEYED BY [illegible] DATE

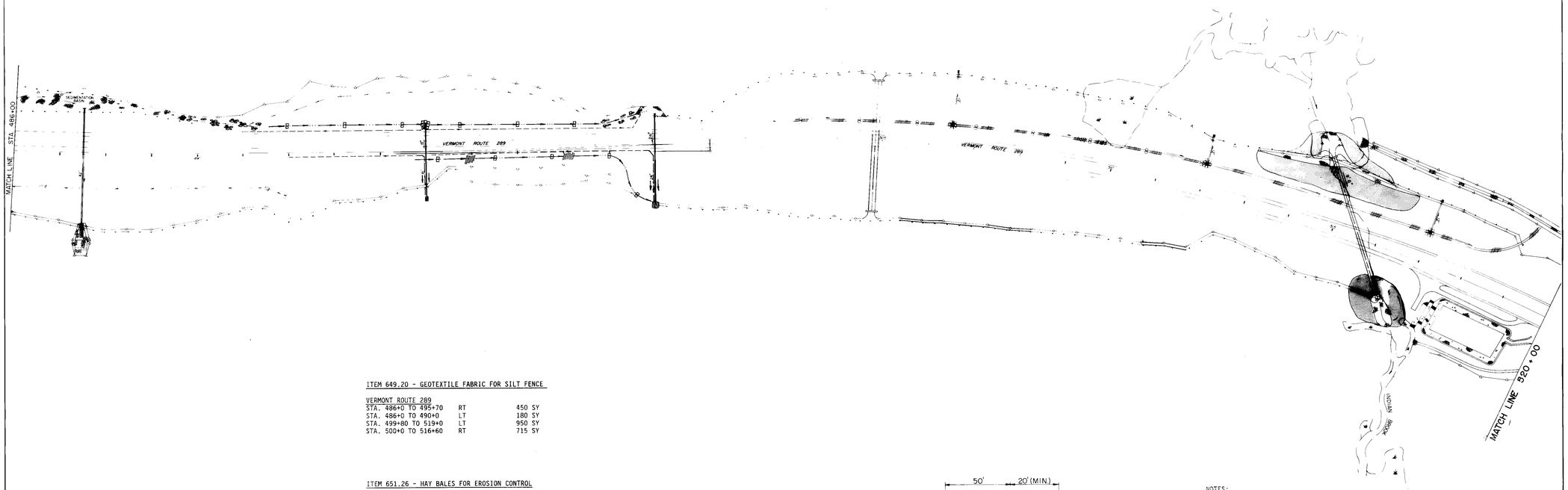
DRAWN BY T. KARL DATE

TRACED BY E. MILLER DATE

VERMONT ROUTE 89

(2)

TEMPORARY EROSION CONTROL PLAN



ITEM 649.20 - GEOTEXTILE FABRIC FOR SILT FENCE

VERMONT ROUTE 289

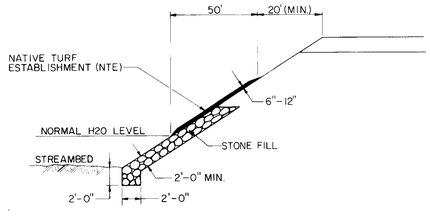
STA. 486+0 TO 495+70	RT	450 SY
STA. 486+0 TO 490+0	LT	180 SY
STA. 499+80 TO 519+0	LT	950 SY
STA. 500+0 TO 516+60	RT	715 SY

ITEM 651.26 - HAY BALES FOR EROSION CONTROL

VERMONT ROUTE 289 STA. 486+00 TO 520+00 — 55

ITEM 654.10 - EROSION MATTING

	DRAINAGE DITCH
VERMONT ROUTE 289 STA. 486+00 TO 520+00	1,940 SY



DETAIL OF NATIVE TURF ESTABLISHMENT
(ITEM & PAYMENT INCLUDED UNDER HIGHWAY EST.)

NOTES:

1. NATIVE TURF ESTABLISHMENT (NTE) SHALL CONSIST OF PLACING STREAM BANK GRUBBINGS AS SHOWN.
2. NTE SHALL BE PAID FOR UNDER ITEM 651.40 - GRUBBING MATERIAL.
3. HAY MULCH SHALL BE PLACED ON NTE AND SHALL BE PAID FOR SEPARATELY.
4. NTE SHALL BE PLACED AS SHOWN BUT IN NO CASE SHALL IT BE PLACED CLOSER THAN 20' TO THE EDGE OF ROADWAY SHOULDER.
5. TOPSOIL REMOVED FROM EXCAVATION AND EMBANKMENT AREAS SHALL BE SAVED AND REUSED FOR REVEGETATION AREAS.

LEGEND

- DIRECTION OF FLOW
- EROSION MATTING (DRAINAGE DITCH)
- HAY BALES
- STONE LINING
- SILT FENCE
- SECURITY FENCE
- EROSION MATTING (ENHANCED EMBANKMENT)
- SOD LINED DITCH
- UNDERDRAIN/PERFORATED PIPE
- FLUSHING BASIN
- TEE CONNECTION
- DRAINAGE STRUCTURES
- CAPPED OR COVERED DRAINAGE STRUCTURES
- NATIVE TURF ESTABLISHMENT

50 0 50 100
SCALE IN FEET

BUILT AS DESIGNED 4/19/94

REVISED 2/28/91

SURVEYED BY _____ DATE _____
DRAWN BY T. KARIS DATE 6/90
TRACED BY N. GIBSON DATE 6/90

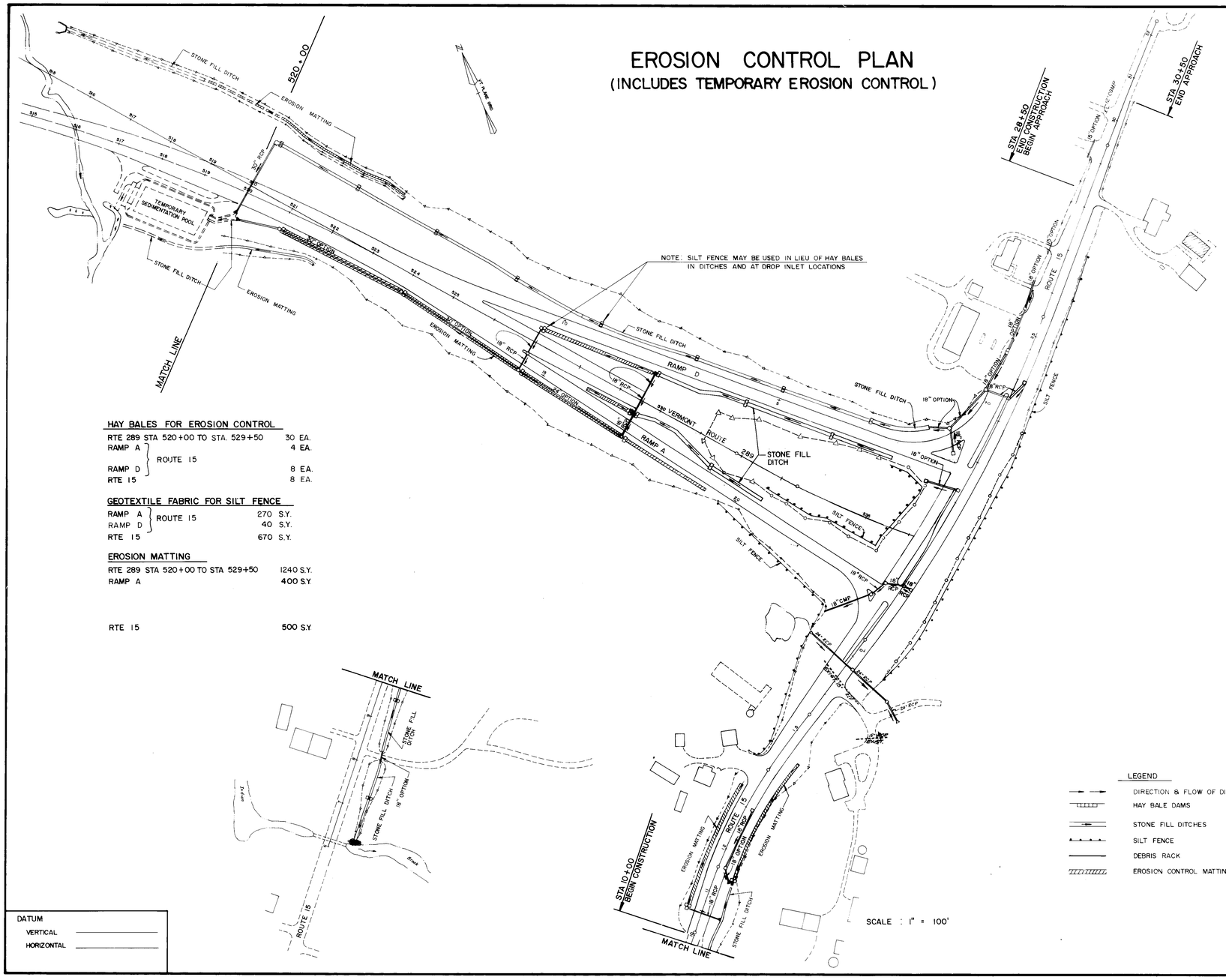
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX

PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)

SHEET 37 OF 400

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

EROSION CONTROL PLAN
(INCLUDES TEMPORARY EROSION CONTROL)



HAY BALES FOR EROSION CONTROL

RTE 289 STA 520+00 TO STA 529+50		30 EA.
RAMP A	ROUTE 15	4 EA.
RAMP D	ROUTE 15	8 EA.
RTE 15		8 EA.

GEOTEXTILE FABRIC FOR SILT FENCE

RAMP A	ROUTE 15	270 S.Y.
RAMP D	ROUTE 15	40 S.Y.
RTE 15		670 S.Y.

EROSION MATTING

RTE 289 STA 520+00 TO STA 529+50	1240 S.Y.
RAMP A	400 S.Y.
RTE 15	500 S.Y.

GENERAL NOTES

1. SLOPES WILL BE SEEDED AND MULCHED AS SOON AS PRACTICABLE.
2. WHERE STONE FILL IS SHOWN AT STREAM LOCATIONS IT SHALL BE PLACED CONCURRENT WITH EXCAVATION/ FILLING OPERATIONS.
3. SILT FENCE SHALL BE INSTALLED IN FILL AREAS PRIOR TO COMMENCING FILL OPERATIONS. WHERE SILT FENCE IS SHOWN AT THE TOP OF STONE FILL, NO FILL SHALL BE PLACED ABOVE THE STONE FILL ELEVATION UNTIL THE SILT FENCE IS INSTALLED.
4. SILT FENCE MAY BE USED IN LIEU OF HAY BALES IN DITCHES AND AT DROP INLET LOCATIONS.

NOTE -
ADDITIONAL CONTROLS AND PROTECTION OF THE ENVIRONMENT NOT SHOWN ON THE PLANS MAY BE WARRENTED DURING CONSTRUCTION AND SHALL BE INCORPORATED INTO THE PROJECT AS REQUIRED

LEGEND

- DIRECTION & FLOW OF DITCHES
- HAY BALE DAMS
- STONE FILL DITCHES
- SILT FENCE
- DEBRIS RACK
- EROSION CONTROL MATTING

SCALE : 1" = 100'

DATUM
VERTICAL _____
HORIZONTAL _____

BUILT AS DESIGNED 4/19/94 SC

REVISED 12/28/90

SURVEYED BY _____ DATE _____
DRAWN BY R.C.A. DATE 3/88
TRACED BY N.P.D. DATE 3/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO. PB 033-1(2)
COLCHESTER
SHEET 38 OF 400

NOTE: SHADED AREA (APPROX. RTE 289 STA 434+00) DEPICTS DEMOLITION OF EXISTING BRIDGE TO BE REMOVED BY CONTRACTOR UNDER SUBSEQUENT SUBSURFACE EXCAVATION. LIMITS OF REMOVAL TO BE ESTABLISHED BY THE ENGINEER. SPECIAL PROVISIONS FOR REMOVAL MAY BE REQUIRED.

REMOVAL OF EXISTING FENCE
RTE 289 STA 430+07, RT - RTE 289 STA 430+39, RT
RTE 289 STA 433+94, LT - RTE 289 STA 434+44, LT
RTE 289 STA 435+34, LT - RTE 289 STA 435+95, LT
RTE 289 STA 436+39, LT - RTE 289 STA 436+72, LT
RTE 289 STA 441+46, RT - RTE 289 STA 442+81, RT

STEEL BEAM GUARD RAIL

VT. RTE. 289	427+60.39	TO	432+60.39 LT.
	430+08.04	TO	432+08.04 RT.
	431+77.19	TO	432+32.19 MED. RT. (*)
	431+77.19	TO	432+71.32 MED. LT. (*)
	434+41.88	TO	436+11.40 MED. RT.
	434+81.01	TO	436+43.51 MED. LT.
	435+00.81	TO	436+08.76 LT.
	440+14.29	TO	441+51.79 RT.
	440+16.43	TO	443+66.43 LT.
	440+10.15	TO	440+65.15 MED. LT. (*)
	439+78.04	TO	440+65.15 MED. RT. (*)
E.B. ON-RAMP (RAMP A)	12+62.27	TO	13+37.27 LT.
	12+34.12	TO	13+09.12 RT.
	17+31.83	TO	17+56.83 LT.
E.B. OFF-RAMP (RAMP B)	13+62.50	TO	12+54.39 RT.
	13+62.50	TO	19+00 LT.
W.B. OFF-RAMP (RAMP D)	17+63.63	TO	18+88.63 LT.
	17+76.75	TO	19+01.75 RT.
	21+50.28	TO	22+25.28 LT.
	21+62.13	TO	22+24.63 RT.

(*) FOR INSTALLATION AS TYPICAL BULLNOSE GUARD RAIL TREATMENT.

BREAKAWAY CABLE TERMINAL

VT. RTE. 289	429+83.04	TO	430+08.04 RT.
	435+81.62	TO	436+06.62 RT.
	441+51.79	TO	441+76.79 RT.
	427+35.39	TO	427+60.39 LT.
	443+66.43	TO	443+91.43 LT.
E.B. ON-RAMP (RAMP A)	12+09.12	TO	12+34.12 RT.
	17+56.83	TO	17+81.83 RT.
	12+37.27	TO	12+62.27 LT.
	17+56.83	TO	17+81.83 LT.
E.B. OFF-RAMP (RAMP B)	12+54.39	TO	12+79.39 RT.
	13+37.50	TO	13+62.50 LT.
	19+00	TO	19+25 LT.
W.B. OFF-RAMP (RAMP D)	17+51.75	TO	17+76.75 RT.
	22+24.63	TO	22+49.63 RT.
	17+63.63	TO	17+88.63 LT.
	22+25.28	TO	22+50.28 LT.

NOTE: PROVIDE IMPACT ATTENUATION DEVICE AT VT. RTE. 289/E.B. OFF-RAMP EXIT TERMINAL.

GUARD RAIL APPROACH SECTION TYPE I

VT. RTE. 289	432+32.19	TO	432+82.19 MED. RT
	432+08.04	TO	432+58.04 RT.
	434+50.81	TO	435+00.81 LT.
	434+31.01	TO	434+81.01 MED. LT.
	436+11.40	TO	436+61.40 MED. RT
	436+06.62	TO	436+56.62 RT.
	439+66.43	TO	440+16.43 LT.
	439+60.15	TO	440+10.15 MED. LT.
W.B. OFF-RAMP (RAMP D)	19+01.75	TO	19+51.75 RT.
	18+88.63	TO	19+38.63 LT.
E.B. ON-RAMP (RAMP A)	13+09.12	TO	13+59.12 RT.
	13+37.27	TO	13+87.27 LT.

GUARD RAIL APPROACH SECTION TYPE II

VT. RTE. 289	432+60.39	TO	432+72.89 LT.
	432+71.32	TO	432+83.82 MED. LT.
	434+29.38	TO	434+41.88 MED. RT.
	434+42.46	TO	RAMP B 12+04.39 RT.
	436+43.51	TO	436+56.01 MED. LT.
	436+08.76	TO	436+21.26 LT.
	439+65.15	TO	439+78.04 MED. RT.
	440+01.75	TO	440+14.29 RT.
W.B. OFF-RAMP (RAMP D)	21+37.78	TO	21+50.28 LT.
	21+49.63	TO	21+62.13 RT.
E.B. ON-RAMP (RAMP A)	17+19.33	TO	17+31.83 LT.
	17+19.33	TO	17+31.83 RT.

ROUTE 2A EDGE OF PAVEMENT ALIGNMENT CURVE
P.C. STA. 115+84.16 (OFFSET LT.)
Δ = 03°-00'-40" RT
Dc = 02°-00'-00"
R = 2864.79'
T = 75.30'
E = 0.99'
L = 150.00'

W.B. ON-RAMP CURVE DATA #1
Δ = 06°-58'-06" LT.
Dc = 02°-51'-53"
R = 2000.00'
T = 121.77'
E = 3.70'
L = 243.24'
BANK = 0.036 FT./FT.

W.B. OFF-RAMP CURVE DATA #1
Δ = 06°-15'-11" LT.
Dc = 01°-16'-24"
R = 4500.00'
T = 245.80'
E = 6.71'
L = 491.11'
BANK = 0.021 FT./FT.

VERMONT ROUTE 289 CURVE DATA #1
Δ = 23°-23'-45" RT
Dc = 01°-00'-00"
R = 5729.58'
T = 1186.32'
E = 121.53'
L = 2339.58'
BANK = 0.021 FT./FT.

E.B. OFF-RAMP CURVE DATA #1
Δ = 43°-38-55" RT.
Dc = 22°-22'-55"
R = 300.00'
T = 145.99'
E = 33.64'
L = 271.73'
BANK = 0.080 FT/FT

E.B. OFF-RAMP CURVE DATA #2
Δ = 30°-01'-37" RT.
Dc = 09°-32'-57"
R = 600.00'
T = 160.92'
E = 21.20'
L = 314.44'
BANK = 0.066 FT./FT.

ROUTE 2A CURVE DATA #2
Δ = 29°-48'-24" RT
R = 954.93'
T = 254.15'
E = 33.24'
L = 496.78'
BANK = 0.052 FT./FT.

E.B. ON-RAMP CURVE DATA #2
Δ = 28°-28'-04" RT
Dc = 14°-19'-26"
R = 400.00'
T = 101.47'
E = 12.67'
L = 198.74'
BANK = 0.080 FT./FT.

E.B. ON-RAMP CURVE DATA #3
Δ = 39°-00'-33" RT
Dc = 09°-32'-57"
R = 600.00'
T = 214.26'
E = 36.53'
L = 408.50'
BANK = 0.076 FT./FT.

DATUM
VERTICAL — N.G.V.D. 1929
HORIZONTAL — N.A.D. 1927

TREATED TIMBER CURB

RTE 289 STA 429+00 LT - RTE 289 STA 432+73 LT	373	LF
RTE 289 STA 434+51 LT - RTE 289 STA 436+21 LT	170	LF
RTE 289 STA 439+66 LT - RTE 289 STA 442+00 LT	234	LF
RTE 289 STA 432+00 RT - RTE 289 STA 432+58 RT	58	LF
RTE 289 STA 440+02 RT - RTE 289 STA 440+50 RT	48	LF

4' HIGH WOVEN WIRE FENCE
~~RTE 289 STA 429+00, 282' LT - RTE 289 STA 429+46, 175' LT~~
~~RTE 289 STA 429+46, 175' LT - RTE 2A 116+78, 57' LT~~
RTE 2A STA 116+86, 35' RT - RAMP D STA 21+60, 109 RT
RAMP D STA 21+60, 109' RT - RTE 289 STA 437+96, 147' RT
RTE 289 STA 437+96, 147' RT - RAMP B STA 17+00, 82' LT
~~RAMP B STA 17+00, 120' RT - RAMP B STA 13+46, 120' RT~~
~~RAMP B STA 13+46, 120' RT - RTE 2A STA 112+45, 52' RT~~
~~RTE 2A STA 112+45, 52' RT - RTE 2A STA 115+68, 52' LT~~
RTE 289 STA 428+00, 172' RT - RTE 289 STA 429+32, 159' RT
RTE 289 STA 429+32, 156' RT - RTE 289 STA 431+55, 227' RT
~~RTE 289 STA 431+55, 267' RT - RTE 2A 112+62, 59' LT~~
~~RTE 2A STA 113+62, 50' LT - RTE 2A 115+50, 59' LT~~
RAMP A STA 17+00, 90' LT - RAMP D STA ~~20+07, 24' RT~~ 20+33, 100' RT
RAMP D STA 20+07, 24' RT - RTE 289 STA 445+00, ~~96' LT~~ 220' LT
RAMP A STA 17+00, 168' RT - RTE 289 STA 444+35, 226' RT
RTE 289 STA 444+35, 226' RT - RTE 289 STA 445+00, 215' RT

AS BUILT 5/5/94 SP

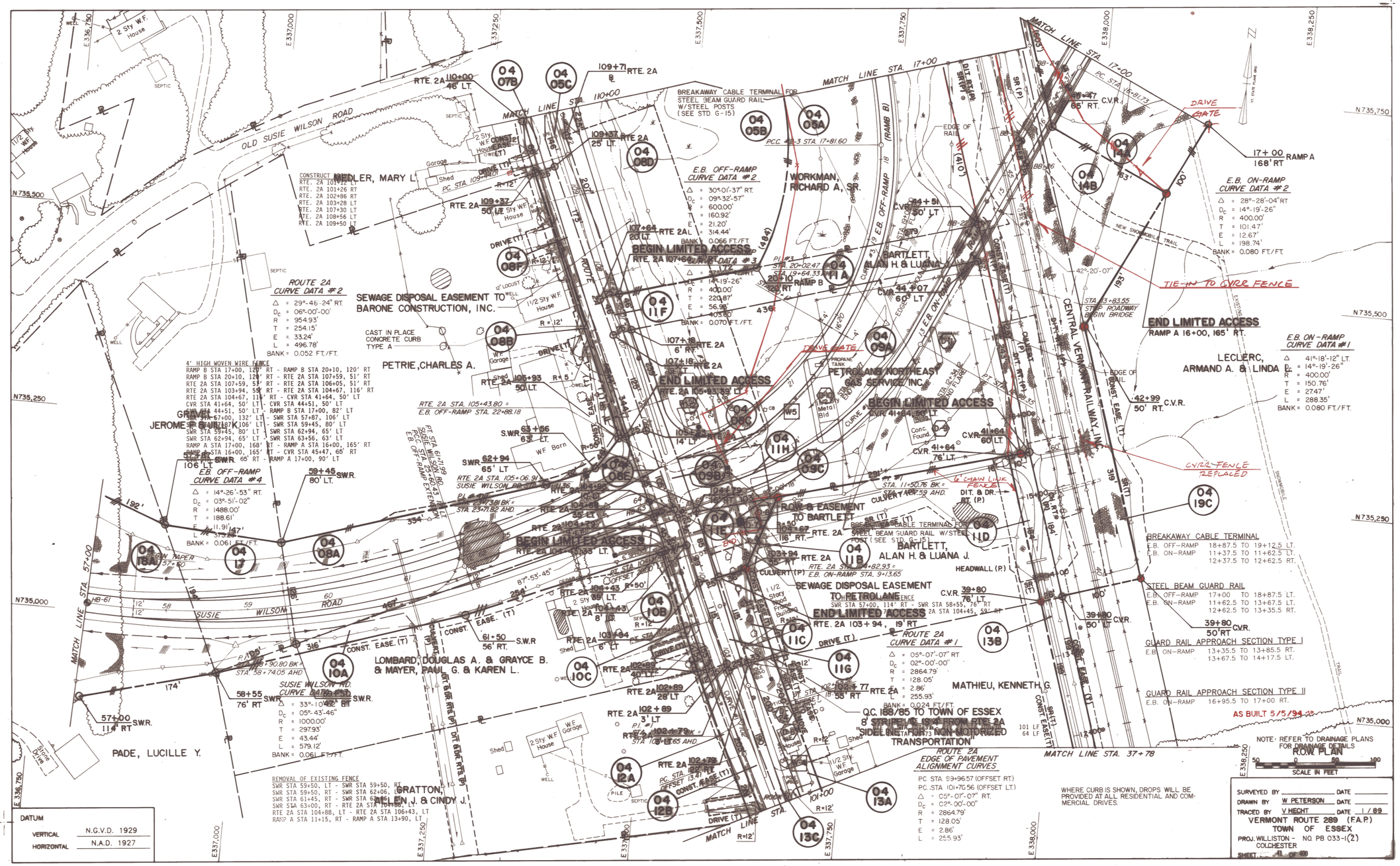
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS

SCALE IN FEET: 50 0 50 100

SURVEYED BY _____ DATE _____
DRAWN BY W. PETERSON DATE _____
TRACED BY V. HECHT DATE 1 / 89

VERMONT ROUTE 289 (F.A.P)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-(2)
SHEET 49 OF 490

P-3



OLD SUSIE WILSON ROAD
MATCH LINE STA. 110+00
MATCH LINE STA. 17+00
MATCH LINE STA. 57+00
MATCH LINE STA. 37+78
MEDLER, MARY L.
WORKMAN, RICHARD A, SR.
BARTLETT, ALAN H. & LUANA
PETROLAND NORTHEAST GAS SERVICE INC.
LECLERC, ARMAND A. & LINDA
CENTRAL VERMONT RAILWAY, INC.
PETRIE, CHARLES A.
GRAVEL, JEROME & JUDITH K.
LOMBARD, DOUGLAS A. & GRAYCE B. & MAYER, PAUL G. & KAREN L.
GRATTON, ALLEN J. & CINDY J.
PADE, LUCILLE Y.
MATHIEU, KENNETH G.
SEWAGE DISPOSAL EASEMENT TO BARONE CONSTRUCTION, INC.
SEWAGE DISPOSAL EASEMENT TO PETROLANE
BEGIN LIMITED ACCESS
END LIMITED ACCESS
ROUTE 2A CURVE DATA #2
Δ = 29°-46-24" RT.
Dc = 06°-00'-00"
R = 954.93'
T = 254.15'
E = 33.24'
L = 496.78'
BANK = 0.052 FT./FT.
E.B. OFF-RAMP CURVE DATA #2
Δ = 30°-01'-37" RT.
Dc = 09°-32'-57"
R = 600.00'
T = 160.92'
E = 21.20'
L = 314.44'
BANK = 0.066 FT./FT.
E.B. OFF-RAMP CURVE DATA #4
Δ = 14°-26'-53" RT.
Dc = 03°-51'-02"
R = 1488.00'
T = 188.61'
E = 11.91'
L = 379.28'
BANK = 0.061 FT./FT.
E.B. ON-RAMP CURVE DATA #2
Δ = 28°-28'-04" RT
Dc = 14°-19'-26"
R = 400.00'
T = 101.47'
E = 12.67'
L = 198.74'
BANK = 0.080 FT./FT.
E.B. ON-RAMP CURVE DATA #1
Δ = 41°-18'-12" LT.
Dc = 14°-19'-26"
R = 400.00'
T = 150.76'
E = 27.47'
L = 288.35'
BANK = 0.080 FT./FT.
ROUTE 2A CURVE DATA #1
Δ = 05°-07'-07" RT
Dc = 02°-00'-00"
R = 2864.79'
T = 128.05'
E = 2.86'
L = 255.93'
BANK = 0.024 FT./FT.
ROUTE 2A EDGE OF PAVEMENT ALIGNMENT CURVES
PC STA 99+96.57 (OFFSET RT.)
PC STA 101+70.56 (OFFSET LT.)
Δ = 05°-07'-07" RT.
Dc = 02°-00'-00"
R = 2864.79'
T = 128.05'
E = 2.86'
L = 255.93'
BREAKAWAY CABLE TERMINAL FOR STEEL BEAM GUARD RAIL W/STEEL POSTS (SEE STD. G-15)
BREAKAWAY CABLE TERMINAL
E.B. OFF-RAMP 18+87.5 TO 19+12.5 LT.
E.B. ON-RAMP 11+37.5 TO 11+62.5 LT.
12+37.5 TO 12+62.5 RT.
STEEL BEAM GUARD RAIL
E.B. OFF-RAMP 17+00 TO 18+87.5 LT.
E.B. ON-RAMP 11+62.5 TO 13+67.5 LT.
12+62.5 TO 13+35.5 RT.
GUARD RAIL APPROACH SECTION TYPE I
E.B. ON-RAMP 13+35.5 TO 13+85.5 RT.
13+67.5 TO 14+17.5 LT.
GUARD RAIL APPROACH SECTION TYPE II
E.B. ON-RAMP 16+95.5 TO 17+00 RT.
AS BUILT 5/5/94
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS
R.O.W. PLAN
SCALE IN FEET
WHERE CURB IS SHOWN, DROPS WILL BE PROVIDED AT ALL RESIDENTIAL AND COMMERCIAL DRIVES.
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927
SURVEYED BY DATE
DRAWN BY W PETERSON DATE
TRACED BY V HECHT DATE 1/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 41 OF 400



AS BUILT 5/5/94

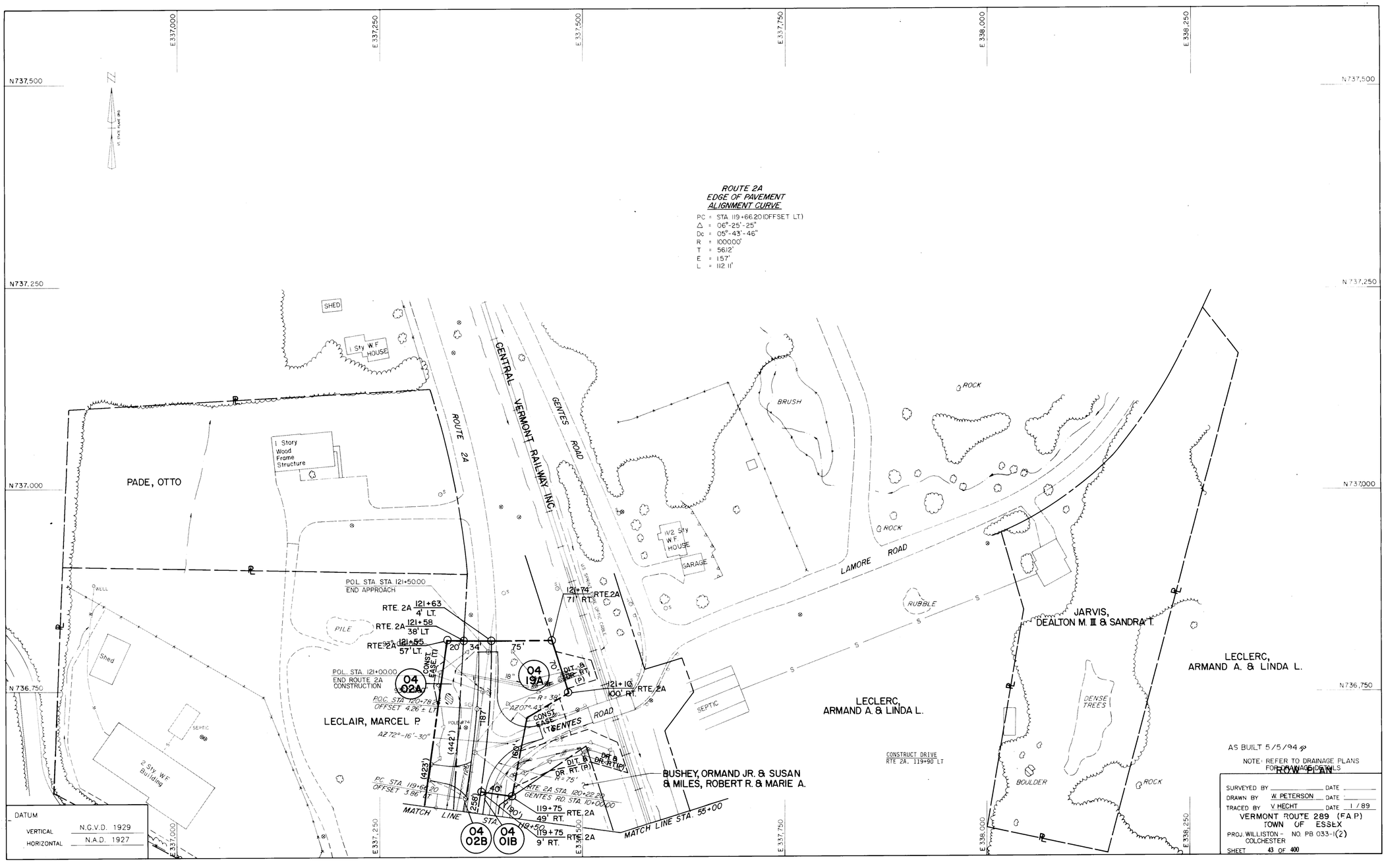
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS

FROM PLAN

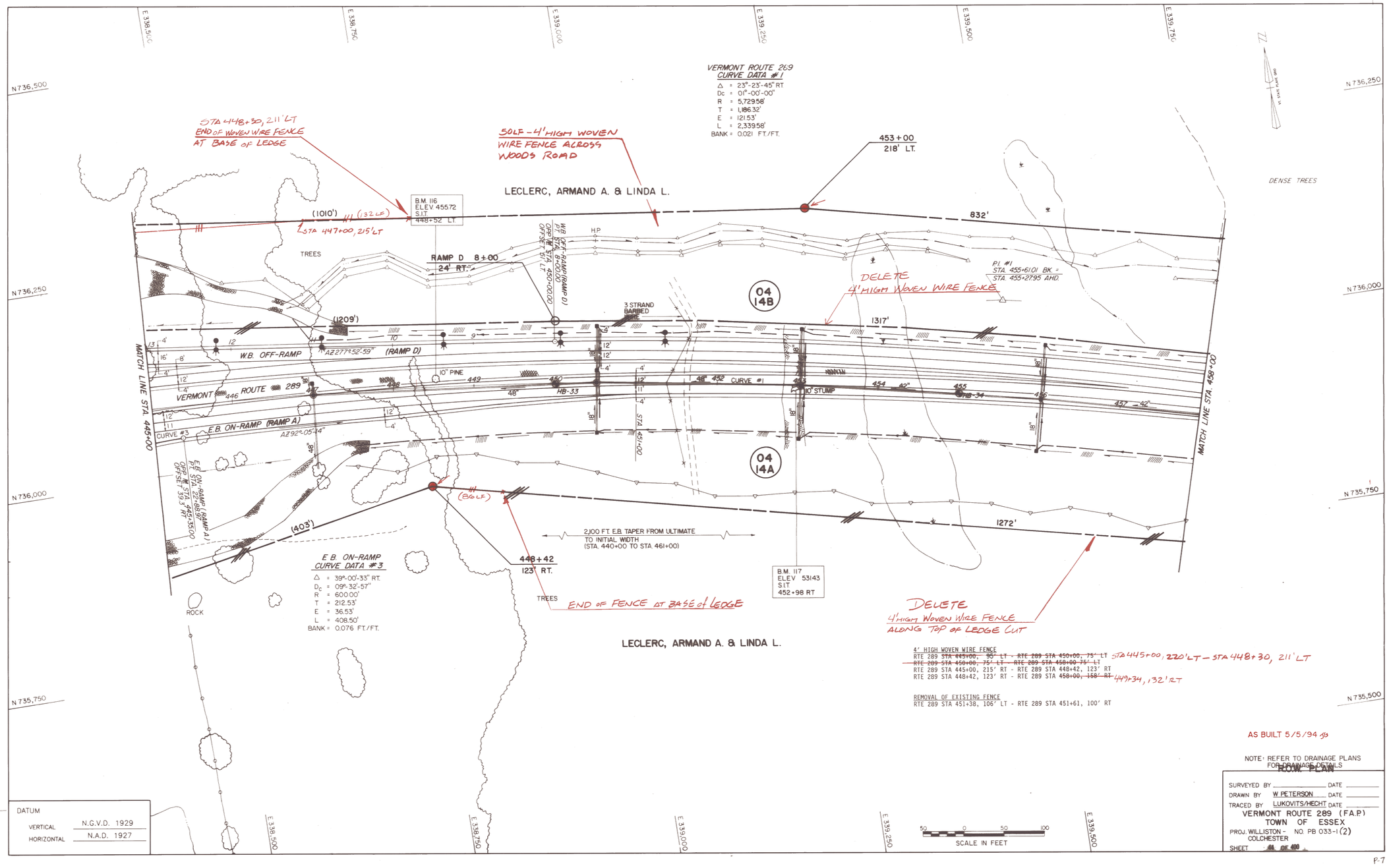
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

SURVEYED BY _____ DATE _____
DRAWN BY W. PETERSON DATE _____
TRACED BY V. HECHT DATE 1 / 89

VERMONT ROUTE 289 (FA P)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 42 OF 400



ROUTE 2A
EDGE OF PAVEMENT
ALIGNMENT CURVE
PC = STA. 119+66.20 (OFFSET LT.)
Δ = 06°-25'-25"
Dc = 05°-43'-46"
R = 1000.00'
T = 56.12'
E = 1.57'
L = 112.11'
N737,500
N737,250
N737,000
N736,750
E337,000
E337,250
E337,500
E337,750
E338,000
E338,250
SHED
1 Sty W.F. HOUSE
CENTRAL VERMONT RAILWAY INC.
ROUTE 2A
GENTES ROAD
BRUSH
ROCK
1 Story Wood Frame Structure
PADE, OTTO
1 1/2 Sty W.F. HOUSE
GARAGE
LAMORE ROAD
RUBBLE
JARVIS, DEALTON M. III & SANDRA T.
LECLERC, ARMAND A. & LINDA L.
DENSE TREES
BOULDER
POL. STA. STA. 121+50.00 END APPROACH
RTE. 2A 121+63 4' LT.
RTE. 2A 121+58 38' LT
RTE. 2A 121+55 57' LT.
121+74 71' RT. RTE. 2A
121+10 100' RT. RTE. 2A
POL. STA. 121+00.00 END ROUTE 2A CONSTRUCTION
P.O.C. STA. 120+78.26 OFFSET 4.26' ± LT.
LECLAIR, MARCEL P.
AZ 72°-16'-30"
AZ 07°-43'-41"
PC. STA. 119+66.20 OFFSET 3.86' LT.
RTE. 2A STA. 120+22.20 GENTES RD. STA. 10+00.00
119+75 49' RT. RTE. 2A
119+75 9' RT. RTE. 2A
MATCH LINE STA. 55+00
MATCH LINE STA. 119+50
BUSHEY, ORMAND JR. & SUSAN & MILES, ROBERT R. & MARIE A.
LECLERC, ARMAND A. & LINDA L.
CONSTRUCT DRIVE RTE. 2A, 119+90 LT
SEPTIC
PILE
Shed
2 Sty W.F. Building
WELL
04 02A
04 19A
04 02B
04 01B
DIT. & DR. RT. (P)
DIT. & DR. RT. (P)
DIT. & DR. RT. (P)
R = 75'
R = 39'
20'
34'
75'
70'
40'
(442')
(423')
(258')
(190')
187'
160'
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927
AS BUILT 5/5/94
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS
ROW PLAN
SURVEYED BY DATE
DRAWN BY W. PETERSON DATE
TRACED BY V. HECHT DATE 1/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 43 OF 400



4' HIGH WOVEN WIRE FENCE
RTE 289 ~~STA 445+00, 95' LT - RTE 289 STA 450+00, 75' LT~~ STA 445+00, 220' LT - STA 448+30, 211' LT
~~RTE 289 STA 450+00, 75' LT - RTE 289 STA 458+00 75' LT~~
RTE 289 STA 445+00, 215' RT - RTE 289 STA 448+42, 123' RT
RTE 289 STA 448+42, 123' RT - RTE 289 STA ~~458+00, 158' RT~~ 449+34, 132' RT

REMOVAL OF EXISTING FENCE
RTE 289 STA 451+38, 106' LT - RTE 289 STA 451+61, 100' RT

AS BUILT 5/5/94 JG

NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

50 0 50 100
SCALE IN FEET

R.O.W. PLAN

SURVEYED BY _____ DATE _____
DRAWN BY W. PETERSON DATE _____
TRACED BY LUKOVITS/HECHT DATE _____

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 44 OF 400

CURVE DATA #1
Δ = 23°-23'-45" RT.
D_c = 01°-00'-00"
R = 5729.58'
T = 1186.32'
E = 121.53'
L = 2339.58'
BANK = 0.021 FT./FT.

LECLERK, ARMOND A. & LINDA L.

THIBAULT, JEAN C. & JACQUELINE M.

LECLERC, ARMAND A. & LINDA L.

THOMPSON, KATHARINE N.

THIBAULT, JEAN C. & JACQUELINE M.

461+00
243' LT

466+86
434' LT

466+72
198' LT

463+00
75' LT

466+64
63' LT

461+50
183' RT

466+53
119' RT

473+00
162' RT

(832')

595'

371'

(1317')

369'

135'

3447'

(1272')

494'

653'

182'

DENSE TREES

VERMONT ROUTE 289

CURVE #1

HB-35

HB-36

HB-37

15" PINE

4" MAPLE

AZ 115°-01'-33"

MATCH LINE STA 458+00

MATCH LINE STA 473+00

STA 463+00

STA 465+00

PT. #1 STA 467+14.27

B.M. 118
ELEV. 519.77
S.I.T.
458+93 RT.

B.M. 119
ELEV. 516.84
S.I.R.
465+12 RT.

END 2100 FT. TAPER FROM ULTIMATE TO INITIAL WIDTH (STA. 440+00 TO STA. 461+00)

04 14B

04 16C

04 16A

04 14A

4' HIGH WOVEN WIRE FENCE
~~RTE 289 STA 458+00, 75' LT - RTE 289 STA 463+00, 75' LT~~
~~RTE 289 STA 463+00, 75' LT - RTE 289 STA 466+64, 63' LT~~
~~RTE 289 STA 466+64, 63' LT - RTE 289, STA 473+00, 63' LT~~
~~RTE 289 STA 458+00, 158' RT - RTE 289, STA 461+50, 183' RT~~
~~RTE 289 STA 461+50, 183' RT - RTE 289, STA 466+53, 119' RT~~
~~RTE 289 STA 466+53, 119' RT - RTE 289, STA 473+00, 162' RT~~
(RTE 289) STA 470+85, 146' RT - RTE 289, STA 473+00, 162' RT

REMOVAL OF EXISTING FENCE
RTE 289 STA 466+60, RT - RTE 289, STA 466+85, LT

DELETE 4' HIGH WOVEN WIRE FENCE

DELETED 4' HIGH WOVEN WIRE FENCE ALONG TOP OF LEDGE CUT

BEGIN FENCE STA 470+85, 146' RT

END POSTS AT TOP AND BOTTOM OF LEDGE

CONST. EASE (T)

CULVERT (P)

N 736,250
N 736,000
N 735,750
N 735,500
N 735,250
N 735,000

E 340,000
E 340,250
E 340,500
E 340,750
E 339,750
E 341,000
E 341,250

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

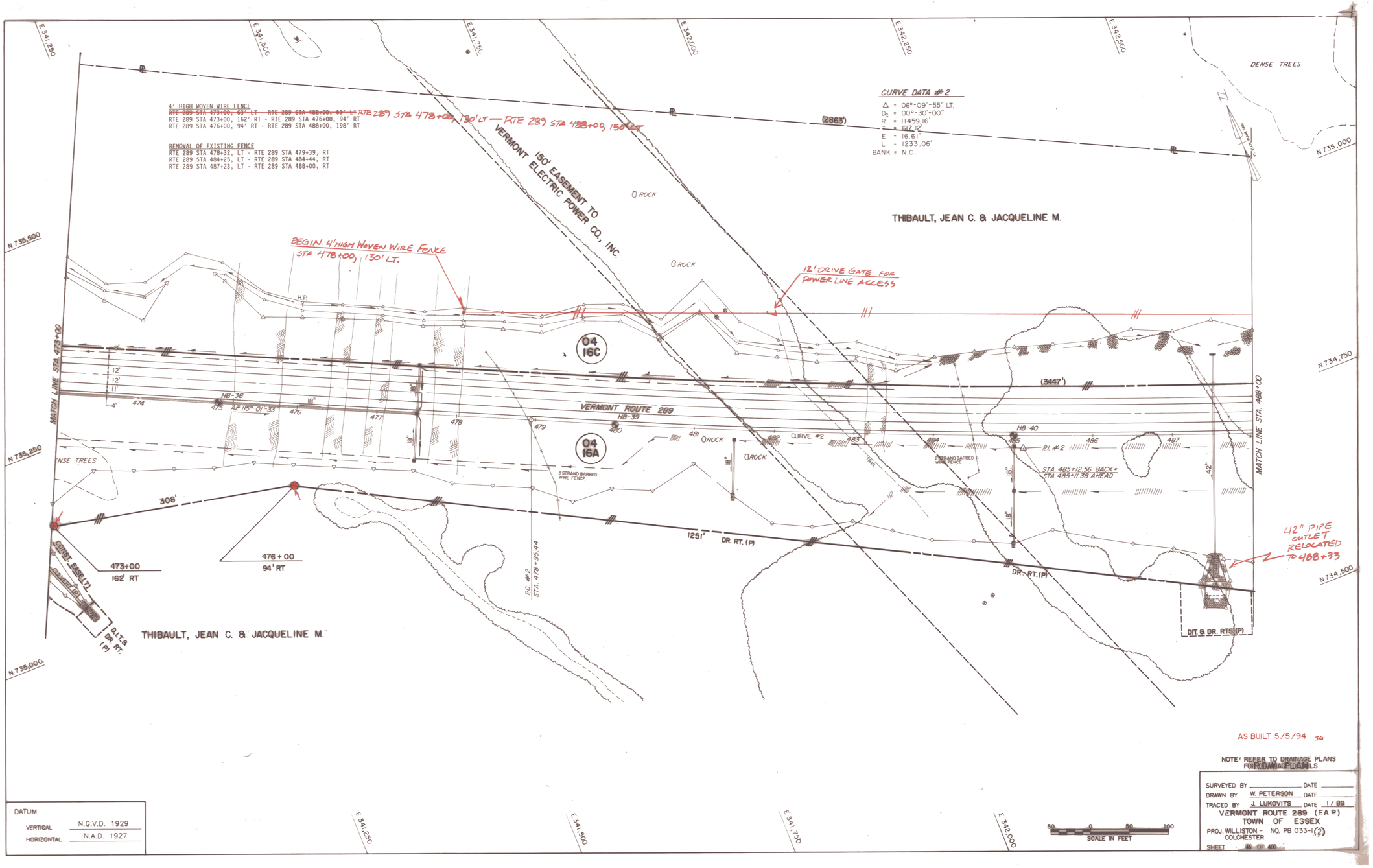
50 0 50 100
SCALE IN FEET

AS BUILT 5/5/94 JG

NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS

SURVEYED BY _____ DATE _____
DRAWN BY W. PETERSON DATE _____
TRACED BY LUKOVITS/HECHT DATE 1/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 45 OF 400



AS BUILT 5/5/94 JG

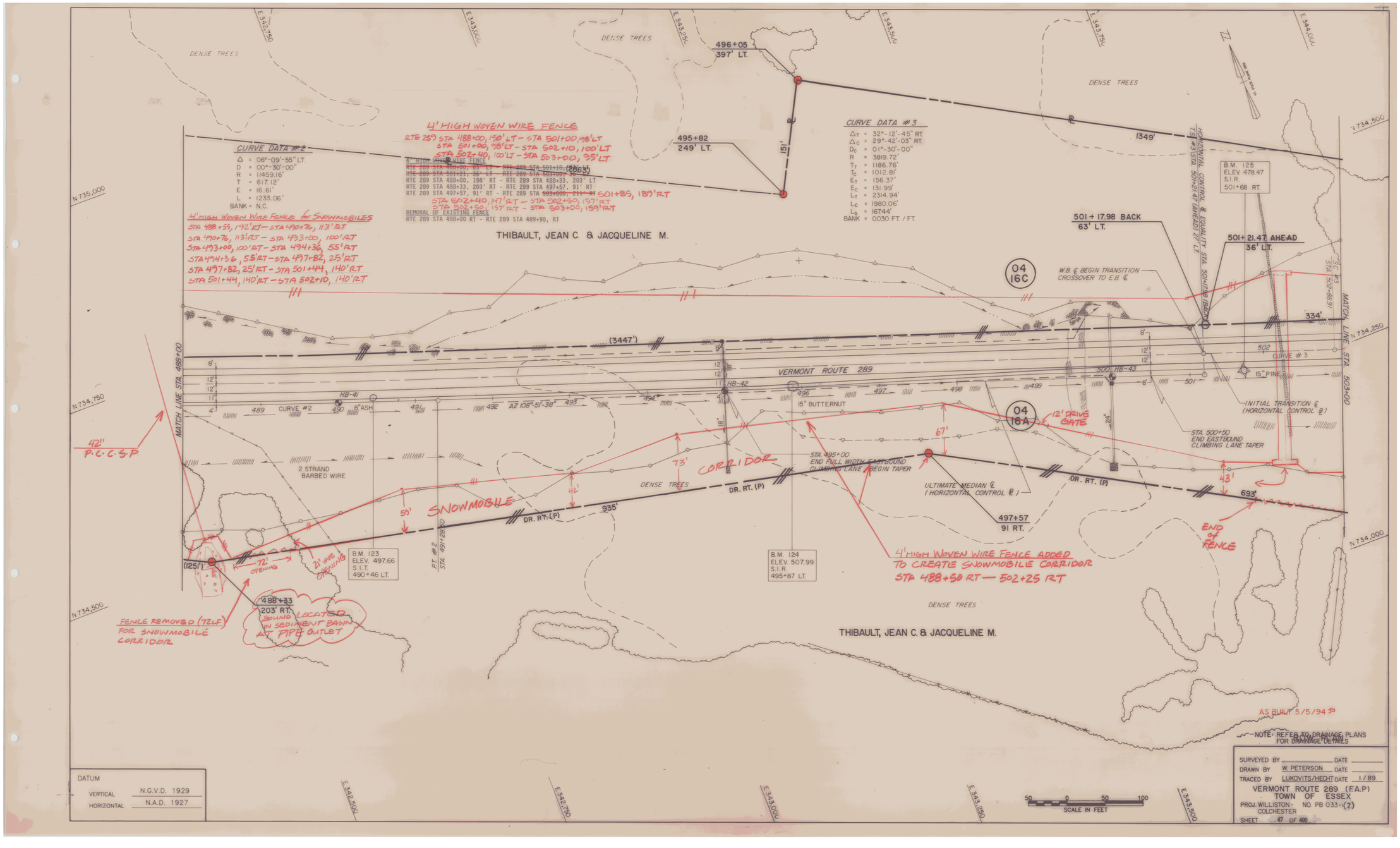
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS

DATUM	
VERTICAL	N.G.V.D. 1929
HORIZONTAL	N.A.D. 1927

SCALE IN FEET 50 0 50 100

SURVEYED BY _____ DATE _____
DRAWN BY W. PETERSON DATE _____
TRACED BY J. LUKOVITS DATE 1/89

VERMONT ROUTE 289 (FAP)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 46 OF 400



DENSE TREES
496+05
397' LT.
495+82
249' LT.
151'
1349'
CURVE DATA #2
Δ = 06°-09'-55" LT.
D = 00°-30'-00"
R = 11459.16'
T = 617.12'
E = 16.61'
L = 1233.06'
BANK = N.C.
4' HIGH WOVEN WIRE FENCE
RTE 289 STA 488+00, 150' LT - STA 501+00, 98' LT
STA 501+00, 98' LT - STA 502+10, 100' LT
STA 502+40, 100' LT - STA 503+00, 95' LT
4' HIGH WOVEN WIRE FENCE
RTE 289 STA 488+00, 63' LT - RTE 289 STA 501+18, 63' LT
RTE 289 STA 501+21, 36' LT - RTE 289 STA 503+00, 36' LT
RTE 289 STA 488+00, 198' RT - RTE 289 STA 488+33, 203' LT
RTE 289 STA 488+33, 203' RT - RTE 289 STA 497+57, 91' RT
RTE 289 STA 497+57, 91' RT - RTE 289 STA 503+00, 211' RT
STA 501+85, 189' RT
STA 502+40, 147' RT - STA 502+50, 157' RT
STA 502+50, 157' RT - STA 503+00, 159' RT
REMOVAL OF EXISTING FENCE
RTE 289 STA 488+00 RT - RTE 289 STA 489+90, RT
4' HIGH WOVEN WIRE FENCE for SNOWMOBILES
STA 488+55, 192' RT - STA 490+76, 113' RT
STA 490+76, 113' RT - STA 493+00, 100' RT
STA 493+00, 100' RT - STA 494+36, 55' RT
STA 494+36, 55' RT - STA 497+82, 25' RT
STA 497+82, 25' RT - STA 501+44, 140' RT
STA 501+44, 140' RT - STA 502+10, 140' RT
CURVE DATA #3
ΔT = 32°-12'-45" RT.
ΔC = 29°-42'-03" RT.
DC = 01°-30'-00"
R = 3819.72'
TT = 1186.76'
TC = 1012.81'
ET = 156.37'
EC = 131.99'
LT = 2314.94'
LC = 1980.06'
LS = 16744'
BANK = 0.030 FT./FT.
THIBAULT, JEAN C. & JACQUELINE M.
501+17.98 BACK
63' LT.
501+21.47 AHEAD
36' LT.
B.M. 125
ELEV. 478.47
S.I.R.
501+68 RT.
04
16C
W.B. ℄ BEGIN TRANSITION
CROSSOVER TO E.B. ℄
(3447')
334'
VERMONT ROUTE 289
CURVE #3
15" PINE
HB-41
HB-42
HB-43
15" BUTTERNUT
CURVE #2
8" ASH
AZ 108°-51'-38"
04
16A
12' DRIVE GATE
INITIAL TRANSITION ℄
(HORIZONTAL CONTROL ℄)
STA. 500+50
END EASTBOUND
CLIMBING LANE TAPER
42"
P.C.C.S.P.
2 STRAND
BARBED WIRE
73'
CORRIDOR
67'
STA. 495+00
END FULL WIDTH EASTBOUND
CLIMBING LANE BEGIN TAPER
ULTIMATE MEDIAN ℄
(HORIZONTAL CONTROL ℄)
DR. RT. (P)
935'
693'
43'
59'
42'
SNOWMOBILE
497+57
91 RT.
END of FENCE
(1251')
72' OPENING
21' WIRE OPENING
B.M. 123
ELEV. 497.66
S.I.T.
490+46 LT.
P.T. #2
STA. 491+28.50
B.M. 124
ELEV. 507.99
S.I.R.
495+87 LT.
4' HIGH WOVEN WIRE FENCE ADDED
TO CREATE SNOWMOBILE CORRIDOR
STA 488+50 RT — 502+25 RT
488+33
203' RT.
BOUND LOCATED
IN SEDIMENT BASIN
AT PIPE OUTLET
FENCE REMOVED (72LF)
FOR SNOWMOBILE
CORRIDOR
THIBAULT, JEAN C. & JACQUELINE M.
N 735,000
N 734,750
N 734,500
N 734,250
N 734,000
E 342,500
E 342,750
E 343,000
E 343,250
E 343,500
E 343,750
E 344,000
AS BUILT 5/5/94
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927
SCALE IN FEET
SURVEYED BY DATE
DRAWN BY W. PETERSON DATE
TRACED BY LUKOVITS/HECHT DATE 1/89
VERMONT ROUTE 289 (F.A.P)
TOWN OF ESSEX
PROJ. WILLISTON-COLCHESTER NO. PB 033-1(2)
SHEET 47 OF 400

CURVE DATA #3
Δ_T = 32°-12'-45" RT.
Δ_C = 29°-42'-03" RT.
D_C = 01°-30'-00"
R = 3819.72'
T_T = 1186.76'
T_C = 1012.81'
E_T = 156.37'
E_C = 131.99'
L_T = 2314.94'
L_C = 1980.06'
L_S = 1674.4'
BANK = 0030 FT/FT.

DENSE TREES

BEGIN LIMITED ACCESS
509+00, 199' LT.

END LIMITED ACCESS
504+55, 44' LT.

BEGIN LIMITED ACCESS
505+15, 44' LT.

END LIMITED ACCESS
505+15, 180' RT.

BEGIN LIMITED ACCESS
504+55, 231' RT.

514+40
235' LT

515+00 TO 519+00 LT
CONSTRUCT SPECIAL DITCH
6' WIDE W/TYPE I STONE FILL

509+00
52' LT

510+80
180' LT

513+09
111' RT

513+13
162' RT

518+00
219' LT

4' HIGH WOVEN WIRE FENCE

TO SNOWMOBILE CULVERT HEADWALL AT STA 502+40

RELOCATED TO STA 502+25
HB-88
SEE SHEET 63
SNOWMOBILE TRAIL CULVERT

NEW SNOWMOBILE TRAIL

BIKE PATH

TRAILDER

VERMONT ROUTE 289

CURVE #3

50' EASEMENT

BOULDER

ACCESS DRIVE

MATCH LINE STA 502+00

MATCH LINE STA 518+00

DR. RT. (P)

THIBAULT, JEAN C. & JACQUELINE M.

VILLAGE OF ESSEX JUNCTION

GRUBBING MATERIAL AND EXCAVATED EARTH WILL BE PLACED UPON ROCK FILL SLOPES BETWEEN STA. 505+00 AND STA. 524+00

TEMPORARY SEDIMENTATION POOL
BOTTOM EL. 443.00

4' HIGH WOVEN WIRE FENCE

RTE 289 STA 503+00, 36' LT - RTE 289 STA 504+55, 44' LT	503+00, 35'LT - 510+80, 180'LT
RTE 289 STA 504+55, 44' LT - RTE 289 STA 505+15, 44' LT	510+80, 100'LT - 511+84, 201'LT
RTE 289 STA 505+15, 44' LT - RTE 289 STA 509+00, 52' LT	511+84, 221'LT - 513+83, 215'LT
RTE 289 STA 509+00, 52' LT - RTE 289 STA 509+00, 199' LT	513+43, 225'LT - 514+40, 140'LT
RTE 289 STA 509+00, 199' LT - RTE 289 STA 513+00, 217' LT	514+40, 140'LT - 514+65, 151'LT
RTE 289 STA 513+00, 217' LT - RTE 289 STA 514+43, 144' LT	514+65, 151'LT - 514+40, 235'LT
RTE 289 STA 514+43, 144' LT - RTE 289 STA 515+00, 225' LT	514+40, 235'LT - 518+00, 219'LT
RTE 289 STA 515+00, 225' LT - RTE 289 STA 518+00, 219' LT	
RTE 289 STA 503+00, 211' RT - RTE 289 STA 504+55, 231' RT	503+00, 156'RT - 513+09, 111'RT
RTE 289 STA 504+55, 231' RT - RTE 289 STA 504+55, 140' RT	513+09, 111'RT - 518+30, 127'RT
RTE 289 STA 504+55, 140' RT - RTE 289 STA 505+15, 140' RT	518+30, 127'RT - 515+26, 106'RT
RTE 289 STA 505+15, 140' RT - RTE 289 STA 505+15, 180' RT	515+26, 106'RT - 617+30, 97'RT
RTE 289 STA 505+15, 180' RT - RTE 289 STA 513+09, 111' RT	
RTE 289 STA 513+09, 111' RT - RTE 289 STA 516+06, 150' RT	517+30, 97'RT - 518+13, 208'RT
RTE 289 STA 516+06, 150' RT - RTE 289 STA 516+42, 111' RT	518+13, 208'RT - 520+00, 170'RT
RTE 289 STA 516+58, 103' RT - RTE 289 STA 518+00, 167' RT	

REMOVAL OF EXISTING FENCE

RTE 289 STA 503+05, RT - RTE 289 STA 503+45, LT	
RTE 289 STA 503+45, LT - RTE 289 STA 510+78, LT	
RTE 289 STA 510+78, LT - RTE 289 STA 511+42, RT	
RTE 289 STA 511+71, RT - RTE 289 STA 514+12, RT	
RTE 289 STA 516+58, RT - RTE 289 STA 518+00, RT	LEFT IN PLACE ALONG BROOK

AS BUILT 5/5/98 GP

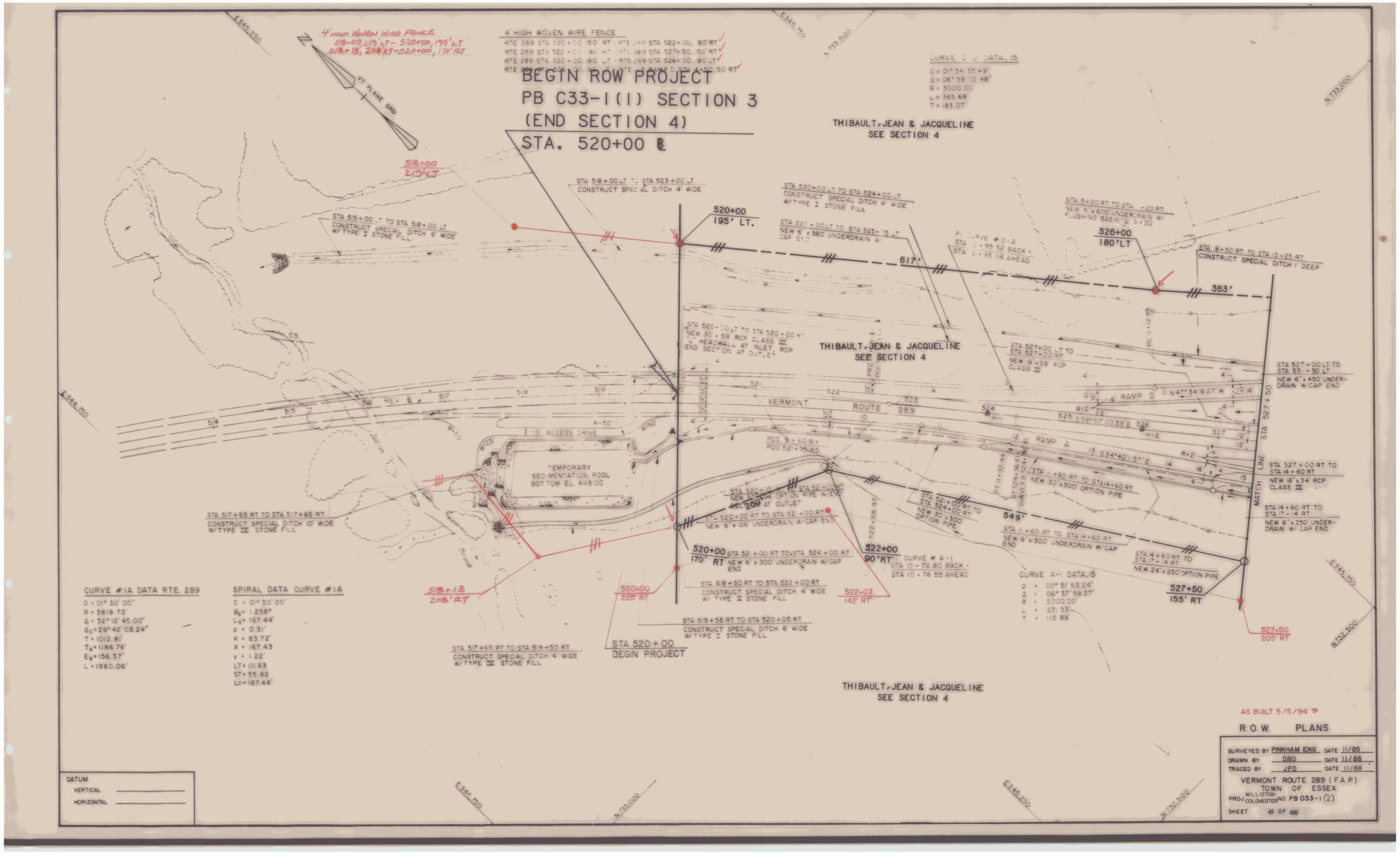
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

SCALE IN FEET 50 0 50 100

SURVEYED BY _____ DATE _____
DRAWN BY W PETERSON DATE _____
TRACED BY J LUKOVITS DATE 1/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-(2)
SHEET 48 OF 400



BEGIN ROW PROJECT
PB C33-1(1) SECTION 3
(END SECTION 4)
STA. 520+00 ℄
4' HIGH WOVEN WIRE FENCE
518+00, 219' LT - 520+00, 195' LT
518+13, 208' RT - 520+00, 170' RT
VT. PLANE GRID
CURVE D-2 DATA, 15
D = 01° 54' 35.49"
Δ = 06° 59' 02.48"
R = 3000.00'
L = 365.68'
T = 183.07'
THIBAULT, JEAN & JACQUELINE
SEE SECTION 4
518+00
219' LT
STA 518+00 LT TO STA 523+00 LT
CONSTRUCT SPECIAL DITCH 4' WIDE
STA 515+00 LT TO STA 518+00 LT
CONSTRUCT SPECIAL DITCH 6' WIDE
W/ TYPE I STONE FILL
520+00
195' LT.
STA 520+00 LT TO STA 524+00 LT
CONSTRUCT SPECIAL DITCH 4' WIDE
W/ TYPE I STONE FILL
STA 520+00 LT TO STA 525+75 LT
NEW 6" x 580' UNDERDRAIN W/
CAP END
617'
PI CURVE # D-2
STA 2+95.52 BACK =
STA 2+95.06 AHEAD
526+00
180' LT
STA 8+50 RT TO STA 13+25 RT
CONSTRUCT SPECIAL DITCH 1' DEEP
363'
STA 520+00 LT TO STA 520+00 RT
NEW 30" x 58' RCP CLASS III
"L" HEADWALL AT INLET, RCP
END SECTION AT OUTLET
THIBAULT, JEAN & JACQUELINE
SEE SECTION 4
STA 527+00 LT TO
STA 527+00 RT
NEW 18" x 58' RCP
CLASS III
STA 527+00 LT TO
STA 531+50 LT
NEW 6" x 450' UNDER-
DRAIN W/CAP END
VERMONT ROUTE 289
RAMP D
RAMP A
10' ACCESS DRIVE
TEMPORARY
SEDIMENTATION POOL
BOTTOM EL. 443.00
STA 527+00 RT TO
STA 14+60 RT
NEW 18" x 34' RCP
CLASS III
STA 14+60 RT TO
STA 17+14 RT
NEW 6" x 250' UNDER-
DRAIN W/ CAP END
MATCH LINE STA 527+50
STA 517+65 RT TO STA 517+65 RT
CONSTRUCT SPECIAL DITCH 10' WIDE
W/ TYPE IV STONE FILL
STA 520+00 RT TO STA 521+00 RT
NEW 6" x 106' UNDERDRAIN W/CAP END
520+00
170' RT
STA 521+00 RT TO STA 524+00 RT
NEW 6" x 300' UNDERDRAIN W/CAP
END
522+00
90' RT
PI CURVE # A-1
STA 10+76.80 BACK =
STA 10+76.55 AHEAD
549'
STA 11+60 RT TO STA 14+60 RT
NEW 6" x 300' UNDERDRAIN W/CAP
END
STA 14+60 RT TO
STA 17+14 RT
NEW 24" x 250' OPTION PIPE
527+50
155' RT
527+50
205' RT
518+13
208' RT
520+00
225' RT
522+07
142' RT
STA 519+50 RT TO STA 522+00 RT
CONSTRUCT SPECIAL DITCH 4' WIDE
W/ TYPE II STONE FILL
STA 519+55 RT TO STA 520+05 RT
CONSTRUCT SPECIAL DITCH 6' WIDE
W/ TYPE I STONE FILL
STA 517+65 RT TO STA 519+50 RT
CONSTRUCT SPECIAL DITCH 4' WIDE
W/ TYPE IV STONE FILL
STA 520+00
BEGIN PROJECT
CURVE A-1 DATA, 15
D = 02° 51' 53.24"
Δ = 06° 37' 58.27"
R = 2000.00'
L = 231.53'
T = 115.89'
CURVE #1A DATA RTE. 289
D = 01° 30' 00"
R = 3819.72'
Δ = 32° 12' 45.00"
Δc = 29° 42' 03.24"
T = 1012.81'
Ts = 1186.76'
Es = 156.37'
L = 1980.06'
SPIRAL DATA CURVE #1A
D = 01° 30' 00"
θs = 1.256°
Ls = 167.44'
p = 0.31'
K = 83.72'
X = 167.43
y = 1.22'
LT = 111.63
ST = 55.82
Lc = 167.44'
DATUM
VERTICAL
HORIZONTAL
AS BUILT 5/5/94
R.O.W. PLANS
SURVEYED BY PINKHAM ENG DATE 11/85
DRAWN BY DRO DATE 11/88
TRACED BY JFD DATE 11/88
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON-COLCHESTER NO PB 033-1(2)
SHEET 49 OF 400

DEMOLITION AND DISPOSAL OF BUILDING
RTE 289 STA 536+80, RT - 1 STY WOOD

APPROACH RAILING (2 RAIL ALUMINUM)
RTE 15 STA 528+90 RT TO RTE 15 STA 529+17 RT
RAMP C STA 6+60 LT TO RTE 15 STA 6+81 LT

NOTE: FOR DETAILS OF APPROACH RAILING (2 RAIL ALUMINUM) SEE RTE 15 BRIDGE PLANS

STATE OF VERMONT (LOCUST GROVE)

CURVE 2 DATA RTE 15
D = 02° 0'
Δ = 15° 59' 53.76"
R = 2864.79'
L = 799.91'
T = 402.58'

BM
S.E. CORNER OF SUNOCO SIGN
498.97

STA 5+20 RT TO STA 11+20 RT
NEW 6" x 200' UNDERDRAIN W/ FLUTED END SECTION AT STA 5+20

STA 2+50 RT TO STA 5+00 RT
NEW 6" x 250' UNDERDRAIN W/ CAP END

STA 1+20 LT TO STA 1+25 RT
NEW 18" x 72' OPTION PIPE W/ 3' x 6' OUTLET PAD, TYPE I STONE FILL

STA 2+45 LT TO STA 2+90 LT
NEW 18" x 60' OPTION PIPE

STA 3+00 RT TO STA 8+50 RT
CONSTRUCT SPECIAL BOUNDARY W/ TYPE I STONE FILL
THIBAULT, JEAN & JACQUELINE
SEE SECTION 4

STA 529+50 LT TO STA 529+80
NEW 18" x 58' RCP CLASS III

STA 528+50 RT TO STA 529+50 RT
NEW 6" x 100' UNDERDRAIN W/ CAP END

STA 529+50 LT TO STA 529+50 LT
NEW 18" x 36' RCP CLASS III

STA 527+00 LT TO STA 531+50 LT
NEW 6" x 450' UNDERDRAIN W/ CAP END

STA 531+50 LT TO STA 531+50 LT
NEW 18" x 56' RCP CLASS III

STA 531+50 LT TO STA 534+00 LT
NEW 18" x 56' RCP CLASS III

STA 534+00 LT TO STA 534+00 LT
NEW 6" x 300' UNDERDRAIN W/ CAP END

STA 534+00 LT TO STA 534+00 LT
NEW 18" x 56' RCP CLASS III

STA 534+00 LT TO STA 537+00 RT
NEW 18" x 56' RCP CLASS III

STA 537+10 LT TO STA 537+00 RT
NEW 18" x 56' RCP CLASS III

STA 537+20 LT TO STA 541+00 LT
NEW 6" x 368' UNDERDRAIN W/ CAP END

STA 536+40 LT TO STA 537+10 LT
NEW 18" x 56' RCP CLASS III

STA 536+40 LT TO STA 536+45 LT
NEW 18" x 30' OPTION PIPE

STA 534+00 RT TO STA 534+00 RT
NEW 6" x 300' UNDERDRAIN W/ CAP END

STA 534+00 LT TO STA 534+00 RT
NEW 24" x 250' OPTION PIPE

STA 529+50 RT TO STA 531+50 RT
NEW 24" x 200' OPTION PIPE

STA 17+13 RT TO STA 19+13 RT
NEW 6" x 200' UNDERDRAIN W/ CAP END

STA 529+50 RT TO STA 531+50 RT
NEW 6" x 200' UNDERDRAIN W/ CAP END

STA 18+40 LT TO STA 20+00 RT
NEW 18" x 40' RCP CLASS III

STA 23+50 LT TO STA 23+81 RT
NEW 18" x 92' CSP ELBOWS

STA 18+70 LT TO STA 18+83
NEW 18" x 38' RCP CLASS III

STA 1+15 RT TO STA 1+15 RT
NEW 18" x 42' CSP W/ 2-18" CSP E.BOWS. 3' x 6' OUTLET PAD W/ TYPE I STONE FILL

STA 0+00 RT TO STA 0+45 RT
NEW 6" x 450' UNDERDRAIN W/ CAP END

STA 0+00 LT TO STA 0+45 LT
NEW 6" x 494' UNDERDRAIN W/ CAP END

STA 1+73 LT TO STA 24+30 LT
NEW 18" x 62' RCP CLASS III

STA 23+50 LT TO STA 23+70 LT
NEW 18" x 60' RCP CLASS III

STA 24+00 RT TO STA 24+00 RT
NEW 6" x 300' UNDERDRAIN W/ CAP END

STA 25+00 RT TO STA 25+00 RT
NEW 6" x 300' UNDERDRAIN W/ CAP END

STA 25+00 RT TO STA 25+00 RT
NEW 6" x 300' UNDERDRAIN W/ CAP END

STA 26+00 LT TO STA 26+10 LT
NEW 18" x 30' OPTION PIPE

STA 24+50 LT TO STA 25+50 LT
NEW 18" x 96' OPTION PIPE

STA 23+50 LT TO STA 24+50 LT
NEW 18" x 96' OPTION PIPE

STA 29+45 LT TO STA 29+45 LT
NEW 6" x 494' UNDERDRAIN W/ CAP END

CURVE D-1 DATA, 15
D = 33° 42' 12.24"
Δ = 83° 20' 18.31"
R = 170.00'
L = 247.27'
T = 151.30'

CURVE 6 DATA RTE 15 SB
D = 1° 08' 45.3"
Δ = 7° 48' 35.76"
R = 5000.00'
L = 681.55'
T = 341.30'

CURVE C-2 DATA, 15
D = 0° 49' 06.64"
Δ = 0° 43' 45.92"
R = 7000.00
L = 89.12'
T = 44.56'

CURVE C-3 DATA, 15
D = 0° 49' 06.64"
Δ = 0° 43' 45.92"
R = 7000.00
L = 89.12'
T = 44.56'

NEW LANG FARM ACCESS
SEE SHEETS 393 - 400

BEGIN LIMITED ACCESS
RTE. 15 24+00 45' RT

END LIMITED ACCESS
RTE. 15 23+60 50' RT

BEGIN LIMITED ACCESS
RTE. 15 STA. 15+59 50' LT.

END LIMITED ACCESS
RTE. 15 STA. 16+80 50' RT

END R.O.W. PROJECT
PB 033-1(1) SECTION 4
STA. 536+40.22 RT

STATE OF VERMONT
RELOCATED BY VTRANS

RP "A" 22+60 85' RT
RP "B" 5+83 65' RT
RP "B" 2+87 156' RT
RP "C" 7+47 47' RT
RP "C" 6+74 61' RT
RP "D" 2+50 50' RT

PI CURVE # A-2
STA 23+72.36 BACK =
STA 23+25.83 AHEAD

CURVE A-2 DATA, 15
D = 44° 48' 0"
Δ = 89° 23' 31"
R = 130.90'
L = 204.15'
T = 128.98'

PI CURVE # D-1
STA 1+51.30 BACK =
STA 0+95.97 AHEAD

PI CURVE # C-2
STA 10+33.05 BACK =
STA 9+77.20 AHEAD

PI CURVE # 1
STA 0+26.74 BACK =
STA 0+73.25 AHEAD

PI CURVE # 2
STA 1+47.52 BACK =
STA 1+42.27 AHEAD

PI CURVE # B-1
STA 0+79.69 RAMP B AHEAD
18+60.23 RTE 15 NB

PI CURVE # B-1
STA 0+71.97 BACK =
STA 0+62.72 AHEAD

CURVE B-1 DATA, 15
D = 38° 49' 49.87"
Δ = 51° 15' 50.00"
R = 150.00'
L = 134.21'
T = 71.97'

CURVE B-2 DATA, 15
D = 57° 17' 44.8"
Δ = 38° 49' 18.24"
R = 100.00'
L = 67.78'
T = 35.36'

CURVE 5 DATA RTE 15 SB
D = 2° 00' 50.62"
Δ = 6° 15' 49.42"
R = 2844.79'
L = 311.00'
T = 155.66'

CURVE 4 DATA RTE 15 SB
D = 0° 57' 17.75"
Δ = 3° 32' 38"
R = 6000.00'
L = 371.11'
T = 185.62'

CONSTRUCT DRIVE
STA 16+22 RT RTE 15
STA 24+00 LT RTE 15
STA 25+00 LT RTE 15
STA 26+00 LT RTE 15

REMOVAL OF EXISTING FENCE
RTE 15 RAMP B STA 3+84, RT - STA 4+98, RT
RTE 15 RAMP D STA 1+20, LT - STA 2+40, RT
RTE 15 RAMP D STA 3+43, RT - STA 6+50, RT

6' HIGH CHAIN LINK FENCE N.I.C.
RTE 15 STA 22+99, 50' RT - RTE 15 RAMP C STA 7+84, 57' RT
RTE 15 RAMP C STA 7+84, 57' RT - RTE 15 RAMP C STA 6+74, 61' RT

SPIRAL DATA CURVE # 1
D = 2° 30'
Ds = 1.875°
Ls = 150.00'
p = 0.41'
K = 75.00'
X = 149.98'
Y = 1.64'
LT = 100.01'
ST = 50.01'
Lc = 149.99'

CURVE # 1 DATA RTE 289
D = 2° 30'
R = 2291.83'
Δ = 36° 53' 57.96"
Δc = 33° 08' 58.79"
T = 682.13'
Ts = 839.74
Es = 124.61'
L = 1325.99'

GRANITE SLOPE EDGING
RTE 15 STA 18+35 ISLAND RT, 65'
RTE 15 STA 22+00 ISLAND RT, 95'
RTE 15 STA 16+47 TO RTE 15 STA 18+35 MEDIAN ISLAND LT, 401'
RTE 15 STA 18+82 TO RTE 15 STA 21+52 MEDIAN ISLAND LT, 145'
RTE 15 STA 21+04 TO RTE 15 STA 21+30 MEDIAN ISLAND LT, 59'
RTE 15 STA 21+85 TO STA 23+82 MEDIAN ISLAND LT, 410 LT

GUARD RAIL APPROACH SECTION TYPE II (SEE STD SB-R4B-82)

VERTICAL GRANITE CURB
RTE 15 STA 15+44 RT - RTE 15 STA 16+21 RT, 97'
RTE 15 STA 16+44 RT - RTE 15 STA 18+33 RT, 195'
RTE 15 STA 18+67 RT - RTE 15 STA 19+60 RT, 114'
RTE 15 STA 21+05 RT - RTE 15 STA 21+65 RT, 75'
RTE 15 STA 22+17 RT - RTE 15 STA 23+00 RT, 397'

STEEL BEAM GUARD RAIL N.I.C.
RAMP A STA 17+50 LT - RTE 15 STA 19+93 LT
RAMP B STA 1+38 LT - RTE 15 STA 8+90 RT
RAMP C STA 6+60 LT - RAMP C STA 10+07 LT
RAMP D STA 1+40, LT - RAMP D STA 7+50 LT

4' HIGH WOVEN WIRE FENCE
RTE 289 STA 526+00, 180' LT -
RTE 15 RAMP D STA 4+50, 50' RT
RTE 15 RAMP D STA 4+50, 50' RT - INSTALLED AS 4' HIGH CHAIN LINK FENCE
RTE 15 RAMP D STA 2+50, 50' RT - INSTALLED AS 4' HIGH CHAIN LINK FENCE
RTE 15 RAMP D STA 0+00, 45' RT - INSTALLED AS 4' HIGH CHAIN LINK FENCE
RTE 289 STA 527+50, 150' RT -
RTE 15 RAMP A STA 20+50, 50' RT
RTE 15 RAMP A STA 20+50, 50' RT -
RTE 15 RAMP A STA 22+60, 85' RT -
RTE 15 RAMP A STA 22+60, 85' RT -
RTE 15 STA 16+59, 50' LT -
RTE 15 STA 16+80, 50' RT -
RTE 15 RAMP B STA 2+87, 156' RT -
RTE 15 RAMP B STA 2+87, 156' RT - N.I.C.
RTE 15 RAMP B STA 3+47, 65' RT -
RTE 15 RAMP B STA 3+47, 65' RT -
RTE 15 RAMP B STA 5+83, 65' RT

NOTE FOR CURB TIES AT RAMP ISLANDS AND ROUTE 15 ISLANDS SEE GRADING PLANS

AS BUILT 5/5/94

R. O. W. PLANS

SURVEYED BY PINKHAM ENG. DATE 10/85
DRAWN BY D.R.O. DATE 10/88
TRACED BY N.P.D. DATE 10/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 50 OF 400

DATUM
VERTICAL
HORIZONTAL

LANG, JOHN H. & NANCY R.
LANG, JONATHAN
LANG, J. & N.
LANG, J.
HANNAFORD BROS. CO.
STATE OF VERMONT
THIBAULT, JEAN & JACQUELINE
SEE SECTION 4
BREAKAWAY CABLE TERMINAL FOR STEEL BEAM GUARD RAIL W/ WOOD POSTS (SEE STD. G-141)
ANCHOR FOR STEEL BEAM GUARD RAIL (SEE STD. G-101)
EDGE OF RAIL
CONST. EASE. (T)
MATCH LINE
RAMP A
RAMP B
RAMP C
RAMP D
N 732,000
E 345,750

N 731,250 E 345,000 N 731,750 E 345,500

VT. PLANE GRID N

CONSTRUCT DRIVE
STA 13+80 LT

THIBAULT, JEAN & JACQUELINE
SEE SECTION 4

TVERAAS
THIBAULT
P L

MICHAEL & JAN
TVERAAS

STA 10+50 LT TO STA 14+50 LT
NEW 6"x 400' UNDERDRAIN W/CAP

STA 10+50 LT TO STA 10+50 RT
NEW 18"x 76' RCP CLASS III
W/ OUTLET RCP END SECTION

Brook

Shed

2 Sty Wood

2 Sty Brick

030 6B

030 6A

10+00 17'LT.

10+00 50'LT.

10+00 8'RT.

11+86 5'RT.

11+80 50'LT.

11+85 30'LT.

11+86 20'LT.

SEC B

SEC 4-A

Shed

Shed

Garage

Well

Bit. Conc. DRIVE RT.(T)

Guy Wires NETT=53 GMP #57

Silo

Ledge

Gravel

7'x7' Conc. Box Culvert

48"M. NETT=49 GMP=53

NETT=349/51 GMP=56

NETT=347/51 GMP=53

ROUTE 15 ← TO ESSEX JUNCTION

EXISTING R.O.W. LIMIT
N39°55'25.71"E

EXISTING R.O.W. LIMIT

CUL. RT.(T)

DIT. & DR. RT. (P)

STA 10+00 50'RT.
BEGIN CONSTRUCTION

RELOCATE MAILBOX 10+00 50'RT.

BEGIN CONCRETE CURB AT D.I.

030 5B

030 5A

SR(T) CONST. EASE (T)

SR(T) CONST. EASE (T)

SR(T) CONST. EASE (T)

CONST. EASE (T)

CONST. EASE (T)

CONST. EASE (T)

184'

185'

17'

22'

10'

25'

491'

482'

374'

578'

551'

PCC

PT

STA 15+43.79
E 346,000

N 6900

SIG 3

FUTURE SIDEWALK

MATCH LINE

STA 6+16 RT TO STA 8+10 RT
CONSTRUCT SPECIAL DITCH 6' WIDE TO 4' WIDE W/ TYPE I STONE FILL

STA 8+10 RT TO STA 8+36 RT
NEW 18"x 26' OPTION PIPE

STA 8+36 RT TO STA 11+27 RT
CONSTRUCT SPECIAL DITCH 4' WIDE W/ TYPE I STONE FILL

STA 11+30 RT TO STA 11+60 RT
NEW 18"x 34' OPTION PIPE W/ END SECTION

STA 11+60 RT TO STA 13+00 RT
NEW 18"x 136' RCP CLASS III

STA 11+60 RT TO STA 15+00 RT
NEW 6"x 336' UNDERDRAIN W/CAP END

B.M.
INVERT EAST END CULVERT
424.13

2 Sty Brick House
1 Sty WF House

LANG, JOHN H. & NANCY R.

1 Sty Wood

Gravel

Well 245' DEEP

Barn

Silo

Tank

Tank

2 Sty Barn

2 Sty Wood

Shed

Shed

SPIRAL DATA CURVE 1 RTE 15

D	=	5°0'
θs	=	3.75°
Ls	=	150.00'
p	=	0.82'
K	=	74.49'
X	=	149.98'
Y	=	3.27'
LT	=	100.02'
ST	=	50.02'
Lc	=	149.97'

CURVE 1 DATA RTE 15

D	=	5°0'
R	=	1145.92'
Δ	=	19°21'16.47"
Δc	=	11°5'16.47"
T	=	118.97'
Ts	=	270.54'
Es	=	17.40'
L	=	237.09'

NOTE:
ALL STATIONS AND OFFSETS ON THIS SHEET ARE REFERENCED TO ROUTE #15 BASELINE UNLESS OTHERWISE NOTED.

CONCRETE VERTICAL GRANITE CURB
RTE 15 STA ~~11+57~~ 10+50 RT – RTE 15 STA 15+44 RT, ~~387'~~ 494'

AS BUILT 5/5/94 JB

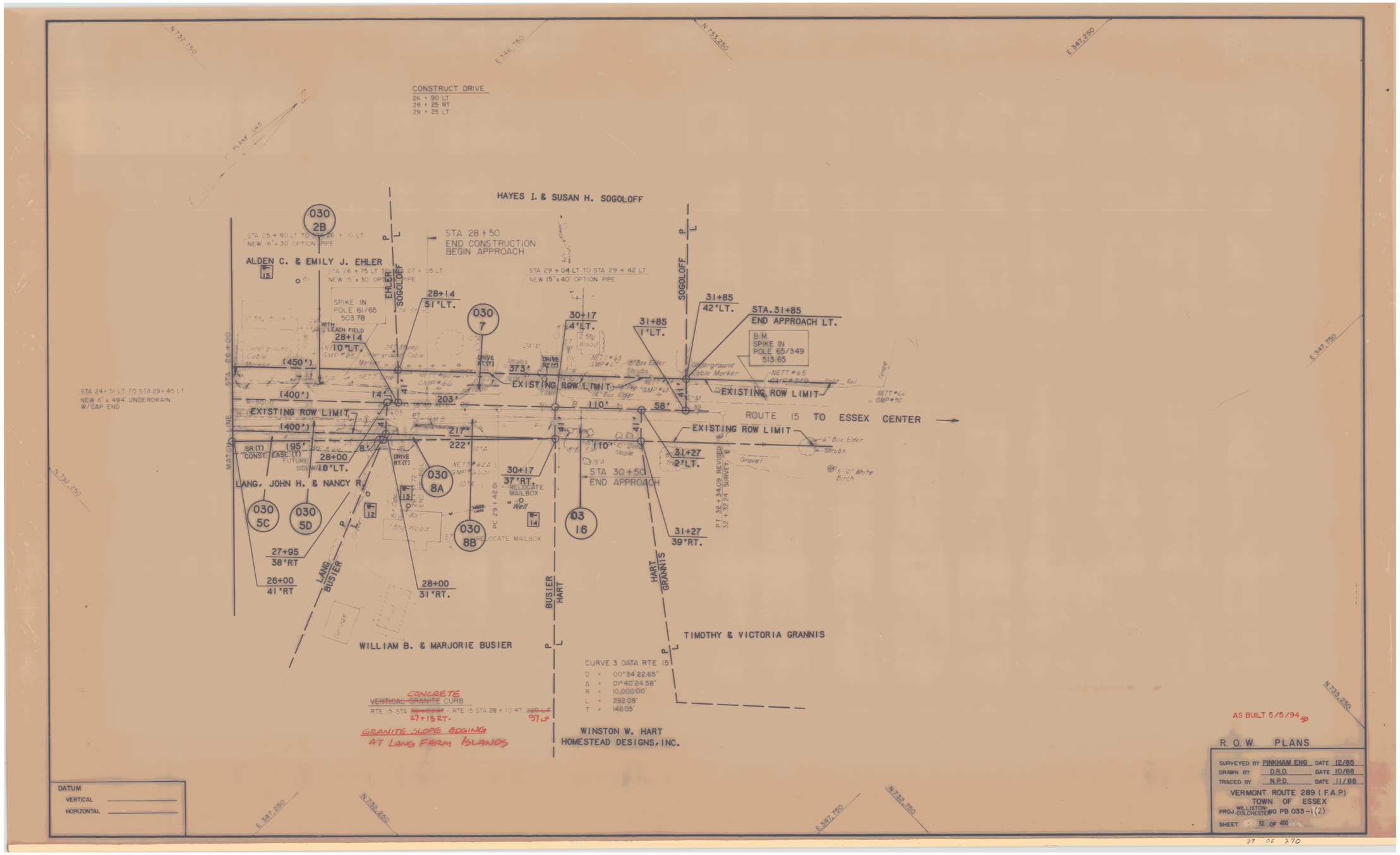
R. O. W. PLANS

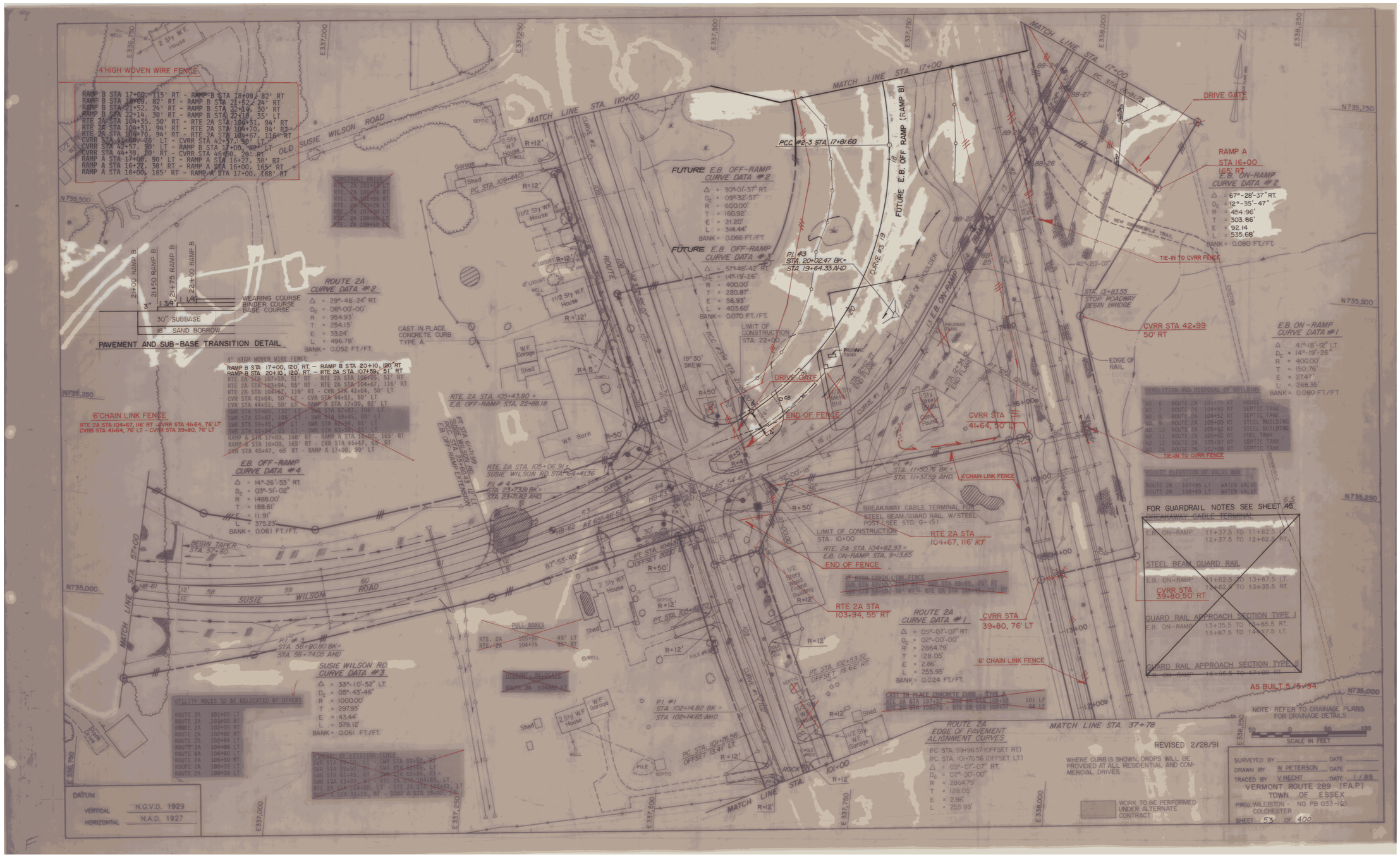
DATUM
VERTICAL _____
HORIZONTAL _____

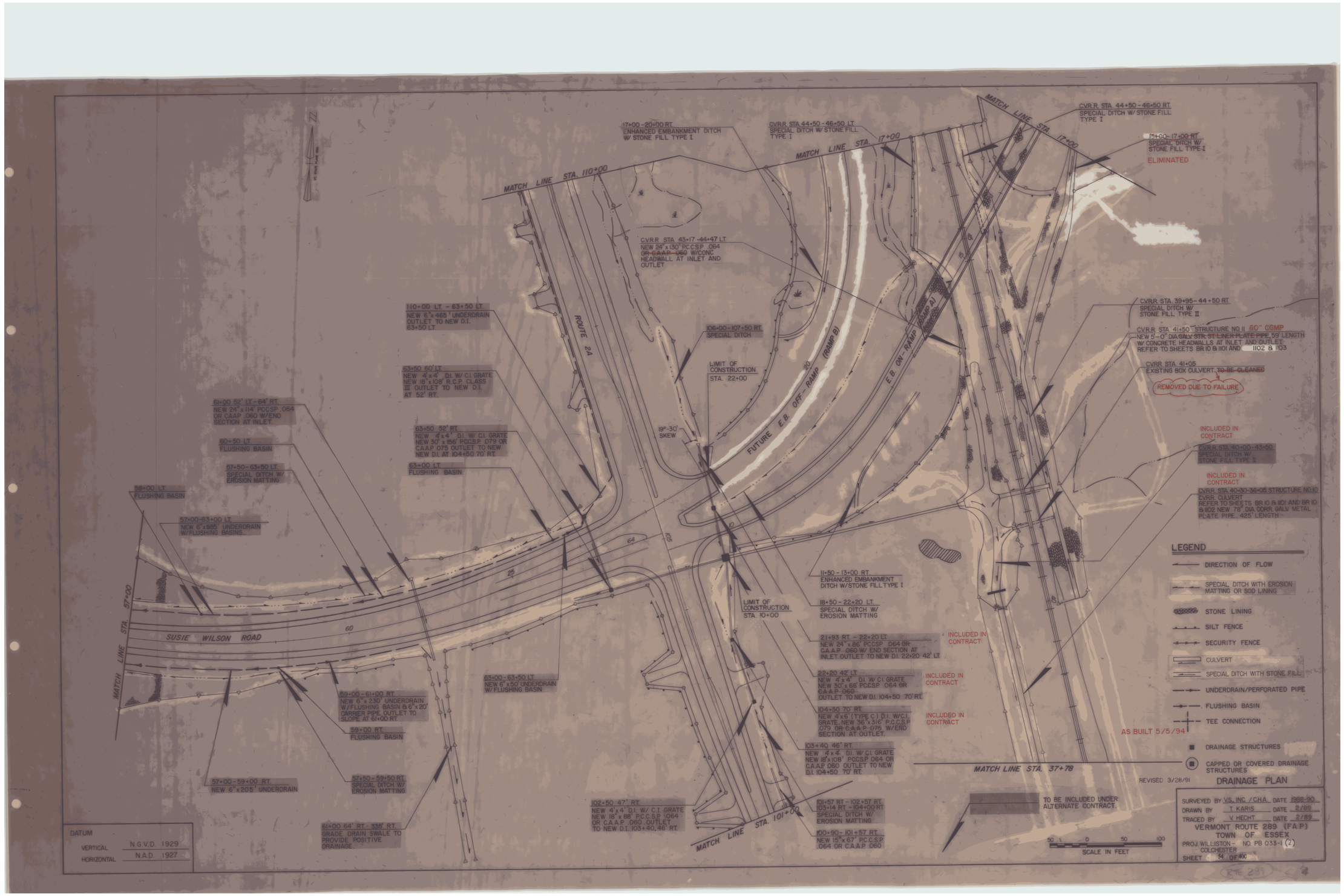
SURVEYED BY PINKHAM ENG. DATE 12/85
DRAWN BY D.R.O. DATE 10/88
TRACED BY N.P.D. DATE 10/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
WILLISTON – COLCHESTER
PROJ. NO. PB 033-1(2)

SHEET 51 OF 400


CONSTRUCT DRIVE
26 + 90 LT
28 + 25 RT
29 + 25 LT
HAYES I. & SUSAN H. SOGOLOFF
030 2B
STA 25 + 80 LT TO STA 28 + 10 LT
NEW 18" x 30' OPTION PIPE
STA 28 + 50
END CONSTRUCTION
BEGIN APPROACH
ALDEN C. & EMILY J. EHLER
STA 26 + 75 LT TO STA 27 + 05 LT
NEW 15" x 30' OPTION PIPE
STA 29 + 04 LT TO STA 29 + 42 LT
NEW 15" x 40' OPTION PIPE
EHLER
SOGOLOFF
SPIKE IN POLE 61/65 503.78
WITH LEACH FIELD
28+14 10'LT.
28+14 51'LT.
030 7
30+17 4'LT.
31+85 1'LT.
31+85 42'LT.
STA. 31+85 END APPROACH LT.
B.M. SPIKE IN POLE 65/349 513.65
STA 24 + 51 LT TO STA 29 + 45 LT
NEW 6" x 494' UNDERDRAIN
W/CAP END
(450')
(400')
EXISTING ROW LIMIT
373'
203'
110'
58'
222'
ROUTE 15 TO ESSEX CENTER
195'
SR.(T) CONST. EASE.(T) FUTURE SIDEWALK
28+00 10'LT.
030 8A
030 5C
030 5D
LANG, JOHN H. & NANCY R.
27+95 38'RT
26+00 41'RT
28+00 31'RT.
030 8B
030 16
30+17 37'RT.
RELOCATE MAILBOX
STA 30+50 END APPROACH
31+27 2'LT.
31+27 39'RT.
PT 32+34.09 REVISED 32+32.24 SURVEY
LANG BUSIER
BUSIER HART
HART GRANNIS
WILLIAM B. & MARJORIE BUSIER
TIMOTHY & VICTORIA GRANNIS
CURVE 3 DATA RTE 15
D = 00°34'22.65"
Δ = 01°40'24.58"
R = 10,000.00'
L = 292.08'
T = 146.05'
CONCRETE
VERTICAL GRANITE CURB
RTE 15 STA 28+10 RT. - RTE 15 STA 28 + 10 RT. 97 LF
27+13 RT.
GRANITE SLOPE EDGING AT LANG FARM ISLANDS
WINSTON W. HART
HOMESTEAD DESIGNS, INC.
AS BUILT 5/5/94
R. O. W. PLANS
SURVEYED BY PINKHAM ENG DATE 12/85
DRAWN BY D.R.O. DATE 10/88
TRACED BY N.P.D. DATE 11/88
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON-COLCHESTER NO. PB 033-1(2)
SHEET 52 OF 400
DATUM
VERTICAL
HORIZONTAL
N 732,250
E 346,750
N 733,250
E 347,250
E 347,750
N 732,750


4' HIGH WOVEN WIRE FENCE
RAMP B STA 17+00, 115' RT - RAMP B STA 19+09, 82' RT
RAMP B STA 19+09, 82' RT - RAMP B STA 21+52, 24' RT
RAMP B STA 21+52, 24' RT - RAMP B STA 22+14, 30' RT
RAMP B STA 22+14, 30' RT - RAMP B STA 22+19, 35' LT
RTE 2A STA 104+55, 50' RT - RTE 2A STA 104+31, 94' RT
RTE 2A STA 104+31, 94' RT - RTE 2A STA 104+70, 94' RT
RTE 2A STA 104+70, 94' RT - RTE 2A STA 104+67, 116' RT
CVRR STA 41+64, 26' LT - CVRR STA 42+57, 50' LT
CVRR STA 42+57, 50' LT - RAMP B STA 17+00, 98' LT
CVRR STA 44+39, 20' RT - CVRR STA 46+50, 20' RT
RAMP A STA 17+00, 90' LT - RAMP A STA 16+27, 38' RT
RAMP A STA 16+27, 38' RT - RAMP A STA 16+00, 165' RT
RAMP A STA 16+00, 165' RT - RAMP A STA 17+00, 168' RT
OLD SUSIE WILSON ROAD
MATCH LINE STA 110+00
MATCH LINE STA 17+00
MATCH LINE STA 57+00
MATCH LINE STA 37+78
2 Sty W.F. House
1 1/2 Sty W.F. House
2 Sty W.F. House
W.F. Garage
Shed
Garage
W.F. Born
Shed
2 Sty W.F. House
1/2 Story Wood Frame Building
Shed
1 1/2 Sty W.F. Garage
Shed
2 Sty W.F. House
W.F. Garage
Shed
Shed
Shed


MATCH LINE STA. 110+00
17+00 - 20+00 RT.
ENHANCED EMBANKMENT DITCH W/ STONE FILL TYPE I
CVR R STA 44+50 - 46+50 LT
SPECIAL DITCH W/ STONE FILL TYPE I
MATCH LINE STA. 17+00
CVR R STA 44+50 - 46+50 RT
SPECIAL DITCH W/ STONE FILL TYPE I
15+00 - 17+00 RT.
SPECIAL DITCH W/ STONE FILL TYPE I
ELIMINATED
CVR R STA 43+17 - 44+47 LT
NEW 24" x 130' PC CSP .064 OR ~~CAAP .060~~ W/CONC HEADWALL AT INLET AND OUTLET
110+00 LT - 63+50 LT.
NEW 6" x 465' UNDERDRAIN OUTLET TO NEW D.I. 63+50 LT.
106+00 - 107+50 RT.
SPECIAL DITCH
LIMIT OF CONSTRUCTION STA. 22+00
ROUTE 2A
E.B. OFF - RAMP (RAMP B)
E.B. ON - RAMP (RAMP A)
FUTURE E.B. OFF
19°-30' SKEW
CVR R STA 39+95 - 44+50 RT
SPECIAL DITCH W/ STONE FILL TYPE II
CVR R STA 41+50 STRUCTURE NO II 60" CGMP
NEW 5'-0" DIA GALV STR ST LINER PLATE PIPE 59' LENGTH W/ CONCRETE HEADWALLS AT INLET AND OUTLET
REFER TO SHEETS BR 10 & 1101 AND 1102 & 1103
CVR R STA 41+05
EXISTING BOX CULVERT TO BE CLEANED
REMOVED DUE TO FAILURE
INCLUDED IN CONTRACT
CVR R STA 40+00 - 43+50
SPECIAL DITCH W/ STONE FILL TYPE II
INCLUDED IN CONTRACT
CVR R STA 40+30-36+05 STRUCTURE NO.10
CVR R CULVERT
REFER TO SHEETS BR 10 & 1101 AND BR 10 & 1102 NEW 76" DIA CORR GALV METAL PLATE PIPE .425' LENGTH
61+00 52' LT - 64' RT.
NEW 24" x 114' PCCSP .064 OR CAAP .060 W/END SECTION AT INLET.
60+50 LT.
FLUSHING BASIN
57+50 - 63+50 LT.
SPECIAL DITCH W/ EROSION MATTING
63+50 52' RT.
NEW 4' x 4' D.I. W/ C.I. GRATE NEW 30" x 156' PCCSP .079 OR C.A.A.P. 075 OUTLET TO NEW NEW D.I. AT 104+50 70' RT.
63+00 LT
FLUSHING BASIN
58+00 LT.
FLUSHING BASIN
57+00-63+00 LT.
NEW 6" x 565' UNDERDRAIN W/FLUSHING BASINS
MATCH LINE STA. 57+00
SUSIE WILSON ROAD
60
64
63+00 - 63+50 LT
NEW 6" x 50' UNDERDRAIN W/ FLUSHING BASIN
59+00 - 61+00 RT.
NEW 6" x 230' UNDERDRAIN W/FLUSHING BASIN & 6" x 20' CARRIER PIPE OUTLET TO SLOPE AT 61+00 RT.
59+00 RT.
FLUSHING BASIN
57+00 - 59+00 RT.
NEW 6" x 205' UNDERDRAIN
57+50 - 59+50 RT.
SPECIAL DITCH W/ EROSION MATTING
61+00 64' RT. - 335' RT.
GRADE DRAIN SWALE TO PROVIDE POSITIVE DRAINAGE.
102+50 47' RT.
NEW 4' x 4' D.I. W/ C.I. GRATE NEW 18" x 88' P.C.C.S.P. .064 OR C.A.A.P. .060 OUTLET TO NEW D.I. 103+40, 46' RT.
MATCH LINE STA. 101+00
LIMIT OF CONSTRUCTION STA. 10+00
11+50 - 13+00 RT.
ENHANCED EMBANKMENT DITCH W/STONE FILL TYPE I
18+50 - 22+20 LT.
SPECIAL DITCH W/ EROSION MATTING
21+93 RT. - 22+20 LT.
NEW 24" x 86' PCCSP .064 OR C.A.A.P. .060 W/ END SECTION AT INLET OUTLET TO NEW D.I. 22+20 42' LT
INCLUDED IN CONTRACT
22+20 42' LT.
NEW 4' x 4' D.I. W/ C.I. GRATE NEW 30" x 66' PCCSP .064 OR C.A.A.P. .060 OUTLET TO NEW D.I. 104+50 70' RT.
INCLUDED IN CONTRACT
104+50 70' RT.
NEW 4' x 6' (TYPE C) D.I. W/C.I. GRATE NEW 36" x 316' P.C.C.S.P. .079 OR C.A.A.P. .075 W/END SECTION AT OUTLET.
INCLUDED IN CONTRACT
103+40 46' RT.
NEW 4' x 4' D.I. W/ C.I. GRATE NEW 18" x 108' PCCSP .064 OR C.A.A.P. .060 OUTLET TO NEW D.I. 104+50 70' RT.
101+57 RT - 102+57 RT.
103+14 RT - 104+00 RT.
SPECIAL DITCH W/ EROSION MATTING
100+90 - 101+57 RT.
NEW 15" x 67' P.C.C.S.P. .064 OR C.A.A.P. .060
MATCH LINE STA. 37+78
AS BUILT 5/5/94
REVISED 3/28/91
TO BE INCLUDED UNDER ALTERNATE CONTRACT.
SCALE IN FEET
50 0 50 100
LEGEND
DIRECTION OF FLOW
SPECIAL DITCH WITH EROSION MATTING OR SOD LINING
STONE LINING
SILT FENCE
SECURITY FENCE
CULVERT
SPECIAL DITCH WITH STONE FILL
UNDERDRAIN/PERFORATED PIPE
FLUSHING BASIN
TEE CONNECTION
DRAINAGE STRUCTURES
CAPPED OR COVERED DRAINAGE STRUCTURES
DRAINAGE PLAN
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927
SURVEYED BY VS, INC. / CHA. DATE 1988-90
DRAWN BY T. KARIS DATE 2/89
TRACED BY V. HECHT DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1 (2)
SHEET 54 OF 400
RTE 289
4

NOTE: SHADED AREA (APPROX. RTE 289 STA. 436+00) REPRESENTS DEMOLITION DEBRIS. REMOVAL TO BE PAID FOR UNDER ITEM 203.17-UNCLASSIFIED EXCAVATION. LIMITS OF REMOVAL TO BE ESTABLISHED BY THE ENGINEER. SPECIAL PROVISIONS FOR REMOVAL MAY BE REQUIRED.

REMOVAL OF EXISTING FENCE
RTE 289 STA 430+07, RT - RTE 289 STA 430+39, RT
RTE 289 STA 433+94, LT - RTE 289 STA 434+44, LT
RTE 289 STA 435+34, LT - RTE 289 STA 435+95, LT
RTE 289 STA 436+39, LT - RTE 289 STA 436+72, LT
RTE 289 STA 441+46, RT - RTE 289 STA 442+81, RT

PULL BOXES

RTE. 2A	115+75	35' LT
RTE. 2A	115+80	31' RT
RTE. 2A	114+00	31' RT
RTE. 2A	111+35	37' LT
RAMP D	21+85	24' LT
RAMP D	19+33	731' LT
RAMP D	13+55	20' RT

UTILITY POLES TO BE RELOCATED BY OTHERS

ROUTE 2A	111+10	LT
ROUTE 2A	112+56	RT
ROUTE 2A	113+90	LT
ROUTE 2A	115+54	LT
ROUTE 2A	116+72	LT
ROUTE 2A	118+80	LT
ROUTE 2A	119+10	LT

DEMOLITION AND DISPOSAL OF BUILDING

NO. 13	430+36 RT	SHED
NO. 14	430+50 RT	HOUSE
NO. 15	430+24 RT	SEPTIC TANK
NO. 16	434+25 LT	HOUSE
NO. 17	434+80 LT	BARN
NO. 18	439+35 LT	STORE
NO. 19	435+20 LT	SEPTIC TANK
NO. 20	436+50 LT	PROPANE TANK
NO. 21	443+90 RT	BARN

DEMOLITION AND DISPOSAL OF BUILDING
#1 434+25 LT HOUSE
#2 434+80 LT BARN
#3 443+90 RT BARN
#4 RAMP A 11+50 LT BLDG.
#5 RAMP A 12+00 RT BLDG.

STA 433+52.19 ROUTE 289 = STA 114+66.13 ROUTE 2A

4' HIGH WOVEN WIRE FENCE

RAMP B STA 12+24, 72' RT - RAMP B STA 12+38, 149' RT
RAMP B STA 12+38, 149' RT - RAMP B STA 13+18, 138' RT
RAMP B STA 13+18, 138' RT - RAMP B STA 15+39, 124' RT
RAMP B STA 15+39, 124' RT - RAMP B STA 17+00, 115' RT
RTE 2A STA 116+86, 35' RT - RAMP D STA 21+60, 109' RT
RAMP D STA 21+60, 109' RT - RTE 289 STA 437+96, 147' RT
RTE 289 STA 437+96, 147' RT - RAMP B STA 17+00, 82' LT
RAMP A STA 17+00, 90' LT - RAMP D STA 20+33, 100' RT
RAMP D STA 20+33, 100' RT - RTE 289 STA 445+00, 220' LT
RAMP A STA 17+00, 168' RT - RTE 289 STA 444+35, 226' RT
RTE 289 STA 444+35, 226' RT - RTE 289 STA 445+00, 215' RT
CVRR STA 16+50, 201' RT - CVRR STA 52+88, 304' RT

STEEL BEAM GUARD RAIL

E.B. ON-RAMP (RAMP A)	12+62.27 TO 13+37.27 LT.	
	12+34.12 TO 13+09.12 RT.	
	17+31.83 TO 17+56.83 RT.	
	17+31.83 TO 17+56.83 RT.	
W.B. OFF-RAMP (RAMP D)	17+63.63 TO 18+88.63 LT.	
	17+76.75 TO 19+01.75 RT.	
	21+50.28 TO 22+25.28 LT.	
	21+62.13 TO 22+24.63 RT.	

BREAKAWAY CABLE TERMINAL

E.B. ON-RAMP (RAMP A)	12+09.12 TO 12+34.12 RT.	
	17+56.83 TO 17+81.83 RT.	
	12+37.27 TO 12+62.27 LT.	
	17+56.83 TO 17+81.83 LT.	
W.B. OFF-RAMP (RAMP D)	17+51.75 TO 17+76.75 RT.	
	22+24.63 TO 22+49.63 RT.	
	17+38.63 TO 17+63.63 LT.	
	22+25.28 TO 22+50.28 LT.	

ROUTE 2A EDGE OF PAVEMENT ALIGNMENT CURVE
PC STA. 115+84.16 (OFFSET LT.)
Δ = 03°-00'-40" RT
Dc = 02°-00'-00"
R = 2864.79'
T = 75.30'
E = 0.99'
L = 150.00'

PAVEMENT AND SUB-BASE TRANSITION DETAIL
3" WEARING COURSE
1 3/4" BINDER COURSE
1 1/4" BASE COURSE
30" SUBBASE
18" SAND BORROW

GUARD RAIL APPROACH SECTION TYPE I

W.B. OFF-RAMP (RAMP D)	19+01.75 TO 19+91.75 RT.	
	18+88.63 TO 19+38.63 LT.	
E.B. ON-RAMP (RAMP A)	13+09.12 TO 13+59.12 RT.	
	13+37.27 TO 13+87.27 LT.	

GUARD RAIL APPROACH SECTION TYPE II

W.B. OFF-RAMP (RAMP D)	21+37.78 TO 21+50.28 LT.	
	21+49.63 TO 21+62.13 RT.	
E.B. ON-RAMP (RAMP A)	17+18.33 TO 17+31.83 RT.	
	17+18.33 TO 17+31.83 RT.	

TIE-IN TO CVRR FENCE

FENCE END POSTS AT TOP AND BOTTOM OF LEDGE

BREAK AWAY CABLE TERMINAL FOR STEEL BEAM GUARD RAIL W/ STEEL POSTS (SEE STD. G-15)

W.B. OFF-RAMP CURVE DATA # 1
Δ = 06°-15'-11" LT
Dc = 01°-16'-24"
R = 4500.00'
T = 245.80'
E = 6.71'
L = 491.11'
BANK = 0.021 FT./FT.

VERMONT ROUTE 289 CURVE DATA #1
Δ = 23°-23'-45" RT.
Dc = 01°-00'-00"
R = 5729.58'
T = 1186.32'
E = 121.53'
L = 2339.58'
BANK = 0.021 FT./FT.

REV. E.B. ON-RAMP CURVE DATA # 2
Δ = 67°-28'-57" RT.
Dc = 12°-35'-47"
R = 455.96'
T = 303.86'
E = 92.16'
L = 536.88'
BANK = 0.08 FT./FT.
STA. 17+18.30 END BRIDGE RESUME ROADWAY

Δ = 67°-01'-08"
Dc = 12°-31'-18"
R = 457.52'
T = 302.97'
L = 535.23'

E.B. ON-RAMP CURVE DATA #2
Δ = 28°-28'-04" RT.
Dc = 14°-19'-26"
R = 400.00'
T = 101.47'
E = 12.67'
L = 198.74'
BANK = 0.080 FT./FT.

E.B. ON-RAMP CURVE DATA # 3
Δ = 39°-00'-33" RT.
Dc = 09°-32'-57"
R = 600.00'
T = 212.53'
E = 36.53'
L = 408.50'
BANK = 0.076 FT./FT.

RAMP D STA 21+74, 139' RT
STA. 21+32.40 END BRIDGE RESUME ROADWAY
RAMP D STA 20+69, 133' RT
RAMP D STA 15+00, 158' RT
STA. 22+24.63 END FLARE
STA. 17+76.75 END FLARE
STA. 17+63.63 END FLARE
STA. 17+56.85 END FLARE
STA. 22+25.28 END FLARE
STA. 12+56.85 END FLARE
BREAKAWAY CABLE TERMINAL FOR STEEL BEAM GUARD RAIL W/STEEL POSTS (SEE STD. G-15)

PI #1
STA 20+24.35 BK =
STA 20+23.86 AHD

PI #2
STA 111+98.15 BK =
STA 111+86.64 AHD

PI #3
STA 20+93.00 BK =
STA 20+76.44 AHD.

STA 13+41.42 BK =
STA 13+21.17 AHD.

REV. PI #2
STA 19+85.59 BK =
STA 19+13.55 AHD

STA 16+38.08 BK =
STA 16+20.66 AHD

STA 17+83.20 BK =
STA 17+79.00 AHD.

PT STA 114+40.79

VT 283 STA 437+95.48 CVRR STA 50+00

RAMP B STA 12+24, 72' RT END OF FENCE

FUTURE E.B. OFF-RAMP (RAMP B)

FUTURE E.B. OFF-RAMP CURVE DATA #1
Δ = 51°-53'-51" RT.
Dc = 19°-05'-55"
R = 300.00'
T = 145.99'
E = 33.64'
L = 271.73'
BANK = 0.080 FT./FT.

FUTURE E.B. OFF-RAMP CURVE DATA #2
Δ = 30°-01'-57" RT.
Dc = 09°-32'-57"
R = 600.00'
T = 160.92'
E = 21.20'
L = 314.44'
BANK = 0.066 FT./FT.

ROUTE 2A CURVE DATA #2
Δ = 29°-48'-24" RT
Dc = 06°-00-00"
R = 954.93'
T = 254.15'
E = 33.24'
L = 496.78'
BANK = 0.052 FT./FT.

4' HIGH WOVEN WIRE FENCE
SEE REVISED LIST AT LEFT
RTE 2A STA 116+86, 35' RT - RAMP D STA 21+60, 109 RT
RAMP D STA 21+60, 109' RT - RTE 289 STA 437+96, 147' RT
RTE 289 STA 437+96, 147' RT - RAMP B STA 17+00, 82' LT
RAMP B STA 17+00, 120' RT - RAMP B STA 13+46, 120' RT
RAMP B STA 13+46, 120' RT - RTE 2A STA 112+45, 52' RT
RTE 2A STA 112+45, 52' RT - RTE 2A STA 115+68, 52' RT
RTE 2A STA 112+68, 59' LT - RTE 2A 115+50, 58' LT
RAMP A STA 17+00, 90' LT - RAMP D STA 20+07, 24' RT
RAMP D STA 20+07, 24' RT - RTE 289 STA 445+00, 228' LT
RAMP A STA 17+00, 168' RT - RTE 289 STA 444+35, 226' RT
RTE 289 STA 444+35, 226' RT - RTE 289 STA 445+00, 215' RT

RELOCATE MAILBOX
VT. RTE. 2A STA. 114+35 LT.
STA. 115+90 RT.

WORK TO BE PERFORMED UNDER ALTERNATE CONTRACT

BREAKAWAY CABLE TERMINAL FOR STEEL BEAM GUARD RAIL W/STEEL POSTS (SEE STD. G-15)

FARM POND TO BE BACKFILLED WITH EXCAVATED LEDGE TO A MINIMUM ELEV. OF 375'

NOTE: DO NOT DISTURB FENCING

NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS

AS BUILT 4/13/94

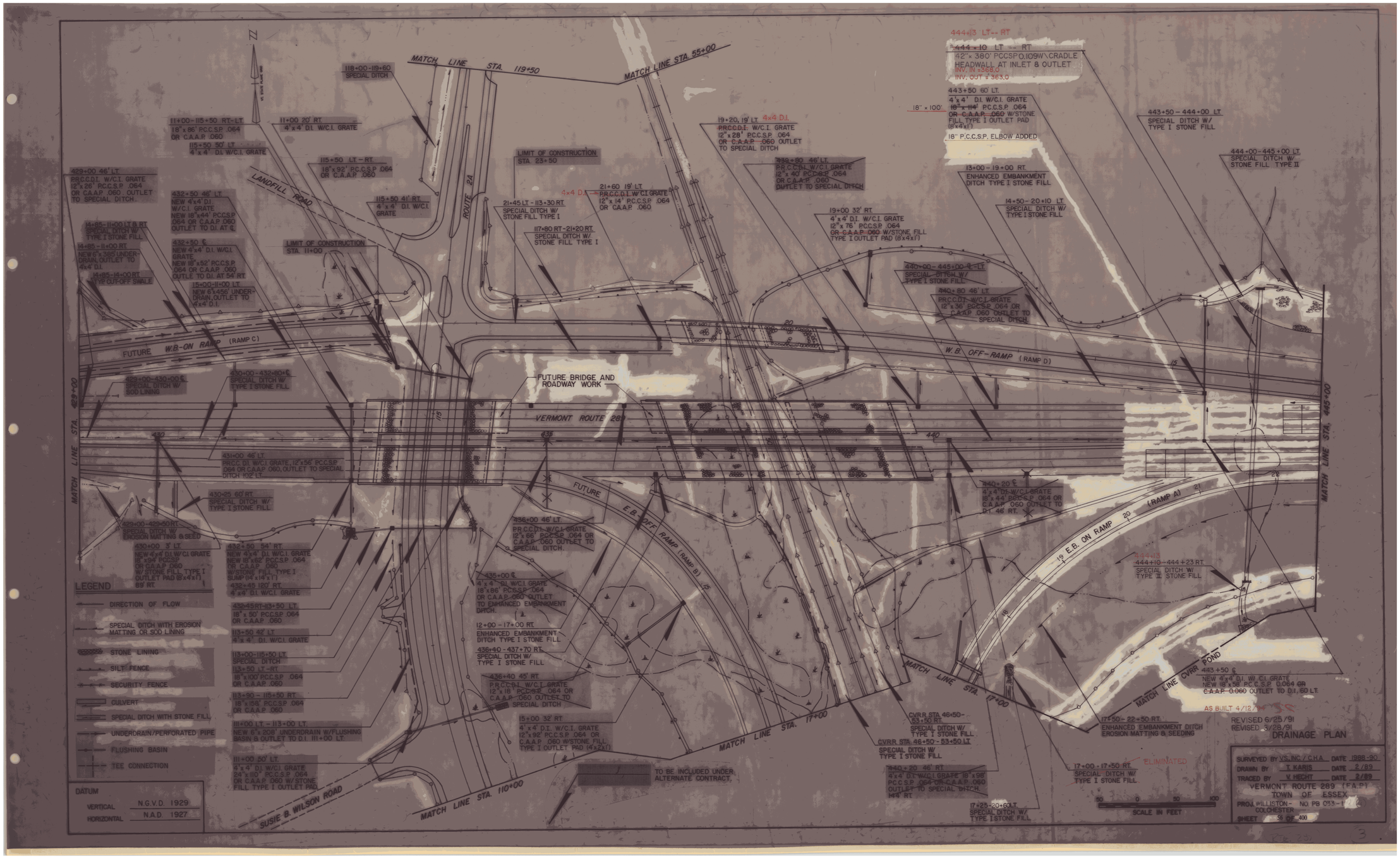
REVISED 3/28/95

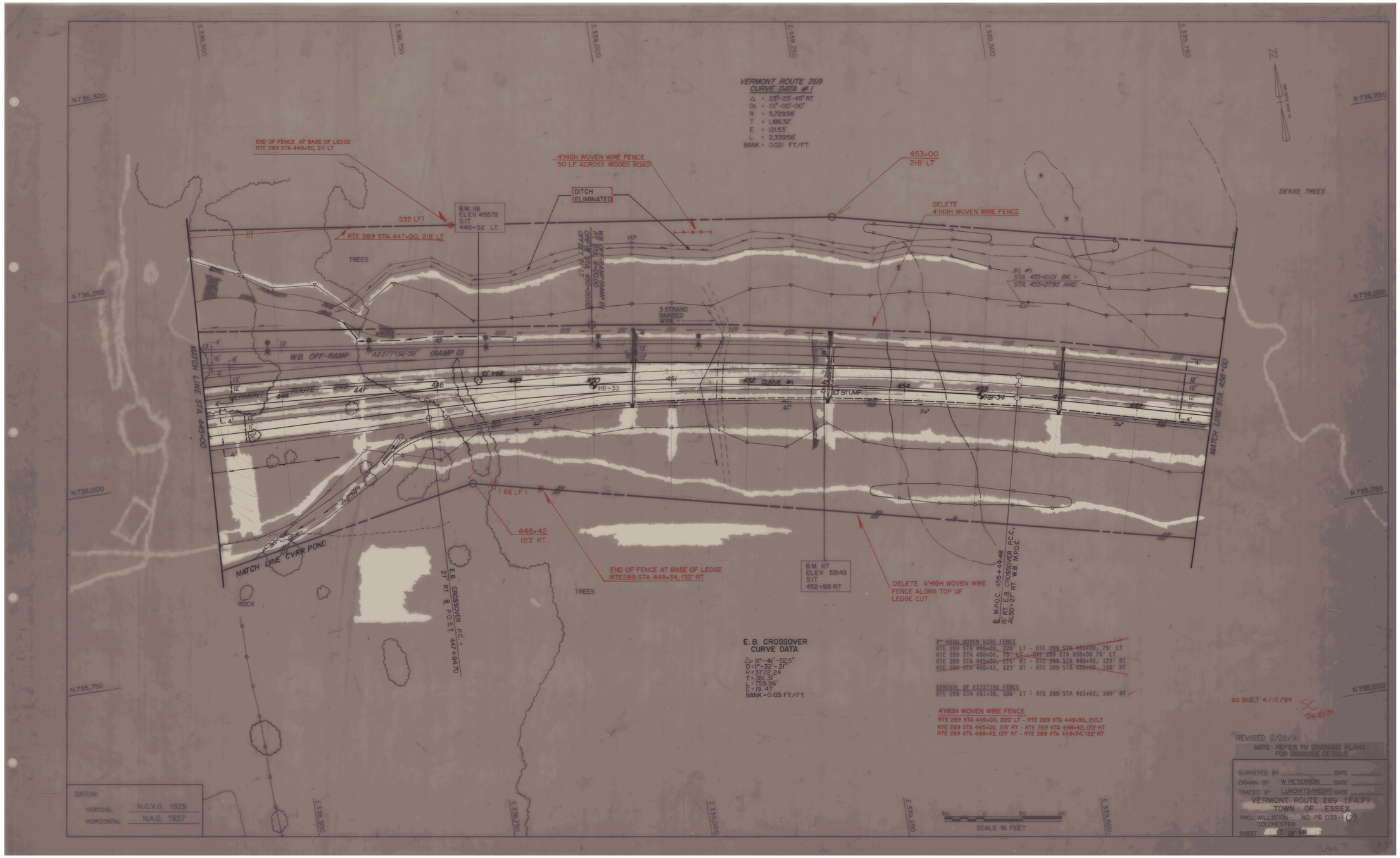
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

SURVEYED BY _____ DATE _____
DRAWN BY W. PETERSON DATE _____
TRACED BY V. HECHT DATE 1/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1(2)
COLCHESTER

SHEET 55 OF 400


MATCH LINE STA. 119+50
MATCH LINE STA. 55+00
MATCH LINE STA. 429+00
MATCH LINE STA. 445+00
118+00-119+60 SPECIAL DITCH
11+00-115+50 RT.-LT. 18"x 86' PCC.S.P. .064 OR C.A.A.P. .060
11+00 20' RT. 4'x 4' D.I. W/C.I. GRATE
115+50 50' LT 4'x 4' D.I. W/C.I. GRATE
115+50 LT - RT. 18"x 92' PCC.S.P .064 OR C.A.A.P .060
115+50 41' RT. 4'x 4' D.I. W/C.I. GRATE
LANDFILL ROAD
ROUTE 289
LIMIT OF CONSTRUCTION STA. 23+50
LIMIT OF CONSTRUCTION STA. 11+00
429+00 46' LT. PR.C.C.D.I. W/C.I. GRATE 12'x 26' PCC.S.P .064 OR C.A.A.P .060 OUTLET TO SPECIAL DITCH.
14+85-11+00 LT & RT SPECIAL DITCH W/ TYPE I STONE FILL
14+85-11+00 RT NEW 6"x 395' UNDER-DRAIN, OUTLET TO 4'x4' D.I.
14+85-11+00 RT TYP CUT-OFF SWALE
432+50 46' LT. NEW 4'x4' D.I. W/C.I. GRATE NEW 18"x44' PCC.S.P .064 OR C.A.A.P .060 OUTLET TO D.I. AT ℄
432+50 ℄ NEW 4'x4' D.I. W/C.I. GRATE NEW 18"x52' PCC.S.P .064 OR C.A.A.P .060 OUTLE TO D.I. AT 54' RT.
15+00-11+00 LT NEW 6'x 456' UNDER-DRAIN, OUTLET TO 4'x4' D.I.
21+45 LT - 113+30 RT. SPECIAL DITCH W/ STONE FILL TYPE I
4x4 D.I.
21+60 19' LT. PR.C.C.D.I. W/C.I. GRATE 12"x 14' P.C.C.S.P .064 OR C.A.A.P .060
117+80 RT - 21+20 RT. SPECIAL DITCH W/ STONE FILL TYPE I
19+20, 19' LT 4x4 D.I. PR.C.C.D.I. W/C.I. GRATE 12" x 28' P.C.C.S.P. .064 OR C.A.A.P. .060 OUTLET TO SPECIAL DITCH
339+80 45' LT. PR.C.C.D.I. W/C.I. GRATE 12"x 40' PCC.S.P .064 OR C.A.A.P .060 OUTLET TO SPECIAL DITCH
19+00 32' RT 4'x 4' D.I. W/C.I. GRATE 12"x 76' P.C.C.S.P .064 OR C.A.A.P .060 W/STONE FILL TYPE I OUTLET PAD (8'x4'x1')
444+13 LT-- RT
444+10 LT -- RT 42"x 380' PCCSP.0.105W\CRADLE HEADWALL AT INLET & OUTLET INV. IN =368.0 INV. OUT = 363.0
18" x 100'
443+50 60' LT. 4'x 4' D.I. W/C.I. GRATE 18"x 114' P.C.C.S.P .064 OR C.A.A.P .060 W/STONE FILL TYPE I OUTLET PAD (8'x4'x1') 18" P.C.C.S.P. ELBOW ADDED
13+00 - 19+00 RT. ENHANCED EMBANKMENT DITCH TYPE I STONE FILL
14+50 - 20+10 LT. SPECIAL DITCH W/ TYPE I STONE FILL
443+50 - 444+00 LT. SPECIAL DITCH W/ TYPE I STONE FILL
444+00 - 445+00 LT. SPECIAL DITCH W/ STONE FILL TYPE II
440+00 - 445+00 ℄ LT. SPECIAL DITCH W/ TYPE I STONE FILL
342+80 45' LT. PR.C.D.I. W/C.I. GRATE 12"x 36' P.C.C.S.P .064 OR C.A.A.P .060 OUTLET TO SPECIAL DITCH
FUTURE W.B.-ON RAMP (RAMP C)
W.B. OFF-RAMP (RAMP D)
FUTURE BRIDGE AND ROADWAY WORK
VERMONT ROUTE 289
430+00-430+00 ℄ SPECIAL DITCH W/ SOD LINING
430+00-432+80 ℄ SPECIAL DITCH W/ TYPE I STONE FILL
431+00 46' LT. PR.C.C.D.I. W/C.I. GRATE, 12"x 56' P.C.C.S.P. .064 OR C.A.A.P .060, OUTLET TO SPECIAL DITCH 102' LT.
430+25 60' RT. SPECIAL DITCH W/ TYPE I STONE FILL
429+00-429+50 RT. SPECIAL DITCH W/ EROSION MATTING & SEED
430+00 3' LT. NEW 4'x4' D.I. W/C.I. GRATE 18"x94' PCCS.P OR C.A.A.P .060 W/ STONE FILL TYPE I OUTLET PAD (8'x4'x1') 69' RT.
432+50 54' RT. NEW 4'x4' D.I. W/C.I. GRATE NEW 18"x82' PCC.S.P .064 OR C.A.A.P .060 W/STONE FILL, TYPE I SUMP (4'x4'x1') 432+45 180' RT. 4'x4' D.I. W/C.I. GRATE
432+45 RT-113+50 LT. 18"x 50' PCC.S.P .064 OR C.A.A.P .060
113+50 42' LT. 4'x 4' D.I. W/C.I. GRATE
113+00-115+50 LT. SPECIAL DITCH
113+50 LT.-RT. 18"x 100' PCC.S.P .064 OR C.A.A.P .060
113+90 - 115+50 RT. 18"x 158' P.C.C.S.P .064 OR C.A.A.P .060
111+00 LT - 113+00 LT. NEW 6"x 208' UNDERDRAIN W/FLUSHING BASIN B OUTLET TO D.I. 111+00 LT.
111+00 50' LT. 4'x 4' D.I. W/C.I. GRATE 24"x 110' PCC.S.P .064 OR C.A.A.P .060 W/ STONE FILL TYPE I OUTLET PAD
436+00 46' LT. PR.C.C.D.I. W/C.I. GRATE 12"x 66' PCC.S.P .064 OR C.A.A.P .060 OUTLET TO SPECIAL DITCH.
435+00 ℄ 4'x 4' D.I. W/C.I. GRATE 18"x 86' PCC.S.P .064 OR C.A.A.P .060 OUTLET TO ENHANCED EMBANKMENT DITCH.
12+00 - 17+00 RT. ENHANCED EMBANKMENT DITCH TYPE I STONE FILL
436+90 - 437+70 RT. SPECIAL DITCH W/ TYPE I STONE FILL
436+40 45' RT. PR.C.C.D.I. W/C.I. GRATE 12"x 18' PCC.S.P .064 OR C.A.A.P .060 OUTLET TO SPECIAL DITCH
15+00 32' RT. 4'x 4' D.I. W/C.I. GRATE 12"x 92' PCC.S.P .064 OR C.A.A.P .060 W/STONE FILL TYPE I OUTLET PAD (4'x2'x1')
TO BE INCLUDED UNDER ALTERNATE CONTRACT.
FUTURE E.B. OFF-RAMP (RAMP B)
SUSIE B. WILSON ROAD
MATCH LINE STA. 110+00
MATCH LINE STA. 17+00
CVRR STA 46+50 - 53+50 RT. SPECIAL DITCH W/ TYPE I STONE FILL
CVRR STA 46+50 - 53+50 LT SPECIAL DITCH W/ TYPE I STONE FILL
440+20 46' RT 4'x 4' D.I. W/C.I. GRATE 18"x 98' P.C.C.S.P .064 OR C.A.A.P .060 OUTLET TO SPECIAL DITCH. 144' RT.
17+25-20+60 LT. SPECIAL DITCH W/ TYPE I STONE FILL
440+20 ℄ 4'x 4' D.I. W/C.I. GRATE 18"x 44' P.C.C.S.P .064 OR C.A.A.P .060 OUTLET TO D.I. 46' RT.
19 E.B. ON RAMP (RAMP A)
444+13 444+10 - 444+23 RT. SPECIAL DITCH W/ TYPE III STONE FILL
MATCH LINE CVRR
POND
443+50 ℄ NEW 4'x4' D.I. W/ C.I. GRATE NEW 18"x 58' P.C.C.S.P .064 OR C.A.A.P .060 OUTLET TO D.I. 60 LT.
AS BUILT 4/12/94
17+50 - 22+50 RT. ENHANCED EMBANKMENT DITCH EROSION MATTING & SEEDING
17+00 - 17+50 RT. SPECIAL DITCH W/ TYPE I STONE FILL
ELIMINATED
SCALE IN FEET
0 50 100
REVISED 6/25/91
REVISED 5/28/91
DRAINAGE PLAN
SURVEYED BY VS, INC. / C.H.A. DATE 1988-90
DRAWN BY T. KARIS DATE 2/89
TRACED BY V. HECHT DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(
SHEET 58 OF 400
LEGEND
DIRECTION OF FLOW
SPECIAL DITCH WITH EROSION MATTING OR SOD LINING
STONE LINING
SILT FENCE
SECURITY FENCE
CULVERT
SPECIAL DITCH WITH STONE FILL
UNDERDRAIN/PERFORATED PIPE
FLUSHING BASIN
TEE CONNECTION
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927


VERMONT ROUTE 289
CURVE DATA #1
Δ = 23°-23'-45" RT
Dc = 01°-00'-00"
R = 5,729.58'
T = 1,186.32'
E = 121.53'
L = 2,339.58'
BANK = 0.021 FT./FT.
END OF FENCE AT BASE OF LEDGE
RTE 289 STA 448+30, 211' LT
4'HIGH WOVEN WIRE FENCE
50 LF ACROSS WOODS ROAD
453+00
218' LT
DITCH
ELIMINATED
DELETE
4'HIGH WOVEN WIRE FENCE
DENSE TREES
B.M. 116
ELEV. 455.72
S.I.T.
448+52 LT.
(132 LF)
RTE 289 STA 447+00, 215' LT
TREES
P.I. #1
STA. 455+61.01 BK. =
STA. 455+27.95 AHD.
3 STRAND
BARBED
WIRE
W.B. OFF-RAMP
(RAMP D)
AZ 277°52'-59"
10" PINE
HB-33
CURVE #1
10" STUMP
HB-34
MATCH LINE STA. 445+00
MATCH LINE STA. 458+00
(86 LF)
448+42
123' RT
END OF FENCE AT BASE OF LEDGE
RTE289 STA 449+34, 132' RT
B.M. 117
ELEV 531.43
S.I.T.
452+98 RT
DELETE 4'HIGH WOVEN WIRE
FENCE ALONG TOP OF
LEDGE CUT
MATCH LINE CVRR POND
ROCK
TREES
E.B. CROSSOVER P.C. =
27' RT. ℄ P.O.S.T. 447+84.70
E.B. CROSSOVER P.C.C.,
ALSO = 27' RT. W.B. M.P.O.C.
E.B. CROSSOVER
CURVE DATA
Δ = 11°-41'-52.5"
D = 1°-32'-21"
R = 3722.24
T = 381.31'
L = 759.96'
E = 19.47
BANK = 0.03 FT./FT.
4' HIGH WOVEN WIRE FENCE
RTE 289 STA 445+00, 228' LT - RTE 289 STA 450+00, 75' LT
RTE 289 STA 450+00, 75' LT - RTE 289 STA 458+00 75' LT
RTE 289 STA 445+00, 215' RT - RTE 289 STA 448+42, 123' RT
RTE 289 STA 448+42, 123' RT - RTE 289 STA 458+00, 158' RT
REMOVAL OF EXISTING FENCE
RTE 289 STA 451+38, 106' LT - RTE 289 STA 451+61, 100' RT
4'HIGH WOVEN WIRE FENCE
RTE 289 STA 445+00, 220' LT - RTE 289 STA 448+30, 211'LT
RTE 289 STA 445+00, 215' RT - RTE 289 STA 448+42, 123' RT
RTE 289 STA 448+42, 123' RT - RTE 289 STA 449+34, 132' RT
AS BUILT 4/12/94
SC
REVISED 2/28/91
NOTE: REFER TO DRAINAGE PLANS
FOR DRAINAGE DETAILS
SURVEYED BY DATE
DRAWN BY W. PETERSON DATE
TRACED BY LUKOVITS/HECHT DATE
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1 (2)
COLCHESTER
SHEET 57 OF 400
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927
SCALE IN FEET
PLAN 7

~~450+50 - 447+00 LT.~~
~~TYPICAL CUTOFF SWALE~~
~~ELIMINATED~~

~~449+00 - 448+75 LT.~~
~~NEW 6" x 200' UNDERDRAIN~~
~~AND 6" x 35' CARRIER PIPE~~
~~OUTLET TO SPECIAL DITCH~~
~~DELETED~~

445+00 - 447+50 LT.
SPECIAL DITCH W/
STONE FILL TYPE II

453+00 - 450+50 RT.
NEW 6" x 250' UNDERDRAIN
OUTLET TO 4'x4' D.I.

450+50 70' LT.
NEW 4'x4' D.I. W/ C.I. GRATE
NEW 18" x ~~94~~ PCCSP .064 ~~OR~~
~~C.A.A.P. 060~~ OUTLET TO NEW
D.I. AT 28' RT.

450+50 - 458+00 LT.
TYPICAL CUT-OFF SWALE

458+00 - 456+00 RT.
NEW 6" x 200' UNDERDRAIN
OUTLET TO 4'x4' D.I.

456+00 69' LT.
NEW 4'x4' D.I. W/ C.I. GRATE
NEW 18" x 62' PCCSP .064 OR
~~C.A.A.P. 060~~ OUTLET TO NEW
D.I. AT 16' RT.

453+00 70' LT.
NEW 4'x4' D.I. W/ C.I. GRATE
NEW 18" x 86' PCCSP .064 ~~OR~~
~~C.A.A.P. 060~~ OUTLET TO NEW
D.I. AT 19' RT.

12+00 - 13+00 RT
ENHANCED EMBANKMENT DITCH
TOPSOIL & SEED

447+50 - 458+00 LT.
SPECIAL DITCH W/
EROSION MATTING AND
SEEDING.

450+50 50' LT. - 25' RT.
NEW ~~6" x 75'~~ UNDERDRAIN
OUTLET TO NEW 4'x6' D.I.
AT 450+50 28' RT.

456+00 50' LT. - 14' RT.
NEW ~~6" x 64'~~ UNDERDRAINS
OUTLET TO 4'x6' D.I. AT ~~456~~+00 16' RT.
ADDED 6" x 80' UNDERDRAIN

453+00 50' LT. - 17' RT.
NEW ~~6" x 267'~~ UNDERDRAINS
OUTLET TO NEW 4'x6' D.I.
AT 453+00 19' RT.
ADDED 6" x 80' UNDERDRAIN

MATCH LINE STA. 445+00

W.B. OFF-RAMP (RAMP D)

VERMONT ROUTE 289

HB-33

HB-34

10" STUMP

18"

MATCH LINE STA. 458+00

447+60 60' RT.
ADDED 4' x 6' D.I.
NEW 6" x 120' UNDERDRAIN OUTLET
TO ADDED 4' x 6' D.I.

42" P.C.C.S.P.
OUTLET TO SPECIAL DITCH

MATCH LINE
CVRR PONDS

445+50 - 447+50 RT.
SPECIAL DITCH W/STONE
FILL TYPE II

445+00 - 446+75 RT
ENHANCED EMBANKMENT DITCH
EROSION MATTING AND SEEDING

447+50 - 458+00 RT.
SPECIAL DITCH W/
EROSION MATTING AND
SEEDING

450+50 28' RT. - 447+60 58' RT.
~~450+50 28' RT. - 447+25.99' RT.~~
NEW 4'x6' D.I. W/ C.I. GRATE
~~NEW 42" x 326' P.C.C.S.P. .109 OR~~
~~C.A.A.P. 105 OUTLET TO~~
~~SPECIAL DITCH~~
NEW 42" x 290' P.C.C.S.P. OUTLET
TO ADDED 4' x 6' D.I.

450+50 - 447+60 RT.
~~450+50 - 447+25 RT.~~
~~NEW 6" x 300' UNDERDRAIN~~
~~AND 6" x 25' CARRIER PIPE~~
~~OUTLET TO SPECIAL DITCH~~
NEW 6" x 289' UNDERDRAIN OUTLET
TO ~~SPECIAL DITCH~~

453+00 19' RT - 450+50 28' RT.
NEW 4'x6' D.I. W/ C.I. GRATE
NEW 42" x 248' PCCSP .109 OR
~~C.A.A.P. 105~~ OUTLET TO NEW
D.I. AT 450+50 RT.

456+00 - 453+00 RT.
NEW 6" x 300'
UNDERDRAIN
OUTLET TO
4'x4' D.I.

456+00 15' RT - 453+00 19' RT.
NEW 4'x6' D.I. C.I. GRATE
NEW 36" x 298' PCCSP .109 ~~OR~~
~~C.A.A.P. 105~~ OUTLET TO NEW
D.I. AT 453+00 RT.

LEGEND

- DIRECTION OF FLOW
- SPECIAL DITCH WITH EROSION MATTING OR SOD LINING
- STONE LINING
- SILT FENCE
- SECURITY FENCE
- CULVERT
- SPECIAL DITCH WITH STONE FILL
- UNDERDRAIN/PERFORATED PIPE
- FLUSHING BASIN
- TEE CONNECTION
- DRAINAGE STRUCTURES
- CAPPED OR COVERED DRAINAGE STRUCTURES

50 0 50 100
SCALE IN FEET

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

AS BUILT 4/12/94
SC
JG 8/4/94

REVISED 2/28/91

DRAINAGE PLAN

SURVEYED BY VS, INC. / C.H.A. DATE 1988-90
DRAWN BY T. KARIS DATE 2/89
TRACED BY V. HECHT DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1 (2)
SHEET 58 OF 400

(RE 23) 7

CURVE DATA #1
Δ = 23°-23'-45" RT.
D_c = 01°-00'-00"
R = 5729.58'
T = 1186.32'
E = 121.53'
L = 2339.58'
BANK = 0.021 FT./FT.

466+86
434' LT

4' HIGH WOVEN WIRE FENCE
~~RTE 289 STA 458+00, 75' LT - RTE 289 STA 463+00, 75' LT~~
~~RTE 289 STA 463+00, 75' LT - RTE 289 STA 466+64, 63' LT~~
~~RTE 289 STA 466+64, 63' LT - RTE 289, STA 473+00, 63' LT~~
~~RTE 289 STA 458+00, 158' RT - RTE 289, STA 461+50, 183' RT~~
~~RTE 289 STA 461+50, 183' RT - RTE 289, STA 466+53, 119' RT~~
~~RTE 289 STA 466+53, 119' RT - RTE 289, STA 473+00, 162' RT~~
RTE 289 STA 470+85, 146'RT - RTE 289 STA 473+00, 162' RT

REMOVAL OF EXISTING FENCE
RTE 289 STA 466+60, RT - RTE 289, STA 466+85, LT

461+00
243' LT

466+72
198' LT

DELETE
4' HIGH WOVEN WIRE FENCE

DENSE TREES

VERMONT ROUTE 289

CURVE #1

MATCH LINE STA. 458+00

MATCH LINE STA. 473+00

STA. 463+00

STA. 465+00

HB-35

HB-36

HB-37

15" PINE

B.M. 118
ELEV. 519.77
S.I.T.
458+93 RT.

B.M. 119
ELEV. 516.84
S.I.R.
465+12 RT.

461+50
163' RT

DELETE
4'HIGH WOVEN WIRE FENCE
ALONG TOP OF LEDGE CUT

466+53
119' RT

PT #1
STA 467+14.27

BEGIN FENCE
RTE 289 STA 470+85, 146' RT

473+00
162' RT

N 736,250
N 736,000
N 735,750
N 735,500
N 735,250
N 735,000

E 339,750
E 340,000
E 340,250
E 340,500
E 340,750
E 341,000
E 341,250

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

SCALE IN FEET
50 0 50 100

AS BUILT 5/5/94 JG

REVISED 2/28/91
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS

SURVEYED BY _____ DATE _____
DRAWN BY W. PETERSON DATE _____
TRACED BY LUKOVITS/HECHT DATE 1/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1(2)
COLCHESTER

SHEET 59 OF 400

P-8

N

459+00 70' LT.
NEW 4'x4' D.I. W/ C.I. GRATE
NEW 18" x 84' PCCSP .064 OR
~~C.A.A.P. .060~~ OUTLET TO NEW
D.I. AT 16' RT.

458+00- 463+00 LT.
TYPICAL CUT-OFF SWALE

END SWALE

463+00 103' LT.
NEW 36" x 32' P.C.C.S.P. 109
~~OR C.A.A.P. 105~~ W/ CONCRETE
HEADWALL INLET (SEE NOTE).
OUTLET TO NEW D.I. AT
463+00 70' LT.

BEGIN SWALE

463+00 70' LT.
NEW 4'x6' D.I. W/C.I. GRATE
NEW 36" x 84' PCC.S.P. 109 OR
~~C.A.A.P. 105~~ OUTLET TO NEW
D.I. AT 16' RT.

MATCH LINE STA. 458+00

VERMONT ROUTE 289

HB-35

HB-36

HB-37

463+00-459+00 RT.
NEW 6" x 400' UNDERDRAIN
OUTLET TO 4'x4' D.I.

459+00 50' LT. 14' RT.
~~NEW 6" x 64' UNDERDRAINS~~
OUTLET TO NEW 4'x6' D.I. AT
459+00 16' RT.
NEW 6" x 80' UNDERDRAIN

459+00-458+00 RT.
NEW 6" x 100' UNDERDRAIN

459+00 16' RT.-456+00 16' RT.
NEW 4'x6' D.I. W/ C.I. GRATE
NEW 36" x 298' PCC.S.P. 109 OR
~~C.A.A.P. 105~~ OUTLET TO NEW
D.I. AT 456+00 RT.

471+50-467+00 LT.
NEW 6" x 450' UNDERDRAIN
OUTLET TO 4'x6' D.I.

467+00 60' LT.
NEW 4'x4' D.I. W/ C.I. GRATE
NEW 18" x 74' PCCSP ~~.064 OR~~
~~C.A.A.P. .060~~ OUTLET TO NEW
D.I. AT 16' RT.

463+00-469+00 LT.
TYPICAL CUT-OFF SWALE

463+00 16' RT.-459+00 16' RT.
NEW 4'x4' D.I. W/ C.I. GRATE
NEW 36" x 398' PCC.S.P. 109 OR
~~C.A.A.P. 105~~ OUTLET TO NEW
D.I. AT 459+00 RT.

463+00 50' LT. 14' RT.
~~NEW 6" x 64' UNDERDRAINS~~
OUTLET TO NEW 4'x6' D.I. AT
463+00 16' RT.
NEW 6" x 80' UNDERDRAIN

469+00-471+50 LT.
TYPICAL CUT-OFF SWALE

458+00 - 473+00 LT.
SPECIAL DITCH W/
EROSION MATTING &
SEEDING

DENSE TREES

458+00-473+00 RT.
SPECIAL DITCH W/
EROSION MATTING &
SEEDING

467+00 16' RT. 463+00 16' RT.
NEW 4'x4' D.I. W/ C.I. GRATE
NEW 18" x 398' PCC.S.P. .064 OR
~~C.A.A.P. .060~~ OUTLET TO NEW
D.I. AT 463+00 RT.

467+00 50' LT-15' RT.
~~NEW 6" x 65' UNDERDRAINS~~
OUTLET TO NEW 4'x4' D.I. AT
467+00 16' RT.
NEW 6" x 70' UNDERDRAIN

467+00-463+00 RT.
NEW 6" x 400' UNDERDRAIN
OUTLET TO 4'x4' D.I.

471+50 - 473+00 LT.
TYPICAL CUT-OFF SWALE

473+00-471+50 LT.
NEW 6" x 150' UNDERDRAIN
OUTLET TO 4'x4' D.I.

471+50 91' LT.
NEW 36" x 30' PCC.S.P. 0.109
~~OR C.A.A.P. 0.105~~ W/ CONCRETE
HEADWALL INLET (SEE NOTE).
OUTLET TO D.I. AT 471+50
60' LT.

471+50 - 60' LT.
NEW 4'x6' D.I. W/ C.I. GRATE
NEW 36" x 74' PCC.S.P. 0.109 ~~OR~~
~~C.A.A.P. 0.105~~ OUTLET TO NEW
D.I. AT 16' RT.

H.P.

END SWALE

BEGIN SWALE

SWALE EXTENDED

471+50 16' RT.
NEW 4'x6' D.I. W/ C.I. GRATE
PLATE 42"x 42' PCCSP
~~I.09 OR C.A.A.P. .105~~ OUTLET
TO NEW D.I. 60' RT.

471+50 50' LT.- 15' RT.
NEW 6" x 65' UNDERDRAINS
OUTLET TO NEW 4'x6' D.I. AT 471+50 RT.

471+50 60' RT.
NEW 4'x6' D.I. W/ C.I. GRATE
NEW 42" x 275' PCC.S.P. 109
~~OR C.A.A.P. 105~~ OUTLET TO NEW
C.S.P.E.S. .109 ~~OR C.A.A.P.E.S. 105~~

471+50-467+00 RT.
NEW 6" x 450' UNDERDRAIN
OUTLET TO 4'x4' D.I.

473+00-471+50 RT.
NEW 6" x 150' UNDERDRAIN
OUTLET TO 4'x6' D.I.

MATCH LINE STA. 473+00

LEGEND

- DIRECTION OF FLOW
- SPECIAL DITCH WITH EROSION MATTING OR SOD LINING
- STONE LINING
- SILT FENCE
- SECURITY FENCE
- CULVERT
- SPECIAL DITCH WITH STONE FILL
- UNDERDRAIN/PERFORATED PIPE
- FLUSHING BASIN
- TEE CONNECTION
- DRAINAGE STRUCTURES
- CAPPED OR COVERED DRAINAGE STRUCTURES

50 0 50 100
SCALE IN FEET

NOTE: 1) EXPOSED SURFACES OF HEADWALL ON ROADWAY SIDE SHALL BE FACED WITH STONE. STONE SHALL COME FROM LEDGE EXCAVATION. HEADWALL SHALL BE PAID FOR AS CEMENT RUBBLE MASONRY(CRM). CRM STONE FACING TO BE REASONABLY FLUSH WITH LEDGE FACE.

2) DOWEL HEADWALL TO LEDGE. COST TO DOWEL HEADWALL TO LEDGE SHALL BE INCLUDED IN PRICE BID FOR HEADWALL.

3) PAYMENT FOR LEDGE EXCAVATION FOR CONSTRUCTION OF TRENCH SHALL BE AS ITEM 204.21, TRENCH EXCAVATION OF ROCK.

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

AS BUILT 4/12/94 SC 5/4/94

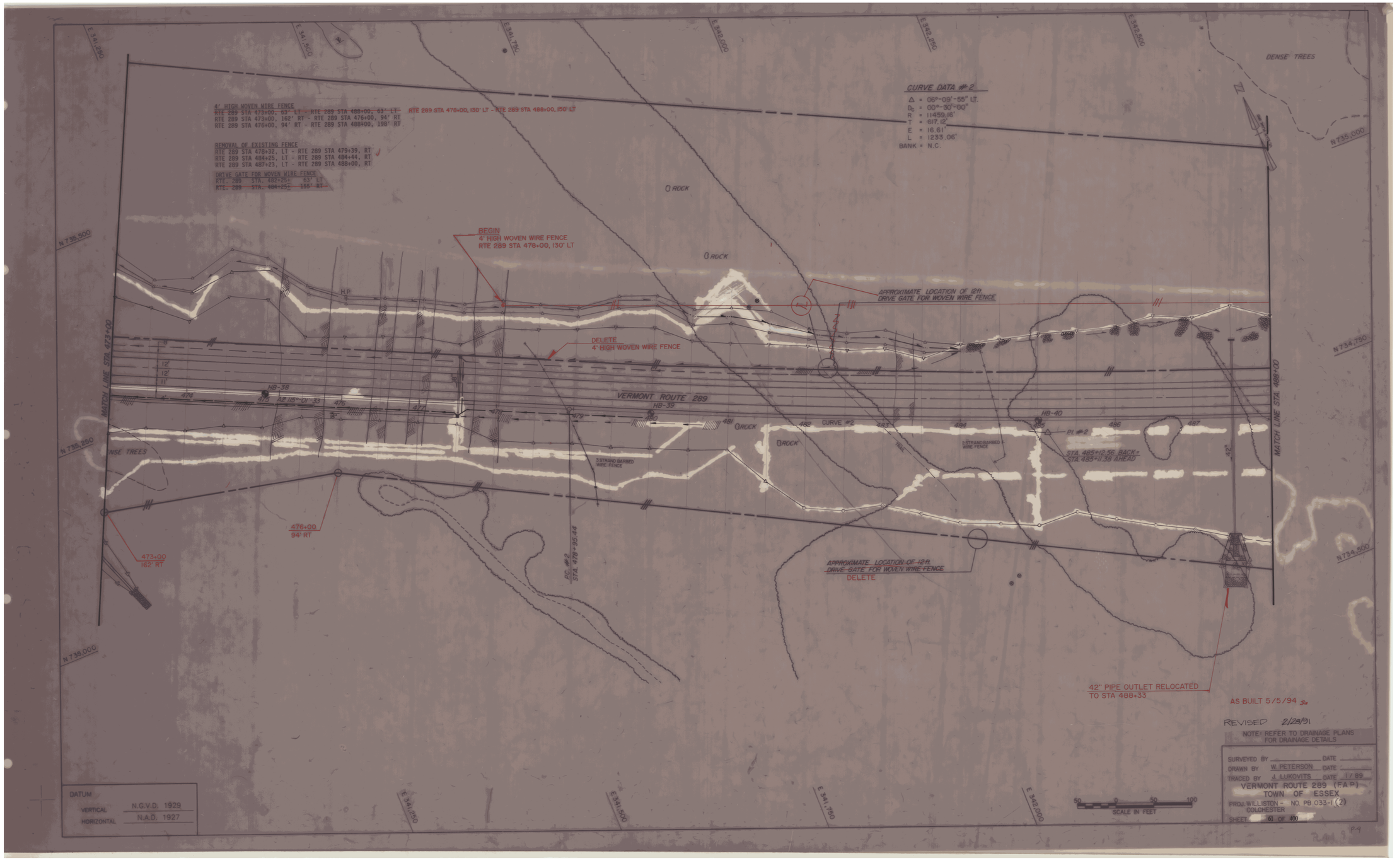
REVISED 2/28/91

DRAINAGE PLAN

SURVEYED BY VS, INC. / CHA DATE 1988-90
DRAWN BY T. KARIS DATE 2/89
TRACED BY V. HECHT DATE 2/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 60 OF 400

RTE 289



4' HIGH WOVEN WIRE FENCE
RTE 289 STA 473+00, 63' LT - RTE 289 STA 488+00, 63' LT
RTE 289 STA 473+00, 162' RT - RTE 289 STA 476+00, 94' RT
RTE 289 STA 476+00, 94' RT - RTE 289 STA 488+00, 198' RT
RTE 289 STA 478+00, 130' LT - RTE 289 STA 488+00, 150' LT
REMOVAL OF EXISTING FENCE
RTE 289 STA 478+32, LT - RTE 289 STA 479+39, RT
RTE 289 STA 484+25, LT - RTE 289 STA 484+44, RT
RTE 289 STA 487+23, LT - RTE 289 STA 488+00, RT
DRIVE GATE FOR WOVEN WIRE FENCE
RTE. 289 STA. 482+25± 63' LT
RTE. 289 STA. 484+25± 155' RT
CURVE DATA #2
Δ = 06°-09'-55" LT.
Dc = 00°-30'-00"
R = 11459.16'
T = 617.12'
E = 16.61'
L = 1233.06'
BANK = N.C.
DENSE TREES
BEGIN
4' HIGH WOVEN WIRE FENCE
RTE 289 STA 478+00, 130' LT
APPROXIMATE LOCATION OF 12ft.
DRIVE GATE FOR WOVEN WIRE FENCE
DELETE
4' HIGH WOVEN WIRE FENCE
VERMONT ROUTE 289
HB-38
HB-39
HB-40
CURVE #2
P.I. #2
STA. 485+12.56 BACK =
STA. 485+11.38 AHEAD
3 STRAND BARBED WIRE FENCE
2 STRAND BARBED WIRE FENCE
MATCH LINE STA. 473+00
MATCH LINE STA. 488+00
476+00
94' RT
473+00
162' RT
P.C. #2
STA. 478+95.44
APPROXIMATE LOCATION OF 12ft.
DRIVE GATE FOR WOVEN WIRE FENCE
DELETE
42" PIPE OUTLET RELOCATED
TO STA 488+33
N 735,500
N 735,250
N 735,000
N 734,750
N 734,500
E 341,250
E 341,500
E 341,750
E 342,000
E 342,250
E 342,500
AS BUILT 5/5/94
REVISED 2/28/91
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS
SURVEYED BY DATE
DRAWN BY W. PETERSON DATE
TRACED BY J. LUKOVITS DATE 1/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1 (2)
SHEET 61 OF 400
SCALE IN FEET
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

477+50 60' LT.
NEW 4'x 4' D.I. W/ CI. GRATE
NEW 18" x 74' P.C.S.P. .064
~~OR C.A.A.P. .086~~ OUTLET TO
D.I. AT 16' RT.

473+00 -484+00 LT.
TYPICAL CUT-OFF
SWALE

473+00 - 484+00 LT
SPECIAL DITCH W/
EROSION MATTING
AND SEEDING

483+50 - 477+50 LT.
NEW 6" x 600' UNDERDRAIN
OUTLET TO 4'x 4' D.I. AT
477+50 60' LT.

487+25
~~484+00~~ - 488 + 00 LT.
SPECIAL DITCH W TYPE II
STONE FILL.

487+77 LT. + RT. ASKEW 74°
~~487+50~~ 100' LT - 15' RT.
NEW 42" x ~~252'~~ P.C.S.P. 109 32DH
~~OR C.A.A.P. 105~~ W/CRADLE
HEADWALL AT INLET AND
OUTLET TO ENERGY DISIPATION
PAD ~~SEE SHEET 161 OF 400~~
SEE SHEET 161 OF 400

477+50 - 473+00 LT.
NEW 6" x 450'
UNDERDRAIN

END
SWALE

BEGIN
SWALE

477+85 LT. - 480+50 LT.
TYPE I DITCH

H.P.

MATCH LINE STA. 473+00

MATCH LINE STA. 488+00

VERMONT ROUTE 289

474 475 476 477 478 479 481 482 483 484 486 487

477+50,50' LT. - 15' RT
NEW 6" x 65'
UNDERDRAINS OUTLET INTO
NEW 4'x 4' D.I. AT 477+50 RT.

477+50 16' RT. - 471+50, 16' RT.
NEW 4'x 4' D.I. W/ C.I. GRATE
NEW 18" x 598' PCCS.P .064 OR
~~C.A.A.P. .060~~ OUTLET TO NEW D.I.
AT 471+50 RT.

480+50 - 477+50 RT.
~~480+00 - 477+50 RT~~
NEW 6" x 250' UNDERDRAIN 6"x300 LF
OUTLET INTO 4'x 4' D.I. AT
477+50 RT.

480+00- 481+25 RT.
SPECIAL DITCH W/
EROSION MATTING
& SEEDING

473+45 - 264' RT.
NEW 42" CS.P.E.S. .109
~~OR C.A.P.E.S. .105~~
W/STONE FILL TYPE II
OUTLET PAD (6'x14'x2')

477+50 - 473+00 RT.
NEW 6" x 450' UNDERDRAIN

473+00 - 480+00 RT.
SPECIAL DITCH W/
EROSION MATTING
& SEEDING

LEGEND

- DIRECTION OF FLOW
- SPECIAL DITCH WITH EROSION MATTING OR SOD LINING
- STONE LINING
- SILT FENCE
- SECURITY FENCE
- CULVERT
- SPECIAL DITCH WITH STONE FILL
- UNDERDRAIN/PERFORATED PIPE
- FLUSHING BASIN
- TEE CONNECTION
- DRAINAGE STRUCTURES
- CAPPED OR COVERED DRAINAGE STRUCTURES

50 0 50 100
SCALE IN FEET

AS BUILT 4/12/94 SC
5/4/94 JB

REVISED 2/28/91

DRAINAGE PLAN

SURVEYED BY VS, INC / CH A. DATE 1988-90
DRAWN BY T. KARIS DATE 2/89
TRACED BY V. HECHT DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1 (2)
SHEET 62 OF 400

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

Pg 259

DENSE TREES

DENSE TREES

DENSE TREES

496+05
397' LT

495+82
249' LT

CURVE DATA #2
Δ = 06°-09'-55" LT.
D = 00°-30'-00"
R = 11459.16'
T = 617.12'
E = 16.61'
L = 1233.06'
BANK = N.C.

4' HIGH WOVEN WIRE FENCE
RTE 289 STA 488+00, 63' LT - RTE 289 STA 501+18, 63' LT
RTE 289 STA 501+21, 35' LT - RTE 289 STA 503+00, 35' LT
RTE 289 STA 488+00, 198' RT - RTE 289 STA 488+33, 203' LT
RTE 289 STA 488+33, 203' RT - RTE 289 STA 497+57, 91' RT
RTE 289 STA 497+57, 91' RT - RTE 289 STA 503+000, 211' RT

REMOVAL OF EXISTING FENCE
RTE 289 STA 488+00 RT - RTE 289 STA 489+90, RT

CURVE DATA #3
Δ_T = 32°-12'-45" RT.
Δ_C = 29°-42'-03" RT.
D_C = 01°-30'-00"
R = 3819.72'
T_T = 1186.76'
T_C = 1012.81'
E_T = 156.37'
E_C = 131.99'
L_T = 2314.94'
L_C = 1980.06'
L_S = 167.44'
BANK = 0.030 FT. / FT.

THEORETICAL ULTIMATE MEDIAN ℄ CURVE DATA #3
Δ_T = 32°-12'-45"RT.
Δ_C = 29°-42'-03" RT.
D_C = 01°-30'-00"
R = 3819.72'
T_T = 1186.76'
T_C = 1012.81'
E_T = 156.37'
E_C = 131.99'
L_T = 2314.94'
L_C = 1980.06'
L_S = 167.44'

HORIZONTAL CONTROL ℄ EQUALITY STA. 501+18.00 (BACK)
T.S. #3 STA. 501+21.47 (AHEAD) 27' LT.

B.M. 125
ELEV. 478.47
S.I.R.
501+68 RT.

℄ PIPE
25'
48

STONE WALL

49

S.C. STA. 502+88.19

W.B. ℄ BEGIN TRANSITION CROSSOVER TO E.B. ℄

N.735,000

N.734,750

MATCH LINE STA. 488+00

MATCH LINE STA. 503+00

N.734,250

N.734,500

VERMONT ROUTE 289

HB-41

HB-42

HB-43

489 CURVE #2 490 8" ASH 491 492 AZ 108°-51'-38" 493 494 495 496 497 498 499 500 501 502 CURVE #3

8' 12' 12' 11' 4'

15" BUTTERNUT

15" PINE

45° TEE

DRIVE GATE

100' CARRIER

499+10 RT. - 499+25 RT.
44' OF 6" UNDERDRAIN

499+25 RT. - 500+00 RT.
100' OF 6" CARRIER

STA. 495+00
END FULL WIDTH EASTBOUND CLIMBING LANE, BEGIN TAPER

497+57
91' RT

ULTIMATE MEDIAN ℄
(HORIZONTAL CONTROL ℄)

2 STRAND BARBED WIRE

42" P.C.C.S.P.

72'

OPEN FOR TRAIL

SNOWMOBILE CORRIDOR

DENSE TREES

P.T. #2 STA. 491+28.00

B.M. 123
ELEV. 497.66
S.I.T.
490+46 LT.

B.M. 124
ELEV. 507.99
S.I.R.
495+87 LT.

4' HIGH WOVEN WIRE FENCE
ADDED TO CREATE SNOWMOBILE CORRIDOR STA 488+50 RT - 502+25 RT

END OF FENCE

STA. 500+50
END EASTBOUND CLIMBING LANE TAPER

INITIAL TRANSITION ℄
(HORIZONTAL CONTROL ℄)

DENSE TREES

THEORETICAL ULTIMATE MEDIAN

25'
52

REVISED SNOWMOBILE TRAIL CULVERT
SEE REVISED BR. 700 SHEETS

W.B. P.O.S. 502+50.0±
CHAN. P.O.T. 50+00.0
Δ 90°-14'-59" RT. FROM T.S.

488+33
203' RT
BOUND LOCATED IN SEDIMENT BASIN

AS BUILT 4/12/94 SC
5/6/94

REVISED SNOWMOBILE TRAIL CULVERT 6-27-91

REVISED 2/26/91

NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS

4' HIGH WOVEN WIRE FENCE

RTE 289 STA 488+00, 150' LT - RTE 289 STA 501+00, 98' LT
RTE 289 STA 501+00, 98' LT - RTE 289 STA 502+10, 100' LT
RTE 289 STA 502+40, 100' LT - RTE 289 STA 503+00, 95' LT
RTE 289 STA 488+00, 198' RT - RTE 289 STA 488+33, 203' RT
(AROUND HEADWALL)
RTE 289 STA 488+33, 203' RT - RTE 289 STA 497+57, 91' RT
RTE 289 STA 497+57, 91' RT - RTE 289 STA 501+55, 189' RT
RTE 289 STA 502+40, 147' RT - RTE 289 STA 502+50, 157' RT
RTE 289 STA 502+50, 157' RT - RTE 289 STA 503+00, 159' RT

SNOWMOBILE CORRIDOR
RTE 289 STA 488+50, 192' RT - RTE 289 STA 490+76, 113' RT
RTE 289 STA 490+76, 113' RT - RTE 289 STA 493+00, 100' RT
RTE 289 STA 493+00, 100' RT - RTE 289 STA 494+36, 55' RT
RTE 289 STA 494+36, 55' RT - RTE 289 STA 497+92, 25' RT
RTE 289 STA 497+92, 25' RT - RTE 289 STA 501+55, 140' RT
RTE 289 STA 501+55, 140' RT - RTE 289 STA 502+10, 140' RT

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

E.342,500 E.342,750 E.343,000 E.343,250 E.343,500

50 0 50 100
SCALE IN FEET

SURVEYED BY _____ DATE _____
DRAWN BY W. PETERSON DATE _____
TRACED BY LUKOVITS/HECHT DATE 1/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET Revised 63 OF 400

N

488+00 - 491+35 LT.
SPECIAL DITCH W/TYPE II
STONE FILL

495+00 60' LT.
NEW 4'x4' D.I. W/C.I. GRATE
NEW 18" x 150' PCCSP 064 ~~OR~~
~~C.A.A.P. 060~~ OUTLET TO DITCH
STONE FILL OUTLET PAD W/ TYPE I
STONE (14'x4'x1')

491+00 - 495+00 LT.
NEW 6"x400' UNDERDRAIN
OUTLET TO 4'x4' D.I.

491+00 - 499+00 LT.
TYPICAL CUT-OFF SWALE

492+00 - 498+75 LT.
SPECIAL DITCH
W/EROSION MATTING
& SEEDING

495+00 - 499+50 LT.
NEW 8"x450' UNDERDRAIN
AND 6"x35' CARRIER PIPE
OUTLET TO SPECIAL DITCH

498+75 - 499+60 LT.
SPECIAL DITCH W/ TYPE
II STONE FILL.

502+00 - 503+00 LT.
SPECIAL
DITCH W/EROSION
MATTING, & SEEDING.

500+00, 79' LT TO 113' RT.
NEW 24" x 192' PCCSP 064 ~~OR~~
~~C.A.A.P. 060~~
OUTLET TO STONE FILL TYPE II
OUTLET PAD RT. (8'x8'x2')
TYPE II STONE FILL INLET

MATCH LINE STA. 488+00

MATCH LINE STA. 503+00

VERMONT ROUTE 289

490

500

502

497+75 RT
495+25 - ~~500+00, RT.~~
SPECIAL DITCH
W/ EROSION MATTING & SEEDING

495+00 - ~~500+00 RT~~ 499+10 RT
NEW 6"x 500' UNDERDRAIN
AND 6" x 100' CARRIE PIPE
OUTLET TO DITCH
499+10 RT-499+25 RT
6"x44 LF UNDERDRAIN

499+25 RT-500+00 RT
6"x100 LF CARRIER PIPE

502+25, STRUCTURE No. 7
SNOWMOBILE TRAIL CULVERT
SEE REVISED BR. SERIES 700

492+00-495+00 RT.
NEW 6"x 300' UNDERDRAIN
AND 6" x 90' CARRIER PIPE
OUTLET TO DITCH

LEGEND

- DIRECTION OF FLOW
- SPECIAL DITCH WITH EROSION MATTING OR SOD LINING
- STONE LINING
- SILT FENCE
- SECURITY FENCE
- CULVERT
- SPECIAL DITCH WITH STONE FILL
- UNDERDRAIN/PERFORATED PIPE
- FLUSHING BASIN
- TEE CONNECTION
- DRAINAGE STRUCTURES
- CAPPED OR COVERED DRAINAGE STRUCTURES

REVISED 2/28/91

50 0 50 100
SCALE IN FEET

AS BUILT 5/17/94

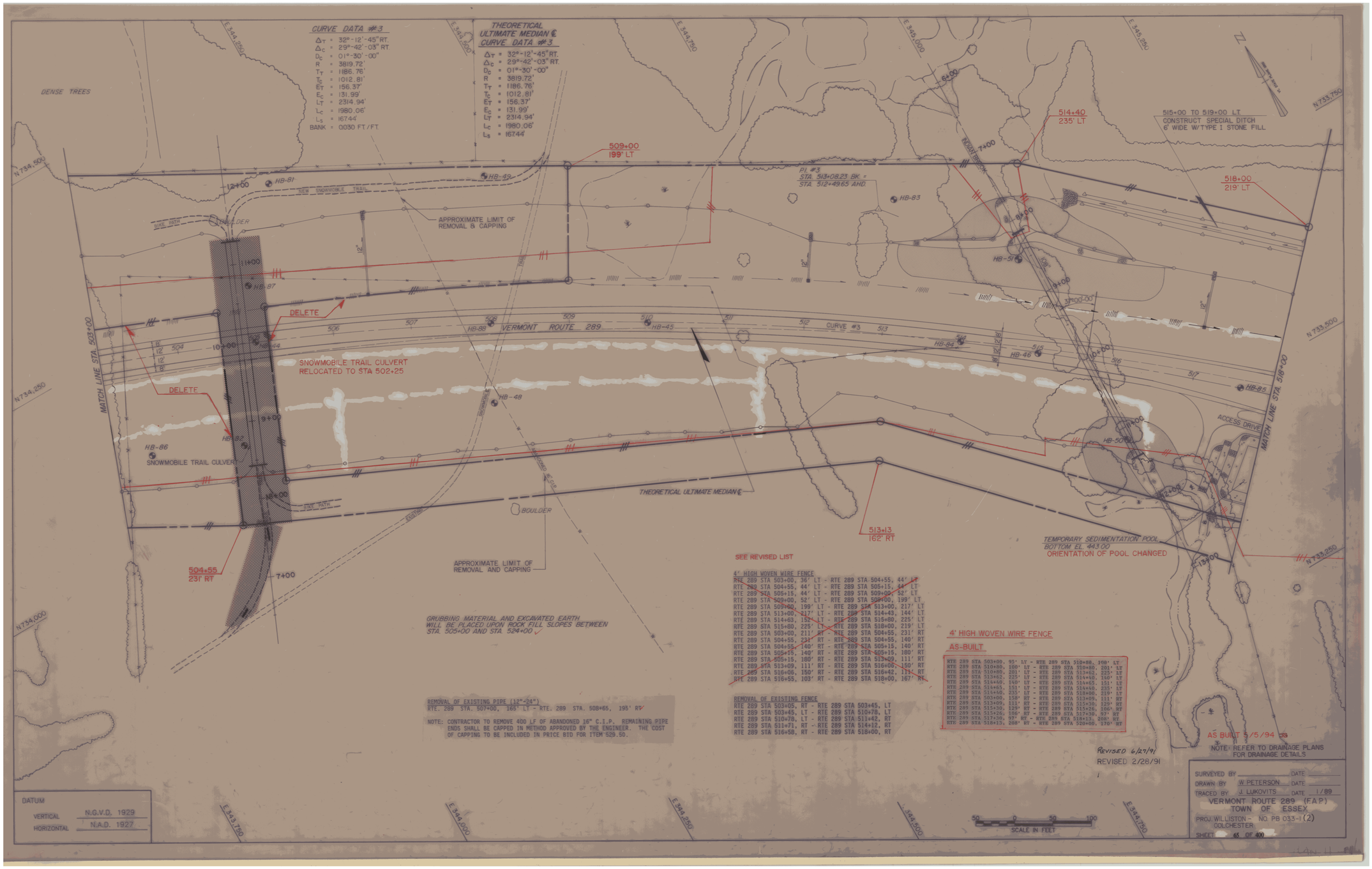
REVISED SNOWMOBILE TRAIL CULVERT
6-27-91

DRAINAGE PLAN

SURVEYED BY V.S. INC./C.H.A. DATE 1988-90
DRAWN BY T. KARIS DATE 2/89
TRACED BY V. HECHT DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 64 OF 400

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

RTE 289 10


CURVE DATA #3
ΔT = 32°-12'-45" RT.
ΔC = 29°-42'-03" RT.
DC = 01°-30'-00"
R = 3819.72'
TT = 1186.76'
TC = 1012.81'
ET = 156.37'
EC = 131.99'
LT = 2314.94'
LC = 1980.06'
LS = 16744'
BANK = 0030 FT/FT
THEORETICAL ULTIMATE MEDIAN ℄ CURVE DATA #3
ΔT = 32°-12'-45" RT.
ΔC = 29°-42'-03" RT.
DC = 01°-30'-00"
R = 3819.72'
TT = 1186.76'
TC = 1012.81'
ET = 156.37'
EC = 131.99'
LT = 2314.94'
LC = 1980.06'
LS = 16744'
DENSE TREES
E 344,250
E 344,500
E 344,750
E 345,000
E 345,250
N 734,500
N 734,250
N 734,000
N 733,750
N 733,500
N 733,250
509+00
199' LT
514+40
235' LT
515+00 TO 519+00 LT
CONSTRUCT SPECIAL DITCH
6' WIDE W/TYPE I STONE FILL
518+00
219' LT
PI #3
STA 513+08.23 BK =
STA 512+49.65 AHD
12+00
HB-81
HB-49
NEW SNOWMOBILE TRAIL
BIKE PATH
SHOULDER
APPROXIMATE LIMIT OF REMOVAL & CAPPING
HB-83
HB-51
11+00
HB-87
DELETE
MATCH LINE STA. 503+00
HB-88
VERMONT ROUTE 289
HB-45
CURVE #3
HB-84
HB-46
HB-85
10+00
SNOWMOBILE TRAIL CULVERT RELOCATED TO STA 502+25
DELETE
HB-48
9+00
HB-86
SNOWMOBILE TRAIL CULVERT
8+00
LINE PATH
504+55
231' RT
7+00
BOULDER
THEORETICAL ULTIMATE MEDIAN ℄
APPROXIMATE LIMIT OF REMOVAL AND CAPPING
513+13
162' RT
GRUBBING MATERIAL AND EXCAVATED EARTH WILL BE PLACED UPON ROCK FILL SLOPES BETWEEN STA. 505+00 AND STA. 524+00
SEE REVISED LIST
4' HIGH WOVEN WIRE FENCE
RTE 289 STA 503+00, 36' LT - RTE 289 STA 504+55, 44' LT
RTE 289 STA 504+55, 44' LT - RTE 289 STA 505+15, 44' LT
RTE 289 STA 505+15, 44' LT - RTE 289 STA 509+00, 52' LT
RTE 289 STA 509+00, 52' LT - RTE 289 STA 509+00, 199' LT
RTE 289 STA 509+00, 199' LT - RTE 289 STA 513+00, 217' LT
RTE 289 STA 513+00, 217' LT - RTE 289 STA 514+43, 144' LT
RTE 289 STA 514+63, 152' LT - RTE 289 STA 515+80, 225' LT
RTE 289 STA 515+80, 225' LT - RTE 289 STA 518+00, 219' LT
RTE 289 STA 503+00, 211' RT - RTE 289 STA 504+55, 231' RT
RTE 289 STA 504+55, 231' RT - RTE 289 STA 504+55, 140' RT
RTE 289 STA 504+55, 140' RT - RTE 289 STA 505+15, 140' RT
RTE 289 STA 505+15, 140' RT - RTE 289 STA 505+15, 180' RT
RTE 289 STA 505+15, 180' RT - RTE 289 STA 513+09, 111' RT
RTE 289 STA 513+09, 111' RT - RTE 289 STA 516+06, 150' RT
RTE 289 STA 516+06, 150' RT - RTE 289 STA 516+42, 171' RT
RTE 289 STA 516+55, 103' RT - RTE 289 STA 518+00, 167' RT
REMOVAL OF EXISTING FENCE
RTE 289 STA 503+05, RT - RTE 289 STA 503+45, LT
RTE 289 STA 503+45, LT - RTE 289 STA 510+78, LT
RTE 289 STA 510+78, LT - RTE 289 STA 511+42, RT
RTE 289 STA 511+71, RT - RTE 289 STA 514+12, RT
RTE 289 STA 516+58, RT - RTE 289 STA 518+00, RT
4' HIGH WOVEN WIRE FENCE
AS-BUILT
RTE 289 STA 503+00, 95' LT - RTE 289 STA 510+88, 108' LT
RTE 289 STA 510+88, 108' LT - RTE 289 STA 510+88, 201' LT
RTE 289 STA 510+88, 201' LT - RTE 289 STA 513+62, 225' LT
RTE 289 STA 513+62, 225' LT - RTE 289 STA 514+40, 140' LT
RTE 289 STA 514+60, 140' LT - RTE 289 STA 514+65, 151' LT
RTE 289 STA 514+65, 151' LT - RTE 289 STA 514+40, 235' LT
RTE 289 STA 514+40, 235' LT - RTE 289 STA 518+00, 219' LT
RTE 289 STA 503+00, 158' RT - RTE 289 STA 513+09, 111' RT
RTE 289 STA 513+09, 111' RT - RTE 289 STA 515+30, 129' RT
RTE 289 STA 515+30, 129' RT - RTE 289 STA 515+26, 106' RT
RTE 289 STA 515+26, 106' RT - RTE 289 STA 517+30, 97' RT
RTE 289 STA 517+30, 97' RT - RTE 289 STA 518+13, 208' RT
RTE 289 STA 518+13, 208' RT - RTE 289 STA 520+00, 176' RT
REMOVAL OF EXISTING PIPE (12"-24")
RTE. 289 STA. 507+00, 165' LT - RTE. 289 STA. 508+65, 195' RT
NOTE: CONTRACTOR TO REMOVE 400 LF OF ABANDONED 16" C.I.P. REMAINING PIPE ENDS SHALL BE CAPPED IN METHOD APPROVED BY THE ENGINEER. THE COST OF CAPPING TO BE INCLUDED IN PRICE BID FOR ITEM 529.50.
TEMPORARY SEDIMENTATION POOL
BOTTOM EL. 443.00
ORIENTATION OF POOL CHANGED
ACCESS DRIVE
MATCH LINE STA. 518+00
AS BUILT 5/5/94
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS
REVISED 6/27/91
REVISED 2/28/91
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927
50 0 50 100
SCALE IN FEET
SURVEYED BY ____ DATE ____
DRAWN BY W PETERSON DATE ____
TRACED BY J. LUKOVITS DATE 1/89
VERMONT ROUTE 289 (FAP)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 65 OF 400

506+50 61' LT.
NEW 4'x4' DI. W/C.I. GRATE
NEW 12"x114' PCC.S.P. .064 ~~OR~~
~~C.A.A.P. .060~~ W/STONE FILL
TYPE I OUTLET PAD (4'x2'x1')

503+00-512+00 LT.
SPECIAL DITCH W/
EROSION MATTING &
SEEDING

512+00 61' LT.
NEW 4'x4' DI. W/C.I. GRATE
NEW 12"x52' PCC.S.P. .064 ~~OR~~
~~C.A.A.P. .060~~ W/STONE FILL
TYPE I OUTLET PAD (4'x2'x1')

512+00-520+00 LT.
SPECIAL DITCH W/
EROSION MATTING &
SEEDING

517+00 67' LT.
NEW 4'x4' DI. W/C.I. GRATE
NEW 12"x58' PCC.S.P. .064 ~~OR~~
~~C.A.A.P. .060~~ W/STONE FILL
TYPE I OUTLET PAD (4'x2'x1')

515+00 TO 519+00 LT.
CONSTRUCT SPECIAL DITCH
6' WIDE W/TYPE I STONE FILL
(NOT INCLUDED IN ESTIMATE)

504+98 STRUCTURE NO. 9
INDIAN BROOK CULVERT
REFER TO SHEETS BR 801 &
BR 802 9'-0" DIA. CORR GALV.
METAL PLATE PIPE 384' LENGTH

MATCH LINE STA. 503+00

VERMONT ROUTE 289

505

510

515

MATCH LINE STA. 518+00

510+50 LT. - RT.
ADDED 24" x 356' P.C.C.S.P.

510+75 LT. - RT.
ADDED 6" x 356' CARRIER PIPE
ADDED 6" x 356' CARRIER PIPE

515+63 STRUCTURE NO. 8
INDIAN BROOK CULVERT
REFER TO SHEETS BR 801 &
BR 802 9'-0" DIA. CORR GALV.
METAL PLATE PIPE 325' LENGTH

LEGEND

- DIRECTION OF FLOW
- SPECIAL DITCH WITH EROSION MATTING OR SOD LINING
- STONE LINING
- SILT FENCE
- SECURITY FENCE
- CULVERT
- SPECIAL DITCH WITH STONE FILL
- UNDERDRAIN/PERFORATED PIPE
- FLUSHING BASIN
- TEE CONNECTION
- DRAINAGE STRUCTURES
- CAPPED OR COVERED DRAINAGE STRUCTURES

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

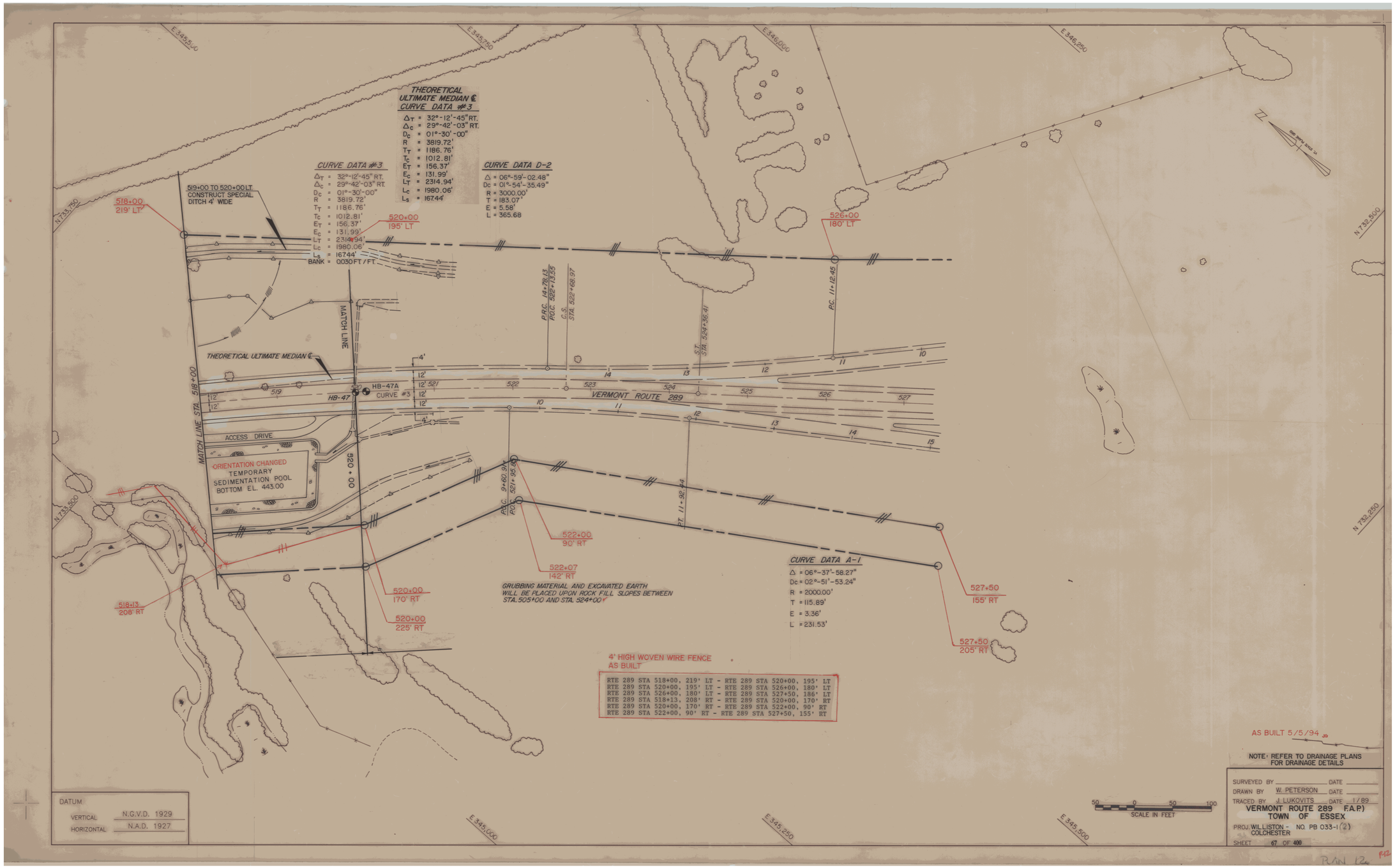
Revised 6/27/91
REVISED 2/28/91

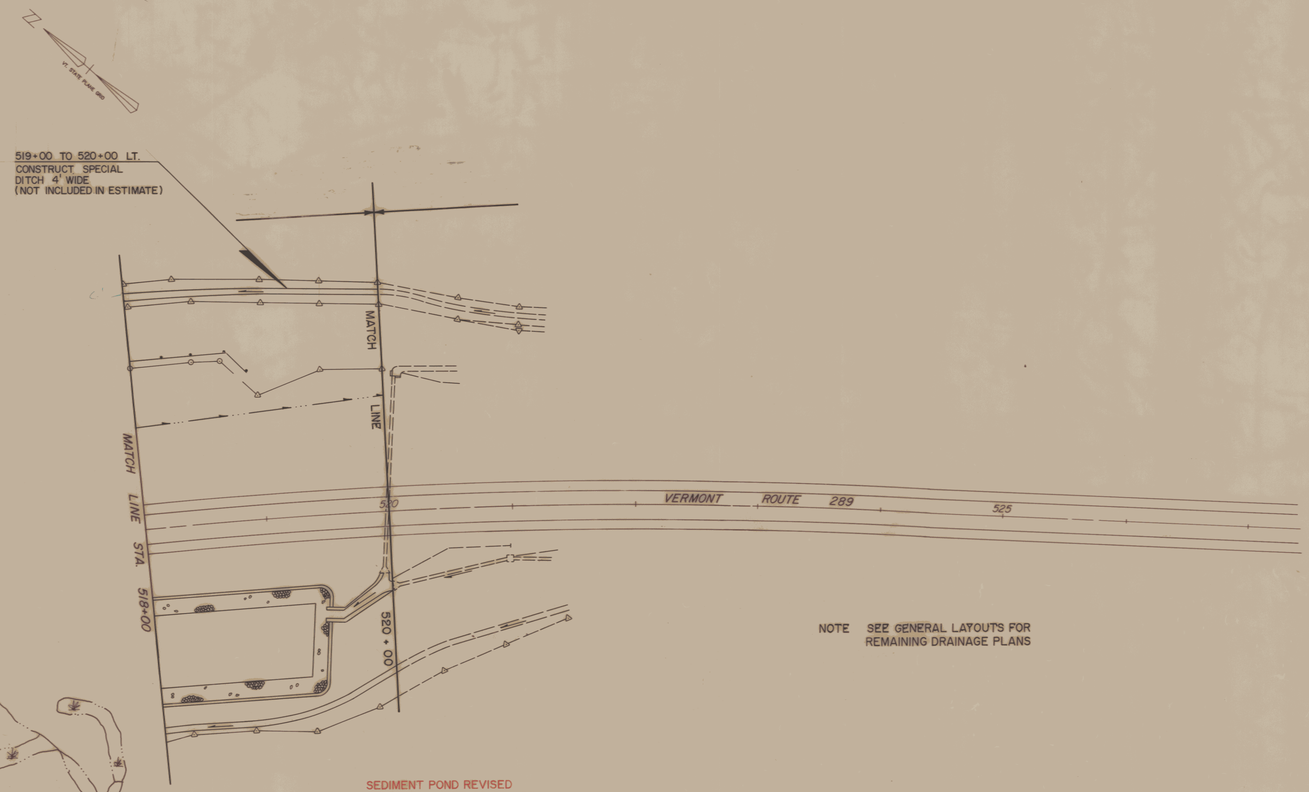
50 0 50 100
SCALE IN FEET

AS BUILT 3/12/94
9/14/94 SC

DRAINAGE PLAN

SURVEYED BY VS, INC./CHA. DATE 1988-90
DRAWN BY T KARIS DATE 2/89
TRACED BY V HECHT DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON- NO PB 033-F (2)
COLCHESTER
SHEET 56 OF 400


THEORETICAL ULTIMATE MEDIAN ℄
CURVE DATA #3
ΔT = 32°-12'-45" RT.
Δc = 29°-42'-03" RT.
Dc = 01°-30'-00"
R = 3819.72'
TT = 1186.76'
Tc = 1012.81'
ET = 156.37'
Ec = 131.99'
LT = 2314.94'
Lc = 1980.06'
Ls = 167.44'
CURVE DATA #3
ΔT = 32°-12'-45" RT.
Δc = 29°-42'-03" RT.
Dc = 01°-30'-00"
R = 3819.72'
TT = 1186.76'
Tc = 1012.81'
ET = 156.37'
Ec = 131.99'
LT = 2314.94'
Lc = 1980.06'
Ls = 167.44'
BANK = 0.030 FT / FT.
CURVE DATA D-2
Δ = 06°-59'-02.48"
Dc = 01°-54'-35.49"
R = 3000.00'
T = 183.07'
E = 5.58'
L = 365.68
CURVE DATA A-1
Δ = 06°-37'-58.27"
Dc = 02°-51'-53.24"
R = 2000.00'
T = 115.89'
E = 3.36'
L = 231.53'
519+00 TO 520+00 LT. CONSTRUCT SPECIAL DITCH 4' WIDE
518+00 219' LT
520+00 195' LT
526+00 180' LT
518+13 208' RT
520+00 170' RT
520+00 225' RT
522+00 90' RT
522+07 142' RT
527+50 155' RT
527+50 205' RT
MATCH LINE
MATCH LINE STA. 518+00
520+00
THEORETICAL ULTIMATE MEDIAN ℄
HB-47
HB-47A
CURVE #3
VERMONT ROUTE 289
ACCESS DRIVE
ORIENTATION CHANGED
TEMPORARY SEDIMENTATION POOL BOTTOM EL. 443.00
P.R.C. 14+78.13
P.O.C. 522+13.55
C.S. STA. 522+68.97
S.T. STA. 524+36.41
P.C. 11+12.45
P.O.C. 9+60.91
P.O.C. 521+95.80
P.T. 11+92.44
GRUBBING MATERIAL AND EXCAVATED EARTH WILL BE PLACED UPON ROCK FILL SLOPES BETWEEN STA. 505+00 AND STA. 524+00
4' HIGH WOVEN WIRE FENCE AS BUILT
RTE 289 STA 518+00, 219' LT - RTE 289 STA 520+00, 195' LT
RTE 289 STA 520+00, 195' LT - RTE 289 STA 526+00, 180' LT
RTE 289 STA 526+00, 180' LT - RTE 289 STA 527+50, 186' LT
RTE 289 STA 518+13, 208' RT - RTE 289 STA 520+00, 170' RT
RTE 289 STA 520+00, 170' RT - RTE 289 STA 522+00, 90' RT
RTE 289 STA 522+00, 90' RT - RTE 289 STA 527+50, 155' RT
AS BUILT 5/5/94
NOTE: REFER TO DRAINAGE PLANS FOR DRAINAGE DETAILS
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927
SCALE IN FEET
SURVEYED BY DATE
DRAWN BY W. PETERSON DATE
TRACED BY J. LUKOVITS DATE 1/89
VERMONT ROUTE 289 F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 67 OF 400



NOTE SEE GENERAL LAYOUTS FOR REMAINING DRAINAGE PLANS

SEDIMENT POND REVISED
REFER TO SHEET 69 OF 400.

DATUM

VERTICAL	N.G.V.D. 1929
HORIZONTAL	N.A.D. 1927

LEGEND

- DIRECTION OF FLOW
- SPECIAL DITCH WITH EROSION MATTING OR SOD LINING
- STONE LINING
- SILT FENCE
- SECURITY FENCE
- CULVERT
- SPECIAL DITCH WITH STONE FILL
- UNDERDRAIN/PERFORATED PIPE
- FLUSHING BASIN
- TEE CONNECTION
- DRAINAGE STRUCTURES
- CAPPED OR COVERED DRAINAGE STRUCTURES

50 0 50 100
SCALE IN FEET

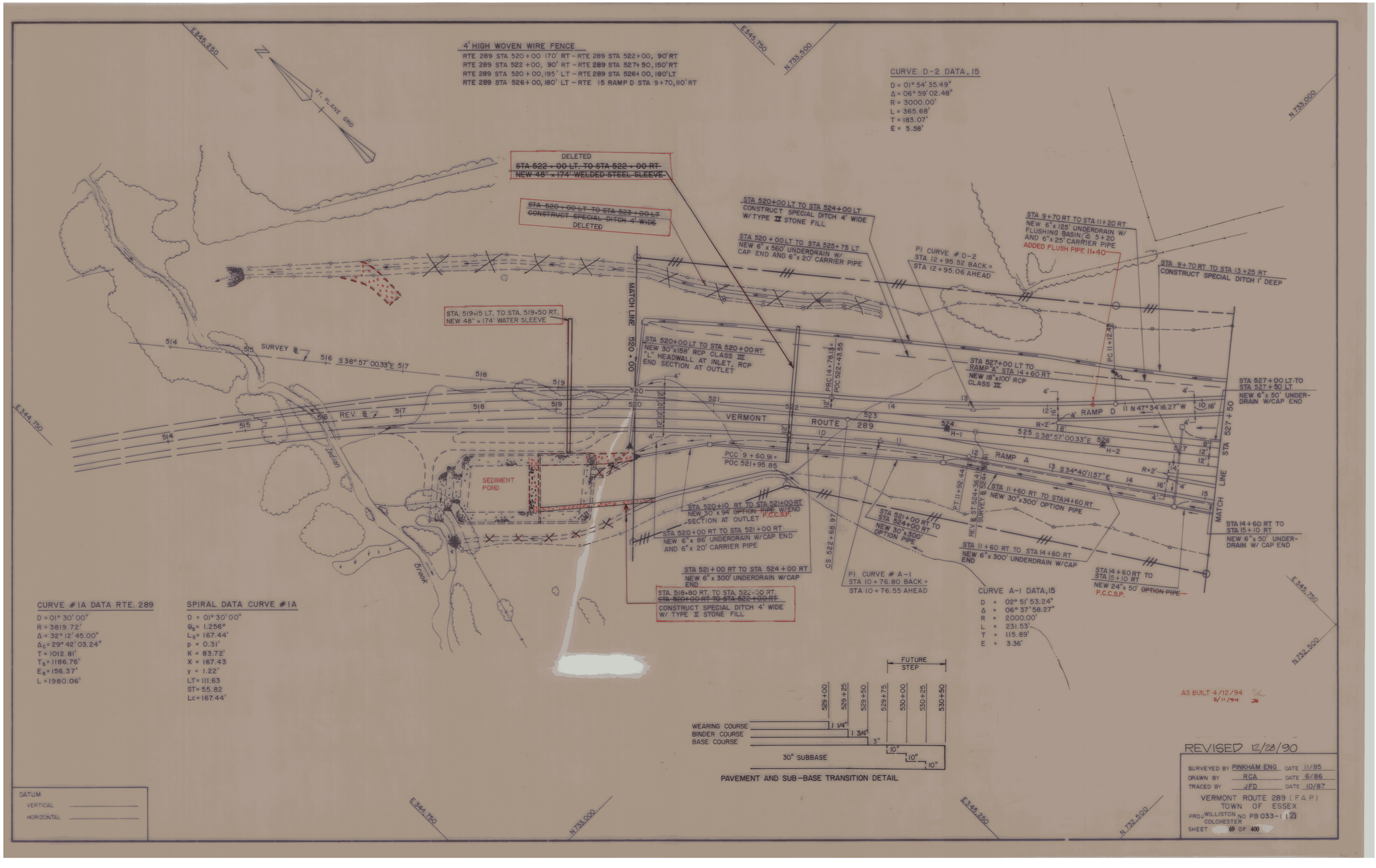
AS BUILT 5/4/94 JG

DRAINAGE PLAN

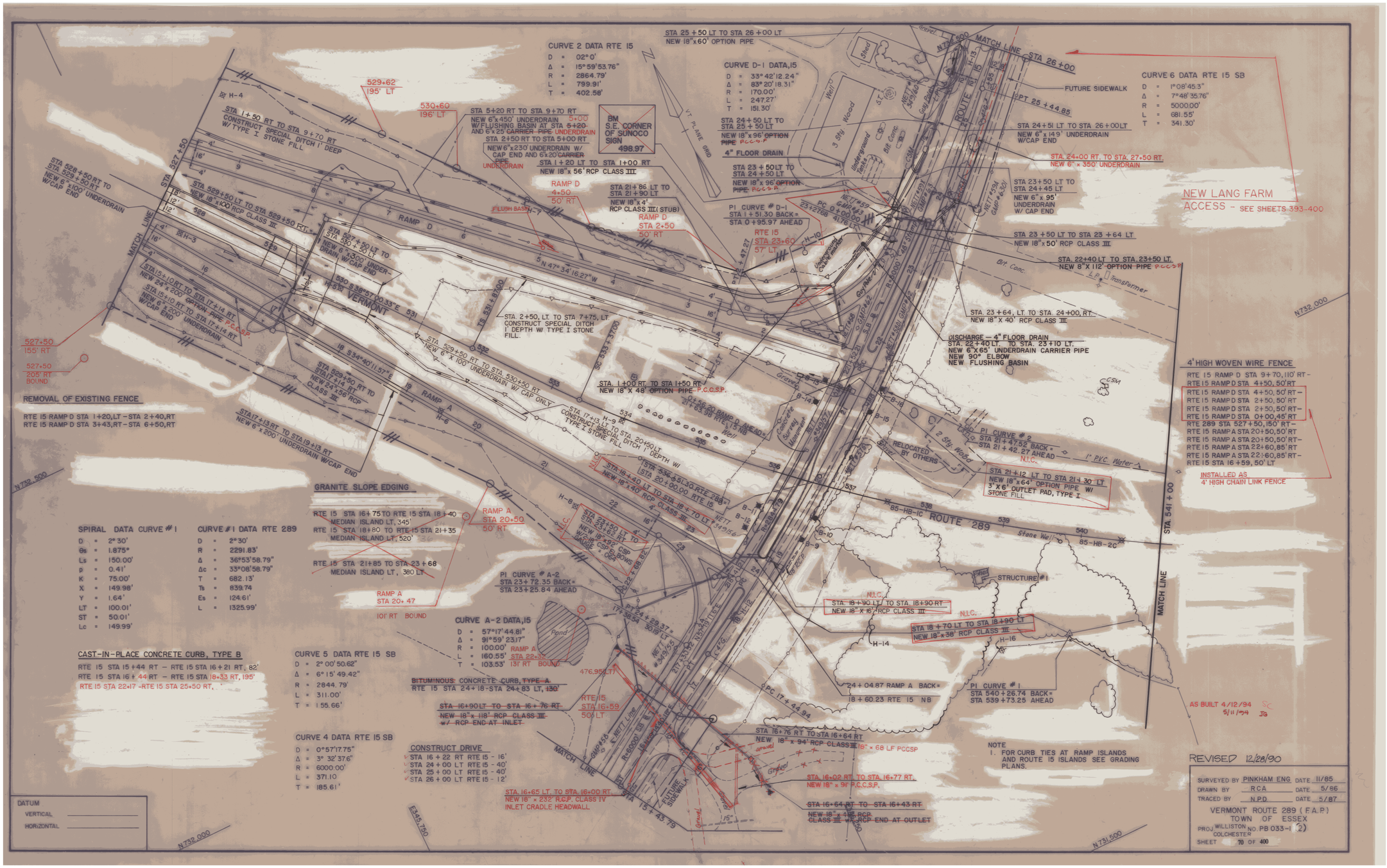
SURVEYED BY	VS, INC. / C.H.A.	DATE	1988-90
DRAWN BY	T. KARIS	DATE	2/89
TRACED BY	V. HECHT	DATE	2/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)
SHEET 68 OF 400

19 RTE. 289 12



4' HIGH WOVEN WIRE FENCE
RTE 289 STA 520+00 170' RT - RTE 289 STA 522+00, 90' RT
RTE 289 STA 522+00, 90' RT - RTE 289 STA 527+50, 150' RT
RTE 289 STA 520+00, 195' LT - RTE 289 STA 526+00, 180' LT
RTE 289 STA 526+00, 180' LT - RTE 15 RAMP D STA 9+70, 110' RT
CURVE D-2 DATA, 15
D = 01° 54' 35.49"
Δ = 06° 59' 02.48"
R = 3000.00'
L = 365.68'
T = 183.07'
E = 5.58'
VT. PLANE GRID
DELETED
STA 522+00 LT. TO STA 522+00 RT
NEW 48" x 174' WELDED STEEL SLEEVE
STA 520+00 LT TO STA 523+00 LT
CONSTRUCT SPECIAL DITCH 4' WIDE
DELETED
STA 520+00 LT TO STA 524+00 LT
CONSTRUCT SPECIAL DITCH 4' WIDE
W/ TYPE II STONE FILL
STA 520+00 LT TO STA 525+75 LT
NEW 6" x 560' UNDERDRAIN W/
CAP END AND 6" x 20' CARRIER PIPE
PI CURVE # D-2
STA 12+95.52 BACK =
STA 12+95.06 AHEAD
STA 9+70 RT TO STA 11+20 RT
NEW 6" x 125' UNDERDRAIN W/
FLUSHING BASIN @ 5+20
AND 6" x 25' CARRIER PIPE
ADDED FLUSH PIPE 11+40
STA 9+70 RT TO STA 13+25 RT
CONSTRUCT SPECIAL DITCH 1' DEEP
STA. 519+15 LT. TO STA. 519+50 RT.
NEW 48" x 174' WATER SLEEVE
MATCH LINE 520+00
STA 520+00 LT TO STA 520+00 RT
NEW 30" x 158' RCP CLASS III
"L" HEADWALL AT INLET, RCP
END SECTION AT OUTLET
PRC 14+78.13 =
POC 522+43.55
STA 527+00 LT TO
RAMP "A" STA 14+60 RT
NEW 18" x 100' RCP
CLASS III
PC 11+12.45
STA 527+00 LT TO
STA 527+50 LT
NEW 6" x 50' UNDER-
DRAIN W/CAP END
SURVEY ℄
S 38° 57' 00.33" E
REV. ℄
VERMONT ROUTE 289
RAMP D
N 47° 34' 16.27" W
RAMP A
S 34° 40' 11.57" E
PCC 9+60.91 =
POC 521+95.85
SEDIMENT POND
Indian Brook
STA 520+10 RT TO STA 521+00 RT
NEW 30" x 94' OPTION PIPE W/END
SECTION AT OUTLET P.C.C.S.P.
STA 520+00 RT TO STA 521+00 RT
NEW 6" x 86' UNDERDRAIN W/CAP END
AND 6" x 20' CARRIER PIPE
STA 521+00 RT TO STA 524+00 RT
NEW 6" x 300' UNDERDRAIN W/CAP
END
STA. 518+80 RT. TO STA. 522+00 RT.
STA 520+00 RT TO STA 522+00 RT
CONSTRUCT SPECIAL DITCH 4' WIDE
W/ TYPE II STONE FILL
CS 522+68.97
PI CURVE # A-1
STA 10+76.80 BACK =
STA 10+76.55 AHEAD
STA 521+00 RT TO
STA 524+00 RT
NEW 30" x 300'
OPTION PIPE
PT 11+92.44
REV. ℄ ST 524+36.41
SURVEY ℄ 524+36.41
STA 11+60 RT TO STA 14+60 RT
NEW 30" x 300' OPTION PIPE
STA 11+60 RT TO STA 14+60 RT
NEW 6" x 300' UNDERDRAIN W/CAP
END
STA 14+60 RT TO
STA 15+10 RT
NEW 6" x 50' UNDER-
DRAIN W/ CAP END
STA 14+60 RT TO
STA 15+10 RT
NEW 24" x 50' OPTION PIPE
P.C.C.S.P.
MATCH LINE STA 527+50
CURVE A-1 DATA, 15
D = 02° 51' 53.24"
Δ = 06° 37' 58.27"
R = 2000.00'
L = 231.53'
T = 115.89'
E = 3.36'
CURVE #1A DATA RTE. 289
D = 01° 30' 00"
R = 3819.72'
Δ = 32° 12' 45.00"
Δc = 29° 42' 03.24"
T = 1012.81'
Ts = 1186.76'
Es = 156.37'
L = 1980.06'
SPIRAL DATA CURVE #1A
D = 01° 30' 00"
θs = 1.256°
Ls = 167.44'
p = 0.31'
K = 83.72'
X = 167.43
y = 1.22'
LT = 111.63
ST = 55.82
Lc = 167.44'
FUTURE STEP
529+00
529+25
529+50
529+75
530+00
530+25
530+50
WEARING COURSE
BINDER COURSE
BASE COURSE
1 1/4"
1 3/4"
3"
10"
10"
10"
30" SUBBASE
PAVEMENT AND SUB-BASE TRANSITION DETAIL
AS BUILT 4/12/94
5/11/94
REVISED 12/28/90
SURVEYED BY PINKHAM ENG DATE 11/85
DRAWN BY RCA DATE 6/86
TRACED BY JFD DATE 10/87
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON COLCHESTER NO PB 033-1 (2)
SHEET 69 OF 400
DATUM
VERTICAL
HORIZONTAL


CURVE 2 DATA RTE 15
D = 02°0'
Δ = 15°59'53.76"
R = 2864.79'
L = 799.91'
T = 402.58'
STA 25+50 LT TO STA 26+00 LT
NEW 18"x60' OPTION PIPE
CURVE D-1 DATA,15
D = 33°42'12.24"
Δ = 83°20'18.31"
R = 170.00'
L = 247.27'
T = 151.30'
CURVE 6 DATA RTE 15 SB
D = 1°08'45.3"
Δ = 7°48'35.76"
R = 5000.00'
L = 681.55'
T = 341.30'
MATCH LINE STA 26+00
FUTURE SIDEWALK
PT 25+44.85
ROUTE 15
STA 24+51 LT TO STA 26+00 LT
NEW 6"x149' UNDERDRAIN W/CAP END
STA. 24+00 RT. TO STA. 27+50 RT.
NEW 6" x 350' UNDERDRAIN
NEW LANG FARM ACCESS - SEE SHEETS 393-400
STA 23+50 LT TO STA 24+45 LT
NEW 6" x 95' UNDERDRAIN W/ CAP END
STA 23+50 LT TO STA 23+64 LT
NEW 18"x50' RCP CLASS III
STA. 22+40 LT TO STA. 23+50 LT.
NEW 8"X 112' OPTION PIPE P.C.C.S.P.
STA. 23+64, LT. TO STA. 24+00, RT.
NEW 18" X 40' RCP CLASS III
DISCHARGE - 4" FLOOR DRAIN
STA. 22+40 LT. TO STA. 23+10 LT.
NEW 6"X 65' UNDERDRAIN CARRIER PIPE
NEW 90° ELBOW
NEW FLUSHING BASIN
4' HIGH WOVEN WIRE FENCE
RTE 15 RAMP D STA 9+70, 110' RT -
RTE 15 RAMP D STA 4+50, 50' RT
RTE 15 RAMP D STA 4+50, 50' RT -
RTE 15 RAMP D STA 2+50, 50' RT
RTE 15 RAMP D STA 2+50, 50' RT -
RTE 15 RAMP D STA 0+00, 45' RT
RTE 289 STA 527+50, 150' RT -
RTE 15 RAMP A STA 20+50, 50' RT
RTE 15 RAMP A STA 20+50, 50' RT -
RTE 15 RAMP A STA 22+60, 85' RT
RTE 15 RAMP A STA 22+60, 85' RT -
RTE 15 STA 16+59, 50' LT
INSTALLED AS 4' HIGH CHAIN LINK FENCE
STA 1+50 RT TO STA 9+70 RT
CONSTRUCT SPECIAL DITCH 1' DEEP W/ TYPE I STONE FILL
STA 528+50 RT TO STA 529+50 RT
NEW 6"x100' UNDERDRAIN W/CAP END
STA 527+50
STA 529+50 LT TO STA 529+50 RT
NEW 18"x100' RCP CLASS III
STA 527+50 LT TO STA 530+50 RT
NEW 6"x300' UNDERDRAIN W/ CAP END
VERMONT
STA 151+10 RT TO STA 17+14 RT
NEW 24"x200' OPTION PIPE P.C.C.S.P.
STA 151+10 RT TO STA 17+14 RT
NEW 6"x200' UNDERDRAIN W/CAP END
527+50
155' RT
527+50
205' RT
BOUND
REMOVAL OF EXISTING FENCE
RTE 15 RAMP D STA 1+20,LT - STA 2+40,RT
RTE 15 RAMP D STA 3+43,RT - STA 6+50,RT
STA 529+50 RT TO STA 17+14 RT
NEW 24"x136' RCP CLASS III
STA 17+13 RT TO STA 19+13 RT
NEW 6"x200' UNDERDRAIN W/CAP END
STA 2+50, LT TO STA 7+75, LT.
CONSTRUCT SPECIAL DITCH 1' DEPTH W/ TYPE I STONE FILL.
STA. 1+00 RT. TO STA 1+50 RT.
NEW 18" X 48' OPTION PIPE P.C.C.S.P.
STA. 529+50 RT. TO STA. 530+50 RT.
NEW 6" X 100' UNDERDRAIN W/ CAP ONLY
STA 17+13 LT TO STA 20+50 LT
CONSTRUCT SPECIAL DITCH 1' DEPTH W/ TYPE I STONE FILL
STA 536+51.30 RTE 288
STA 20+00.00 RTE 15
STA 16+40 LT TO STA 18+70 LT
NEW 18" x 40' RCP CLASS III
STA 23+50 LT TO STA 23+63 RT
NEW 18"x92' W/2 CSP 90° BENDS
STA 22+64.82
GRANITE SLOPE EDGING
RTE 15 STA 16+75 TO RTE 15 STA 18+40
MEDIAN ISLAND LT, 345'
RTE 15 STA 18+80 TO RTE 15 STA 21+35
MEDIAN ISLAND LT, 520'
RTE 15 STA 21+85 TO STA 23+68
MEDIAN ISLAND LT, 380 LT
RAMP A
STA 20+50
50' RT
RAMP A
STA 20+ 47
101' RT BOUND
SPIRAL DATA CURVE #1
D = 2°30'
θs = 1.875°
Ls = 150.00'
p = 0.41'
K = 75.00'
X = 149.98'
Y = 1.64'
LT = 100.01'
ST = 50.01'
Lc = 149.99'
CURVE #1 DATA RTE 289
D = 2°30'
R = 2291.83'
Δ = 36°53'58.79"
Δc = 33°08'58.79"
T = 682.13'
Ts = 839.74
Es = 124.61'
L = 1325.99'
CAST-IN-PLACE CONCRETE CURB, TYPE B
RTE 15 STA 15+44 RT - RTE 15 STA 16+21 RT, 82'
RTE 15 STA 16+44 RT - RTE 15 STA 18+33 RT, 195'
RTE 15 STA 22+17 -RTE 15 STA 25+50 RT,
CURVE 5 DATA RTE 15 SB
D = 2°00'50.62"
Δ = 6°15'49.42"
R = 2844.79'
L = 311.00'
T = 155.66'
CURVE 4 DATA RTE 15 SB
D = 0°57'17.75"
Δ = 3°32'37.6"
R = 6000.00'
L = 371.10
T = 185.61'
DATUM
VERTICAL
HORIZONTAL
BM S.E. CORNER OF SUNOCO SIGN 498.97
STA 5+20 RT TO STA 9+70 RT
NEW 6"x450' UNDERDRAIN W/FLUSHING BASIN AT STA 5+20 AND 6"x25' CARRIER PIPE UNDERDRAIN
STA 2+50 RT TO STA 5+00 RT
NEW 6"x230' UNDERDRAIN W/ CAP END AND 6"x20' CARRIER PIPE UNDERDRAIN
STA 1+20 LT TO STA 1+00 RT
NEW 18"x 56' RCP CLASS III
RAMP D
4+50
50' RT
STA 21+86 LT TO STA 21+90 LT
NEW 18"x 4' RCP CLASS III (STUB)
RAMP D
STA 2+50
50' RT
PI CURVE # D-1
STA 1+51.30 BACK =
STA 0+95.97 AHEAD
RTE 15
STA 23+60
57' LT
STA 24+50 LT TO STA 25+50 LT
NEW 18"x 96' OPTION PIPE P.C.C.S.P.
4" FLOOR DRAIN
STA 23+50 LT TO STA 24+50 LT
NEW 18"x 96' OPTION PIPE P.C.C.S.P.
PI CURVE # A-2
STA 23+72.35 BACK =
STA 23+25.84 AHEAD
CURVE A-2 DATA,15
D = 57°17'44.81"
Δ = 91°59'23.17"
R = 100.00'
L = 160.55'
T = 103.53'
RAMP A
STA 22+32
131' RT BOUND
BITUMINOUS CONCRETE CURB, TYPE A
RTE 15 STA 24+18-STA 24+83 LT, 130'
STA 16+90 LT TO STA 16+76 RT
NEW 18" x 118' RCP CLASS III
w/ RCP END AT INLET
CONSTRUCT DRIVE
STA 16+22 RT RTE 15 - 16'
STA 24+00 LT RTE 15 - 40'
STA 25+00 LT RTE 15 - 40'
STA 26+00 LT RTE 15 - 12'
STA. 16+65 LT. TO STA. 16+00 RT.
NEW 18" x 232' R.C.P. CLASS IV
INLET CRADLE HEADWALL.
STA 16+76 RT TO STA 16+64 RT
NEW 18" x 94' RCP CLASS III 18" x 68 LF PCCSP
STA 16+02 RT. TO STA 16+77 RT.
NEW 18" x 91' P.C.C.S.P.
STA 16+64 RT TO STA 16+43 RT
NEW 18" x 15' RCP CLASS III w/ RCP END AT OUTLET
PI CURVE # 2
STA 21+47.52 BACK =
STA 21+42.27 AHEAD
N.I.C.
STA 21+12 LT TO STA 21+30 LT
NEW 18"x64' OPTION PIPE W/ 3'X6' OUTLET PAD, TYPE I STONE FILL
RELOCATED BY OTHERS
STRUCTURE #1
N.I.C.
STA. 18+90 LT. TO STA. 18+90 RT.
NEW 18" X 16' RCP CLASS III
N.I.C.
STA 18+70 LT TO STA 18+90 LT
NEW 18"x 38' RCP CLASS III
24+04.87 RAMP A BACK =
18+60.23 RTE 15 NB
PI CURVE # 1
STA 540+26.74 BACK =
STA 539+73.25 AHEAD
STA 541+00
MATCH LINE
AS BUILT 4/12/94
5/11/94
NOTE
1. FOR CURB TIES AT RAMP ISLANDS AND ROUTE 15 ISLANDS SEE GRADING PLANS.
REVISED 12/28/90
SURVEYED BY PINKHAM ENG DATE 11/85
DRAWN BY RCA DATE 5/86
TRACED BY N.P.D. DATE 5/87
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON COLCHESTER NO. PB 033-1 (2)
SHEET 70 OF 400
N732,500
N731,500
E345,750

N731,250 E345,000 N731,750 E345,500

VT. PLANE GRID N

CONSTRUCT DRIVE
STA 13+80 LT – 24'

DELETED
~~STA 10+50 LT TO STA 14+50 LT~~
~~NEW 6"x 400' UNDERDRAIN W/CAP~~

STA 10+50 LT TO STA 10+50 RT
NEW 18"x 76' RCP CLASS III
W/ OUTLET RCP END SECTION

PI CURVE #1
STA 12+77.24 BACK=
STA 12+73.25 AHEAD

Brook

STA. 6+20
BEGIN APPROACH

2 Sty. Wood
2 Sty. Brick
Shed
Shed
Shed
Shed
2 Sty. Stucco
Well
Garage
Bit Conc
Silo
Foundation
Guy Wires
NETT=53
GMP=57
NETT Line
Ledge
Ledge
Gravel
Gravel
Indian
Barn
Silo
Tank
Tank
Tank
2 Sty. Barn
2 Sty. Barn
Wood Shed
2 Sty. Wood Barn
Shed
2 Sty. Brick House
1 Sty. W.F. House
1 Sty. Wood
Gravel
Well
FUTURE SIDEWALK
MATCH LINE

7'x7' Conc. Box Culvert
48"M.
NETT=49
GMP=53
NETT=349/50
GMP=54
NETT=349/51
GMP=55
MB
N39°53'23.71"E
ROUTE 15
E'G
GG
MB
PCC
H-II
R=6000'
SS II
SC
ST
CS
PCC STA 13+59.42 98'Rt.=
STA 13+63.42 RTE ℄
CS 13+93.79
STA 15+43.79
E 346,000

BEGIN CURB AT D.I.
RELOCATE MAILBOX
Shed

STA. 9+70 RT. TO STA. 10+50 RT.
NEW 18" x 80' P.C.C.S.P.

STA 10+50 RT. TO STA. 11+60 RT.
NEW 18" x 104' P.C.C.S.P.

STA 11+60 RT TO
STA 13+00 RT.
NEW 18"x136' RCP
CLASS III

DELETED
~~STA 6+16 RT TO~~
~~STA 8+10 RT~~
~~CONSTRUCT SPECIAL DITCH~~
~~6' WIDE TO 4' WIDE W/~~
~~TYPE I STONE FILL~~

DELETED
~~STA 11+30 RT TO STA 11+60 RT~~
~~NEW 18"x 34' OPTION PIPE W/~~
~~END SECTION~~

DELETED
~~STA 11+60 RT TO STA 15+00 RT~~
NEW 6"x 336' UNDERDRAIN W/CAP END

~~STA 8+10 RT TO STA 8+36 RT~~
~~NEW 18"x 26' OPTION PIPE~~
~~STA. 7+90 RT. TO STA. 8+50 RT.~~
~~NEW 18" x 60' P.C.C.S.P.~~

STA 8+36 RT TO STA 11+27 RT
CONSTRUCT SPECIAL DITCH 4' WIDE
W/ TYPE I STONE FILL

STA 10+00
BEGIN CONSTRUCTION
END APPROACH

B.M.
INVERT EAST END
CULVERT
424.13

SPIRAL DATA CURVE I RTE 15

D	=	5°0'
Θs	=	3.75°
Ls	=	150.00'
p	=	0.82'
K	=	74.49'
X	=	149.98'
Y	=	3.27'
LT	=	100.02'
ST	=	50.02'
Lc	=	149.97'

CURVE I DATA RTE 15

D	=	5°0'
R	=	1145.92'
Δ	=	19°21'16.47"
Δc	=	11°5'16.47"
T	=	118.97'
Ts	=	270.54'
Es	=	17.40'
L	=	237.09'

AS BUILT 4/12/94 SC
5/11/94 JS

REVISED 12/28/90

DATUM
VERTICAL _____
HORIZONTAL _____

CAST-IN-PLACE CONCRETE CURB-TYPE B
~~RTE 15 STA 11+57 RT – RTE 15 STA 15+44 RT, 387'~~
RTE 15 STA 10+50 RT – RTE 15 STA 15+44 RT, 494'

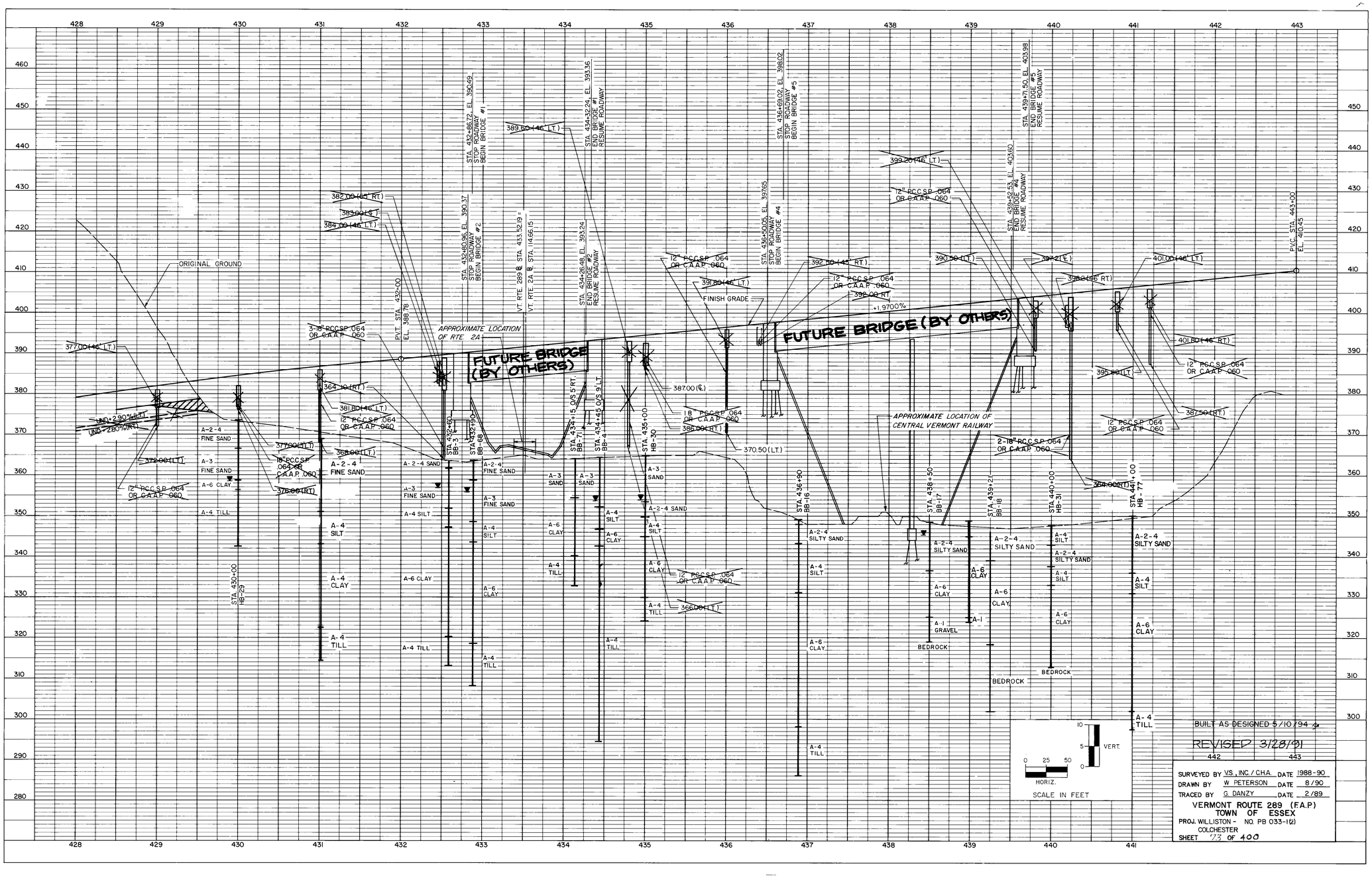
SURVEYED BY PINKHAM ENG DATE 12/85
DRAWN BY RCA DATE 5/86
TRACED BY N.P.D. DATE 5/87

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO. PB 033-1 (2)
COLCHESTER
SHEET 71 OF 400

N730,750 E345,500 N731,250 E346,000



CONSTRUCT DRIVE
26 + 90 LT - 10'
28 + 25 RT - 12'
29 + 25 LT - 16'
VT. PLANE GRID
N
STA. 25+40 LT. TO STA. 26+10 LT.
NEW 18" x 68' P.C.C.S.P.
STA 25 + 50 LT TO STA 26 + 10 LT
NEW 18" x 60' OPTION PIPE
STA 28 + 50
END CONSTRUCTION
BEGIN APPROACH
STA 26 + 75 LT TO STA 27 + 05 LT
NEW 18" x 30' OPTION PIPE P.C.C.S.P.
STA 29 + 04 LT TO STA 29 + 42 LT
NEW 18" x 40' OPTION PIPE P.C.C.S.P.
SPIKE IN
POLE 61/65
503.78
B.M.
SPIKE IN
POLE 65/349
513.65
STA. 24+51 LT. TO STA. 28+80 LT.
STA 24 + 51 LT TO STA 29 + 45 LT
NEW 6" x 494' UNDERDRAIN
W/ CAP END
NEW 6" x 429' UNDERDRAIN
W/ CAP END
STA 26+00
MATCH LINE
R=5000'
N 43°14'46.42"E
ROUTE 15
FUTURE
SIDEWALK
RELOCATE
MAILBOX
STA 30+50
END APPROACH
PT 32+34.09 REVISED
32+32.24 SURVEY
NEW LANG FARM ACCESS
REFER TO SHEETS 391 - 400
Gas Station
STA. 24+50 LT. TO STA. 28+80 LT.
NEW 6" x 429' UNDERDRAIN
18" x 112' P.C.C.S.P.
18" x 96' P.C.C.S.P.
BITUMINOUS CONCRETE CURB
18" x 86' P.C.C.S.P.
2" LOAM WITH SEED
18" x 68' P.C.C.S.P.
R = 110'
R = 5'
R = 26.00'
R = 5000'
SB ℄
18" x 54' R.C.P.
R=1200'
R=3.5'
ROUTE 15
ROUTE 15 ℄
PT
25 + 44.85
AS BUILT 4/12/94
18" x 40' R.C.P. CLASS III
ROUTE 15 COMMERCIAL DRIVE
STA. 24+00 RT. TO STA. 27+50 RT.
NEW 6" x 350' UNDERDRAIN
CURVE 3 DATA RTE 15
D = 00°34'22.65"
Δ = 01°40'24.58"
R = 10,000.00'
L = 292.08'
T = 146.05'
CAST-IN-PLACE CONCRETE CURB - TYPE B
RTE 15 STA 26 + 00 RT - RTE 15 STA 28 + 10 RT, 220 L.F.
RTE 15 STA 27+13 RT - RTE 15 STA 28+10 RT, 97 LF
DATUM
VERTICAL
HORIZONTAL
REVISED 12/28/90
SURVEYED BY PINKHAM ENG DATE 12/85
DRAWN BY RCA DATE 5/86
TRACED BY N.P.D. DATE 5/87
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON COLCHESTER NO. PB 033-1 (2)
SHEET 72 OF 400



BUILT AS DESIGNED 5/10/94

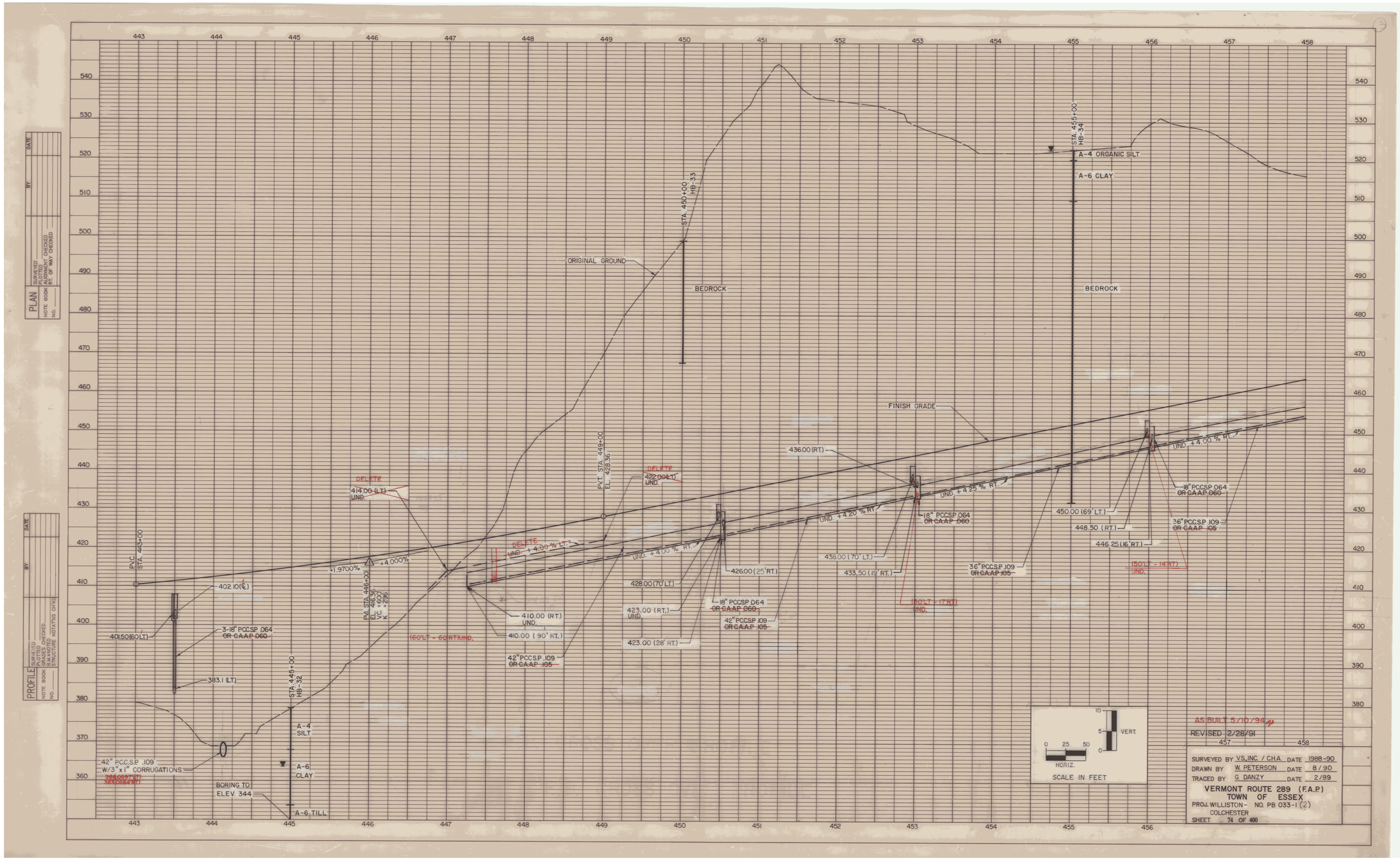
REVISED 3/28/91

SURVEYED BY V.S., INC./C.H.A. DATE 1988-90
DRAWN BY W. PETERSON DATE 8/90
TRACED BY G. DANZY DATE 2/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1(2)
COLCHESTER
SHEET 73 OF 400

PLAN
NOTE BOOK NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
NOTE BOOK NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD.
BY
DATE



PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE
PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD.
BY
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443
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480
470
460
450
440
430
420
410
400
390
380
370
360
ORIGINAL GROUND
STA. 450+00
HB-33
BEDROCK
STA. 455+00
HB-34
A-4 ORGANIC SILT
A-6 CLAY
BEDROCK
FINISH GRADE
P.V.C.
STA. 443+00
402.10(℄)
401.50(60 LT)
3-18" PCCSP .064
OR C.A.A.P. .060
383.1 (LT)
42" P.C.C.S.P. .109
W/3" x 1" CORRUGATIONS
363.0(197 LT)
363.0(184 RT)
BORING TO
ELEV. 344
STA. 445+00
HB-32
A-4
SILT
A-6
CLAY
A-6 TILL
+1.9700%
+4.000%
P.V.I. STA. 446+00
EL. 416.36
V.C. = 600'
K = 296
DELETE
414.00 (LT)
UND.
DELETE
UND. + 4.00 % LT.
(60'LT - 60'RT) UND.
410.00 (RT.)
UND.
410.00 (90' RT.)
42" PCCSP .109
OR C.A.A.P. .105
P.V.T. STA. 449+00
EL. 428.36
DELETE
422.00 (LT)
UND.
UND. + 4.00 % RT.
428.00 (70' LT.)
423.00 (RT.)
UND.
423.00 (28' RT.)
426.00 (25' RT.)
18" PCCSP .064
OR C.A.A.P. .060
42" PCCSP .109
OR C.A.A.P. .105
UND. + 4.20 % RT.
436.00 (RT.)
UND. + 4.25 % RT.
18" PCCSP .064
OR C.A.A.P. .060
438.00 (70' LT.)
433.50 (19' RT.)
(50'LT - 17'RT)
UND.
36" PCCSP .109
OR C.A.A.P. .105
450.00 (69' LT.)
448.50 (RT.)
446.25 (16' RT.)
(50'LT - 14'RT)
UND.
UND. + 4.00 % RT.
18" PCCSP .064
OR C.A.A.P. .060
36" PCCSP .109
OR C.A.A.P. .105
0 25 50
HORIZ.
10
5
0
VERT.
SCALE IN FEET
AS BUILT 5/10/94
REVISED 2/28/91
SURVEYED BY V.S., INC. / CHA DATE 1988-90
DRAWN BY W. PETERSON DATE 8/90
TRACED BY G. DANZY DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1 (2)
SHEET 74 OF 400

PLAN
SURVEYED
PLOTTED
NOTE BOOK
NO.
BY
DATE
AS CONTRACT CHECKED
AS BUILT CHECKED

STA. 442+50 MEDIAN @ P.O.C. 22' RT. (ELEV. 409.46) =
STA. 442+50 ℄ E.B. CROSSOVER (ELEV. 409.46)

PVC STA. 444+00
EL. 412.42

PVT STA. 449+00
EL. 427.55

STA. 455+44.48 MEDIAN @ P.O.C. =
STA. 455+44.67 ℄ E.B. CROSSOVER (5' RT. (ELEV. 453.89) =
STA. 455+44.48 WB. ROUTE 289 RT. 27' (ELEV. 454.14)

10
5 VERT.
0 25 50
HORIZ.
SCALE IN FEET

PROFILE
SURVEYED
PLOTTED
GRADES SHECKED
AS BUILT
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

470
460
450
440
430
420
410
400
390
380

443 444 445 446 447 448 449 450 451 452 453 454 455 456

+1.9700 %
+4.085 %
FINISH GRADE

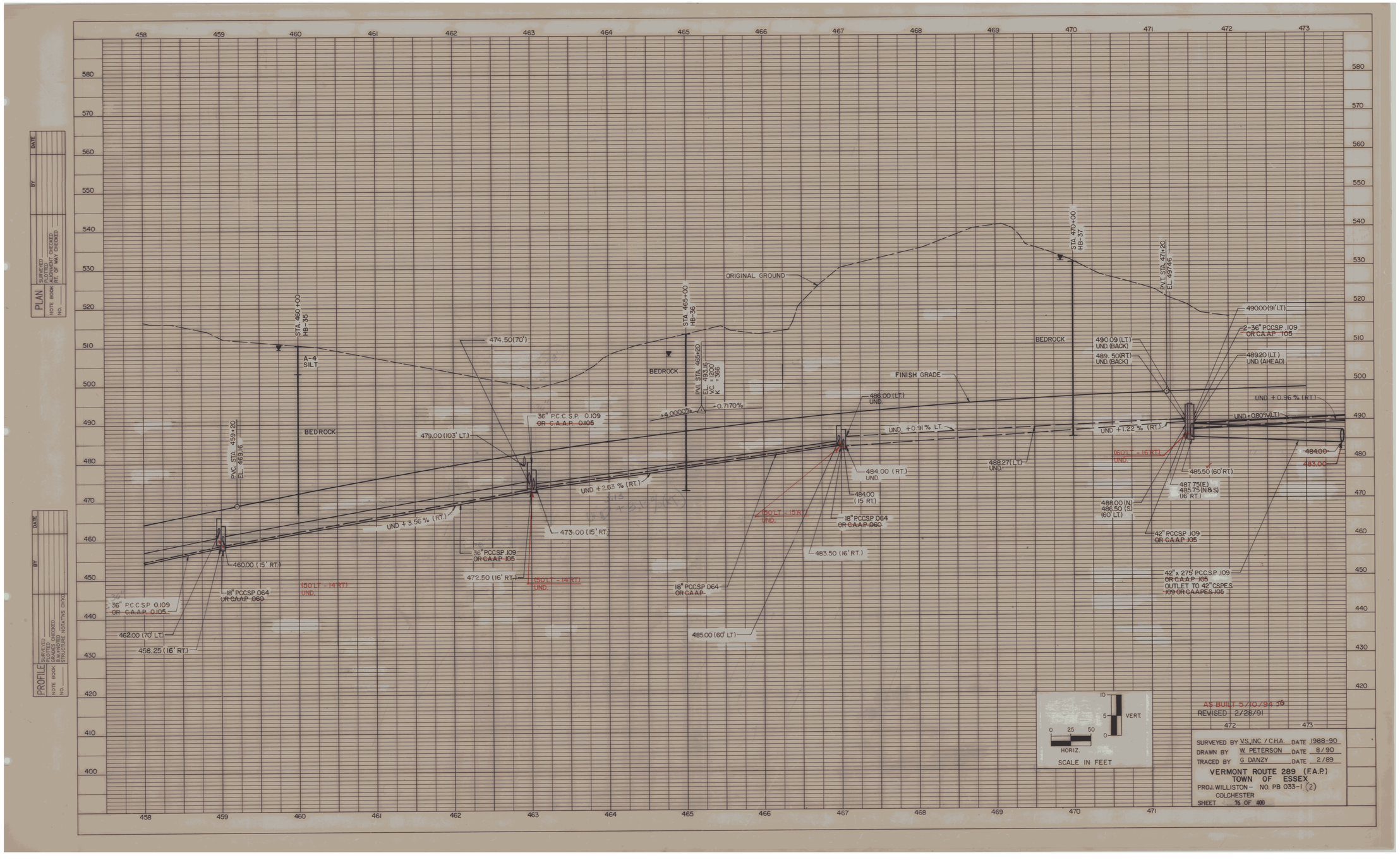
P.V.I. STA. 446+50
E.L. 423.54
V.C. 500
K=246

E.B. CROSS OVER PROFILE

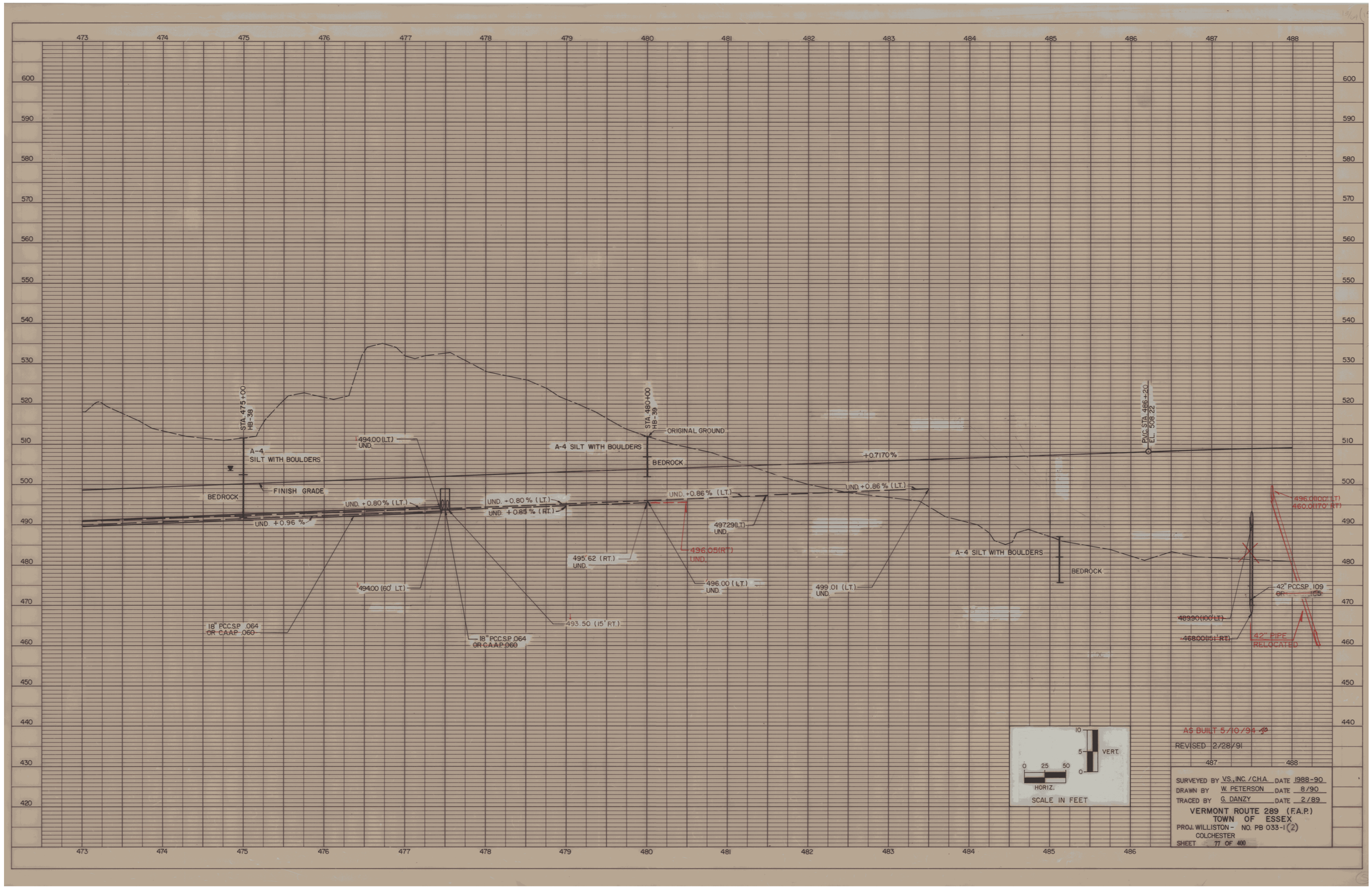
BUILT AS DESIGNED 5/10/94 JP
REVISED 2/28/91

SURVEYED BY V.S., INC./C.H.A DATE 1988-90
DRAWN BY ATC DATE 11/90
TRACED BY _____ DATE _____
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON NO. PB 033-1 (2)
COLCHESTER
SHEET 75 OF 400

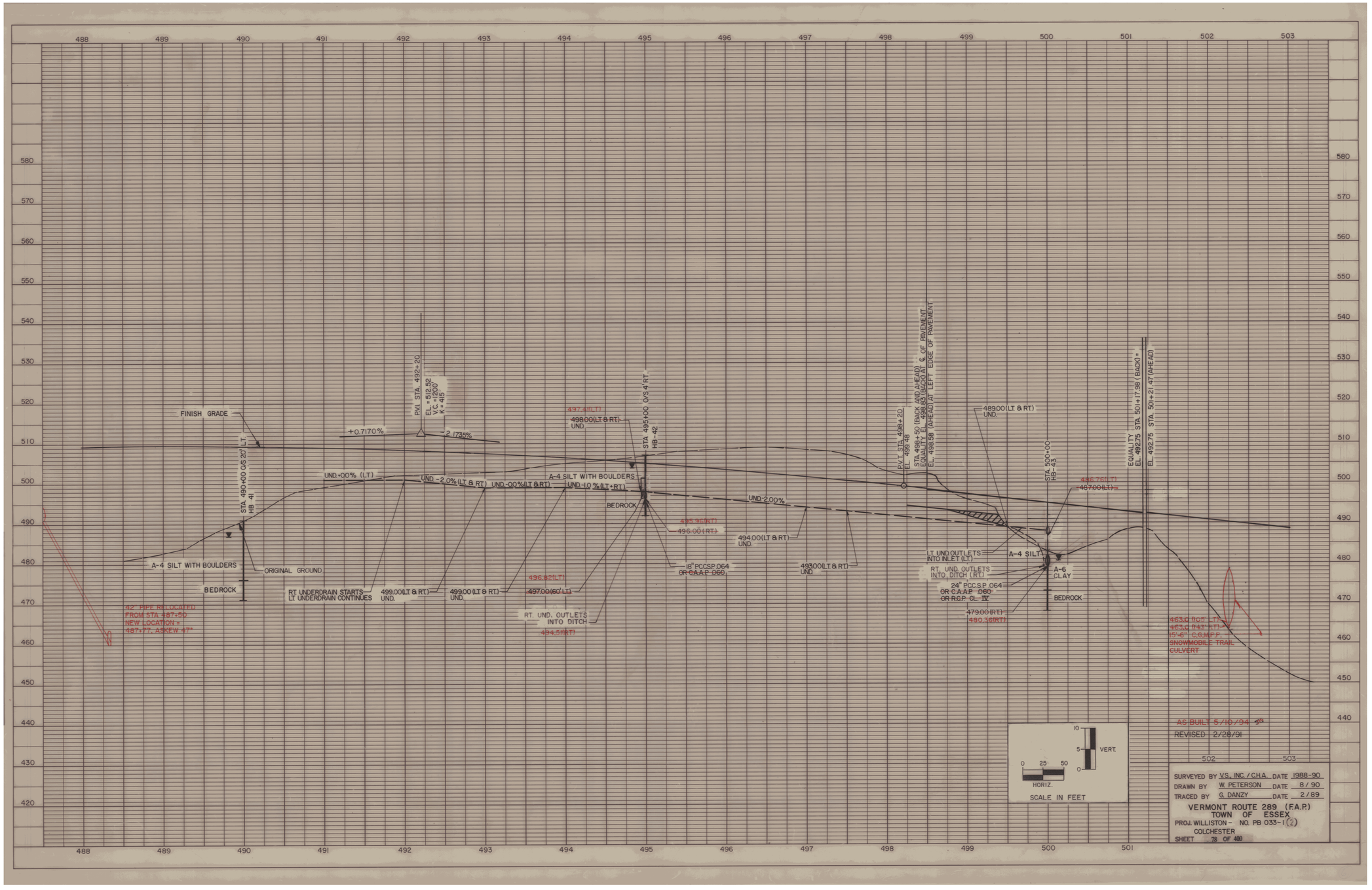
RHINING 44 23/10/7



PLAN
PROFILE
ORIGINAL GROUND
FINISH GRADE
BEDROCK
STA. 460+00 HB-35
STA. 465+00 HB-36
STA. 470+00 HB-37
P.V.C. STA. 459+20 EL. 469.16
P.V.I. STA. 465+20 EL. 493.16 V.C. = 1200' K = 366
P.V.T. STA. 471+20 EL. 497.46
A-4 SILT
474.50(70')
479.00 (103' LT.)
36" P.C.C.S.P. 0.109 OR C.A.A.P. 0.105
36" P.C.C.S.P. 0.109 OR C.A.A.P. 0.105
462.00 (70' LT.)
458.25 (16' RT.)
460.00 (15' RT.)
18" PCCSP 064 OR C.A.A.P. 060
(50' LT. - 14' RT.) UND.
UND + 3.56 % (RT.)
UND + 2.63 % (RT.)
473.00 (15' RT.)
36" PCCSP 109 OR C.A.A.P. 105
472.50 (16' RT.)
(50' LT. - 14' RT.) UND.
+4.0000%
-0.7170%
18" PCCSP 064 OR C.A.A.P.
485.00 (60' LT.)
(50' LT. - 15' RT.) UND.
18" PCCSP 064 OR C.A.A.P. 060
483.50 (16' RT.)
484.00 (RT.) UND.
484.00 (15' RT.)
486.00 (LT.) UND.
UND. +0.91 % LT.
488.27 (LT.) UND.
490.09 (LT.) UND. (BACK)
489.50 (RT.) UND. (BACK)
UND +1.22 % (RT.)
(60' LT. - 16' RT.) UND.
488.00 (N) 486.50 (S) (60' LT.)
42" PCCSP 109 OR C.A.A.P. 105
485.50 (60' RT.)
487.75 (E) 485.75 (N & S) (16' RT.)
42" x 275 P.C.C.S.P. 109 OR C.A.A.P. 105 OUTLET TO 42" CSPES. 109 OR C.A.A.P.E.S. 105
490.00 (91' LT.)
2-36" PCCSP 109 OR C.A.A.P. 105
489.20 (LT.) UND. (AHEAD)
UND + 0.96 % (RT.)
UND + 0.80 % (LT.)
484.00
483.00
VERT.
HORIZ.
SCALE IN FEET
AS BUILT 5/10/94
REVISED 2/28/91
SURVEYED BY V.S., INC. / C.H.A. DATE 1988-90
DRAWN BY W. PETERSON DATE 8/90
TRACED BY G. DANZY DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1 (2)
COLCHESTER
SHEET 76 OF 400

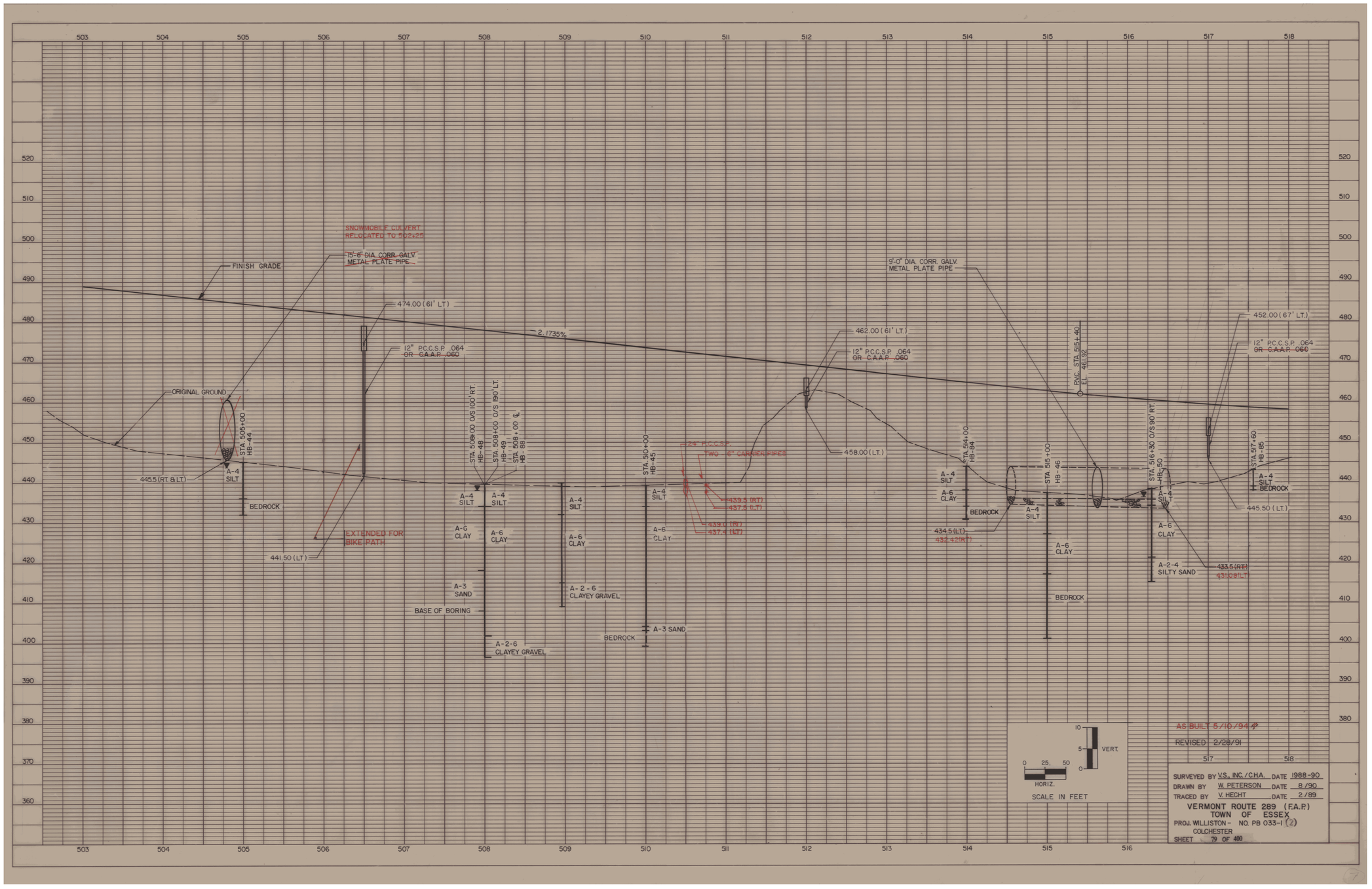


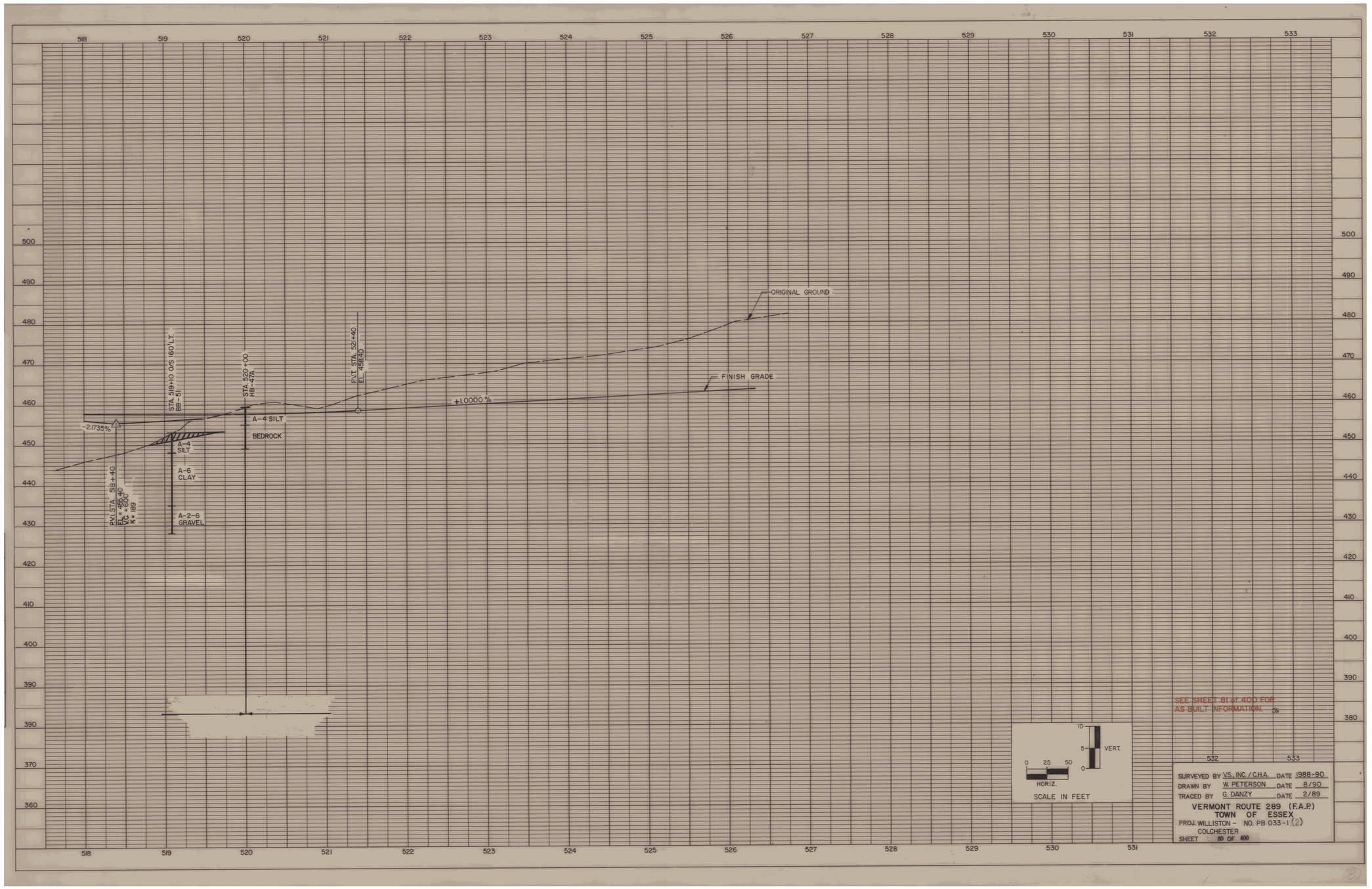
STA. 475+00
HB-38
A-4
SILT WITH BOULDERS
BEDROCK
FINISH GRADE
UND. +0.96 %
UND. +0.80 % (LT.)
494.00 (LT.)
UND.
UND. +0.80 % (LT.)
UND. +0.85 % (RT.)
18" PCCSP .064
OR C.A.A.P. .060
494.00 (60' LT.)
18" PCCSP .064
OR C.A.A.P. .060
493.50 (15' RT.)
495.62 (RT.)
UND.
STA. 480+00
HB-39
ORIGINAL GROUND
A-4 SILT WITH BOULDERS
BEDROCK
UND. +0.86 % (LT.)
496.05 (RT.)
UND.
496.00 (LT.)
UND.
497.29 (LT.)
UND.
+0.7170 %
UND. +0.86 % (LT.)
499.01 (LT.)
UND.
A-4 SILT WITH BOULDERS
BEDROCK
P.V.C. STA. 486+20
EL. 508.22
496.0 (100' LT.)
460.0 (170' RT.)
42" PCCSP .109
OR .165
489.90 (100' LT.)
468.00 (151' RT.)
42" PIPE
RELOCATED
VERT.
HORIZ.
SCALE IN FEET
AS BUILT 5/10/94
REVISED 2/28/91
SURVEYED BY V.S., INC. / C.H.A. DATE 1988-90
DRAWN BY W. PETERSON DATE 8/90
TRACED BY G. DANZY DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1 (2)
COLCHESTER
SHEET 77 OF 400



SURVEYED BY V.S., INC. / C.H.A. DATE 1988-90
DRAWN BY W. PETERSON DATE 8/90
TRACED BY G. DANZY DATE 2/89

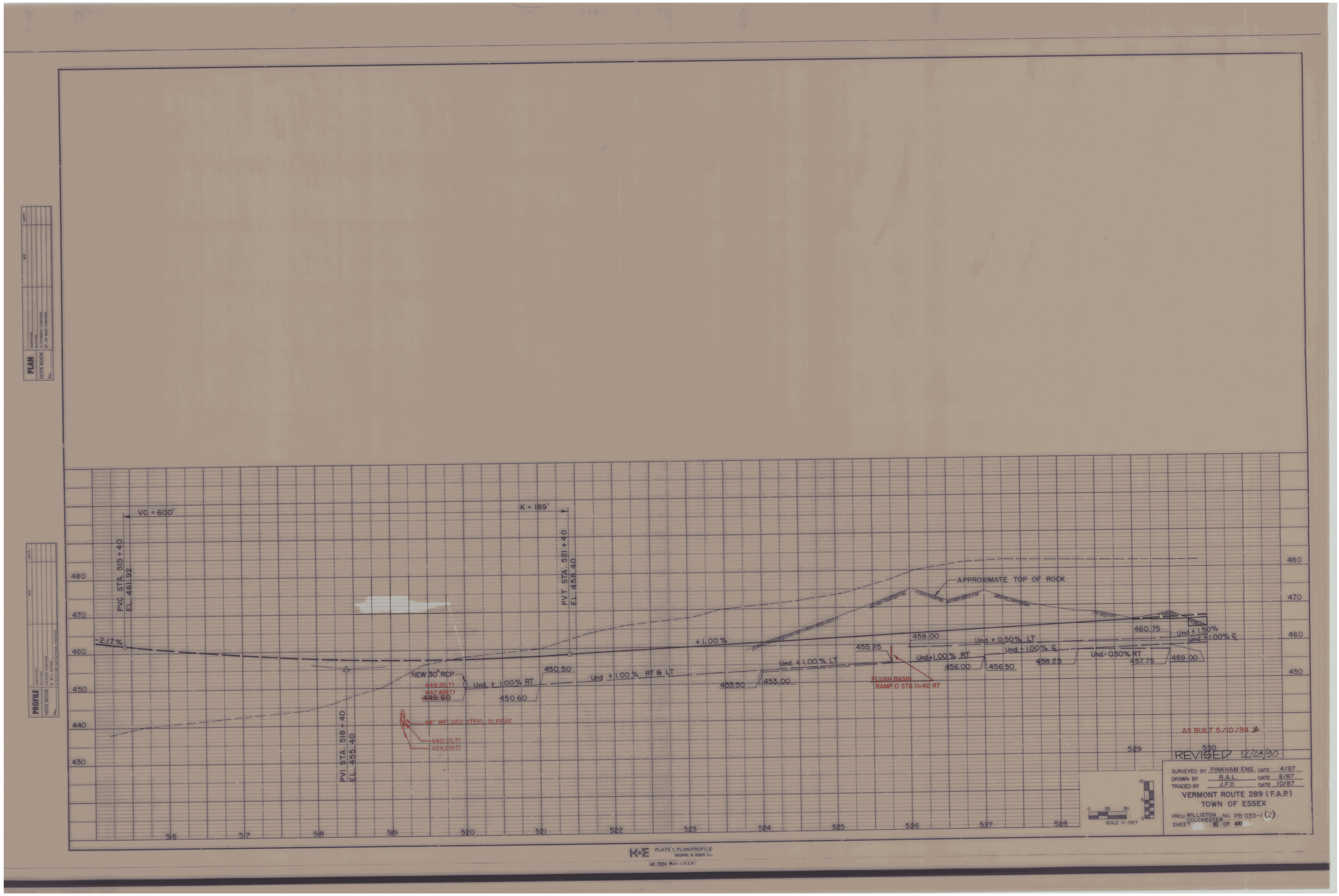
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1 (2)
COLCHESTER
SHEET 78 OF 400


SNOWMOBILE CULVERT
RELOCATED TO 502+25
15'-6" DIA. CORR. GALV. METAL PLATE PIPE
FINISH GRADE
474.00 (61' LT.)
12" P.C.C.S.P. .064 OR C.A.A.P. .060
2.1735%
ORIGINAL GROUND
STA. 505+00 HB-44
445.5 (RT. & LT.)
A-4 SILT
BEDROCK
EXTENDED FOR BIKE PATH
441.50 (LT.)
STA. 508+00 O/S 100' RT. HB-48
STA. 508+00 O/S 190' LT. HB-49
STA. 508+00 ℄ HB-88
A-4 SILT
A-6 CLAY
A-3 SAND
BASE OF BORING
A-2-6 CLAYEY GRAVEL
STA. 510+00 HB-45
23' P.C.C.S.P. TWO 6" CARRIER PIPES
439.5 (RT.) 437.5 (LT.)
439.0 (RT.) 437.5 (LT.)
BEDROCK
A-3 SAND
458.00 (LT.)
9'-0" DIA. CORR. GALV. METAL PLATE PIPE
462.00 (61' LT.)
12" P.C.C.S.P. .064 OR C.A.A.P. .060
P.V.C. STA. 515+40 ℄ El. 461.92
STA. 514+00 HB-84
434.5 (LT.) 432.42 (RT.)
STA. 515+00 HB-46
STA. 516+30 O/S 90' RT. HB-50
452.00 (67' LT.)
12" P.C.C.S.P. .064 OR C.A.A.P. .060
STA. 517+60 HB-85
445.50 (LT.)
433.5 (RT.) 431.08 (LT.)
A-2-4 SILTY SAND
503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518
520 510 500 490 480 470 460 450 440 430 420 410 400 390 380 370 360
10 5 0 VERT.
0 25 50 HORIZ.
SCALE IN FEET
AS BUILT 5/10/94
REVISED 2/28/91
SURVEYED BY V.S., INC./C.H.A. DATE 1988-90
DRAWN BY W. PETERSON DATE 8/90
TRACED BY V. HECHT DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1 (2)
SHEET 79 OF 400

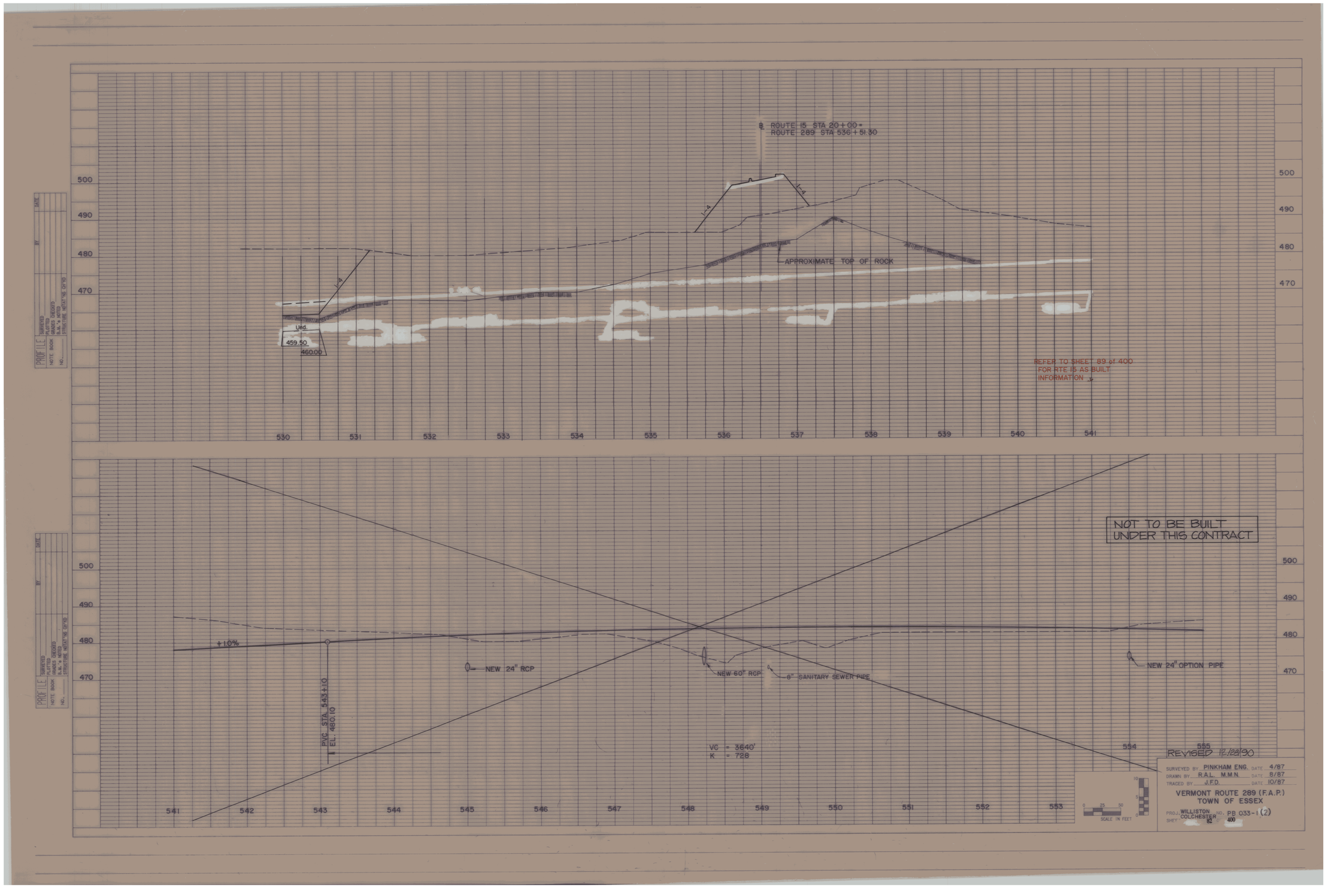


SURVEYED BY V.S., INC. / C.H.A. DATE 1988-90
DRAWN BY W. PETERSON DATE 8/90
TRACED BY G. DANZY DATE 2/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1 (2)
COLCHESTER
SHEET 80 OF 400



PLAN
NOTE BOOK
No.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
R/ OF WAY CHECKED
BY
DATE
PROFILE
NOTE BOOK
No.
SURVEYED
PLOTTED
GRADES CHECKED
B. M.'s NOTED
STRUCTURE NOTATIONS CHECKED
VC = 600'
K = 189'
PVC STA. 515+40
EL. 461.92
PVT STA. 521+40
EL. 458.40
PVI STA. 518+40
EL. 455.40
-2.17%
+1.00%
APPROXIMATE TOP OF ROCK
NEW 30" RCP
449.2(LT)
447.8(RT)
449.60
Und. + 1.00% RT
450.60
450.50
Und + 1.00% RT & LT
48" WELDED STEEL SLEEVE
440.2(LT)
439.2(RT)
453.50
453.00
Und. + 1.00% LT
455.25
FLUSH BASIN
RAMP D STA 11+40 RT
459.00
Und+1.00% RT
456.00
456.50
Und + 0.50% LT
Und + 1.00% ℄
458.25
Und.- 0.50% RT
457.75
459.00
460.75
Und + 1.50%
Und + 1.00% ℄
480
470
460
450
440
430
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
AS BUILT 5/10/94
REVISED 12/28/90
SURVEYED BY PINKHAM ENG. DATE 4/87
DRAWN BY R.A.L. DATE 8/87
TRACED BY J.F.D. DATE 10/87
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON COLCHESTER NO. PB 033-1 (2)
SHEET 81 OF 400
SCALE IN FEET
0 25 50
0 5 10
K+E PLATE 1, PLAN-PROFILE
KEUFFEL & ESSER CO.
48 7024 Made in U.S.A.



REVISED 12/28/90

SURVEYED BY PINKHAM ENG. DATE 4/87
DRAWN BY R.A.L. M.M.N. DATE 8/87
TRACED BY J.F.D. DATE 10/87

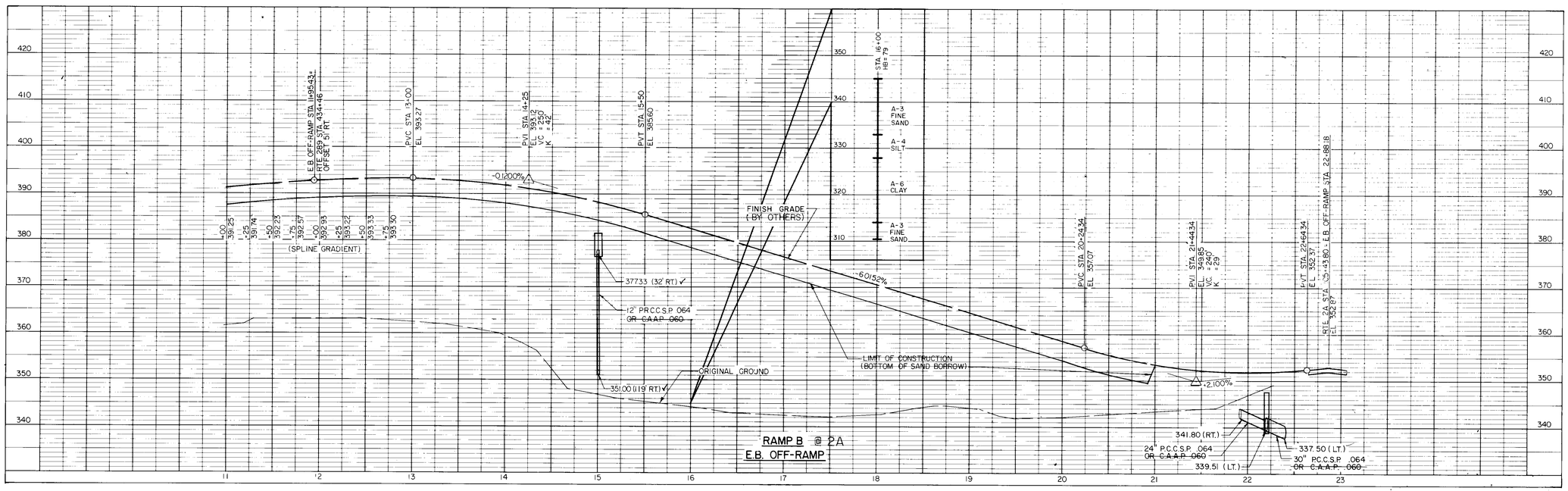
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX

PROJ. WILLISTON COLCHESTER NO. PB 033-1 (2)
SHEET 82 OF 400

PLAN — SURVEYED / PLOTTED / DRAWN / CHECKED / TRACED / STRUCTURE ROTATING GIVEN / NOTE BOOK / ALIGNMENT CHECKED / RT. OF WAY CHECKED / NO. / BY / DATE

PROFILE — SURVEYED / PLOTTED / DRAWN / CHECKED / TRACED / STRUCTURE ROTATING GIVEN / NOTE BOOK / NO. / BY / DATE

RTE. 2A STA. 104+82.93 = ELE. ON RAMP STA. 9+13.65
EL. 351.95
P.V.C. STA. 12+37.00
EL. 350.46
P.V.I. STA. 10+15.00
EL. 349.82
VC. = 156'
K = 78
P.V.T. STA. 10+53
EL. 355.04
-2.10/6 %
-6.6899 %
FINISH GRADE
STA. 13+83.92, EL. 374.50
STOP ROADWAY
OVER BRIDGE #6
P.V.C. STA. 16+50
STA. 17+19.50, EL. 386.45
END BRIDGE #6
RESUME ROADWAY
P.V.I. STA. 17+60.00
EL. 389.06
VC. = 200'
K = 57.1
P.V.T. STA. 18+70.00
EL. 402.73
-2.8059 %
P.V.T. STA. 21+00
ELEV. 409.20
P.T. STA. 22+16.97
OPP. P.O.T. 444+57.45
OFFSET 50 FT. RT.
+25 409.95
+50 410.70
+75 411.45
+00 412.15
(SPLINE GRADIENT)
DELETED
386.5 (31' RT.)
12" PCCSP 064 OR CAAP 060 DELETED
42" PCCSP 109 W/3" x 1" CORRUGATIONS
363.0 (RT.)
36" PCCSP 064 OR CAAP 060
334.29 (37' RT.)
337.00
332.03 (130' RT.)
335.00
349.00 (141' RT.)
CURB
STA. 14+20 BB-25
STA. 15+50 BB-26
STA. 16+60 BB-27
STA. 19+00 BB-28
A-3 FINE SAND
A-4 SILT
A-6 CLAY
A-4 TILL
RAMP A-8-2A
E.B. ON-RAMP
10 5 0 VERT.
0 25 50 HORIZ.
SCALE IN FEET
AS BUILT 5/9/94
REVISED 02/28/91
SURVEYED BY VS, INC./C.H.A. DATE 1988-90
DRAWN BY T. KARIS DATE 2/89
TRACED BY N. GIBSON DATE 9/90
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON NO. PB 033-1 (2)
COLCHESTER
SHEET 83 OF 400



PLAN
NOTE BOOK NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
NOTE BOOK NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATNS CH'KD
BY
DATE

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

10 5 0 VERT
0 25 50 HORIZ.
SCALE IN FEET

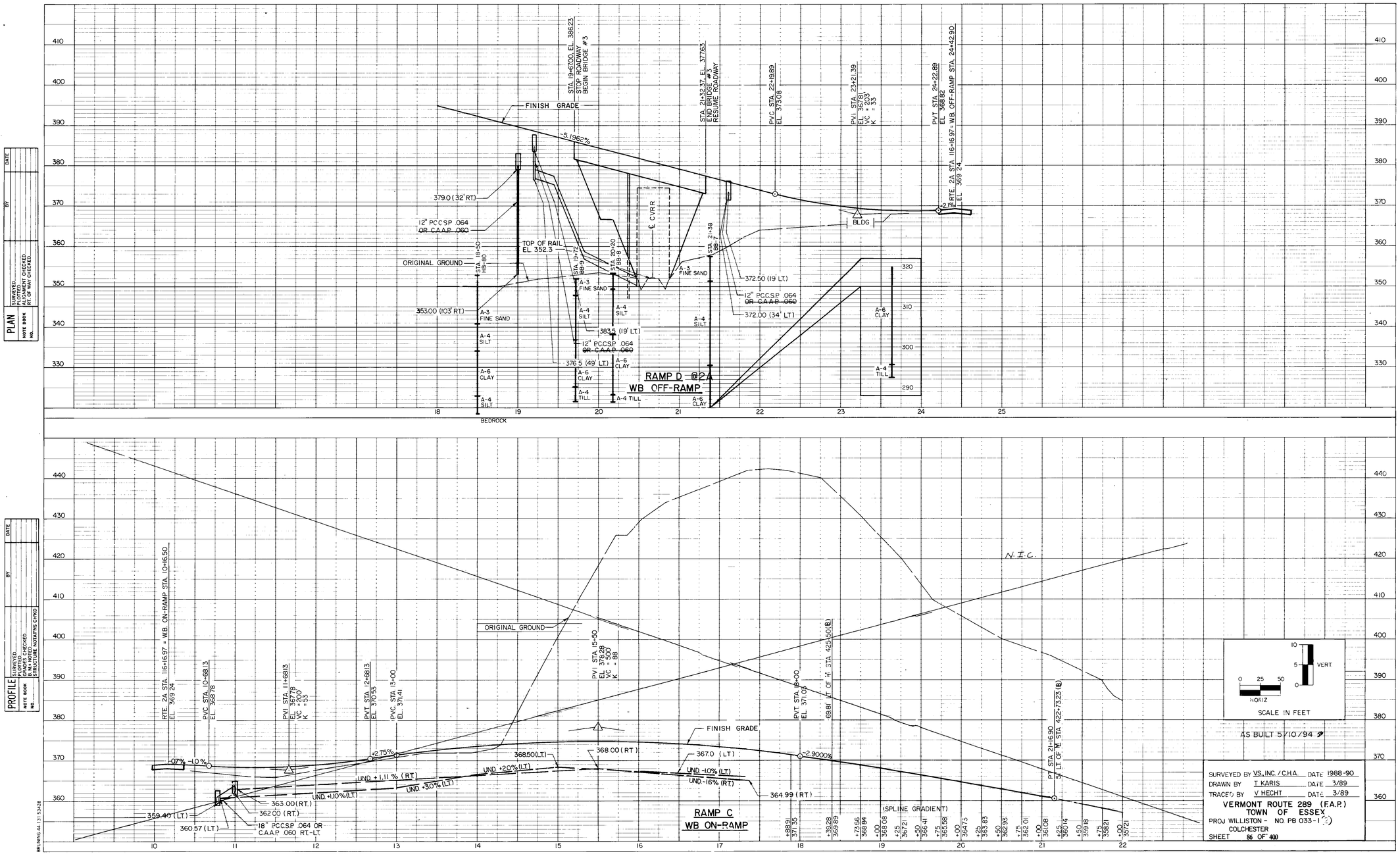
AS BUILT 5/9/94

REVISED 3/28/91

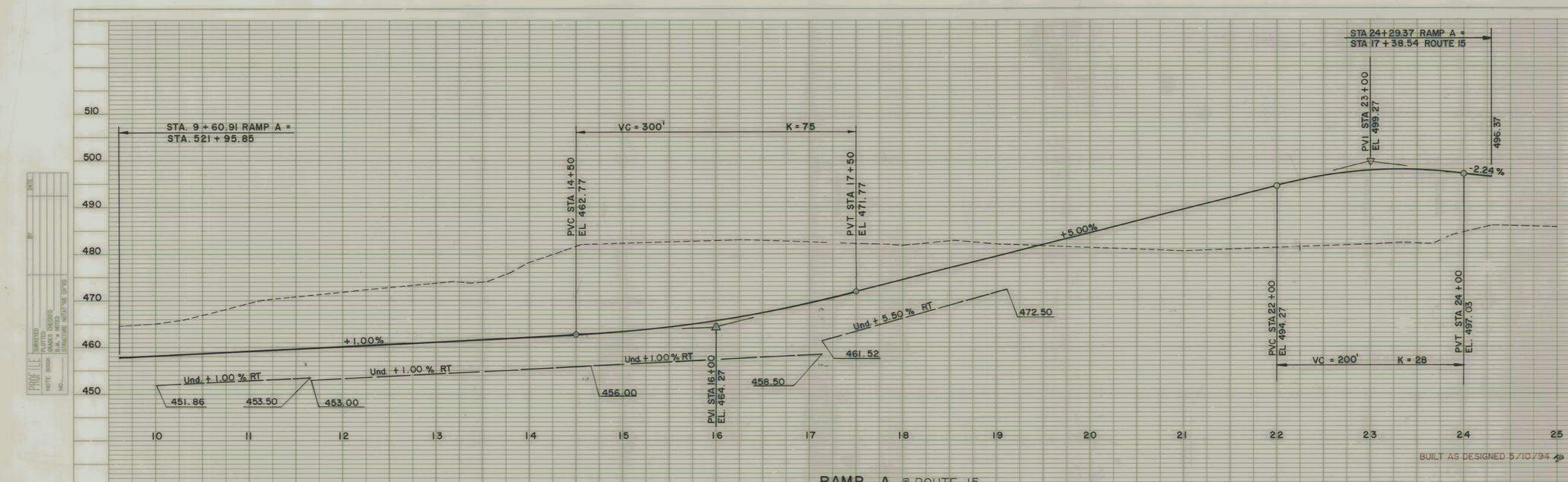
SURVEYED BY V.S., INC/C.H.A. DATE 1988-90
DRAWN BY T. KARIS DATE 2/89
TRACED BY V. HECHT DATE 2/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1 (2)
SHEET 84 OF 400

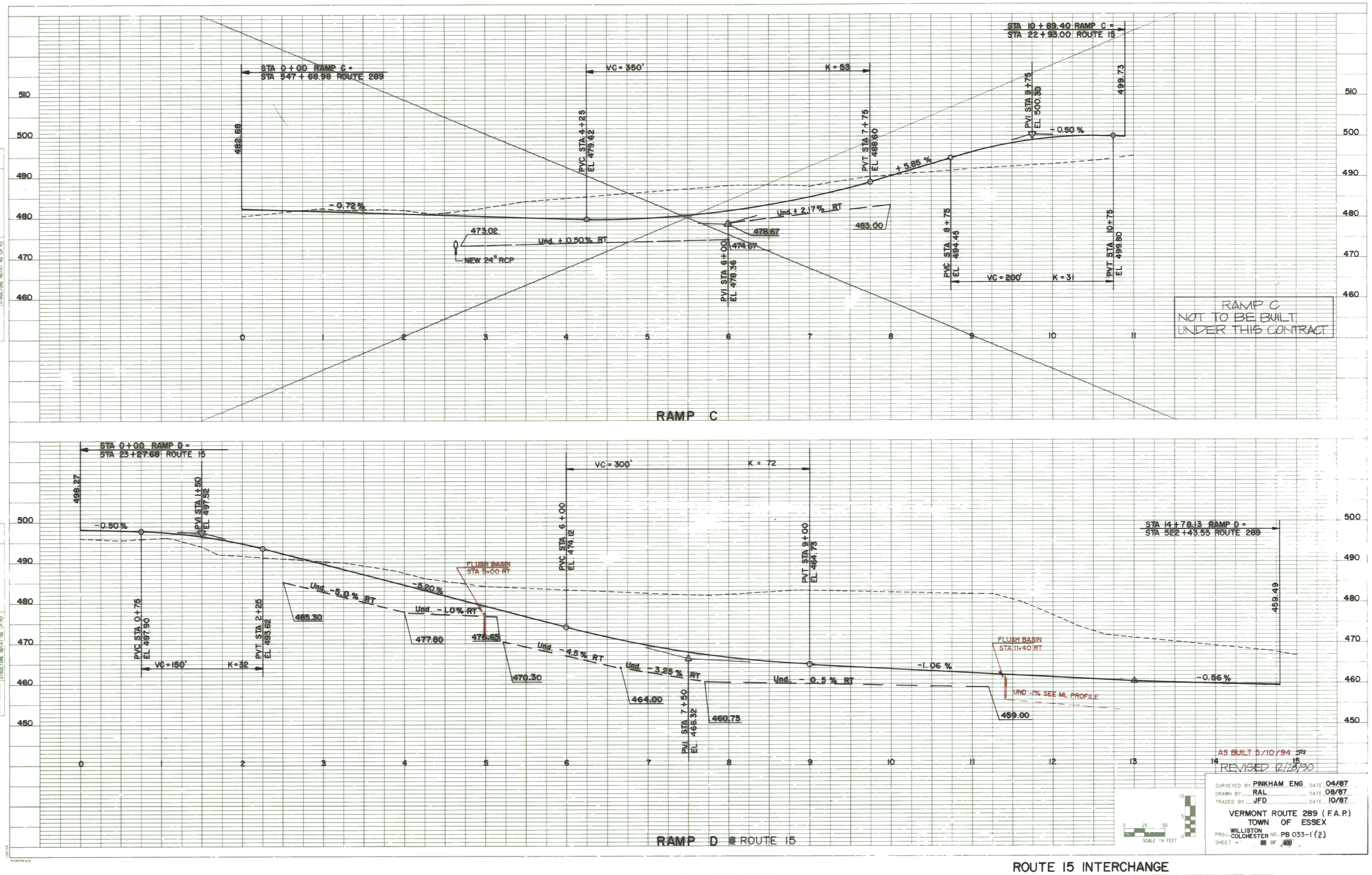


PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE
PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATNS CH'KD
BY
DATE
PT. STA. 8+00.00
51' LT. OF ℄ STA. 450+00.00 (℄)
ORIGINAL GROUND
6" UNDERDRAIN ADDED (LT-RT)
STA. 12+00
64.82' LT. OF ℄ STA. 446+04.16 (℄)
PVC STA. 14+00
EL. 412.21
PVI STA. 15+50
EL. 407.89
VC = 300'
K = 130
PVT STA. 17+00
EL. 400.10
-2.8800%
FINISH GRADE
-5.1962%
+50 434.82
+75 433.80
+00 432.78
+25 431.75
+50 430.72
+75 429.68
+00 428.65
+25 427.62
+50 426.60
+75 425.60
+00 424.63
+25 423.71
+50 422.82
+75 421.98
+00 421.13
+25 420.32
+50 419.53
+75 418.75
+00 417.97
(SPLINE GRADIENT)
RAMP SUPERELEVATION TRANSTION
18" PCCSP
INV = 400.2± @ RAMP D ℄
42" PCC.S.P. .109
W/3" x 1" CORRUGATIONS
368.5 (LT.)
42" PCCSP MOVED
TO STA 444+13
INV = 366.5± @ RAMP D ℄
RAMP D @ 2A
WB OFF-RAMP
VERT.
HORIZ.
SCALE IN FEET
AS BUILT 5/9/94 JG
SURVEYED BY V.S., INC. / CHA. DATE 1988-90
DRAWN BY T. KARIS DATE 3/89
TRACED BY V. HECHT DATE 3/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1 (2)
COLCHESTER
SHEET 85 OF 400



PLAN
NOTE BOOK NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE
FINISH GRADE
-5.1962%
STA. 19+67.00, EL. 386.23
STOP ROADWAY
BEGIN BRIDGE #3
STA. 21+32.37, EL. 377.63
END BRIDGE #3
RESUME ROADWAY
PVC STA. 22+19.89
EL. 373.08
PVI STA. 23+21.39
EL. 367.81
VC = 203'
K = 33
PVT STA. 24+22.89
EL. 368.82
RTE. 2A STA. 116+16.97 = WB. OFF-RAMP STA. 24+42.90
EL. 369.24
+2.1%
BLDG
379.0 (32' RT.)
12" PCCSP .064
OR C.A.A.P. .060
TOP OF RAIL
EL. 352.3
ORIGINAL GROUND
STA. 18+50
HB-80
STA. 19+72
BB-9
STA. 20+20
BB-8
STA. 21+38
BB-7
℄ CVRR
A-3
FINE SAND
A-4
SILT
A-6
CLAY
A-4
TILL
353.00 (103' RT.)
383.5 (19' LT.)
376.5 (49' LT.)
372.50 (19' LT.)
372.00 (34' LT.)
RAMP D @2A
WB OFF-RAMP
BEDROCK
PROFILE
NOTE BOOK NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
RTE. 2A STA. 116+16.97 = W.B. ON-RAMP STA. 10+16.50
EL. 369.24
PVC STA. 10+68.13
EL. 368.78
PVI STA. 11+68.13
EL. 367.78
VC = 200'
K = 53
PVT STA. 12+68.13
EL. 370.53
PVC STA. 13+00
EL. 371.41
PVI STA. 15+50
EL. 378.28
VC = 500'
K = 88
PVT STA. 18+00
EL. 371.03
69.81' LT. OF ℄ STA. 425+50 (B)
PVT STA. 21+16.90
51' LT. OF ℄ STA. 422+73.23 (B)
N.I.C.
ORIGINAL GROUND
FINISH GRADE
-0.7% -1.0%
+2.75%
-2.9000%
368.50 (LT.)
368.00 (RT.)
367.0 (LT.)
UND. +1.11% (RT.)
UND. +2.0% (LT.)
UND. +3.0% (LT.)
UND. +1.10% (LT.)
UND. -1.0% (LT.)
UND. -1.6% (RT.)
364.99 (RT.)
363.00 (RT.)
362.00 (RT.)
359.40 (LT.)
360.57 (LT.)
18" PCCSP .064 OR
C.A.A.P. .060 RT.-LT.
RAMP C
WB ON-RAMP
(SPLINE GRADIENT)
VERT
HORIZ
SCALE IN FEET
AS BUILT 5/10/94
SURVEYED BY VS, INC. / C.H.A. DATE 1988-90
DRAWN BY T. KARIS DATE 3/89
TRACED BY V. HECHT DATE 3/89
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON - NO. PB 033-1(2)
COLCHESTER
SHEET 86 OF 400
BRUNING 44 131 53428


STA. 9 + 60.91 RAMP A =
STA. 521 + 95.85
VC = 300'
K = 75
PVC STA 14+50
EL 462.77
PVT STA 17+50
EL 471.77
+1.00%
+5.00%
Und. + 1.00 % RT
451.86
453.50
453.00
Und. + 1.00 % RT
456.00
Und. + 1.00% RT
PVI STA 16+00
EL. 464.27
458.50
461.52
Und. + 5.50 % RT
472.50
STA 24+29.37 RAMP A =
STA 17 + 38.54 ROUTE 15
PVI STA 23+00
EL 499.27
496.37
-2.24 %
PVC STA 22+00
EL 494.27
VC = 200'
K = 28
PVT STA 24+00
EL. 497.03
BUILT AS DESIGNED 5/10/94
RAMP A @ ROUTE 15
STA 0+00 RAMP B =
STA 17+24.00 ROUTE 15
496.02
PVI STA 1+00
EL 498.28
+2.26%
PVC STA 0+25
EL 496.59
VC = 150'
K = 24
PVT STA 1+75
EL 495.28
- 4.00%
487.00
Und. -5.50 % RT
478.75
VC = 300'
K = 57
PVC STA 4+50
EL 484.28
PVT STA 7+50
EL 480.14
Und. -0.50 % RT
PVI STA 6+00
EL 478.28
477.00
Und. + 0.50 % RT
477.50
STA 9+85.65 RAMP B =
STA 544+83.66 ROUTE 289
483.06
+1.24%
RAMP B
NOT TO BE BUILT
UNDER THIS CONTRACT
REVISED 12/28/90
SURVEYED BY PINKHAM ENG DATE 04/87
DRAWN BY RAL DATE 08/87
TRACED BY JFD DATE 10/87
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON COLCHESTER NO. PB 033-1(2)
SHEET 87 OF 400
SCALE IN FEET
ROUTE 15 INTERCHANGE
53 of 270



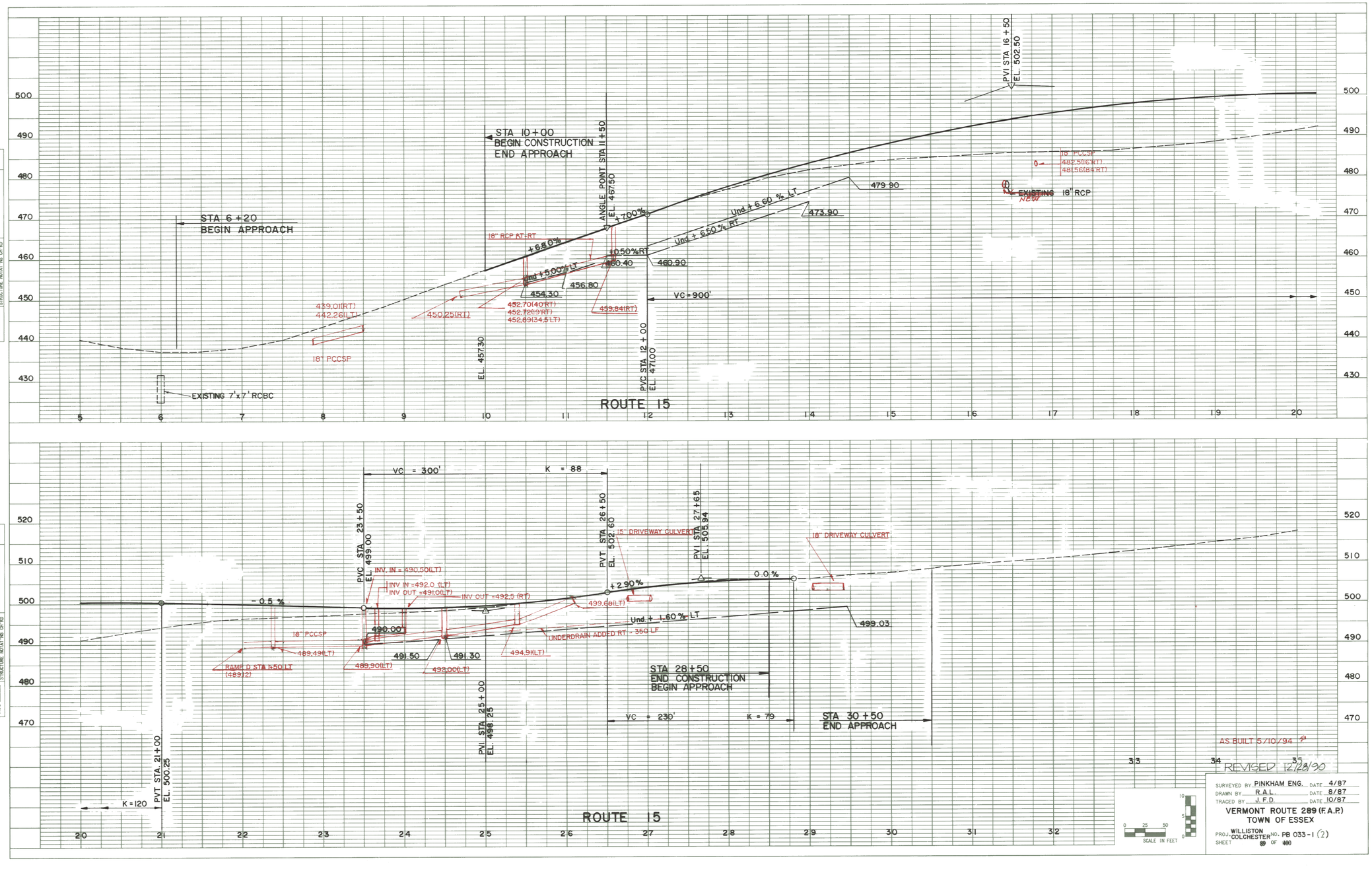
SURVEYED BY PINKHAM ENG DATE 04/87
DRAWN BY RAL DATE 08/87
TRACED BY JFD DATE 10/87

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX

PROJ. WILLISTON COLCHESTER NO. PB 033-1(2)
SHEET 88 OF 400

ROUTE 15 INTERCHANGE

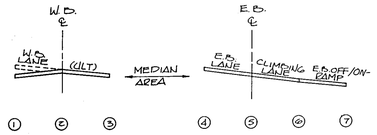
54 of 270



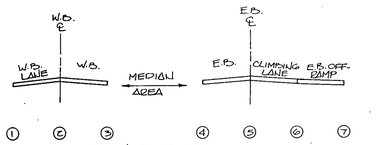
SURVEYED BY PINKHAM ENG. DATE 4/87
DRAWN BY R.A.L. DATE 8/87
TRACED BY J.F.D. DATE 10/87

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX

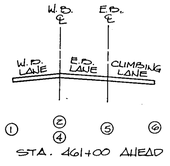
PROJ. WILLISTON COLCHESTER NO. PB 033-1 (2)
SHEET 89 OF 400



STA. 431+00 BACK
STA. 442+69.69 TO STA. 461+00



STA. 432+00 TO
STA. 441+19.69



STA. 461+00 AHEAD

LEGEND FOR MAINLINE SUPERELEVATION TABLE

DATUM	
VERTICAL	N.G.V.D. 1929
HORIZONTAL	N.A.D. 1927

SUPERELEVATION TABLE - MAINLINE

1 W.B. LT E.P.	2 W.B. ℄	3 W.B. RT E.P.	4 E.B. LT E.P.	5 E.B. ℄	6 E.B. RT E.P.	7 E.B. OFF RAMP	STATION	DESCRIPTION
-0.25	0	--	0	-0.19	-0.42	--	418 + 00	BEGIN RAMP C TAPER
							420 + 60.00	END CONTRACT 3/BEGIN CONTRACT 2
							422 + 72.23	EQ. RAMP C STA. 21+16.90
-0.25	0	-0.25	0	-0.19	-0.42	--	427 + 00	
-0.25	0	-0.25	0	-0.19	-0.42	--	427 + 50	
-0.25	0	-0.25	0	-0.19	-0.42	-0.42	428 + 00	BEGIN RAMP B TAPER (0' WIDE)
-0.25	0	-0.25	0	-0.19	-0.42	-0.48	428 + 50	
-0.25	0	-0.25	0	-0.19	-0.42	-0.54	429 + 00	
-0.25	0	-0.25	0	-0.19	-0.42	-0.60	429 + 50	END RAMP B RAPER (12' WIDE)
-0.25	0	-0.25	0	-0.19	-0.42	-0.67	430 + 00	
-0.25	0	-0.25	0	-0.19	-0.42	-0.67	430 + 50	
-0.25	0	-0.25	0	-0.19	-0.42	-0.67	431 + 00	
-0.25	0	-0.25	0	-0.19	-0.42	-0.67	431 + 25	
-0.25	0	-0.25	-0.06	-0.19	-0.42	-0.67	431 + 50	
-0.25	0	-0.25	-0.13	-0.13	-0.35	-0.60	432 + 00	END DIVIDED HIGHWAY TRANSITION
-0.25	0	-0.25	-0.25	0	-0.23/ -0.25	-0.48/ -0.50		BEGIN ULTIMATE CONSTRUCTION
							434 + 00	
							434 + 46.00	EQ. RAMP B STA. 11+95.43
					-0.25 -0.23/	-0.50	440 + 00	END ULTIMATE CONSTRUCTION BEGIN DIVIDED HIGHWAY TRANSITION
-0.25	0	-0.25	-0.25	0	-0.23	--	441 + 19.69	
-0.20	0	-0.25	-0.20	0	-0.23		441 + 50	
-0.12	0	-0.25	-0.12	0	-0.23		442 + 00	
-0.03	0	-0.25	-0.03	0	-0.23		442 + 50	
0	0	-0.25	0	0	-0.23		442 + 69.69	
+0.05	0	-0.25	0	-0.05	-0.28		443 + 00	
+0.13	0	--	0	-0.13	-0.36		443 + 50	
							443 + 74.69	P.C. CURVE #1
+0.22	0		0	-0.22	-0.45		444 + 00	
+0.25	0		0	-0.25	-0.48		444 + 19.69	
							445 + 35.00	EQ. RAMP A. STA. 22+88.97 (12' WIDE RAMP)
							450 + 00.00	EQ. RAMP D STA. 8+00.00
							451 + 00	END RAMP A TAPER
							461 + 00	END DIVIDED HIGHWAY TRANSITION
+0.25	0		0	-0.25	-0.48		466 + 69.27	
+0.20	0		0	-0.20	-0.43		467 + 00	
+0.19	0		0	-0.19	-0.42		467 + 06.47	
							467 + 14.27	P.T. CURVE #1
+0.12	0		0	-0.19	-0.42		467 + 50	
+0.03	0		0	-0.19	-0.42		468 + 00	
0	0		0	-0.19	-0.42		468 + 19.27	
-0.05	0		0	-0.19	-0.42		468 + 50	
-0.13	0		0	-0.19	-0.42		469 + 00	
-0.22	0		0	-0.19	-0.42		469 + 50	
-0.25	0		0	-0.19	-0.42		469 + 69.27	
							478 + 95.44	P.C. CURVE #2
							491 + 28.50	P.T. CURVE #2
-0.25	0		0	-0.19	-0.42		495 + 00	END EASTBOUND CLIMBING LANE; BEGIN TAPER
-0.25	0		0	-0.19	-0.40		495 + 50	
-0.25	0		0	-0.19	-0.37		496 + 00	
-0.25	0		0	-0.19	-0.35		496 + 50	
-0.25	0		0	-0.19	-0.33		497 + 00	
-0.25	0		0	-0.19	-0.31		497 + 50	
-0.25	0		0	-0.19	-0.29		498 + 00	
-0.25	0		0	-0.19	-0.27		498 + 50 BACK	RELOCATE "GRADE" FROM W.B. ℄ (2) TO
0	+0.25		+0.25	+0.06	-0.02		498 + 50 AHEAD	W.B. LT. E.P. (1) AT 498+50
0	+0.25		+0.25	+0.06	0		499 + 00	
0	+0.25		+0.25	+0.06	+0.02		499 + 50	
0	+0.25		+0.25	+0.06	+0.04		500 + 00	
0	+0.25		+0.25	+0.06	+0.04		500 + 01.70	
0	+0.15		+0.15	-0.04	-0.04		500 + 50	END EASTBOUND CLIMBING LANE TAPER
0	+0.04		+0.04	-0.15	--		501 + 00	
0	0		0	-0.20			501 + 17.98 BK/ 501 + 21.41 AHD	HORIZONTAL CONTROL SHIFT; BEGIN W.B./E.B. CROSSOVER; T.S. CURVE #3
0	-0.06		-0.06	-0.25			501 + 50	
0	-0.17		-0.17	-0.35			502 + 00	
0	-0.19		-0.19	-0.38			502 + 08.68	
0	-0.28		-0.28	-0.55			502 + 50	
0	-0.36		-0.36	-0.72			502 + 88.91	S.C. CURVE #3
0	-0.36		-0.36	-0.72			503 + 00	
							520 + 00.00	END CONTRACT 2/BEGIN CONTRACT 1
0	-0.36		-0.36	-0.72			522 + 68.97	C.S. CURVE #3
0	-0.29		-0.29	-0.59			523 + 00	
0	-0.25		-0.25	-0.50			523 + 20.13	
0	-0.19		-0.19	-0.44			523 + 50	
0	-0.08		-0.08	-0.33			524 + 00	
0	0		0	-0.25			524 + 36.41	S.T. CURVE #3
0	+0.03		+0.03	-0.22			524 + 50	
0	+0.14		+0.14	-0.11			525 + 00	
0	+0.24		+0.24	-0.01			525 + 50	
0	+0.25		+0.25	0			525 + 52.69	

SUPERELEVATION TABULATION

STATION EB ON-RAMP	CROSS SLOPE 14' LT. OF PG
	SEE GRADING PLAN
10 + 50	-0.64
11 + 00	-1.04
11 + 10	-1.12
12 + 00	-1.12
12 + 50	-0.78
13 + 00	-0.45
13 + 50	-0.10
13 + 80	+0.10
14 + 00	+0.15
14 + 50	+0.29
15 + 00	+0.43
15 + 50	+0.57
16 + 00	+0.71
16 + 50	+0.85
17 + 00	+1.00
17 + 40	+1.12
18 + 80.47	+1.12
18 + 95	+1.06
	SEE GRADING PLAN

SUPERELEVATION TABULATION

STATION EB OFF-RAMP	CROSS SLOPE 14' LT. OF PG
	SEE GRADING PLAN
14 + 50	+1.12
15 + 00	+0.92
17 + 50	+0.92
18 + 00	+0.98
20 + 50	+0.98
21 + 00	+0.60
21 + 50	+0.29
22 + 00	+0.11
22 + 50	-0.17
22 + 60	-0.21

SUPERELEVATION TABULATION

STATION WB ON-RAMP	CROSS SLOPE 14' LT. OF PG
	SEE GRADING PLAN
12 + 75	-0.50
13 + 00	-0.36
13 + 50	-0.11
14 + 00	-0.15
14 + 28	-0.29
17 + 65	+0.29
	SEE GRADING PLAN

SUPERELEVATION TABULATION

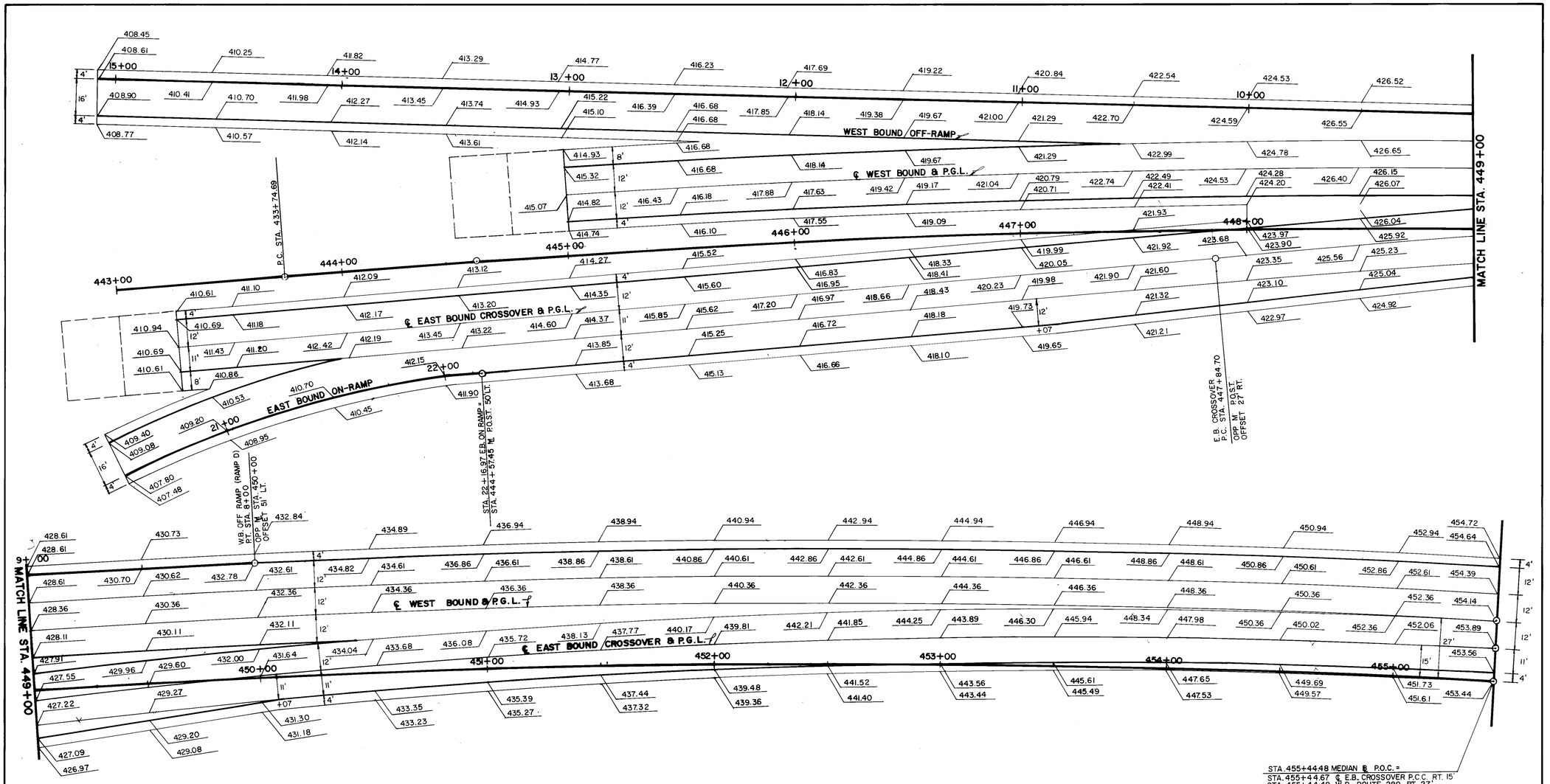
STATION WB OFF-RAMP	CROSS SLOPE 14' LT. OF PG
12 + 00	+0.29
12 + 50	+0.29
13 + 00	+0.29
15 + 70	+0.29
16 + 00	+0.21
16 + 50	+0.10
17 + 00	-0.01
17 + 50	-0.13
18 + 00	-0.24
18 + 20	-0.29
22 + 30	-0.29
	SEE GRADING PLAN

20 0 20 40
SCALE IN FEET

SURVEYED BY _____ DATE _____
DRAWN BY T. KARIS DATE _____
TRACED BY V. HECHT DATE _____

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON- COLCHESTER NO. PB 033-1(?)

SHEET 90 OF 400



W.B. OFF-RAMP (RAMP D)/ E.B. ON-RAMP (RAMP A) @ RTE 2A

GRADING PLAN

SCALE: 1" = 20'

BUILT AS DESIGNED 4/19/94

REVISED 2/28/91

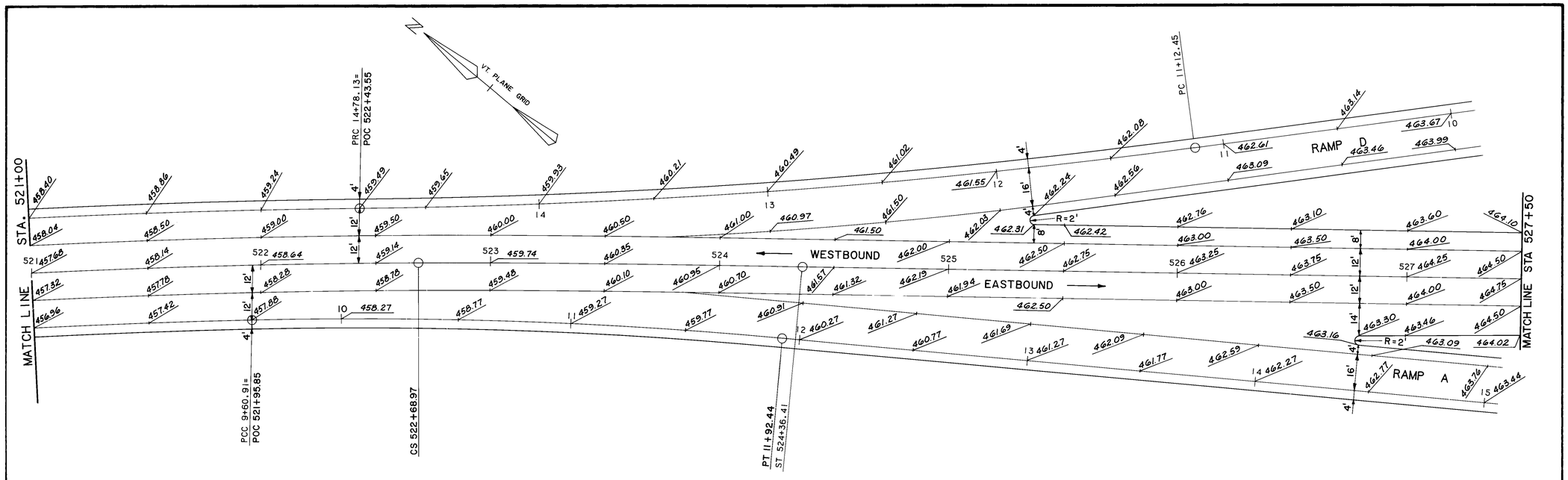
SURVEYED BY		DATE
DRAWN BY	SJS	DATE 12/90
TRACED BY	ATC	DATE 12/90

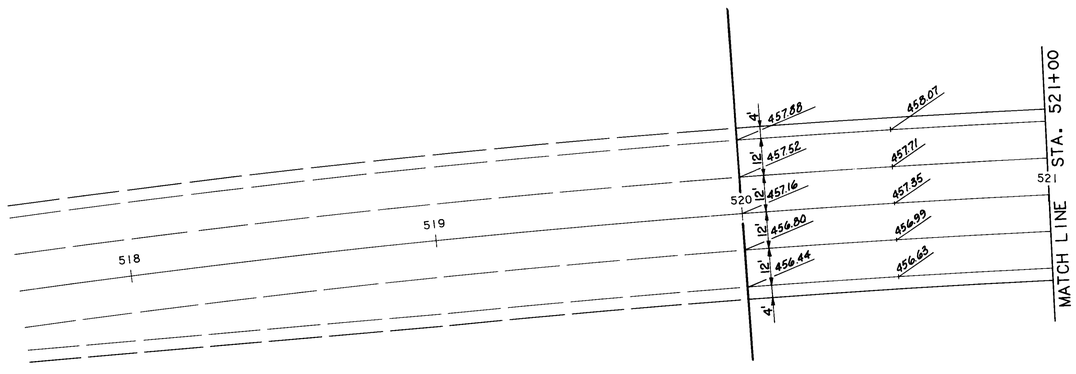
PROJ. VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON- COLCHESTER NO. PB 033-1(2)

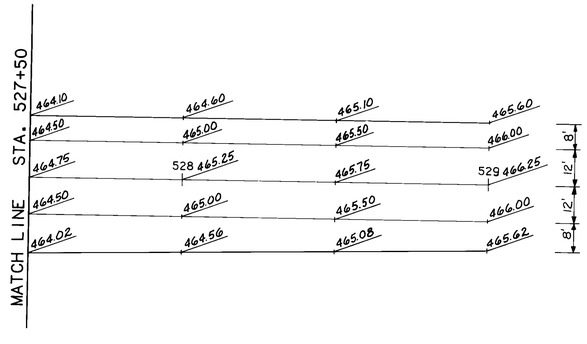
SHEET 91 OF 400

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

20 0 20 40
SCALE IN FEET







DATUM
VERTICAL _____
HORIZONTAL _____

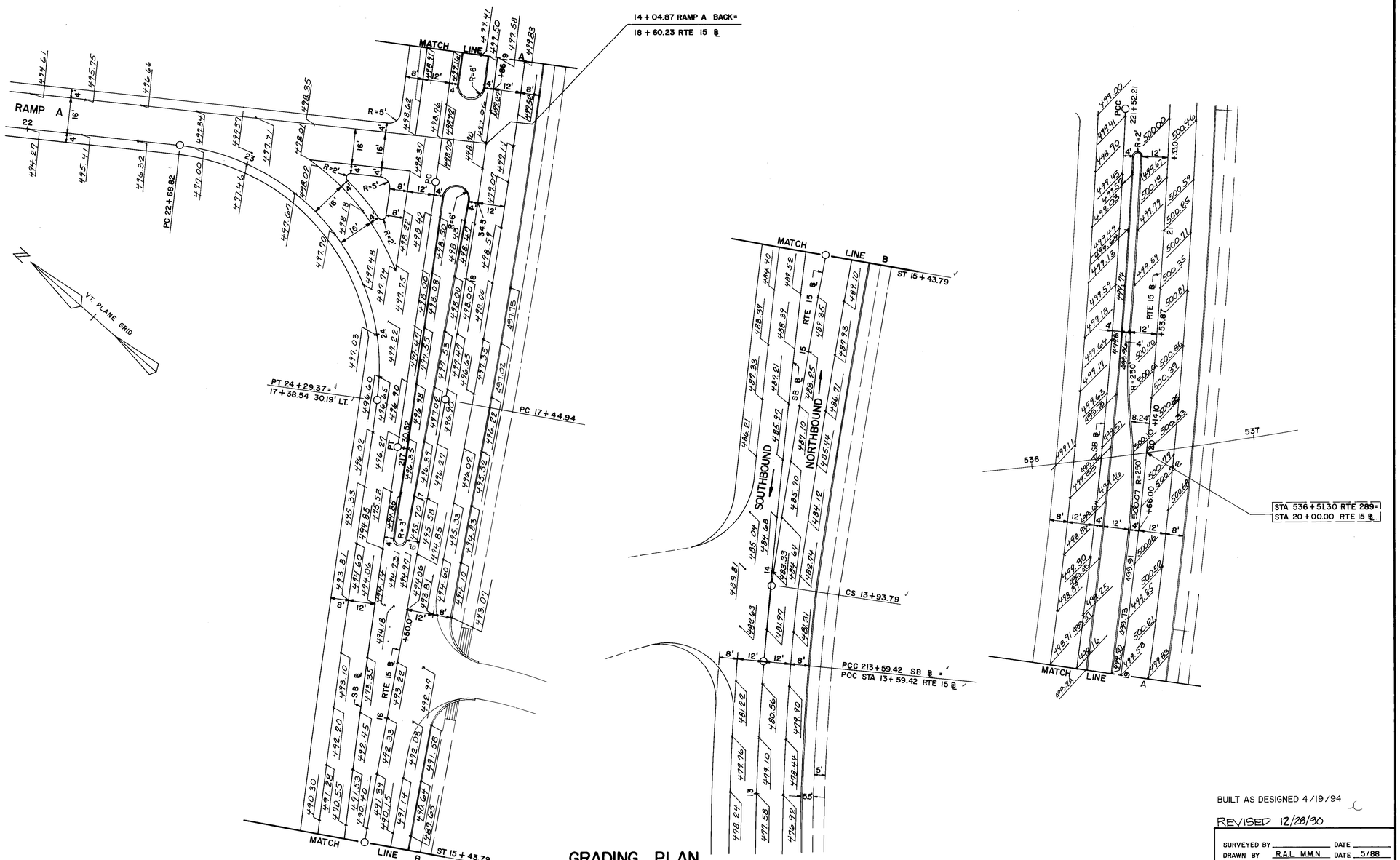
GRADING PLAN
ROUTE 15 - RAMP A & RAMP D
AT VERMONT ROUTE 289

BUILT AS DESIGNED 4/19/94

REVISED 12/28/90

SURVEYED BY _____ DATE _____
DRAWN BY MMN DATE 10/88
TRACED BY JFD DATE 11/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON COLCHESTER NO. PB 033-1 (2)
SHEET 92 OF 480



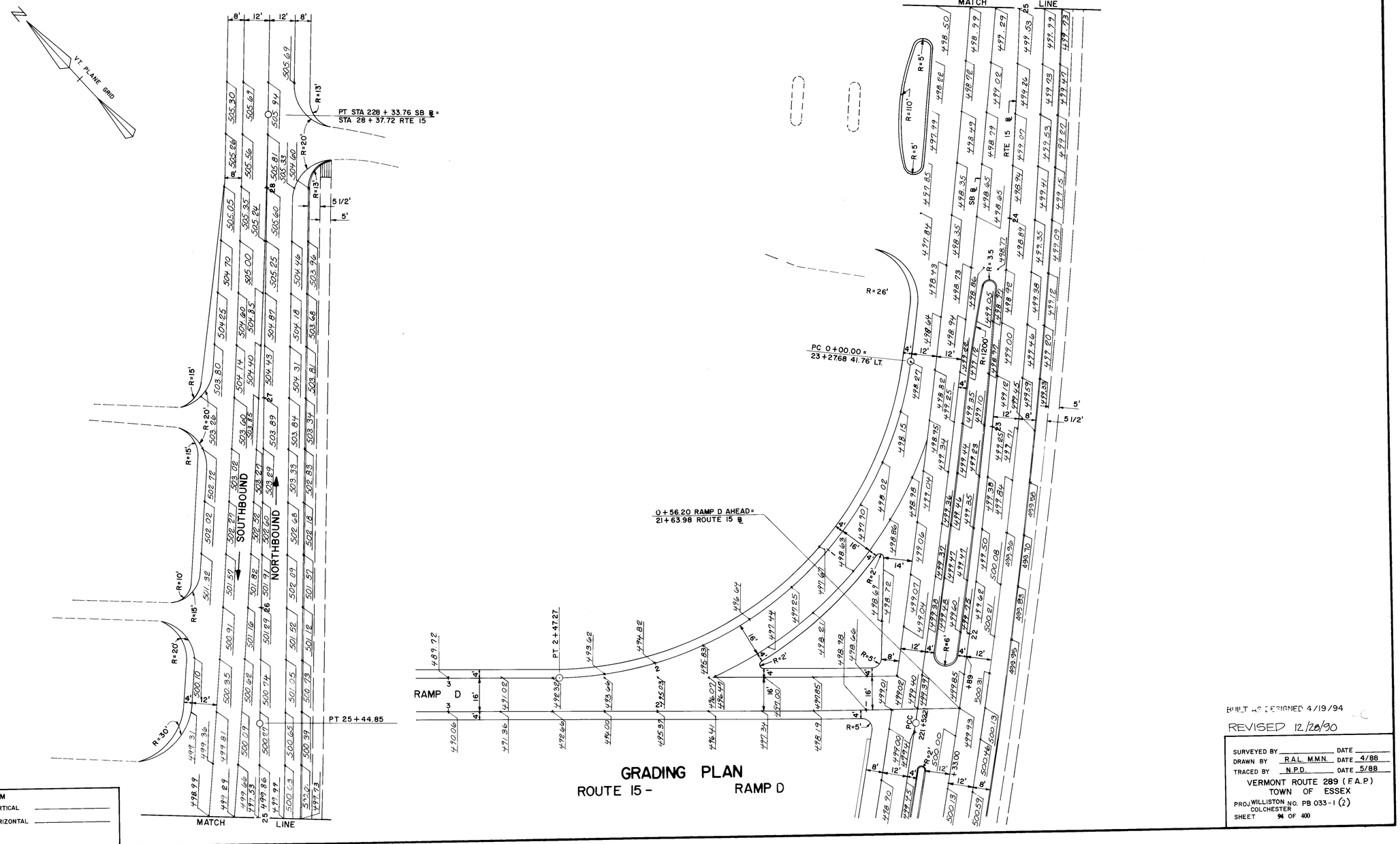
GRADING PLAN
ROUTE 15 - RAMP A

DATUM
VERTICAL _____
HORIZONTAL _____

BUILT AS DESIGNED 4/19/94
REVISED 12/28/90

SURVEYED BY _____ DATE _____
DRAWN BY R.A.L. M.M.N. DATE 5/88
TRACED BY N.P.D. DATE 6/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO. PB 033-1 (2)
COLCHESTER
SHEET 93 OF 400



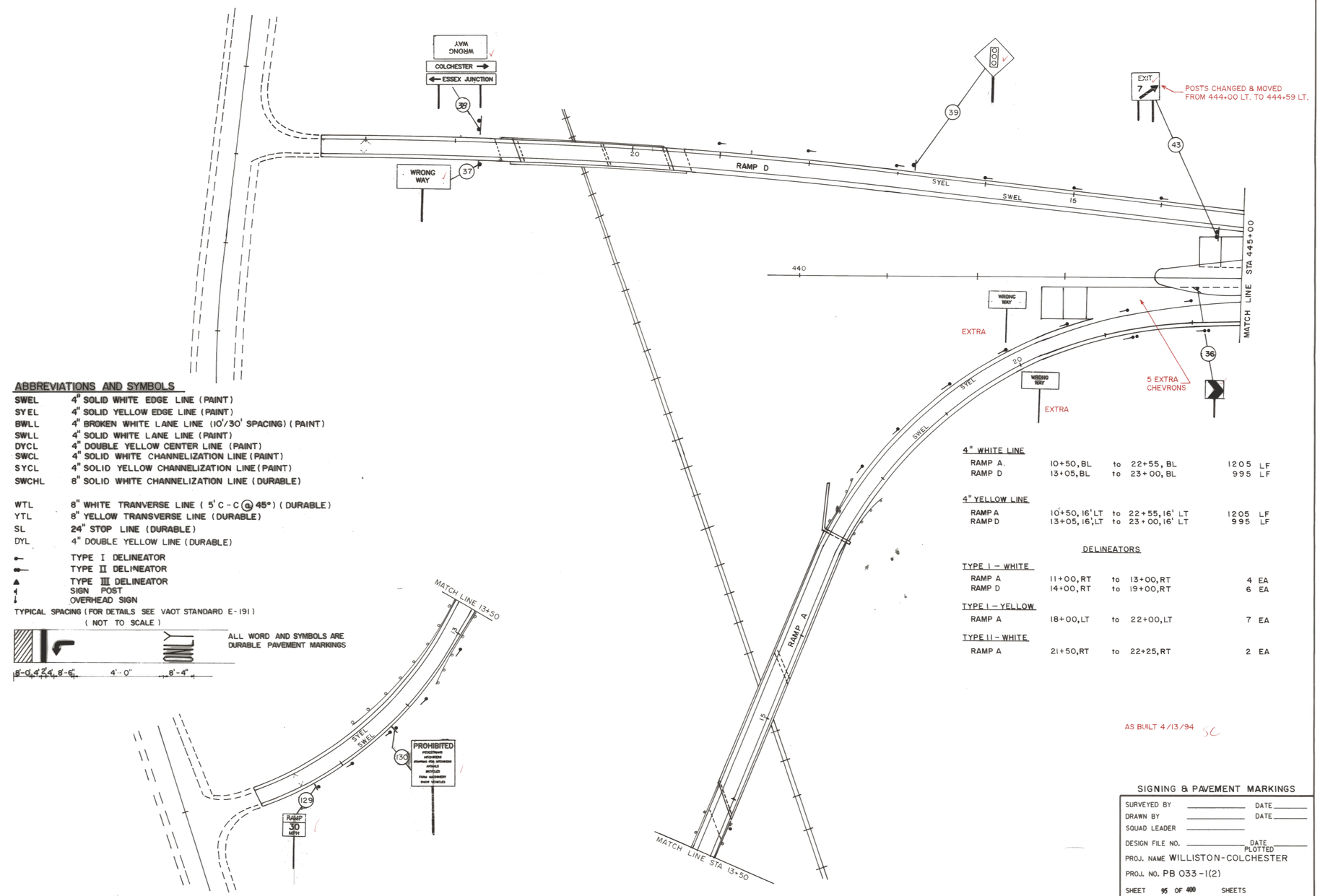
DATUM
VERTICAL _____
HORIZONTAL _____

GRADING PLAN
ROUTE 15 - RAMP D

BUILT AS DESIGNED 4/19/94
REVISED 12/28/90

SURVEYED BY _____ DATE _____
DRAWN BY R.A.L. M.M.N. DATE 4/88
TRACED BY N.P.D. DATE 5/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO. PB 033-1 (2)
COLCHESTER
SHEET 94 OF 400



ABBREVIATIONS AND SYMBOLS

SWEL	4" SOLID WHITE EDGE LINE (PAINT)
SYEL	4" SOLID YELLOW EDGE LINE (PAINT)
BWLL	4" BROKEN WHITE LANE LINE (10'/30' SPACING) (PAINT)
SWLL	4" SOLID WHITE LANE LINE (PAINT)
DYCL	4" DOUBLE YELLOW CENTER LINE (PAINT)
SWCL	4" SOLID WHITE CHANNELIZATION LINE (PAINT)
SYCL	4" SOLID YELLOW CHANNELIZATION LINE (PAINT)
SWCHL	8" SOLID WHITE CHANNELIZATION LINE (DURABLE)
WTL	8" WHITE TRANVERSE LINE (5' C-C @ 45°) (DURABLE)
YTL	8" YELLOW TRANSVERSE LINE (DURABLE)
SL	24" STOP LINE (DURABLE)
DYL	4" DOUBLE YELLOW LINE (DURABLE)
●—	TYPE I DELINEATOR
●●—	TYPE II DELINEATOR
▲	TYPE III DELINEATOR
↓	SIGN POST
↓	OVERHEAD SIGN

TYPICAL SPACING (FOR DETAILS SEE VAOT STANDARD E-191)
(NOT TO SCALE)

ALL WORD AND SYMBOLS ARE DURABLE PAVEMENT MARKINGS

4" WHITE LINE

RAMP A	10+50, BL	to	22+55, BL	1205 LF
RAMP D	13+05, BL	to	23+00, BL	995 LF

4" YELLOW LINE

RAMP A	10+50, 16' LT	to	22+55, 16' LT	1205 LF
RAMP D	13+05, 16' LT	to	23+00, 16' LT	995 LF

DELINEATORS

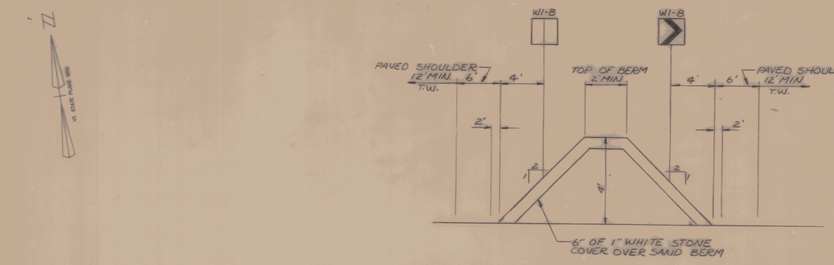
TYPE I – WHITE				
RAMP A	11+00, RT	to	13+00, RT	4 EA
RAMP D	14+00, RT	to	19+00, RT	6 EA
TYPE I – YELLOW				
RAMP A	18+00, LT	to	22+00, LT	7 EA
TYPE II – WHITE				
RAMP A	21+50, RT	to	22+25, RT	2 EA

AS BUILT 4/13/94 SC

DATUM
VERTICAL _____
HORIZONTAL _____

SIGNING & PAVEMENT MARKINGS

SURVEYED BY _____ DATE _____
DRAWN BY _____ DATE _____
SQUAD LEADER _____
DESIGN FILE NO. _____ DATE PLOTTED _____
PROJ. NAME WILLISTON-COLCHESTER
PROJ. NO. PB 033-1(2)
SHEET 95 OF 400 SHEETS



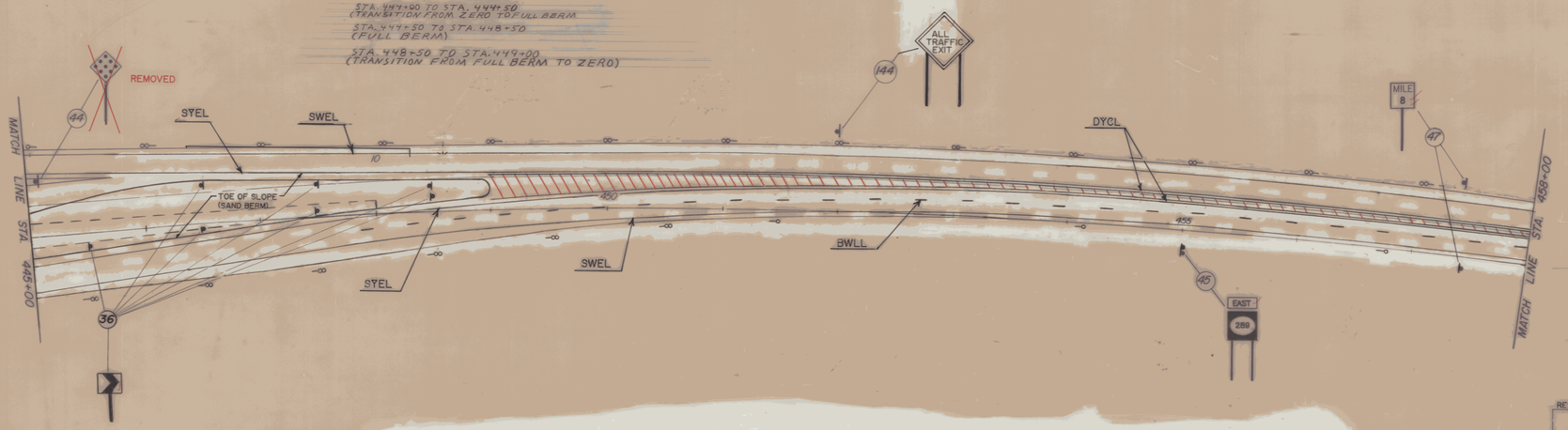
SAND MEDIAN BERM DETAIL

NOT TO SCALE

STA. 444+90 TO STA. 444+50
(TRANSITION FROM ZERO TO FULL BERM.

STA. 444+50 TO STA. 448+50
(FULL BERM)

STA. 448+50 TO STA. 449+00
(TRANSITION FROM FULL BERM TO ZERO)



					Pay Length
4" WHITE LINE					
Vt. Rte. 289	445+00,	48' Rt.	to 448+00, 23' Rt.	(solid)	300 L.F.
	448+00,	23' Rt.	to 458+00, 23' Rt.	(solid)	1000 L.F.
	447+90,	13' Rt.	to 458+00, 15' Lt.	(dashed)	260 L.F.
	448+79,	66' Lt.	to 450+00, 48' Lt.	(solid)	121 L.F.
	450+00,	48' Lt.	to 458+00, 48' Lt.	(solid)	800 L.F.
W.B. Off-Ramp	12+25,		to 13+05	(solid)	80 L.F.
4" YELLOW LINE					
Vt. Rte. 289	445+00,	25" Rt.	to 449+00, 6' Lt.	(solid)	400 L.F.
	445+78,	50' Lt.	to 449+00, 33' Lt.	(solid)	322 L.F.
	449+00,	9' Lt.	to 458+00, 25' Lt.	(double)	1800 L.F.
	449+00,	31' Lt.	to 458+00, 31' Lt.	(double)	1800 L.F.
W.B. Off-Ramp	12+25,	16' Lt.	to 13+05, 16' Lt.	(solid)	80 L.F.

TYPE I WHITE WITHOUT MILEPOST PLAQUE	
13+00 W.B. Off-Ramp Rt. -	1 Ea.
451+00 to 458+00 E.B. Rt.-	3 Ea.
TYPE II WHITE	
445+00 TO 458+00 W.B. Rt.-	12 Ea.
445+00 to 451+00 E.B. Rt.-	6 Ea.

NOTE:
REFER TO V.A.O.T. STD. SHTS. E-197 THROUGH E-199 FOR ADDITIONAL DETAILS FOR DELINEATOR PLACEMENT.

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

50 0 50 100
SCALE IN FEET

REVISED 2/28/91

LEGEND

R - REMOVE
RET - RETAIN
RELOC - RELOCATE

10 — EXISTING SIGN
31 — PROPOSED SIGN
289 289 10 — EXISTING SIGN MOUNTED ON BACK

- TYPE I - MILEPOST WITHOUT REFLECTOR
- TYPE I - WHITE DELINEATOR WITHOUT MILEPOST PLAQUE
- TYPE II - WHITE DELINEATOR
- TYPE III - WHITE DELINEATOR
- TYPE I - YELLOW DELINEATOR
- TYPE III - YELLOW DELINEATOR

SURVEYED BY _____ DATE _____
DRAWN BY T. KARIS DATE _____
TRACED BY J. LUKOVITS DATE 2/89

VERMONT ROUTE 289 (FA P)
TOWN OF ESSEX
PROJ. WILLISTON - NQ PB 033-1(2)
COLCHESTER
SHEET 96 OF 400



4" WHITE LINE					PAY LENGTH
VT. RTE. 289	458+00, 4' LT.	TO	461+00, 4' LT.	(SOLID)	300 L.F.
	461+00,	TO	473+00, 4' LT.	(SOLID)	1200 L.F.
	458+00, 15' LT.	TO	461+00, 15' LT.	(DASHED)	75 L.F.
	461+00	TO	473+00, 15' LT.	(DASHED)	300 L.F.
	458+00	TO	463+00, 47' LT.	(SOLID)	500 L.F.
	463+00, 47' LT.	TO	465+00, 39' LT.	(SOLID)	200 L.F.
	465+00	TO	473+00, 39' LT.	(SOLID)	800 L.F.

4" YELLOW LINE					PAY LENGTH
VT. RTE. 289	464+00	TO	473+00, 27' LT.	(DOUBLE)	1800 L.F.
	458+00, 31' LT.	TO	464+00, 31' LT.	(DOUBLE)	1200 L.F.
	458+00, 27' LT.	TO	464+00, 27'	(DOUBLE)	1200 L.F.

TYPE I WHITE WITHOUT MILEPOST PLAQUE
458+00 TO 473+00 EB. RT. – 4 EA.
W.B. RT. – 1 EA.

TYPE II WHITE
458+00 TO 465+00 W.B. RT. – 8 EA.

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

NOTE:
REFER TO V.A.O.T. STD. SHTS. E-197 THROUGH E-199 FOR ADDITIONAL DETAILS FOR DELINEATOR PLACEMENT.

50 0 50 100
SCALE IN FEET

LEGEND

R - REMOVE
RET - RETAIN
RELOC - RELOCATE

10 — EXISTING SIGN
31 — PROPOSED SIGN
289 289 10 — EXISTING SIGN MOUNTED ON BACK

TYPE I- MILEPOST WITHOUT REFLECTOR
TYPE I- WHITE DELINEATOR WITHOUT MILEPOST PLAQUE
TYPE II- WHITE DELINEATOR
TYPE III- WHITE DELINEATOR
TYPE I- YELLOW DELINEATOR
TYPE II- YELLOW DELINEATOR

SURVEYED BY _____ DATE _____
DRAWN BY T. KARIS DATE _____
TRACED BY J. LUKOVITS DATE 2/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1(2)
COLCHESTER
SHEET 97 OF 400



4" WHITE LINE			PAY LENGTH
VT. RTE. 289	473+00 TO 488+00,	4' LT. (SOLID)	1500 L.F.
	473+00 TO 488+00,	15' LT. (DASHED)	375 L.F.
	473+00 TO 488+00,	39' LT. (SOLID)	1500 L.F.

4" YELLOW LINE			PAY LENGTH
VT. RTE. 289	473+00 TO 488+00,	27' LT. (DOUBLE)	3000 L.F.

LEGEND

R - REMOVE
RET - RETAIN
RELOC - RELOCATE

10 — EXISTING SIGN

31 — PROPOSED SIGN

289 / 289 / 10 — EXISTING SIGN MOUNTED ON BACK

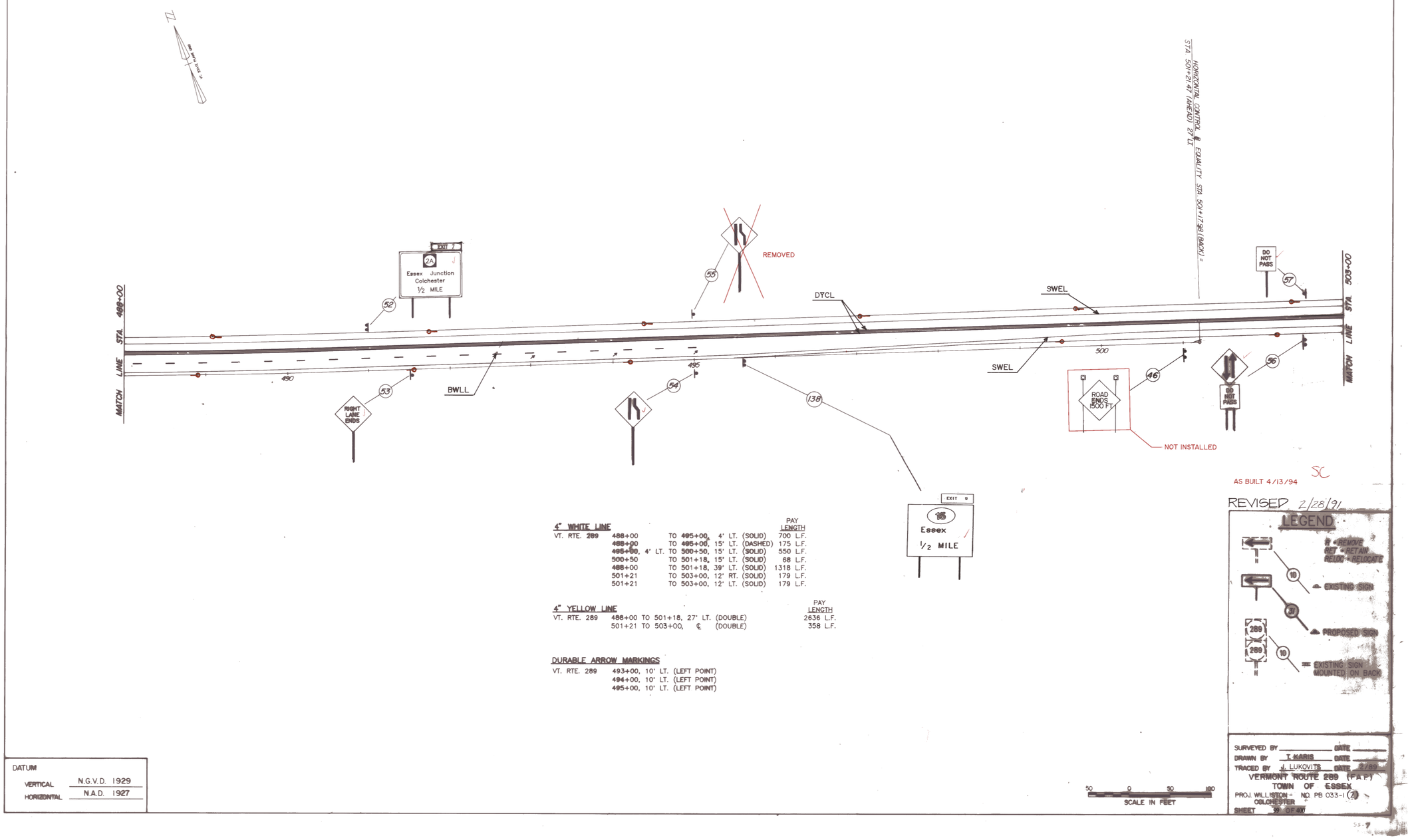
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

AS-BUILT 5/1/94 JG

50 0 50 100
SCALE IN FEET

SURVEYED BY _____ DATE _____
DRAWN BY T. KARIS DATE _____
TRACED BY V. HECHT DATE 2/89

VERMONT ROUTE 289 (FAP)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO PB 033-1(2)
SHEET 98 OF 400



AS BUILT 4/13/94 SC

REVISED 2/28/91

4" WHITE LINE

VT. RTE. 289			PAY LENGTH
	488+00	TO 495+00, 4' LT. (SOLID)	700 L.F.
	488+00	TO 495+00, 15' LT. (DASHED)	175 L.F.
	495+00, 4' LT.	TO 500+50, 15' LT. (SOLID)	550 L.F.
	500+50	TO 501+18, 15' LT. (SOLID)	68 L.F.
	488+00	TO 501+18, 39' LT. (SOLID)	1318 L.F.
	501+21	TO 503+00, 12' RT. (SOLID)	179 L.F.
	501+21	TO 503+00, 12' LT. (SOLID)	179 L.F.

4" YELLOW LINE

VT. RTE. 289		PAY LENGTH
	488+00 TO 501+18, 27' LT. (DOUBLE)	2636 L.F.
	501+21 TO 503+00, ℄ (DOUBLE)	358 L.F.

DURABLE ARROW MARKINGS

VT. RTE. 289
493+00, 10' LT. (LEFT POINT)
494+00, 10' LT. (LEFT POINT)
495+00, 10' LT. (LEFT POINT)

LEGEND

R - REMOVE
RET - RETAIN
RELOC - RELOCATE

10 — EXISTING SIGN
20 — PROPOSED SIGN
289 289 10 — EXISTING SIGN MOUNTED ON BACK

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

50 0 50 100
SCALE IN FEET

SURVEYED BY _____ DATE _____
DRAWN BY T. MARIS DATE _____
TRACED BY J. LUKOVITS DATE 2/89

VERMONT ROUTE 289 (FAP)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1 (2)
COLCHESTER

SHEET 29 OF 407



AS BUILT 4/13/94

SC

REVISED 2/22/91

4" WHITE LINE			PAY LENGTH
VT. RTE. 289	503+00	TO 514+50, 12' LT. (SOLID)	1150 L.F.
	503+00	TO 516+50, 12' LT. (SOLID)	1350 L.F.
	514+50, 12' LT.	TO 517+50, 24' LT. (SOLID)	300 L.F.
	516+50, 12' RT.	TO 518+00, 24' RT. (SOLID)	150 L.F.
	517+50, 24' LT.	TO 518+00, 24' LT. (SOLID)	50 L.F.

4" YELLOW LINE		PAY LENGTH
VT. RTE. 289	503+00 TO 514+50, ℄ (DOUBLE)	2300 L.F.
	514+50 TO 518+00, 12' LT. (DOUBLE)	700 L.F.
	514+50 TO 518+00, 12' RT. (DOUBLE)	700 L.F.

LEGEND

R - REMOVE
RET - RETAIN
RELOC - RELOCATE

10 — EXISTING SIGN

31 — PROPOSED SIGN

289 / 289 — 10 — EXISTING SIGN MOUNTED ON BACK

DATUM

VERTICAL N.G.V.D. 1929

HORIZONTAL N.A.D. 1927

50 0 50 100

SCALE IN FEET

SURVEYED BY _____ DATE _____

DRAWN BY T. KARIS DATE _____

TRACED BY J. LUKOVITS DATE 2/89

VERMONT ROUTE 289 (F.A.P.)

TOWN OF ESSEX

PROJ WILLISTON - NO. PB 033-1 (2)

COLCHESTER

SHEET 100 OF 400

E345,250

N

VT. PLANE GRID

E345,750

N733,500

N733,000

4" WHITE LINE		
518+00 RT TO RAMP A 15+10 RT		950 LF
518+00 LT TO RAMP D 9+72 RT		950 LF
		1900 LF
4" YELLOW LINE		
518+00 RT TO 522+00 RT (DOUBLE)		800 LF
518+00 LT TO 522+00 LT (DOUBLE)		800 LF
522+00 RT TO RAMP A 15+10 LT		550 LF
522+00 LT TO RAMP D 15+10 LT		550 LF
		2700 LF
DELINEATORS		
TYPE I WHITE		2 EA
TYPE II WHITE		12 EA

Indian

Brook

MATCH LINE STA 518+00

4" DOUBLE YELLOW LINE (DURABLE)

DYL

WEST

289

DELETED

SWEL

SYEL

RAMP D

RAMP A

10 SWEL

TOE OF SLOPE (SAND BERM)

POLE NO 1 SEE SHEET OF

EXIT 9

15

Essex

STA 527+50

MATCH LINE

NOTE: SEE CONTRACT FEGC 033-1(8) FOR CONTINUATION OF PAVEMENT MARKINGS AND SIGNAGE BEYOND MAINLINE STA 520+00.

E344,750

N733,000

E345,250

N732,500

TRAFFIC CONTROL DEVICE LEGEND

- PULL BOX (28" x 28")
- VEHICULAR SIGNAL HEAD
- CONTROL CABINET, POST MOUNTED
- PROPOSED CONDUIT
- LOOP DETECTOR
- STRAIN POLE(ALUMINUM)

ABBREVIATIONS AND SYMBOLS

SWEL	4" SOLID WHITE EDGE LINE (PAINT)
SYEL	4" SOLID YELLOW EDGE LINE (PAINT)
BWLL	4" BROKEN WHITE LANE LINE (10'/30' SPACING) (PAINT)
SWLL	4" SOLID WHITE LANE LINE (PAINT)
DYCL	4" DOUBLE YELLOW CENTER LINE (PAINT)
SWCL	4" SOLID WHITE CHANNELIZATION LINE (PAINT)
SYCL	4" SOLID YELLOW CHANNELIZATION LINE (PAINT)
SWCHL	8" SOLID WHITE CHANNELIZATION LINE (DURABLE)
FOR PAVEMENT MARKING SUMMARY SEE SHEET	
WTL	8" WHITE TRANVERSE LINE (5' C-C @ 45°) (DURABLE)
YTL	8" YELLOW TRANSVERSE LINE (DURABLE)
SL	24" STOP LINE (DURABLE)
DYL	4" DOUBLE YELLOW LINE (DURABLE)
	TYPE I DELINEATOR
	TYPE II DELINEATOR
	TYPE III DELINEATOR
	SIGN POST
	OVERHEAD SIGN

TYPICAL SPACING (FOR DETAILS SEE VAOT STANDARD E-191)
(NOT TO SCALE)

ONLY

8'-0" 4'-0" 4'-0" 8'-0" 4'-0" 8'-4"

ALL WORD AND SYMBOLS ARE DURABLE PAVEMENT MARKINGS

W1-8 W1-8

PAVED SHOULDER T.W. 12'-0" MIN. 4'-0" 4'-0" TOP OF BERM 2'-0" MIN. 4'-0" 4'-0" PAVED SHOULDER T.W. 12'-0" MIN.

2'-0" 2'-0"

2 1 2 1

3'-0"

6" OF 1" WHITE STONE COVER OVER SAND BERM

SAND MEDIAN BERM DETAIL

NOT TO SCALE

STA. 522+50 TO STA. 527+00
(TRANSITION TO FULL BERM)
STA. 522+00 TO STA. 522+50
(TRANSITION FROM FULL BERM TO ZERO STA. 521+00 TO STA. 521+50)

DATUM
VERTICAL _____
HORIZONTAL _____

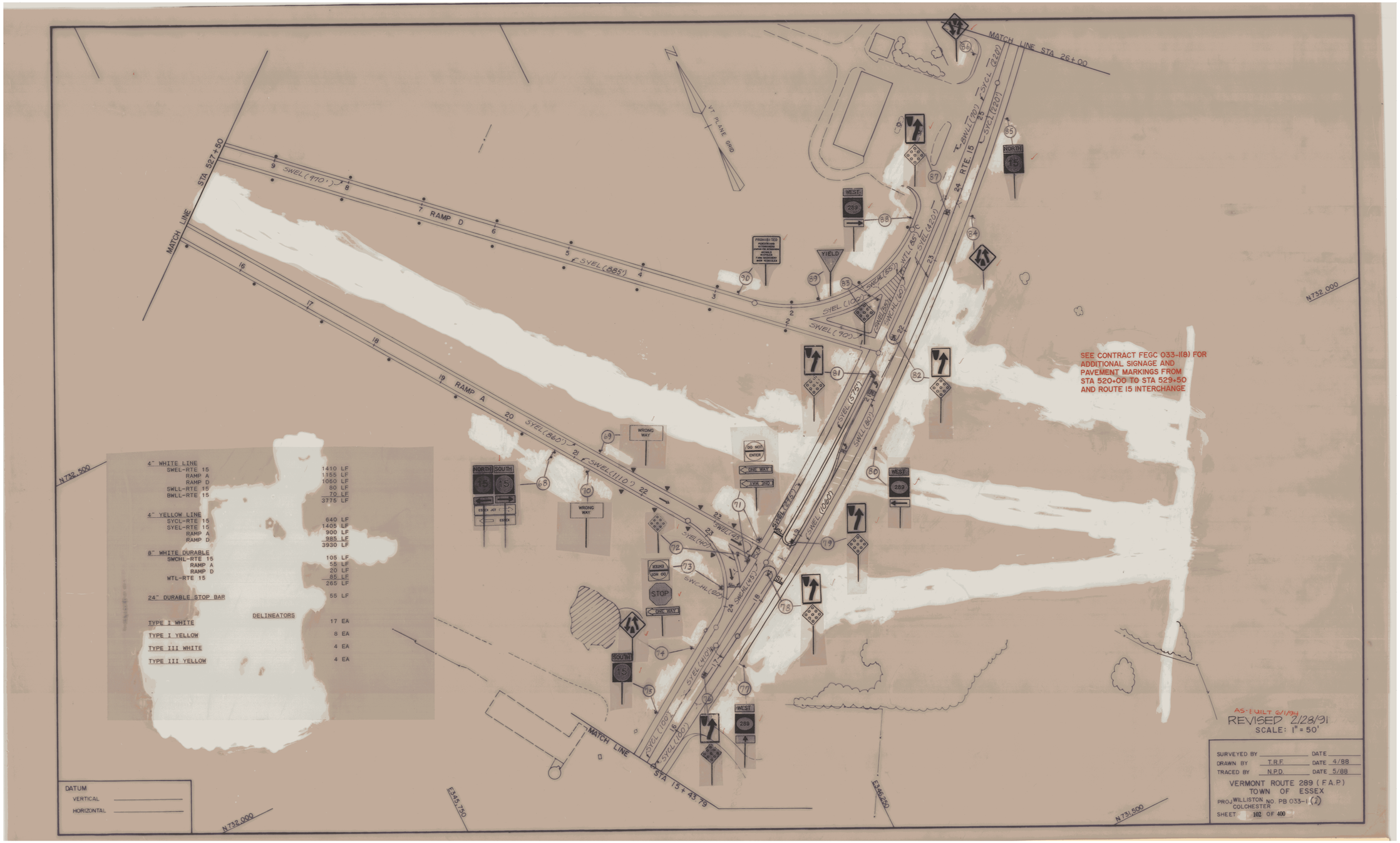
AS BUILT 6/1/94 JB

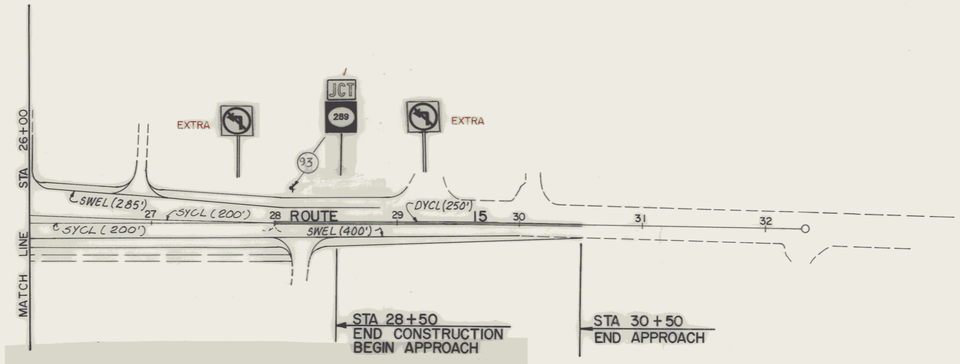
REVISED 2/28/91

SCALE: 1" = 50'

SURVEYED BY _____ DATE _____
DRAWN BY T.R.F. DATE 4/88
TRACED BY N.P.D. DATE 5/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO PB 033-1(2)
COLCHESTER
SHEET 101 OF 400


MATCH LINE STA 527+50
MATCH LINE STA 26+00
VT PLANE GRID
N
RAMP D
RAMP A
RTE. 15
SWEL(970')
SWEL(885')
SWEL(860')
SWEL(1110')
SWEL(90')
SWEL(65')
SWEL(60')
SWEL(420')
SWEL(185')
SWEL(375')
SWEL(80')
SWEL(100')
SWEL(60')
SWEL(40')
SWEL(40')
SWEL(60')
SWCHL(20')
SWCHL(65')
SWCHL(60')
SYCL(700')
SYCL(220')
SYEL(40')
SYEL(100')
SYEL(100')
SYEL(100



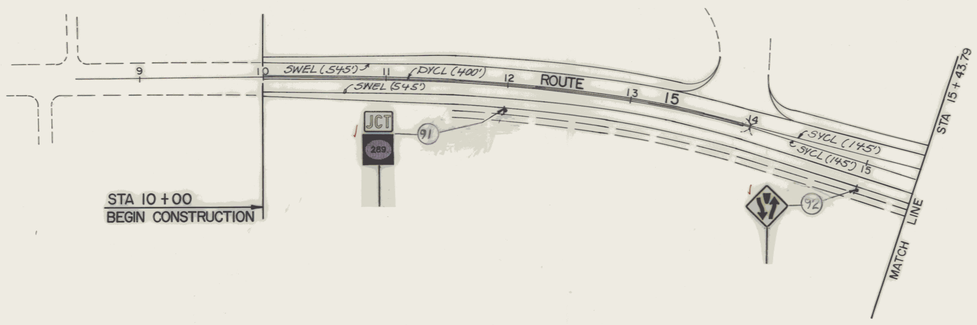
NOTE:
SEE LANG FARM ACCESS ROAD PLANS FOR REVISIONS TO SIGNS AND PAVEMENT MARKINGS.

4" WHITE LINE

10+00 RT TO 15+45 RT	545 LF
10+00 LT TO 15+45 LT	545 LF
26+00 RT TO 30+00 RT	400 LF
26+00 LT TO 28+85 LT	285 LF
	1775 LF

4" YELLOW LINE

10+00 TO 14+00 (DOUBLE)	800 LF
14+00 TO 15+45 (DIVIDED LINE)	290 LF
26+00 TO 28+00 (DIVIDED LINE)	400 LF
28+00 TO 30+50 (DOUBLE)	500 LF
	1990 LF



AS BUILT 4/13/94 SC

SCALE: 1" = 50'

DATUM
VERTICAL _____
HORIZONTAL _____

SURVEYED BY _____ DATE _____
DRAWN BY T.R.F. DATE 4/88
TRACED BY N.P.D. DATE 5/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO. PB 033-1(2)
COLCHESTER
SHEET 103 OF 400

SUMSHEETS.DGN

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS: TO BE SALV.	EXISTING SIGNS: REMOVE	EXISTING SIGNS: RETAIN	NEW AND SALVAGED SIGNS: "A"	"B"	SALV. SIGN	INSTALL UNDER ALTERNATE CONTRACT	EXISTING POSTS: RET.	EXISTING POSTS: DRILL	EXISTING POSTS: REM.	EXISTING POSTS: SALV.	NEW SIGN POSTS: NUMBER OF POSTS	FLANGED CHANNEL LB./FT.: 2.0	2.5	3.0	TUBULAR ALUMINUM: 3.0"ø	3.0"□	4.0"ø	4.0"øM.	TUBULAR STEEL: 3"ø	3.5"ø	4.0"ø	5.0"ø	W SHAPED STEEL: POST SIZE	WEIGHT	ITEM 675.41 24" FTG	ITEM 675.42 30" FTG	REMARKS	FOR SIGN DETAIL SHEET: PLAN SHEET NUMBER	STD. SHEET NUMBER
(8) RTE. 289 STA. 444+50RT, 445+50RT, 446+50 RT&LT, 447+50LT&LT, 448+50LT&LT ~~36-1 - 36-8~~ 36-1 - 36-13		30"x 36"				8(7.5) 60								6				6@15														E-150
RTE. 289 W.B. OFF RAMP STA. 21+70 LT. 37	WRONG WAY	36"x 24"				6								1				16														E-143
RTE. 289 W.B. OFF RAMP STA. 21+70+ RT. 38-1	WRONG WAY	36"x 24"				6								2			15/16														"
RTE. 289 W.B. OFF RAMP STA. 21+70+ RT. 38-2	COLCHESTER →	72"x 10"				5																								C-SERIES TEXT, 6"		E-123
RTE. 289 W.B OFF RAMP STA. 21+70+ RT. 38-3	← ESSEX JUNCTION	72"x 10"				5																								B-SERIES TEXT, 6"		"
RTE. 289 W.B OFF RAMP STA. 16+80+ RT. 39		36"x 36"				9			NOTE: SIGN #43 POSTS CHANGED TO TUBULAR STEEL "BREAK-AWAY" — SEE CONTRACT FEGC 033-1(8) CHANGE ORDER #10					1				15														E-152
RTE. 289 STA. 441+85+ RT. 40	N.I.C.	36"x 36"				9								1				16														E-150
RTE. 289 STA. 444+15+ LT. ~~41~~	~~DO NOT ENTER~~																															
RTE. 289 E.B ON RAMP STA. 21+65+ RT. ~~42~~																																
RTE. 289 W.B OFF RAMP STA. 444+70+ LT. 43	EXIT 7	72"x 60"					30							2				18/18				SEE NOTE										E-131
RTE 289 STA 445+10± LT 44		18" x 18"				2.25								1	12															INSTALLED AND REMOVED		E-150
RTE 289 STA. 455+00+ RT 45-1	EAST	30"x 15"				3.1								2		13/14														SPECIAL SIZE SIGN		E-136
RTE. 289 STA 455+00+ RT 45-2	289	45"x 36"				11.25																										"
RTE. 289 STA. 501+00 RT 46	ROAD ENDS 1500 FT	48"x48"				16								2			16/16															E-109
RTE. 289 STA. 457+40± RT. 47-1	MILE 8	12"x 24"				2								1		12																E-139
RTE. 289 STA. 457+40± LT. 47-2	MILE 8	12"x 24"				2								1		12																"
RTE. 289 STA. 465+00+ RT. 48	SPEED LIMIT 50	36"x 48"				12								1				16														E-142
RTE. 289 STA. 471+00± LT. 49-1	EXIT 7	96"x 30"				20								2												W12x30	1710		2			E-131
RTE. 289 STA. 471+00± LT. 49-2	Essex Junction Colchester	200.5"x144"					200.5																							SEE SHEET NO. 109 FOR SIGN FACE LAYOUT		
RTE. 289 ~~471+60 RT~~ STA. ~~468+00+ RT.~~ 50	98 Essex 1 MILE	120"x120"					100		INSTALLED AT STA. 471+60 RT SIGN AND POST REMOVED					2													W6x15	750	2		SEE SHEET NO. 109 FOR SIGN FACE LAYOUT AS-BUILT 6/1/94 GE		
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S "SIGN POST DESIGN MANUAL". TOTALS				EA.		SF. 168.6	SF. 330.5	EA.	EA.						340.5			359.1 S.									2460	2	2	TRAFFIC SIGN SUMMARY SHEET		

PREPARED BY TR DATE 4-91
CHECKED BY ___ DATE ___
DESIGN SUPERVISOR ___ DATE ___
PROJ. PB 033-1(2)
WILLISTON-COLCHESTER
VT RTE 289 (FAP) TOWN OF ESSEX
TRAFFIC SHEET NO. ___ OF ___
SHEET 104 OF 400 SHEETS

SUMSHEETS.DGN

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS: TO BE SALV.	EXISTING SIGNS: REMOVE	EXISTING SIGNS: RETAIN	NEW AND SALVAGED SIGNS: "A"	NEW AND SALVAGED SIGNS: "B"	NEW AND SALVAGED SIGNS: SALV. SIGN	INSTALL UNDER ALTERNATE CONTRACT	EXISTING POSTS: RET.	EXISTING POSTS: DRILL	EXISTING POSTS: REM.	EXISTING POSTS: SALV.	NEW SIGN POSTS: NUMBER OF POSTS	FLANGED CHANNEL LB./FT. 2.0	FLANGED CHANNEL LB./FT. 2.5	FLANGED CHANNEL LB./FT. 3.0	TUBULAR ALUMINUM 3.0"ø	TUBULAR ALUMINUM 3.0"□	TUBULAR ALUMINUM 4.0" ø	TUBULAR ALUMINUM 4.0"øM.	TUBULAR STEEL 3" Ø	TUBULAR STEEL 3.5" Ø	TUBULAR STEEL 4.0" Ø	TUBULAR STEEL 5.0" Ø	W SHAPED STEEL POST SIZE	W SHAPED STEEL WEIGHT	ITEM 675.48 24" FTG	ITEM 675.42 30" FTG	REMARKS	FOR SIGN DETAIL SHEET: PLAN SHEET NUMBER	FOR SIGN DETAIL SHEET: STD. SHEET NUMBER
RTE. 289 STA. 468+00 LT. 51	ROAD ENDS 1000 FT.	~~48" x 48"~~ ~~36" x 36"~~				~~16~~ 9								24				2@16													With Flashing Beacons See sheet 115A		E-151
RTE. 289 STA. 491+00 LT. 52-1	EXIT 7	96"x30"				20								2												W10x22	1276	2				E-131
RTE. 289 STA. 491+00 LT. 52-2	28 Essex Junction Colchester ½ MILE	200.5"x138"					192.1																							SEE SHEET NO. 109 FOR SIGN FACE LAYOUT		
RTE. 289 STA. 491+50± RT. 53	RIGHT LANE ENDS	36"x36"				9								1				16														M.U.T.C.D. W9-1
RTE. 289 STA. 495+00± RT. 54		36"x36"				9								1				16														E-151
RTE. 289 STA. 495+00± LT. 55	DELETED	36"x36"				9	DELETED							1				16														"
RTE. 289 STA. 502+50± RT. 56-1		36"x36"				9								2			18/18															"
RTE. 289 STA. 502+50± RT. 56-2	DO NOT PASS	36"x48"				12																										E-141
RTE. 289 STA. 502+50± LT. 57	DO NOT PASS	36"x48"				12								1				17														"
RTE. 289 STA. 510+20± RT. 59	MILE 9	12"x24"				2								1		12																E-139
RTE. 289 STA. 510+20± LT. 60	MILE 9	12"x24"				2								1		12																"
RTE. 289 STA. 517+00± LT. 62-1	EXIT 7	96"x30"				20								2												W10x22	1276	2				E-131
RTE. 289 STA. 517+00± LT 62-2	28 Essex Junction Colchester 1 MILE	200.5"x132"					183.8																							SEE SHEET NO. 109 FOR SIGN FACE LAYOUT		
RTE 289 STA. 516+00±RT 63	ALL TRAFFIC EXIT DELETED	48"x48"				16	DELETED							2																		E-109.
RTE 289 520+50 RT 64-1	EXIT 9	96"x30"				20																										E-131
RTE 289 520+50 RT 64-2	95 Essex	120"x94"					78.3							2												W6x15	750	2		SEE SHEET NO. 109 FOR SIGN FACE LAYOUT		"
RTE 289 521+80 LT 65-1	WEST	30"x 15"				3.1								2			16/16													SPECIAL SIZE SIGN		E-136
RTE 289 521+80 LT 65-2	289	45" x 36"				11.25																										"
RTE 15 RAMP A 15+00 RT 66		36" x 36"				9								1				16														E-152
RTE 289 522+00-525+10 67-1-67-7	DELETED	30"x36"				(7 @ 7.5) 52.5	DELETED							7			(14) 98															E-150
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S "SIGN POST DESIGN MANUAL". TOTALS				EA.		SF. 224.85	SF. 454.2	EA.	EA.							558		184.3								3302		6	TRAFFIC SIGN SUMMARY SHEET		

AS BUILT 6/1994 JK

PREPARED BY TR DATE 4-91
CHECKED BY ____ DATE ____
DESIGN SUPERVISOR ____ DATE ____
PROJ. PB 033-1(2)
WILLISTON-COLCHESTER
VT RTE 289 (FAP) TOWN OF ESSEX
TRAFFIC SHEET NO. ____ OF ____
SHEET 105 OF 400 SHEETS

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS			NEW AND SALVAGED SIGNS				EXISTING POSTS				NE						
			TO BE SALV.	REMOVE	RETAIN	"A"	"B"	SALV. SIGN	INSTALL UNDER ALTERNATE CONTRACT	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL LB./FT. 2.0	2.5	3.0	TUBULAR ALUMIN 3.0"ø	3.0"□	4.0" ø
RTE 15 RAMP A 20+70 RT 68-1	SOUTH	24"x12"				2								2			16/17			
RTE 15 RAMP A 20+70 RT 68-2	15	24"x24"				4														
RTE 15 RAMP A 20+70 RT 68-3	→	21"x15"				2.2														
RTE 15 RAMP A 20+70 RT 68-4	NORTH	24"x12"				2														
RTE 15 RAMP A 20+70 RT 68-5	15	24"x24"				4														
RTE 15 RAMP A 20+70 RT 68-6	→	21"x15"				2.2														
RTE 15 RAMP A 20+70 RT 68-7	← ESSEX	72"x10"				5														
RTE 15 RAMP A 20+70 RT 68-8	ESSEX JUNCTION →	72"x10"				5														
RTE 15 RAMP A 21+20 LT 69	WRONG WAY	36"x24"				6								1		14				
RTE 15 RAMP A 21+20 RT 70	WRONG WAY	36"x24"				6								1		14				
RTE 15 RAMP A 23+70 LT&RT 71-1	ONE WAY	36"x12"				(2 @ 3) 6								2				16/16		
RTE 15 RAMP A 23+70 LT&RT 71-2	ONE WAY	36"x12"				(2 @ 3) 6														
RTE 15 RAMP A 23+70 LT&RT 71-3	DO NOT ENTER	30"x30"				(2 @ 6.25) 12.5														
RTE 15 RAMP A 23+50 RT 72		18"x18"				2.25								1	12					
RTE 15 17+00 LT 74		36"x36"				9	SEE CONTRACT FEGC 033-1(8) FOR ADDITIONAL SIGNAGE AND PAVEMENT MARKINGS							1			16			
RTE 15 18+05 LT 75-1	SOUTH	24"x12"				2								1		16				
RTE 15 18+05 LT 75-2	15	24"x24"				4														
RTE 15 18+80 MED 76-1		24"x30"				5								1		14				
RTE 15 18+80 MED 76-2		18"x18"				2.25														
RTE 15 17+20 RT 77-1	289 SEE CONTRACT FEGC033-1(8)	30"x24"				5								1			16			
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S "SIGN POST DESIGN MANUAL". TOTALS				EA.		SF. 92.4	SF.	EA.	EA.						364.0			33		80 LBS	

SUMSHEETS.DGN

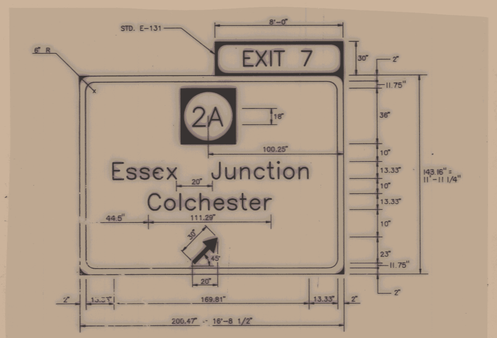
TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS: TO BE SALV.	EXISTING SIGNS: REMOVE	EXISTING SIGNS: RETAIN	NEW AND SALVAGED SIGNS: "A"	NEW AND SALVAGED SIGNS: "B"	NEW AND SALVAGED SIGNS: SALV. SIGN	NEW AND SALVAGED SIGNS: INSTALL UNDER ALTERNATE CONTRACT	EXISTING POSTS: RET.	EXISTING POSTS: DRILL	EXISTING POSTS: REM.	EXISTING POSTS: SALV.	NEW SIGN POSTS: NUMBER OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL LB./FT. 2.0	FLANGED CHANNEL LB./FT. 2.5	FLANGED CHANNEL LB./FT. 3.0	TUBULAR ALUMINUM 3.0"ø	TUBULAR ALUMINUM 3.0"□	TUBULAR ALUMINUM 4.0"ø	TUBULAR ALUMINUM 4.0"øM.	TUBULAR STEEL 3"ø	TUBULAR STEEL 3.5"ø	TUBULAR STEEL 4.0"ø	TUBULAR STEEL 5.0"ø	W SHAPED STEEL POST SIZE	W SHAPED STEEL WEIGHT	ITEM625.41 24"FTG	ITEM625.42 30"FTG	REMARKS	FOR SIGN DETAIL SHEET: PLAN SHEET NUMBER	FOR SIGN DETAIL SHEET: STD. SHEET NUMBER
RTE 15 17+20 RT 77-2		21"x 15"				2.2																									E-136
RTE 15 17+20 RT 77-3	WEST	24"x12				2																									"
RTE 15 18+35 MED 78-1		24"x30"				5								1		14															E-142
RTE 15 18+35 MED 78-2		18"x18"				2.25																									E-150
RTE 15 18+95 MED 79-1		24"x30"				5								1		14															E-142
RTE 15 18+95 MED 79-2		18"x18"				2.25																									E-150
RTE 15 20+50 RT 80-1		21"x 15"				2.2								1			16														E-136
RTE 15 20+50 RT 80-2	WEST	24"x 12"				2																									"
RTE 15 20+50 RT 80-3	289	30"x24"				5																									"
RTE 15 21+30 MED 81-1		24"x30"				5	*SEE CONTRACT FEGC-033-1(8)			FOR ADDITIONAL SIGNAGE AND PAVEMENT MARKINGS				1		14															E-142
RTE 15 21+30 MED 81-2		18"x18"				2.25																									E-150
RTE 15 21+85 MED 82-1		24"x30"				5								1		14															E-142
RTE 15 21+85 MED 82-2		18"x18"				2.25																									E-150
RTE 15 RAMP D 0+90 LT 83		18"x18"				2.25								1	12																E-150
RTE 15 23+70 84		30"x 30"				6.25								1			16														E-151
RTE 15 25+10 RT 85-1	NORTH	24"x 12"				2								1		16															E-136
RTE 15 25+10 RT 85-2	15	24"x24"				4																									"
RTE 15 25+70 LT 86		30"x 30"				6.25								1																	E-151
RTE 15 23+80 MED 87-1		24"x30"				5								1		14															E-142
RTE 15 23+80 MED 87-2		18"x18"				2.25																									E-150
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'. TOTALS				EA.		SF. 70.4	SF.	EA.	EA.						335.0																

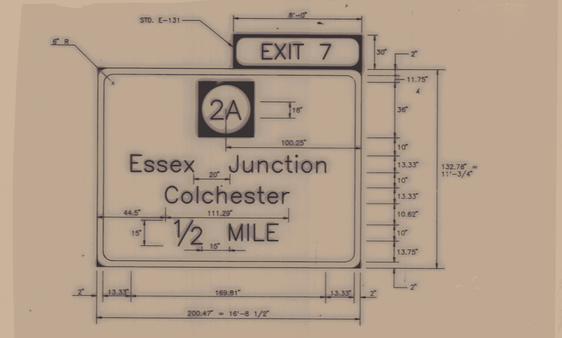
TRAFFIC SIGN SUMMARY SHEET

PREPARED BY TR DATE 4-91
CHECKED BY _____ DATE ____
DESIGN SUPERVISOR _____ DATE ____
PROJ. PB 033 - 1(2)
WILLISTON-COLCHESTER
VT RTE 289 (FAP) TOWN OF ESSEX
TRAFFIC SHEET NO. ____ OF ____
SHEET 107 OF 400 SHEETS

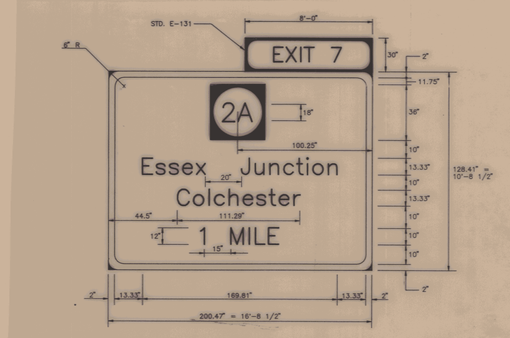
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS			NEW AND SA	
			TO BE SALV.	REMOVE	RETAIN	"A"	"B"
RTE 15 23+40 LT 88-1	WEST	24"x12"				2	
RTE 15 23+40 LT 88-2	289	30"x24"				5	
RTE 15 23+40 LT 88-3	→	21"x15"				2.2	
RTE 15 RAMP D 1+80 RT 89	YIELD	36"x36"x36"				3.9	
RTE 15 RAMP D 0+90 LT 90	PROHIBITED	36"x36"				9	
RTE 15 12+00 RT 91-1	JCT	21"x15"				2.2	
RTE 15 12+00 RT 91-2	289	30"x24"				5	
RTE 15 28+10 RT 93-1	JCT	21"x15"				2.2	
RTE 15 28+10 RT 93-2	289	30"x24"				5	
RTE 15 15+00 RT 92		30"x30"				6.25	
STA. 129 E.B. ON RAMP 10+65 RT 129	RAMP 30 MPH	36"x48"				12	
STA. 130 E.B. ON RAMP 11+70 RT. 130	PROHIBITED	36"x36"				9	
RTE 289 495+60 RT 138-1	EXIT 9	96"x30"				20	
RTE 289 495+60 RT 138-2	95 Essex ½ MILE	120"x120"					100
RTE 289 STA. 452+00 LT 144	ALL TRAFFIC EXIT	48"x48"				16	
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S "SIGN POST DESIGN MANUAL". TOTALS				EA.		SF. 99.75	SF. 100



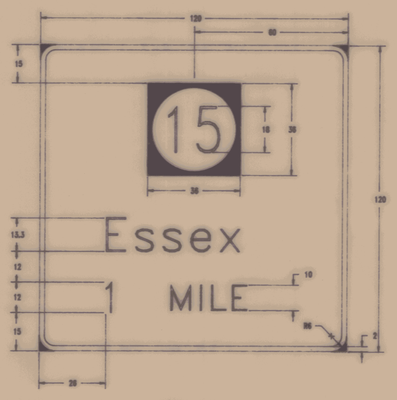
ROUTE 289 STA. 471+00±



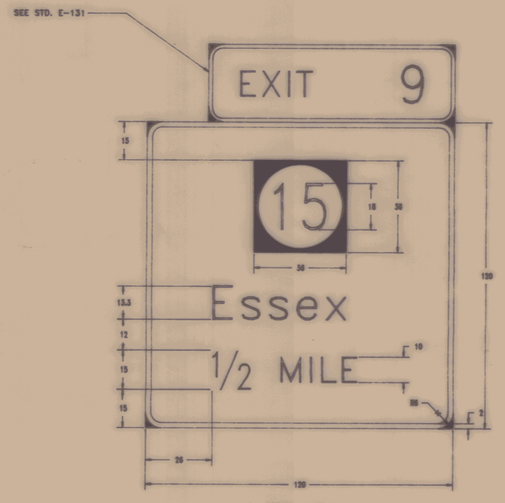
ROUTE 289 STA. 491+00±



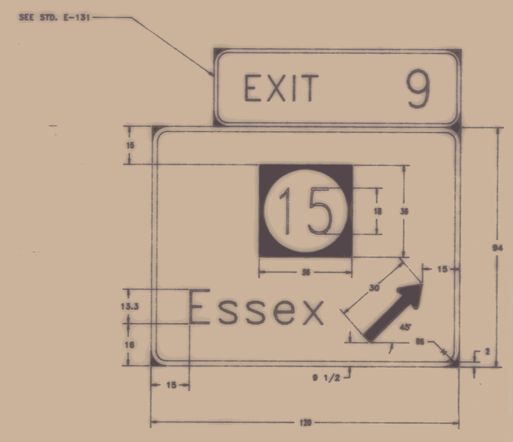
ROUTE 289 STA. 517+00±



RTE 289
STA 486+00 RT



RTE 289
STA 495+60 RT



RTE 289
STA 520+50 RT

BUILT AS DESIGNED 4/19/94 SC

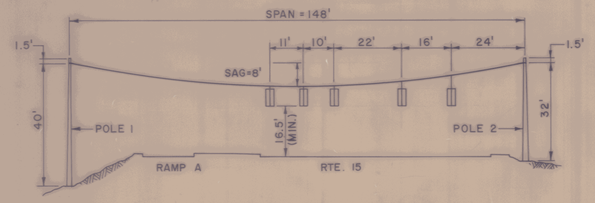
SIGN FACE LAYOUT DETAILS
NOT TO SCALE

DRAWN BY _____ DATE _____
TRACED BY _____ DATE _____

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX

PROJECT NUMBER WILLISTON-COLCHESTER
PB 033-1(2)

SHEET 109 OF 400

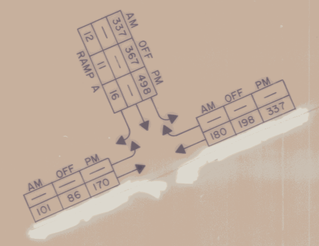


SPAN WIRE CROSS SECTION



TRAFFIC PLAN
ROUTE 15 - RAMP A

AVERAGE WEEKDAY HOURLY TRAFFIC VOLUMES
DATE : 2004



NOTES:

FOR SIGNAL PHASING AND TIMING, SEE SHEET 112

ALL CONDUIT UNDER ROADWAY SHALL BE PLACED IN A PVC SLEEVE

FOR VEHICLE DETECTOR LOOP DETAILS, SEE STD. E-172

CONTROLLER SHALL HAVE THE CAPACITY AND WIRING FOR FUTURE PEDESTRIAN PHASE.

TRAFFIC CONTROL DEVICE LEGEND

- PULL BOX (28" x 28")
- VEHICULAR SIGNAL HEAD
- CONTROL CABINET, POST MOUNTED
- PROPOSED CONDUIT
- LOOP DETECTOR
- STRAIN POLE(ALUMINUM)

DATUM
VERTICAL
HORIZONTAL

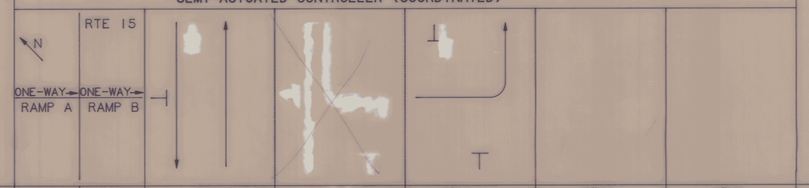
REVISED 12/28/90
SCALE: 1" = 20'

SURVEYED BY _____ DATE _____
DRAWN BY T.R.F. DATE 4/88
TRACED BY N.P.D. DATE 5/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO. PB033-1 (2)
COLCHESTER
SHEET 111 OF 400

ROUTE 15 - RAMP A &

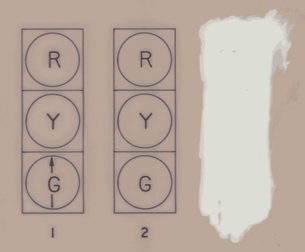
TRAFFIC SIGNAL PHASING AND TIMING
SEMI-ACTUATED CONTROLLER (COORDINATED)



STREET	DIRECTION	SIGNAL FACE	Ø A (DWELL) R/W	Ø A CLEAR TO Ø B	Ø A CLEAR TO Ø C	Ø C R/W	Ø C CLEAR TO ØA	Ø C CLEAR TO ØB	Ø D R/W	Ø D CLEAR TO	Ø E R/W	Ø E CLEAR TO	FLASHING OPERATION
ROUTE 15	NB	1	G	Y	R	R	R	R					Y
ROUTE 15	SB	1	G	G	G	R	R	R					Y
[illegible]													
RAMP A	EB	2	R	R	R	G	Y	R					R

		DIAL 1	DIAL 2	DIAL 3
INITIAL INTERVAL		13	14	13
VEH. EXTENSION INTERVAL		0	0	0
MINIMUM		13	14	13
MAXIMUM INTERVAL		13	14	13
VEH. CLEARANCE INTERVAL		4 1	4 1	4 1
INITIAL INTERVAL	Ø C	5	5	5
VEH. EXTENSION INTERVAL	Ø C	2	2	2
MINIMUM	Ø C	7	7	7
MAXIMUM INTERVAL	Ø C	25	26	27
VEH. CLEARANCE INTERVAL	Ø C	4 1	4 1	4 1
"WALK" INTERVAL (PB ACTUATED)				
PED. CLEARANCE INTERVAL				
RECALL			OFF	
MEMORY			NON-LOCK	

SIGNAL HEAD CONFIGURATION



ALL 12" SIGNALS

MAJOR ITEMS REQUIRED	QUANTITY
TRAFFIC SIGNAL CONTROLLER (4 PHASE)	1
TIME BASED COORDINATION UNIT	1
STRAIN POLE (ALUMINUM)	2
VEH. SIGNAL HEAD 1 WAY-3 SECTION	4
VEH. SIGNAL HEAD 2 WAY-3 SECTION	1
TRAFFIC PULLBOX (28"X28")	2
WIRE LOOP DETECTOR INSTALLATION	1
WIRE LOOP DETECTOR AMPLIFIER	2
SERVICE CONNECTION	1

NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THE INSTALLATION

FOUNDATION CHART					
LOC.	TYPE	℄	STATION	OFFSET	NOTES
		A	18+94	30' RT	STRAIN POLE
		A	17+85	75' LT	STRAIN POLE
		A	18+35	42' LT.	PULL BOX (28"X28")
		A	18+90	5' LT.	PULL BOX (28"X28")

℄ A REFERS TO ROUTE 15 ℄

OFFSETS ARE MEASURED FROM BASELINE TO CENTER OF FOUNDATION. OFFSETS ARE APPROXIMATE, EXACT LOCATION TO BE DETERMINED IN THE FIELD.

COORDINATION CHART			
DIAL	CYCLE	HOURS OF OPERATION	OFFSET %
1	60 SEC.	6:00 AM- 9:00 AM	0
2	60 SEC.	3:00 PM- 6:00 PM	0
3	60 SEC.	9:00 AM - 3:00 PM 6:00 PM- 11:00 PM	0
4			
FLASHING OPERATION		11:00 PM- 6:00 AM	-

NOTES:

1. SIGNAL TIMING IS SHOWN FOR INITIAL SETTING. FINAL TIMING TO BE ADJUSTED IN THE FIELD.
2. OFFSETS ARE MEASURED FROM ZERO DATUM LINE TO BEGINNING OF PHASE A.
3. CONTROLLER SHALL HAVE THE CAPACITY AND WIRING FOR FUTURE PEDESTRIAN PHASE

NOTES:

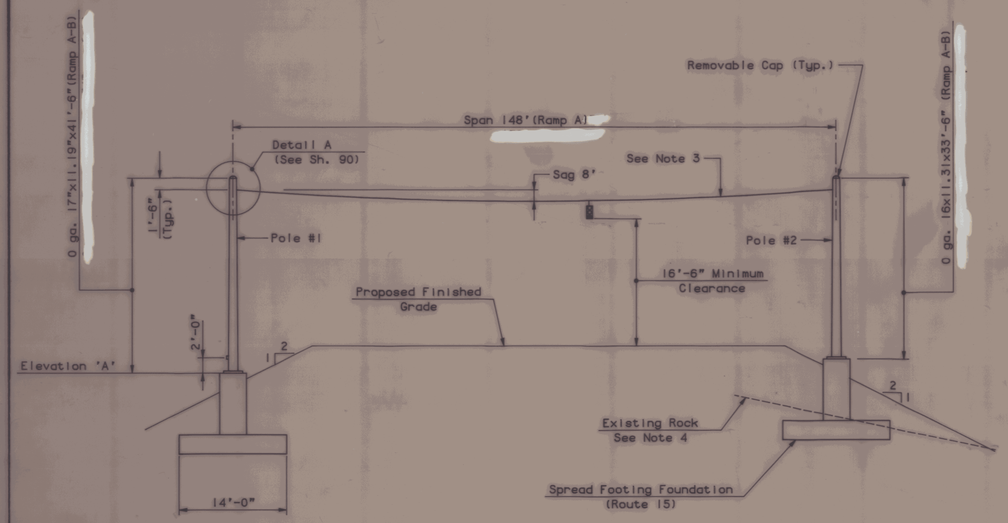
2. FOR SIGNAL PLAN, SEE SHEET III

DATUM
VERTICAL _____
HORIZONTAL _____

BUILT AS DESIGNED 4/19/94 SC
REVISED 12/28/90

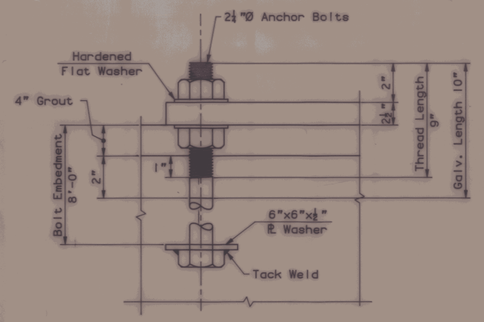
SURVEYED BY _____ DATE _____
DRAWN BY PTG DATE 4/27/88
TRACED BY CADD DATE 11/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO. PB 033-1(2)
COLCHESTER
SHEET 112 OF 400



NOTE:
Elevation 'A' Shall be Field Determined to Ensure 16'-6" Minimum Clearance and 4'-0" Minimum Cover Over Footing.

SPAN WIRE ASSEMBLY
No Scale



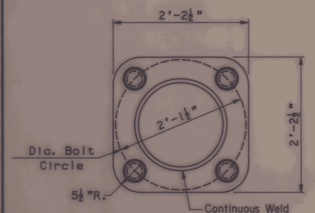
ANCHOR BOLT DETAIL
NO SCALE

NOTES:

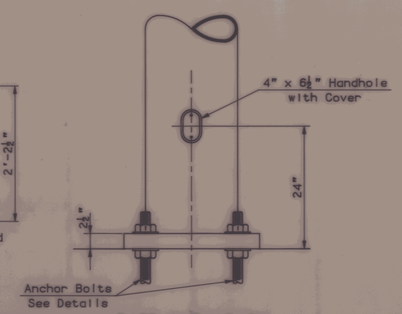
1. For General Notes See Sheet 101.
2. Each Metal Pole Supporting Traffic Signals Shall be Grounded. Ground Rod Shall be ⅝"x8' Minimum Copper Clad Ground Rod. A Single Electrode Consisting of a Ground Rod Which Does Not Have a Resistance to Ground of 25 Ohms or Less Shall be Augmented by at Least One Additional Electrode. They Shall be at Least 6 Feet Apart.
3. The Span Wire Shall be ⅜" Diameter, 7 Wire Steel Strand Cable Conforming to ASTM A475, Class A, Extra-High Strength, Zinc Coated. Minimum Breaking Strength Shall be 15,400 lbs.
4. Existing Rock Shown is Approxmate Only.
5. The Traffic Signal Support Structure Including its Foundation will be Paid for Under the Item 678.15, Traffic Control Signal System - Intersection.

SPREAD FOOTING SCHEDULE
(4 Required)

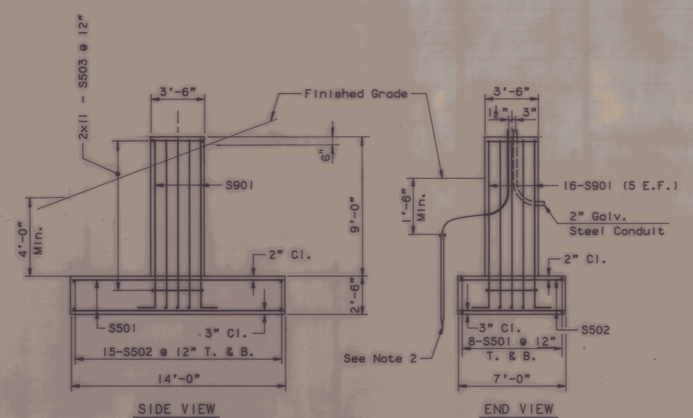
ITEM	No. PCS.	SIZE	LENGTH	MARK	TYPE
1	16	5	13'-6"	S501	Str.
2	30	5	6'-6"	S502	Str.
3	22	5	11'-4"	S503	T2
4	16	9	12'-4"	S901	I7



BASE PLATE
1" = 1'-0"



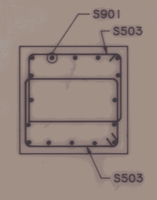
BASE ELEVATION
1" = 1'-0"



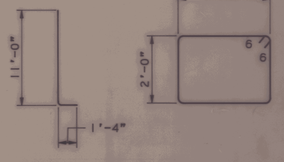
SIDE VIEW

END VIEW

SPREAD FOOTING FOUNDATION
¼" = 1'-0"



SECTION A-A
½" = 1'-0"



TYPE I7 TYPE T2

DATUM
VERTICAL
HORIZONTAL

BUILT AS DESIGNED 4/19/94 SC
REVISED 12/28/90
TRAFFIC SIGNAL SUPPORTS
Route 15

SURVEYED BY: _____ DATE _____
DRAWN BY DWR DATE 12-88
TRACED BY RJT DATE 12-88
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON NO PB033-1(2)
COLCHESTER
SHEET 113 OF 400

TEST NO. 763658.

LUMINAIRE: OVS 200 HPS / OVS 150 HPS

LAMP: LU150 HPS SSV G

SOCKET POSITION: OM-3
REFLECTOR: SEMI-SPECULAR
REFRACTOR: FLAT GLASS
LCL: 5.25
OTHER VARIABLES: 9-6-85 M1-3

CLASSIFICATION (ANSI 1977): II MEDIUM CUTOFF

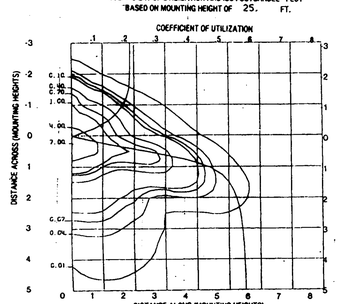
DISTRIBUTION BY ZONES: (% OF LAMP LUMENS)

DOWNWARD STREET SIDE:	56.7 %
DOWNWARD HOUSE SIDE:	18.6 %
UPWARD STREET SIDE:	0.0 %
UPWARD HOUSE SIDE:	0.0 %
TOTAL EFFICIENCY	75.3 %

CANDELA* DATA
MAX CD. 12936. AT 74.9 H 70.5 V
NADIR CD. 3610.

*NOTE: ISO FOOTCANDLE AND CANDELA VALUES ARE PER 16500 LAMP LUMENS.

COEFFICIENT OF UTILIZATION AND ISO FOOTCANDLE* PLOT
BASED ON MOUNTING HEIGHT OF 25. FT.

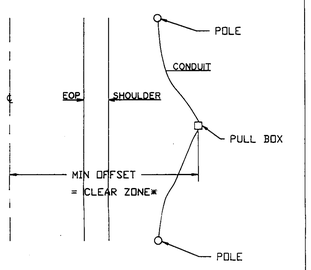


MTG. HT.	CORR. FACTOR
15.	2.778
20.	1.562
25.	1.000
30.	0.694
35.	0.510
40.	0.391
45.	0.309
50.	0.250
55.	0.207
60.	0.174

THIS TEST WAS MADE IN ACCORDANCE WITH THE IES APPROVED METHOD FOR PHOTOMETRIC TESTING

(13) PHOTOMETRIC DATA SHEET
N.T.S.

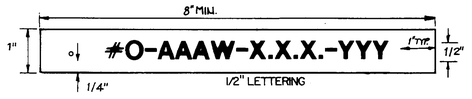
NOTE:
ALL PHOTOMETRIC DATA PROVIDED FOR FIXTURE OVS 200 HPS SHALL BE THE SAME AS OVS 150 HPS EXCEPT UTILIZE A MULTIPLYER OF 1.33.



* IN CURBED AREAS, PULL BOXES SHALL BE INSTALLED BEHIND CURB AS DIRECTED BY THE ENGINEER.

PULL BOX LOCATION DETAIL

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927



TAG NOTE:
1) #O, INDICATES DESIGNATED POLE NUMBER.
2) AAAW, INDICATES LIGHT FIXTURE WATTAGE.
3) X.XX, INDICATES TYPE OF LIGHTING
4) YYY, INDICATES DISTRIBUTION TYPE.

LEGEND: BLACK OR WHITE (NON-REFL.) – STAMPED PRIOR TO PAINTING.
BACKGROUND: NATURAL ALUMINUM OR FLAT BLACK SURFACE, SAME AS POLE FINISH.

NOTES:
1. **THE TAG SHALL BE MOUNTED ON ALL STREET LIGHT POLES IN SUCH A MANNER AS NOT TO BE EASILY REMOVED, SUCH AS WELDED, RIVETED, OR BOLTED WITH VANDAL PROOF BOLTS.**
2. **THE LETTERS SHALL BE PUNCHED, STAMPED, ENGRAVED, OR PHOTO-ETCHED. STAMPING SHALL PENETRATE AT LEAST 1/2 THE BASE MATERIAL THICKNESS. THE PHOTO-ETCHING WOULD NOT PENETRATE 1/2 THE BASE MATERIAL THICKNESS.**
3. **THE BASE MATERIAL FOR THE TAG SHALL BE ALUMINUM WITH A MINIMUM THICKNESS OF 0.100 INCHES.**
4. **THE TAG SHALL BE ATTACHED TO THE POLE ABOVE THE HANDHOLE, 6 INCHES MAXIMUM. IF THE POLE HAS A TRANSFORMER BASE, ATTACH TAG TO COVER.**

(14) DETAILS FOR TAGS ATTACHED TO STREET LIGHT POLES
N.T.S.

GENERAL

ALL ELECTRICAL MATERIAL AND INSTALLATION SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, STATE CODES, AND REQUIREMENTS OF THE LOCAL UTILITY COMPANY AT THE POWER SOURCE.
THE LAST CONCRETE POLE BASE AT THE END OF EACH CIRCUIT SHALL HAVE A CONDUIT SWEEP WITH CAP INSTALLED FOR FUTURE USE.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND SCHEDULING WORK WITH THE LOCAL UTILITIES, AND FOR OBTAINING ALL NECESSARY PERMITS.
THE LOAD ON EACH BRANCH OF A THREE WIRE CIRCUIT SHALL BE AS BALANCED AS POSSIBLE, LOAD TO NEUTRAL.

WORK TO BE DONE BY THE CONTRACTOR

THE CONTRACTOR SHALL:
1. INSTALL NEW CONCRETE BASES, POLES, LUMINAIRES, WIRING, CONDUIT, PULLBOXES, GROUND RODS, JUNCTION BOXES, EXPANSION COUPLINGS, POLE MOUNTING BRACKETS, POLE RISER, WEATHER HEAD, METER SOCKET, RAIN TIGHT CABINET WITH OVERLOAD DISCONNECTS FOR EACH CIRCUIT, MAIN SAFETY SWITCH, AND OTHER RELATED MATERIAL HARDWARE.
2. INSTALL METAL TAGS ON THE HANDHOLES OF THE NEW POLES WITH INFORMATION AS INDICATED IN THE DETAILS FOR TAGS ATTACHED TO STREET LIGHT POLES.
3. BE RESPONSIBLE FOR POWER COSTS AND MAINTENANCE OF NEW STREET LIGHTS UNTIL ACCEPTANCE OF THE PROJECT.
4. MAKE CONTACT WITH AND PERFORM WORK IN ACCORDANCE WITH THE UTILITY COMPANY AT THE POWER SOURCE.
5. BE RESPONSIBLE FOR ACQUIRING ANY PERMITS WHICH MAY BE NECESSARY.
6. INSTALL BREAKAWAY FEATURE AS REQUIRED.

PAYMENT FOR THE ABOVE WORK WILL BE SUBSIDIARY TO ITEM 679.15, STREET LIGHTING.
PAYMENT FOR STREET LIGHT POLE MOUNTING BRACKETS AND OTHER NECESSARY HARDWARE FOR ATTACHING CONDUIT TO THE STRUCTURE SHALL BE UNDER ITEM 679.15, STREET LIGHTING.

GENERAL STREET LIGHT NOTES

GROUNDING
IN ADDITION TO A GROUND ROD AT EACH CONCRETE POLE BASE, A CONTINUOUS GROUNDING CIRCUIT (MINIMUM #6 A.W.G. COPPER CONDUCTOR) SHALL BE RUN BACK TO A CIRCUIT PROTECTIVE DEVICE AT THE POWER SOURCE OR TRANSFORMER. ALUMINUM WIRE SHALL NOT BE USED FOR GROUND WIRE.
ALL CONDUIT MUST INCLUDE A GROUNDING CONDUCTOR, AND RIGID STEEL CONDUIT SHALL BE PROPERLY CONNECTED AT THE JOINTS SO AS TO BE WATERTIGHT AND MAINTAIN ELECTRICAL CONTINUITY AND HAVE GROUNDING BUSHINGS SO AS TO ACT AS A GROUND CONDUCTOR.

POLES, ANCHOR BASES AND ARMS
NO STREET LIGHT POLE SHAFT WALL THICKNESS SHALL BE LESS THAN 0.188" AND SHALL HAVE A MINIMUM 8" INCH (O.D.) BOTTOM DIMENSION.
ALL NEW STREET LIGHT POLES AND LUMINAIRE ARMS SHALL BE ALUMINUM IN ACCORDANCE WITH SUBSECTION 753.01 (B).
ALL STREET LIGHT POLES SHALL HAVE A FRANGIBLE OR BREAKAWAY DEVICE BETWEEN THE PILE BASE AND CONCRETE BASE UNLESS SO STATED ON THE PLANS OR BE PROPERLY PROTECTED BY GUARDRAIL.

WIRE
ALL WIRING SHOWN ON THE PLANS SHALL BE ALUMINUM OR COPPER AND SIZED AS SPECIFIED ON THE PLANS. ALL WIRE TO HAVE TYPE XHHW INSULATION OR EQUIVALENT.
USE #10 A.W.G. STRANDED COPPER WIRES IN EACH POLE BETWEEN THE POLE BASE AND THE LUMINAIRE.
USE #6 A.W.G. COPPER (MINIMUM) FOR THE CONTINUOUS GROUND CIRCUIT.
ALL WIRE CONNECTIONS IN THE LIGHT POLE BASES SHALL BE MADE WITH THE PROPER, IN LINE OR WYE TYPE WATERPROOF DISCONNECT KIT. THE LOAD SIDE OF THE LUMINAIRE SHALL BE FUSED AT 3 TIMES THE LOAD.

PULLBOXES
FOR DETAILS SEE SHEET 115 B

LUMINAIRES
LUMINAIRES SHALL BE DESIGNED FOR STREET LIGHTING AND THE INDICATED LIGHT DISTRIBUTION. THEY SHALL INCLUDE AN ALUMINUM HOUSING WITH EASY ACCESS TO THE BALLAST ASSEMBLY, PHOTO-ELECTRIC CONTROL, FILTERED OPTICAL ASSEMBLY, MEDIUM CUT-OFF DISTRIBUTION AND REGULATOR BALLAST FOR APPROPRIATE VOLTAGE HIGH PRESSURE SODIUM LAMPS.
LIGHT DISTRIBUTION IS BASED ON CROUSE-HINDS PHOTOMETRIC DATA DRAWINGS OVS150 HPS, MEDIUM CUT-OFF, TYPE II DISTRIBUTION, DATED 09-06-85 AND DRAWING OVS200 HPS, MEDIUM CUT-OFF, TYPE II DISTRIBUTION, DATED 09-06-85.
THE ABOVE PHOTOMETRIC DATA DRAWINGS WERE USED FOR DESIGN PURPOSES ON THIS PROJECT. OTHER MANUFACTURER'S PRODUCTS MAY BE SUBSTITUTED IF THE INSTALLED LUMINAIRE LIGHT UTILIZATION AND MINIMUM FOOTCANDLES ON THE ROADWAY AND SHOULDER ARE AT LEAST AS GREAT AS THAT INDICATED BY THE ABOVE PHOTOMETRICS.

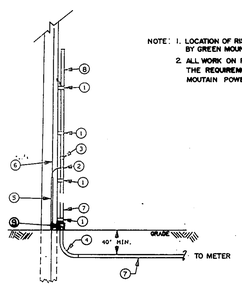
GENERAL
ALL ELECTRICAL MATERIAL AND INSTALLATION SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES AND REQUIREMENTS OF THE LOCAL UTILITY COMPANY AT THE POWER SOURCE.

CONCRETE BASES
THE OFFSET FOR CONCRETE BASES (EDGE OF SHOULDER TO CENTER OF CONCRETE BASE) TO BE A MINIMUM OF SIZE (6') FEET OR AS OTHERWISE NOTED ON THE PLANS.
WHEN GUARDRAIL EXISTS, THE GUARDRAIL DEFLECTION OR THE SIDE SLOPE WILL GOVERN MINIMUM OR MAXIMUM OFFSET. WITH A 1-3 OR 1-2 SIDE SLOPE, THE PREFERRED LIGHT POLE OFFSET IS FOUR (4') FEET MAXIMUM.
MINIMUM CONCRETE BASE SIZES SHALL BE 2 1/2' X 8' FOR POLES WITH ARMS 15'-0" FEET IN LENGTH. ALSO POLES WITH A 40' FOOT OR GREATER MOUNTING HEIGHT REQUIRE A LARGER CONCRETE BASE. TO BE SPECIFIED IF REQUIRED.
WHEN CONCRETE BASES ARE INSTALLED IN SLOPING GROUND, THE GREATEST EXPOSED HEIGHT TO KEEP ALL OF THE TOP ABOVE GROUND MUST BE DOUBLED AND THEN ADDED TO THE MINIMUM DEPTH FOR THE TOTAL BASE HEIGHT.
CARE SHOULD BE TAKEN WHERE CONCRETE BASES, DRAINAGE STRUCTURES OR UTILITIES ARE CLOSE TOGETHER.

CONDUIT
THE CONDUIT IN THE CONCRETE BASE SHALL EXIT THE BASE 40 INCHES BELOW THE TOP OF THE CONCRETE BASE.
A 2-1/2 INCH (I.D.) MINIMUM CONDUIT SHALL BE USED AT ALL LOCATIONS UNLESS OTHERWISE NOTED ON THE PLANS. ALL CONDUIT SHALL BE SCHEDULE 40 RIGID PVC MEETING NEMA TC2 STANDARD EXCEPT AS NOTED ON THE PLANS.
FINAL CONDUIT DEPTH SHALL BE 40 INCHES OR AS DIRECTED BY THE ENGINEER.
MINIMUM RADIUS FOR SWEEPS SHALL BE 36 INCHES.
A 6 INCH WIDE YELLOW MARKING TAPE (PLASTIC) SHALL BE INSTALLED OVER THE CONDUIT. THE TAPE SHALL BE PLACED 30 INCHES ABOVE THE CONDUIT.
A MAXIMUM OF 270 DEGREES IN TOTAL BENDS WILL BE PERMITTED IN A SINGLE RUN OF CONDUIT.

CONDUIT SLEEVE
MINIMUM WALL THICKNESS FOR RIGID PLASTIC PIPE SLEEVES SHALL BE 1/35TH THE DIAMETER. ALL CONDUIT RUNS UNDER ROADWAY SHALL BE INSTALLED IN RIGID PLASTIC PIPE SLEEVES. THE SLEEVE SHALL EXTEND TO WITHIN 2 FEET OF THE SIDE OF A CONCRETE BASE OR PULLBOX. WHERE NO CONCRETE BASE OR PULLBOX IS PRESENT, THE SLEEVE SHALL EXTEND 2' FEET BEYOND THE OUTSIDE EDGE OF SHOULDER OR FACE OF CURB. BACKFILLING AROUND A SLEEVE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
WHEN JACKING A SLEEVE UNDER A ROADWAY IT SHALL BE STEEL WITH A MINIMUM DIAMETER OF 8" INCHES AND MINIMUM WALL THICKNESS OF 3/8 INCH. ACTUAL LENGTH TO BE DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER.

NOTE
1. ALL WORK ASSOCIATED WITH THE SERVICE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF GREEN MOUNTAIN POWER COMPANY.

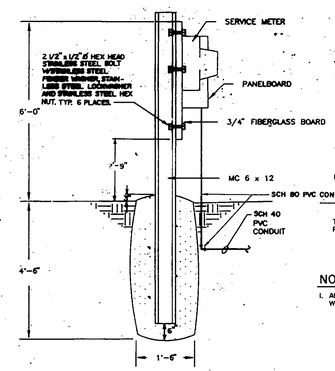


NOTE: 1. LOCATION OF RISER POLE BY GREEN MOUNTAIN POWER
2. ALL WORK ON POLE TO MEET THE REQUIREMENTS OF GREEN MOUTAIN POWER. (G.M.P.)

ITEM	MATERIAL	REQ.
1	Bracket, standoff 2.5"	3
2	Clamp, grounding 2.5"	1
3	Adapter, female 2.5" rigid PVC	1
4	2.5" Elbow, 36" min. radius	1
5	Handclamp, weed, grd wire	10'
6	Wire, cu., #6	1
7	Conduit, 2.5" SCH 80 PVC	
8	Additional Conduit as Required by GMP	
9	SLIP-JOINT SCH80/PVC	

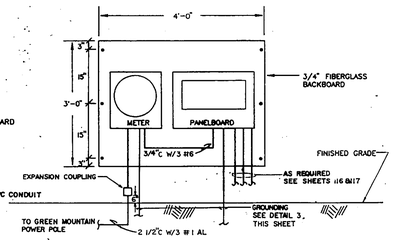
RISER POLE FOR SECONDARIES IN CONDUIT
N.T.S.

NOTE
1. THE CONTRACTOR TO INSTALL ALL UNDERGROUND CONDUIT AND THE FIRST SECTION ON THE POLE. THE CONTRACTOR SHALL SUPPLY THE ADDITIONAL CONDUIT REQUIRED ON THE POLE FOR INSTALLATION BY GREEN MOUNTAIN POWER COMPANY. A MINIMUM OF 35' OF SERVICE CONDUCTORS SHALL BE LEFT AT THE BASE OF THE POLE FOR INSTALLATION BY GREEN MOUNTAIN POWER.



METER & PANELBOARD INSTALLATION DETAIL
N.T.S.

NOTES
1. ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE METER AND PANELBOARD SHALL BE INCLUDED IN ITEM 679.15
2. PAINT THE CHANNELS FROM THREE INCHES INTO CONCRETE TO TOP WITH ONE COAT OF RED OXIDE PRIMER AND ONE COAT OF ENAMEL FINISH COAT - COLOR SILVER. COORDINATE PRIMER WITH ENAMEL MANUFACTURER'S RECOMMENDATIONS. PAINT CHANNELS BEFORE INSTALLING FIBERGLASS BACKBOARD.



TYPICAL METER AND PANEL LAYOUT
N.T.S.

NOTE
1. ALL WORK ASSOCIATED WITH THE SERVICE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF GREEN MOUNTAIN POWER COMPANY.

BUILT AS DESIGNED 4/19/94 SC
REV. 3/28/91 -ADDED DETAILS
INTERSECTION LIGHTING DETAILS

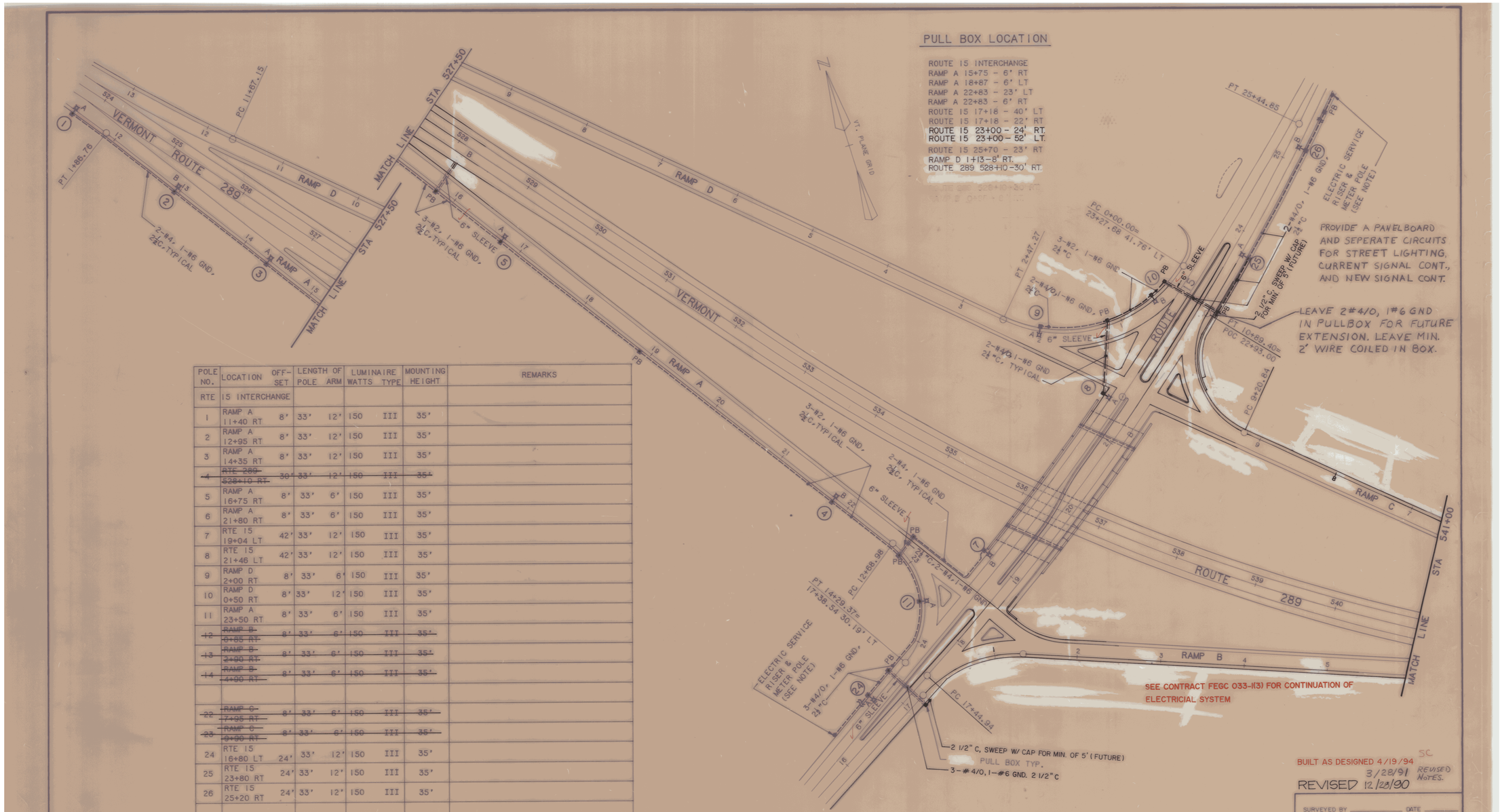
50 0 50 100
SCALE IN FEET

ALTERATION OF THIS DOCUMENT, EXCEPT BY A LICENSED PROFESSIONAL ENGINEER, IS ILLEGAL.

STATE OF VERMONT RICHARD B. [illegible] No. 10000849 REGISTERED PROFESSIONAL ENGINEER

SURVEYED BY _____ DATE _____
DRAWN BY N.M.R. DATE 8/90
TRACED BY _____ DATE _____

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON NO. PB 033-1(2)
COLCHESTER
SHEET 114 OF 400



POLE NO.	LOCATION	OFF-SET	LENGTH OF POLE ARM	LUMINAIRE WATTS	LUMINAIRE TYPE	MOUNTING HEIGHT	REMARKS
RTE	15 INTERCHANGE						
1	RAMP A 11+40 RT	8'	33'	12'	150	III	35'	
2	RAMP A 12+95 RT	8'	33'	12'	150	III	35'	
3	RAMP A 14+35 RT	8'	33'	12'	150	III	35'	
~~4~~	~~RTE 289 528+10 RT.~~	~~30'~~	~~33'~~	~~12'~~	~~150~~	~~III~~	~~35'~~	
5	RAMP A 16+75 RT	8'	33'	6'	150	III	35'	
6	RAMP A 21+80 RT	8'	33'	6'	150	III	35'	
7	RTE 15 19+04 LT	42'	33'	12'	150	III	35'	
8	RTE 15 21+46 LT	42'	33'	12'	150	III	35'	
9	RAMP D 2+00 RT	8'	33'	6'	150	III	35'	
10	RAMP D 0+50 RT	8'	33'	12'	150	III	35'	
11	RAMP A 23+50 RT	8'	33'	6'	150	III	35'	
~~12~~	~~RAMP B 0+85 RT.~~	~~8'~~	~~33'~~	~~6'~~	~~150~~	~~III~~	~~35'~~	
~~13~~	~~RAMP B 2+90 RT.~~	~~8'~~	~~33'~~	~~6'~~	~~150~~	~~III~~	~~35'~~	
~~14~~	~~RAMP B 4+90 RT.~~	~~8'~~	~~33'~~	~~6'~~	~~150~~	~~III~~	~~35'~~	
~~22~~	~~RAMP C 7+95 RT.~~	~~8'~~	~~33'~~	~~6'~~	~~150~~	~~III~~	~~35'~~	
~~23~~	~~RAMP C 9+90 RT.~~	~~8'~~	~~33'~~	~~6'~~	~~150~~	~~III~~	~~35'~~	
24	RTE 15 16+80 LT	24'	33'	12'	150	III	35'	
25	RTE 15 23+80 RT	24'	33'	12'	150	III	35'	
26	RTE 15 25+20 RT	24'	33'	12'	150	III	35'	

DATUM
VERTICAL
HORIZONTAL

NOTES:

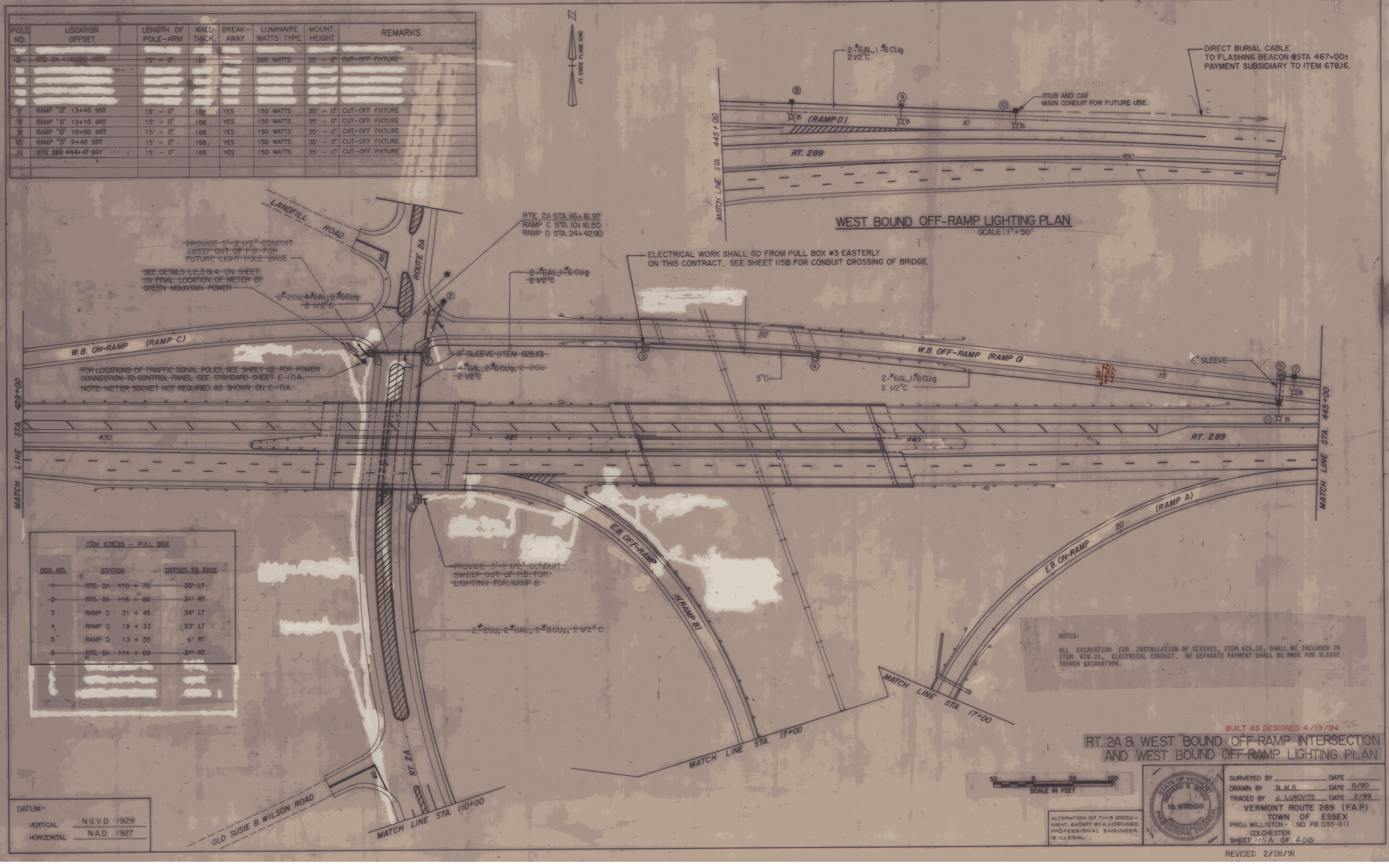
1. ELECTRIC SERVICE RISER & METER POLE TO BE 120/240 VOLT, SINGLE PHASE & 3 WIRE. PROVIDE METER SOCKET CABINET & SERVICE SWITCH AS REQUIRED. POLE LOCATION TO BE VERIFIED IN FIELD.

BUILT AS DESIGNED 4/19/94 SC
3/28/91 REVISED NOTES.
REVISED 12/28/90

SURVEYED BY _____ DATE _____
DRAWN BY E.A.G. DATE 8/88
TRACED BY J.B.C. DATE 9/88

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ Williston-Colchester NO. PB-033-1(2)
SHEET 115 OF 400

POLE NO.	LOCATION OFFSET	LENGTH OF POLE-ARM	WALL THICK.	BREAK-AWAY	LUMINAIRE WATTS TYPE	MOUNT. HEIGHT	REMARKS
~~2~~	~~RTE 2A 116+50 45RT~~	~~15' - 0"~~	~~.188~~		~~200 WATTS~~	~~35' - 0"~~	~~CUT-OFF FIXTURE~~
7	RAMP "D" 13+40 9RT	15' - 0"	.188	YES	150 WATTS	35' - 0"	CUT-OFF FIXTURE
8	RAMP "D" 12+15 9RT	15' - 0"	.188	YES	150 WATTS	35' - 0"	CUT-OFF FIXTURE
9	RAMP "D" 10+80 9RT	15' - 0"	.188	YES	150 WATTS	35' - 0"	CUT-OFF FIXTURE
10	RAMP "D" 9+40 9RT	15' - 0"	.188	YES	150 WATTS	35' - 0"	CUT-OFF FIXTURE
11	RTE 289 444+47 9RT	15' - 0"	.188	YES	150 WATTS	35' - 0"	CUT-OFF FIXTURE



ITEM 678.25 - PULL BOX

BOX NO.	STATION	OFFSET TO FACE
~~1~~	~~RTE. 2A 115 + 75~~	~~35' LT~~
~~2~~	~~RTE. 2A 115 + 80~~	~~31' RT~~
3	RAMP D 21 + 45	24' LT
4	RAMP D 19 + 33	23' LT
5	RAMP D 13 + 55	9' RT
~~6~~	~~RTE. 2A 114 + 00~~	~~37' RT~~

NOTES:

ALL EXCAVATION FOR INSTALLATION OF SLEEVES, ITEM 625.10, SHALL BE INCLUDED IN ITEM 678.21, ELECTRICAL CONDUIT. NO SEPARATE PAYMENT SHALL BE MADE FOR SLEEVE TRENCH EXCAVATION.

BUILT AS DESIGNED 4/19/94 SC

RT. 2A & WEST BOUND OFF-RAMP INTERSECTION AND WEST BOUND OFF-RAMP LIGHTING PLAN

50 0 50 100
SCALE IN FEET

DATUM:
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

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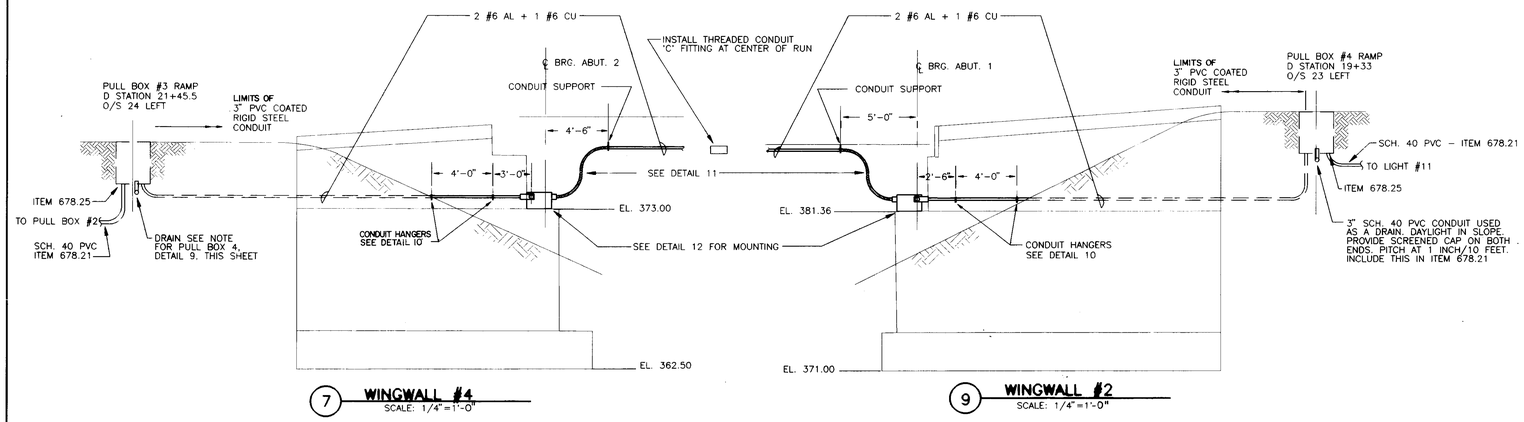
STATE OF VERMONT RICHARD B. BOVEE No. 18-0005249 REGISTERED PROFESSIONAL ENGINEER

SURVEYED BY _____ DATE _____
DRAWN BY N.M.R. DATE 8/90
TRACED BY J. LUKOVITS DATE 2/89

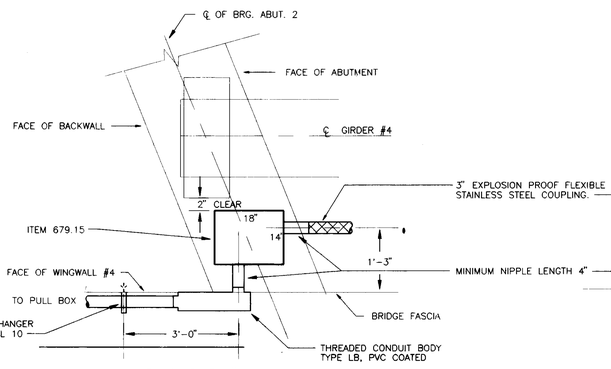
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON- NO. PB 033-1(1)
COLCHESTER
SHEET 115A OF 400

REVISED 2/28/91

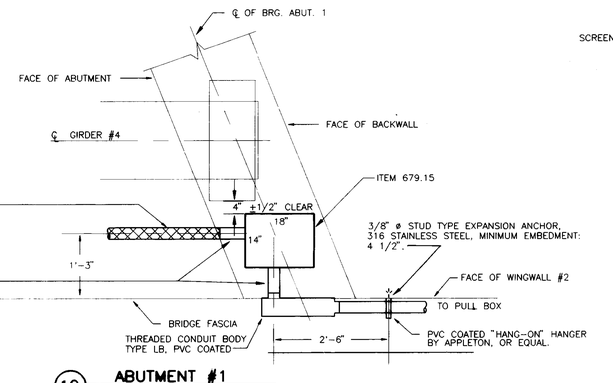


7 **WINGWALL #4**
SCALE: 1/4"=1'-0"

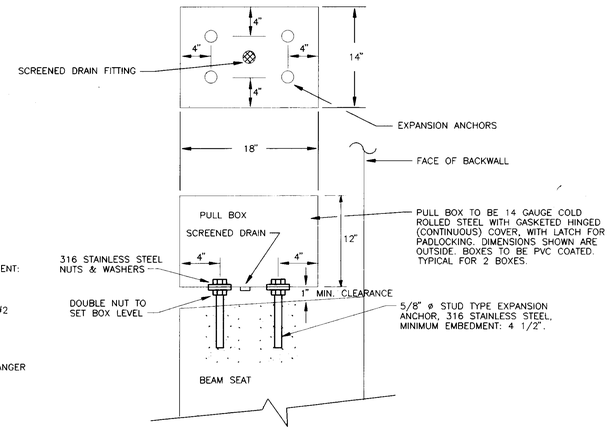
9 **WINGWALL #2**
SCALE: 1/4"=1'-0"



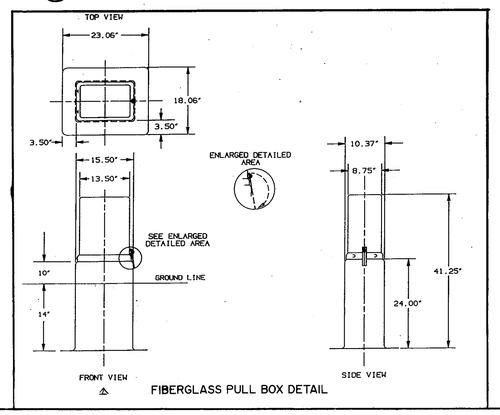
8 **ABUTMENT #2**
SCALE: 3/4"=1'-0"



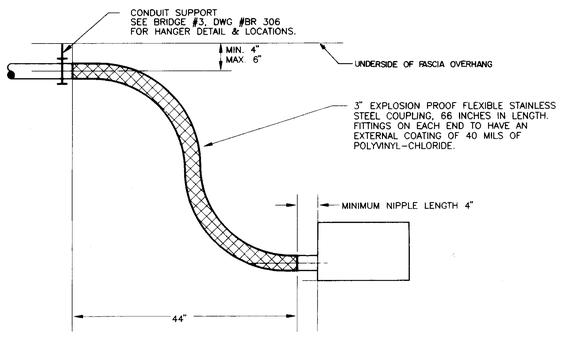
10 **ABUTMENT #1**
SCALE: 3/4"=1'-0"



12 **PULL BOX MOUNTING DETAIL**
SCALE: 1 1/2"=1'-0"



FIBERGLASS PULL BOX DETAIL



11 **EXPANSION DETAIL**
SCALE: 1"=1'-0"
WINGWALL #2 SHOWN
WINGWALL #4 OPPOSITE HAND

NOTES:

1. FOR ADDITIONAL ABUTMENT AND WINGWALL DETAILS SEE BRIDGE NO. 3 DRAWINGS.
2. CONTRACTOR TO ADJUST POSITION OF SUPPORT AND ATTACHMENT AS REQUIRED TO CLEAR STRUCTURAL REINFORCING.
3. ALL WORK THIS SHEET TO BE INCLUDED IN ITEM 679.15 UNLESS OTHERWISE NOTED.
4. PVC COATED ITEMS: ALL CONDUIT, HANGERS, FITTINGS, METAL PULL BOXES, EXCEPT THE FLEXIBLE STAINLESS STEEL COUPLINGS, SHALL RECEIVE AN EXTERNAL MINIMUM 40 MIL PVC COATING, PER NEMA STANDARD #RH-1. ONLY TOOLS MADE FOR USE WITH PVC COATED CONDUIT, ETC. SHALL BE USED IN THE INSTALLATION. ALL NICKS, ETC. TO BE TOUCHED UP WITH FIELD KITS.
5. PVC CONDUIT ON THE BRIDGE OVER CVRR SHALL BE SCHEDULE 80 RIGID PVC AND SHALL BE UNIFORM BETWEEN PULL BOXES.

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

SCALE IN FEET

ALTERATION OF THIS DOCUMENT, EXCEPT BY A LICENSED PROFESSIONAL ENGINEER, IS ILLEGAL

BUILT AS DESIGNED 4/19/94

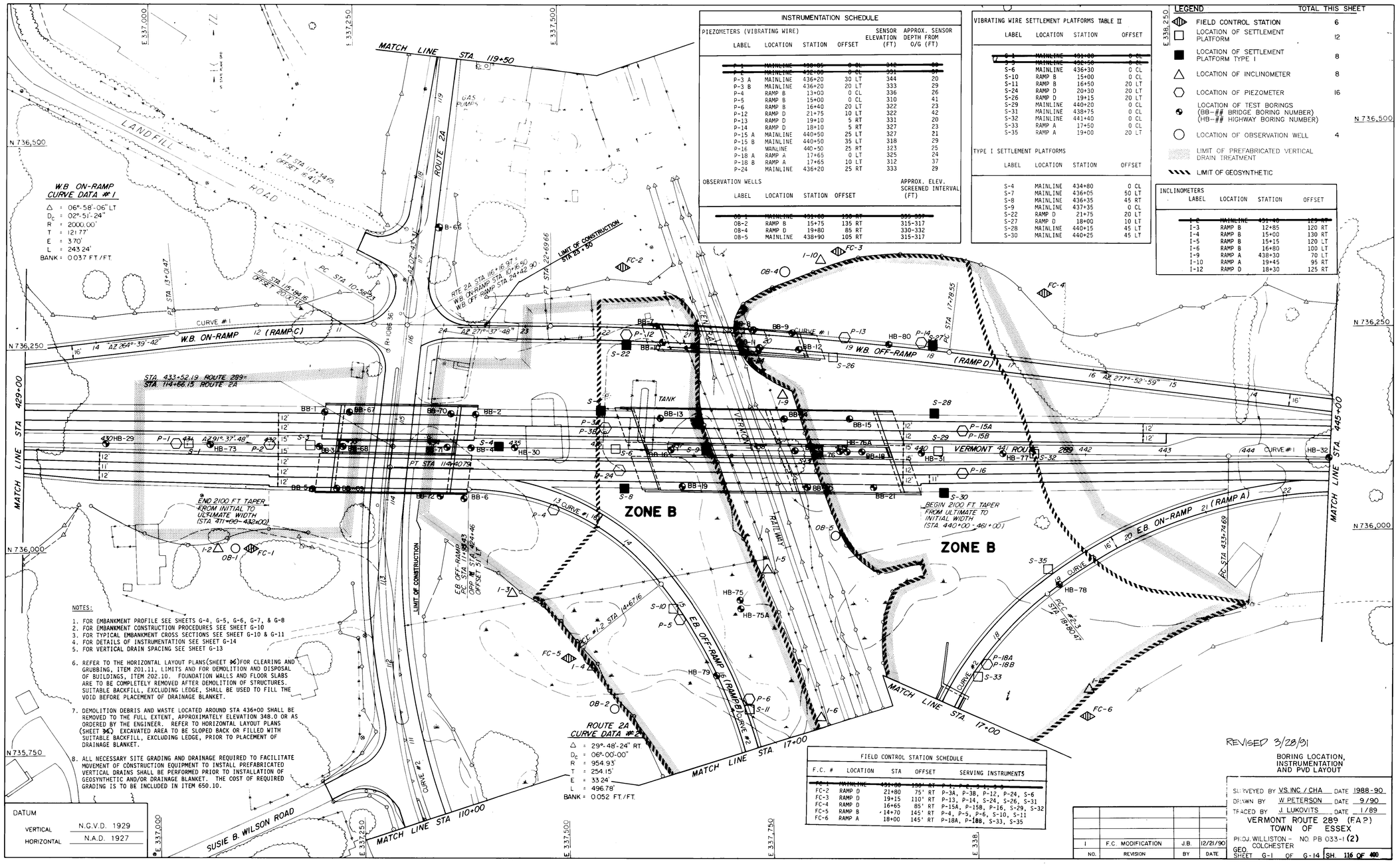
REVISED 5/15/91 - ADDED DETAILS

STATE OF VERMONT
RICHARD B. RACE
No. 10005249
REGISTERED PROFESSIONAL ENGINEER

SURVEYED BY _____ DATE _____
DRAWN BY RAC DATE 9/90
TRACED BY _____ DATE _____

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
COLCHESTER
PROJ. WILLISTON– NO.PB 033-1(1)

SHEET 1158 OF 400



INSTRUMENTATION SCHEDULE

PIEZOMETERS (VIBRATING WIRE)

LABEL	LOCATION	STATION	OFFSET	SENSOR ELEVATION (FT)	APPROX. SENSOR DEPTH FROM O/G (FT)
~~P-1~~	~~MAINLINE~~	~~438+05~~	~~0 CL~~	~~340~~	~~98~~
~~P-2~~	~~MAINLINE~~	~~432+00~~	~~0 CL~~	~~331~~	~~87~~
P-3 A	MAINLINE	436+20	30 LT	344	20
P-3 B	MAINLINE	436+20	20 LT	333	29
P-4	RAMP B	13+00	0 CL	336	26
P-5	RAMP B	15+00	0 CL	310	41
P-6	RAMP B	16+40	20 LT	322	23
P-12	RAMP D	21+75	10 LT	322	42
P-13	RAMP D	19+10	5 RT	331	20
P-14	RAMP D	18+10	5 RT	327	23
P-15 A	MAINLINE	440+50	25 LT	327	21
P-15 B	MAINLINE	440+50	35 LT	318	29
P-16	MAINLINE	440+50	25 RT	323	25
P-18 A	RAMP A	17+65	0 LT	325	24
P-18 B	RAMP A	17+65	10 LT	312	37
P-24	MAINLINE	436+20	25 RT	333	29

OBSERVATION WELLS

LABEL	LOCATION	STATION	OFFSET	APPROX. ELEV. SCREENED INTERVAL (FT)
~~OB-1~~	~~MAINLINE~~	~~431+50~~	~~130 RT~~	~~325-327~~
OB-2	RAMP B	15+75	135 RT	315-317
OB-4	RAMP D	19+80	85 RT	330-332
OB-5	MAINLINE	438+90	105 RT	315-317

VIBRATING WIRE SETTLEMENT PLATFORMS TABLE II

LABEL	LOCATION	STATION	OFFSET
~~S-1~~	~~MAINLINE~~	~~431+00~~	~~0 CL~~
~~S-3~~	~~MAINLINE~~	~~432+50~~	~~0 CL~~
S-6	MAINLINE	436+30	0 CL
S-10	RAMP B	15+00	0 CL
S-11	RAMP B	16+50	20 LT
S-24	RAMP D	20+30	20 LT
S-26	RAMP D	19+15	20 LT
S-29	MAINLINE	440+20	0 CL
S-31	MAINLINE	438+75	0 CL
S-32	MAINLINE	441+40	0 CL
S-33	RAMP A	17+50	0 CL
S-35	RAMP A	19+00	20 LT

TYPE I SETTLEMENT PLATFORMS

LABEL	LOCATION	STATION	OFFSET
S-4	MAINLINE	434+80	0 CL
S-7	MAINLINE	436+05	50 LT
S-8	MAINLINE	436+35	45 RT
S-9	MAINLINE	437+35	0 CL
S-22	RAMP D	21+75	20 LT
S-27	RAMP D	18+00	10 LT
S-28	MAINLINE	440+15	45 LT
S-30	MAINLINE	440+25	45 LT

INCLINOMETERS

LABEL	LOCATION	STATION	OFFSET
~~I-2~~	~~MAINLINE~~	~~431+40~~	~~125 RT~~
I-3	RAMP B	12+85	120 RT
I-4	RAMP B	15+00	130 RT
I-5	RAMP B	15+15	120 LT
I-6	RAMP B	16+80	100 LT
I-9	RAMP A	438+30	70 LT
I-10	RAMP A	19+45	95 RT
I-12	RAMP D	18+30	125 RT

LEGEND

	TOTAL THIS SHEET
FIELD CONTROL STATION	6
LOCATION OF SETTLEMENT PLATFORM	12
LOCATION OF SETTLEMENT PLATFORM TYPE I	8
LOCATION OF INCLINOMETER	8
LOCATION OF PIEZOMETER	16
LOCATION OF TEST BORINGS (BB-## BRIDGE BORING NUMBER) (HB-## HIGHWAY BORING NUMBER)	N 736,500
LOCATION OF OBSERVATION WELL	4
LIMIT OF PREFABRICATED VERTICAL DRAIN TREATMENT	
LIMIT OF GEOSYNTHETIC	

NOTES:

1. FOR EMBANKMENT PROFILE SEE SHEETS G-4, G-5, G-6, G-7, & G-8
2. FOR EMBANKMENT CONSTRUCTION PROCEDURES SEE SHEET G-10
3. FOR TYPICAL EMBANKMENT CROSS SECTIONS SEE SHEET G-10 & G-11
4. FOR DETAILS OF INSTRUMENTATION SEE SHEET G-14
5. FOR VERTICAL DRAIN SPACING SEE SHEET G-13
6. REFER TO THE HORIZONTAL LAYOUT PLANS (SHEET #6) FOR CLEARING AND GRUBBING, ITEM 201.11, LIMITS AND FOR DEMOLITION AND DISPOSAL OF BUILDINGS, ITEM 202.10. FOUNDATION WALLS AND FLOOR SLABS ARE TO BE COMPLETELY REMOVED AFTER DEMOLITION OF STRUCTURES. SUITABLE BACKFILL, EXCLUDING LEDGE, SHALL BE USED TO FILL THE VOID BEFORE PLACEMENT OF DRAINAGE BLANKET.
7. DEMOLITION DEBRIS AND WASTE LOCATED AROUND STA 436+00 SHALL BE REMOVED TO THE FULL EXTENT, APPROXIMATELY ELEVATION 348.0 OR AS ORDERED BY THE ENGINEER. REFER TO HORIZONTAL LAYOUT PLANS (SHEET #6) EXCAVATED AREA TO BE SLOPED BACK OR FILLED WITH SUITABLE BACKFILL, EXCLUDING LEDGE, PRIOR TO PLACEMENT OF DRAINAGE BLANKET.
8. ALL NECESSARY SITE GRADING AND DRAINAGE REQUIRED TO FACILITATE MOVEMENT OF CONSTRUCTION EQUIPMENT TO INSTALL PREFABRICATED VERTICAL DRAINS SHALL BE PERFORMED PRIOR TO INSTALLATION OF GEOSYNTHETIC AND/OR DRAINAGE BLANKET. THE COST OF REQUIRED GRADING IS TO BE INCLUDED IN ITEM 650.10.

FIELD CONTROL STATION SCHEDULE

F.C. #	LOCATION	STA	OFFSET	SERVING INSTRUMENTS
~~FC-1~~	~~MAINLINE~~	~~431+00~~	~~180 RT~~	~~P-1, P-2, S-1, S-3~~
FC-2	RAMP D	21+80	75' RT	P-3A, P-3B, P-12, P-24, S-6
FC-3	RAMP D	19+15	110' RT	P-13, P-14, S-24, S-26, S-31
FC-4	RAMP D	16+65	85' RT	P-15A, P-15B, P-16, S-29, S-32
FC-5	RAMP B	14+70	145' RT	P-4, P-5, P-6, S-10, S-11
FC-6	RAMP A	18+00	145' RT	P-18A, P-18B, S-33, S-35

DATUM

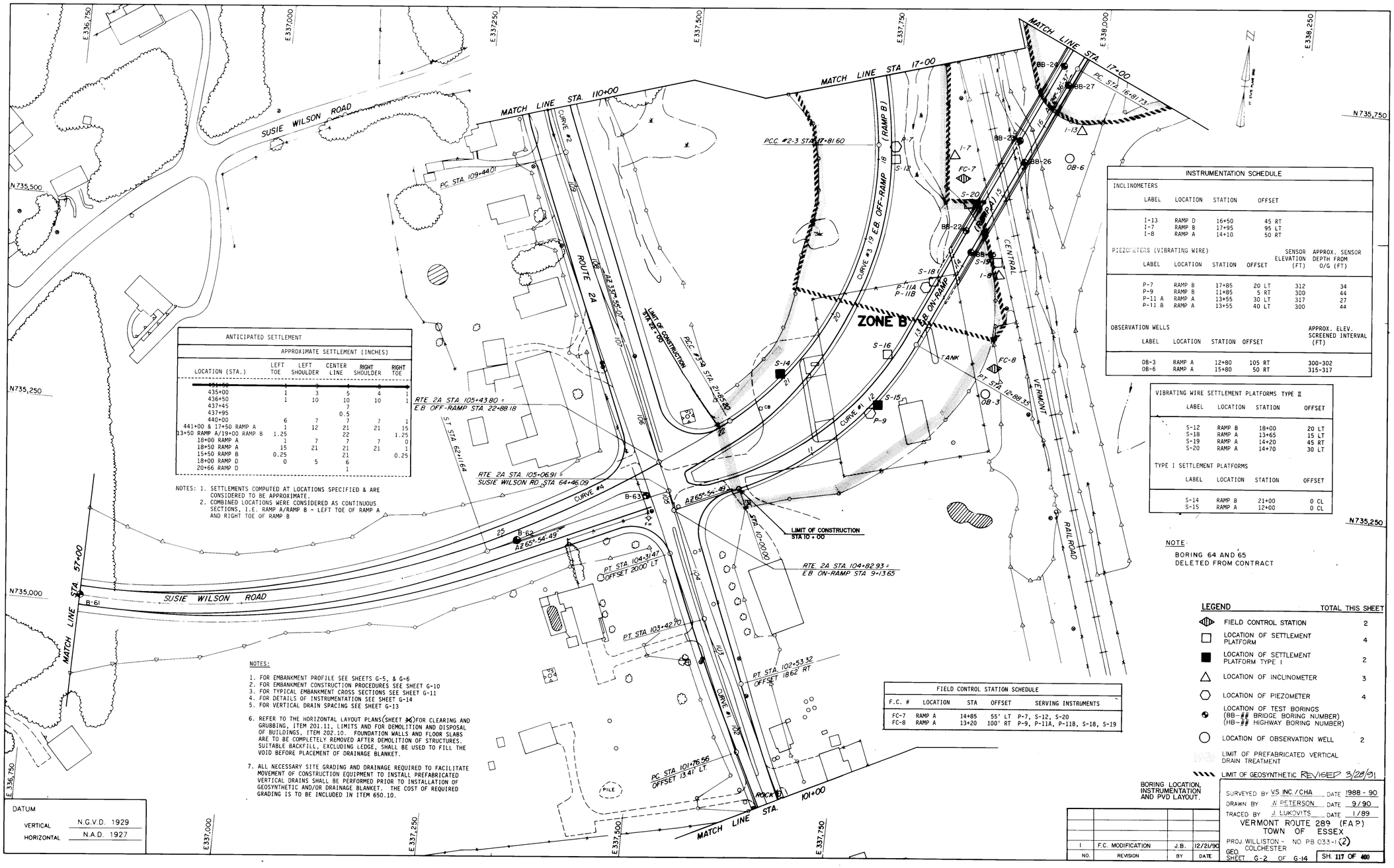
VERTICAL	N.G.V.D. 1929
HORIZONTAL	N.A.D. 1927

NO.	REVISION	BY	DATE
1	F.C. MODIFICATION	J.B.	12/21/90

REVISED 3/28/91
BORING LOCATION, INSTRUMENTATION AND PVD LAYOUT

SURVEYED BY VS INC. / CHA DATE 1988-90
DRAWN BY W PETERSON DATE 9/90
TRACED BY J. LUKOVITS DATE 1/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1 (2)
GEO. COLCHESTER
SHEET G-1 OF G-14 SH. 116 OF 400



ANTICIPATED SETTLEMENT

LOCATION (STA.)	APPROXIMATE SETTLEMENT (INCHES) LEFT TOE	LEFT SHOULDER	CENTER LINE	RIGHT SHOULDER	RIGHT TOE
431+50	1	3	6	6	1
435+00	1	3	5	4	1
436+50	1	10	10	10	1
437+45			7		
437+95			0.5		
440+00	6	7	7	7	1
441+00 & 17+50 RAMP A	1	12	21	21	15
13+50 RAMP A/19+00 RAMP B	1.25		22		1.25
18+00 RAMP A	1	7	7	7	0
18+50 RAMP A	15	21	21	21	1
15+50 RAMP B	0.25		21		0.25
18+00 RAMP D	0	5	6		
20+66 RAMP D			1		

NOTES: 1. SETTLEMENTS COMPUTED AT LOCATIONS SPECIFIED & ARE CONSIDERED TO BE APPROXIMATE.
2. COMBINED LOCATIONS WERE CONSIDERED AS CONTINUOUS SECTIONS, I.E. RAMP A/RAMP B - LEFT TOE OF RAMP A AND RIGHT TOE OF RAMP B

NOTES:

1. FOR EMBANKMENT PROFILE SEE SHEETS G-5, & G-6
2. FOR EMBANKMENT CONSTRUCTION PROCEDURES SEE SHEET G-10
3. FOR TYPICAL EMBANKMENT CROSS SECTIONS SEE SHEET G-11
4. FOR DETAILS OF INSTRUMENTATION SEE SHEET G-14
5. FOR VERTICAL DRAIN SPACING SEE SHEET G-13
6. REFER TO THE HORIZONTAL LAYOUT PLANS(SHEET #)FOR CLEARING AND GRUBBING, ITEM 201.11. LIMITS AND FOR DEMOLITION AND DISPOSAL OF BUILDINGS, ITEM 202.10. FOUNDATION WALLS AND FLOOR SLABS ARE TO BE COMPLETELY REMOVED AFTER DEMOLITION OF STRUCTURES. SUITABLE BACKFILL, EXCLUDING LEDGE, SHALL BE USED TO FILL THE VOID BEFORE PLACEMENT OF DRAINAGE BLANKET.
7. ALL NECESSARY SITE GRADING AND DRAINAGE REQUIRED TO FACILITATE MOVEMENT OF CONSTRUCTION EQUIPMENT TO INSTALL PREFABRICATED VERTICAL DRAINS SHALL BE PERFORMED PRIOR TO INSTALLATION OF GEOSYNTHETIC AND/OR DRAINAGE BLANKET. THE COST OF REQUIRED GRADING IS TO BE INCLUDED IN ITEM 650.10.

DATUM

VERTICAL	N.G.V.D. 1929
HORIZONTAL	N.A.D. 1927

INSTRUMENTATION SCHEDULE

INCLINOMETERS

LABEL	LOCATION	STATION	OFFSET
I-13	RAMP D	16+50	45 RT
I-7	RAMP B	17+95	95 LT
I-8	RAMP A	14+10	50 RT

PIEZOMETERS (VIBRATING WIRE)

LABEL	LOCATION	STATION	OFFSET	SENSOR ELEVATION (FT)	APPROX. SENSOR DEPTH FROM O/G (FT)
P-7	RAMP B	17+85	20 LT	312	34
P-9	RAMP B	11+85	5 RT	300	44
P-11 A	RAMP A	13+55	30 LT	317	27
P-11 B	RAMP A	13+55	40 LT	300	44

OBSERVATION WELLS

LABEL	LOCATION	STATION	OFFSET	APPROX. ELEV. SCREENED INTERVAL (FT)
OB-3	RAMP A	12+80	105 RT	300-302
OB-6	RAMP A	15+80	50 RT	315-317

VIBRATING WIRE SETTLEMENT PLATFORMS TYPE II

LABEL	LOCATION	STATION	OFFSET
S-12	RAMP B	18+00	20 LT
S-18	RAMP A	13+65	15 LT
S-19	RAMP A	14+20	45 RT
S-20	RAMP A	14+70	30 LT

TYPE I SETTLEMENT PLATFORMS

LABEL	LOCATION	STATION	OFFSET
S-14	RAMP B	21+00	0 CL
S-15	RAMP A	12+00	0 CL

NOTE:
BORING 64 AND 65
DELETED FROM CONTRACT

FIELD CONTROL STATION SCHEDULE

F.C. #	LOCATION	STA	OFFSET	SERVING INSTRUMENTS
FC-7	RAMP A	14+85	55' LT	P-7, S-12, S-20
FC-8	RAMP A	13+20	100' RT	P-9, P-11A, P-11B, S-18, S-19

LEGEND

	TOTAL THIS SHEET
FIELD CONTROL STATION	2
LOCATION OF SETTLEMENT PLATFORM	4
LOCATION OF SETTLEMENT PLATFORM TYPE I	2
LOCATION OF INCLINOMETER	3
LOCATION OF PIEZOMETER	4
LOCATION OF TEST BORINGS (BB-## BRIDGE BORING NUMBER) (HB-## HIGHWAY BORING NUMBER)	
LOCATION OF OBSERVATION WELL	2
LIMIT OF PREFABRICATED VERTICAL DRAIN TREATMENT	
LIMIT OF GEOSYNTHETIC REVISED 3/28/91	

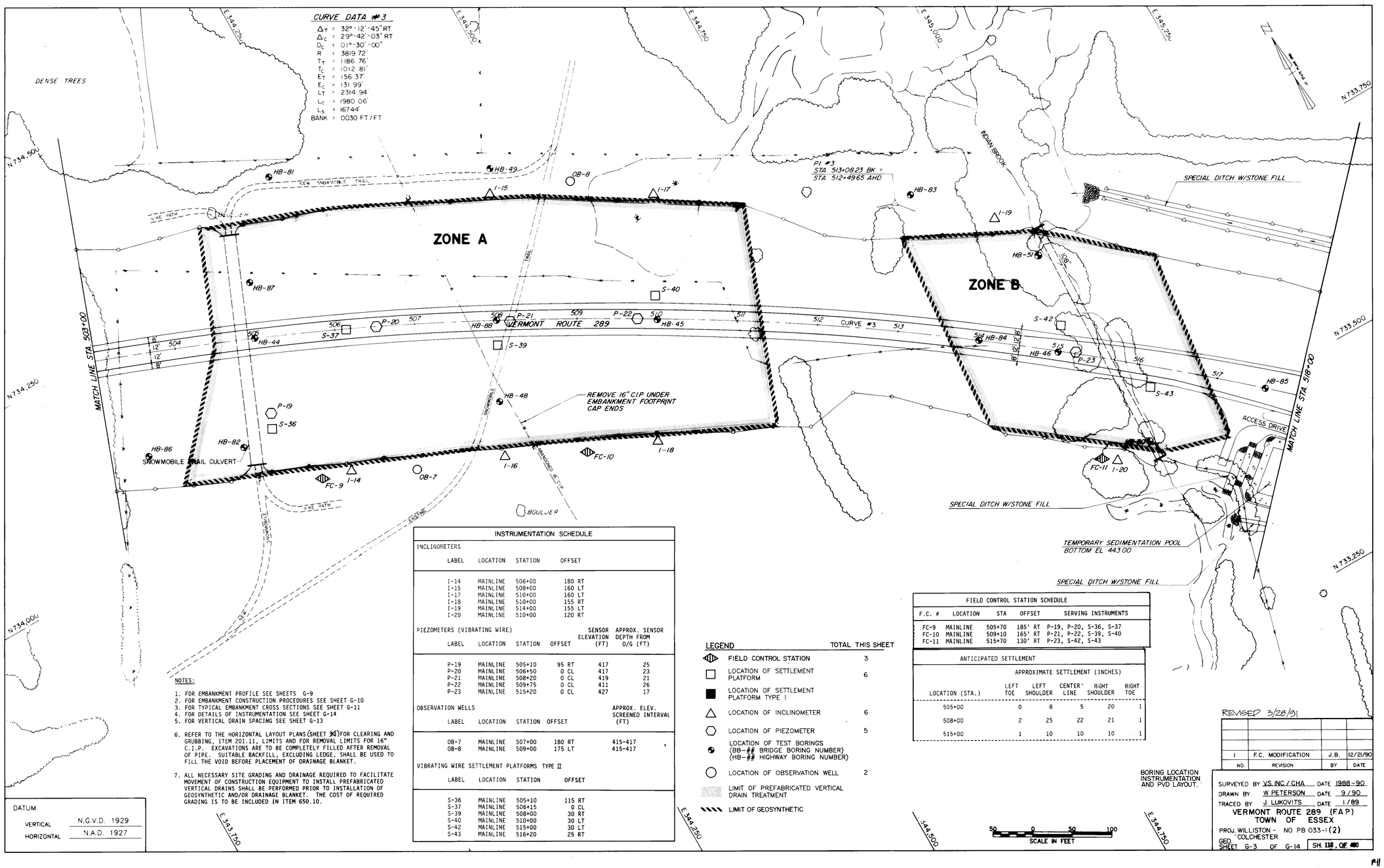
BORING LOCATION, INSTRUMENTATION AND PVD LAYOUT.

NO.	REVISION	BY	DATE
1	F.C. MODIFICATION	J.B.	12/21/90

SURVEYED BY VS INC / CHA DATE 1988 - 90
DRAWN BY W. PETERSON DATE 9/90
TRACED BY J. LUKOVITS DATE 1/89

VERMONT ROUTE 289 (FAP)
TOWN OF ESSEX

PROJ. WILLISTON - COLCHESTER NO. PB 033-1 (2)
GEO SHEET G-2 OF G-14
SH. 117 OF 400



INSTRUMENTATION SCHEDULE				
INCLINOMETERS				
LABEL	LOCATION	STATION	OFFSET	
I-14	MAINLINE	506+00	180 RT	
I-15	MAINLINE	508+00	160 LT	
I-17	MAINLINE	510+00	160 LT	
I-18	MAINLINE	510+00	155 RT	
I-19	MAINLINE	514+00	155 LT	
I-20	MAINLINE	510+00	120 RT	
PIEZOMETERS (VIBRATING WIRE)				SENSOR ELEVATION (FT) / APPROX. SENSOR DEPTH FROM O/G (FT)
P-19	MAINLINE	505+10	95 RT	417 / 25
P-20	MAINLINE	506+50	0 CL	417 / 23
P-21	MAINLINE	508+20	0 CL	419 / 21
P-22	MAINLINE	509+75	0 CL	411 / 26
P-23	MAINLINE	515+20	0 CL	427 / 17
OBSERVATION WELLS				APPROX. ELEV. SCREENED INTERVAL (FT)
OB-7	MAINLINE	507+00	180 RT	415-417
OB-8	MAINLINE	509+00	175 LT	415-417
VIBRATING WIRE SETTLEMENT PLATFORMS TYPE II				
S-36	MAINLINE	505+10	115 RT	
S-37	MAINLINE	506+15	0 CL	
S-39	MAINLINE	508+00	30 RT	
S-40	MAINLINE	510+00	30 LT	
S-42	MAINLINE	515+00	30 LT	
S-43	MAINLINE	516+20	25 RT	

LEGEND	TOTAL THIS SHEET
FIELD CONTROL STATION	3
LOCATION OF SETTLEMENT PLATFORM	6
LOCATION OF SETTLEMENT PLATFORM TYPE I	
LOCATION OF INCLINOMETER	6
LOCATION OF PIEZOMETER	5
LOCATION OF TEST BORINGS (BB-## BRIDGE BORING NUMBER) (HB-## HIGHWAY BORING NUMBER)	
LOCATION OF OBSERVATION WELL	2
LIMIT OF PREFABRICATED VERTICAL DRAIN TREATMENT	
LIMIT OF GEOSYNTHETIC	

FIELD CONTROL STATION SCHEDULE				
F.C. #	LOCATION	STA	OFFSET	SERVING INSTRUMENTS
FC-9	MAINLINE	505+70	185' RT	P-19, P-20, S-36, S-37
FC-10	MAINLINE	509+10	165' RT	P-21, P-22, S-39, S-40
FC-11	MAINLINE	515+70	130' RT	P-23, S-42, S-43

ANTICIPATED SETTLEMENT						
	APPROXIMATE SETTLEMENT (INCHES)					
LOCATION (STA.)	LEFT TOE	LEFT SHOULDER	CENTER LINE	RIGHT SHOULDER	RIGHT TOE
505+00	0	8	5	20	1
508+00	2	25	22	21	1
515+00	1	10	10	10	1

NOTES:

1. FOR EMBANKMENT PROFILE SEE SHEETS G-9
2. FOR EMBANKMENT CONSTRUCTION PROCEDURES SEE SHEET G-10
3. FOR TYPICAL EMBANKMENT CROSS SECTIONS SEE SHEET G-11
4. FOR DETAILS OF INSTRUMENTATION SEE SHEET G-14
5. FOR VERTICAL DRAIN SPACING SEE SHEET G-13
6. REFER TO THE HORIZONTAL LAYOUT PLANS (SHEET 14) FOR CLEARING AND GRUBBING, ITEM 201.11, LIMITS AND FOR REMOVAL LIMITS FOR 16" C.I.P. EXCAVATIONS ARE TO BE COMPLETELY FILLED AFTER REMOVAL OF PIPE. SUITABLE BACKFILL, EXCLUDING LEDGE, SHALL BE USED TO FILL THE VOID BEFORE PLACEMENT OF DRAINAGE BLANKET.
7. ALL NECESSARY SITE GRADING AND DRAINAGE REQUIRED TO FACILITATE MOVEMENT OF CONSTRUCTION EQUIPMENT TO INSTALL PREFABRICATED VERTICAL DRAINS SHALL BE PERFORMED PRIOR TO INSTALLATION OF GEOSYNTHETIC AND/OR DRAINAGE BLANKET. THE COST OF REQUIRED GRADING IS TO BE INCLUDED IN ITEM 650.10.

DATUM	
VERTICAL	N.G.V.D. 1929
HORIZONTAL	N.A.D. 1927

BORING LOCATION, INSTRUMENTATION AND PVD LAYOUT.

SCALE IN FEET: 50 0 50 100

REVISED 3/28/91

NO.	REVISION	BY	DATE
1	F.C. MODIFICATION	J.B.	12/21/90

SURVEYED BY VS. INC. / CHA DATE 1988-90
DRAWN BY W. PETERSON DATE 9/90
TRACED BY J. LUKOVITS DATE 1/89

VERMONT ROUTE 289 (FAP)
TOWN OF ESSEX

PROJ. WILLISTON - COLCHESTER NO. PB 033-1(2)

GEO SHEET G-3 OF G-14 SH. 118, OF 400

F11

PLAN	DATE	BY
5-24-91		
NOTE ROCK ALIGNMENT CHANGED AT "A" ON CHORD		
1-10		

PROFILE	DATE	BY
5-24-91		
NOTE ROCK ALIGNMENT CHANGED AT "A" ON CHORD		
1-10		

DRAIN BLANKET GRADATION
ITEM 203.31 - SAND BORROW*

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
1 INCH	100
NO. 4	70 - 100
NO. 100	0 - 20
NO. 200	0 - 6

*MODIFIED VERTICAL DRAIN

NO WORK WEST OF ROUTE 2A

PVD ZONE C LIMITS

PVD ZONE B LIMITS

LIMIT OF CONSTRUCTION (BOTTOM OF SAND BORROW)

PVD ZONE B LIMITS

ORIGINAL GROUND

TOP OF EMBANKMENT

3' SURCHARGE

APPROX. LIMIT OF GRANULAR BORROW SEE NOTE 1

APPROXIMATE LOCATION OF RTE 2A

APPROXIMATE LIMITS OF GRANULAR BORROW SEE NOTE 2

APPROXIMATE LOCATION OF CENTRAL VERMONT RAILWAY

GEOSYNTHETIC

DEMOLITION DEBRIS & MISCELLANEOUS REFUSE TO BE REMOVED TO FULL DEPTH

2' DRAINAGE BLANKET (ITEM 203.31 (MODIFIED)

GEOSYNTHETIC LIMITS

GEOSYNTHETIC LIMITS

12" PCCSP 064 OR CAAP 060

18" PCCSP 064 OR CAAP 060

2-18" PCCSP 064 OR CAAP 060

382.00 (55' RT)

383.00 (Q)

384.00 (46' LT)

377.00 (46' LT)

372.00 (LT)

376.00 (RT)

368.00 (LT)

364.10 (RT)

381.80 (46' LT)

377.00 (3' LT)

389.60 (46' LT)

391.80 (46' LT)

392.50 (46' RT)

392.00 RT

387.00 (Q)

386.00 (RT)

369.50 (LT)

366.00 (LT)

399.20 (46' LT)

390.50 (LT)

401.00 (46' LT)

401.80 (46' RT)

395.80 (LT)

387.50 (LT)

364.00 (RT)

PVC STA 443+00 EL 400.45

UNS +2.90%(LT)

UNS +2.80%(RT)

+1.9700%

EL. 400

EL. 395

EL. 390

EL. 385

EL. 380

EL. 375

EL. 370

EL. 365

EL. 360

EL. 355

EL. 350

EL. 347

A-2-4 FINE SAND

A-3 FINE SAND

A-6 CLAY

A-4 TILL

A-4 SILT

A-4 CLAY

A-3 SAND

A-2-4 SILTY SAND

A-1 GRAVEL

BEDROCK

STA 430+00 HB-29

STA 431+00 HB-73

STA 432+80.96 EL. 390.37 STOP ROADWAY BEGIN BRIDGE #1

STA 432+87.72 EL. 390.49 STOP ROADWAY BEGIN BRIDGE #1

STA 433+50.19 VT RTE 289 @ STA 114+66.15 VT RTE 2A @ STA

STA 434+32.24 EL. 393.36 END BRIDGE #1 RESUME ROADWAY

STA 434+35+00 HB-5

STA 434+45+00 HB-6

STA 435+10+00 HB-7

STA 435+75 RT

STA 436+26.48 EL. 397.24 END BRIDGE #2 RESUME ROADWAY

STA 436+40.05 EL. 397.58 STOP ROADWAY BEGIN BRIDGE #4

STA 436+69.02 EL. 398.02 STOP ROADWAY BEGIN BRIDGE #5

STA 436+90 HB-16

STA 438+50 HB-75

STA 439+00 HB-76

STA 439+21 HB-18

STA 439+26.53 EL. 403.60 END BRIDGE #4 RESUME ROADWAY

STA 439+71.50 EL. 403.98 END BRIDGE #5 RESUME ROADWAY

STA 440+00 HB-77

STA 441+00 HB-77

NOTE:

THE SOIL DELINEATIONS AND WATER LEVEL OBSERVATIONS (▼) PRESENTED ON THIS DRAWING HAVE BEEN MADE WITH REASONABLE CARE AND ACCURACY AND MUST BE CONSIDERED ONLY AN APPROXIMATE REPRESENTATION OF SUBSURFACE CONDITIONS TO BE ENCOUNTERED AT THE PARTICULAR LOCATION AT THE TIME OF DRILLING.

NOTE:

DRAINAGE BLANKET ELEVATIONS SHOWN ARE APPROXIMATE. ACTUAL ELEVATIONS TO BE DETERMINED DURING CONSTRUCTION BASED UPON REQUIRED SUBGRADE MODIFICATION UNDERCUTS AS DIRECTED BY ENGINEER. ANY UNDERCUTS REQUIRED WILL BE BACKFILLED WITH UNCOMPACTED SAND CUSHION (ITEM 203.31-MODIFIED).

NOTE:

THE ACTUAL PERFORMANCE OF THE EMBANKMENT IN TERMS OF STABILITY AND SETTLEMENT IS A FUNCTION OF THE IN-SITU SOIL PROPERTIES AND THE RATE OF EMBANKMENT CONSTRUCTION. THEREFORE, THE CONTRACTOR SHOULD BE PREPARED TO COORDINATE THE RATE AND LOCATION OF EMBANKMENT FILL PLACEMENT WITH THE ENGINEER BASED ON INFORMATION OBTAINED FROM THE GEOTECHNICAL INSTRUMENTATIONS MONITORING AND EVALUATION OF THE CONDITIONS.

NOTE 1: REFERENCE STRUCTURE #1 & #2 DRAWINGS, SHEET FOR GRANULAR BORROW LIMITS

NOTE 2: REFERENCE STRUCTURE #3 & #4 DRAWINGS, SHEET FOR GRANULAR BORROW LIMITS

HORIZ 0 25 50

VERT 10 5 0

SCALE IN FEET

REVISED 3/28/91

SURVEYED BY V.S. INC./CHA DATE 1988-90

DRAWN BY W PETERSON DATE 9/90

TRACED BY G DANZY DATE 9/90

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1 (2)
GEO. COLCHESTER
SHEET G-4 OF G-14

SH. 119 OF 400

PLAN

BY	DATE

SURVEYED
PLOTTED
CHECKED
NOTE BOOK
NO.
ALIGNMENT CHECKED
R.O.W. CHECKED

PROFILE

BY	DATE

SURVEYED
PLOTTED
CHECKED
NOTE BOOK
NO.
R.O.W. CHECKED
STRUCTURE NOTATIONS CHKD

RTE. 24 STA. 104+82.33 =
E.B. ON-RAMP STA. 9+13.65
EL. 351.95

P.V.C. STA. 9+37.00
EL. 351.46

P.V.I. STA. 10+16.00
EL. 349.82
V.C. = 192'
K = 1.81

P.V.T. STA. 10+93.
EL. 355.04

STA. 13+85.92, EL. 374.50
STOP ROADWAY
BEGIN BRIDGE #6

PVD
ZONE B LIMITS

APPROXIMATE LIMITS OF GRANULAR BORROW ITEM 203.32 SEE NOTE 1

TOP OF EMBANKMENT

TOP OF SURCHARGE

+6.6899 %

FINISH GRADE

3' SURCHARGE

EL. 370
EL. 365
EL. 360
EL. 355
EL. 350
EL. 345

1-1/2
1

-2.1016 %

36" PC.C.S.P. 064
OR C.A.A.P. 060

334.20 (37' RT.)

332.00 (130' RT.)

GEOSYNTHETIC

STA. 15+50
BBL 26

℄ C.V.R.

STA. 16+40
BBL 27

ELEV. 345.25
BBL 28

ELEV. 344.22
BBL 29

A-3 FINE SAND

A-4 SILT

A-4 TILL

A-6 CLAY

6' DRAINAGE BLANKET (ITEM 203.31 (MODIFIED)

GEOSYNTHETIC LIMITS

P.V.C. STA. 16+50

STA. 17+18.50, EL. 396.46
END BRIDGE #6
RESUME ROADWAY

P.V.I. STA. 17+60.00
EL. 399.66
V.C. = 220'
K = 55.0

PVD
ZONE B LIMITS

P.V.T. STA. 18+70.00
EL. 402.71

TOP OF SURCHARGE

TOP OF EMBANKMENT

+2.7711 %

3' SURCHARGE

EL. 400
EL. 395
EL. 390
EL. 385
EL. 380
EL. 375
EL. 370

386.5 (31' RT.)

1-1/2
2
1

12" PC.C.S.P. 064
OR C.A.A.P. 060

349.00 (141' RT.)

GEOSYNTHETIC

GEOSYNTHETIC LIMITS

P.V.T. STA. 21+20
EL. 402.71

P.T. STA. 22+88.97
OPPM. 445+35 (℄)
OFFSET 273' RT.

+75 411.6
+00 411.87
+25 412.73
+50 413.66
+75 414.54
(SPLINE GRADIENT)

42" PC.C.S.P. 109
W/3" x 1" CORRUGATIONS

363.0 (RT.)

RAMP A
E.B. ON-RAMP

DRAIN BLANKET GRADATION
ITEM 203.31 - SAND BORROW*

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
1 INCH	100
NO. 4	70 - 100
NO. 100	0 - 20
NO. 200	0 - 6

*MODIFIED VERTICAL DRAIN

NOTE 1
REFERENCE STRUCTURE # 5 DWG. # 229 FOR GRANULAR BORROW LIMITS

NOTE:

THE SOIL DELINEATIONS AND WATER LEVEL OBSERVATIONS (▽) PRESENTED ON THIS DRAWING HAVE BEEN MADE WITH REASONABLE CARE AND ACCURACY AND MUST BE CONSIDERED ONLY AN APPROXIMATE REPRESENTATION OF SUBSURFACE CONDITIONS TO BE ENCOUNTERED AT THE PARTICULAR LOCATION AT THE TIME OF DRILLING.

NOTE:

DRAINAGE BLANKET ELEVATIONS SHOWN ARE APPROXIMATE. ACTUAL ELEVATIONS TO BE DETERMINED DURING CONSTRUCTION BASED UPON REQUIRED SUBGRADE MODIFICATION UNDERCUTS AS DIRECTED BY ENGINEER. ANY UNDERCUTS REQUIRED WILL BE BACKFILLED WITH UNCOMPACTED SAND CUSHION (ITEM 203.31-MODIFIED).

NOTE:

THE ACTUAL PERFORMANCE OF THE EMBANKMENT IN TERMS OF STABILITY AND SETTLEMENT IS A FUNCTION OF THE IN-SITU SOIL PROPERTIES AND THE RATE OF EMBANKMENT CONSTRUCTION. THEREFORE, THE CONTRACTOR SHOULD BE PREPARED TO COORDINATE THE RATE AND LOCATION OF EMBANKMENT FILL PLACEMENT WITH THE ENGINEER BASED ON INFORMATION OBTAINED FROM THE GEOTECHNICAL INSTRUMENTATIONS MONITORING AND EVALUATION OF THE CONDITIONS.

10 5 0 VERT.
0 25 50 HORIZ.
SCALE IN FEET

REVISED 3/28/91

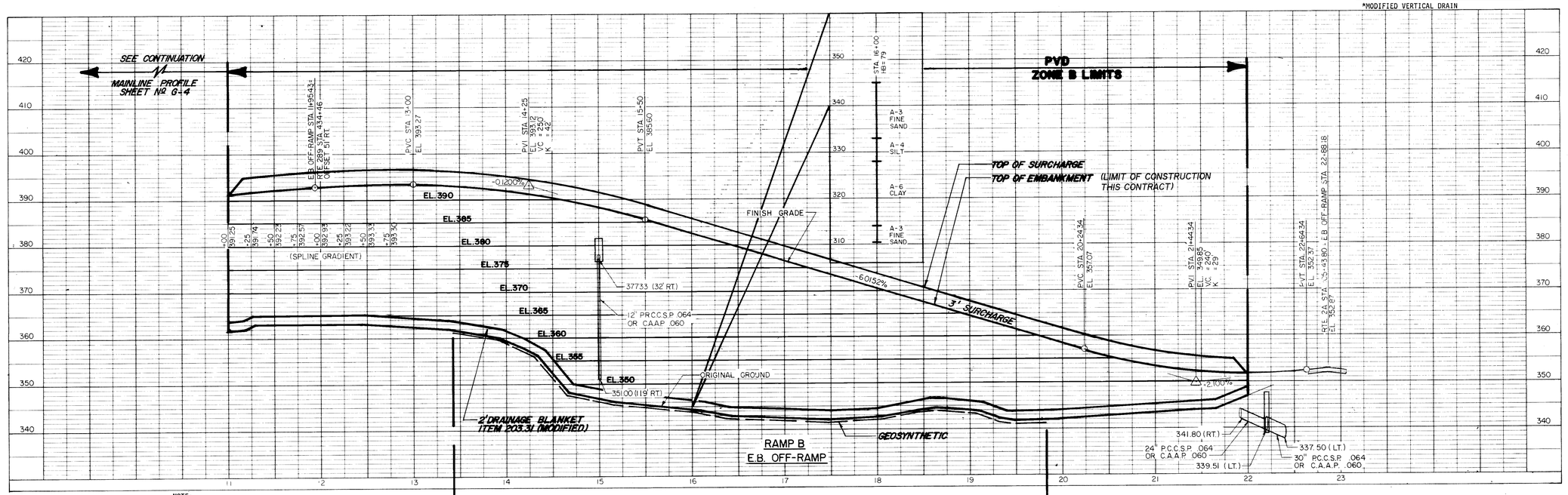
SURVEYED BY VS, INC./C.H.A. DATE 1988-90
DRAWN BY T. KARIS DATE 2/89
TRACED BY N. GIBSON DATE 9/90

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON NO. PB 033-1 (2)
GEO. COLCHESTER
SHEET G-5 OF G-14

SH. 120 OF 140

DRAIN BLANKET GRADATION ITEM 203.31 - SAND BORROW*	
SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
1 INCH	100
NO. 4	70 - 100
NO. 100	0 - 20
NO. 200	0 - 6

*MODIFIED VERTICAL DRAIN



NOTE:

THE SOIL DELINEATIONS AND WATER LEVEL OBSERVATIONS (▼) PRESENTED ON THIS DRAWING HAVE BEEN MADE WITH REASONABLE CARE AND ACCURACY AND MUST BE CONSIDERED ONLY AN APPROXIMATE REPRESENTATION OF SUBSURFACE CONDITIONS TO BE ENCOUNTERED AT THE PARTICULAR LOCATION AT THE TIME OF DRILLING.

NOTE:

DRAINAGE BLANKET ELEVATIONS SHOWN ARE APPROXIMATE. ACTUAL ELEVATIONS TO BE DETERMINED DURING CONSTRUCTION BASED UPON REQUIRED SUBGRADE MODIFICATION UNDERCUTS AS DIRECTED BY ENGINEER. ANY UNDERCUTS REQUIRED WILL BE BACKFILLED WITH UNCOMPACTED SAND CUSHION (ITEM 203.31-MODIFIED).

NOTE:

THE ACTUAL PERFORMANCE OF THE EMBANKMENT IN TERMS OF STABILITY AND SETTLEMENT IS A FUNCTION OF THE IN-SITU SOIL PROPERTIES AND THE RATE OF EMBANKMENT CONSTRUCTION. THEREFORE, THE CONTRACTOR SHOULD BE PREPARED TO COORDINATE THE RATE AND LOCATION OF EMBANKMENT FILL PLACEMENT WITH THE ENGINEER BASED ON INFORMATION OBTAINED FROM THE GEOTECHNICAL INSTRUMENTATIONS MONITORING AND EVALUATION OF THE CONDITIONS.

DATUM

VERTICAL N.G.V.D. 1929

HORIZONTAL N.A.D. 1927

10 5 0 VERT

0 25 50 HORIZ.

SCALE IN FEET

REVISED 3/28/91, 5/6/91

SURVEYED BY V.S., INC./C.H.A. DATE 1988-90

DRAWN BY T. KARIS DATE 2/89

TRACED BY V. HECHT DATE 2/89

VERMONT ROUTE 289 (F.A.P.)

TOWN OF ESSEX

PROJ. WILLISTON - COLCHESTER NO. PB 033-1 (2)

GEO SHEET G-6 OF G-14

SH. 121 OF 400

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
GRADES CHECKED
NOTE BOOK
NO.

PROFILE
SURVEYED
GRADES
B.M. NOTED
STRUCTURES NOTATING CHKD
NOTE BOOK
NO.

DATE
BY

NOTE:

THE SOIL DELINEATIONS AND WATER LEVEL OBSERVATIONS (▼) PRESENTED ON THIS DRAWING HAVE BEEN MADE WITH REASONABLE CARE AND ACCURACY AND MUST BE CONSIDERED ONLY AN APPROXIMATE REPRESENTATION OF SUBSURFACE CONDITIONS TO BE ENCOUNTERED AT THE PARTICULAR LOCATION AT THE TIME OF DRILLING.

NOTE:

DRAINAGE BLANKET ELEVATIONS SHOWN ARE APPROXIMATE. ACTUAL ELEVATIONS TO BE DETERMINED DURING CONSTRUCTION BASED UPON REQUIRED SUBGRADE MODIFICATION UNDERCUTS AS DIRECTED BY ENGINEER. ANY UNDERCUTS REQUIRED WILL BE BACKFILLED WITH UNCOMPACTED SAND CUSHION (ITEM 203.31-MODIFIED).

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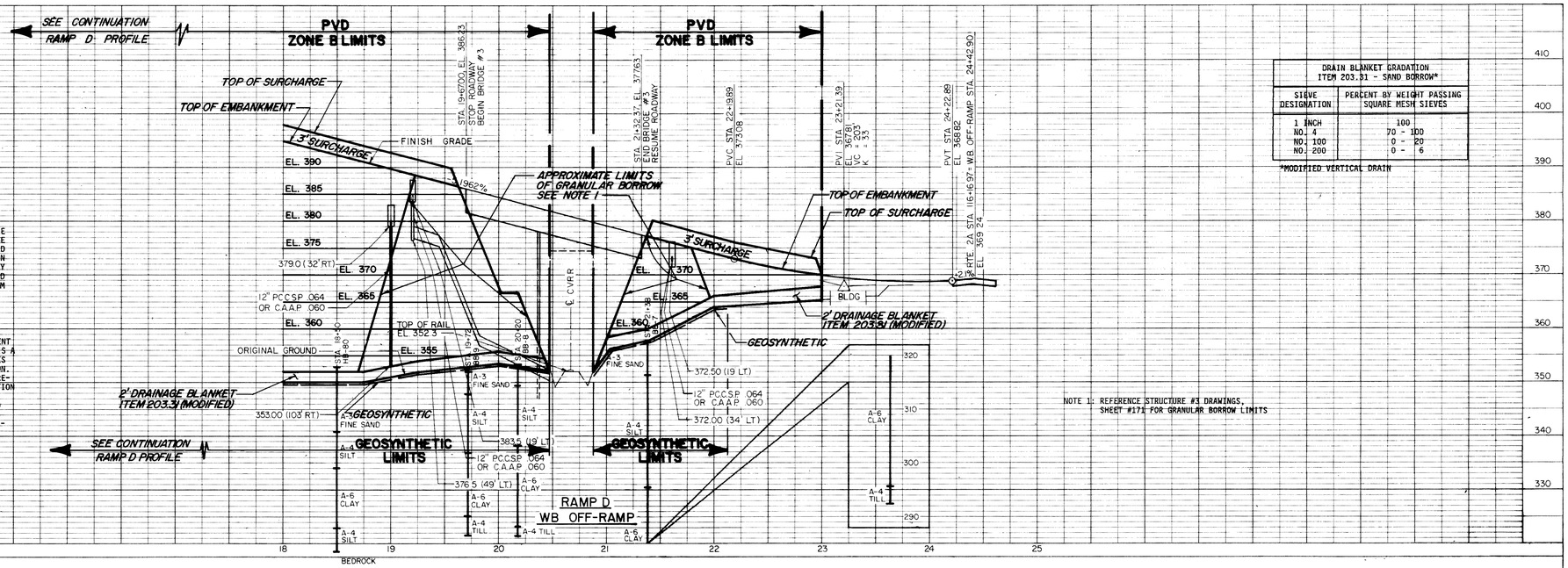


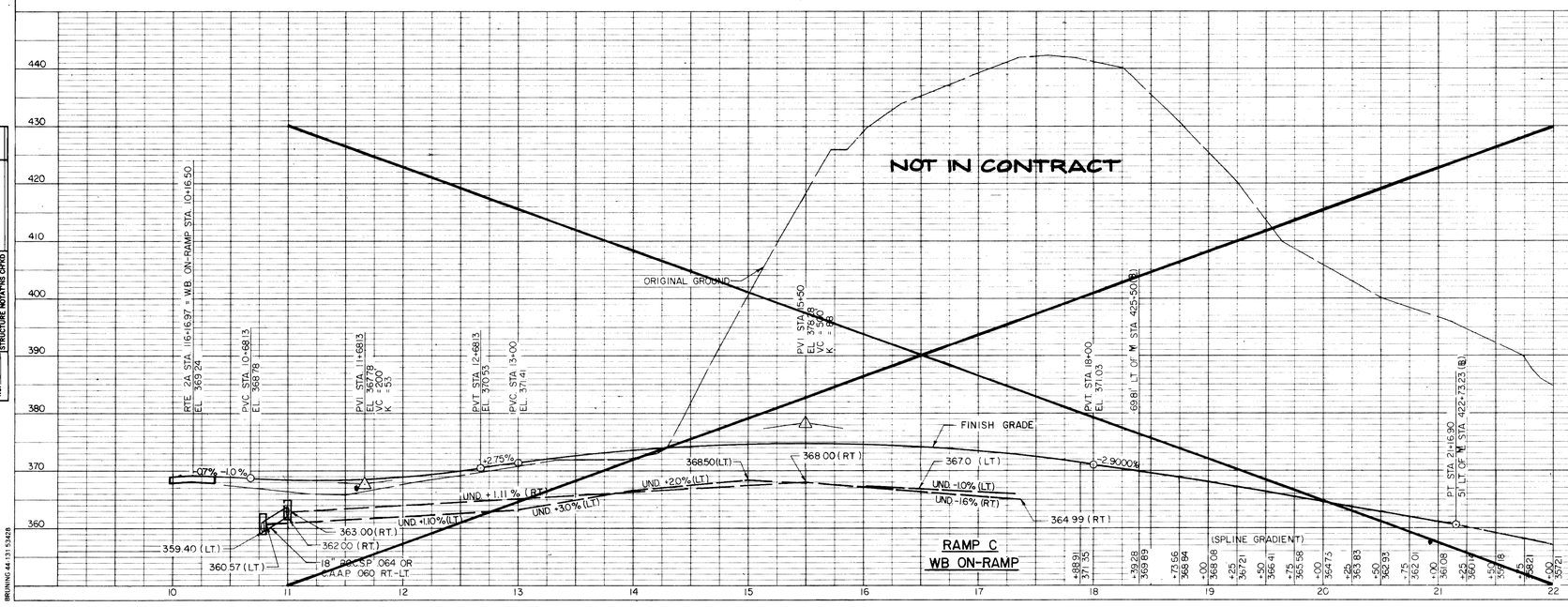
DRAIN BLANKET GRADATION ITEM 203.31 - SAND BORROW*	
SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
1 INCH	100
NO. 4	70 - 100
NO. 100	0 - 20
NO. 200	0 - 6

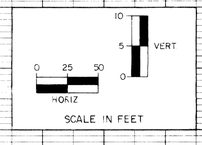
*MODIFIED VERTICAL DRAIN

NOTE 1: REFERENCE STRUCTURE #3 DRAWINGS, SHEET #171 FOR GRANULAR BORROW LIMITS

PLAN — SURVEYED: PLOTTED: CROSS CHECKED: RT. OF WAY CHECKED: NOTE BOOK NO.: DATE: BY:

PROFILE — SURVEYED: PLOTTED: CROSS CHECKED: NOTE BOOK NO.: & NA = NOTED: STRUCTURE NO.(ATHS CHKD) DATE: BY:





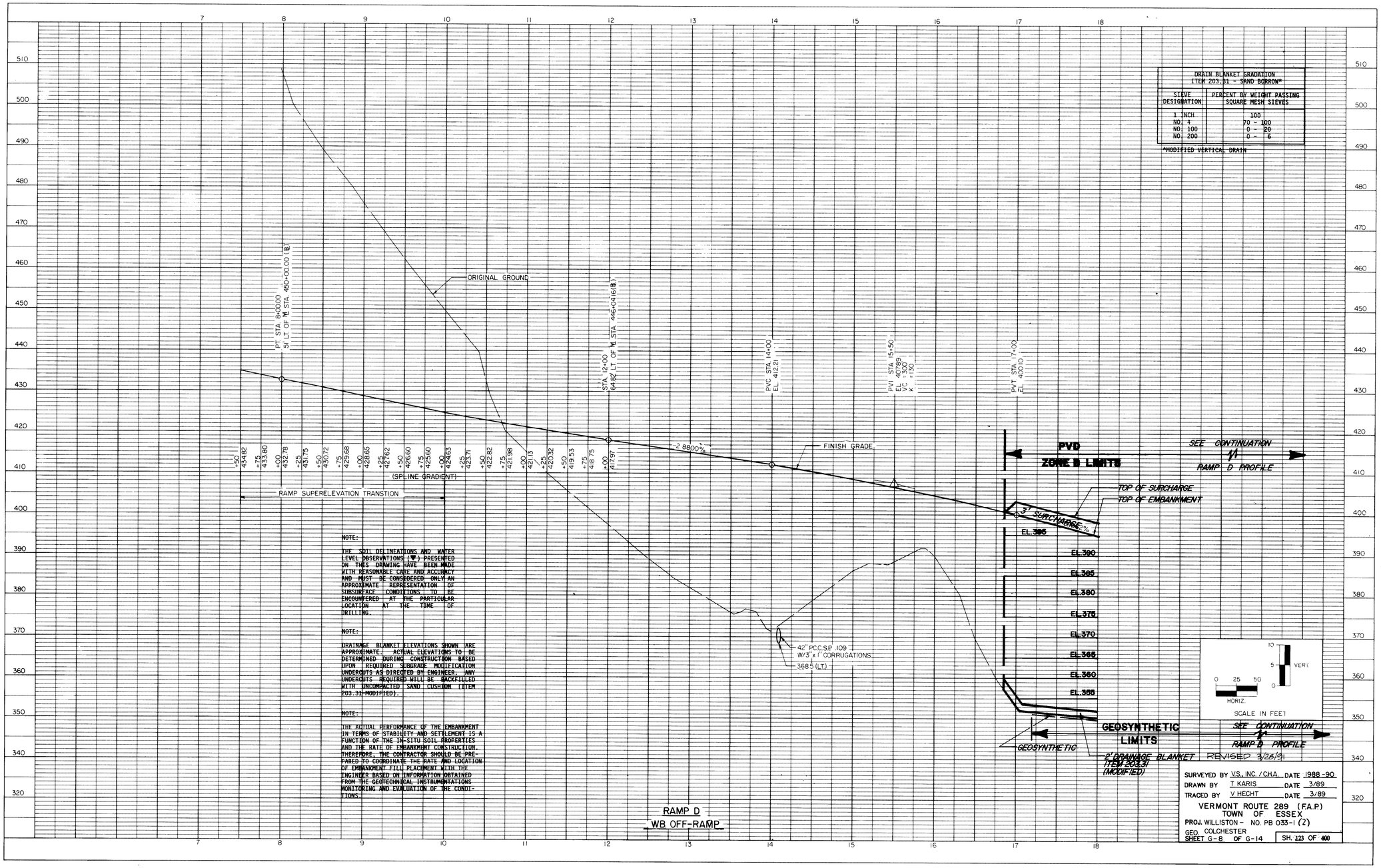
REVISED 3/28/91

SURVEYED BY VS, INC / C.H.A. DATE 1988-90
DRAWN BY T. KARIS DATE 3/89
TRACED BY V. HECHT DATE 3/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON - NO. PB 033-1(2)
GEO COLCHESTER
SHEET G-7 OF G-14

SH. 122 OF 400

BRUNING 44-131-53428



DRAIN BLANKET GRADATION ITEM 203.31 - SAND BORROW*	
SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
1 INCH	100
NO. 4	70 - 100
NO. 100	0 - 20
NO. 200	0 - 6

*MODIFIED VERTICAL DRAIN

NOTE:

THE SOIL DELINEATIONS AND WATER LEVEL OBSERVATIONS (▼) PRESENTED ON THIS DRAWING HAVE BEEN MADE WITH REASONABLE CARE AND ACCURACY AND MUST BE CONSIDERED ONLY AN APPROXIMATE REPRESENTATION OF SUBSURFACE CONDITIONS TO BE ENCOUNTERED AT THE PARTICULAR LOCATION AT THE TIME OF DRILLING.

NOTE:

DRAINAGE BLANKET ELEVATIONS SHOWN ARE APPROXIMATE. ACTUAL ELEVATIONS TO BE DETERMINED DURING CONSTRUCTION BASED UPON REQUIRED SUBGRADE MODIFICATION UNDERCUTS AS DIRECTED BY ENGINEER. ANY UNDERCUTS REQUIRED WILL BE BACKFILLED WITH UNCOMPACTED SAND CUSHION (ITEM 203.31-MODIFIED).

NOTE:

THE ACTUAL PERFORMANCE OF THE EMBANKMENT IN TERMS OF STABILITY AND SETTLEMENT IS A FUNCTION OF THE IN-SITU SOIL PROPERTIES AND THE RATE OF EMBANKMENT CONSTRUCTION. THEREFORE, THE CONTRACTOR SHOULD BE PREPARED TO COORDINATE THE RATE AND LOCATION OF EMBANKMENT FILL PLACEMENT WITH THE ENGINEER BASED ON INFORMATION OBTAINED FROM THE GEOTECHNICAL INSTRUMENTATIONS MONITORING AND EVALUATION OF THE CONDITIONS.

PLAN — SURVEYED — PLOTTED — ALIGNMENT CHECKED — RT. OF WAY CHECKED — NOTE BOOK NO. — BY — DATE

PROFILE — SURVEYED — PLOTTED — GRADES CHECKED — B.M. NOTED — STRUCTURE NOTATNS CH'KD — NOTE BOOK NO. — BY — DATE

REVISED 3/28/91

SURVEYED BY V.S., INC. / CHA. DATE 1988-90
DRAWN BY T KARIS DATE 3/89
TRACED BY V HECHT DATE 3/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - NO. PB 033-1 (2)
GEO. COLCHESTER
SHEET G-8 OF G-14

SH. 123 OF 400

DRAIN BLANKET GRADATION ITEM 203.31 - SAND BORROW*	
SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
1 INCH	100
NO. 4	70 - 100
NO. 100	0 - 20
NO. 200	0 - 6

*MODIFIED VERTICAL DRAIN

PVD ZONE A LIMITS

PVD ZONE B LIMITS

PRELOAD REMOVAL LIMITS

FINISH GRADE

TOP OF SURCHARGE

TOP OF EMBANKMENT

4' SURCHARGE

EL. 487

EL. 482

EL. 477

EL. 472

EL. 467

EL. 462

EL. 457

EL. 452

EL. 447

EL. 460

EL. 455

EL. 450

EL. 445

4'-6" DIA CORR GALV METAL PLATE PIPE STRUCTURE #7

4'-3" DIA CORR GALV METAL PLATE PIPE STRUCTURE #8

472.00(71' RT)

474.00(61' LT)

460.50(71' RT)

462.00(61' LT)

449.50(61' RT)

452.00(67' LT)

12" PCCSP 064 OR CAAP 060

ORIGINAL GROUND

APPROXIMATE LIMITS OF GRANULAR BORROW ITEM 203.32 SEE NOTE 1

APPROXIMATE LIMITS OF GRANULAR BORROW ITEM 203.32 SEE NOTE 2

455(RT BLT)

441.50(LT)

445.50(LT)

458.00(LT)

440.50(RT)

434.5(LT)

438.00(RT)

433.5(RT)

A-4 SILT

A-6 CLAY

A-3 SAND

A-2-6 CLAYEY GRAVEL

A-2-4 SILTY SAND

BEDROCK

BASE OF BORING

GEOSYNTHETIC

2' DRAINAGE BLANKET ITEM 203.31 (MODIFIED)

LIMITS OF 3' DRAINAGE BLANKET

LIMIT OF 3' DRAINAGE BLANKET

GEOSYNTHETIC LIMITS

LOWER DRAINAGE BLANKET TO ACCOMMODATE CORRUGATED GALVANIZED METAL PLATE PIPE

NOTE:

THE SOIL DELINEATIONS AND WATER LEVEL OBSERVATIONS (▽) PRESENTED ON THIS DRAWING HAVE BEEN MADE WITH REASONABLE CARE AND ACCURACY AND MUST BE CONSIDERED ONLY AN APPROXIMATE REPRESENTATION OF SUBSURFACE CONDITIONS TO BE ENCOUNTERED AT THE PARTICULAR LOCATION AT THE TIME OF DRILLING.

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NOTE:1

FOR STRUCTURE #7, REFERENCE CROSS SECTIONS SHEETS 354 TO 358 FOR EMBANKMENT FILL TYPES AND LIMITS.

NOTE: 2

FOR STRUCTURE #8 REFERENCE CROSS SECTIONS SHEETS 359 TO 363 FOR EMBANKMENT FILL TYPES AND LIMITS.

REVISED 3/28/91

SCALE IN FEET

HORIZ 0 25 50

VERT 0 5 10

SURVEYED BY	VS INC./CHA. DATE 1988-90
DRAWN BY	W. PETERSON DATE 9/90
TRACED BY	V. HECHT DATE 9/90

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX

PROJ. WILLISTON - NO. PB 033-1 (2)
GEO. COLCHESTER
SHEET G-9 OF G-14

SH. 124 OF 400

PLAN
PROFILE

DATE | BY | SURVEYED, DRAWN, TRACED, CHECKED, ALIGNMENT, GRADE, CROSS SECTIONS CHECKED | NO. | NOTE BOOK, PAGE, INITIALS OF MAN CHECKED

TYPICAL SECTION – MAINLINE
FOR PREFAB. VERTICAL DRAIN INSTALLATION
CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY

CONSTRUCTION PROCEDURE

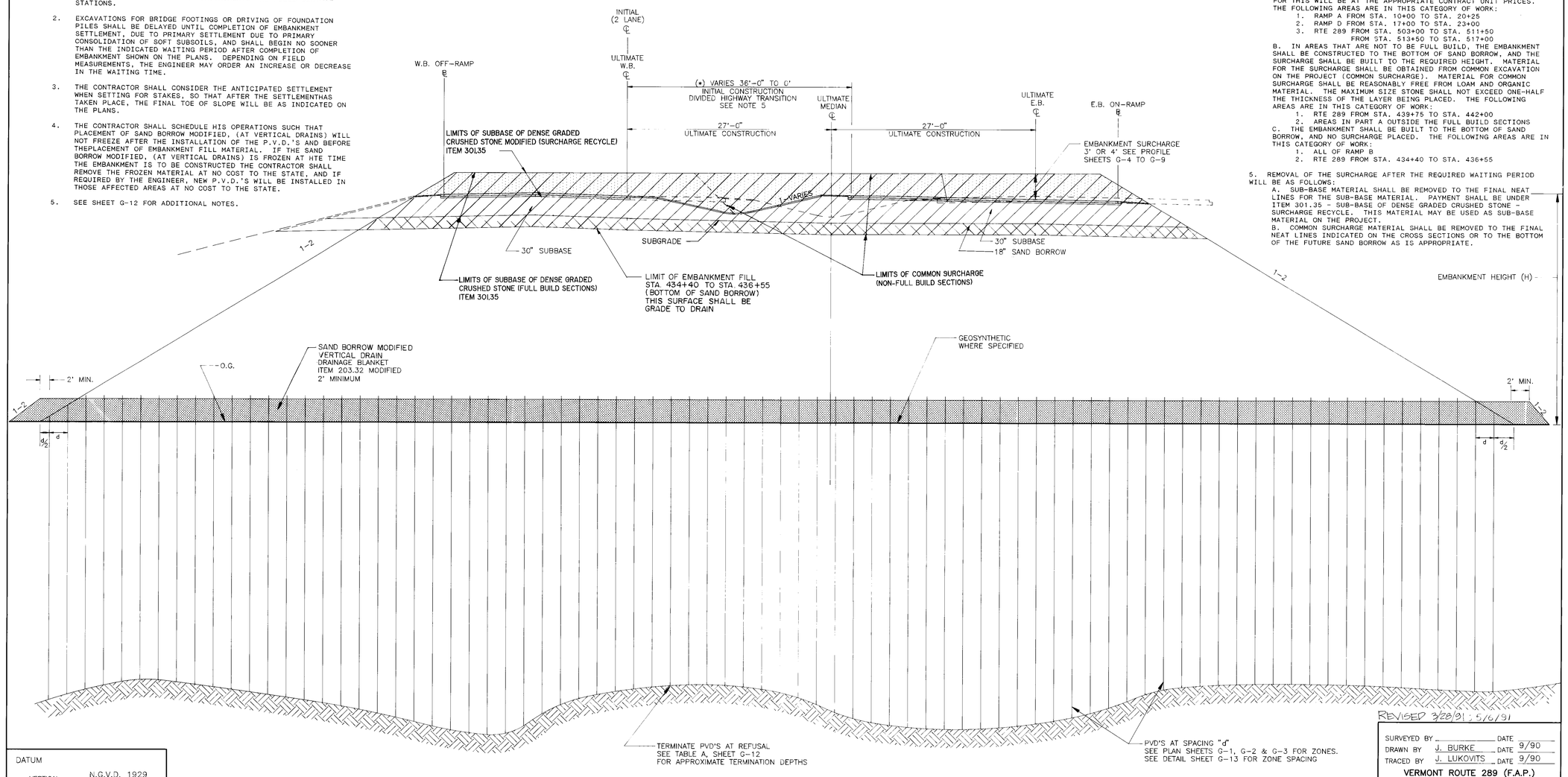
1. THE DURATION OF THE REQUIRED WAITING PERIOD BETWEEN LIFTS AT EACH LOCATION WILL BE DETERMINED BY THE ENGINEER. THE MINIMUM DURATION OF THE WAITING PERIODS ARE AS SHOWN ON SHEET G-12. DEPENDING ON FIELD MEASUREMENTS, THE ENGINEER MAY ORDER AN INCREASE OR DECREASE IN WAITING TIMES BETWEEN LIFTS OR LIFT THICKNESS TO ENSURE THE STABILITY OF THE EMBANKMENTS AND MINIMIZE THE RISK OF "SLOPE" FAILURE. THE CONTRACTOR SHALL COOPERATE WITH THE ENGINEER, AND SHALL CONDUCT HIS OPERATIONS INSUCH A MANNER AS NOT TO INTERFERE WITH FORCES MONITORING THE EQUIPMENT. THE CONTRACTOR SHALL ALSO PROVIDE ACCESS TO ALL INSTRUMENTS AND FIELD CONTROL STATIONS.

2. EXCAVATIONS FOR BRIDGE FOOTINGS OR DRIVING OF FOUNDATION PILES SHALL BE DELAYED UNTIL COMPLETION OF EMBANKMENT SETTLEMENT, DUE TO PRIMARY SETTLEMENT DUE TO PRIMARY CONSOLIDATION OF SOFT SUBSOILS, AND SHALL BEGIN NO SOONER THAN THE INDICATED WAITING PERIOD AFTER COMPLETION OF EMBANKMENT SHOWN ON THE PLANS. DEPENDING ON FIELD MEASUREMENTS, THE ENGINEER MAY ORDER AN INCREASE OR DECREASE IN THE WAITING TIME.

3. THE CONTRACTOR SHALL CONSIDER THE ANTICIPATED SETTLEMENT WHEN SETTING FOR STAKES, SO THAT AFTER THE SETTLEMENTHAS TAKEN PLACE, THE FINAL TOE OF SLOPE WILL BE AS INDICATED ON THE PLANS.

4. THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS SUCH THAT PLACEMENT OF SAND BORROW MODIFIED, (AT VERTICAL DRAINS) WILL NOT FREEZE AFTER THE INSTALLATION OF THE P.V.D.'S AND BEFORE THEPLACEMENT OF EMBANKMENT FILL MATERIAL. IF THE SAND BORROW MODIFIED, (AT VERTICAL DRAINS) IS FROZEN AT HTE TIME THE EMBANKMENT IS TO BE CONSTRUCTED THE CONTRACTOR SHALL REMOVE THE FROZEN MATERIAL AT NO COST TO THE STATE, AND IF REQUIRED BY THE ENGINEER, NEW P.V.D.'S WILL BE INSTALLED IN THOSE AFFECTED AREAS AT NO COST TO THE STATE.

5. SEE SHEET G-12 FOR ADDITIONAL NOTES.



NO SCALE

NOTES:

1. EXTEND THE 2' THICK DRAINAGE BLANKET 2' HORIZONTALLY BEYOND THE TOE OF THE SLOPE.

2. SURCHARGE HEIGHT IS TO BE MEASURED FROM CENTERLINE FINISHED GRADE.

2. SURCHARGE SHALL BE PLACED TO LIMITS SHOWN ON CROSS SECTIONS.

4. THE SURCHARGE SHALL BE CONSTRUCTED AS FOLLOWS:
   A. IN AREAS OF FULL BUILD, THE EMBANKMENT SHALL BE PLACED TO THE BOTTOM OF SAND BORROW, THE SAND BORROW SHALL THEN BE PLACED TO THE BOTTOM OF SUB-BASE MATERIAL, THE SUB-BASE MATERIAL SHALL THEN BE PLACED TO THE REQUIRED HEIGHT OF THE SURCHARGE. THE REMAINING SURCHARGE IN THESE AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION B BELOW. PAYMENT FOR THIS WILL BE AT THE APPROPRIATE CONTRACT UNIT PRICES. THE FOLLOWING AREAS ARE IN THIS CATEGORY OF WORK:
      1. RAMP A FROM STA. 10+00 TO STA. 20+25
      2. RAMP D FROM STA. 17+00 TO STA. 23+00
      3. RTE 289 FROM STA. 503+00 TO STA. 511+50
         FROM STA. 513+50 TO STA. 517+00
   B. IN AREAS THAT ARE NOT TO BE FULL BUILD, THE EMBANKMENT SHALL BE CONSTRUCTED TO THE BOTTOM OF SAND BORROW, AND THE SURCHARGE SHALL BE BUILT TO THE REQUIRED HEIGHT. MATERIAL FOR THE SURCHARGE SHALL BE OBTAINED FROM COMMON EXCAVATION ON THE PROJECT (COMMON SURCHARGE). MATERIAL FOR COMMON SURCHARGE SHALL BE REASONABLY FREE FROM LOAM AND ORGANIC MATERIAL. THE MAXIMUM SIZE STONE SHALL NOT EXCEED ONE-HALF THE THICKNESS OF THE LAYER BEING PLACED. THE FOLLOWING AREAS ARE IN THIS CATEGORY OF WORK:
      1. RTE 289 FROM STA. 439+75 TO STA. 442+00
      2. AREAS IN PART A OUTSIDE THE FULL BUILD SECTIONS
   C. THE EMBANKMENT SHALL BE BUILT TO THE BOTTOM OF SAND BORROW, AND NO SURCHARGE PLACED. THE FOLLOWING AREAS ARE IN THIS CATEGORY OF WORK:
      1. ALL OF RAMP B
      2. RTE 289 FROM STA. 434+40 TO STA. 436+55

5. REMOVAL OF THE SURCHARGE AFTER THE REQUIRED WAITING PERIOD WILL BE AS FOLLOWS:
   A. SUB-BASE MATERIAL SHALL BE REMOVED TO THE FINAL NEAT LINES FOR THE SUB-BASE MATERIAL. PAYMENT SHALL BE UNDER ITEM 301.35 - SUB-BASE OF DENSE GRADED CRUSHED STONE - SURCHARGE RECYCLE. THIS MATERIAL MAY BE USED AS SUB-BASE MATERIAL ON THE PROJECT.
   B. COMMON SURCHARGE MATERIAL SHALL BE REMOVED TO THE FINAL NEAT LINES INDICATED ON THE CROSS SECTIONS OR TO THE BOTTOM OF THE FUTURE SAND BORROW AS IS APPROPRIATE.

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

REVISED 3/28/91 ; 5/6/91

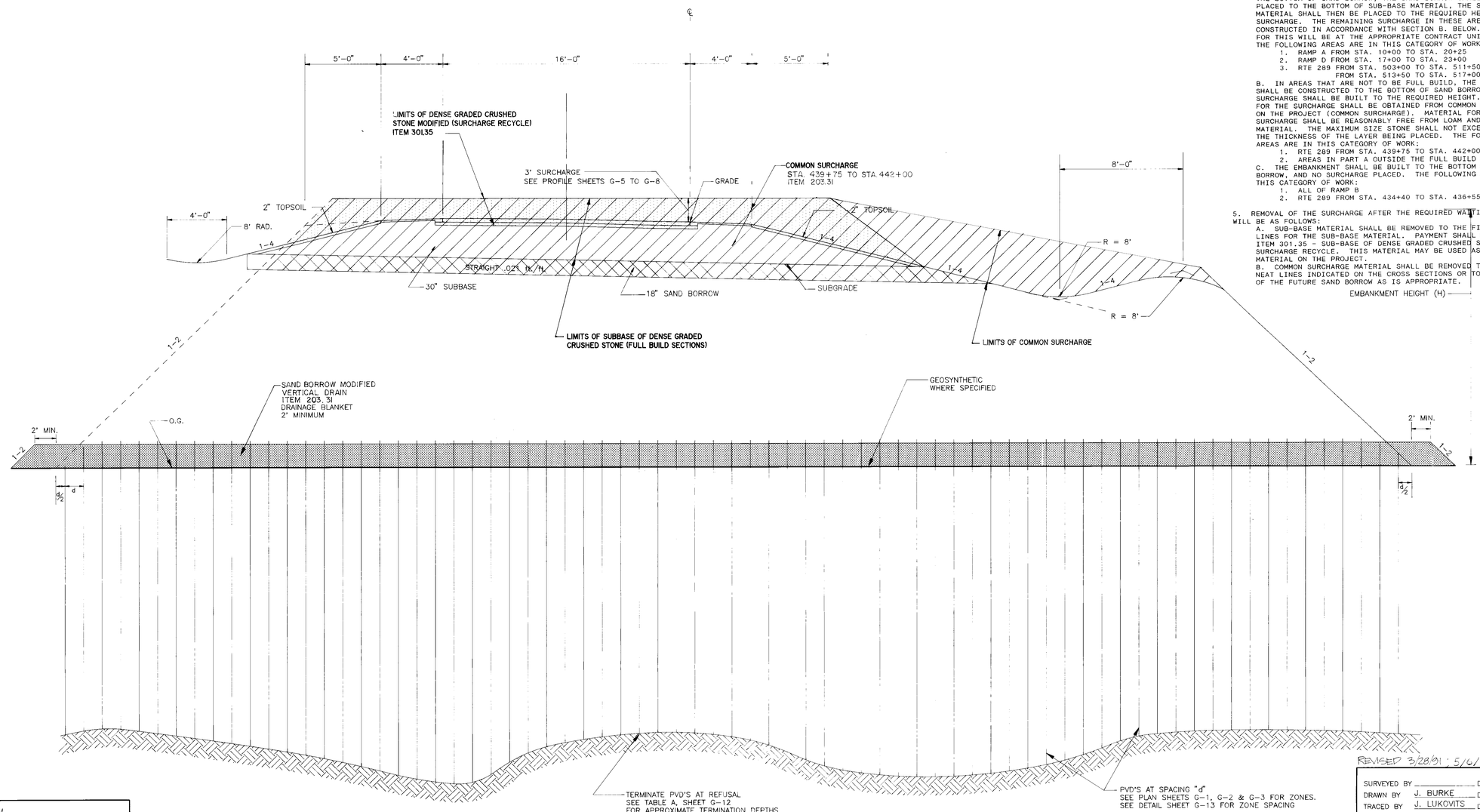
SURVEYED BY _____ DATE 9/90
DRAWN BY J. BURKE DATE 9/90
TRACED BY J. LUKOVITS DATE 9/90

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON – COLCHESTER NO. PB 033-1(2)
GEO
SHEET G-10 OF G-14

SH. 125 OF 400

PREFAB1

TYPICAL SECTION – ONE WAY RAMP
FOR PREFAB. VERTICAL DRAIN INSTALLATION
CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY



NO SCALE

NOTES:

1. EXTEND THE 2' THICK DRAINAGE BLANKET 2' HORIZONTALLY BEYOND THE TOE OF THE SLOPE.

2. SURCHARGE HEIGHT IS TO BE MEASURED FROM CENTERLINE FINISHED GRADE.

2. SURCHARGE SHALL BE PLACED TO LIMITS SHOWN ON CROSS SECTIONS.

4. THE SURCHARGE SHALL BE CONSTRUCTED AS FOLLOWS:
   A. IN AREAS OF FULL BUILD, THE EMBANKMENT SHALL BE PLACED TO THE BOTTOM OF SAND BORROW, THE SAND BORROW SHALL THEN BE PLACED TO THE BOTTOM OF SUB-BASE MATERIAL, THE SUB-BASE MATERIAL SHALL THEN BE PLACED TO THE REQUIRED HEIGHT OF THE SURCHARGE. THE REMAINING SURCHARGE IN THESE AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION B. BELOW. PAYMENT FOR THIS WILL BE AT THE APPROPRIATE CONTRACT UNIT PRICES. THE FOLLOWING AREAS ARE IN THIS CATEGORY OF WORK:
      1. RAMP A FROM STA. 10+00 TO STA. 20+25
      2. RAMP D FROM STA. 17+00 TO STA. 23+00
      3. RTE 289 FROM STA. 503+00 TO STA. 511+50
         FROM STA. 513+50 TO STA. 517+00
   B. IN AREAS THAT ARE NOT TO BE FULL BUILD, THE EMBANKMENT SHALL BE CONSTRUCTED TO THE BOTTOM OF SAND BORROW, AND THE SURCHARGE SHALL BE BUILT TO THE REQUIRED HEIGHT. MATERIAL FOR THE SURCHARGE SHALL BE OBTAINED FROM COMMON EXCAVATION ON THE PROJECT (COMMON SURCHARGE). MATERIAL FOR COMMON SURCHARGE SHALL BE REASONABLY FREE FROM LOAM AND ORGANIC MATERIAL. THE MAXIMUM SIZE STONE SHALL NOT EXCEED ONE-HALF THE THICKNESS OF THE LAYER BEING PLACED. THE FOLLOWING AREAS ARE IN THIS CATEGORY OF WORK:
      1. RTE 289 FROM STA. 439+75 TO STA. 442+00
      2. AREAS IN PART A OUTSIDE THE FULL BUILD SECTIONS
   C. THE EMBANKMENT SHALL BE BUILT TO THE BOTTOM OF SAND BORROW, AND NO SURCHARGE PLACED. THE FOLLOWING AREAS ARE IN THIS CATEGORY OF WORK:
      1. ALL OF RAMP B
      2. RTE 289 FROM STA. 434+40 TO STA. 436+55

5. REMOVAL OF THE SURCHARGE AFTER THE REQUIRED WAITING PERIOD WILL BE AS FOLLOWS:
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   B. COMMON SURCHARGE MATERIAL SHALL BE REMOVED TO THE FINAL NEAT LINES INDICATED ON THE CROSS SECTIONS OR TO THE BOTTOM OF THE FUTURE SAND BORROW AS IS APPROPRIATE.

EMBANKMENT HEIGHT (H)

REVISED 3/28/91 ; 5/6/91

DATUM	
VERTICAL	N.G.V.D. 1929
HORIZONTAL	N.A.D. 1927

SURVEYED BY		DATE 5/88
DRAWN BY	J. BURKE	DATE 5/89
TRACED BY	J. LUKOVITS	DATE 5/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON– COLCHESTER GEO NO. PB 033-1( )
SHEET G-11 OF G-14 SH. 126 OF 400

NOTES:

1. CONTRACTOR IS TO SUBMIT TO THE ENGINEER FOR APPROVAL A PROPOSED EMBANKMENT FILL OPERATIONS AREA AND PLAN ALONG WITH A CONSTRUCTION SEQUENCING PLAN.
2. CONTRACTOR WILL BE REQUIRED TO FOLLOW CONSTRUCTION PROCEDURES OUTLINED ON THIS SHEET.
3. CONTRACTOR'S FILL OPERATIONS SHALL BE LIMITED AS FOLLOWS:
   - FILL IS TO BE INSTALLED TO FIRST LIFT ELEVATIONS SHOWN ON PROFILE SHEETS G-4 TO G-9.
   - AREA OF FILL OPERATIONS IS TO BE LOADED UNIFORMLY.
   - SEE SPECIAL PROVISIONS SECTION 203.11C REGARDING PLACEMENT OF FILL OVER THE SAND DRAINAGE BLANKET.
   - THE FIRST TWO LIFTS MAY BE PLACED WITHOUT A TIME LIMIT BETWEEN LIFTS (I.E. LIFT 2 MAY BE PLACED IMMEDIATELY AFTER LIFT 1)
   - SUBSEQUENT FILL SHALL BE PLACED IN 5' LIFTS WITH A WAITING PERIOD BETWEEN LIFTS OF 2 WEEKS OR AS ORDERED BY THE ENGINEER.
   - EMBANKMENT SHALL BE PLACED IN ACCORDANCE WITH SPECIFICATION SECTION 203.11
4. CONTRACTOR SHALL COMPLY FULLY WITH ENGINEER WITH REGARDS TO INSTRUMENTATION MONITORING AND VARIATIONS IN FILL PLACEMENT PROCEDURES AND TIME LIMITS.

FIELD CONTROL STATION SCHEDULE *

F.C. #	LOCATION	STA	OFFSET	SERVING INSTRUMENTS
~~FC-1~~	~~MAINLINE~~	~~431+80~~	~~130' RT~~	~~P-1, P-2, P-3, P-4~~
FC-2	RAMP D	21+80	75' RT	P-3A, P-3B, P-12, P-24, S-6
FC-3	RAMP D	19+15	110' RT	P-13, P-14, S-24, S-26, S-31
FC-4	RAMP D	16+65	85' RT	P-15A, P-15B, P-16, S-29, S-32
FC-5	RAMP B	14+70	145' RT	P-4, P-5, P-6, S-10, S-11
FC-6	RAMP A	18+00	145' RT	P-18A, P-18B, S-33, S-35
FC-7	RAMP A	14+85	55' LT	P-7, S-12, S-20
FC-8	RAMP A	13+20	100' RT	P-9, P-11A, P-11B, S-18, S-19
FC-9	MAINLINE	505+70	185' RT	P-19, P-20, S-36, S-37
FC-10	MAINLINE	509+10	165' RT	P-21, P-22, S-39, S-40
FC-11	MAINLINE	515+70	130' RT	P-23, S-42, S-43

* NOTE:
FIELD CONTROL STATIONS SHALL BE SIZE TO ADEQUATELY HOUSE THE NUMBER AND TYPE OF INSTRUMENT PANELS SHOWN ON THE ABOVE SCHEDULE.

ESTIMATED PREFABRICATED VERTICAL DRAIN LOCATION & SPACING

FROM (STA)	OFFSET	TO (STA)	OFFSET	PVD SPACING (FT)	EST. TIP ELEV. (FT)	EST. PVD LENGTH (LF)
MAINLINE @ ROUTE 2A VALLEY						
~~432+50~~	~~CL~~	~~433+30~~	~~CL~~	~~5~~	~~315~~	~~54~~
433+90	CL	434+60	CL	5	335	31
434+60	CL	435+50	CL	5	320	46
435+50	CL	437+40	CL	5	295	61
438+70	CL	440+00	CL	5	315	33
440+00	CL	442+00	CL	5	300	49
MAINLINE @ STRUCTURE 7 & 8						
504+50	RT	507+00	RT	4	405	40
504+50	LT	506+00	LT	4	430	16
507+00	RT	508+50	RT	4	415	26
506+00	LT	511+20	LT	4	400	41
508+50	RT	511+20	RT	4	400	41
513+70	CL	516+80	CL	5	415	26
RAMP A						
10+00	CL	14+70	CL	5	270	71
15+90	CL	18+70	CL	5	285	64
18+70	CL	20+15	CL	5	315	42
RAMP B						
12+50	CL	13+00	CL	5	320	43
13+00	CL	14+50	CL	5	295	64
14+50	CL	16+00	CL	5	310	37
16+00	CL	17+50	CL	5	290	53
17+50	CL	22+00	CL	5	270	73
RAMP D						
16+80	CL	20+20	CL	5	320	32
21+00	CL	23+00	CL	5	290	76

INCLINOMETERS ITEM #623.30

LABEL	SH.NO.	LOCATION	STATION	OFFSET
~~I-1~~	~~G-1~~	~~MAINLINE~~	~~431+60~~	~~125 RT~~
I-3	G-1	RAMP B	12+85	120 RT
I-4	G-1	RAMP B	15+00	130 RT
I-5	G-1	RAMP B	15+15	100 LT
I-6	G-1	RAMP B	16+80	100 LT
I-7	G-2	RAMP B	17+95	95 LT
I-8	G-2	RAMP A	14+15	55 RT
I-9	G-1	RAMP A	438+30	70 LT
I-10	G-1	RAMP A	19+45	95 RT
I-12	G-1	RAMP D	18+35	120 RT
I-13	G-2	RAMP D	16+50	45 RT
I-14	G-3	MAINLINE	506+00	180 RT
I-15	G-3	MAINLINE	508+25	160 LT
I-17	G-3	MAINLINE	510+00	160 LT
I-18	G-3	MAINLINE	510+00	155 RT
I-19	G-3	MAINLINE	514+00	155 LT
I-20	G-3	MAINLINE	512+00	127 RT

CONSTRUCTION PROCEDURES:

1. EXCAVATE UNSUITABLE MATERIALS (TOPSOIL & MUCK).
2. GRADE EXPOSED SURFACE AS NECESSARY TO FACILITATE MOVEMENT OF PVD EQUIPMENT.
3. PLACE GEOSYNTHETIC AT LOCATIONS AND TO LIMITS SHOWN ON SHEETS G-1 TO G-9, OR AS DIRECTED BY THE ENGINEER.
4. INSTALL 2' THICK DRAINAGE BLANKET ITEM 203.31 MODIFIED, TO LIMITS SHOWN ON SHEETS G-1 TO G-9.
5. STAKE OUT PVD LOCATIONS.
6. INSTALL PVD'S TO LIMITS SHOWN ON SHEETS G-1 TO G-3 AND TO DEPTH OF REFUSAL BELOW THE CLAY LAYER.
7. INSTALL ALL INSTRUMENTATION.
8. IN ACCORDANCE WITH SPECIFICATION SECTION 203.11, PLACE EMBANKMENT MATERIAL IN 5' LIFTS.
9. WAITING PERIOD BETWEEN LIFTS IS 2 WEEKS (WAITING PERIODS AND LIFT HEIGHT MAY BE MODIFIED BY THE ENGINEER).
10. CONSTRUCT NEXT LIFT, MAXIMUM 5' LIFT.
11. REPEAT STEPS 9 AND 10 UNTIL EMBANKMENT HEIGHT INCLUDING SURCHARGE HEIGHT ARE ATTAINED AS SHOWN ON SHEETS G-4 TO G-9.
12. WAIT SIX (6) MONTHS.
13. SEE SHEET G-10 FOR ADDITIONAL NOTES.

PIEZOMETERS (VIBRATING WIRE) ITEM #623.40

LABEL	SH.NO.	LOCATION	STATION	OFFSET	SENSOR ELEVATION (FT)	APPROX. SENSOR DEPTH FROM G.S. (FT)
~~P-1~~	~~G-1~~	~~MAINLINE~~	~~430+80~~	~~0 CL~~	~~340~~	~~20~~
~~P-2~~	~~G-1~~	~~MAINLINE~~	~~430+80~~	~~0 CL~~	~~331~~	~~29~~
P-3 A	G-1	MAINLINE	436+20	30 LT	344	20
P-3 B	G-1	MAINLINE	436+20	20 LT	333	29
P-4	G-1	RAMP B	13+00	0 CL	336	26
P-5	G-1	RAMP B	15+00	0 CL	310	41
P-6	G-1	RAMP B	16+40	20 LT	322	23
P-7	G-2	RAMP B	17+85	20 LT	312	34
P-9	G-2	RAMP B	12+85	5 RT	300	44
P-11 A	G-2	RAMP A	13+55	30 LT	317	27
P-11 B	G-2	RAMP A	13+55	40 LT	300	44
P-12	G-1	RAMP D	21+75	10 LT	322	42
P-13	G-1	RAMP D	19+10	5 RT	331	32
P-14	G-1	RAMP D	18+10	5 RT	327	23
P-15 A	G-1	MAINLINE	440+50	25 LT	327	21
P-15 B	G-1	MAINLINE	440+50	35 LT	319	29
P-17	G-1	RAMP A	18+15	25 LT	326	33
P-18 A	G-1	RAMP A	17+65	0 CL	325	24
P-18 B	G-1	RAMP A	17+65	10 LT	312	37
P-19	G-3	MAINLINE	505+10	95 RT	417	25
P-20	G-3	MAINLINE	506+50	0 CL	417	23
P-21	G-3	MAINLINE	508+20	0 CL	419	22
P-22	G-3	MAINLINE	509+75	0 CL	421	26
P-23	G-3	MAINLINE	515+20	0 CL	427	17
P-24	G-1	MAINLINE	436+20	25 RT	333	29

OBSERVATION WELLS ITEM #624.01 MODIFIED

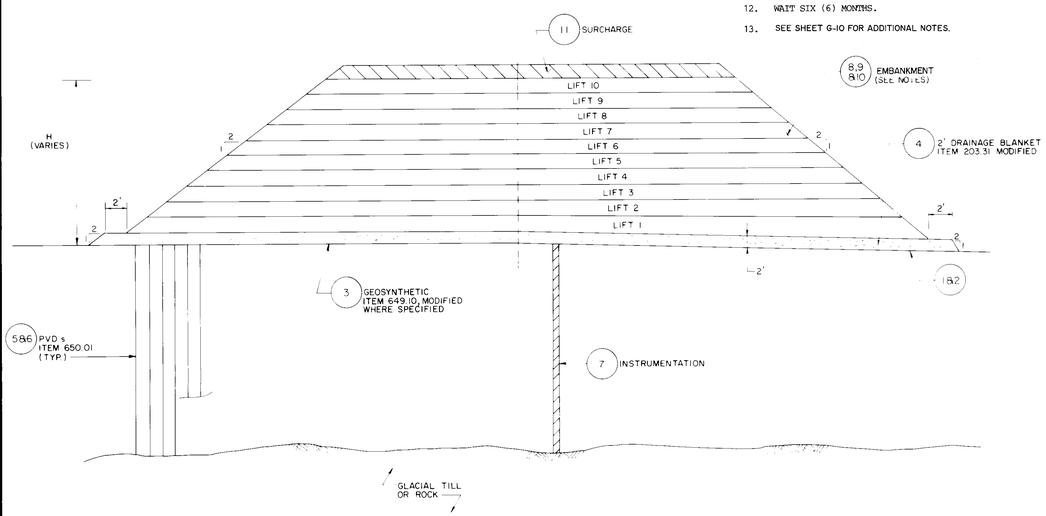
LABEL	SH.NO.	LOCATION	STATION	OFFSET	APPROX. ELEV. SCREENED INTERVAL (FT)
~~OB-1~~	~~G-1~~	~~MAINLINE~~	~~431+60~~	~~130 RT~~	~~295-297~~
OB-2	G-1	RAMP B	15+75	135 RT	315-317
OB-3	G-2	RAMP A	12+80	105 RT	300-302
OB-4	G-2	RAMP D	19+80	95 RT	330-332
OB-5	G-1	MAINLINE	438+90	105 RT	315-317
OB-6	G-2	RAMP A	15+80	40 RT	315-317
OB-7	G-3	MAINLINE	507+00	180 RT	415-417
OB-8	G-3	MAINLINE	509+00	175 LT	415-417

VIBRATING WIRE SETTLEMENT PLATFORMS TYPE II ITEM #623.23

LABEL	SH.NO.	LOCATION	STATION	OFFSET
~~S-1~~	~~G-1~~	~~MAINLINE~~	~~431+80~~	~~0 CL~~
~~S-2~~	~~G-1~~	~~MAINLINE~~	~~430+80~~	~~0 CL~~
S-6	G-1	MAINLINE	436+30	0 CL
S-10	G-1	RAMP B	15+00	0 CL
S-11	G-1	RAMP B	16+50	20 LT
S-17	G-2	RAMP B	18+00	20 LT
S-18	G-2	RAMP A	13+65	15 LT
S-19	G-2	RAMP A	14+20	45 RT
S-20	G-1	RAMP A	14+70	35 LT
S-24	G-1	RAMP D	20+30	20 LT
S-26	G-1	RAMP D	19+15	20 LT
S-29	G-1	MAINLINE	440+20	0 CL
S-31	G-1	MAINLINE	438+75	0 CL
S-32	G-1	MAINLINE	441+40	0 CL
S-33	G-1	RAMP A	17+50	0 CL
S-35	G-1	RAMP A	19+00	20 LT
S-36	G-3	MAINLINE	505+20	115 RT
S-37	G-3	MAINLINE	506+15	0 CL
S-39	G-3	MAINLINE	508+20	30 RT
S-40	G-3	MAINLINE	510+00	30 LT
S-42	G-3	MAINLINE	515+30	30 LT
S-43	G-3	MAINLINE	516+20	25 RT

TYPE I SETTLEMENT PLATFORMS ITEM #623.21

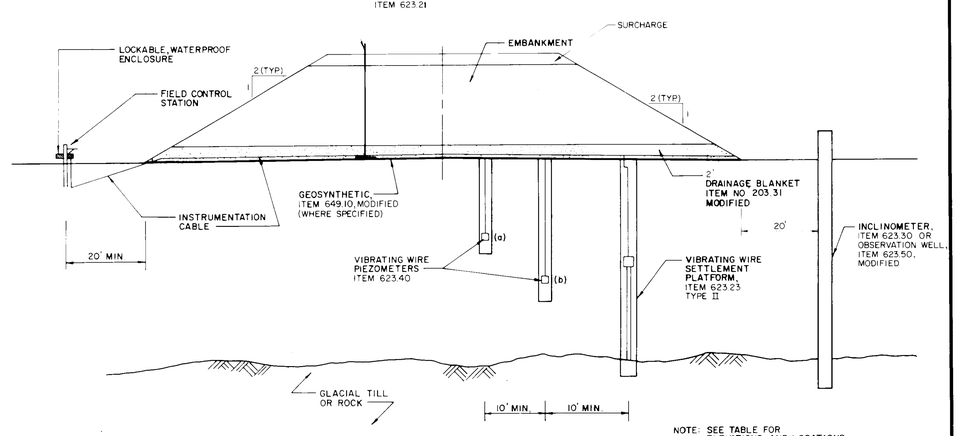
LABEL	SH.NO.	LOCATION	STATION	OFFSET
S-4	G-1	MAINLINE	434+80	0 CL
S-7	G-1	MAINLINE	436+05	50 LT
S-8	G-1	MAINLINE	436+35	45 RT
S-9	G-1	MAINLINE	437+35	0 CL
S-14	G-2	RAMP B	21+00	0 CL
S-15	G-2	RAMP A	12+00	0 CL
S-22	G-1	RAMP D	21+75	20 LT
S-27	G-1	RAMP D	18+00	10 LT
S-28	G-1	MAINLINE	440+15	45 LT
S-30	G-1	MAINLINE	440+25	45 LT



CONSTRUCTION PROCEDURES
TYPICAL SECTION
N.T.S.

LEGEND

(X) CONSTRUCTION PROCEDURE FROM ABOVE



NOTE: SEE TABLE FOR ELEVATIONS AND LOCATIONS

INSTRUMENTATION LAYOUT
NO SCALE

REVISED 3/28/91

NO.	REVISION	BY	DATE
1	F.C. MODIFICATION	J.B.	12/21/90

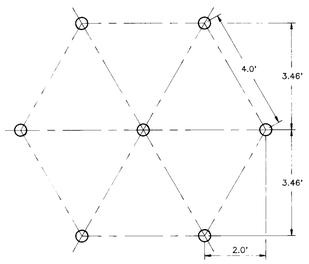
DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

SURVEYED BY VS, INC / CHA DATE 1988-90
DRAWN BY J. BURKE DATE 9/90
TRACED BY V. HECHT DATE 3/89

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ WILLISTON - NO. PB 033-1 (2)
COLCHESTER
SHEET G-12 OF G-14

SH. 127 OF 400

BRUNING 5342B 3
07



ZONE A

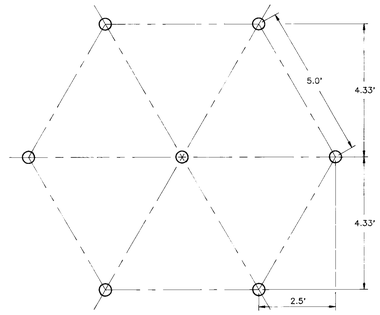
4' O.C. TRIANGULAR SPACING

NOTES:

1.) PIEZOMETERS AND SETTLEMENT PLATFORMS SHALL BE INSTALLED EQUIDISTANT FROM EACH SURROUNDING DRAIN

2.) PREFABRICATED VERTICAL DRAINS SHALL BE INSTALLED TO REFUSAL BELOW THE SOFT CLAY LAYER.

3.) O.C. ≡ ON CENTER

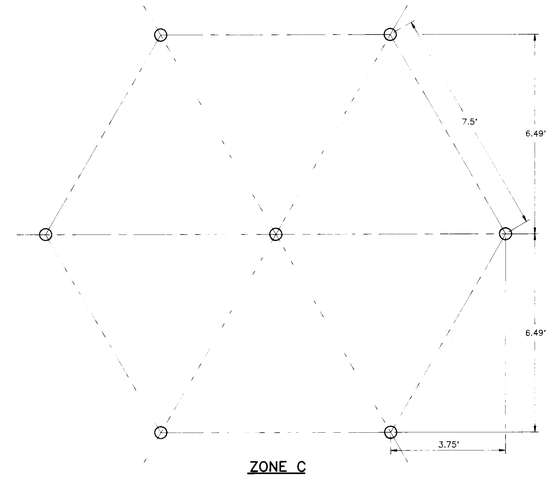


ZONE B

5' O.C. TRIANGULAR SPACING

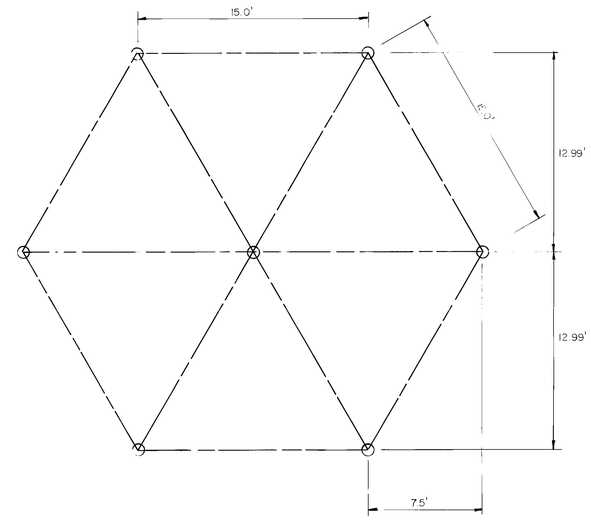
TYPICAL PREFABRICATED VERTICAL DRAIN SPACING DETAIL

SCALE: 1/2" = 1'-0"



ZONE C

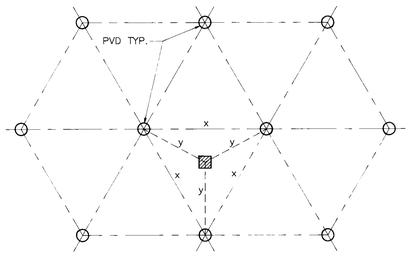
7.5' O.C. TRIANGULAR SPACING



ZONE D

15.0 O.C. TRIANGULAR SPACING

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



○ = PVD AT SPACING x

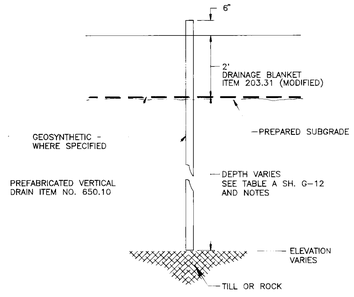
▨ = INSTRUMENT ITEM 623.23 TYPE II OR ITEM 623.40 PLACED AT DISTANCE y FROM PVD

INSTRUMENTATION INSTALLATION LOCATION DETAIL

NTS

NOTES:

1.) PIEZOMETERS AND SETTLEMENT PLATFORMS SHALL BE INSTALLED EQUIDISTANT FROM EACH SURROUNDING DRAIN.



PREFABRICATED VERTICAL DRAIN PLACEMENT TYPICAL

N.T.S.

(ITEM NO. 650.10)

REVISED 3/23/91

DATUM

VERTICAL N.G.V.D. 1929

HORIZONTAL N.A.D. 1927

SURVEYED BY _____ DATE _____

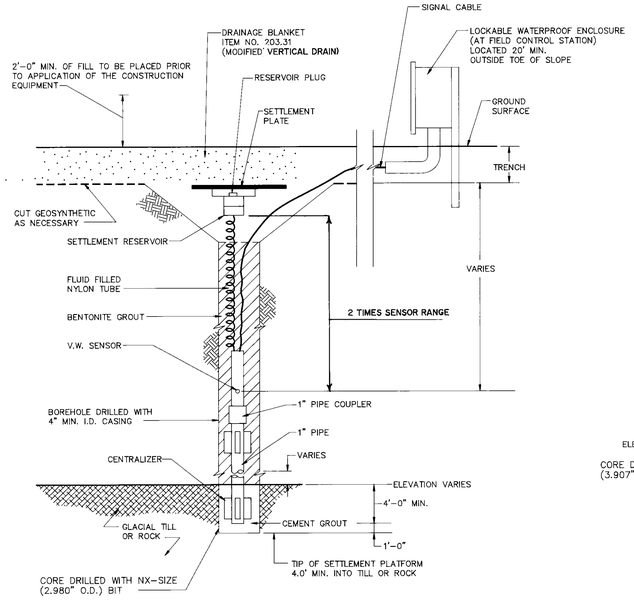
DRAWN BY J. BURKE DATE 9/90

TRACED BY M. CUEVAS DATE 9/90

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX

PROJ. WILLISTON–COLCHESTER NO. PB 033-1 (2)

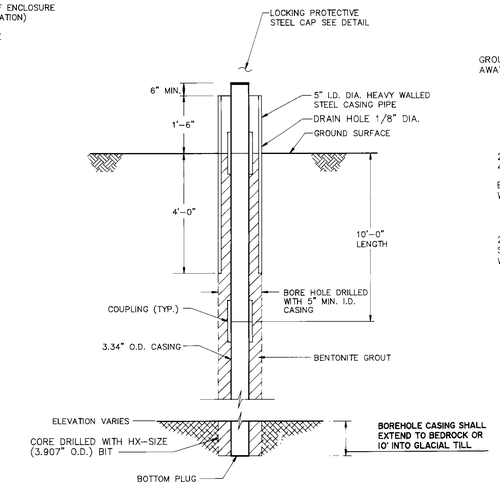
GEO. SHEET G-13 OF G-14 SH. 128 OF 400



VIBRATING WIRE SETTLEMENT PLATFORM (TYPE II)

NO SCALE

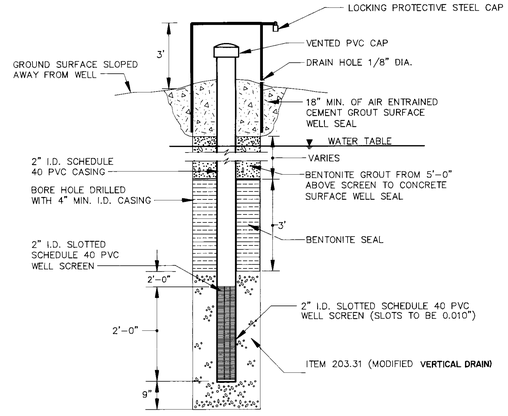
(ITEM NO. 623.23)



SLOPE INCLINOMETER DETAIL

NO SCALE

(ITEM NO. 623.30)



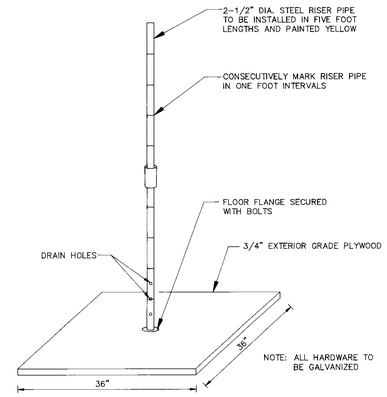
OBSERVATION WELL DETAIL

NO SCALE

(ITEM NO. 623.50 – MODIFIED)

NOTE:

TOP 3 FEET OF CASING TO BE PAINTED ORANGE WITH INCLINOMETER OR OBSERVATION WELL NUMBER PAINTED BLACK.



STANDPIPE SETTLEMENT PLATFORM (TYPE I)

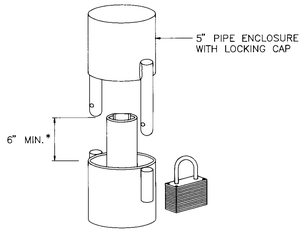
NO SCALE

(ITEM NO. 623.21)

NOTE:
BASE OF STANDPIPE SETTLEMENT PLATFORM TO BE COVERED WITH ONE FOOT OF SAND BORROW PRIOR TO PROCEEDING WITH EMBANKMENT CONSTRUCTION. SEE STANDARD DRAWING L-1 FOR ADDITIONAL NOTES.

INSTRUMENTATION READOUT NOTES

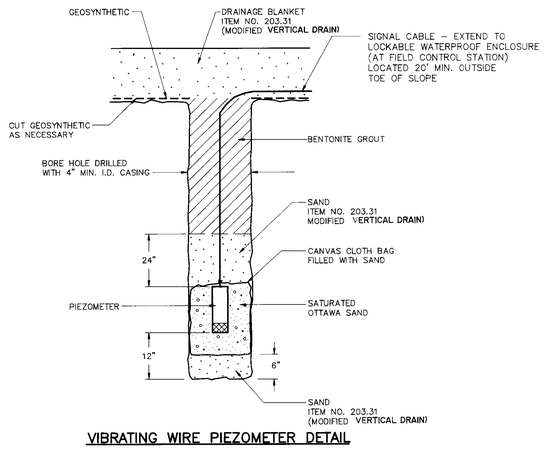
1. ONE (1) READOUT INSTRUMENT FOR PIEZOMETER (VIBRATING WIRE) WITH ALL NECESSARY ACCESSORIES SHALL BE PROVIDED.
2. ONE (1) READOUT INSTRUMENT FOR VIBRATING WIRE SETTLEMENT PLATFORM (TYPE II) WITH ALL NECESSARY ACCESSORIES SHALL BE PROVIDED.
3. ONE (1) INCLINOMETER READOUT INSTRUMENT WITH ALL NECESSARY ACCESSORIES (CABLE, PULLEY SYSTEM, TWO PROBES, ETC.) SHALL BE PROVIDED (SEE SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS).



LOCKING PROTECTIVE STEEL CAP DETAIL

NTS

* DIMENSION TO BE DETERMINED FROM INCLINOMETER PULLEY ASSEMBLY



VIBRATING WIRE PIEZOMETER DETAIL

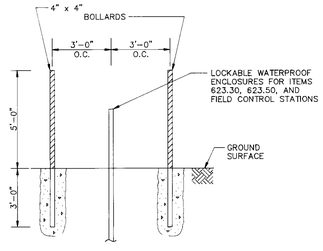
NO SCALE

(ITEM NO. 623.40)

NOTES:

1.) PIEZOMETERS AND SETTLEMENT PLATFORMS SHALL BE INSTALLED EQUIDISTANT FROM EACH SURROUNDING DRAIN

2.) PREFABRICATED VERTICAL DRAINS SHALL BE INSTALLED TO REFUSAL BELOW THE SOFT CLAY LAYER.

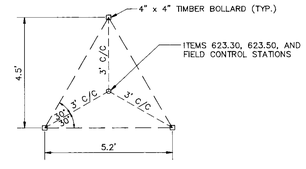


TIMBER BOLLARD DETAIL

N.T.S.

NOTES:

1. PAINT TIMBER BOLLARDS FLUORESCENT ORANGE.
2. COST OF ALL MATERIALS, LABOR AND INCIDENTALS ASSOCIATED WITH THE INSTALLATION OF THE BOLLARDS TO BE INCLUDED IN UNIT PRICE BID FOR ITEMS 623.30 AND 623.50.



TIMBER BOLLARD PLAN

N.T.S.

NOTES:

1. FOR ADDITIONAL CONSTRUCTION PROCEDURE, SEE SH. G-12.
2. FOR INSTRUMENTATION & VERTICAL LAYOUT, SEE SH. G-12.
3. FOR DETAILS OF THE SETTLEMENT PLATFORM TYPE 1, SEE SPECIAL PROVISIONS AND STANDARD DRAWING L-1.

DATUM

VERTICAL _____

HORIZONTAL _____

NO.	REVISION	BY	DATE
2	DETAIL MODIFICATIONS	D.A.L.	3/28/91
1	DETAIL MODIFICATIONS & 623.21 ADDITION	D.A.L.	3/21/91

SURVEYED BY _____ DATE _____

DRAWN BY J. BURKE DATE 9/90

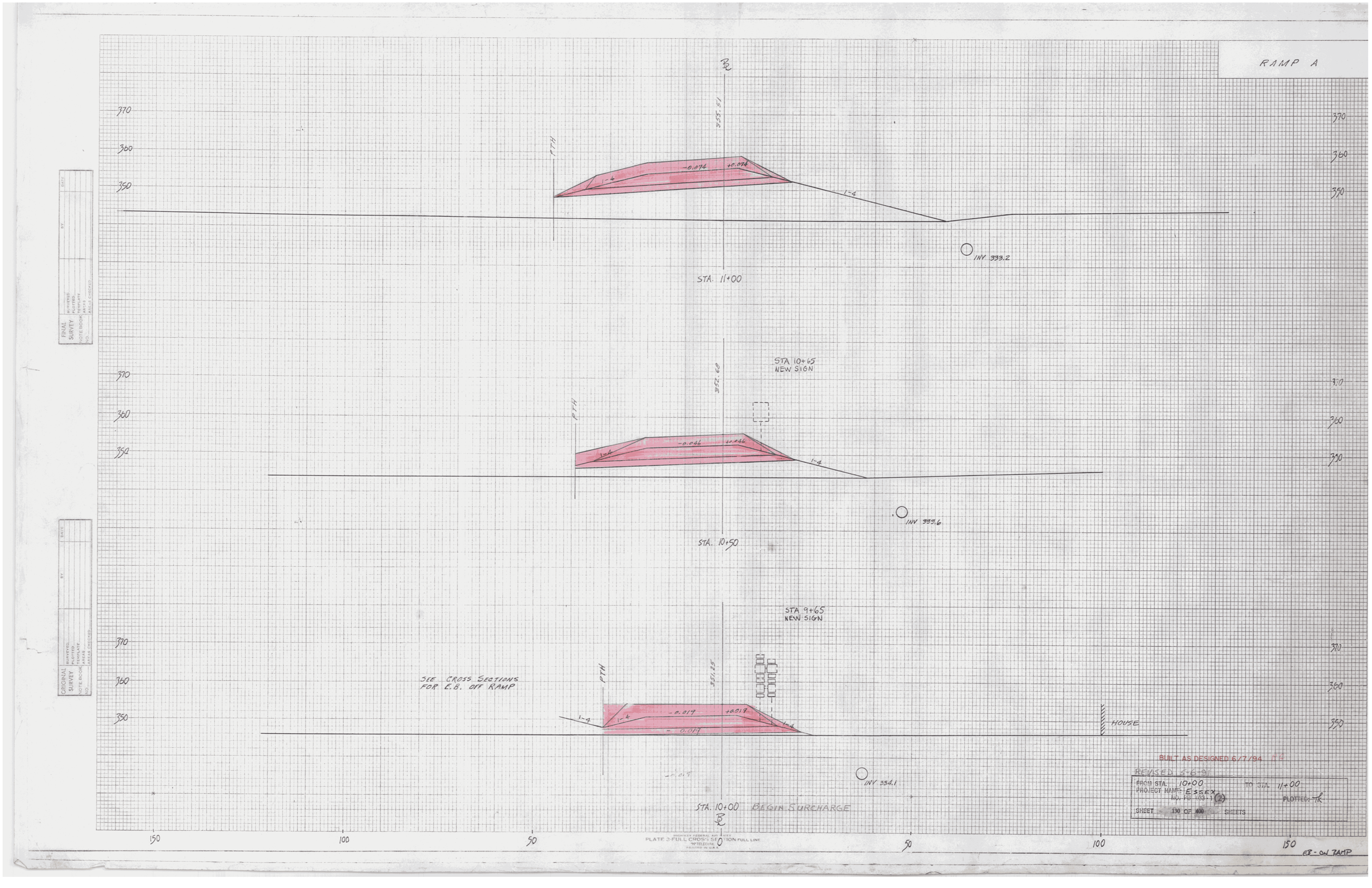
TRACED BY M. CUEVAS DATE 9/90

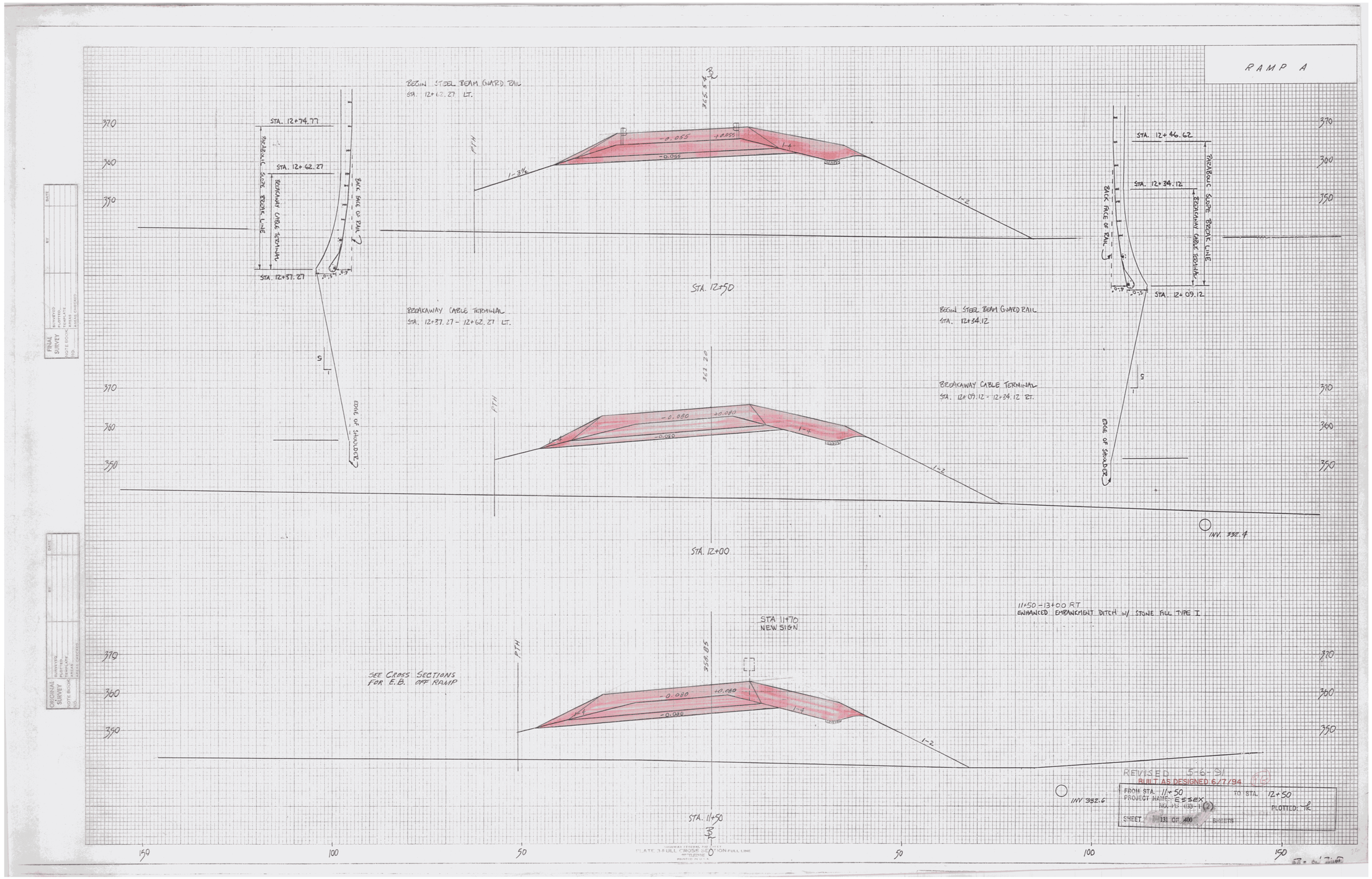
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX

PROJ. WILLISTON–COLCHESTER NO. PB 033-1 (2)

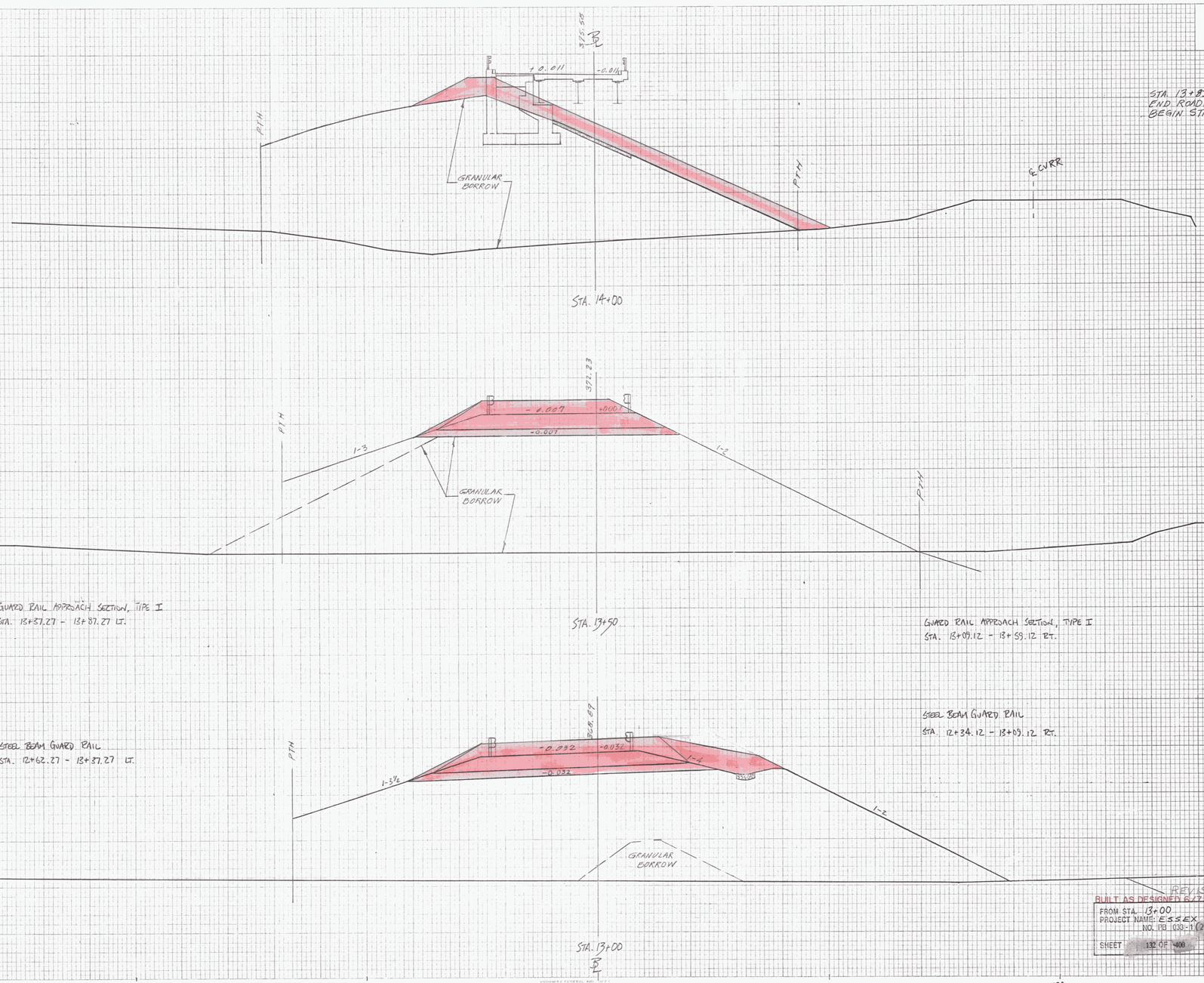
GEO. SHEET G-14 OF G-14 SH. 129 OF 400

B-1


RAMP A
PTH
355.51
-0.074
+0.074
1-4
INV 333.2
STA. 11+00
STA 10+65
NEW SIGN
352.68
-0.046
+0.046
INV 333.6
STA. 10+50
STA 9+65
NEW SIGN
351.25
SEE CROSS SECTIONS
FOR E.B. OFF RAMP
-0.019
+0.019
HOUSE
INV 334.1
STA. 10+00 BEGIN SURCHARGE
370
360
350
150
100
50
0
BUILT AS DESIGNED 6/7/94
REVISED 5-6-91
FROM STA. 10+00
TO STA. 11+00
PROJECT NAME: ESSEX
NO. PD 133-1 (2)
PLOTTED: TK
SHEET 130 OF 400 SHEETS
PLATE 3-FULL CROSS SECTION FULL LINE
EB - ON RAMP


RAMP A
BEGIN STEEL BEAM GUARD RAIL
STA. 12+62.27 LT.
STA. 12+74.77
STA. 12+62.27
STA. 12+37.27
PARABOLIC SLOPE BREAK LINE
BREAKAWAY CABLE TERMINAL
BACK FACE OF RAIL
EDGE OF SHOULDER
PTH
-0.055
+0.055
1-3½
1-4
1-2
STA. 12+50
BREAKAWAY CABLE TERMINAL
STA. 12+37.27 - 12+62.27 LT.
BEGIN STEEL BEAM GUARD RAIL
STA. 12+34.12
STA. 12+46.62
STA. 12+34.12
STA. 12+09.12
BREAKAWAY CABLE TERMINAL
STA. 12+09.12 - 12+34.12 RT.
-0.080
+0.080
STA. 12+00
INV. 332.4
11+50 - 13+00 RT.
ENHANCED EMBANKMENT DITCH W/ STONE FILL TYPE I
STA 11+70
NEW SIGN
SEE CROSS SECTIONS
FOR E.B. OFF RAMP
INV 332.6
STA. 11+50
370
360
350
150
100
50
0
REVISED 5-6-91
BUILT AS DESIGNED 6/7/94
FROM STA. 11+50
TO STA. 12+50
PROJECT NAME: ESSEX
PLOTTED:
SHEET 131 OF 400 SHEETS
FINAL SURVEY
ORIGINAL SURVEY
PLATE 3-FULL CROSS SECTION-FULL LINE

RAMP A



FINAL SURVEY — BY — DATE — PLOTTED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — NOTE BOOK — NO.

ORIGINAL SURVEY — BY — DATE — SURVEYED — PLOTTED — NOTE BOOK — AREAS — AREAS CHECKED

REVISED 5-6-91

BUILT AS DESIGNED 6/17/94 KC

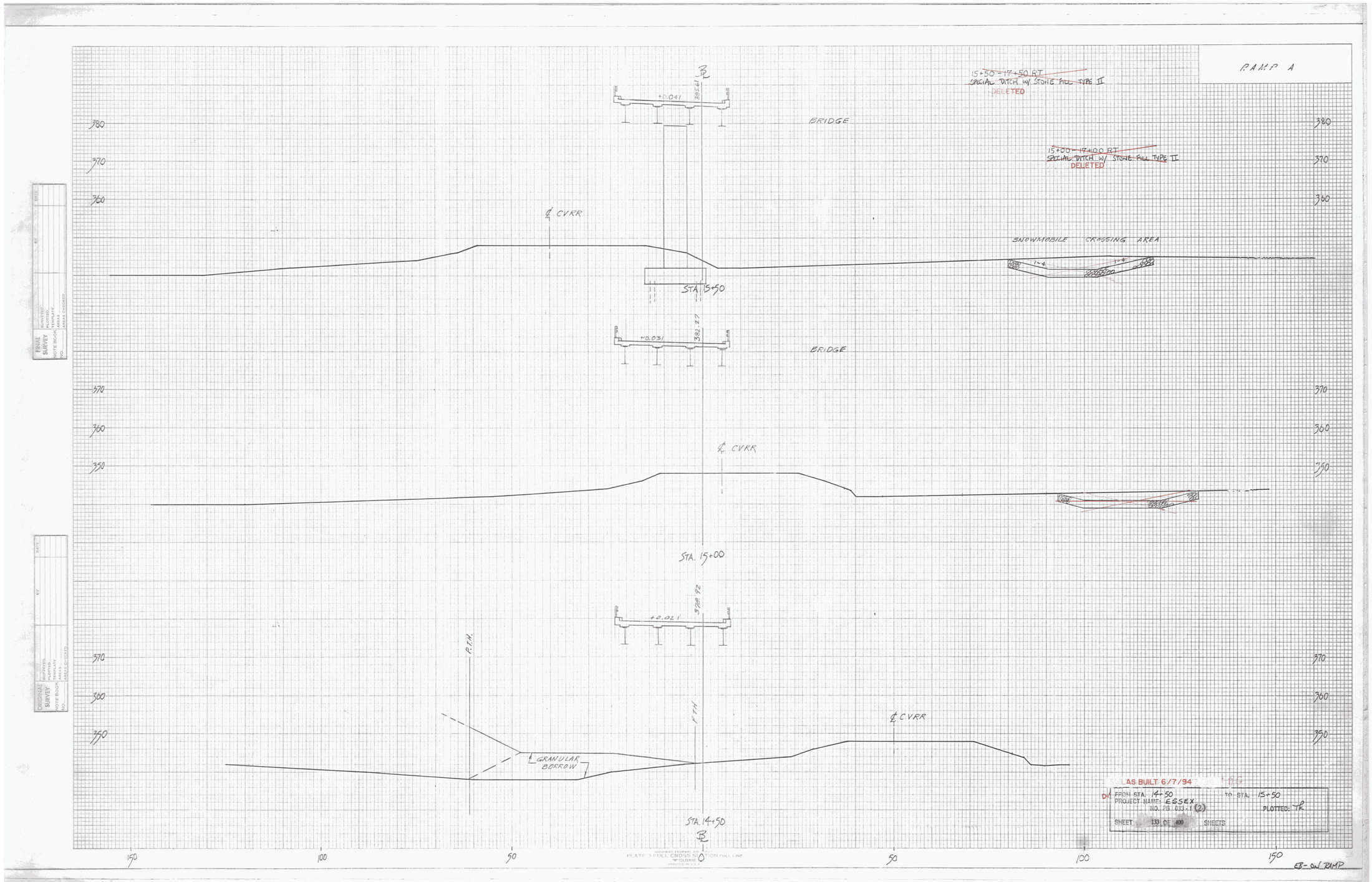
FROM STA. 13+00 TO STA. 14+00

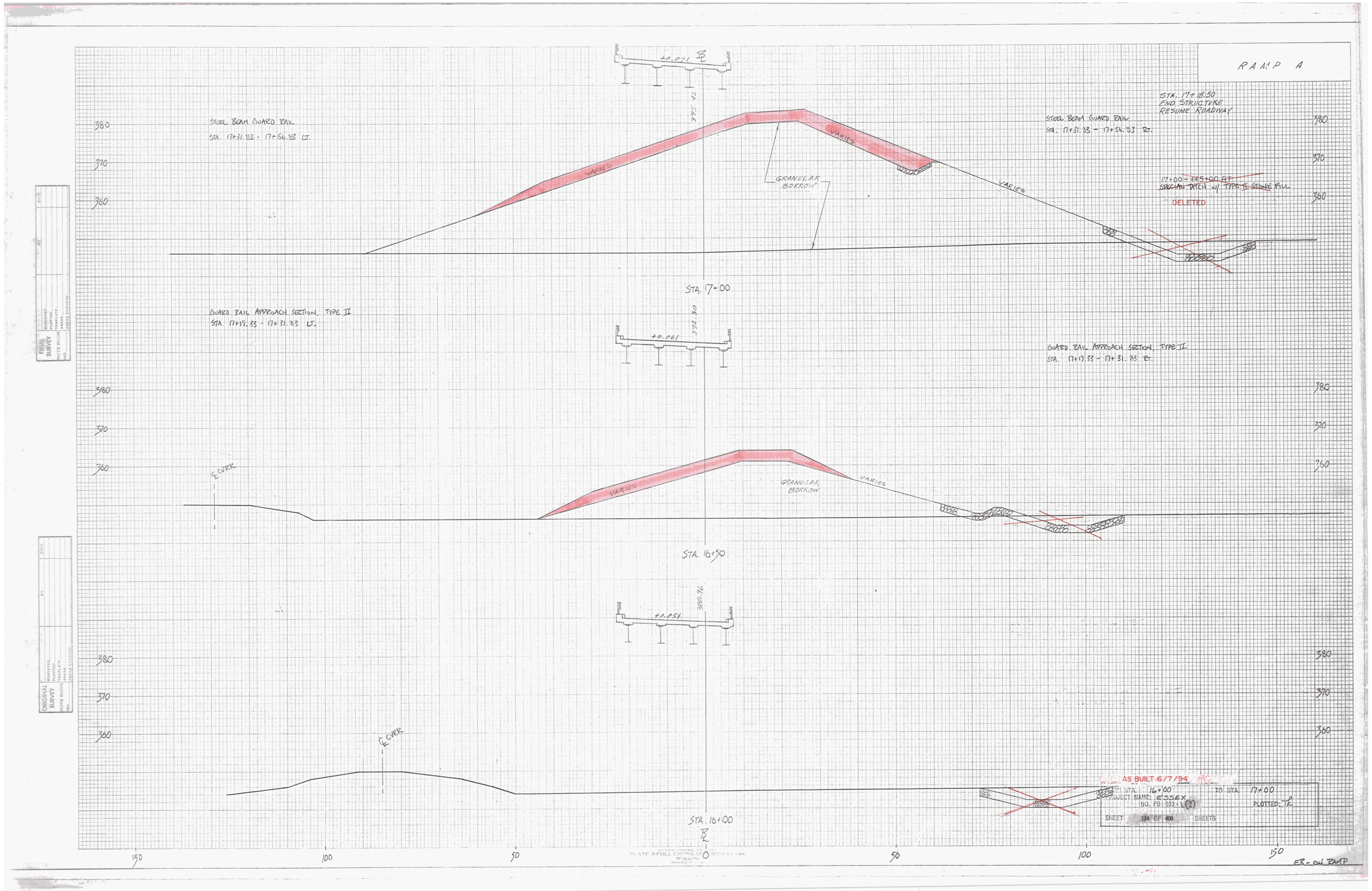
PROJECT NAME: ESSEX

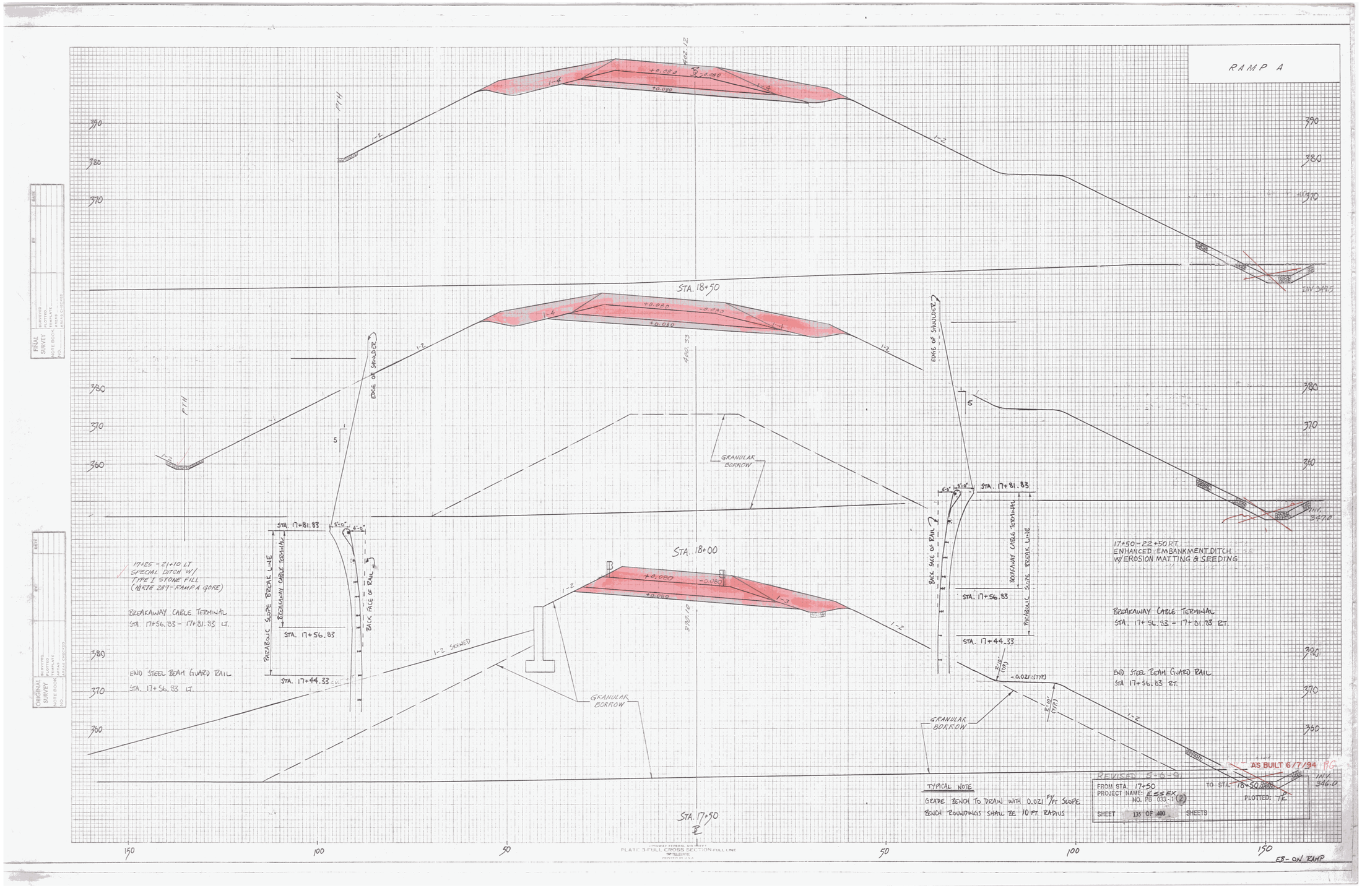
NO. FB 033-11 (2) PLOTTED: 12

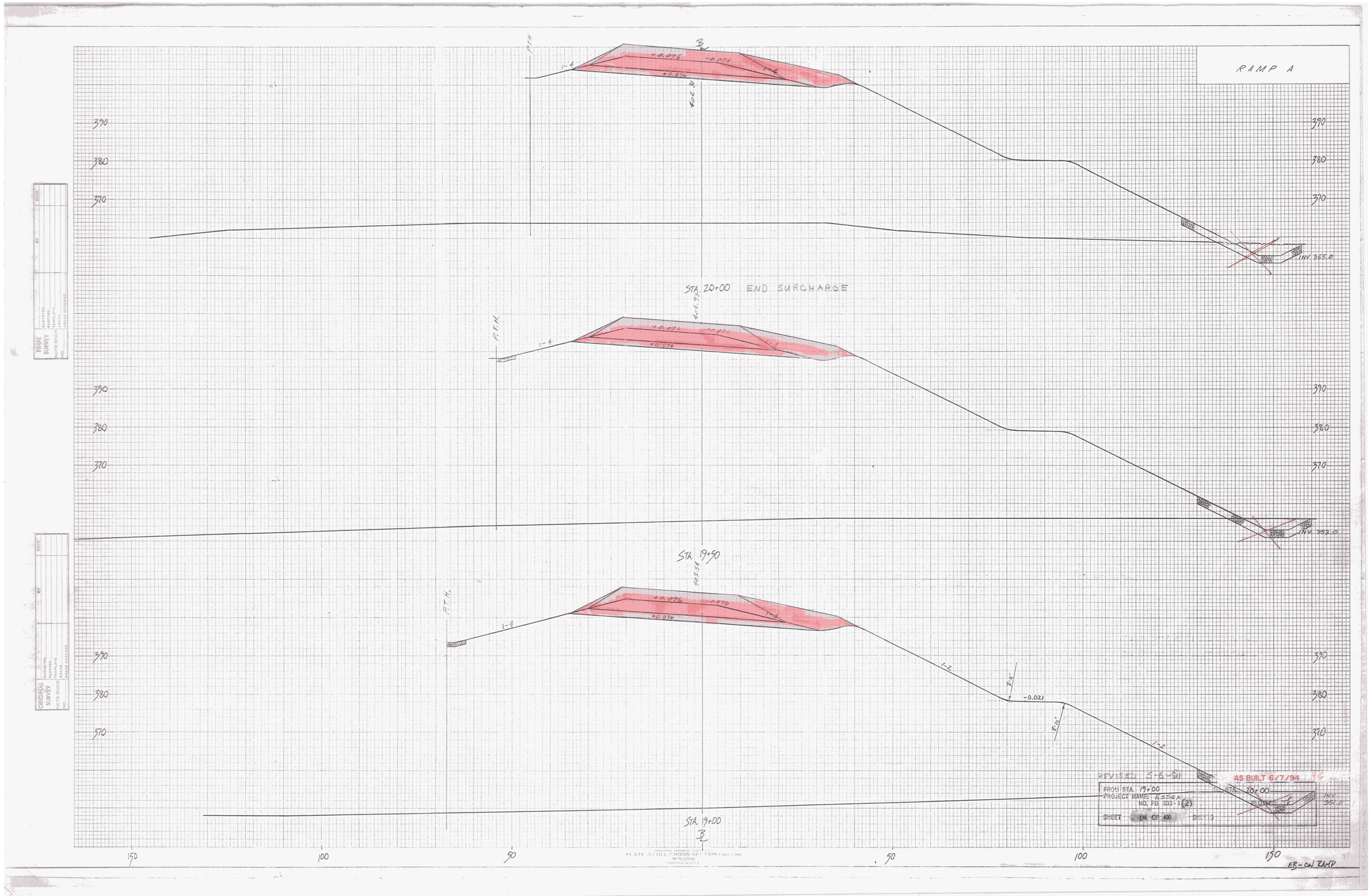
SHEET 132 OF 400 SHEETS

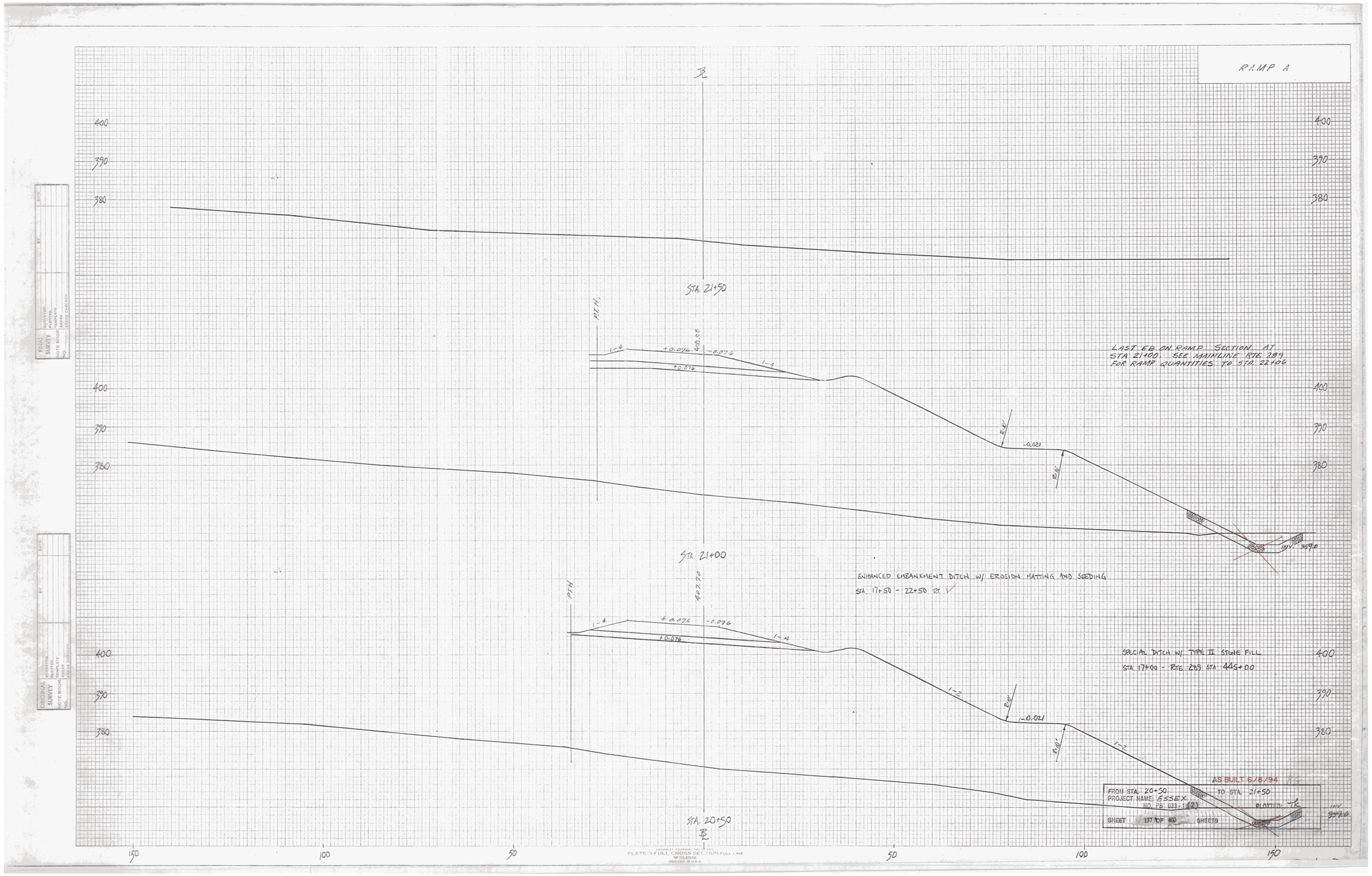
PLATE 3 FULL CROSS SECTION FULL LINE
FEDERAL HIGHWAY ADMINISTRATION
PRINTED IN U.S.A.


RAMP A
15+50 - 17+50 RT
SPECIAL DITCH W/ STONE FILL TYPE II
DELETED
15+00 - 17+00 RT
SPECIAL DITCH W/ STONE FILL TYPE II
DELETED
BRIDGE
+0.041
385.61
℄ CVRR
SNOWMOBILE CROSSING AREA
STA. 15+50
+0.031
382.27
BRIDGE
℄ CVRR
STA. 15+00
+0.021
378.92
P.T.H.
P.T.H.
℄ CVRR
GRANULAR BORROW
STA. 14+50
380
370
360
350
150
100
50
0
50
100
150
FINAL SURVEY
ORIGINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE
AS BUILT 6/7/94
FROM STA. 14+50
TO STA. 15+50
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED: TR
SHEET 133 OF 400 SHEETS
EB-ON RAMP


RAMP A
STEEL BEAM GUARD RAIL
STA. 17+31.83 - 17+56.83 LT.
+0.071
395.42
VARIES
GRANULAR BORROW
STA. 17+00
STEEL BEAM GUARD RAIL
STA. 17+31.83 - 17+56.83 RT.
STA. 17+18.50
END STRUCTURE
RESUME ROADWAY
17+00 - 445+00 RT
SPECIAL DITCH W/ TYPE II STONE FILL
DELETED
GUARD RAIL APPROACH SECTION, TYPE II
STA. 17+19.33 - 17+31.83 LT.
+0.061
372.30
GUARD RAIL APPROACH SECTION, TYPE II
STA. 17+19.33 - 17+31.83 RT.
℄ CURR
STA. 16+50
+0.051
388.76
STA. 16+00
380
370
360
150
100
50
0
AS BUILT 6/7/94
FROM STA. 16+00
TO STA. 17+00
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED: TL
SHEET 134 OF 400 SHEETS
EB - ON RAMP


RAMP A
STA. 18+50
STA. 18+00
STA. 17+50
PTH
EDGE OF SHOULDER
GRANULAR BORROW
STA. 17+81.83
STA. 17+56.83
STA. 17+44.33
PARABOLIC SLOPE BREAK LINE
BREAKAWAY CABLE TERMINAL
BACK FACE OF RAIL
17+25 - 21+10 LT
SPECIAL DITCH W/
TYPE I STONE FILL
(NORTE 287 - RAMP A GORE)
BREAKAWAY CABLE TERMINAL
STA. 17+56.83 - 17+81.83 LT.
END STEEL BEAM GUARD RAIL
STA. 17+56.83 LT.
17+50 - 22+50 RT.
ENHANCED EMBANKMENT DITCH
W/EROSION MATTING & SEEDING
BREAKAWAY CABLE TERMINAL
STA. 17+56.83 - 17+81.83 RT.
END STEEL BEAM GUARD RAIL
STA. 17+56.83 RT.
1-2 SKEWED
TYPICAL NOTE
GRADE BENCH TO DRAIN WITH 0.021 FT/FT SLOPE
BENCH ROUNDINGS SHALL BE 10 FT. RADIUS
AS BUILT 6/7/94
REVISED 5-6-91
FROM STA. 17+50
TO STA. 18+50
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED: TK
SHEET 135 OF 400 SHEETS
EB-ON RAMP
PLATE 3-FULL CROSS SECTION FULL LINE


RAMP A
P.T.H.
1-4
+0.076
-0.076
406.31
INV. 355.0
STA. 20+00 END SURCHARGE
404.93
INV. 353.0
STA. 19+50
403.54
1-2
-0.021
INV. 351.0
STA. 19+00
390
380
370
150
100
50
EB-ON RAMP
REVISED 5-6-91
AS BUILT 6/7/94
FROM STA. 19+00
PROJECT NAME: ESSEX
NO. PB 033-1(2)
SHEET 136 OF 400 SHEETS
FINAL SURVEY
ORIGINAL SURVEY
PLATE 3-FULL CROSS SECTION FULL LINE


RAMP A
STA. 21+50
P.T.H.
409.08
1-4
+0.076
-0.076
+0.076
1-4
LAST EB ON RAMP SECTION AT STA 21+00. SEE MAINLINE RTE 289 FOR RAMP QUANTITIES TO STA. 22+06
-0.021
INV. 359.0
STA. 21+00
ENHANCED EMBANKMENT DITCH W/ EROSION MATTING AND SEEDING
STA. 17+50 - 22+50 RT.
PTH
407.70
1-4
+0.076
-0.076
+0.076
1-4
SPECIAL DITCH W/ TYPE II STONE FILL
STA. 17+00 - RTE. 289 STA. 44+00
1-2
-0.021
1-2
AS BUILT 6/8/94
FROM STA. 20+50
TO STA. 21+50
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED:
SHEET 137 OF 400 SHEETS
INV. 359.0
STA. 20+50
400
390
380
150
100
50
50
100
150
PLATE 3-FULL CROSS SECTION FULL LINE

RAMP D

PT H

STA. 15+50

PT H

STA. 15+00

14+50 - 20+10 LT
SPECIAL DITCH
W/ TYPE I STONE FILL

PT H

NEW ELECTRICAL CONDUIT

STA. 14+50

PLATE 3-FULL CROSS SECTION FULL LINE

FINAL SURVEY
SURVEYED
PLOTTED
NOTE BOOK
NO.
BY
DATE
AREAS CHECKED

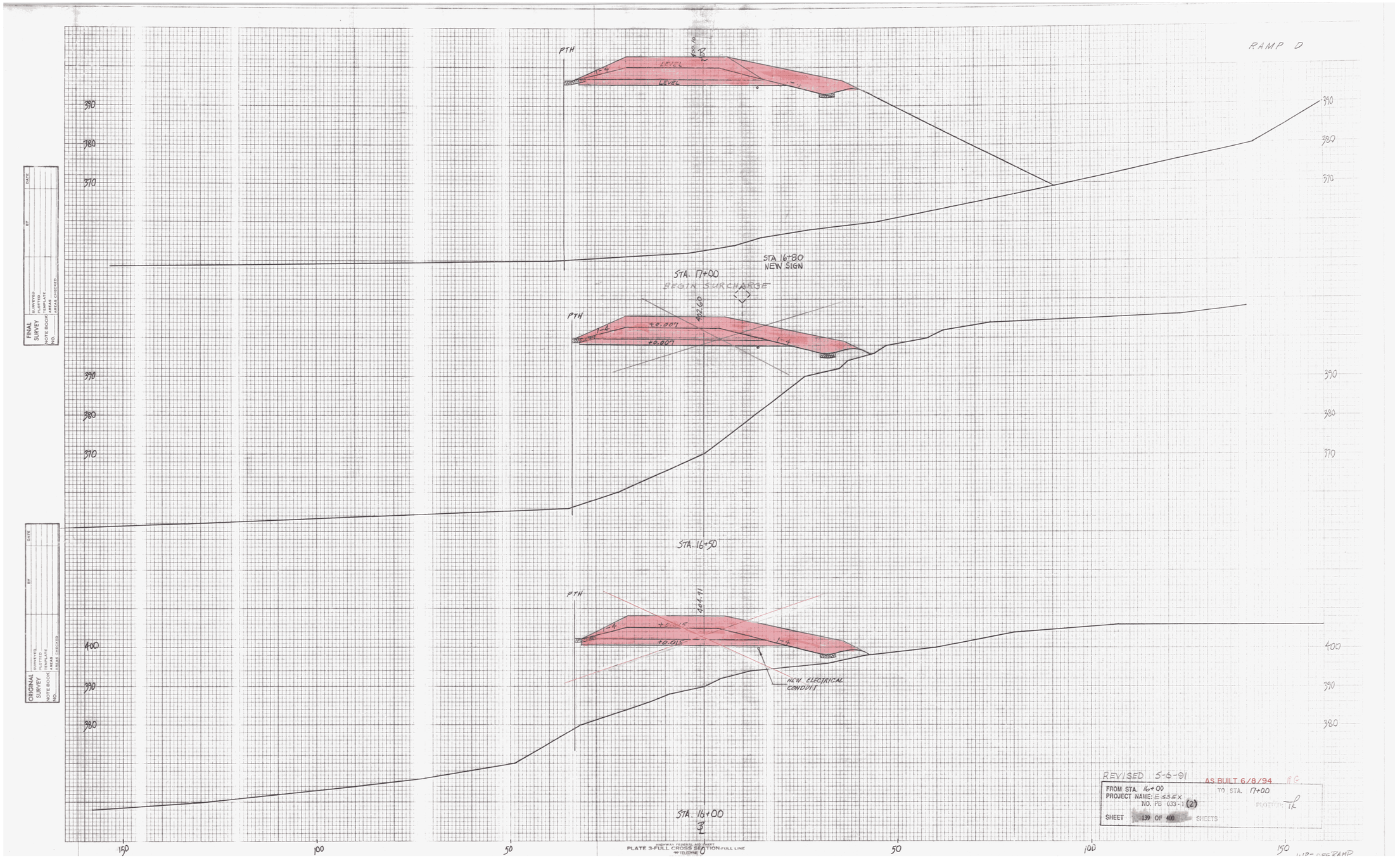
ORIGINAL SURVEY
SURVEYED
PLOTTED
NOTE BOOK
NO.
BY
DATE
AREAS CHECKED

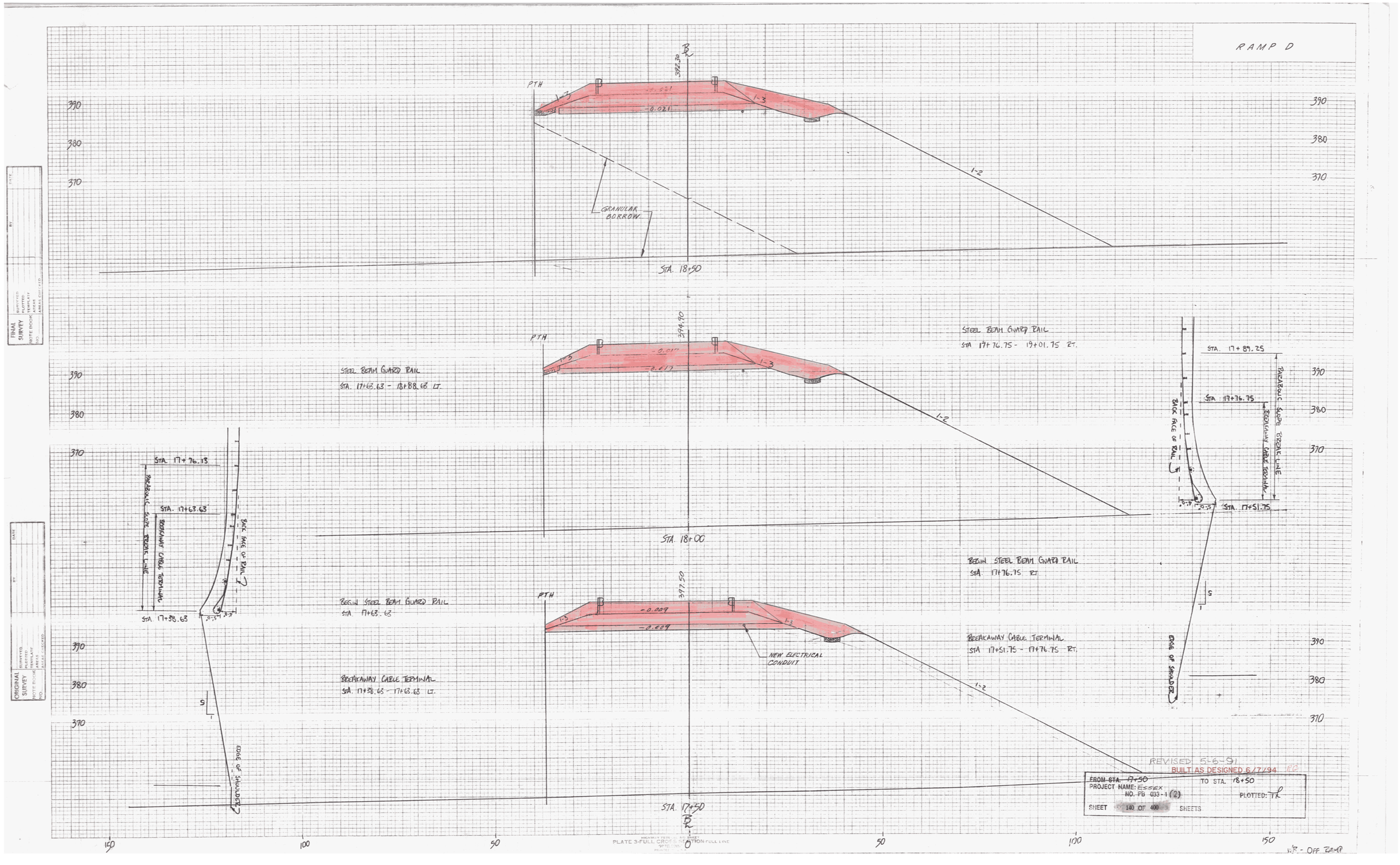
REVISED 5-6-91

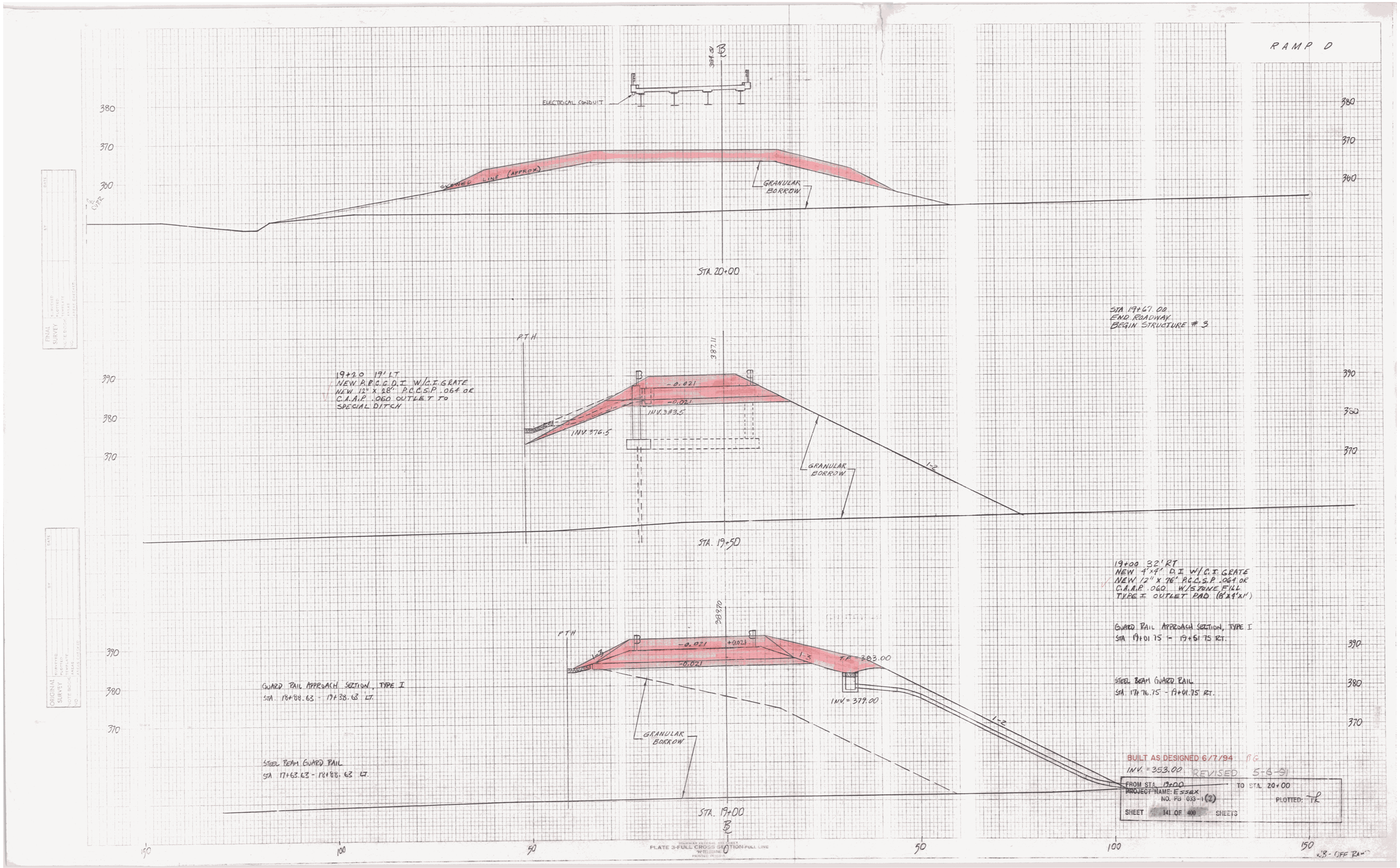
AS BUILT 6/8/94 RG

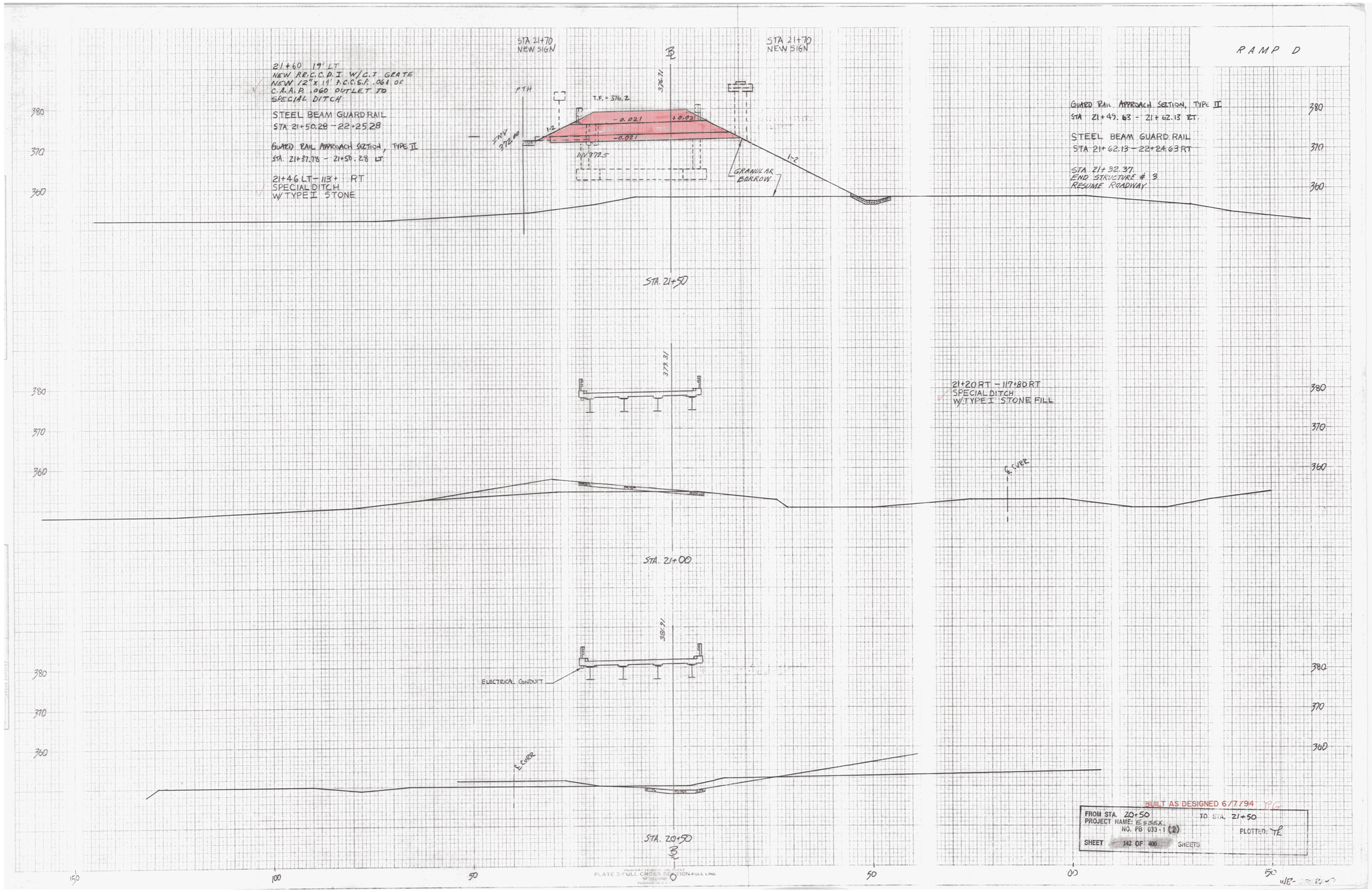
FROM STA. 14+50 TO STA. 15+50
PROJECT NAME: ESSEX
NO. PB 0039-1 (2)
PLOTTED: TK
SHEET 138 OF 400 SHEETS

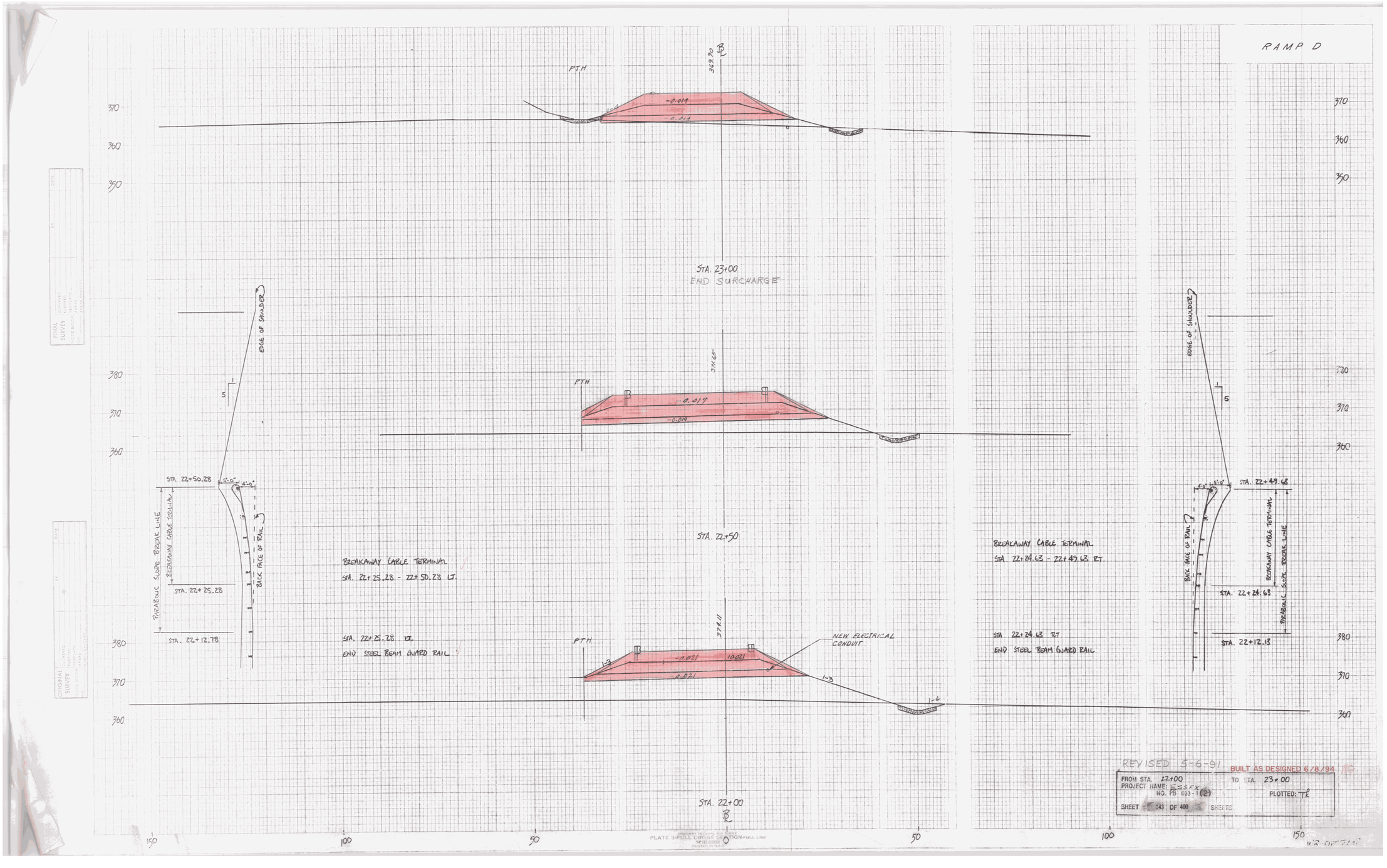
WIR-OFFRAMP


RAMP D
PTH
LEVEL
LEVEL
STA 16+80
NEW SIGN
STA. 17+00
BEGIN SURCHARGE
402.60
+0.007
+0.007
STA. 16+50
404.91
+0.015
+0.015
NEW ELECTRICAL CONDUIT
STA. 16+00
390
380
370
400
150
100
50
0
50
100
150
FINAL SURVEY
ORIGINAL SURVEY
REVISED 5-6-91
AS BUILT 6/8/94
FROM STA. 16+00
TO STA. 17+00
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
SHEET 139 OF 400 SHEETS
PLATE 3-FULL CROSS SECTION-FULL LINE

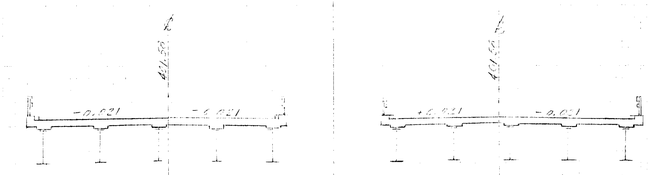

RAMP D
PTH
392.30
-0.021
1-3
1-2
GRANULAR BORROW
STA. 18+50
394.90
-0.017
STEEL BEAM GUARD RAIL
STA. 17+63.63 - 18+88.63 LT.
STEEL BEAM GUARD RAIL
STA 17+76.75 - 19+01.75 RT.
STA. 17+89.25
STA 17+76.75
PARABOLIC SLOPE BREAK LINE
BREAKAWAY CABLE TERMINAL
BACK FACE OF RAIL
STA. 17+51.75
STA. 17+76.13
STA. 17+63.63
STA. 17+38.63
STA. 18+00
BEGIN STEEL BEAM GUARD RAIL
STA. 17+76.75 RT
397.50
-0.009
NEW ELECTRICAL CONDUIT
BREAKAWAY CABLE TERMINAL
STA. 17+38.63 - 17+63.63 LT.
BREAKAWAY CABLE TERMINAL
STA 17+51.75 - 17+76.75 RT.
EDGE OF SHOULDER
STA. 17+50
390
380
370
150
100
50
0
50
100
150
REVISED 5-6-91
BUILT AS DESIGNED 6/7/94
FROM STA. 17+50
TO STA. 18+50
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED:
SHEET 140 OF 400 SHEETS
PLATE 3-FULL CROSS SECTION
FINAL SURVEY
ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE
W.B. - OFF RAMP


RAMP D
ELECTRICAL CONDUIT
SKEWED LINE (APPROX)
GRANULAR BORROW
STA. 20+00
STA 19+67.00
END ROADWAY
BEGIN STRUCTURE # 3
P.T.H.
387.11
19+20 19' LT
NEW P.P.C.C.D.I. W/C.I. GRATE
NEW 12" X 28" P.C.C.S.P. .064 OR
C.A.A.P. .060 OUTLET TO
SPECIAL DITCH
-0.021
INV. 383.5
INV. 376.5
GRANULAR BORROW
1-2
STA. 19+50
19+00 32' RT
NEW 4'x4' D.I. W/C.I. GRATE
NEW 12" X 76' P.C.C.S.P. .064 OR
C.A.A.P. .060 W/STONE FILL
TYPE I OUTLET PAD (8'x4'x1')
GUARD RAIL APPROACH SECTION, TYPE I
STA 19+01.75 - 19+51.75 RT.
STEEL BEAM GUARD RAIL
STA 17+76.75 - 19+01.75 RT.
389.70
P.T.H.
-0.021
+0.021
T.P. = 383.00
INV. = 379.00
GUARD RAIL APPROACH SECTION, TYPE I
STA. 18+88.63 - 19+38.63 LT.
STEEL BEAM GUARD RAIL
STA 17+63.63 - 18+88.63 LT.
GRANULAR BORROW
STA. 19+00
BUILT AS DESIGNED 6/7/94
INV. = 353.00
REVISED 5-6-91
FROM STA. 19+00
TO STA. 20+00
PROJECT NAME: ESSEX
NO. PB 033-1(2)
PLOTTED: TK
SHEET 141 OF 400 SHEETS
PLATE 3-FULL CROSS SECTION-FULL LINE
ORIGINAL SURVEY
FINAL SURVEY


RAMP D
STA 21+70
NEW SIGN
STA 21+70
NEW SIGN
21+60 19' LT
NEW P.R.C.C.D.I. W/C.I. GRATE
NEW 12" x 14' P.C.C.S.P. .064 OR
C.A.A.P. .060 OUTLET TO
SPECIAL DITCH
STEEL BEAM GUARD RAIL
STA 21+50.28 - 22+25.28
GUARD RAIL APPROACH SECTION, TYPE II
STA. 21+37.78 - 21+50.28 LT
21+46 LT - 113+ RT
SPECIAL DITCH
W/TYPE I STONE
PTH
T.F. = 376.2
376.71
-0.021
+0.021
-0.021
INV 372.00
INV 372.5
GRANULAR BORROW
1-2
1-2
GUARD RAIL APPROACH SECTION, TYPE II
STA 21+49.63 - 21+62.13 RT.
STEEL BEAM GUARD RAIL
STA 21+62.13 - 22+24.63 RT
STA 21+32.37
END STRUCTURE # 3
RESUME ROADWAY
STA. 21+50
379.31
21+20 RT - 117+80 RT
SPECIAL DITCH
W/TYPE I STONE FILL
℄ CURB
STA. 21+00
381.91
ELECTRICAL CONDUIT
℄ CURB
STA. 20+50
380
370
360
150
100
50
0
50
100
150
BUILT AS DESIGNED 6/7/94
FROM STA. 20+50
TO STA. 21+50
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED:
SHEET 142 OF 400 SHEETS
PLATE 3-FULL CROSS SECTION-FULL LINE


RAMP D
PTH
369.90
-0.014
-0.014
STA. 23+00
END SURCHARGE
EDGE OF SHOULDER
PTH
371.65
-0.019
-0.019
STA. 22+50.28
5'-0"
4'-0"
PARABOLIC SLOPE BREAK LINE
BREAKAWAY CABLE TERMINAL
STA. 22+25.28
STA. 22+12.78
BACK FACE OF RAIL
STA. 22+50
BREAKAWAY CABLE TERMINAL
STA. 22+25.28 - 22+50.28 LT.
STA. 22+25.28 RT.
END STEEL BEAM GUARD RAIL
PTH
374.11
NEW ELECTRICAL CONDUIT
-0.021
10.021
-0.021
1-3
1-3
1-4
STA. 22+00
BREAKAWAY CABLE TERMINAL
STA. 22+24.63 - 22+49.63 RT.
STA. 22+24.63 RT.
END STEEL BEAM GUARD RAIL
STA. 22+49.63
STA. 22+24.63
STA. 22+12.13
BACK FACE OF RAIL
BREAKAWAY CABLE TERMINAL
PARABOLIC SLOPE BREAK LINE
370
360
350
380
370
360
380
370
360
150
100
50
0
50
100
150
REVISED 5-6-91
BUILT AS DESIGNED 6/8/94
FROM STA. 22+00
TO STA. 23+00
PROJECT NAME: ESSFX
NO. PB 033-1(2)
PLOTTED: TR
SHEET 143 OF 400 SHEETS

VERMONT ROUTE 289



FUTURE MAINLINE
PROFILE BY OTHER

BE-14
STA. 438+30
0/s 40' LT
ELEV 350.0
SILT
A-4
CLAY
A-6
SAND A-4 2
ELEV 360.0
BEDROCK

BG-17
STA 438+50
℄
SILTY SAND
A-2-4
CLAY
A-6
GRAVEL
A-1
BEDROCK

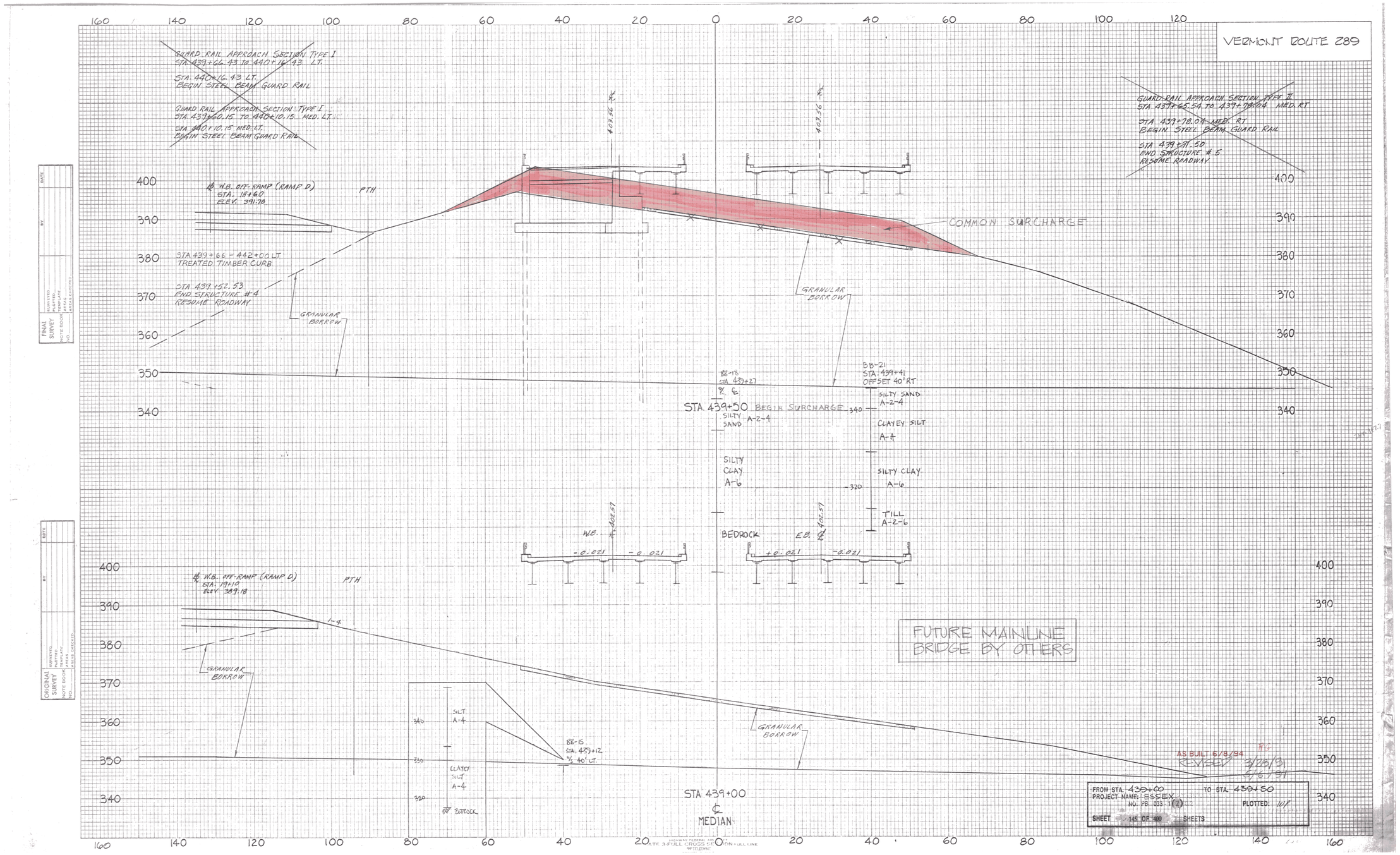
BB-20
STA 438+00
0/s 40' RT.
SILTY SAND
A-2-4
CLAYEY
SILT
A-4
ELEV 360.0
BEDROCK

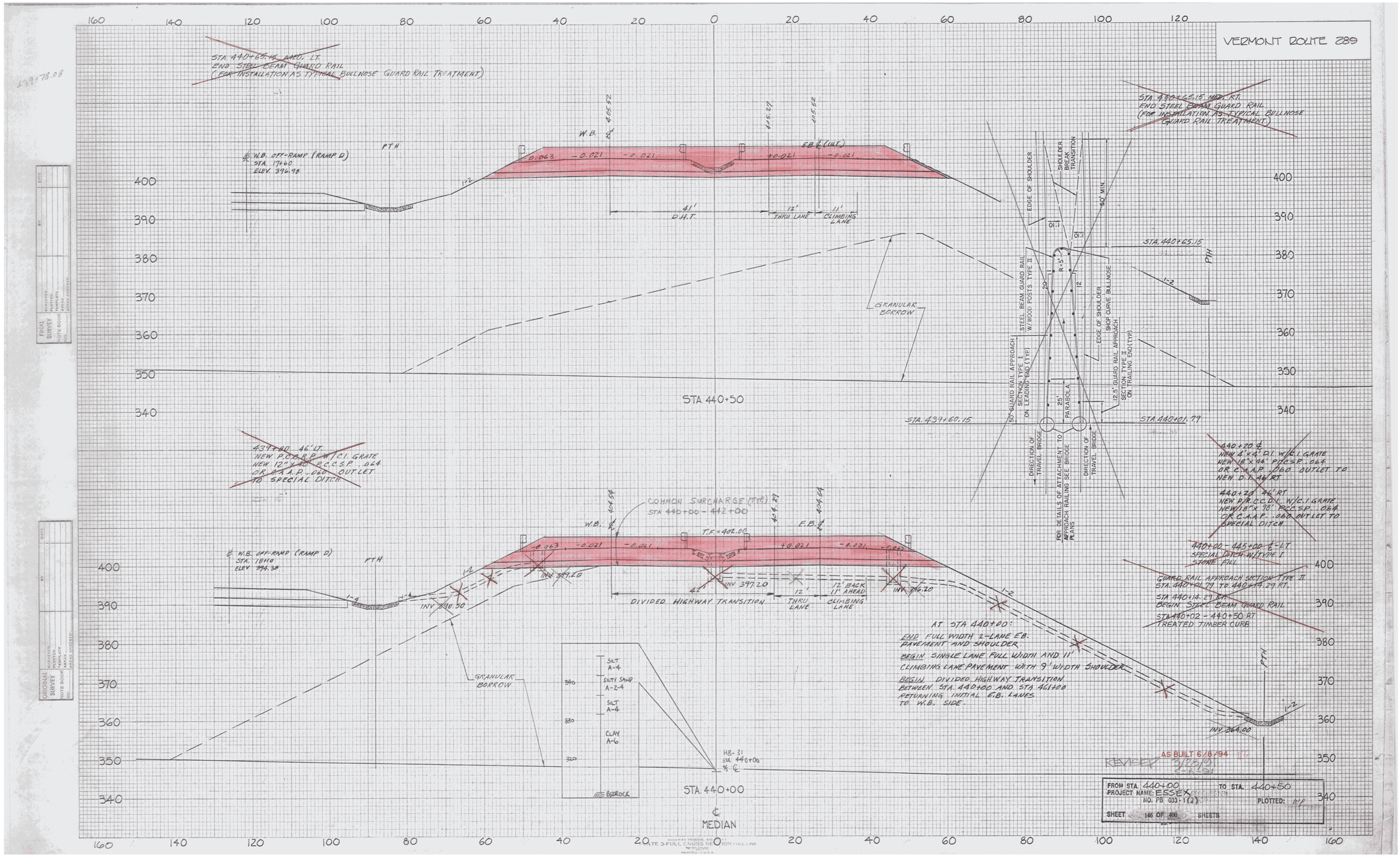
420+50 TO 498+50
ALL SUPERELEVATION NOTATION (+ OR -)
IS AS DIRECTED (AHAY) FROM THE W.B.℄
UNLESS OTHERWISE NOTED

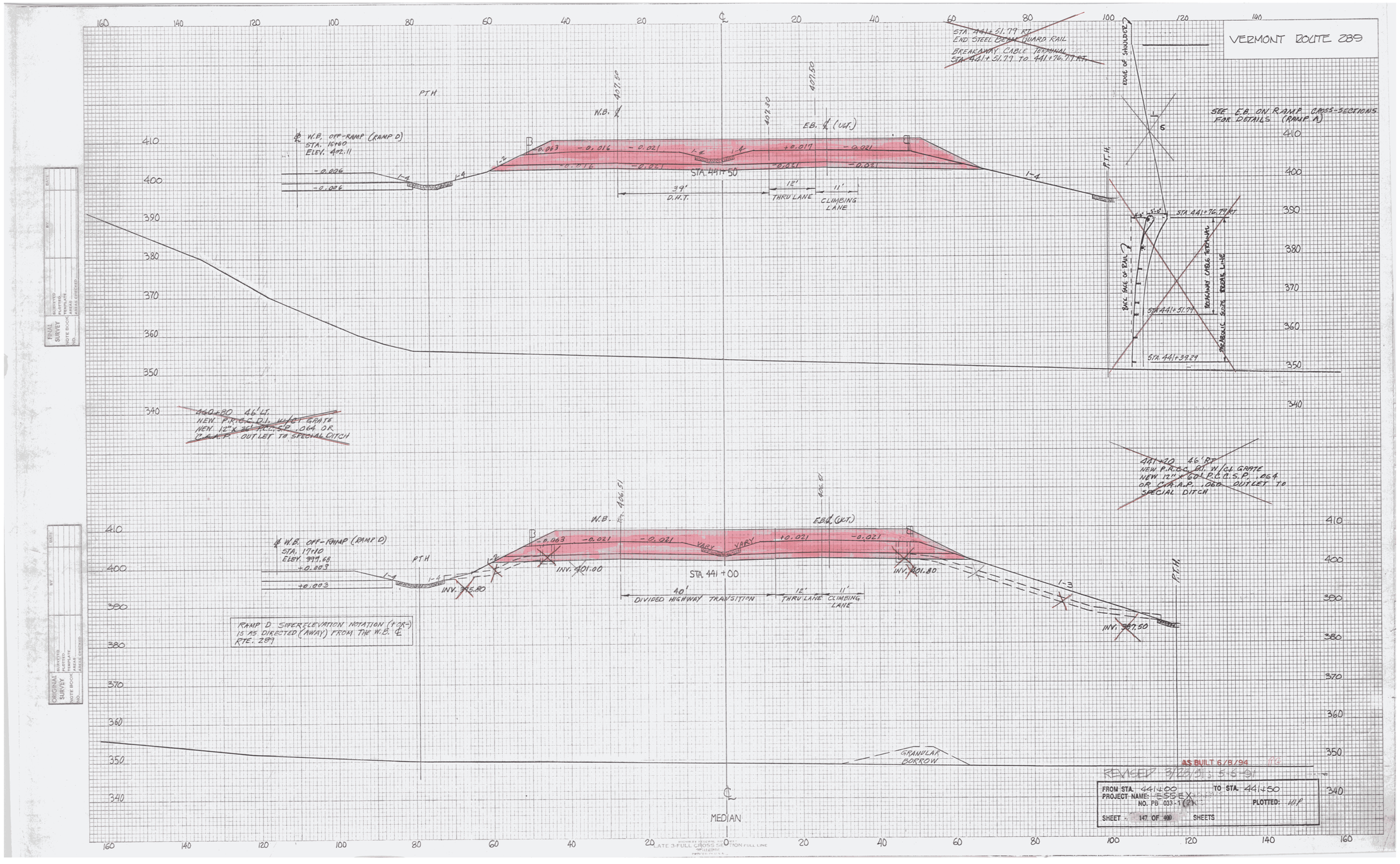
STA. 438+50
℄
MEDIAN

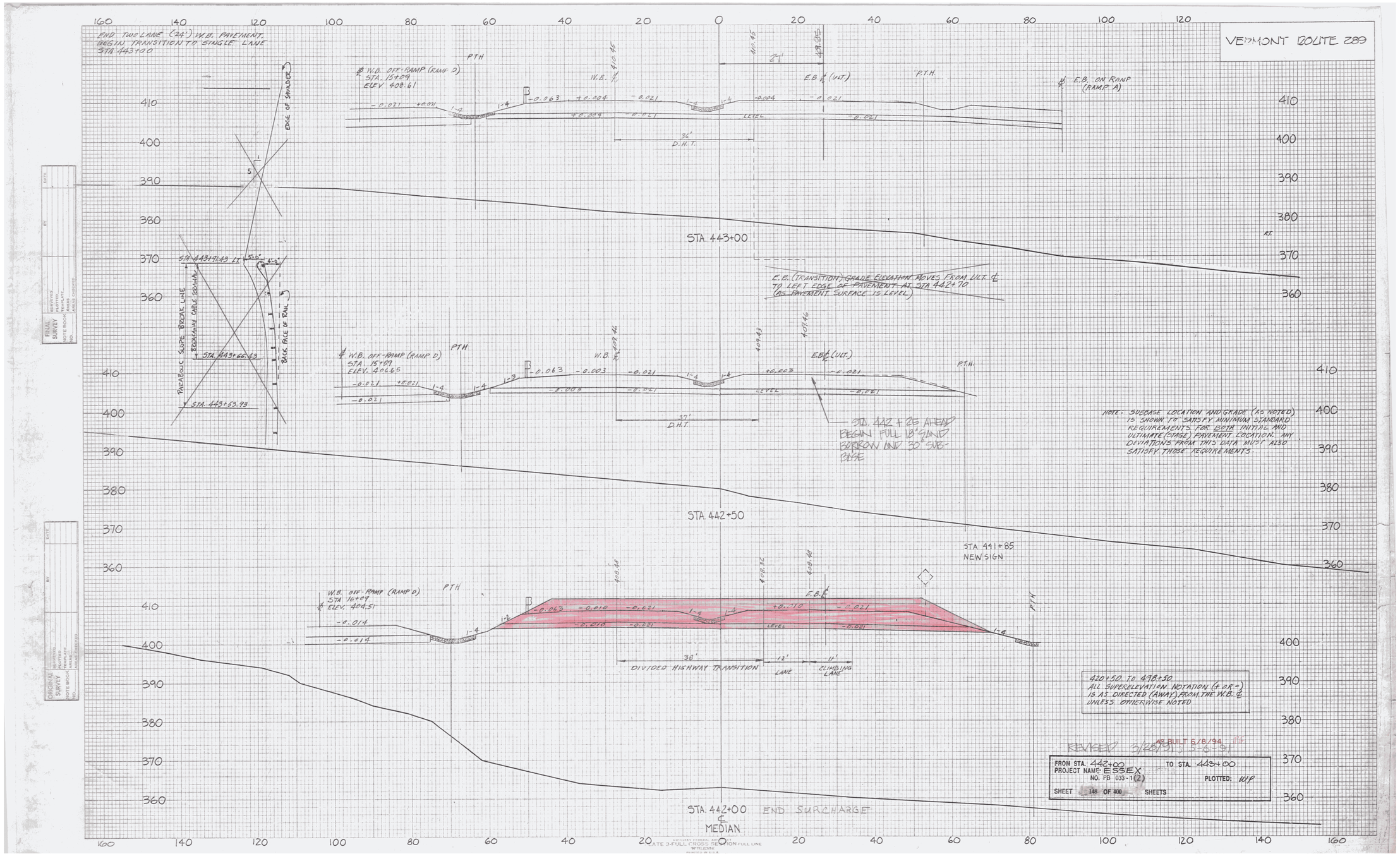
REVISED 7/27/ BUILT AS DESIGNED 6/8/94

FROM STA.	438+50	TO STA.	438+50
PROJECT NO.	FD 033-1 (2)	PLOTTED:	
SHEET	144 OF 400 SHEETS		


VERMONT ROUTE 289
GUARD RAIL APPROACH SECTION TYPE I
STA. 439+66.43 TO 440+16.43 LT.
STA. 440+16.43 LT.
BEGIN STEEL BEAM GUARD RAIL
GUARD RAIL APPROACH SECTION TYPE I
STA. 439+60.15 TO 440+10.15 MED. LT.
STA. 440+10.15 MED. LT.
BEGIN STEEL BEAM GUARD RAIL
GUARD RAIL APPROACH SECTION TYPE II
STA. 439+65.54 TO 439+78.04 MED. RT
STA. 439+78.04 MED. RT
BEGIN STEEL BEAM GUARD RAIL
STA. 439+71.50
END STRUCTURE # 5
RESUME ROADWAY
W.B. OFF-RAMP (RAMP D)
STA. 18+60
ELEV. 391.78
PTH
STA. 439+66 - 442+00 LT
TREATED TIMBER CURB
STA. 439+52.53
END STRUCTURE #4
RESUME ROADWAY
GRANULAR BORROW
COMMON SURCHARGE
403.56
STA. 439+50 BEGIN SURCHARGE
BB-18
STA. 439+27
BB-21
STA. 439+41
OFFSET 40' RT
SILTY SAND A-2-4
CLAYEY SILT A-4
SILTY CLAY A-6
TILL A-2-6
BEDROCK
W.B.
E.B.
402.57
-0.021
+0.021
W.B. OFF-RAMP (RAMP D)
STA. 19+10
ELEV. 389.18
1-4
FUTURE MAINLINE BRIDGE BY OTHERS
SILT A-4
CLAYEY SILT A-4
BEDROCK
BB-15
STA. 439+12
40' LT.
STA. 439+00
MEDIAN
AS BUILT 6/8/94
REVISED 3/28/91
5/6/91
FROM STA. 439+00 TO STA. 439+50
PROJECT NAME: ESSEX
NO. PB 033-1(2)
PLOTTED: WP
SHEET 145 OF 400 SHEETS
FINAL SURVEY
ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE


VERMONT ROUTE 289
STA 440+65.15 MED. LT.
END STEEL BEAM GUARD RAIL
(FOR INSTALLATION AS TYPICAL BULLNOSE GUARD RAIL TREATMENT)
STA 440+65.15 MED. RT.
END STEEL BEAM GUARD RAIL
(FOR INSTALLATION AS TYPICAL BULLNOSE GUARD RAIL TREATMENT)
W.B. OFF-RAMP (RAMP D)
STA. 17+60
ELEV. 396.98
PTH
W.B.
E.B. (ULT.)
41' D.H.T.
12' THRU LANE
11' CLIMBING LANE
GRANULAR BORROW
STA 440+50
STA. 440+65.15
STA. 439+60.15
STA. 440+01.79
EDGE OF SHOULDER
SHOULDER BREAK TRANSITION
50' MIN.
STEEL BEAM GUARD RAIL W/WOOD POSTS TYPE II
50' GUARD RAIL APPROACH SECTION TYPE I ON LEADING END (TYP.)
EDGE OF SHOULDER SHOP CURVE BULLNOSE
12.5' GUARD RAIL APPROACH SECTION TYPE II ON TRAILING END (TYP.)
PARABOLA
DIRECTION OF TRAVEL BRIDGE
FOR DETAILS OF ATTACHMENT TO APPROACH RAILING SEE BRIDGE PLANS
439+80 46' LT.
NEW P.C.C.R.P. W/C.I. GRATE
NEW 12" x 40' P.C.C.S.P. .064
OR C.A.A.P. .060 OUTLET
TO SPECIAL DITCH
440+20 ℄
NEW 4'x4' D.I. W/C.I. GRATE
NEW 18"x 44' P.C.C.S.P. .064
OR C.A.A.P. .060 OUTLET TO
NEW D.I. 46' RT
440+20 46' RT
NEW P.R.C.C.D.I. W/C.I. GRATE
NEW 18"x 98' P.C.C.S.P. .064
OR C.A.A.P. .060 OUTLET TO
SPECIAL DITCH
440+00 - 445+00 ℄-LT
SPECIAL DITCH W/TYPE I
STONE FILL
GUARD RAIL APPROACH SECTION TYPE II
STA. 440+01.79 TO 440+14.29 RT.
STA 440+14.29 RT.
BEGIN STEEL BEAM GUARD RAIL
STA 440+02 - 440+50 RT
TREATED TIMBER CURB
COMMON SURCHARGE (TYP.)
STA 440+00 - 442+00
T.F. = 402.00
W.B. OFF-RAMP (RAMP D)
STA. 18+10
ELEV. 394.38
INV 390.50
INV 399.20
INV 397.20
INV 396.20
INV 364.00
42'
12' BACK
11' AHEAD
DIVIDED HIGHWAY TRANSITION
12' THRU LANE
CLIMBING LANE
AT STA 440+00:
END FULL WIDTH 2-LANE E.B. PAVEMENT AND SHOULDER.
BEGIN SINGLE LANE FULL WIDTH AND 11' CLIMBING LANE PAVEMENT WITH 9' WIDTH SHOULDER.
BEGIN DIVIDED HIGHWAY TRANSITION BETWEEN STA. 440+00 AND STA 461+00 RETURNING INITIAL E.B. LANES TO W.B. SIDE.
GRANULAR BORROW
SILT A-4
SILTY SAND A-2-4
SILT A-4
CLAY A-6
BEDROCK
HB-31
STA 440+00
STA 440+00
℄ MEDIAN
AS BUILT 6/8/94
REVISED 3/28/91
FROM STA. 440+00 TO STA. 440+50
PROJECT NAME: ESSEX
NO. PB 033-1(2)
PLOTTED: WP
SHEET 146 OF 400 SHEETS
FINAL SURVEY
ORIGINAL SURVEY


VERMONT ROUTE 289
STA. 441+51.79 RT.
END STEEL BEAM GUARD RAIL
BREAKAWAY CABLE TERMINAL
STA. 441+51.79 TO 441+76.79 RT.
SEE E.B. ON RAMP CROSS-SECTIONS FOR DETAILS (RAMP A)
℄ W.B. OFF-RAMP (RAMP D)
STA. 16+60
ELEV. 402.11
W.B. ℄
E.B. ℄ (ULT.)
STA. 441+50
39' D.H.T.
12' THRU LANE
11' CLIMBING LANE
P.T.H.
EDGE OF SHOULDER
STA. 441+76.79 RT.
STA. 441+51.79
STA. 441+39.29
BACK FACE OF RAIL
BREAKAWAY CABLE TERMINAL
PARABOLIC SLOPE BREAK LINE
460+80 46' LT.
NEW P.R.C.C. D.I. W/CI GRATE
NEW 12" x 36' P.C.C.S.P. .064 OR
C.A.A.P. OUTLET TO SPECIAL DITCH
441+70 46' RT.
NEW P.R.C.C. D.I. W/CI GRATE
NEW 12" x 60' P.C.C.S.P. .064
OR C.A.A.P. .060 OUTLET TO
SPECIAL DITCH
℄ W.B. OFF-RAMP (RAMP D)
STA. 17+10
ELEV. 399.68
INV. 395.80
INV. 401.00
INV. 401.80
INV. 397.50
STA. 441+00
40' DIVIDED HIGHWAY TRANSITION
12' THRU LANE
11' CLIMBING LANE
RAMP D SUPERELEVATION NOTATION (+OR-) IS AS DIRECTED (AWAY) FROM THE W.B. ℄ RTE. 289
GRANULAR BORROW
MEDIAN
AS BUILT 6/8/94
REVISED 3/28/91; 5-6-91
FROM STA. 441+00 TO STA. 441+50
PROJECT NAME: ESSEX
NO. PB 033-1(2)
PLOTTED: W.P.
SHEET 147 OF 400 SHEETS
FINAL SURVEY
ORIGINAL SURVEY


VERMONT ROUTE 289
END TWO LANE (24') W.B. PAVEMENT. BEGIN TRANSITION TO SINGLE LANE STA 443+00
W.B. OFF-RAMP (RAMP D) STA. 15+09 ELEV. 408.61
E.B. ON RAMP (RAMP A)
STA. 443+00
E.B. (TRANSITION) GRADE ELEVATION MOVES FROM ULT. ℄ TO LEFT EDGE OF PAVEMENT AT STA 442+70 (AS PAVEMENT SURFACE IS LEVEL)
W.B. OFF-RAMP (RAMP D) STA. 15+59 ELEV. 406.65
STA. 442+25 AHEAD BEGIN FULL 18" SAND BORROW AND 30" SUB-BASE
NOTE: SUBBASE LOCATION AND GRADE (AS NOTED) IS SHOWN TO SATISFY MINIMUM STANDARD REQUIREMENTS FOR BOTH INITIAL AND ULTIMATE (STAGE) PAVEMENT LOCATION. ANY DEVIATIONS FROM THIS DATA MUST ALSO SATISFY THOSE REQUIREMENTS.
STA. 442+50
STA 441+85 NEW SIGN
W.B. OFF-RAMP (RAMP D) STA 16+09 ELEV. 404.51
DIVIDED HIGHWAY TRANSITION
LANE
CLIMBING LANE
420+50 TO 498+50 ALL SUPERELEVATION NOTATION (+ OR -) IS AS DIRECTED (AWAY) FROM THE W.B. ℄ UNLESS OTHERWISE NOTED
STA. 442+00 END SURCHARGE
℄ MEDIAN
FROM STA. 442+00 TO STA. 443+00
PROJECT NAME: ESSEX
NO. PB 033-1(2)
PLOTTED: WP
SHEET 148 OF 400 SHEETS
AS BUILT 6/8/94
REVISED 3/28/91 5-6-91

VERMONT ROUTE 289

503+00 – 516+00 RT
SPECIAL DITCH W/
EROSION MATTING
& SEEDING

503+00 – 511+50 RT
ENHANCED EMBANKMENT DITCH
W/ EROSION MATTING & SEEDING

503+00 – 512+00 LT
SPECIAL DITCH W/
EROSION MATTING
& SEEDING

STA 502+50
NEW SIGN

STA 502+50
NEW SIGN

STA 503+00 BEGIN E.B. ℄ (ULT.) SURCHARGE

W.B ℄ (ULT.)

E.B ℄ (ULT.)

℄ TRANSITION PAVEMENT

-1.0 -0.038

25.85'

497.76

-0.147 -0.073 -0.023 -0.013

26.75'

℄ in TRANSITION

STA. 502+50

502+00 – 503+00 LT
SPECIAL DITCH W/
EROSION MATTING
& SEEDING

TRANSITION W.B ℄

491.49

E.B ℄ (ULT.)

1-3 1-4 -0.056 -0.014 -0.216 -0.063 +0.021 1-4 1-2

STA. 502+00

492.13

W.B ℄

E.B ℄ (ULT.)

-0.063 -0.005 -0.016 -0.063 1-4 +0.021 1-4

E.O.P.

STA. 501+50

℄ MEDIAN (ULT.)

502+00 – 503+00 RT
ENHANCED EMBANKMENT DITCH
W/ EROSION MATTING & SEEDING

FROM STA. 501+21 TO STA. 526+36

TRANSITION CENTERLINE IS THE INITIAL BASELINE OF CONSTRUCTION.

MEDIAN CENTERLINE (ULT.) IS REFERENCE FOR FOUR LANE (ULTIMATE) CONSTRUCTION.

EMBANKMENT WILL BE PLACED TO SATISFY REQUIREMENTS FOR ULTIMATE FOUR LANE CONSTRUCTION.

THE ENHANCED SCREENING EMBANKMENT (W.B. SIDE) WILL BEGIN AND END A.O.B.E. SO AS TO PROVIDE SUITABLE FOUNDATION FOR VISUAL SCREENING OF ROAD AND VEHICLES FROM ANY POINT ON NATION ROAD. IT WILL VARY A.O.B.E. TO PRESENT TO THE VIEWER A UNIFORM STATE AND PROFILE AND WILL BE PLACED TO AVOID DISTURBANCE OF ESTABLISHED COVER DURING ULTIMATE CONSTRUCTION.

THE OFFSET DIMENSION SHOWN ON CROSS SECTIONS STA 502+50 AND AHEAD WILL ASSIST IN FIXING THE RELATIVE LATERAL POSITION OF THE INITIAL PAVEMENT ON THE ULTIMATE EMBANKMENT.

ULTIMATE W.B. PAVEMENT

ULTIMATE E.B. PAVEMENT
INITIAL 2-LANE PAVEMENT

INITIAL (TRANSITION) W.B. PAVEMENT AND HORIZONTAL CONTROL BASELINE

STA 526+36.41
END OF CROSSOVER TRANSITION

T.S. STA. 501+71.48 BACK
STA. 502+21.47 AHEAD
BEGIN CROSSOVER TRANSITION GRADE

STA 498+50
CHANGE LOCATION OF GRADE FROM ℄ PAVEMENT TO LEFT EDGE OF PAVEMENT

ULTIMATE MEDIAN AND HORIZONTAL CONTROL BASELINE

ULTIMATE E.B. PAVEMENT

4.2%

-4.84% PAVEMENT GRADES

BUILT AS DESIGNED 6/8/94 PTC

REVISED 5/6/01

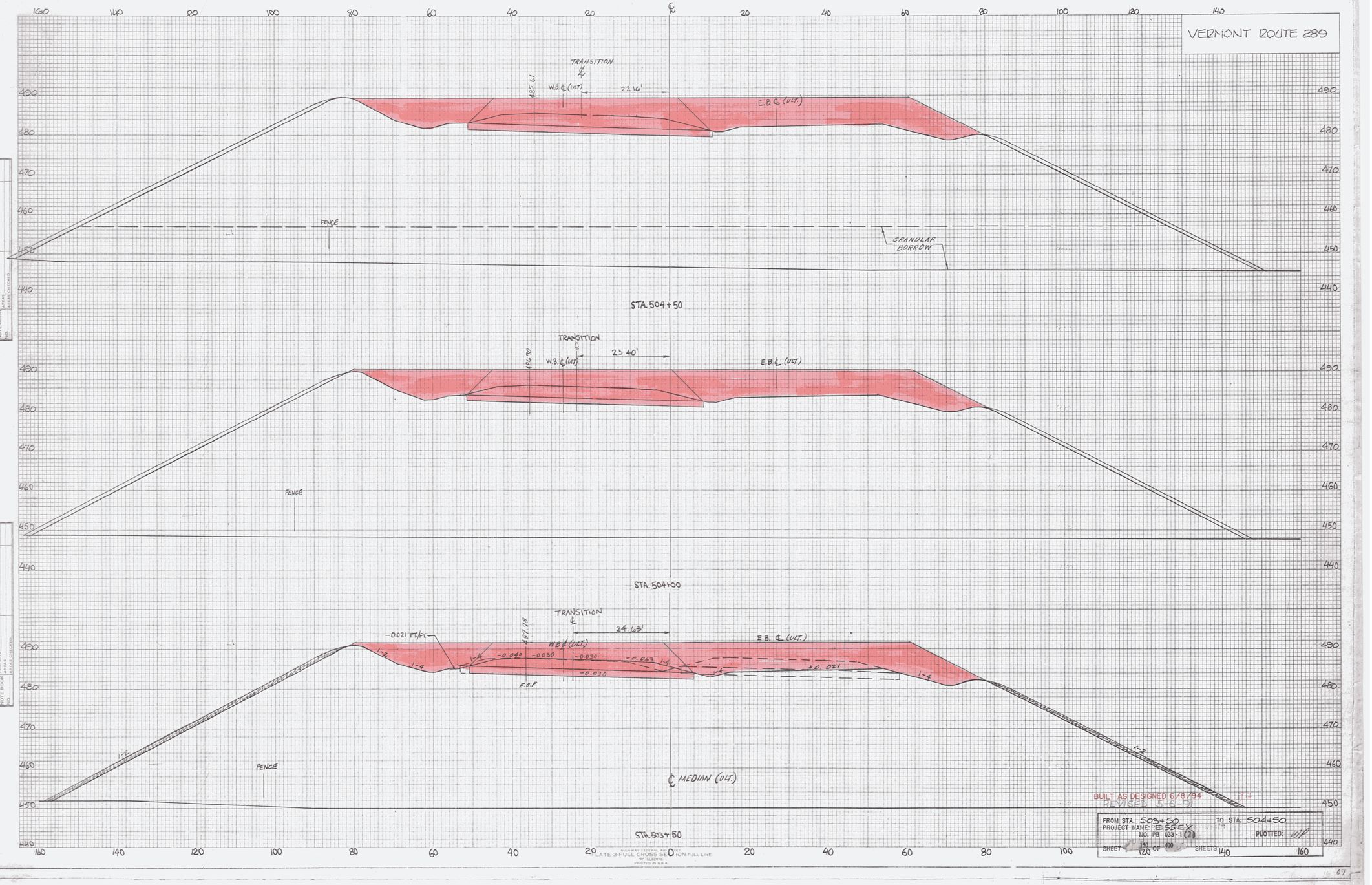
FROM STA. 501+50 TO STA. 503+00
PROJECT NAME: ESSEX
NO. FD 033-1 (2)
PLOTTED: 1/19

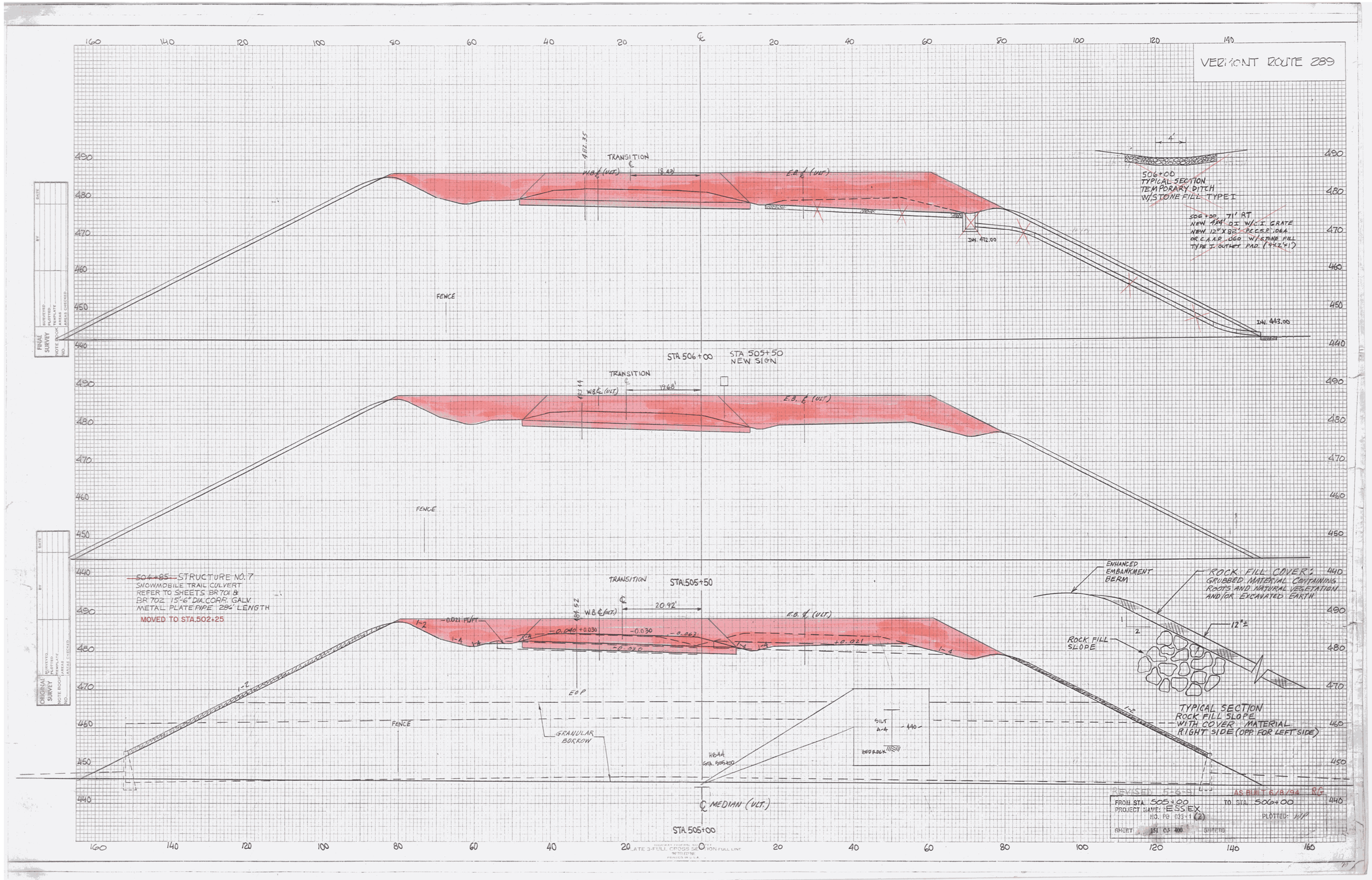
SHEET 149 OF 400 SHEETS

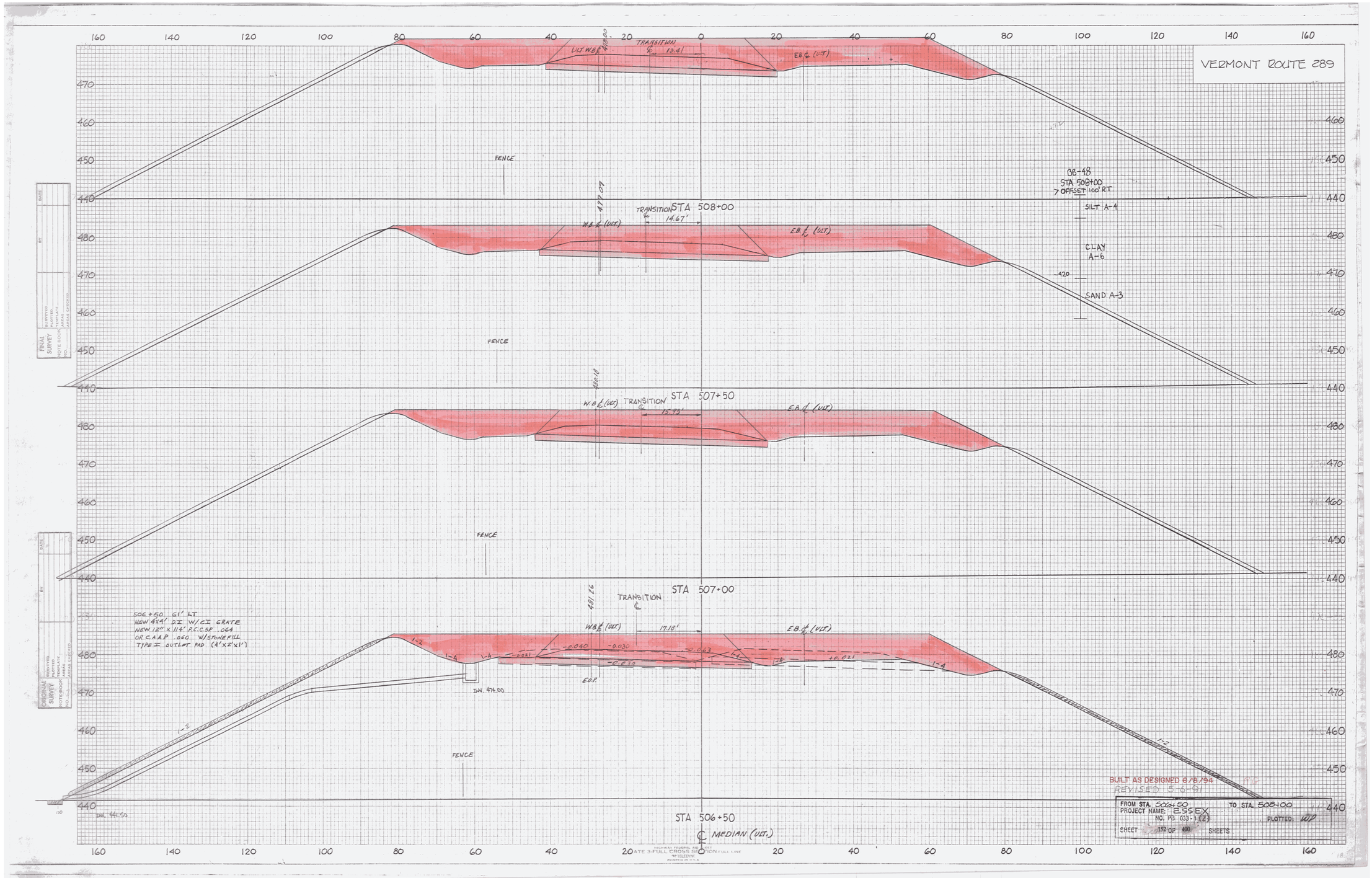
ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS CHECKED
NOTE BOOK
NO.
DATE
BY

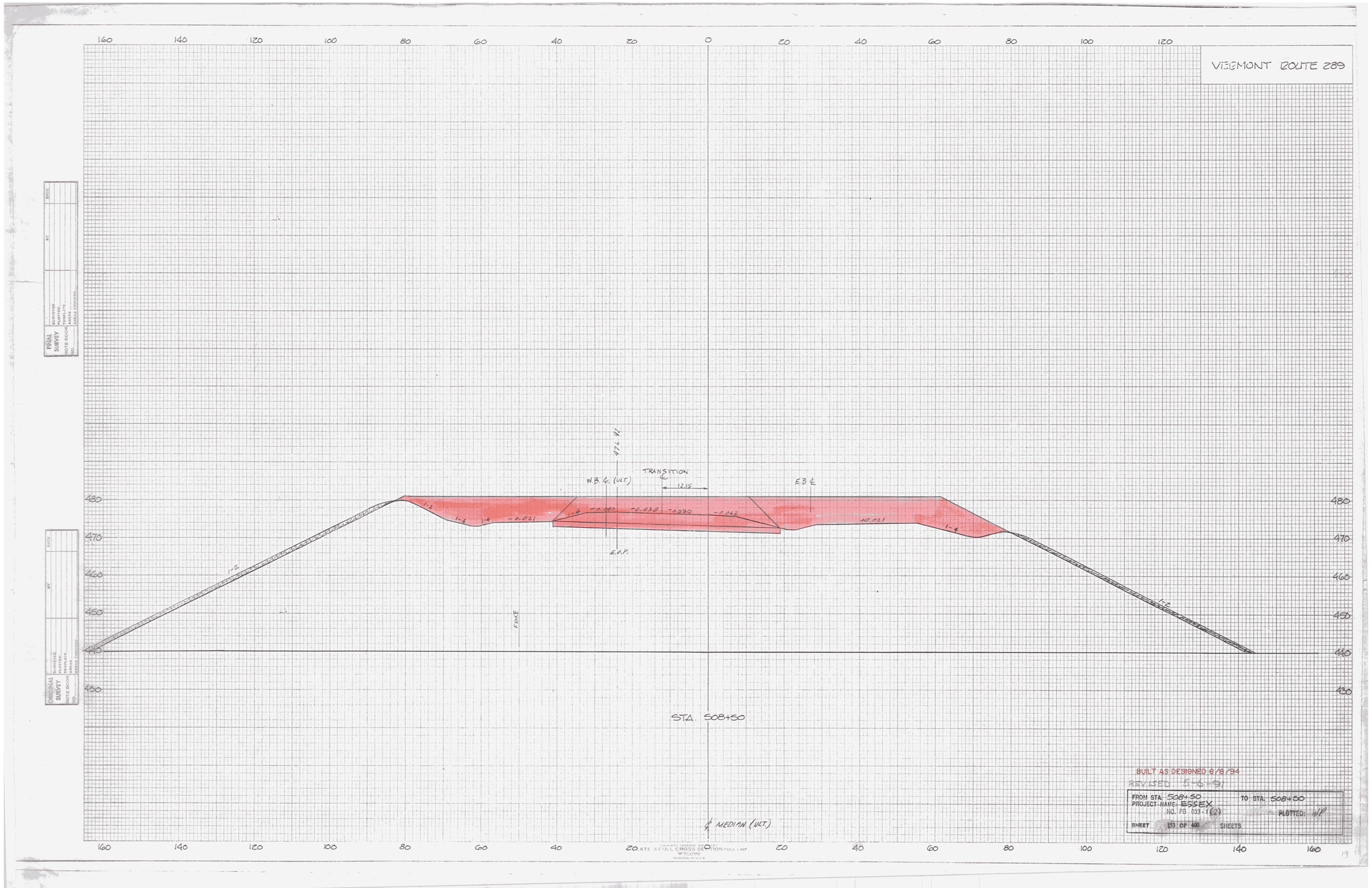
FINAL SURVEY
PLOTTED
TEMPLATE
AREAS CHECKED
NOTE BOOK
NO.
DATE
BY

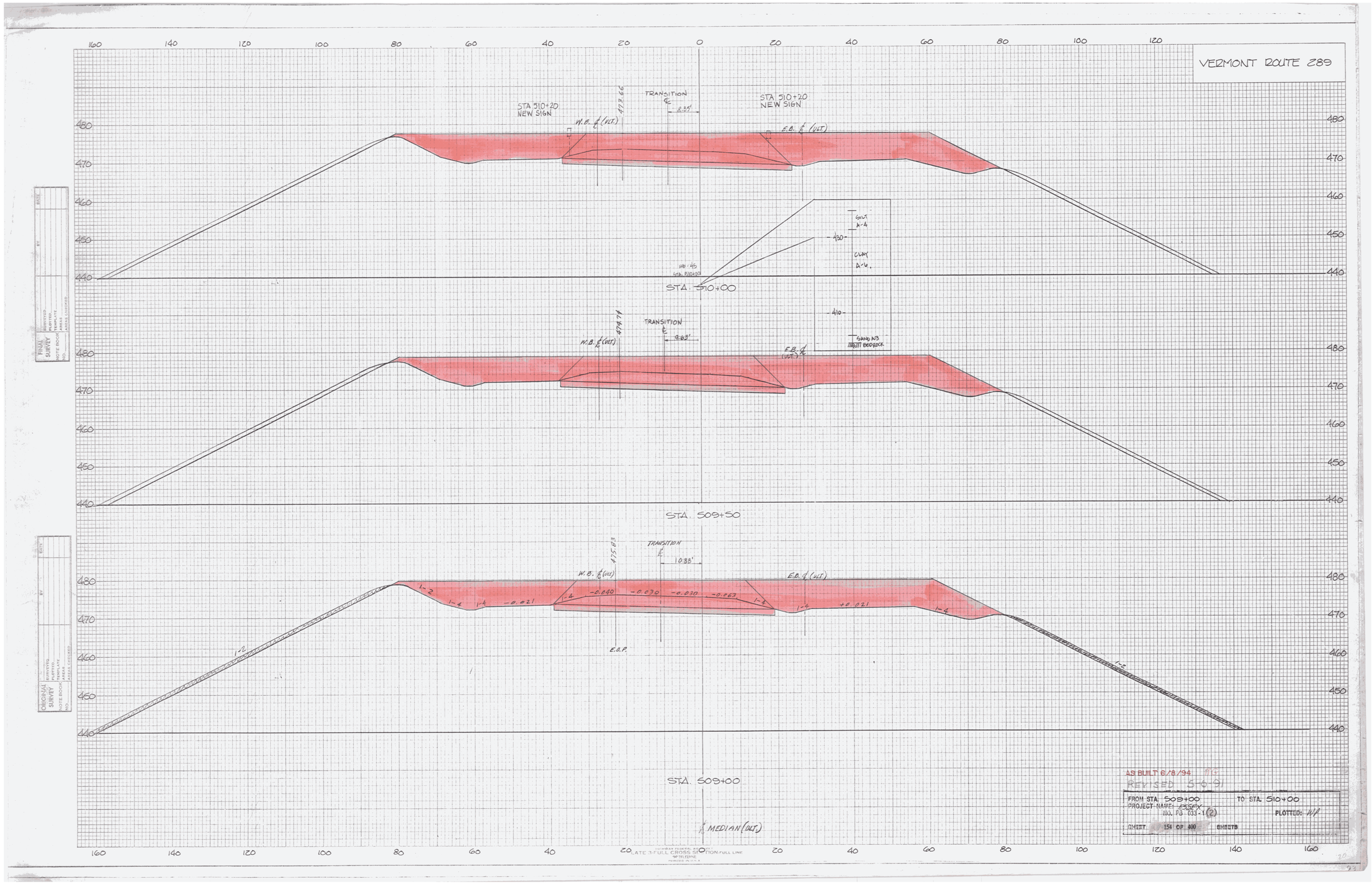
VERMONT TRANSPORTATION AGENCY STATE 3-FULL CROSS SECTION FULL LINE
PRINTED IN U.S.A.

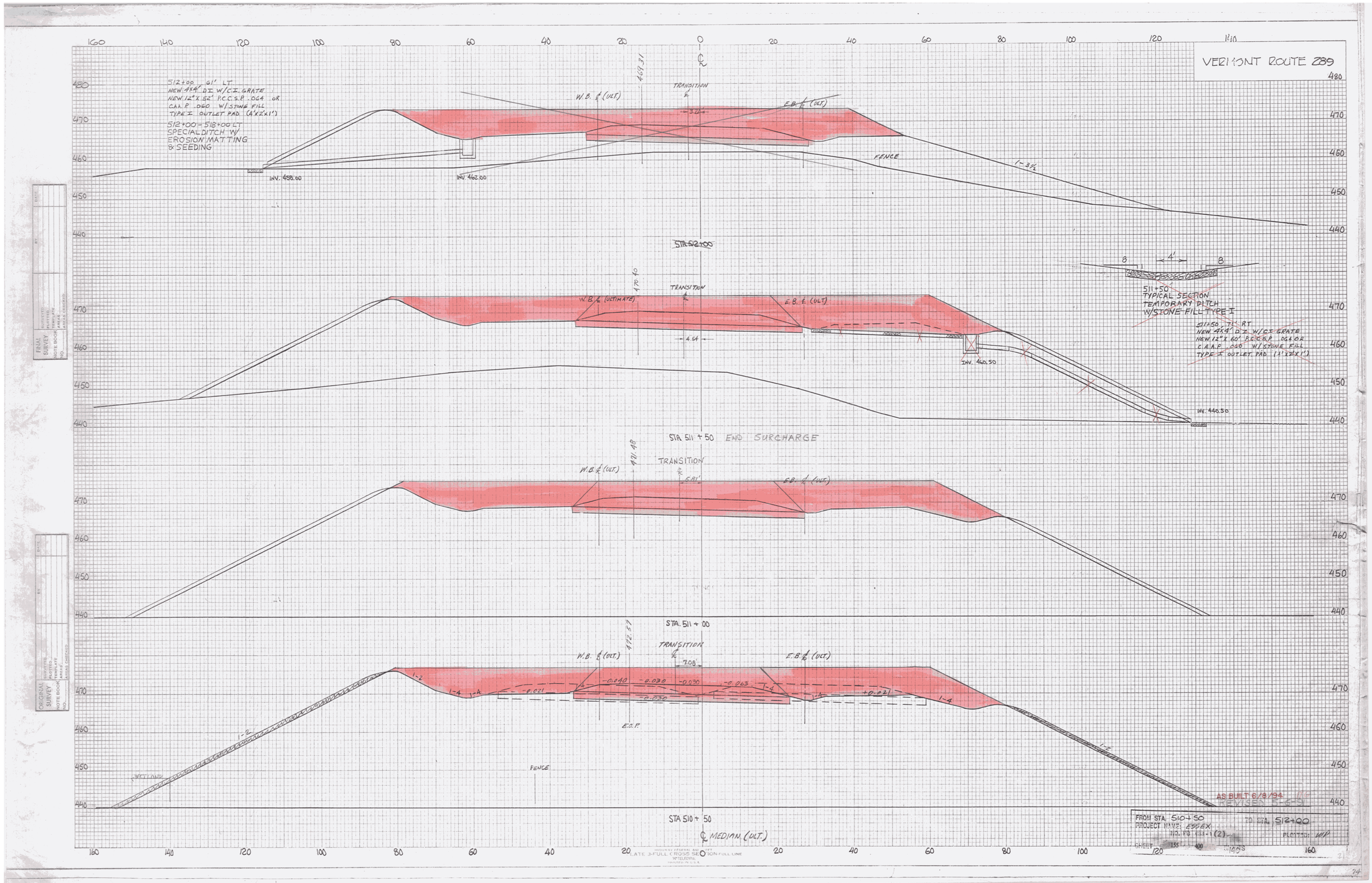

VERMONT ROUTE 289
TRANSITION
W.B. ℄ (ULT.)
22.16'
E.B. ℄ (ULT.)
FENCE
GRANULAR BORROW
STA. 504+50
TRANSITION
W.B. ℄ (ULT.)
23.40'
E.B. ℄ (ULT.)
FENCE
STA. 504+00
TRANSITION
24.63'
-0.021 FT/FT
W.B. ℄ (ULT.)
E.B. ℄ (ULT.)
-0.040
-0.030
-0.030
-0.063
-0.030
+0.021
E.O.P.
FENCE
℄ MEDIAN (ULT.)
STA. 503+50
BUILT AS DESIGNED 6/8/94
REVISED 5-6-91
FROM STA. 503+50
TO STA. 504+50
PROJECT NAME: ESSEX
NO. PB 033-1(2)
PLOTTED:
SHEET 150 OF 400 SHEETS
PLATE 3-FULL CROSS SECTION-FULL LINE
FINAL SURVEY
ORIGINAL SURVEY

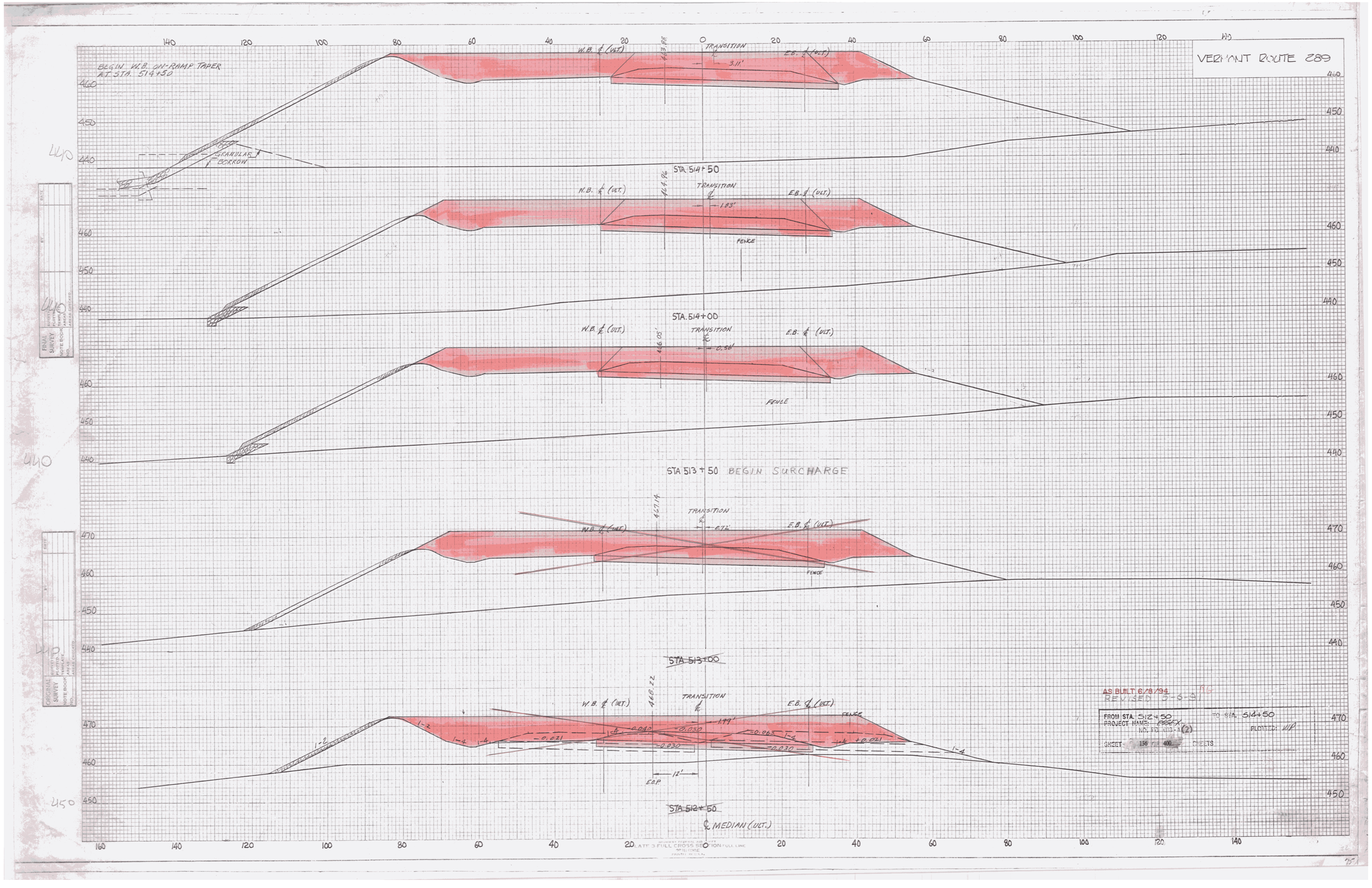

VERMONT ROUTE 289
TRANSITION
W.B. ℄ (ULT.)
E.B. ℄ (ULT.)
18.43'
FENCE
506+00
TYPICAL SECTION
TEMPORARY DITCH
W/STONE FILL TYPE I
506+00 71' RT
NEW 4'x4' DI W/C.I. GRATE
NEW 12" X 82' PC.C.S.P. .064
OR C.A.A.P. .060 W/STONE FILL
TYPE I OUTLET PAD (4'x2'x1')
INV. 472.00
INV. 443.00
STA 506+00
STA 505+50
NEW SIGN
19.68'
STA 505+50
504+85 STRUCTURE NO. 7
SNOWMOBILE TRAIL CULVERT
REFER TO SHEETS BR 701 &
BR 702 15'-6" DIA. CORR. GALV.
METAL PLATE PIPE 286' LENGTH
MOVED TO STA. 502+25
20.92'
-0.021 FL/FT
-0.040
+0.030
-0.030
-0.063
-0.020
+0.021
EOP
GRANULAR
BORROW
HB44
STA. 505+00
SILT
A-4
BED ROCK
ENHANCED
EMBANKMENT
BERM
ROCK FILL COVER:
GRUBBED MATERIAL CONTAINING
ROOTS AND NATURAL VEGETATION
AND/OR EXCAVATED EARTH
ROCK FILL
SLOPE
12"±
TYPICAL SECTION
ROCK FILL SLOPE
WITH COVER MATERIAL
RIGHT SIDE (OPP. FOR LEFT SIDE)
℄ MEDIAN (ULT.)
STA 505+00
FINAL SURVEY
ORIGINAL SURVEY
REVISED 5-6-91
AS BUILT 6/8/94
FROM STA. 505+00
TO STA. 506+00
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED:
SHEET 151 OF 400
SHEETS

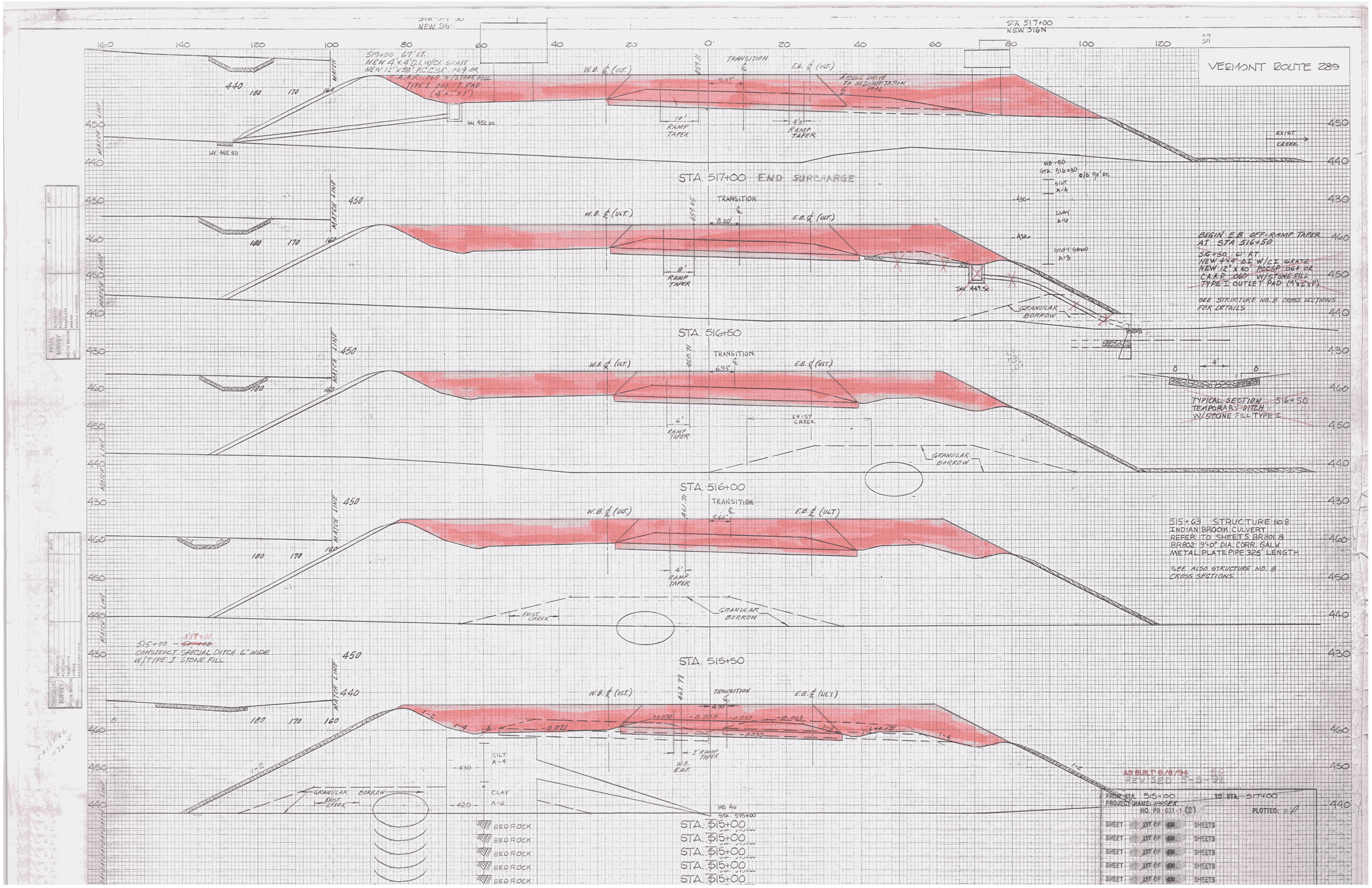

VERMONT ROUTE 289
TRANSITION
13.41
ULT. W.B.
E.B. (ULT.)
FENCE
BB-48
STA 508+00
7 OFFSET 100' RT
SILT A-4
CLAY A-6
SAND A-3
STA 508+00
14.67'
W.B. (ULT.)
E.B. (ULT.)
STA 507+50
15.75'
STA 507+00
17.18'
506+50 61' LT
NEW 4'x4' D.I. W/CI GRATE
NEW 12" x 114' P.C.C.SP .064
OR C.A.A.P. .060 W/STONEFILL
TYPE I OUTLET PAD (4'x2'x1')
INV. 474.00
E.O.P.
STA 506+50
MEDIAN (ULT.)
BUILT AS DESIGNED 6/8/94
REVISED 5-6-91
FROM STA. 506+50
TO STA. 508+00
PROJECT NAME: ESSEX
NO. PB 033-1(2)
PLOTTED: WP
SHEET 152 OF 400 SHEETS
FINAL SURVEY
ORIGINAL SURVEY


VERMONT ROUTE 289
160 140 120 100 80 60 40 20 0 20 40 60 80 100 120
480 470 460 450 440 430
W.B. ℄ (ULT.)
TRANSITION ℄
12.15
E.B. ℄
E.O.P.
FENCE
1-2
1-4
-0.021
-0.040
-0.030
-0.030
-0.063
+0.021
STA. 508+50
℄ MEDIAN (ULT.)
BUILT AS DESIGNED 6/8/94
REVISED 5-6-91
FROM STA. 508+50
TO STA. 508+50
PROJECT NAME ESSEX
NO. PB 033-1(2)
PLOTTED: WP
SHEET 153 OF 400 SHEETS
FINAL SURVEY
ORIGINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE
HIGHWAY FEDERAL AID PROJECT
STATE 3-FULL CROSS SECTION FULL LINE
WILLIAMS
PRINTED IN U.S.A.

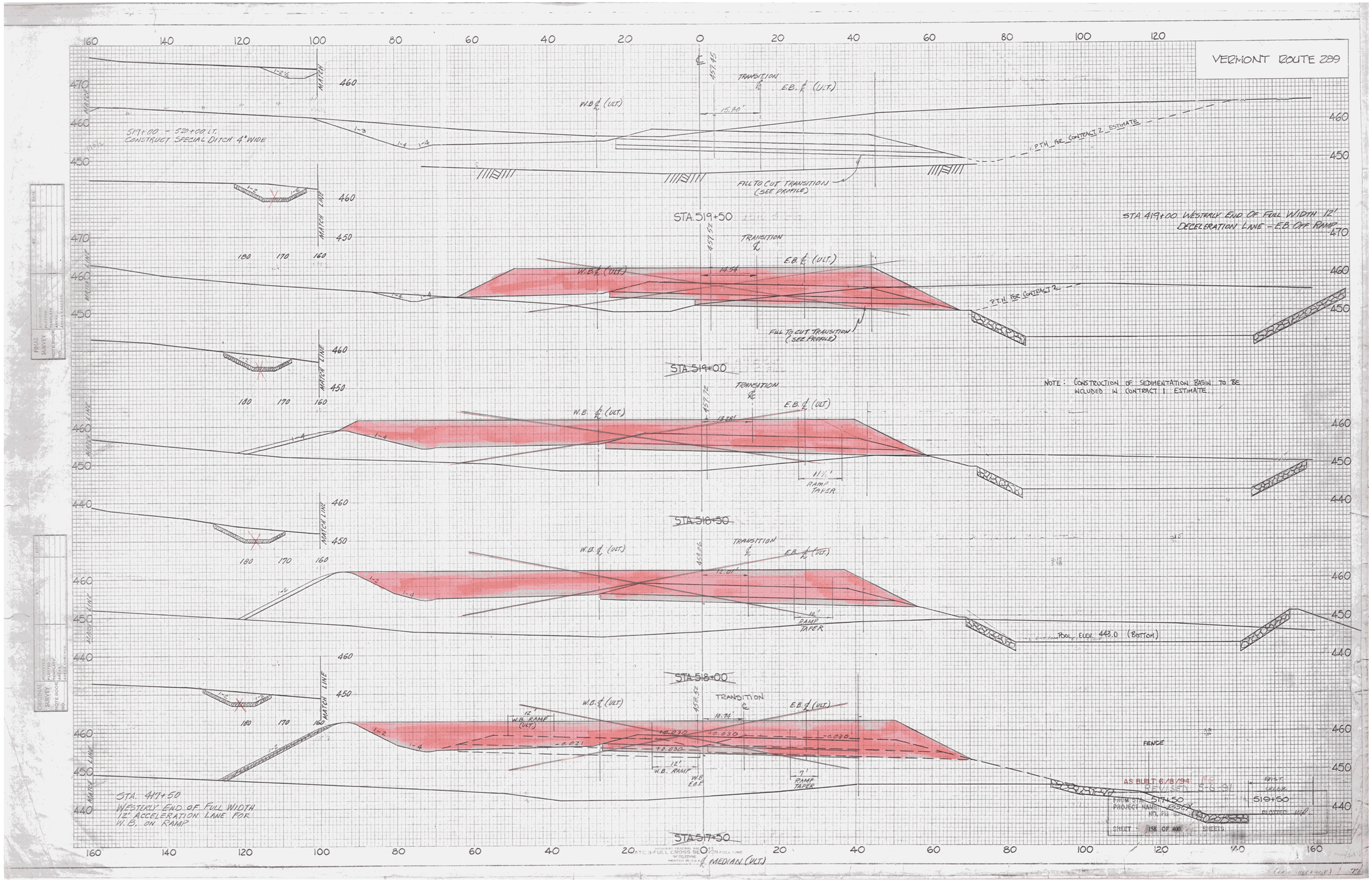

VERMONT ROUTE 289
STA 510+20
NEW SIGN
TRANSITION
8.35'
W.B. ℄ (ULT.)
E.B. ℄ (ULT.)
473.66
SILT
A-4
CLAY
A-6
430
410
STA. 510+00
474.74
9.63'
STA. 509+50
475.83
10.88'
-0.040
-0.030
-0.030
-0.063
-0.021
+0.021
E.O.P.
STA. 509+00
℄ MEDIAN (ULT.)
AS BUILT 6/8/94
REVISED 5-6-91
FROM STA. 509+00
TO STA. 510+00
PROJECT NAME: ESSEX
NO. PS 033-1 (2)
PLOTTED: WA
SHEET 154 OF 400 SHEETS
FINAL SURVEY
ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE
LATE 3-FULL CROSS SECTION-FULL LINE


VERMONT ROUTE 289
512+00 61' LT
NEW 4X4' DI W/C.I. GRATE
NEW 12" X 52' P.C.C.S.P. .064 OR
C.A.A.P. .060 W/STONE FILL
TYPE I OUTLET PAD (4'X2'X1')
512+00 - 518+00 LT
SPECIAL DITCH W/
EROSION MATTING
& SEEDING
W.B. ℄ (ULT.)
TRANSITION ℄
E.B. ℄ (ULT.)
FENCE
INV. 458.00
INV. 462.00
STA 512+00
511+50
TYPICAL SECTION
TEMPORARY DITCH
W/STONE FILL TYPE I
511+50, 71' RT
NEW 4X4' D.I. W/C.I. GRATE
NEW 12" X 60' P.C.C.S.P. .064 OR
C.A.A.P. .060 W/STONE FILL
TYPE I OUTLET PAD (4'X2'X1')
INV. 460.50
INV. 440.50
STA 511+50 END SURCHARGE
STA. 511+00
E.O.P.
WETLAND
STA 510+50
℄ MEDIAN (ULT.)
AS BUILT 6/8/94
REVISED 5-6-91
FROM STA. 510+50
TO STA. 512+00
PROJECT NAME: ESSEX
PLOTTED: WP
SHEET 155 400


VERMONT ROUTE 289
BEGIN W.B. ON-RAMP TAPER AT STA. 514+50
W.B. ℄ (ULT.)
TRANSITION ℄
E.B. ℄ (ULT.)
3.11'
GRANULAR BORROW
STA. 514+50
1.83'
FENCE
STA. 514+00
0.56'
STA 513+50 BEGIN SURCHARGE
0.72'
STA 513+00
1.99'
-0.021
-0.040
-0.030
-0.065
+0.021
12'
E.O.P.
STA 512+50
℄ MEDIAN (ULT.)
AS BUILT 6/8/94
REVISED 5-6-91
FROM STA. 512+50
TO STA. 514+50
PROJECT NAME: EGEX
NO. STD. 1013-1 (2)
PLOTTED: WP
SHEET 156 OF 400 SHEETS
FINAL SURVEY
ORIGINAL SURVEY
LATE 3 FULL CROSS SECTION FULL LINE



VERMONT ROUTE 289
STA 517+00 NEW SIGN
517+00 67' LT.
NEW 4'x4' D.I. W/CI GRATE
NEW 12"x58' P.C.C.S.P. .064 OR
C.A.A.P. .060 W/STONE FILL
TYPE I OUTLET PAD
(4'x2'x1')
W.B. ℄ (ULT.)
TRANSITION ℄
E.B. ℄ (ULT.)
ACCESS DRIVE TO SEDIMENTATION POOL
10' RAMP TAPER
4' RAMP TAPER
EXIST. CREEK
STA. 517+00 END SURCHARGE
HB-50
STA. 516+30 O/S 90' RT.
SILT A-4
CLAY A-6
SILTY SAND A-3
8' RAMP TAPER
GRANULAR BORROW
BEGIN E.B. OFF-RAMP TAPER AT STA 516+50
516+50 61' RT
NEW 4'x4' DI W/CI GRATE
NEW 12" x 40' PCCSP .064 OR
C.A.A.P. .060 W/STONE FILL
TYPE I OUTLET PAD (4'x2'x1')
SEE STRUCTURE NO. 8 CROSS SECTIONS FOR DETAILS
STA. 516+50
TYPICAL SECTION 516+50
TEMPORARY DITCH
W/STONE FILL TYPE I
6' RAMP TAPER
STA. 516+00
515+63 STRUCTURE No. 8
INDIAN BROOK CULVERT
REFER TO SHEETS BR801 & BR802 9'-0" DIA. CORR. GALV. METAL PLATE PIPE 325' LENGTH
SEE ALSO STRUCTURE NO. 8 CROSS SECTIONS
4' RAMP TAPER
515+00 - 517+00
CONSTRUCT SPECIAL DITCH 6' WIDE
W/TYPE I STONE FILL
STA. 515+50
2' RAMP TAPER
W.B. E.O.P.
SILT A-4
CLAY A-6
HB 46
STA. 515+00
BEDROCK
STA. 515+00
AS BUILT 6/8/94
REVISED 5-6-91
FROM STA. 515+00 TO STA. 517+00
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED:
SHEET 1 OF 400 SHEETS


VERMONT ROUTE 289
519+00 - 520+00 LT.
CONSTRUCT SPECIAL DITCH 4" WIDE
STA. 519+50
STA. 519+00
STA. 518+50
STA. 518+00
STA. 517+50
STA. 419+00 WESTERLY END OF FULL WIDTH 12' DECELERATION LANE - E.B. OFF RAMP
NOTE: CONSTRUCTION OF SEDIMENTATION BASIN TO BE INCLUDED IN CONTRACT 1 ESTIMATE.
STA. 417+50
WESTERLY END OF FULL WIDTH 12' ACCELERATION LANE FOR W.B. ON RAMP
W.B. ℄ (ULT.)
E.B. ℄ (ULT.)
TRANSITION ℄
FILL TO CUT TRANSITION (SEE PROFILE)
P.T.H. FOR CONTRACT 2 ESTIMATE
P.T.H. FOR CONTRACT 2
RAMP TAPER
POOL ELEV. 443.0 (BOTTOM)
FENCE
AS BUILT 6/8/94
REVISED 5-6-91
FROM STA. 517+50
519+50
PROJECT NAME
SHEET 158 OF 400 SHEETS
℄ MEDIAN (ULT.)

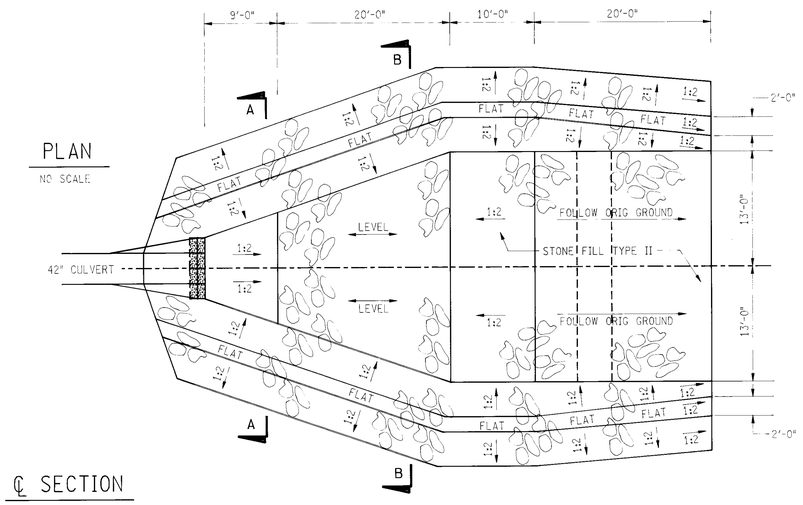
ENERGY DISSIPATION BASIN

ROUTE 289 STATION 487+50
N.T.S.

NOTE: ALL SLOPES ARE V:H

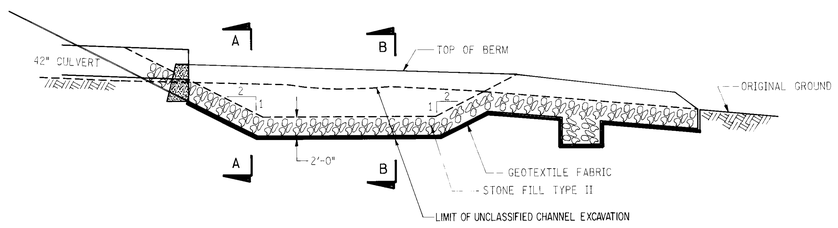
PLAN

NO SCALE



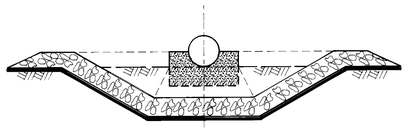
℄ SECTION

NO SCALE



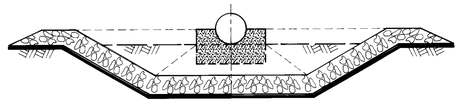
SECTION A-A

NO SCALE



SECTION B-B

NO SCALE



BUILT AS REVISED 4/13/94

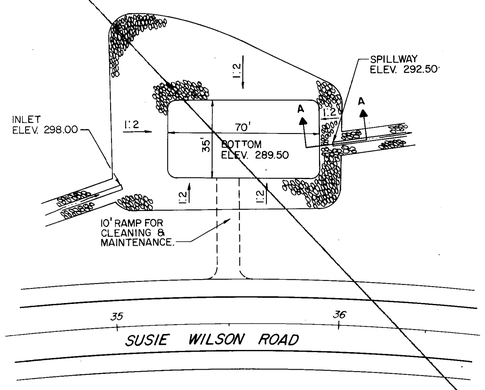
DATUM

VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

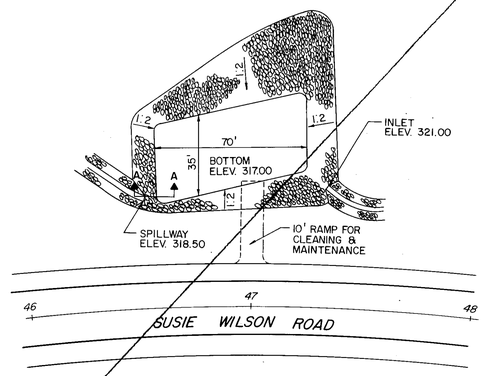
SEDIMENTATION POOLS

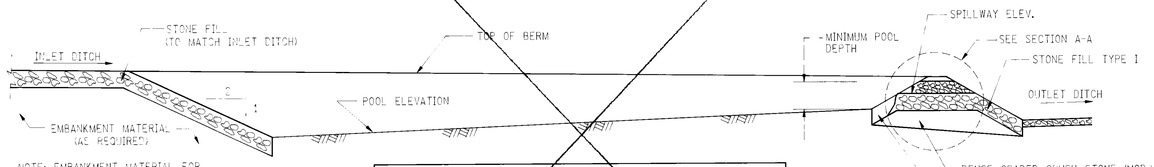
N.T.S.

SUSIE WILSON ROAD STATION 35+50



SUSIE WILSON ROAD STATION 47+00



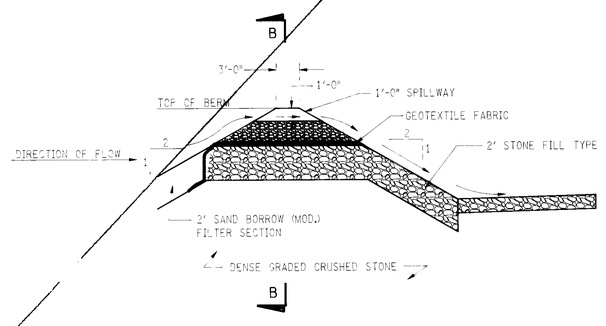


NOTE: EMBANKMENT MATERIAL FOR SEDIMENTATION BASINS SHALL CONSIST OF 40% FINES RETAINED AT A 200 SIEVE.

ALL EXCAVATION REQUIRED FOR THE CONSTRUCTION OF SEDIMENTATION POOLS WILL BE PAID FOR UNDER ITEM 203.27 UNCLASSIFIED CHANNEL EXCAVATION.

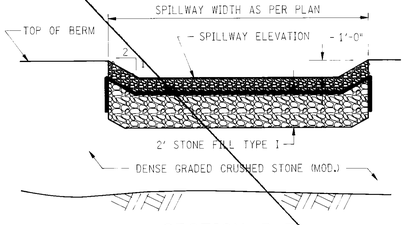
GRADATION TABLE		
	SIEVE DESIGNATION	PERCENT BY WEIGHT
	⅜ INCH	100
SAND BORROW (MODIFIED): FILTER SECTION	NO. 4	95-100
	NO. 16	50-80
	NO. 30	25-60
	NO. 50	10-30
	NO. 100	2-10
FREE DRAINING MATERIAL: DENSE GRADED CRUSHED STONE (MODIFIED)	1 INCH	100
	¾ INCH	90-100
	⅜ INCH	20-55
	NO. 4	0-10
	NO. 8	0-5

NOTE: MAINTENANCE AND CLEANING OF THE SAND FILTER TO BE INCLUDED IN THE COST OF TRUCK RENTAL AND ALL PURPOSE EXCAVATOR RENTAL.



SECTION A-A

NO SCALE



SECTION B-B

NO SCALE

SURVEYED BY _____ DATE _____
DRAWN BY KARIS DATE 8/90
TRACED BY LUKOVITS DATE 8/90

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON NO. PB 033-1(2)
COLCHESTER

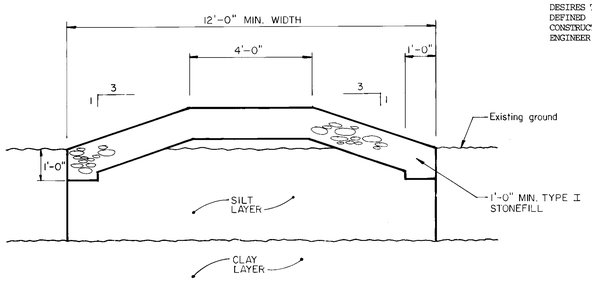
SHEET 161 OF 400

NOTES:

1. EXCAVATE TO THE TOP OF THE CLAY LAYER. REPLACE EXCAVATED SILT WITH BACKFILL OF SELECT MATERIAL (SUCH AS GLACIAL TIL) FROM EXCAVATION AS APPROVED BY THE ENGINEER. (NO PAYMENT WILL BE MADE FOR BACKFILL OF SELECT MATERIAL AS THIS SHALL BE INCLUDED IN THE COST OF COMMON EXCAVATION FOR THE EARTH DAMS.)

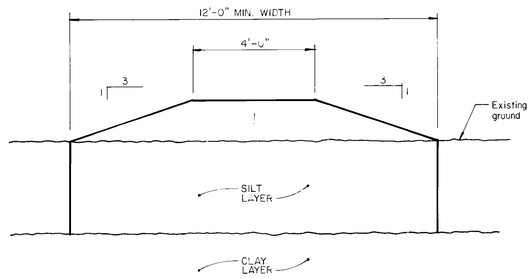
2. EARTH DAM EMBANKMENT TO BE CONSTRUCTED PRIOR TO GRUBBING FROM STA. 453+40 TO 456+50 LT AND STA. 453+60 TO 459+50 RT.

3. IF FOR CONSTRUCTION PURPOSES THE CONTRACTOR DESIRES TO DEWATER ANY SECTION OF THIS AREA DEFINED IN NOTE 2, HE MUST SUBMIT A CONSTRUCTION/DEWATERING PLAN TO THE ENGINEER FOR APPROVAL.



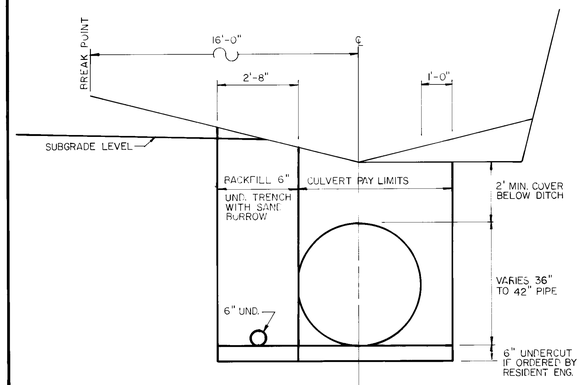
TYPICAL SECTION
EARTH DAM EMBANKMENT
WITH STONE FILL TYPE I
(STA. 453+60 TO STA. 456+25, RT.
STA. 455+50 TO STA. 456+50, LT.)

SCALE: 1/2"=1'-0"



TYPICAL SECTION
EARTH DAM EMBANKMENT
(STA. 453+40 TO STA. 455+00, LT.
STA. 458+00 TO STA. 459+50, RT.)

SCALE: 1/2"=1'-0"



DETAIL FOR LATERAL CARRYING PIPE SYSTEM
AND 6" UNDERDRAIN IN LEDGE CUTS

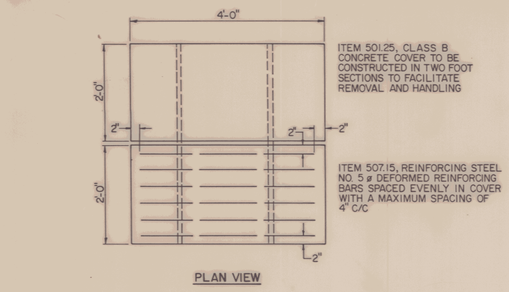
SCALE: 1/2"=1'-0"

BUILT AS DESIGNED 4/13/94

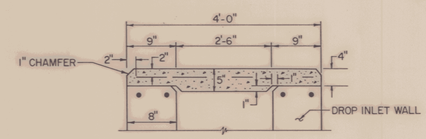
DATUM
VERTICAL _____
HORIZONTAL _____

SURVEYED BY _____ DATE _____
DRAWN BY ATC DATE 1/91
TRACED BY _____ DATE _____

VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON– NO. PB 033–1 (2)
COLCHESTER
SHEET 162 OF 400



PLAN VIEW



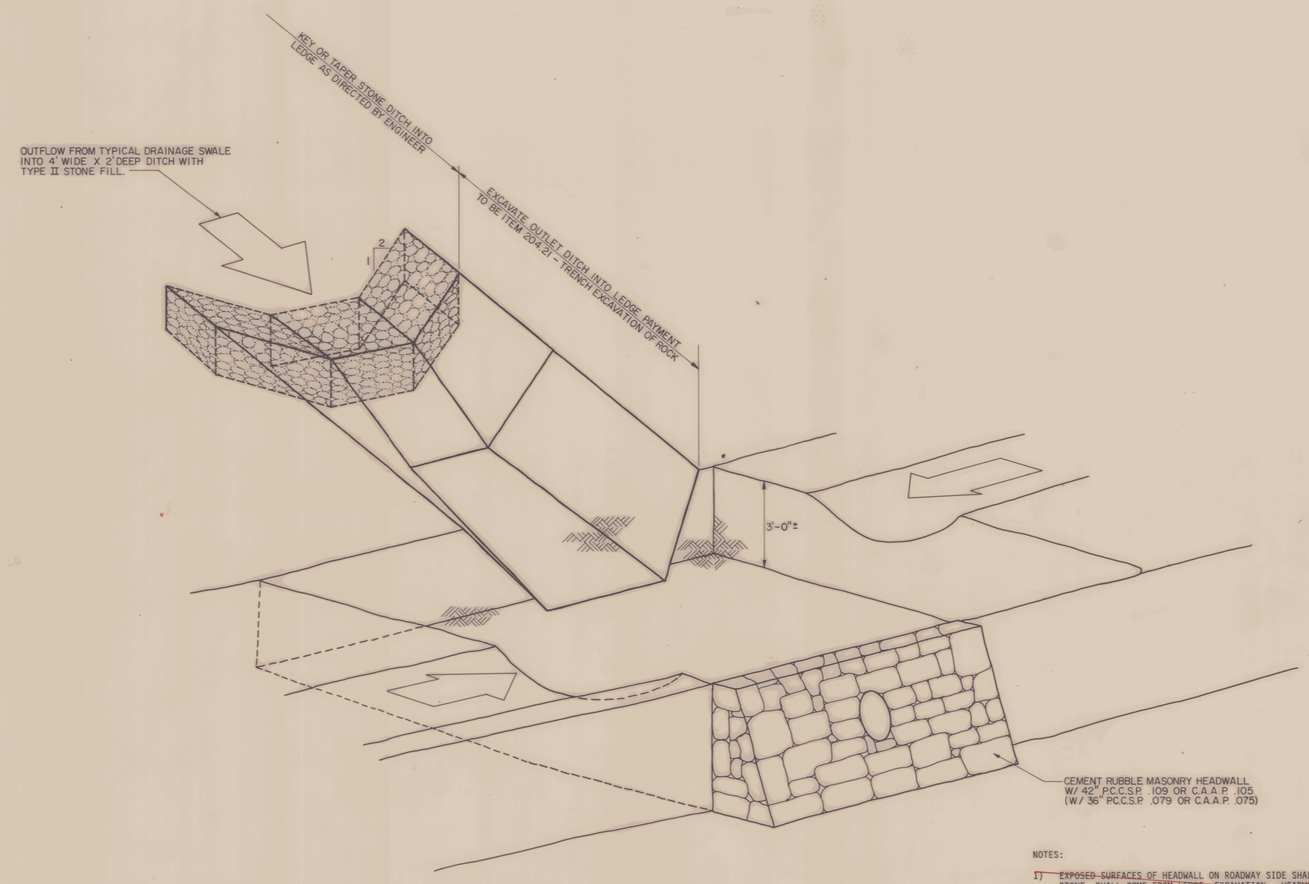
SIDE VIEW

PRECAST COVER FOR DROP INLET

N.T.S.

TO BE USED IN LIEU OF CAST IRON FRAME AND GRATE AS NOTED ON DRAINAGE PLANS AND ITEM DETAIL AND DRAINAGE SHEETS. COST OF PRECAST COVER TO BE INCLUDED UNDER ITEM 501.25, CONCRETE CLASS B AND ITEM 507.15, REINFORCING STEEL.

PAYMENT PER 4'x4' COVER	ITEM 501.25	0.25 C.Y.
	ITEM 507.15	50 LBS.
PAYMENT PER 4'x6' COVER	ITEM 501.25	0.35 C.Y.
	ITEM 507.15	75 LBS.



DRAINAGE TROUGH WITH HEADWALL DETAIL

VERMONT ROUTE 289 STA. 463+00 LT.
VERMONT ROUTE 289 STA. 471+50 LT.

NOTES:

1) ~~EXPOSED SURFACES OF HEADWALL ON ROADWAY SIDE SHALL BE FACED WITH STONE. STONE SHALL COME FROM LEDGE EXCAVATION. HEADWALL SHALL BE PAID FOR AS CEMENT RUBBLE MASONRY (CRM). CRM STONE FACING TO BE REASONABLY FLUSH WITH LEDGE FACE.~~ WAS DELETED

2) DOWEL HEADWALL TO LEDGE. COST TO DOWEL HEADWALL TO LEDGE SHALL BE INCLUDED IN PRICE BID FOR HEADWALL.

3) PAYMENT FOR LEDGE EXCAVATION FOR CONSTRUCTION OF TRENCH SHALL BE AS ITEM 204.21, TRENCH EXCAVATION OF ROCK.

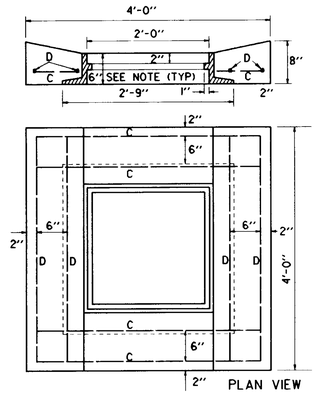
4) TROUGH DIMENSIONS TO BE ESTABLISHED IN FIELD BY THE ENGINEER.

AS BUILT 6/9/94 RG

DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927

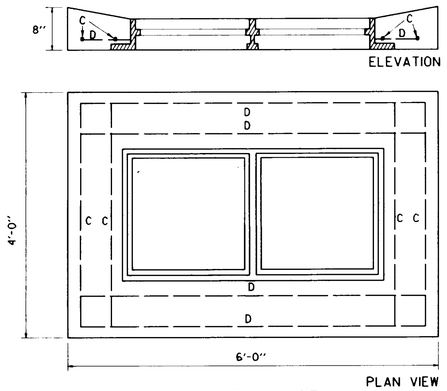
SURVEYED BY _____ DATE _____
DRAWN BY T. KARIS DATE 8/90
TRACED BY T. BURTNICK DATE 8/90
VERMONT ROUTE 289 (F.A.P.)
TOWN OF ESSEX
PROJ. WILLISTON - COLCHESTER NO. PB 033-1 (2)
SHEET 163 OF 400

- TYPE 1 -



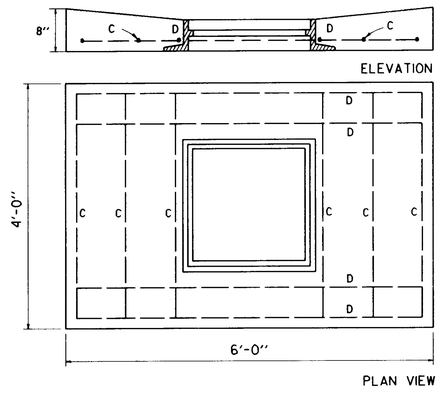
4'x 4' DROP INLET TOP

- TYPE 2 -



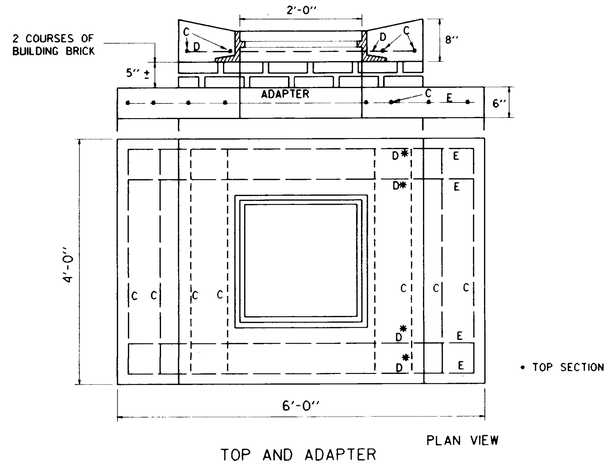
4'x6' DROP INLET
TOP WITH TWO CAST IRON GRATES

- TYPE 3 -



4'x6' DROP INLET
TOP WITH ONE CAST IRON GRATE

- TYPE 4 -



TOP AND ADAPTER

4'x6' DROP INLET
WITH 4'x4' TOP
TOP WITH ONE CAST IRON GRATE

* TOP SECTION

NOTES

ALL REINFORCING STEEL TO BE NO. 5 DEFORMED BARS, EVENLY SPACED WITH A MAXIMUM SPACING OF 12" C/C.

ALL REINFORCING STEEL TO HAVE 2 INCH MIN. COVER.

DROP INLET TO BE CONSTRUCTURED IN ACCORDANCE WITH STRUCTURAL CONCRETE, SECTION 501.

GRATES TO CONFORM TO DROP INLETS, CATCH BASINS, AND MANHOLES, SECTION 604.

FURNISHING AND LAYING OF BRICKS FOR ADJUSTING ELEVATION OF GRATE SHALL BE INCLUDED IN UNIT BID PRICE FOR CONCRETE, CLASS B, PAY ITEM 501.25, AND THEIR VOLUME TO BE INCLUDED IN THE FINAL QUANTITIES.

MORTAR, TYPE II, TO BE USED AS JOINT FILLER AND LAYING OF BRICK.

SEE DROP INLET WITH 8" WALLS FOR DETAILS OF BOTTOM SECTION

FRAME DEPTH MAY VARY WITH MANUFACTURER. A MINIMUM DEPTH OF 6" SHALL BE MAINTAINED. NO INCREASE SHALL BE MADE IN CONCRETE QUANTITIES DUE TO VARIATIONS IN FRAME DIMENSIONS.

SEE DRAINAGE STANDARDS FOR ADDITIONAL DETAILS OF GRATES AND FRAMES.

REINFORCING SCHEDULE							QUANTITIES CONCRETE	STEEL
TYPE	*C	LENGTH	*D	LENGTH	*E	LENGTH	CY	LBS
1	4	3'-8	4	3'-8			0.25	31
2	4	3'-8	4	5'-8			0.32	39
3	6	3'-8	4	5'-8			0.42	47
4	12	3'-8	4	3'-8	4	5'-8	0.81 *	85

* 2 COURSES OF BRICK

BUILT AS DESIGNED 4/13/94

DROP INLET GRATES FOR USE IN DITCHES

VERMONT ROUTE 289 (F.A.P.)

PROJ. NO.
WILLISTON - COLCHESTER PB 033 - 1 (2)

SHEET 164 OF 400

DATE 6/88

REINFORCING SCHEDULE
12"-30" DIAMETER
4 X 4 DROP INLET W / 8" WALLS

DEPTH	* G	LENGTH	* H	LENGTH	* J	LENGTH	
3'-0	15	2'-8	11	3'-8	10	3'-8	
3'-6	15	3'-2	11	3'-8	10	3'-8	MINIMUM DEPTH FOR 18" DIA
4'-0	15	3'-8	13	3'-8	12	3'-8	MINIMUM DEPTH FOR 24" DIA
4'-6	15	4'-2	13	3'-8	12	3'-8	MINIMUM DEPTH FOR 30" DIA
5'-0	15	4'-8	15	3'-8	14	3'-8	
5'-6	15	5'-2	15	3'-8	14	3'-8	
6'-0	15	5'-8	17	3'-8	16	3'-8	
6'-6	15	6'-2	17	3'-8	16	3'-8	
7'-0	15	6'-8	19	3'-8	18	3'-8	
7'-6	15	7'-2	19	3'-8	18	3'-8	
8'-0	15	7'-8	21	3'-8	20	3'-8	
8'-6	15	8'-2	21	3'-8	20	3'-8	
9'-0	15	8'-8	23	3'-8	22	3'-8	
9'-6	15	9'-2	23	3'-8	22	3'-8	

REINFORCING SCHEDULE
36"-54" DIAMETER
4 X 6 DROP INLET W / 8" WALLS

DEPTH	* G	LENGTH	* H	LENGTH	* J	LENGTH	
5'-0	17	4'-8	15	3'-8	14	5'-8	MINIMUM DEPTH FOR 36" DIA
5'-6	17	5'-2	15	3'-8	14	5'-8	
6'-0	17	5'-8	17	3'-8	16	5'-8	MINIMUM DEPTH FOR 48" DIA
6'-6	17	6'-2	17	3'-8	16	5'-8	MINIMUM DEPTH FOR 54" DIA
7'-0	17	6'-8	19	3'-8	18	5'-8	
7'-6	17	7'-2	19	3'-8	18	5'-8	
8'-0	17	7'-8	21	3'-8	20	5'-8	
8'-6	17	8'-2	21	3'-8	20	5'-8	
9'-0	17	8'-8	23	3'-8	22	5'-8	
9'-6	17	9'-2	23	3'-8	22	5'-8	

BRICKS ARE INCLUDED IN CONCRETE QUANTITIES IN CHART.

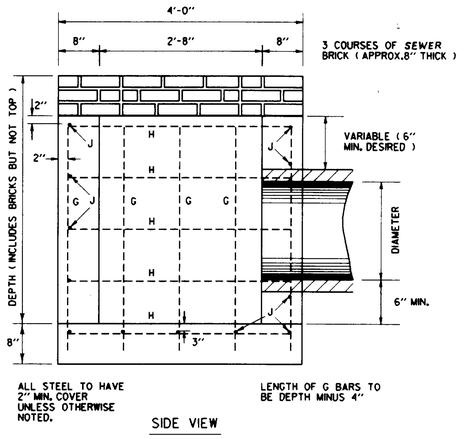
TO FIND VOLUME OF CONCRETE FOR THE ENTIRE STRUCTURE, ADD THE VOLUME FOR THE TOP USED, TO THE VOLUME IN THIS TABLE. FOR VOLUME IN TOP, SEE SHEETS D-9, D-10.

ALL REINFORCING STEEL TO BE NO. 5 Ø DEFORMED BARS GRADE 40, EVENLY SPACED, WITH A MAXIMUM SPACING OF 12" CENTER TO CENTER.

DROP INLET TO BE CONSTRUCTED IN ACCORDANCE WITH STRUCTURAL CONCRETE, SECTION 501.

FURNISHING AND LAYING OF BRICKS FOR ADJUSTING ELEVATION OF GRATE, SHALL BE INCLUDED AS CONCRETE, CLASS B, PAY ITEM 501.25, AND THEIR VOLUME TO BE INCLUDED IN THE FINAL QUANTITIES.

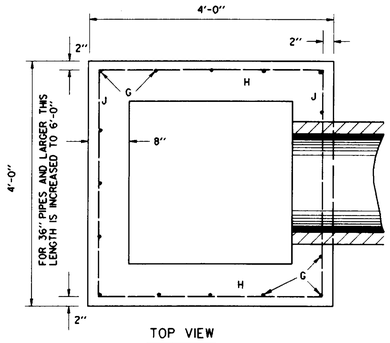
MORTAR, TYPE II, TO BE USED FOR JOINT FILLER AND LAYING OF BRICK.



SIDE VIEW

REINFORCED CONCRETE DROP INLET WITH GRATE (BOTTOM SECTION)

SEE STANDARD SHEETS D-9, D-10, D-11, AND D-16 FOR TOP SECTION.



TOP VIEW

CONCRETE AND REINFORCING STEEL QUANTITIES FOR DROP INLETS W /8" WALLS
(BOTTOM SECTION ONLY)

BRICKS ARE INCLUDED IN CONCRETE QUANTITY IN CHART

	4 X 4				4 X 6							
	12" - 24"		30"		36"		42"		48"		54"	
	CONC	STEEL	CONC	STEEL	CONC	STEEL	CONC	STEEL	CONC	STEEL	CONC	STEEL
DEPTH	CY	LB	CY	LB	CY	LB	CY	LB	CY	LB	CY	LB
3'-0	1.38	122										
3'-6	1.55	130										
4'-0	1.71	153										
4'-6	1.88	161	1.76	161								
5'-0	2.04	184	1.92	184	2.55	223						
5'-6	2.21	192	2.09	192	2.77	232	2.71	232				
6'-0	2.37	215	2.25	215	2.98	260	2.92	260	2.85	260		
6'-6	2.53	223	2.41	223	3.19	269	3.13	269	3.06	269	2.98	269
7'-0	2.70	246	2.58	246	3.41	297	3.35	297	3.28	297	3.20	297
7'-6	2.86	254	2.74	254	3.62	306	3.56	306	3.49	306	3.41	306
8'-0	3.03	277	2.91	277	3.84	335	3.78	335	3.71	335	3.63	335
8'-6	3.19	285	3.07	285	4.05	344	3.99	344	3.92	344	3.84	344
9'-0	3.36	308	3.24	308	4.26	372	4.20	372	4.13	372	4.05	372
9'-6	3.52	316	3.40	316	4.48	381	4.42	381	4.35	381	4.27	381

FOR PIPES OF 30" OR MORE IN DIAMETER, AN ALLOWANCE SHALL BE MADE FOR THE OPENING IN COMPUTING CONCRETE VOLUMES.

THIS DEDUCTION WILL BE BASED ON THE RATED DIAMETER OF THE PIPE USED , WITH THE SAME DEDUCTION FOR ALL TYPES OF PIPE.

THE ABOVE CONCRETE QUANTITIES INCLUDE THE DEDUCTION FOR ONE PIPE

ALLOWANCES

30" DIA = .12 CY 36" DIA = .18 CY 42" DIA = .24 CY 48" DIA = .31 CY 54" DIA = .39 CY

BUILT AS DESIGNED 4/19/94

8" WALL REINFORCED CONCRETE DROP INLET

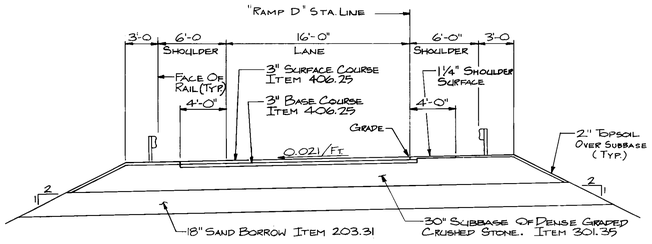
VERMONT ROUTE 289 (F.A.P.)

PROJ. NO.

WILLISTON - COLCHESTER PB 033 - 1(2)

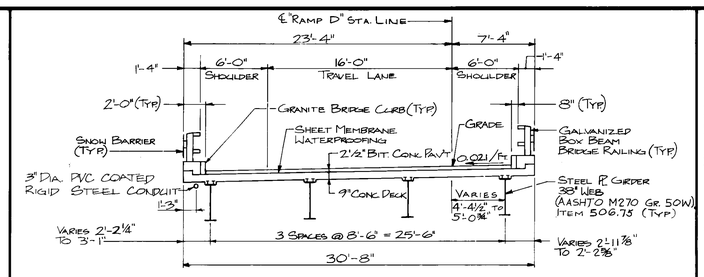
SHEET 165 OF 400

DATE 6/88



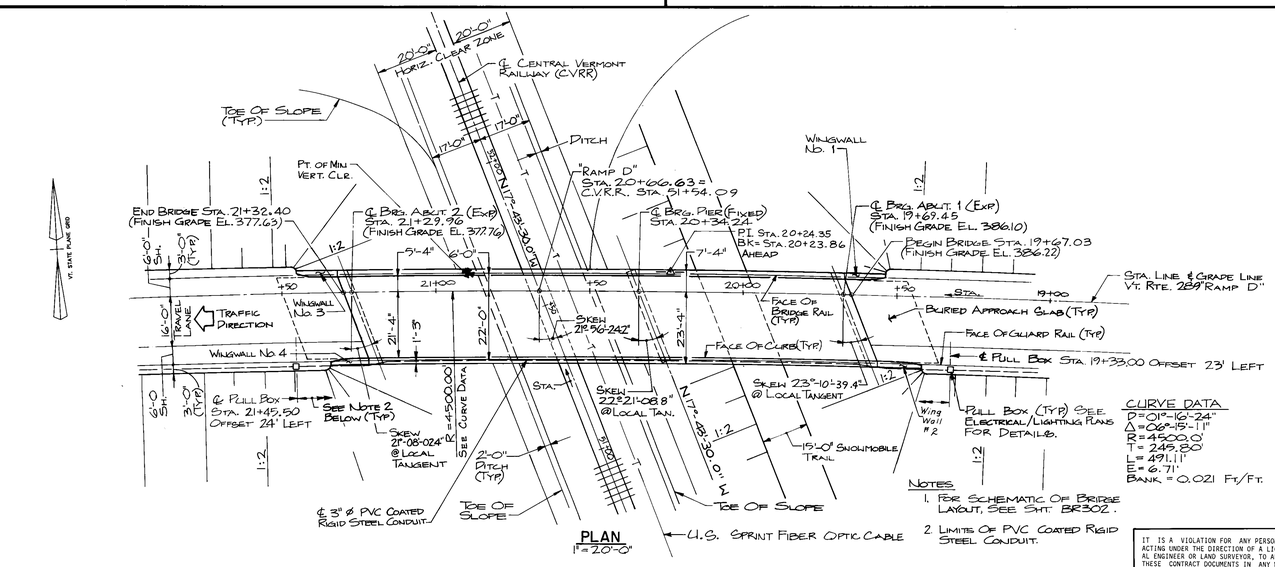
NEW HIGHWAY SECTION — BRIDGE APPROACHES

3/16" = 1'-0"



BRIDGE TYPICAL SECTION

3/16" = 1'-0"



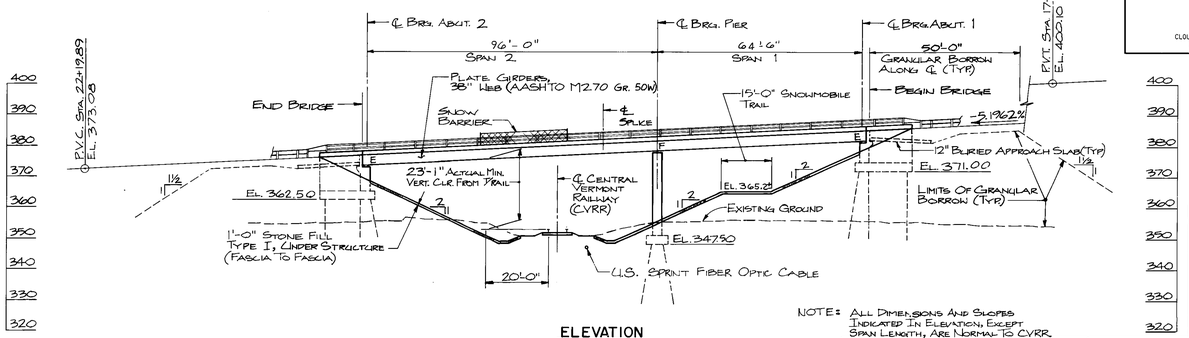
PLAN

1" = 20'-0"

CURVE DATA
D=01°-16'-24"
Δ=06°-19'-11"
R=4500.0'
T=249.80'
L=491.11'
E=6.71'
BANK = 0.021 Ft/Ft.

NOTES

1. FOR SCHEMATIC OF BRIDGE LAYOUT, SEE SHT. BR302.
2. LIMITS OF PVC COATED RIGID STEEL CONDUIT.



ELEVATION

1" = 20'-0"

NOTE: ALL DIMENSIONS AND SLOPES INDICATED IN ELEVATION, EXCEPT SPAN LENGTHS, ARE NORMAL TO C.V.R.R.

IT IS A VIOLATION FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER ANY ITEM IN THESE CONTRACT DOCUMENTS IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

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STATE OF VERMONT JOHN M. KRUEGER NO. 5599 REGISTERED PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL John M Krueger 10/12/90 DATE

EXISTING STRUCTURE

1. STRUCTURE TYPE N/A OVERALL LENGTH _____ INVENTORY RATING _____
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS _____
3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM _____
4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) _____ VERTICAL CLEARANCE ABOVE STREAMBED _____
5. WATER SURFACE ELEVATION @ Q 2.33 _____ WATER SURFACE ELEVATION @ Q _____
6. WATER SURFACE ELEVATION AT FLOOD OF RECORD _____ YEAR _____ ESTIMATED DISCHARGE _____
7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? _____ IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR? _____
   ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF _____
8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL _____
9. DISPOSITION OF STRUCTURE _____

NEW STRUCTURE

STRUCTURE GEOMETRY:

1. STRUCTURE TYPE Two Span Steel Multi-Girder OVERALL LENGTH 162.37
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 64'-6" (Span 1) 96'-0" (Span 2)
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER 23'-1" to CVRR
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM —
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) —
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? N.A.

HYDRAULIC DATA:

1. Q 2.33 N/A WATER ELEVATION _____ VELOCITY _____
   Q 10 _____ WATER ELEVATION _____ VELOCITY _____
   Q 25 _____ WATER ELEVATION _____ VELOCITY _____
   Q 50 _____ WATER ELEVATION _____ VELOCITY _____
   Q 100 _____ WATER ELEVATION _____ VELOCITY _____
2. DRAINAGE AREA _____ CHARACTER OF TERRAIN _____
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? _____
4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? _____ IS ORDINARY RISE RAPID? _____
5. NATURE OF NATURAL STREAMBED _____
6. ESTIMATED SCOUR DEPTH _____ COMMENT ON: DRIFT _____ ICE _____
7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? _____ IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? _____
   ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF _____
8. VERTICAL CLEARANCE ABOVE Q _____
9. ALLOWABLE WATER SURFACE ELEVATION _____ LIMITED BY _____
10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? _____ IF YES, DESCRIBE _____
11. AVERAGE DAILY LOW FLOW _____ DEPTH _____ AVERAGE DAILY HIGH FLOW _____ DEPTH _____
12. STREAMBANK OR CHANNEL PROTECTION REQUIRED _____
13. DISTANCE TO EXISTING UPSTREAM STRUCTURE _____ SPAN _____ WATERWAY AREA OF FULL OPENING _____ Q _____
14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE _____ SPAN _____ WATERWAY AREA OF FULL OPENING _____ Q _____

ALLOWABLE STRESSES:

1. DESIGN LIVE LOAD AASHTO HS-25 - 44
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL _____ ON LEDGE _____
3. ALLOWABLE LOAD FOR PILING 70 Tons TYPE HP 12 x 74 ESTIMATED LENGTH Beg = 60' Pier = 35' End = 95'
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO M270 GR 50W TENSION 24,000 PSI COMPRESSION 20,000 PSI
5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION 27,000 PSI
6. ALLOWABLE STRESS FOR CONCRETE CLASS A f'c 3600 PSI * f'c 1400 PSI
   CLASS B f'c 2500 PSI f'c 1400 PSI

* See General Note 15 Dwg. BR302

TRAFFIC MAINTENANCE:

1. IS TRAFFIC TO BE MAINTAINED? N/A IF YES, ON EXISTING STRUCTURE _____ OR ON TEMPORARY BRIDGE _____
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY _____ TRAFFIC CONTROL SIGNALS REQUIRED _____
   MINIMUM CLEAR SPAN _____ MINIMUM CLEAR HEIGHT _____ MINIMUM WATERWAY AREA _____
   ARE SIDEWALKS REQUIRED? _____ IF SO, ON WHAT SIDE? _____

ADDITIONAL DESIGN CONSIDERATIONS

VAOT STANDARD SHEETS:

SB-R4A-82	9-18-89R
SB-R4B-82	3-30-88R
E-181	9-10-87

* - LANE LOADING CONTROLS

LOAD RATING (TONS)

STRESS LEVELS	TRUCK H	HS	3S2	6 AXLE	3A. STR	4A. STR	5A. SEMI
INVENTORY 0.55 Fy = 27 KSI	26 *	46 *					
POSTED 0.67 Fy = 33.5 KSI	43 *	76 *	88		71	72	82
OPERATING 0.75 Fy = 37.5 KSI		91	106	122	84	86	

BUILT AS DESIGNED 5/11/94 JB

INDEX OF DRAWINGS

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BR 302	GENERAL NOTES AND COMMON DETAILS
BR 303	BRIDGE QUANTITY SHEET
BR 304	BORING INFORMATION SHEET (1 OF 2)
BR 305	BORING INFORMATION SHEET (2 OF 2)
BR 306	TRANSVERSE SECTION, DECK SLAB PLAN & DETAILS
BR 307	FRAMING PLANS AND GIRDER ELEVATION
BR 308	GIRDER DETAILS
BR 309	MISCELLANEOUS DETAILS
BR 310	BEARING DEVICE DETAILS
BR 311	STRUCTURAL STEEL DETAILS
BR 312	BRIDGE CURB & PAVEMENT JOINT DETAILS
BR 313	BRIDGE CURB DETAILS
BR 314	ABUTMENT 1 PLAN, ELEVATION AND SECTIONS
BR 315	ABUTMENT 1 SECTIONS AND DETAILS
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BR 321	SNOW BARRIER DETAILS
BR 322	BEAM PROFILE TABLES
BR 323	REINFORCING STEEL SCHEDULE - 1
BR 324	REINFORCING STEEL SCHEDULE - 2

RECOMMENDED FOR APPROVAL _____ STRUCTURES ENGINEER DATE

RECOMMENDED FOR APPROVAL _____ CHIEF OF DESIGN DATE

APPROVED BY _____ DIRECTOR OF ENGINEERING & CONSTRUCTION DATE

REVISIONS

NO.	DESCRIPTION	BY & DATE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 13
	Log Sta.
HIGHWAY NO. VT. RT. 289	Surv. Sta. RAMP 15+00

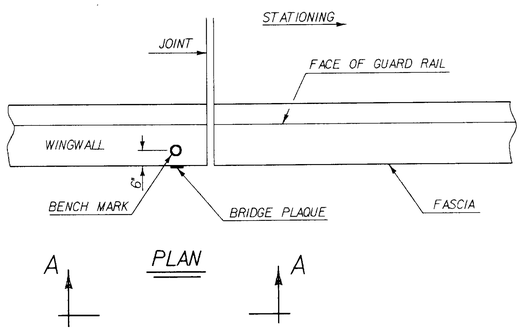
VT. RT. 289 "RAMP D" OVER CVRR

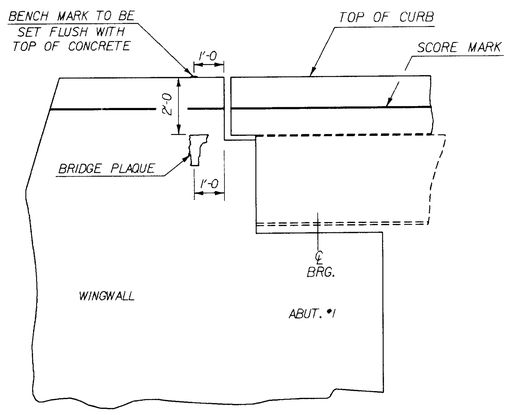
PLAN, ELEVATION AND SECTIONS

Designed by YS/KRH	Drawn by DJA
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON-COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR301	Sheet 166 of 400

BRIDGE 44.13 (4015)

BR-2





VIEW "A - A"

LOCATION OF BENCH MARK AND BRIDGE PLAQUE

THE BRIDGE PLAQUE AND BENCH MARK WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

GENERAL NOTES

1. THE FOLLOWING NOTES SHALL APPLY UNLESS OTHERWISE NOTED ON THE PLANS.
2. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES , AND ITS LATEST REVISIONS.
3. DESIGN IS FOR HS-25-44 LOADING UNLESS OTHERWISE NOTED ON THE PLANS.
4. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER, TYPE III BOLTS MEETING AASHTO M 164. HOLES SHALL BE 15/16" DIAMETER. CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STATE FOR APPROVAL.
5. ALL WELDING SHALL CONFORM WITH THE PROVISIONS OF SUBSECTION 506.10.
6. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF BEAMS SHALL BE TAKEN AS DIRECTED BY THE ENGINEER FOR USE IN DETERMINING FINAL GRADE.
7. ANY FORM BRACKET HOLES IN FASCIA GIRDER WEBS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS. (TYPE III ON AASHTO M270 GR 50W STEEL)
8. MINIMUM COVER FOR REINFORCING STEEL SHALL BE TWO (2) INCHES ALONG BACK FACES OF WALLS AGAINST EARTH, AND THREE (3) INCHES ELSEWHERE.
9. REINFORCING PLACEMENT TOLERANCES SHALL BE:
   SPACING +- 1"
   CLEARANCE +- 1/4"
10. DECK CONCRETE SHALL BE "CONCRETE, CLASS A". ALL OTHER CONCRETE SHALL BE "CONCRETE, CLASS B" UNLESS OTHERWISE DESIGNATED ON THE PLANS.
11. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" BY 1".
12. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 1/2" PER FOOT. ABUTMENT SEATS SHALL BE SLOPED FULL WIDTH TOWARD CENTER SPAN. PIER SEATS SHALL BE SLOPED EACH WAY FROM CENTER. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.
13. FOR BRIDGE DECK POURS, THE MAXIMUM TIME LIMIT FOR ANY COMBINATION OF POURS DONE IN ONE DAY SHALL BE EIGHT HOURS. THERE SHALL BE A MINIMUM DELAY OF NINETY SIX HOURS BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANY OTHER POUR.
14. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP BEADS.
15. THE FOLLOWING TABLE OF ALLOWABLE STRESSES APPLY TO THESE PLANS FOR DESIGN PURPOSES:
    * CONCRETE: f'c = 3500 PSI fc=1400 PSI

AASHTO M270 GR 50W

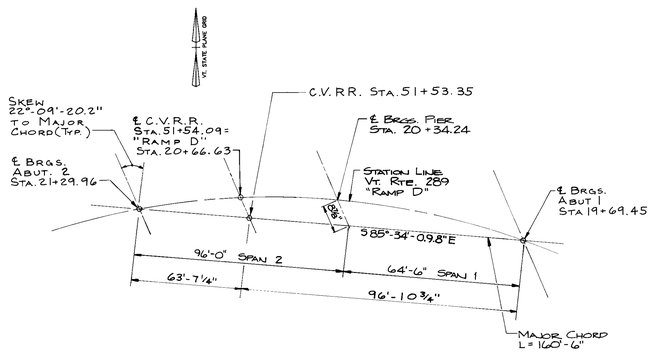
STRUCTURAL STEEL: F = 27,000 PSI (WORKING STRESS)

AASHTO M31

REINFORCING STEEL: Ft = 24,000 PSI

* NOTE: SPECIFICATIONS CALL FOR A CLASS A CONCRETE WHICH WILL PRODUCE 4000 PSI AT 28 DAYS.

16. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT UNLESS OTHERWISE NOTED.
17. FILL IN AREAS THROUGH WHICH PILES ARE TO BE DRIVEN SHALL HAVE A MAXIMUM STONE SIZE OF NINE (9) INCHES.
18. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
19. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.



SCHEMATIC LAYOUT
N.T.S.

BUILT AS DESIGNED F /// 1994 JG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ESSEX	Bridge No. 13
Highway No. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP D" OVER CVRR	
GENERAL NOTES AND COMMON DETAILS	
Designed By FORM / P.C.	Drawn By FORM / M.W.D.
Checked By RJS Date 10/12/90	Bridge Design Supervisor MWO Date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1 (2)
I.G.C. Info. ZFA:[30,32]83E069DET.DGN	PRF:GENRLNOTE
Bridge Sheet No. BR302	Sheet 167 of 400

EARTHWORK

V.C.	% GRD	STATION	ELEVATION ON TAN.	ELEVATION ON V.C.	CORR. V.C.	DIST.	AREA	CU. YDS.	AREA	CU. YDS.	AREA	CU. YDS.	AREA	CU. YDS.

GRADES

BRIDGE QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION
STRUCTURES DIVISION

NO.	ITEM	UNIT	QUANTITY BREAKDOWN: SUPER-STRUCTURE	ABUTMENT 1	PIER	ABUTMENT 2	APPROACH SLABS	TOTAL	FINAL
* 203.32	GRANULAR BORROW (NOT FACTORED)	C.Y.		9570		3230		12,800	
204.25	STRUCTURE EXCAVATION	C.Y.			40			40	
204.30	GRANULAR BACKFILL FOR STRUCTURES	C.Y.			20			20	
* 406.25	BITUMINOUS CONCRETE PAVEMENT	TON	68					68	
501.22	CONCRETE - CLASS A	C.Y.	170					170	
501.25	CONCRETE - CLASS B	C.Y.		110	65	94	40	309	
504.10	FURNISHING EQUIP. FOR DRIVING PILING - RAMP D OVER CVRR	L.S.		0.33	0.33	0.33		1	
505.16	STEEL PILING (HP12X74)	L.F.		1320	420	1805		3545	
~~505.40~~	~~PILE LOADING TEST~~	~~EA.~~		+	+	+		~~3~~	
506.75	STRUCTURAL STEEL (PLATE GIRDER) (TOTAL WEIGHT=158,625 LB) RAMP D OVER CVRR	L.S.	1					1	
507.15	REINFORCING STEEL	L.B.		10,740	10,500	9,080	10210	40,530	
507.17	EPOXY COATED REINFORCING STEEL	L.B.	48,570	410		310		49,290	
508.15	SHEAR CONNECTORS - RAMP D OVER CVRR (7/8" Ø x 7", TOTAL = 1644)	L.S.	1					1	
514.10	WATER REPELLENT	GAL.	10	4	6	4		24	
* 519.20	SHEET MEMBRANE WATERPROOFING	S.Y.	495					495	
525.31	BRIDGE RAILING - 2 RAIL GALV BOX BEAM	L.F.	397					397	
531.10	BEARING DEVICE ASSEMBLY - RAMP D OVER CVRR	EA.		4	4	4		12	
* 613.10	STONE FILL - TYPE I	C.Y.		105		62		167	
616.22	GRANITE BRIDGE CURB	L.F.	377					377	
620.75	SNOW BARRIER	L.F.	75					75	
* 621.70	GUARD RAIL APPROACH SECTION, TYPE I	EA.	2					2	
* 621.71	GUARD RAIL APPROACH SECTION, TYPE II	EA	2					2	

* DENOTES HIGHWAY ITEM

FINAL QUANTITIES ARE LOCATED ON THE COMPARISON SHEETS.
JH 5-11-94

BRIDGE AT STATION (S) RAMP 15+00
LOCATION VT. RTE 289 "RAMP D" OVER CVRR

Prepared by: JH/ Checked by: RJS/
SUPERVISOR: MWO

BR 303 OF _____

PROJECT NO. PB 033-1(2)
SHEET NO. 168 OF 400

SOIL CLASSIFICATION

AASHTO

A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

UNIFIED SOIL SYSTEM

GW/GP	Clean Gravels (Few Fines)
GM/GC	Gravels (Appreciable Fines)
SW/SP	Clean Sands (Few Fines)
SM/SC	Sand (Appreciable Fines)
ML/CL	Low Plastic Silts & Clays
OL	Low Plastic Organic Silt
MH/CH	High Plastic Silts & Clays
OH	High Plastic Organic Silt
Pt	Highly Organic Soils

MOISTURE

DESCRIPTIVE TERM	OBSERVED IN FIELD	% ± BY ANALYSIS
Dry	No Visible Water	<10
Moist	Damp	10-20
Moist to Wet	Moist to Wet	21-50
Wet	Visible Water	51-70
Saturated		>70

ROCK QUALITY DESIGNATION

R.Q.D.	ROCK DESCRIPTION
<.25	Very Poor
.25 to .50	Poor
.5 to .75	Fair
.76 to .90	Good
>.90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS) N	DESCRIPTIVE TERM	CONSISTENCY (COHESIVE SOILS) N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊕	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
WOH	Weight Of Hammer
WOR	Weight Of Rod

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gr	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

MUCK - Soft organic soil (containing > 10% organic material.

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

BR-8

Chittenden County Highway PB 033-1(1), Contract 2

WEST BOUND OFF RAMP OF RTE 289

HOLE NO. BB-7 STA. 21+38 OFFSET RT. 5'

DRILLER EAST COAST DRILLING & BORING, INC.

LOG APPROVED BY CHA - JOE BURKE

DATE: START 12-22-88 FINISH 12-27-88

SURFACE ELEVATION 357.2 ft

DEPTH	BLOWS ON CASING & STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	12			M	OR-BRN TN-GR	SP F-SAND, SOME SILT
	4			M	TN	SP SAME ; 5.9' SATURATED
10	10			W	GR	ML SILT, SOME F-SAND ; 11.2' CHANGE TO SILT TRACE F-SAND
	10			W	GR	ML SILT, TRACE CLAY AND VF-SAND
	7			W	GR	ML SAME-VARVED
	6			M	GR	ML CLAYEY SILT, VARVED
30				M	GR	ML SILTY CLAY, VARVED
	WOR			W	GR	CL CLAY, SOME SILT, VARVED
40	WOR			W	GR	CL CLAY, TRACE SILT, VARVED
	WOR			W	GR	CL SAME
50	WOR			W	GR	CL SAME
	WOR			W	GR	CL SAME, SOME SILTY F-SAND LENSES
60						HOLE STOPPED ; 65.0'

ABUT #2 - BOT OF FTG ELEV. 362.50

EST. PILE TIP ELEV. 268.0 70 ABUT. #2

Chittenden County Highway PB 033-1(1), Contract 2

WEST BOUND OFF RAMP OF RTE 289

HOLE NO. BB-8 STA. 20+36 OFFSET RT. 3'

DRILLER EAST COAST DRILLING & BORING, INC.

LOG APPROVED BY CHA - JOE BURKE

DATE: START 12-29-88 FINISH 12-30-88

SURFACE ELEVATION 353.2 ft

DEPTH	BLOWS ON CASING & STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	7			M	BRN	ML SILT, SOME VF-SAND
	5			M	OR-BRN	ML SILT, VARVED
10	7			M	GR	ML SILT, SOME CLAY, VARVED
	1			M	GR	CL CLAY, SOME SILT, VARVED
20						SHELBY TUBE - NO RECOVERY
	WOH			W	GR	CL CLAY, SOME SILT, VARVED
30	34			GR W TN D OR		GC CLAYEY GRAVEL, TRACE SILT & F-M SAND ; 30.3' CHANGE TO F-C GRAVELLY F-M SAND
40						HOLE STOPPED ; 31.6' IN TILL

PIER BOT OF FTG. ELEV. 347.50

EST. PILE TIP ELEV. 317.00 PIER

EST. PILE TIP ELEV. 314.0 ABUT. #1

Chittenden County Highway PB 033-1(1), Contract 2

WEST BOUND OFF RAMP OF RTE 289

HOLE NO. BB-9 STA. 19+72 OFFSET RT. 5'

DRILLER EAST COAST DRILLING & BORING, INC.

LOG APPROVED BY CHA - JOE BURKE

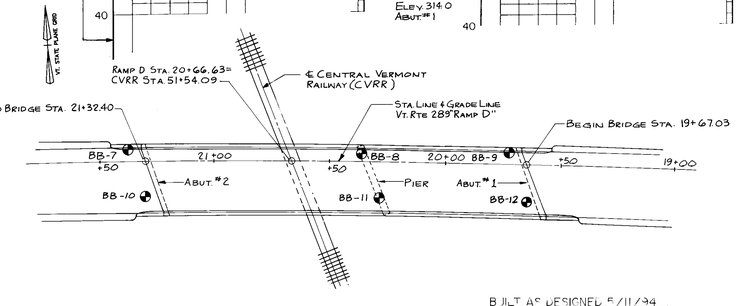
DATE: START 12-27-88 FINISH 12-27-88

SURFACE ELEVATION 352.0 ft

DEPTH	BLOWS ON CASING & STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	6			M	TN BRN GR OR	ML SILT TRACE CLAY & VF-SAND
	8			M	TN GR	ML SILT, SOME CLAY
10	7			M	TN GR OR BRN	ML SILT, SOME CLAY
	3			M	GR	CL SILTY CLAY
20	2			W	GR	CL CLAY, TRACE SILT
	22			M	GR	CL GRAVELLY SILTY CLAY SOME F-M SAND ; 26.9' CHANGE TO GC CLAYEY GRAVEL SOME SILT & F-M SAND
30	100+			D	GR	TILL CLAYEY, ROCK FRAGS
40						HOLE STOPPED ; 30.5' IN TILL

ABUT. #1 BOT. OF FTG. ELEV. 371.00

EST. PILE TIP ELEV. 314.0 ABUT. #1



BUILT AS DESIGNED 5/11/94 JD

BORING PLAN LAYOUT
N.T.S.

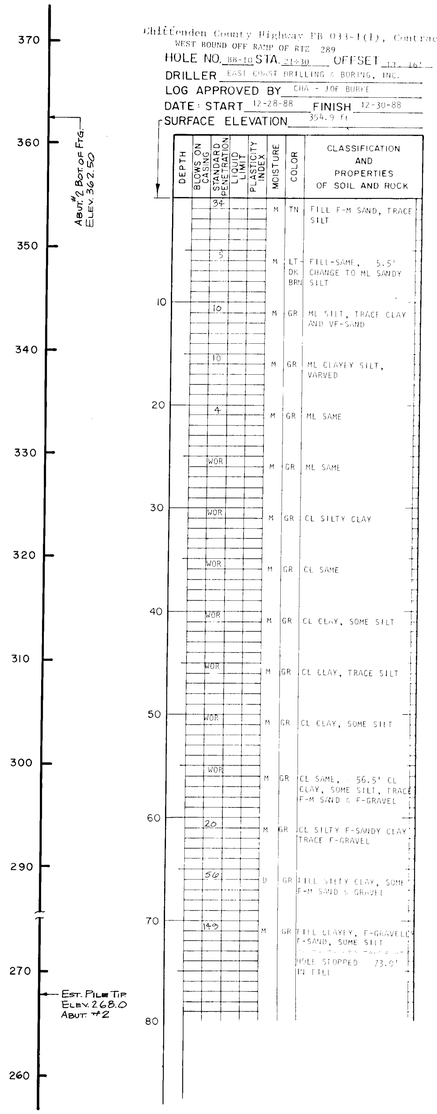
GENERAL NOTES

1. The subsurface explorations shown herein were made between 11-30-88 and 1-13-89 for the Vermont Agency of Transportation.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by Clough, Harbour & Assocs. and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.

PLOTTED 14-SEP-1988

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ESSEX	Bridge No. 13
Highway No. VT. RTE. 289	Log Sta. Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP D" OVER CVRR	
BORING INFORMATION SHEET (1 of 2)	
Designed By J.B.	Drawn By D.L./B.W.
Checked By R.J.S. Date 10-12-90	Bridge Design Supervisor M.W.O. Date 10-12-90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
I.G.C. Info. ZFAN(30)51)BORINGSTD.DG	BORING1
Bridge Sheet No. BR304	Sheet 169 of 400



Chittenden County Highway PB 033-1(1), Contract 2

WEST BOUND OFF RAMP OF RTE 289

HOLE NO. 88-10 STA. 218+80 OFFSET 17.16'

DRILLER EAST COAST DRILLING & BORING, INC.

LOG APPROVED BY CHA - JOE BURKE

DATE: START 12-28-88 FINISH 12-30-88

SURFACE ELEVATION 354.9 ft

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	34				M	TN	FILL F-M SAND, TRACE SILT
5					M	LT. DK. BRN	FILL-SAME, 5.5' CHANGE TO ML SANDY SILT
10	10				M	GR	ML SILT, TRACE CLAY AND VF-SAND
	10				M	GR	ML CLAYEY SILT, VARVED
20	4				M	GR	ML SAME
	WOR				M	GR	ML SAME
30	WOR				M	GR	CL SILTY CLAY
	WOR				M	GR	CL SAME
40	WOR				M	GR	CL CLAY, SOME SILT
	WOR				M	GR	CL CLAY, TRACE SILT
50	WOR				M	GR	CL CLAY, SOME SILT
	WOR				M	GR	CL SAME, 56.5' CL CLAY, SOME SILT, TRACE F-M SAND & F-GRAVEL
60	20				M	GR	CL SILTY F-SANDY CLAY, TRACE F-GRAVEL
	50/1				D	GR	TILL SILTY CLAY, SOME F-M SAND & GRAVEL
70	145				M	GR	TILL CLAYEY, F-GRAVELLY F-SAND, SOME SILT
							HOLE STOPPED 73.9' IN TILL
80							

Chittenden County Highway PB 033-1(1), Contract 2

WEST BOUND OFF RAMP OF RTE 289

HOLE NO. 88-11 STA. 219+30 OFFSET 17.16'

DRILLER EAST COAST DRILLING & BORING, INC.

LOG APPROVED BY CHA - BURKE

DATE: START 12-28-88 FINISH 12-29-88

SURFACE ELEVATION 352.4 ft

PIER BOT. FTG. ELEV. 347.50

EST. PILE TIP ELEV. 317.0 PIER

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	4				M	BRN OR-TN	ML SILT, SOME VF-SAND
	6				M	TN GR OR	ML SILT, TRACE CLAY
10	4				M	GR TN	ML SILT SOME CLAY
	2				M	GR	CL SILTY CLAY
20	1				M	GR	CL CLAY, SOME SILT
	2				W	GR	CL CLAY, SOME SILT, TRACE F-SAND & F-M GRAVEL
30	100+				W	GR	TILL ROCK FRAGS IN CLAY MATRIX, SOME F-SAND
							HOLE STOPPED - 30.5' IN TILL
40							

Chittenden County Highway PB 033-1(1), Contract 2

WEST BOUND OFF RAMP OF RTE 289

HOLE NO. 88-12 STA. 219+36 OFFSET 17.16'

DRILLER EAST COAST DRILLING & BORING, INC.

LOG APPROVED BY CHA - BURKE

DATE: START 12-30-88 FINISH 12-30-88

SURFACE ELEVATION 351.4 ft

ABUT #1 BOT. OF FTG. ELEV. 321.0

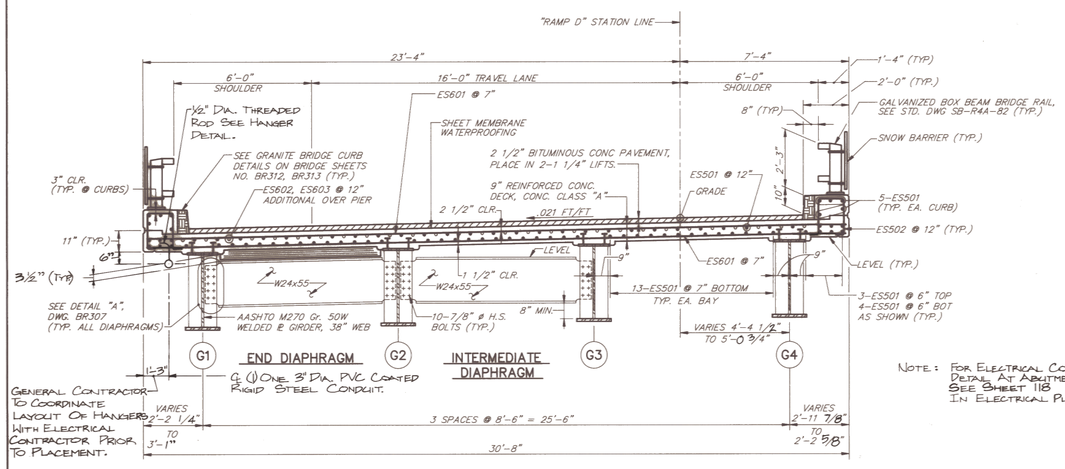
EST. PILE TIP ELEV. 314.0 ABUT. #1

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	4				M	TN BRN GR	ML VF-SANDY SILT, INTO
	9				M	TN GR	ML SILT, TRACE CLAY
10	3				M	TN GR	ML SILT, TRACE CLAY
	1				M	GR	CL CLAY, TRACE SILT
20	15				W	GR	CL CLAY, TRACE SILT, - 26.0' CLAY, SOME SILT F-C SAND & F-GRAVEL
	100+						CLAYEY ROCK FRAG.
30							HOLE STOPPED - 30.1' IN PROBABLE BEDROCK
40							

BUILT AS DESIGNED 5/11/94 JG

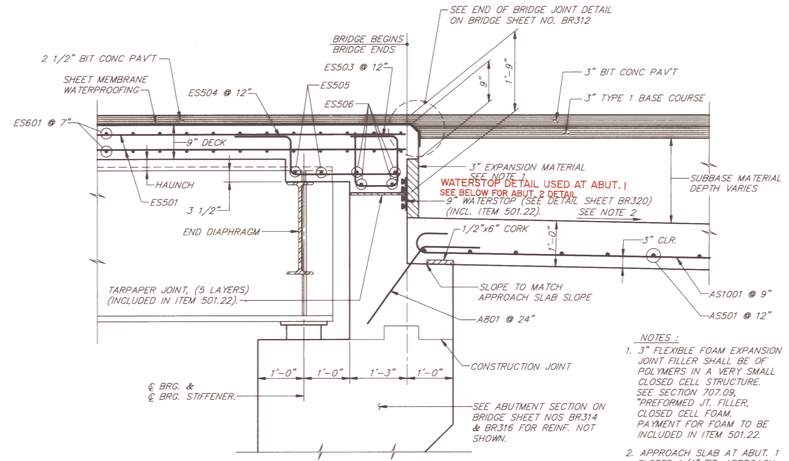
STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 13
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE 289 "RAMP D" OVER CVRR	
BORING INFORMATION SHEET (2 of 2)	
Designed by J.B.	Drawn by D.L./BW
Checked by R.J.S. date 10-1290	Bridge Design Supervisor MWO date 10-1290
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR305	Sheet 170 of 400



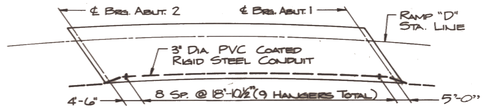
NOTE: FOR ELECTRICAL CONDUIT DETAIL AT ABUTMENTS SEE SHEET 118 IN ELECTRICAL PLANS.

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

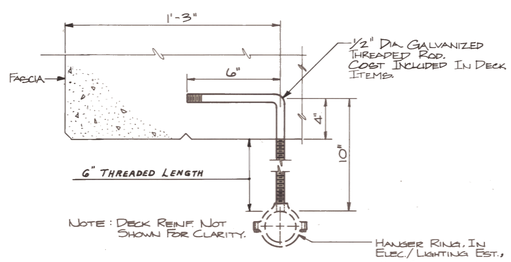


END OF BRIDGE DETAIL
3/4"=1'-0"

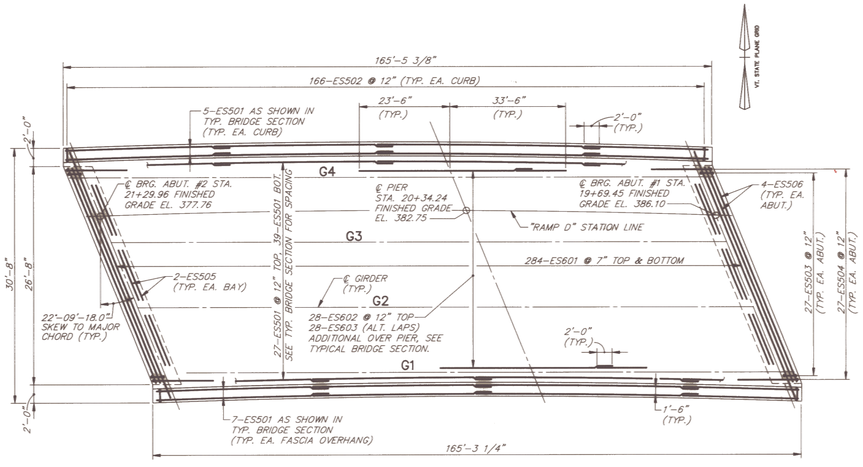
NOTES:
1. 3" FLEXIBLE FOAM EXPANSION JOINT FILLER SHALL BE OF POLYMERS IN A VERY SMALL CLOSED CELL STRUCTURE. SEE SECTION 707.09, "PREFORMED JT. FILLER, CLOSED CELL FOAM. PAYMENT FOR FOAM TO BE INCLUDED IN ITEM 501.22.
2. APPROACH SLAB AT ABUT. 1 SLOPED 1/4"/FT. APPROACH SLAB AT ABUT. 2 SLOPED -5.1962%. SEE DWG. BR309 FOR APPROACH SLAB PLANS AND SECTION.



HANGER LOCATIONS
NTS

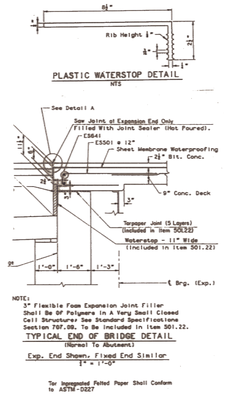


HANGER DETAIL
3" = 1'-0"



DECK REINFORCING PLAN
NTS

NOTES:
1. SEE DWG. BR309 FOR BRIDGE RAIL LAYOUT PLAN.
2. SEE DWG. BR307 FOR FASCIA OVERHANG DIMENSIONS.
3. SEE DWG. BR303 FOR THE DECK SLAB POUR SEQUENCE.



ELECTRICAL CONDUIT NOTES:

SEE ELECTRICAL/LIGHTING PLANS FOR DETAILS NOT SHOWN IN THIS PLAN SET.

AS BUILT 5/12/94 SP

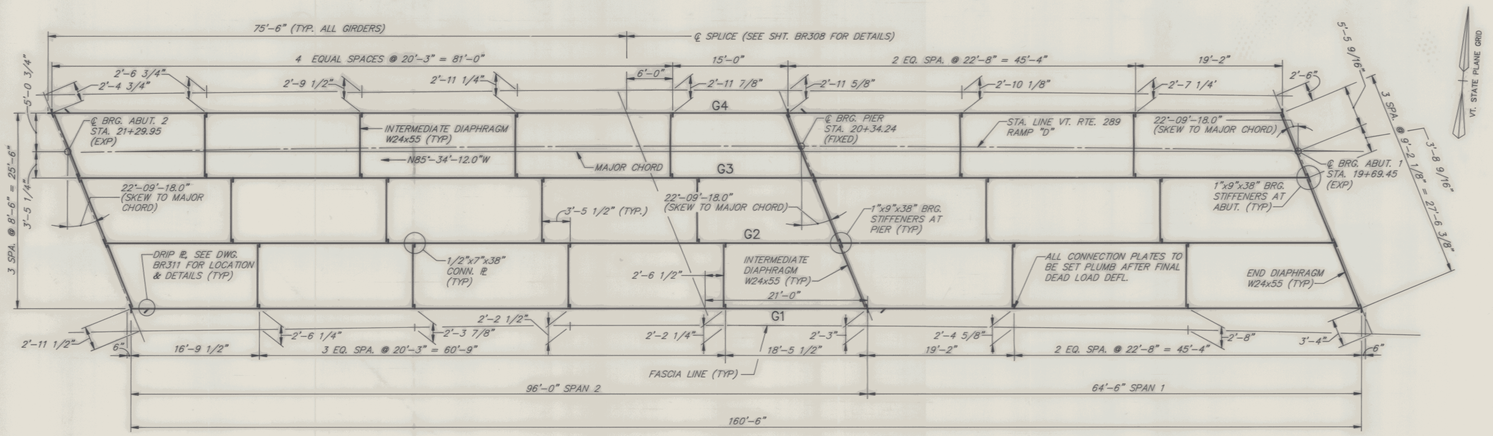
STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 13
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00

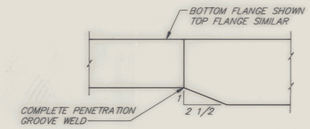
VT. RTE. 289 "RAMP D" OVER CVRR

TRANSVERSE SECTION, DECK PLAN AND DETAILS

Designed by KRH / PJB	Drawn by DJA
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR306	Sheet No. 171 of 400

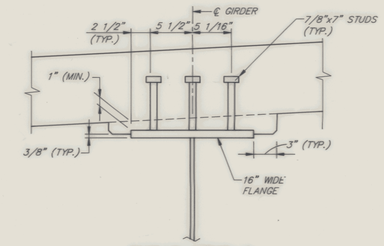


FRAMING PLAN
1/8" = 1'-0"

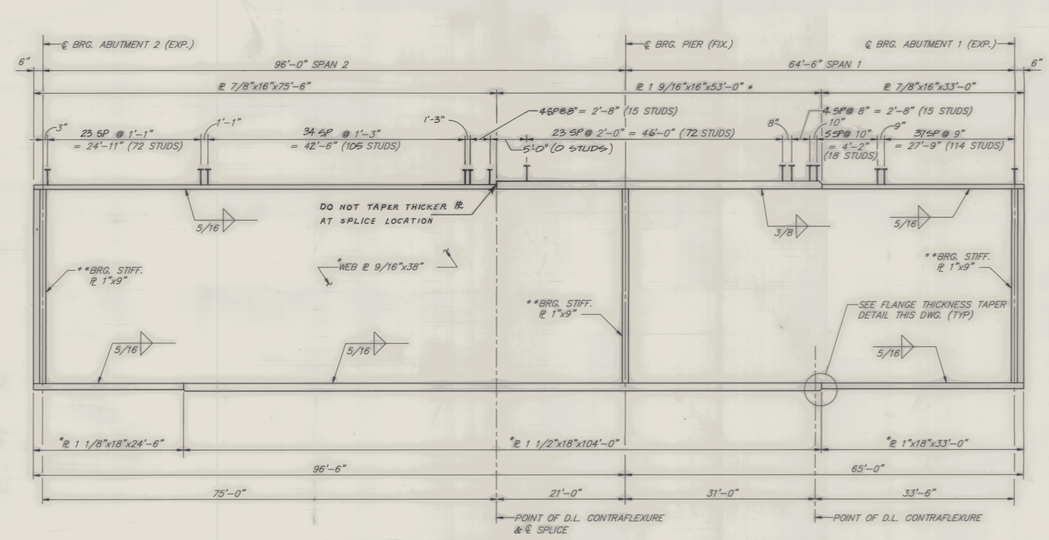


FLANGE THICKNESS TAPER DETAIL
NTS

NOTE : DETAIL NOT APPLICABLE AT TOP FLANGE OF SPLICE LOCATION.



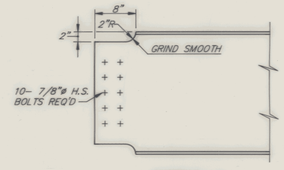
SHEAR STUD & HAUNCH DETAIL
1 1/2"=1'-0"



GIRDER ELEVATION
1" = 10'-0" HORIZ.
1" = 1'-0" VERT.

* - CHARPY V-NOTCH TESTING REQUIRED.

** - AFTER FINAL DEAD LOAD DEFLECTION ALL BEARING STIFFENERS ARE TO BE PLUMB.

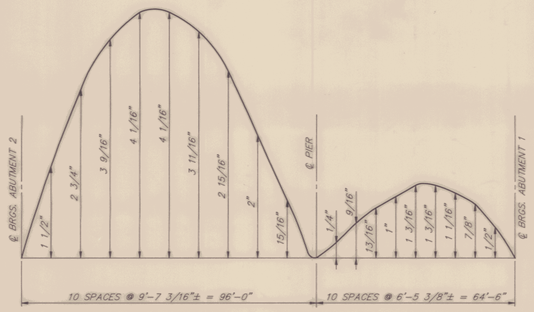


DETAIL A
(TYP. FOR ALL DIAPHRAGMS)
1" = 1'-0"

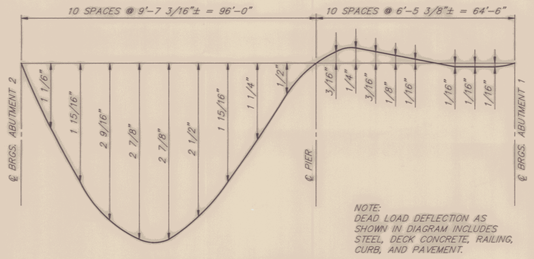
BUILT AS DESIGNED 5/12/94 JD

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 13
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RT. 289 "RAMP D" OVER CVRR	
FRAMING PLAN & GIRDER ELEVATION	
Designed by GSB / PJB	Drawn by RFU / DJA / M.W.D.
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR307	Sheet 172 of 400

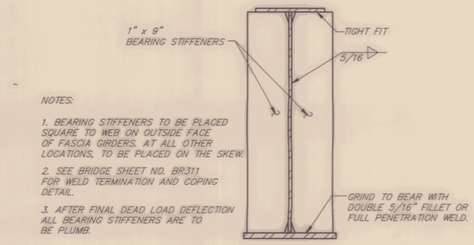


CAMBER DIAGRAGM
SCALE: 1" = 1" VERTICAL
1" = 20' HORIZONTAL



NOTE:
DEAD LOAD DEFLECTION AS SHOWN IN DIAGRAM INCLUDES STEEL, DECK CONCRETE, RAILING, CURB, AND PAVEMENT.

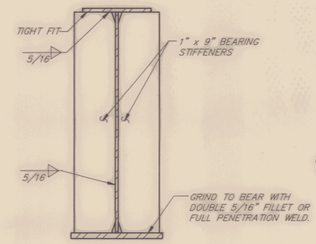
DEAD LOAD DEFLECTION DIAGRAM
SCALE: 1" = 1" VERTICAL
1" = 20' HORIZONTAL



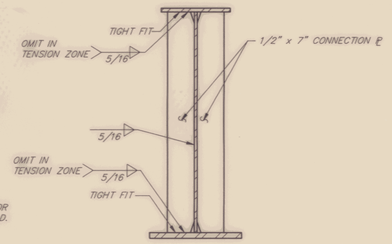
NOTES:

1. BEARING STIFFENERS TO BE PLACED SQUARE TO WEB ON OUTSIDE FACE OF FASCIA GIRDERS. AT ALL OTHER LOCATIONS, TO BE PLACED ON THE SKEW.
2. SEE BRIDGE SHEET NO. BR311 FOR WELD TERMINATION AND COPING DETAIL.
3. AFTER FINAL DEAD LOAD DEFLECTION ALL BEARING STIFFENERS ARE TO BE PLUMB.

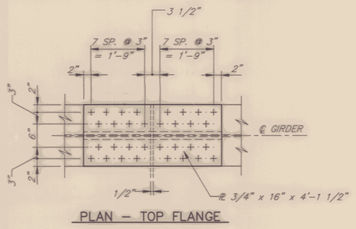
BEARING STIFFENERS AT PIER
3/4"=1'-0"



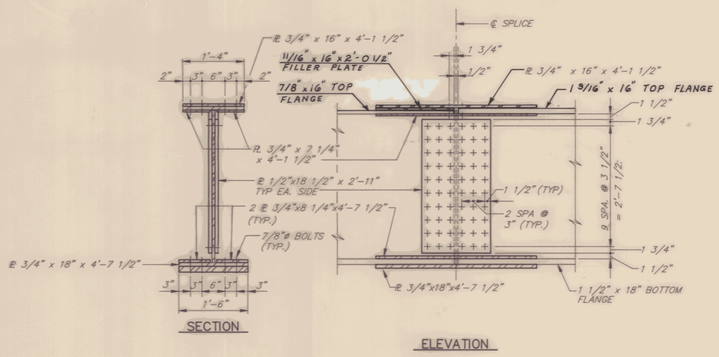
BEARING STIFFENERS AT ABUTMENT
3/4"=1'-0"



INTERMEDIATE CONNECTION PLATES
3/4"=1'-0"

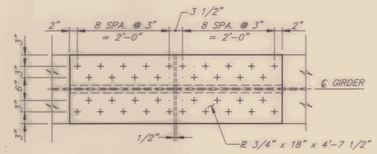


PLAN – TOP FLANGE



SECTION

ELEVATION



PLAN – BOTTOM FLANGE

SPLICE DETAILS
3/4"=1'-0"

SEE ALSO HI-STEEL FABRICATION DRAWINGS

FIELD SPLICE NOTES

1. FOR THE LOCATION OF GIRDER SPLICES, SEE DRAWING BR307.
2. ALL BOLTS SHALL BE 7/8" DIA. H.S. BOLTS IN 15/16" DIA. HOLES. BOLTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M164.
3. ALL SPLICE PLATES AND FILLER PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270 GR50W STEEL.
4. NUTS TO BE ON INSIDE FACE OF WEB SPLICE AT FASCIA GIRDERS.
5. NUTS TO BE UP ON ALL FLANGE SPLICES.

BUILT AS DESIGNED 5/12/94 JP

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 13
HIGHWAY NO. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE.289 "RAMP D" OVER CVRR	
GIRDER DETAILS	
Designed by TP	Drawn by DJA / M.W.D.
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
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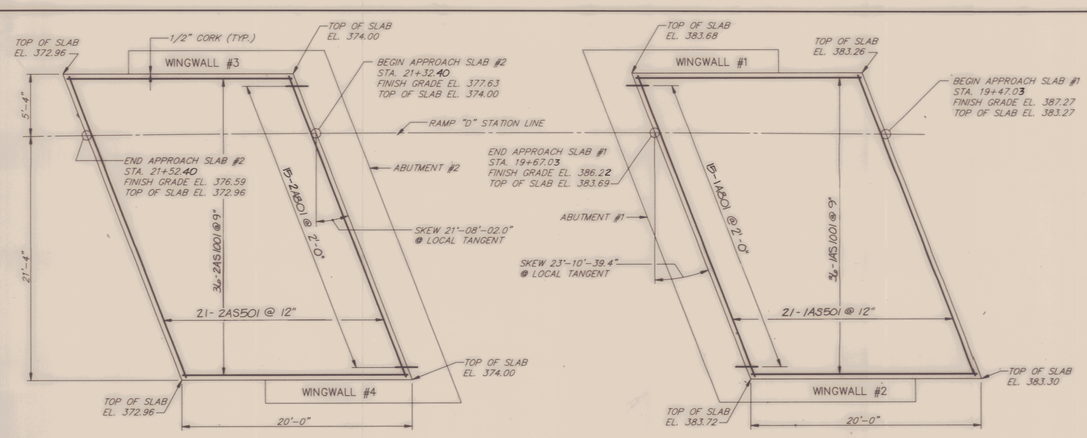
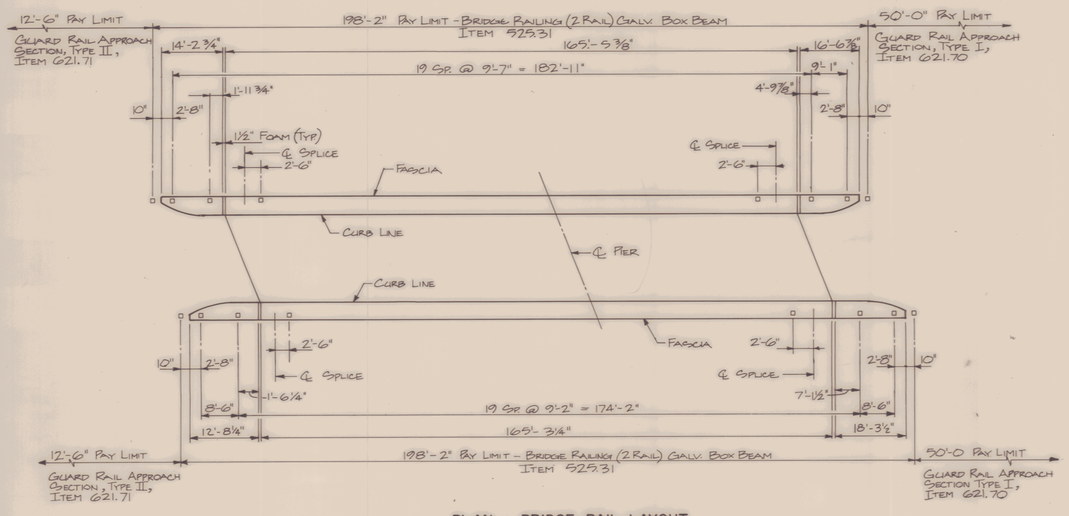


SEE WRITTEN ORDER 102 FOR REINF. STEEL CHANGES

APPROACH SLAB 1 & 2 PLAN

3/16" = 1'-0"

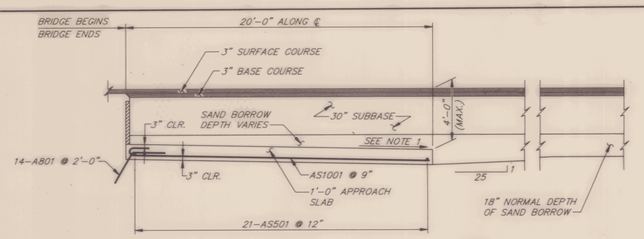


PLAN - BRIDGE RAIL LAYOUT

NTS

NOTES

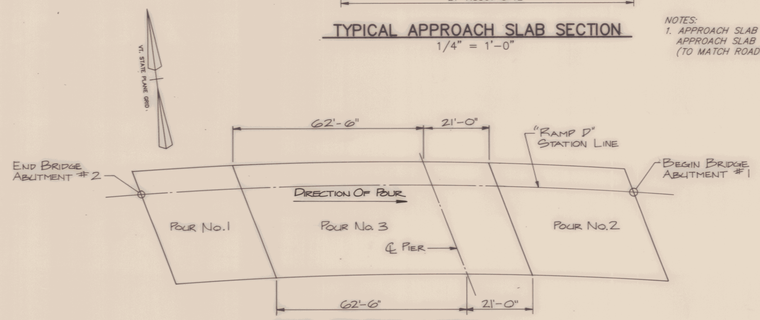
1. SEE HIGHWAY PLANS FOR APPROACH RAIL LAYOUT.
2. SEE STD. DWG. SB-R4B-82 FOR APPROACH RAIL DETAILS.
3. ALL CURB ENDS ARE TO BE FLARED AS SHOWN ON SHEET BR 312.
4. TOTAL ANTICIPATED THERMAL EXPANSION: SPAN 1 = .75", SPAN 2 = 1.12".
5. TO ALLOW FOR ADEQUATE EXPANSION AT ABUTMENT NO. 2 THE BRIDGE RAIL GAP SHALL BE 1½".



TYPICAL APPROACH SLAB SECTION

1/4" = 1'-0"

NOTES:
1. APPROACH SLAB NO. 1 SLOPED 1/4"/FT. APPROACH SLAB NO.2 SLOPED -5.1962% (TO MATCH ROADWAY GRADE).

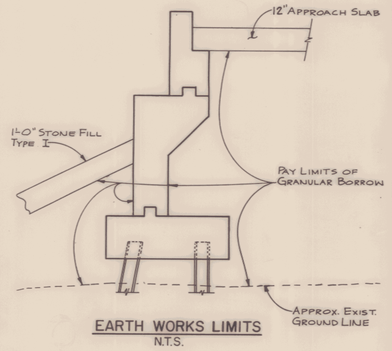


POUR SEQUENCE DIAGRAM

N.T.S

POUR SEQUENCE NOTES

1. THE DECK SHALL BE PLACED IN THE DIRECTION SHOWN.
2. AT LEAST ONE (1) WEEK PRIOR TO PLACING ANY BRIDGE DECK CONCRETE, THE CONTRACTOR SHALL REVIEW HIS PROPOSED PLACEMENT PROCEDURE WITH THE ENGINEER.
3. IF APPROVED BY THE ENGINEER, POUR NO. 1 AND POUR NO. 2 MAY BE PLACED WITHIN THE SAME DAY. THE CONTRACTOR SHALL PROVIDE ADEQUATE LABOR, EQUIPMENT AND MATERIAL TO COMPLETE THE PLACEMENT OF BOTH POURS WITHIN AN EIGHT (8) HOUR PERIOD.
4. JOINTS BETWEEN POURS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAIL ON DRAWING BR320.
5. THE CONTRACTOR MAY, AT HIS OPTION, SUBMIT AN ALTERNATE PROCEDURE TO THE ENGINEER FOR REVIEW AND APPROVAL. NO RELATED WORK, INCLUDING THE INSTALLATION OF FORMS, MAY BE INITIATED BY THE CONTRACTOR UNTIL THE WRITTEN APPROVAL OF THE ALTERNATE PROCEDURE IS RECEIVED FROM THE ENGINEER.
6. CONCRETE PLACEMENT AND FINISHING OPERATIONS SHALL BE PERFORMED AS RAPIDLY AS POSSIBLE. THE ENGINEER MAY ORDER THE CONTRACTOR TO STOP HIS POUR OPERATIONS AT ANY TIME IF, IN THE ENGINEER'S OPINION, CONCRETE PLACED DURING THE POUR HAS STARTED TO SET OR IS ABOUT TO SET AND FURTHER PLACEMENT OF CONCRETE WILL CAUSE DEFLECTION CRACKING.
7. IN THE EVENT THE CONTRACTOR'S DECK PLACEMENT OPERATION IS STOPPED PRIOR TO COMPLETION OF POUR NO. 1, WHETHER BY HIS OWN DECISION OR BY ORDER OF THE ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FINISHED DECK GRADE WHICH MATCHES THE PLANNED PROFILE. ANY SUBSEQUENT REVISIONS TO FORMS MADE NECESSARY BY SUCH ACTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
8. DECK POUR NO. 1 AND POUR NO. 2 SHALL BE ACCOMPLISHED IN A MAXIMUM OF EIGHT (8) HOURS. SUBSEQUENT POURS (CONTINUOUS PLACEMENTS) WILL NOT BE PERMITTED UNTIL 96 HOURS AFTER THE COMPLETION OF THE PREVIOUS POUR. RETARDER SHALL BE USED AS DESCRIBED BY THE CONCRETE ENGINEER. ALL COMBINATIONS OF POURS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
9. LONGITUDINAL CONSTRUCTION JOINTS WILL NOT BE PERMITTED.
10. THE CONTRACTOR MAY, SUBJECT TO THE ENGINEER'S APPROVAL, USE A WATER REDUCER EITHER ALONE OR IN CONJUNCTION WITH A WATER-REDUCING AND SET RETARDING ADMIXTURE, SO AS TO ALLOW DELIVERY, PROPER PLACEMENT AND FINISH OF THE CONCRETE.
11. CONSTRUCTION JOINTS SHALL BE PLACED PARALLEL TO THE CENTERLINE OF PIER.



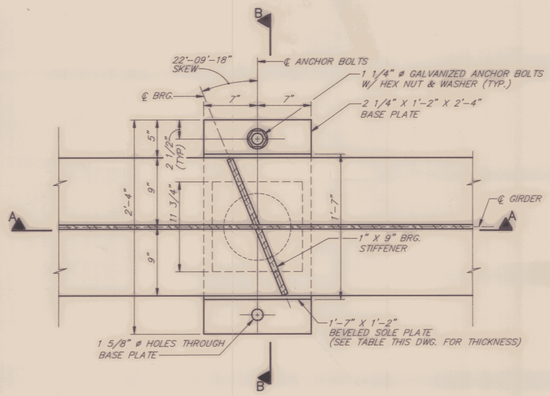
EARTH WORKS LIMITS

N.T.S.

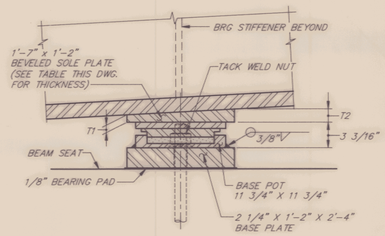
AS BUILT 5/12/94 RP

STATE OF VERMONT
AGENCY OF TRANSPORTATION

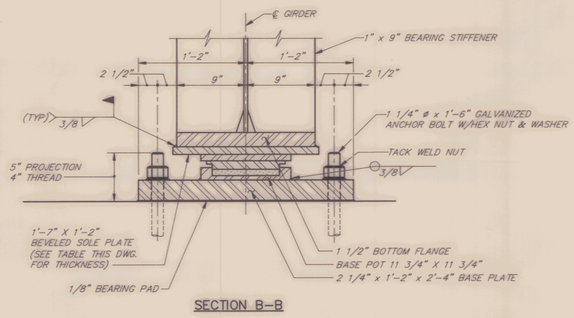
TOWN OF ESSEX	Bridge No. 13
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP D" OVER CVRR	
MISCELLANEOUS DETAILS	
Designed by GSB	Drawn by DJA/RFU
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR309	Sheet 174 of 400



PLAN



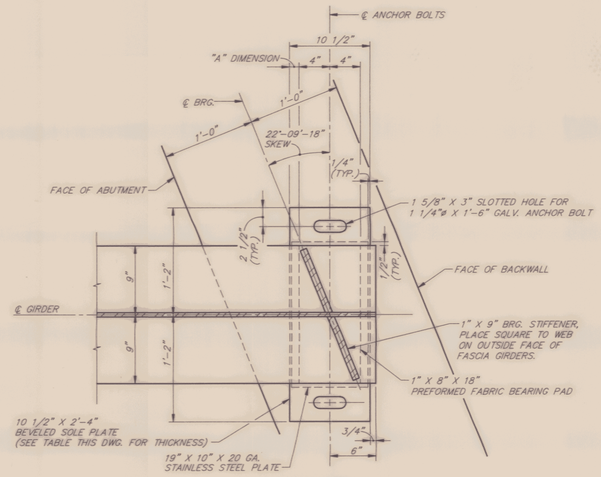
SECTION A–A



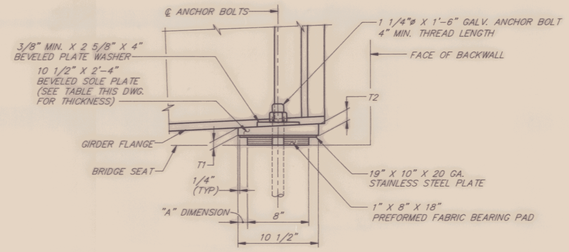
SECTION B–B

CONFINED ELASTOMER POT BEARING – (AT PIER, FIXED)

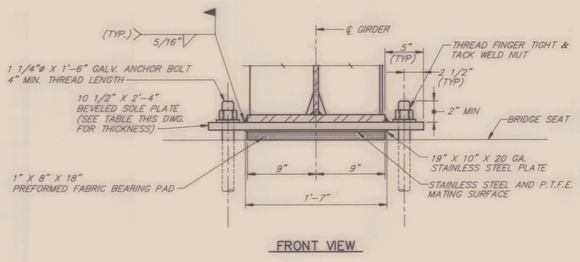
1 1/2" = 1'-0"



PLAN VIEW



ELEVATION



FRONT VIEW

FABRIC BEARING – (AT ABUTMENTS 1 & 2, EXP.)

1 1/2" = 1'-0"

SETTING TABLE				
	ABUT. NO. 1		ABUT. NO.2	
TEMP. (°F)	DIM. "A"	DIM. "B"	DIM. "A"	DIM. "B"
15°	1 3/8"	1 3/8"	1 1/2"	1 7/8"
30°	1 5/16"	1 5/16"	1 3/8"	1 3/4"
45°	1 1/4"	1 1/4"	1 1/4"	1 5/8"
60°	1 3/16"	1 3/16"	1 1/8"	1 1/2"
75°	1 1/8"	1 1/8"	1"	1 3/8"
90°	1"	1"	15/16"	1 5/16"

SOLE PLATE THICKNESS TABLE						
	ABUT. NO. 1		PIER		ABUT. NO.2	
GIRDER	T1	T2	T1	T2	T1	T2
1	1 3/8"	1 7/8"	1 1/4"	2"	1"	1 1/2"
2	1 1/4"	1 3/4"	1 1/8"	1 7/8"	1"	1 1/2"
3	1 1/8"	1 5/8"	1 1/8"	1 7/8"	1 1/8"	1 5/8"
4	1"	1 1/2"	1"	1 3/4"	1 1/4"	1 3/4"

NOTE: T1 IS UPSTATION FROM T2

BEARING DEVICE NOTES

1. BEARINGS SHALL CONFORM TO REQUIREMENTS OF SECTION 531. COMPONENTS SHALL CONFORM TO DESIGN, FABRICATION AND MATERIAL REQUIREMENTS OF THE APPLICABLE SUBSECTIONS OF SECTION 731.
2. BEARINGS SHALL BE PAID FOR UNDER ITEM 531.10, "BEARING DEVICE ASSEMBLY,"- RAMP D OVER CVRR
3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED AND SHALL INCLUDE WELDING AND BONDING PROCEDURES. SHOP DRAWINGS SHALL ALSO INDICATE WHETHER BEARING COMPONENTS ARE TO BE GALVANIZED OR METALIZED. IF METALIZING IS USED, THE SHOP DRAWINGS SHALL DENOTE THE TYPE OF SEAL COATING THAT WILL BE PLACED ON THE METALIZING.
4. SOLE PLATES AND WASHERS ARE TO BE GALVANIZED OR METALIZED AS PER SUBSECTION 606.15 (b) OR (c). SOLE PLATES & BASE PLATES SHALL BE AASHTO M270 GRADE 50W STEEL.
5. THE WELD BETWEEN THE SOLE PLATE AND BOTTOM FLANGE SHALL BE SMAW 8018 (C3). AREAS OF GALVANIZING ON THE SOLE PLATE DESTROYED IN THE WELDING PROCESS SHALL BE PAINTED WITH A ZINC-RICH PAINT.
6. THE CONCRETE SURFACE UNDER THE BEARING SHALL BE LEVEL.
7. ANCHOR BOLTS SHALL HAVE A 15-INCH MINIMUM EMBEDMENT INTO CONCRETE.
8. "A" DISTANCE IS THE FINAL SETTING FOR THE BEARING PAD AFTER THE CONCRETE SLAB, CURB, AND BRIDGE RAIL ARE IN PLACE. HOWEVER, THE CONTRACTOR MAY ADJUST THE BEARING PAD AFTER THE STRUCTURAL STEEL HAS BEEN ERECTED AND BEFORE THE CONCRETE DECK IS POURED. THEREFORE, "B" DISTANCE IS LISTED FOR USE IN SETTING THE BEARING PAD BEFORE POURING THE DECK. THE DIFFERENCE, 0 INCHES (SPAN 1) AND 3/8 INCH (SPAN 2), IS THE ELONGATION IN THE BOTTOM FLANGE DUE TO DEAD LOAD DEFLECTION CAUSED BY THE CONCRETE SLAB, CURBS, PAVEMENT AND BRIDGE RAIL. THIS DIFFERENCE IS A THEORETICAL DISTANCE AND SHOULD NOT BE CONSIDERED AS A FINAL SETTING. THE FINAL "A" DISTANCE AS SHOWN IN THE TABLE MUST BE REACHED WITHIN 1/8 INCH.
9. AN ALTERNATE BEARING CONFIGURATION MAY BE SUBMITTED FOR APPROVAL. THE ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN BELOW AND SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN.
10. IF AN ALTERNATE BEARING CONFIGURATION IS USED, BRIDGE SEAT ELEVATIONS SHALL BE ADJUSTED ACCORDINGLY.
11. DESIGN CRITERIA:

    A. MAXIMUM ALLOWABLE CONCRETE BEARING PRESSURE: 1,000 PSI

    B. DESIGN LOADS

    ABUT. 1 - 137K MAXIMUM VERTICAL REACTION.
    8K MAXIMUM LATERAL LOAD

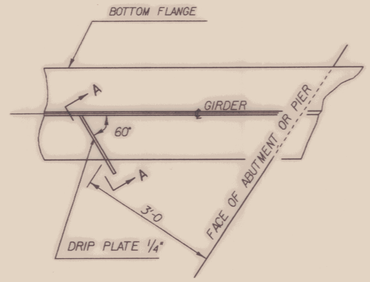
    PIER - 252K MAXIMUM VERTICAL REACTION
    25.2K MAXIMUM LATERAL LOAD

    ABUT. 2 - 102K MAXIMUM VERTICAL REACTION
    8K MAXIMUM LATERAL LOAD
    AS BUILT 5/12/94 jg

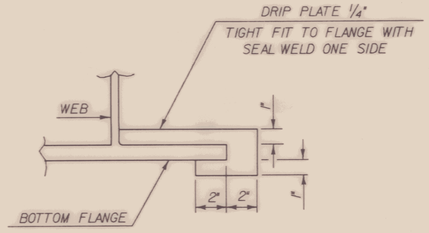
SEE ALSO HI-STEEL FABRICATION DRAWINGS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 13
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RT. 289 "RAMP D" OVER CVRR	
BEARING DETAILS	
Designed by KRH / GSB	Drawn by RFU
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033–1(2)
Bridge Sheet No. BR310	Sheet 175 of 400

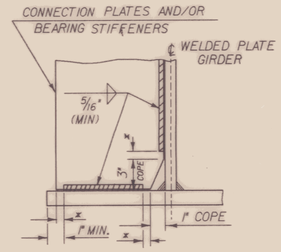


PLAN DRIP PLATE



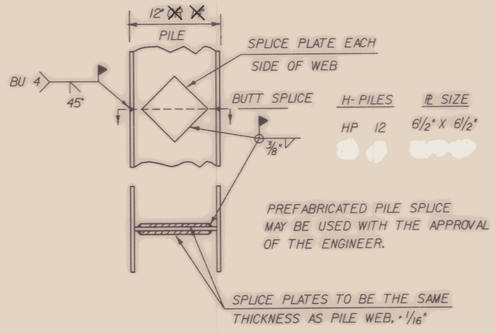
SECTION A - A

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS, ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS, OR AS INDICATED ON PROJECT PLANS.

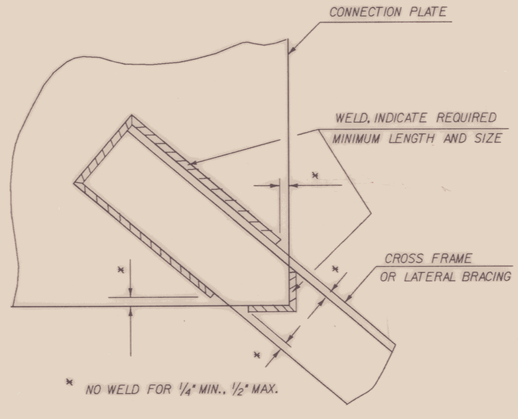


WELD TERMINATION DETAIL AND COPING DETAIL FOR WELDED PLATE GIRDERS

x NO WELD FOR 1/4" MIN., 1/2" MAX. (EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)



DETAIL OF PILE SPLICE



DETAILS OF WELD LOCATION AT CROSS FRAMES AND LATERAL BRACING

SEE ALSO HI-STEEL FABRICATION DRAWINGS

BUILT AS DESIGNED 5/12/94 JG

STATE OF VERMONT
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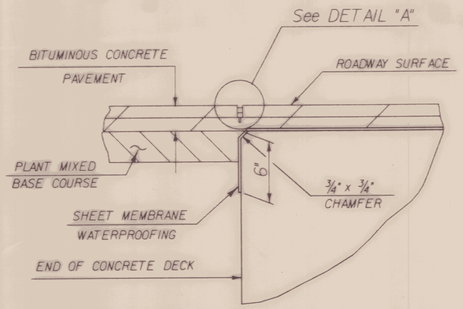
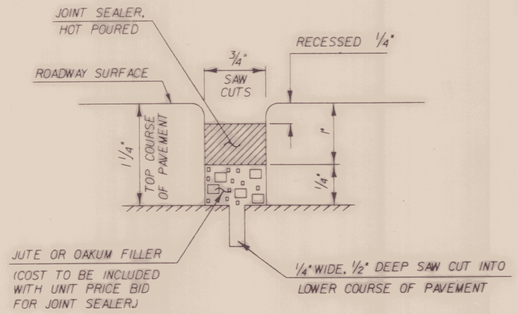
Town Of ESSEX	Bridge No. 13
Highway No. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP D" OVER CVRR	
STRUCTURAL STEEL DETAILS	
Designed By ——	Drawn By ——
Checked By RJS Date 10-12-90	Bridge Design Supervisor MWO Date 10-12-90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1 (2)
I.G.C. Info. ZFAI-[30,32]83E069DET.DGN PRF:STRSTLDET	
Bridge Sheet No. BR311	Sheet 176 of 400



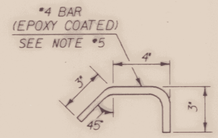
DETAIL FOR JOINT IN PAVEMENT AND SHEET MEMBRANE AT END OF BRIDGE

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.



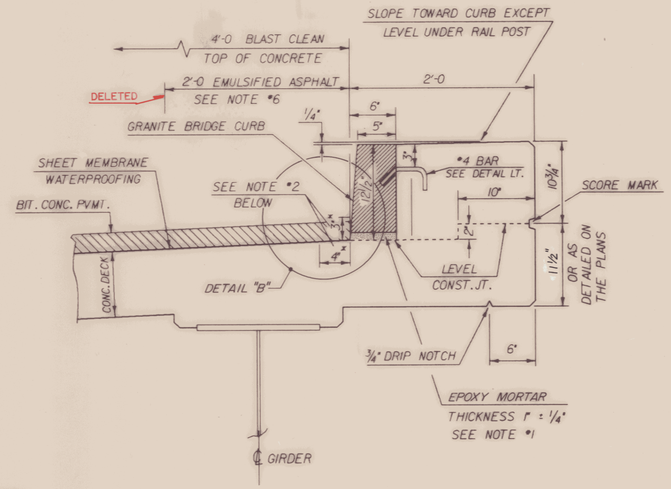
DETAIL "A"

NTS



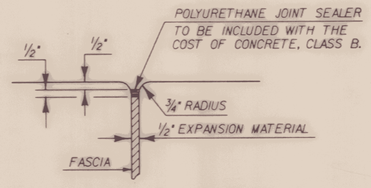
GRANITE BRIDGE CURB ANCHORAGE DETAIL

SCALE: 3" = 1'-0"



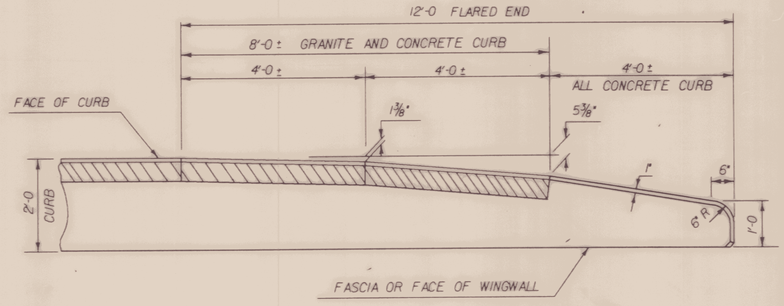
TYPICAL 2'-0 CURB SECTION WITH GRANITE CURB

SCALE: 1 1/2" = 1'-0



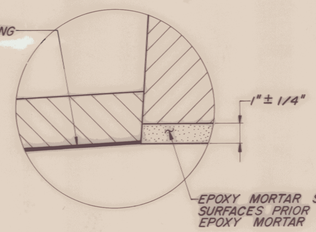
DETAILS OF JOINT BETWEEN FASCIA AND ABUTMENT

SCALE: 3" = 1'-0"



FLARED END DETAIL FOR 2'-0 CURB

CURB REINFORCING STIRRUP BARS SHALL BE TURNED OR CUT AS REQUIRED TO FIT FLARED ENDS.



DETAIL "B"

NTS

NOTES

1. PLACE EPOXY MORTAR FULL WIDTH OF GRANITE CURB.
2. THE 4-INCHES AND 3-INCHES REFERENCED DIMENSIONS INDICATE AREAS ALONG DECK AND UP FACE OF CURB FOR PLACEMENT OF TWO (2) COATS OF POLYURETHANE MEMBRANE.
3. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING.
4. SHEET MEMBRANE WATERPROOFING SHALL EXTEND TO FACE OF CURB AS SHOWN IN DETAIL B.
5. NO. 4 ANCHORS FOR GRANITE BRIDGE CURB SHALL BE EPOXY-COATED AND SHALL BE LOCATED 12 INCHES FROM EACH END OF EACH GRANITE SECTION. THE COST OF THESE ANCHORS INCLUDING DRILLING AND LEADING SHALL BE INCLUDED IN UNIT PRICE BID FOR GRANITE BRIDGE CURB. EPOXY BONDING COMPOUND (CONFORMING WITH SPECIFCATION SECTION 719) MAY BE USED IN LIEU OF LEADING
6. DELETED — ONE (1) COAT OF EMULSIFIED ASPHALT (RS-1) OR APPROVED SUBSTITUTE SHALL BE APPLIED ON TOP OF PAVEMENT. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR BITUMINOUS CONCRETE PAVEMENT. ON BANKED BRIDGE EMULSIFIED ASPHALT SHALL BE APPLIED ONLY ALONG THE LOWER CURB

AS BUILT 5/12/94

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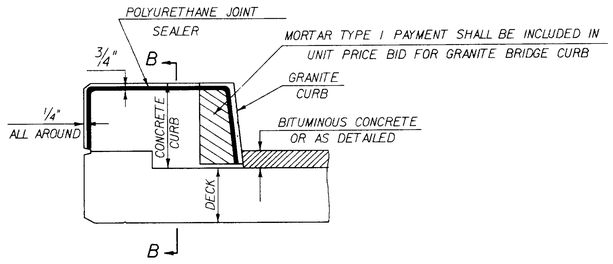
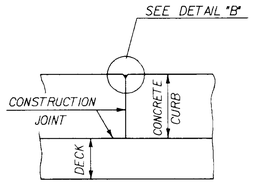
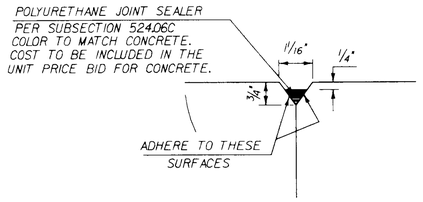
VT. RTE 289 "RAMP D" OVER CVRR	
BRIDGE CURB & PAVEMENT JOINT DETAILS	
Designed By —	Drawn By —
Checked By RJS Date 10-12-90	Bridge Design Supervisor MWO Date 10-12-90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
L.G.C. Info. ZFAI:(30,32)83E0690ET.DGN	PRF=PAVEJTDET
Bridge Sheet No. BR 312	Sheet 177 of 400



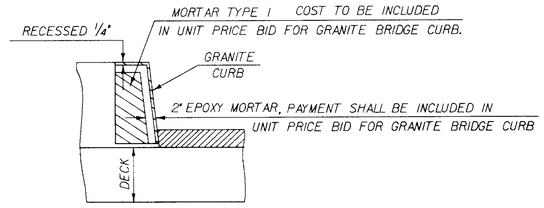
TYPICAL SECTION THROUGH GRANITE AND CONCRETE CURB CONSTRUCTION JOINT



SECTION B - B



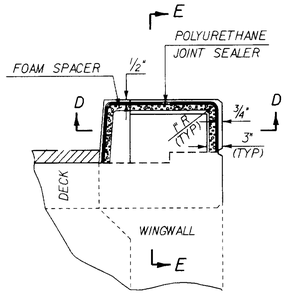
DETAIL "B"



TYPICAL SECTION THROUGH JOINTS BETWEEN PIECES OF GRANITE BRIDGE CURB ONLY

NOTES:

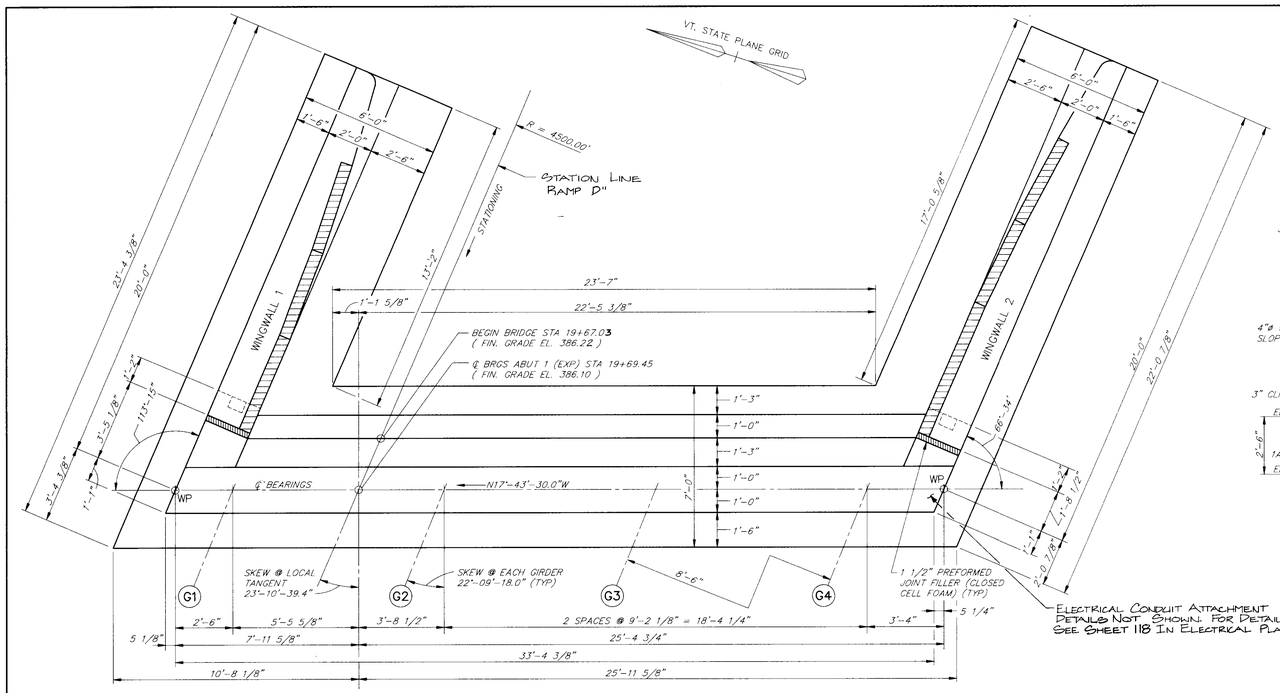
1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 20'-0 CENTER TO CENTER AND SHALL BE 1'-6 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS. EVERY JOINT IN CONCRETE CURB SHALL BE ACCOMPANIED BY A JOINT IN GRANITE BRIDGE CURB.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.
3. CONSTRUCTION JOINTS THROUGH SIDEWALKS SHALL BE SIMILAR TO CURB CONSTRUCTION JOINTS.



TYPICAL SECTION THROUGH CURB JOINT AT FIXED END OF BRIDGE BETWEEN END OF BRIDGE AND LONGITUDINAL WINGWALL

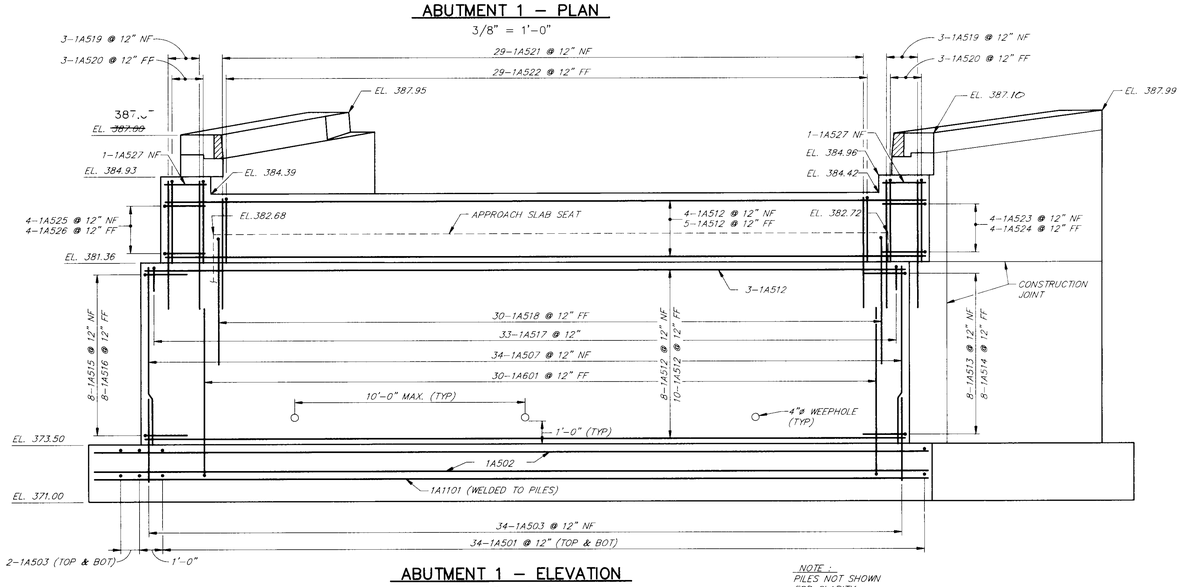
BUILT AS DESIGNED [illegible]

STATE OF VERMONT **AGENCY OF TRANSPORTATION**	
Town Of ESSEX	Bridge No. 13
	Log Sta.
Highway No. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP D" OVER CVRR	
BRIDGE CURB DETAILS	
Designed By ——	Drawn By ——
Checked By RJS Date 10-12-90	Bridge Design Supervisor MWO Date 10-12-90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033 - 1(2)
I.G.C. Info. ZFAI:[30,32]83E069DET.DGN	PRF:BRIDGCURB
Bridge Sheet No. BR313	Sheet 178 of 400



ABUTMENT 1 – PLAN

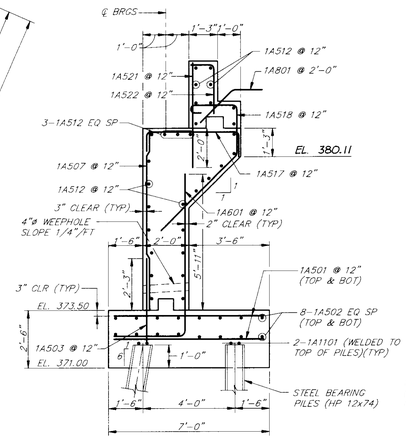
3/8" = 1'-0"



ABUTMENT 1 – ELEVATION

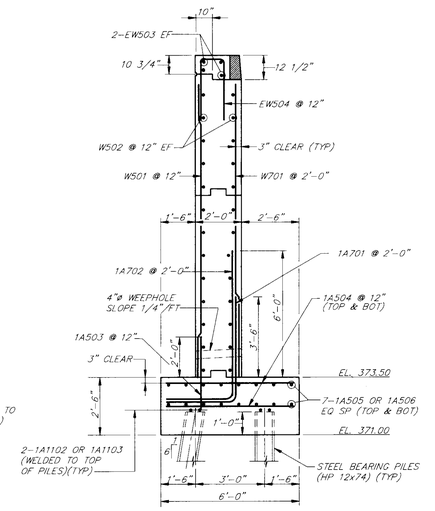
3/8" = 1'-0"

NOTE –
PILES NOT SHOWN FOR CLARITY.



ABUTMENT 1 – TYPICAL SECTION

3/8" = 1'-0"



WINGWALLS 1 & 2 – SECTION

3/8" = 1'-0"

NOTE –
FOR BARS NOT NOTED, SEE WINGWALL ELEV. (DWG. BR315)

NOTES:

1. FOR ANCHOR BOLT LOCATIONS, SEE BEARING DEVICE DETAILS ON DWG. BR310. ANCHOR BOLTS SHALL BE SET BEFORE ABUTMENT CONCRETE IS PLACED.
2. BRIDGE SEAT AREAS SHALL BE SLOPED 1/2"/FT, EXCEPT UNDER BEARING DEVICES WHICH SHALL BE LEVEL. SEE GENERAL NOTES.
3. FINAL BRIDGE SEAT ELEVATIONS SHALL BE SET ONLY AFTER APPROVAL OF BEARING DEVICE FABRICATION PLANS.
4. FOR LIMITS OF EXCAVATION AND FILL AT ABUTMENTS, SEE DETAILS ON DWG. BR309.

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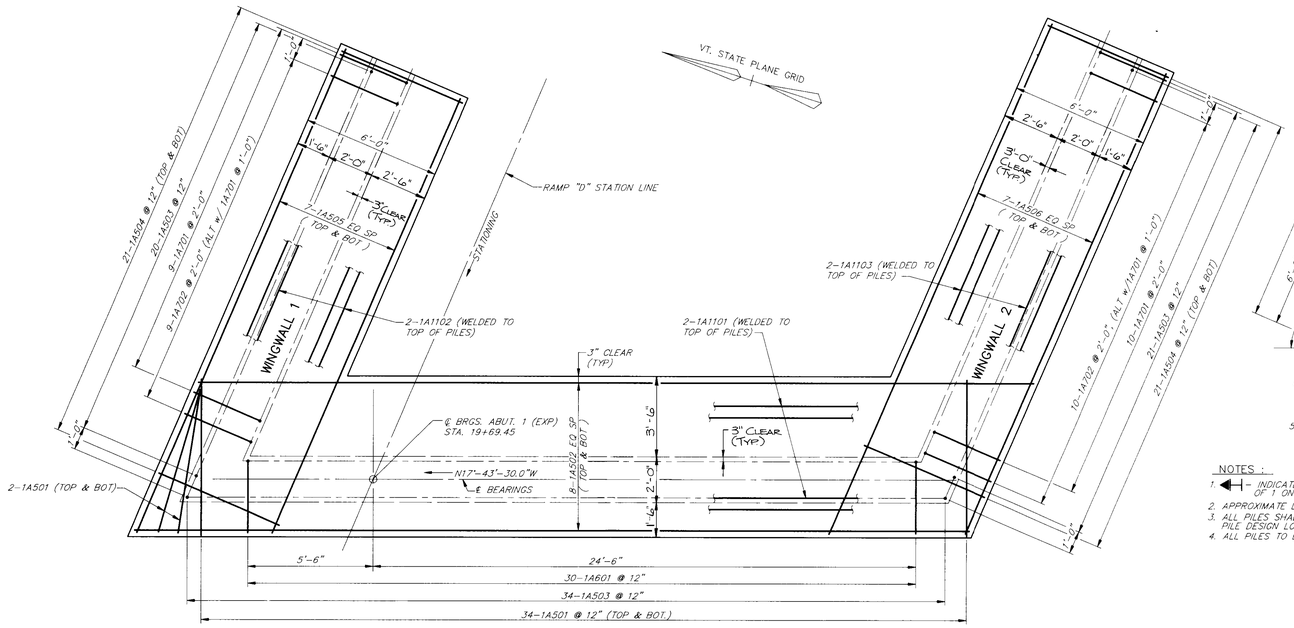
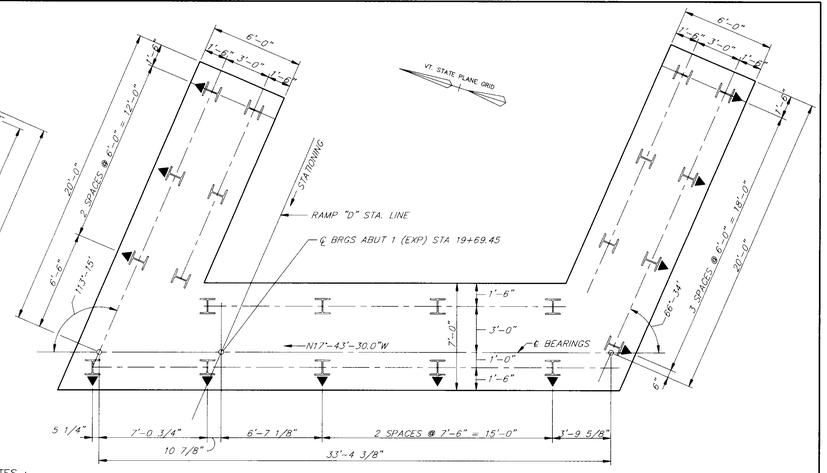
VT. RTE. 289 "RAMP D" OVER CVRR	
ABUTMENT 1 – PLAN, ELEVATION & SECTIONS	
Designed by KRH	Drawn by JDH Sr.
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR314	Sheet 179 of 400



ABUTMENT 1 – FOOTING REINFORCEMENT PLAN

3/8" = 1'-0"

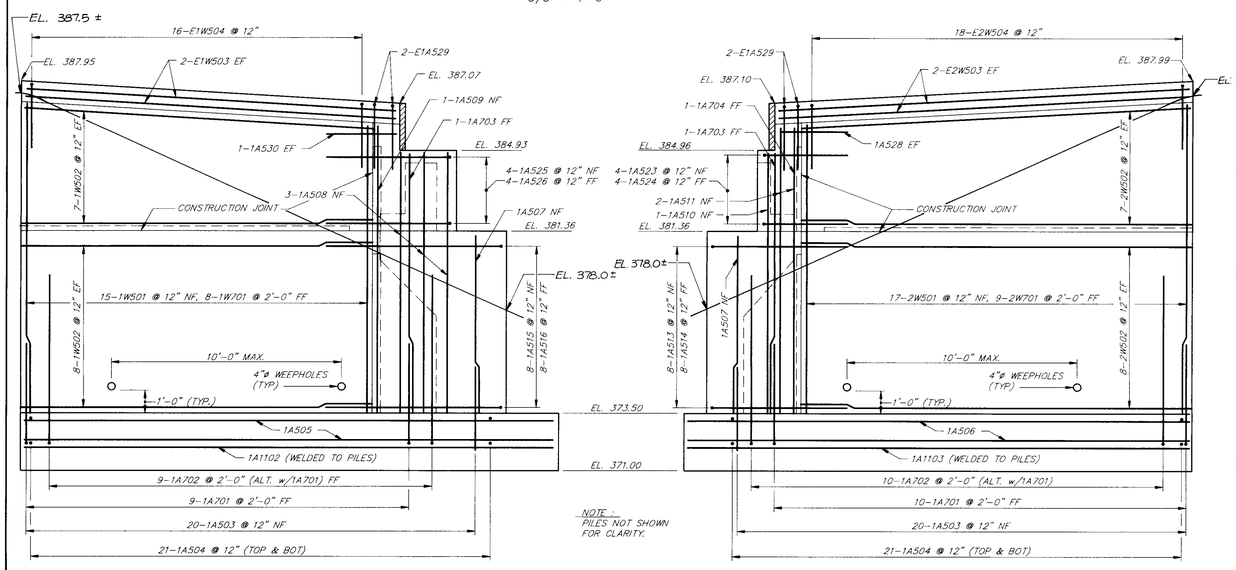


NOTES :

1. ◄┤ – INDICATES LOCATION AND DIRECTION OF 1 ON 6 BATTERED PILE.
2. APPROXIMATE LENGTH OF PILES IS 60'.
3. ALL PILES SHALL BE DRIVEN TO REFUSAL. PILE DESIGN LOAD IS 70 TONS.
4. ALL PILES TO BE HP12x74

ABUTMENT 1 –PILE LAYOUT

1/4" = 1'-0"

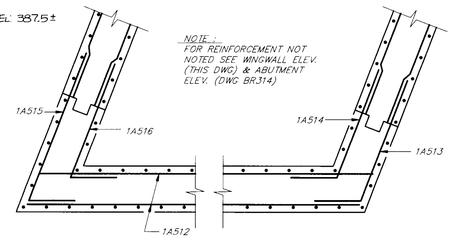


WINGWALL 1

ABUTMENT 1 – WINGWALL ELEVATIONS

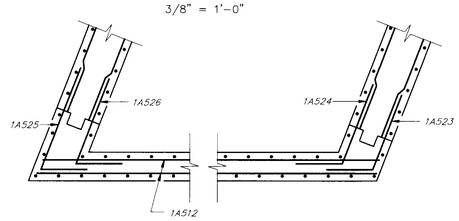
3/8" = 1'-0"

WINGWALL 2



STEM REINFORCEMENT PLAN

3/8" = 1'-0"



BACKWALL REINFORCEMENT PLAN

3/8" = 1'-0"

AS [illegible]

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VT. RT. 289 "RAMP D" OVER CVRR	
ABUTMENT 1 – SECTIONS & DETAILS	
Designed by KRH	Drawn by JDH Sr. / RFU
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
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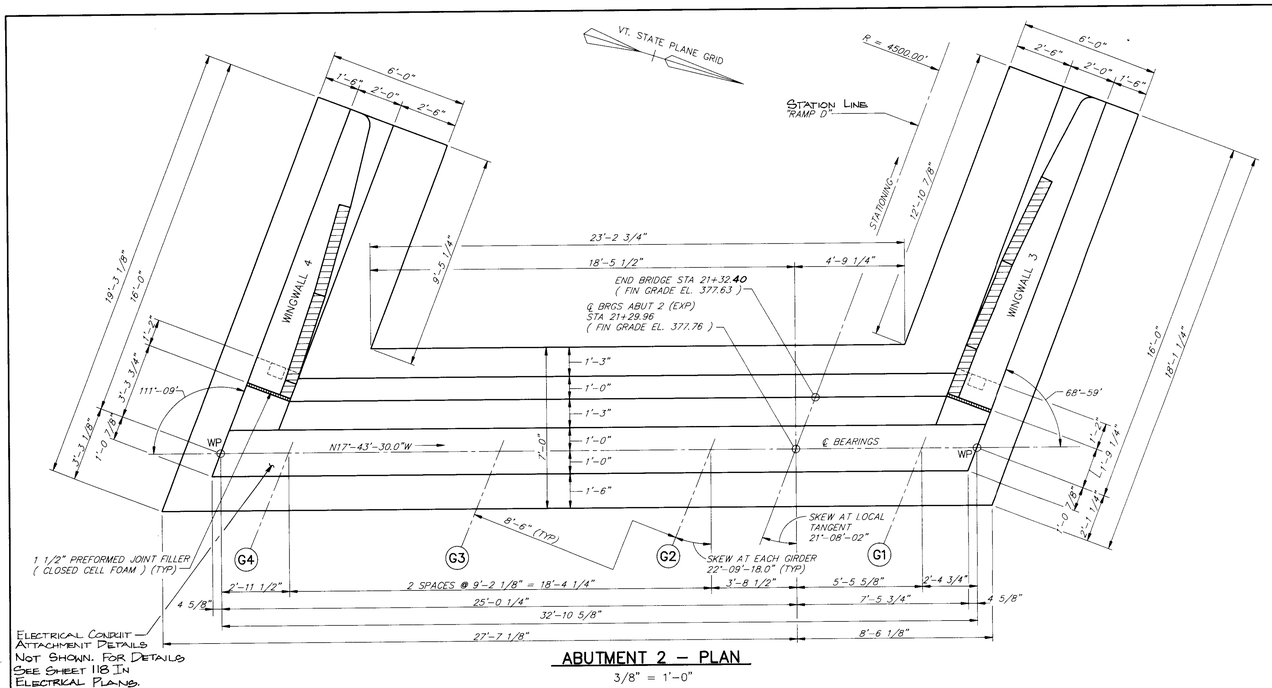
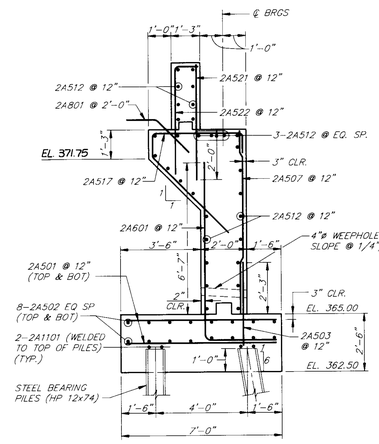
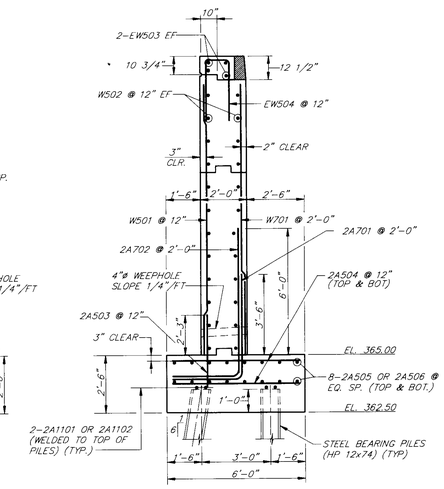


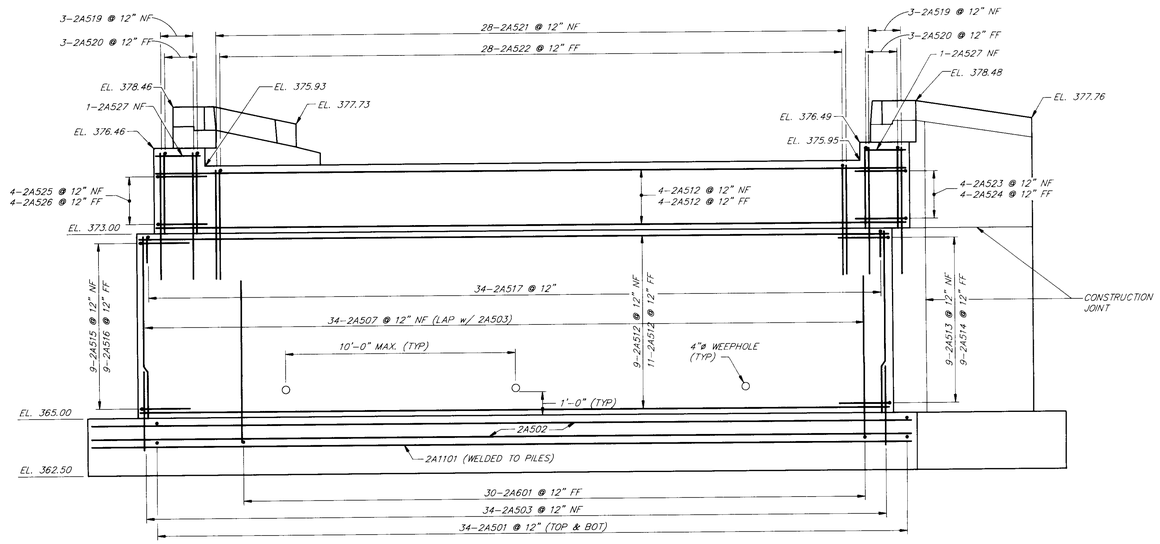
ABUTMENT 2 – PLAN
3/8" = 1'-0"



ABUTMENT 2 – TYPICAL SECTION
3/8" = 1'-0"



WINGWALLS 3 & 4 – SECTION
3/8" = 1'-0"



ABUTMENT 2 – ELEVATION
3/8" = 1'-0"

NOTE :
PILES NOT SHOWN FOR CLARITY.

NOTES:

1. FOR ANCHOR BOLT LOCATIONS, SEE BEARING DEVICE DETAILS ON DWG. BR310. ANCHOR BOLTS SHALL BE SET BEFORE ABUTMENT CONCRETE IS PLACED.
2. BRIDGE SEAT AREAS SHALL BE SLOPED 1/2"/FT, EXCEPT UNDER BEARING DEVICES WHICH SHALL BE LEVEL. SEE GENERAL NOTES.
3. FINAL BRIDGE SEAT ELEVATIONS SHALL BE SET ONLY AFTER APPROVAL OF BEARING DEVICE FABRICATION PLANS.
4. FOR LIMITS OF EXCAVATION AND FILL AT ABUTMENTS, SEE DETAILS ON DWG. BR309.

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VT. RTE. 289 "RAMP D" OVER CVRR	
ABUTMENT 2 – PLAN, ELEVATION & SECTIONS	
Designed by KRH	Drawn by JDH Sr. / M.W.D.
Checked by RJS date 10-12-90	Bridge Design Supervisor MWO date 10-12-90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
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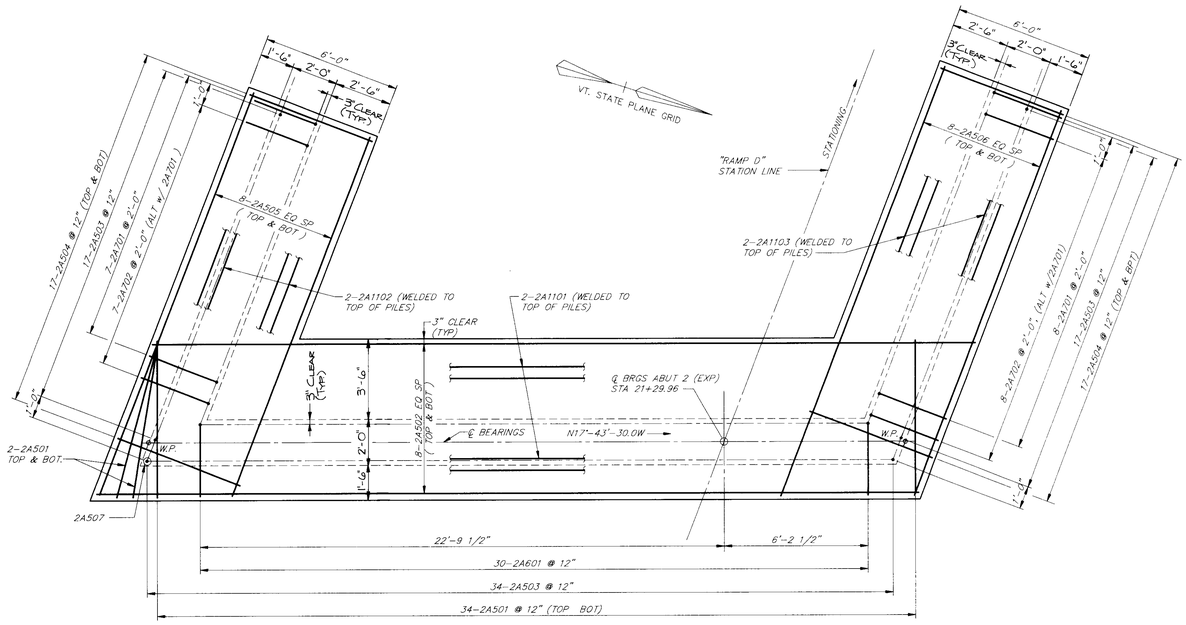
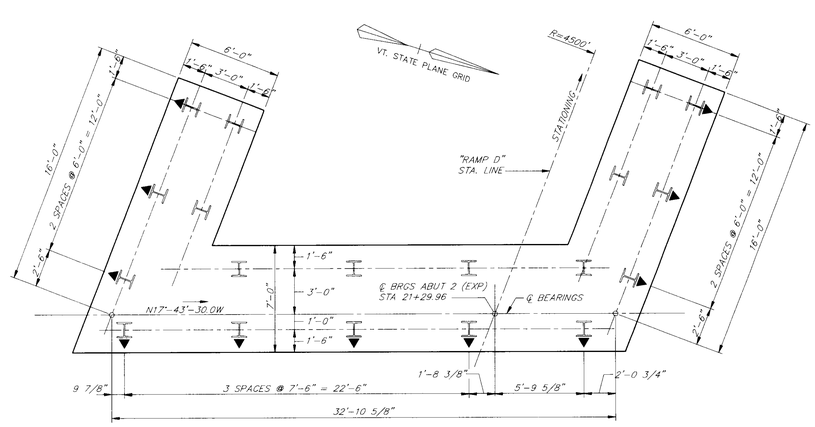


ABUTMENT 2 – FOOTING REINFORCEMENT PLAN

3/8" = 1'-0"



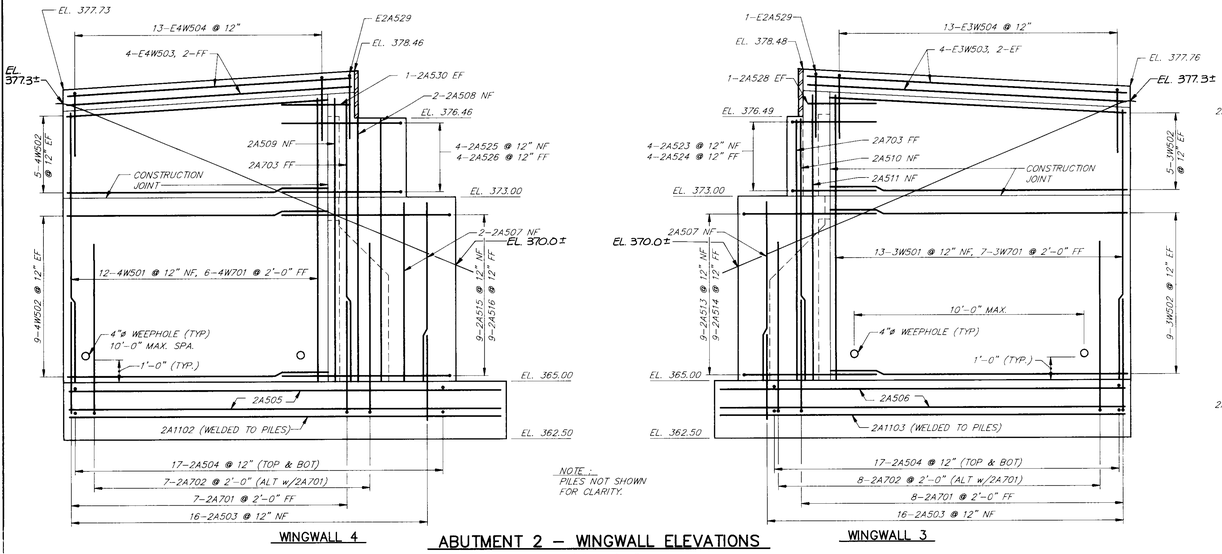
ABUTMENT 2 –PILE LAYOUT

1/4" = 1'-0"

TOTAL PILE LENGTH = 1215.2 LF

NOTES :

1. ◀— INDICATES LOCATION AND DIRECTION OF 1 ON 6 BATTERED PILE.
2. APPROXIMATE LENGTH OF THE PILES IS 95'.
3. ALL PILES SHALL BE DRIVEN TO REFUSAL. PILE DESIGN LOAD IS 70 TONS.
4. ALL PILES TO BE HP 12x74.



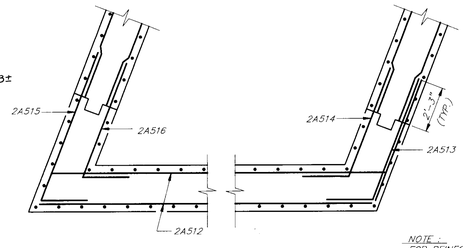
WINGWALL 4

NOTE :
PILES NOT SHOWN FOR CLARITY.

WINGWALL 3

ABUTMENT 2 – WINGWALL ELEVATIONS

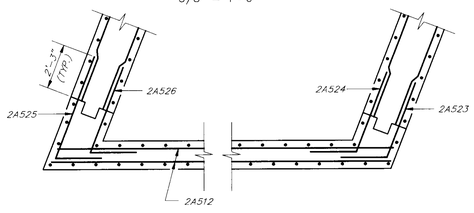
3/8" = 1'-0"



STEM REINFORCEMENT PLAN

3/8" = 1'-0"

NOTE :
FOR REINFORCEMENT NOT NOTED SEE WINGWALL ELEV. (THIS DWG) & ABUTMENT ELEV. (DWG BR316)

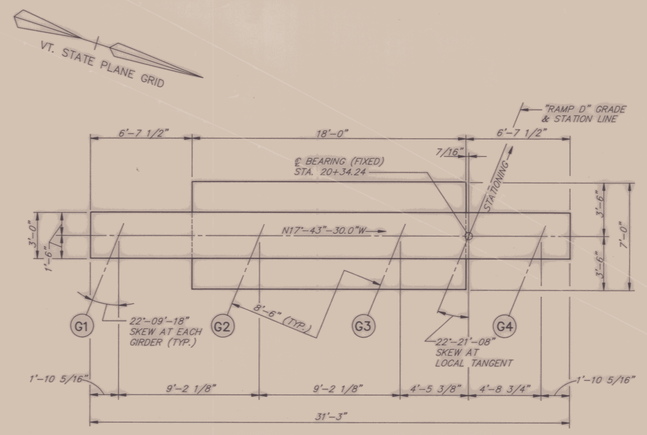


BACKWALL REINFORCEMENT PLAN

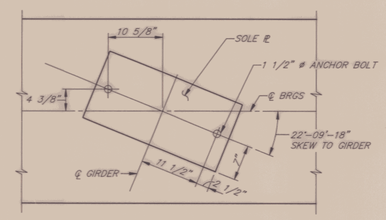
3/8" = 1'-0"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 13
HIGHWAY NO. VT. RTE. 289	Log Sta. Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP D" OVER CVRR	
ABUTMENT 2 – SECTIONS & DETAILS	
Designed by KRH	Drawn by J.D.H. SR. / M.W.D.
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR317	Sheet 182 of 400



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



ANCHOR BOLT LAYOUT
1" = 1'-0"

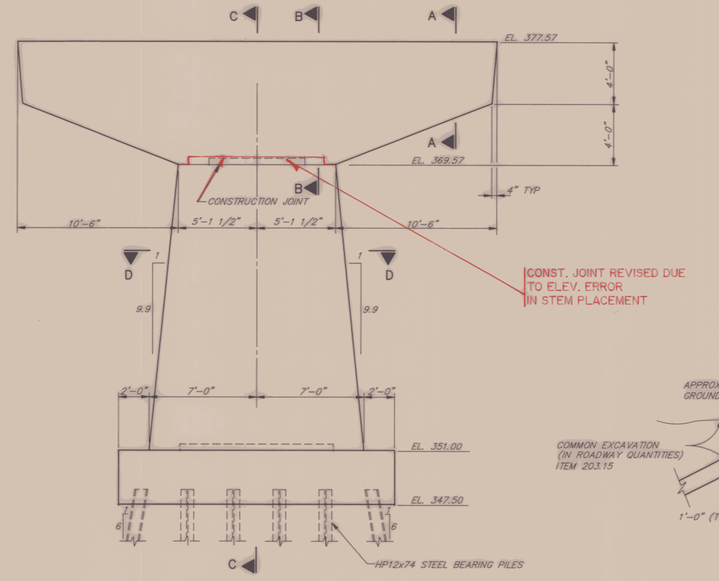
NOTE : ANCHOR BOLTS SHALL BE SET BEFORE PIER CONCRETE IS PLACED

NOTES : 1. FOR SECTIONS B–B, C–C AND D–D SEE SHEET BR319.

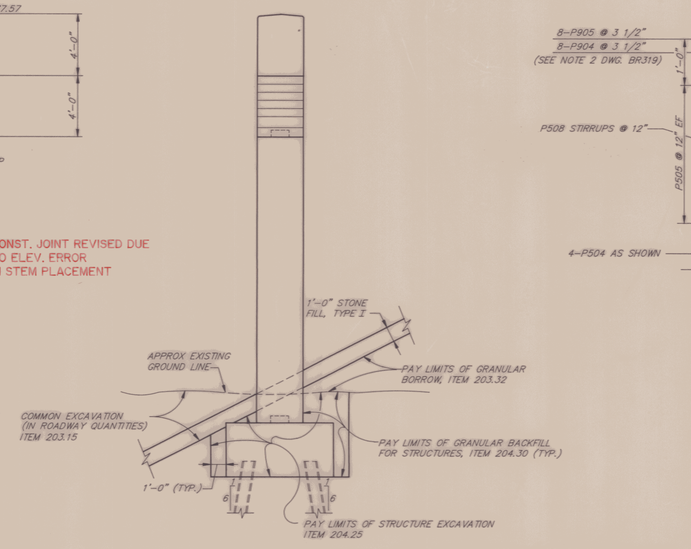
2. PIER SEAT AREA SHALL BE SLOPED 1/2"/FT. AWAY FROM CENTER, EXCEPT UNDER BEARING DEVICES, WHICH SHALL BE LEVEL. SEE GENERAL NOTES.

3. FINAL PIER SEAT ELEVATIONS SHALL BE SET ONLY AFTER APPROVAL OF BEARING DEVICE FABRICATION PLANS.

SEE WRITTEN ORDER 102
FOR REINF. STEEL CHANGES.

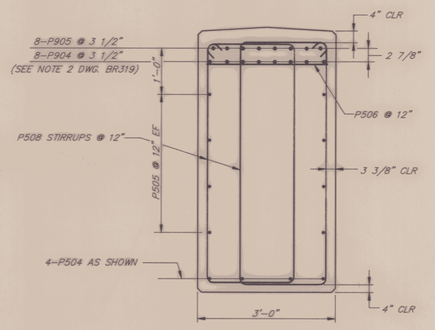


PIER ELEVATION
1/4" = 1'-0"



EARTHWORK LIMITS
N.T.S.

NOTE : 1. FOR ADDITIONAL LIMITS OF GRANULAR BORROW SEE ELEVATION ON SHEET BR301.
2. LIMITS TAKEN AT SECTION C–C.

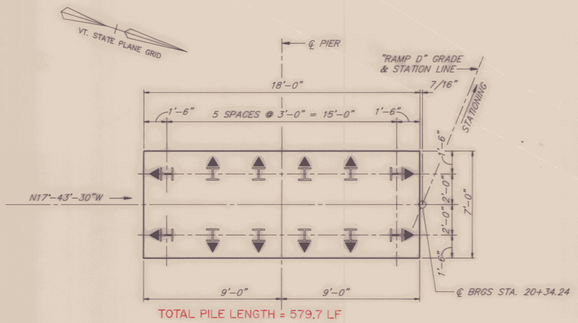


SECTION A–A
3/4" = 1'-0"

AS BUILT 5/12/94 JG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 13 / Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VTE. RTE. 289 "RAMP D" OVER CVRR	
PIER PLAN, ELEVATION AND SECTION	
Designed by KRH	Drawn by DJA / M.W.D.
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033–1(2)
Bridge Sheet No. BR318	Sheet 183 of 400



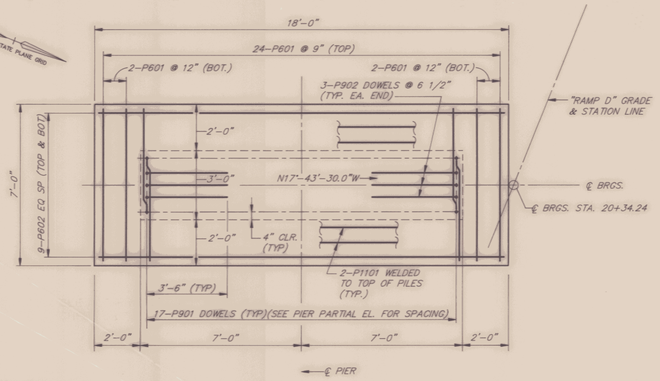
TOTAL PILE LENGTH = 579.7 LF

PILE LAYOUT PLAN

1/4" = 1'-0"

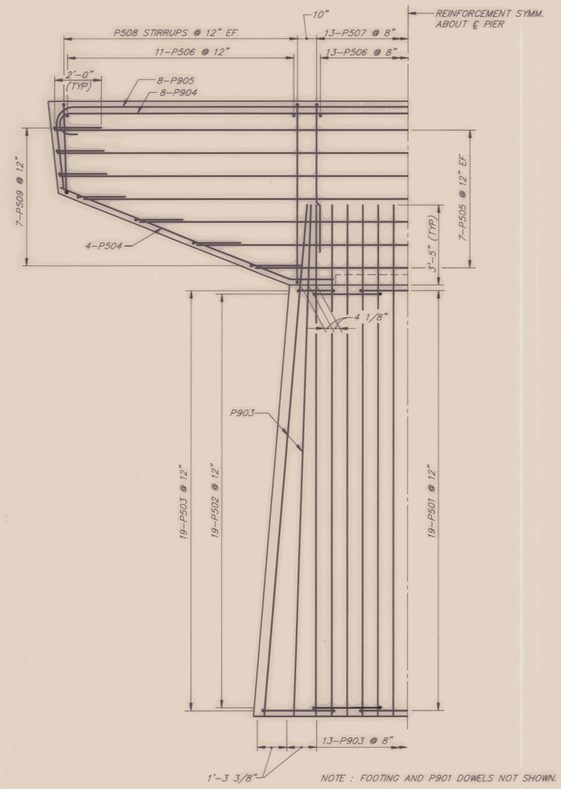
NOTES :

1. ⊣ – INDICATES LOCATION AND DIRECTION OF 1 ON 6 BATTERED PILES.
2. APPROXIMATE LENGTH OF THE PILES IS 35'
3. ALL PILES SHALL BE DRIVEN TO REFUSAL. PILES DESIGN LOAD IS 70 TONS.
4. ALL PILES TO BE HP12x74, ITEM 505.16.



PIER FOOTING PLAN

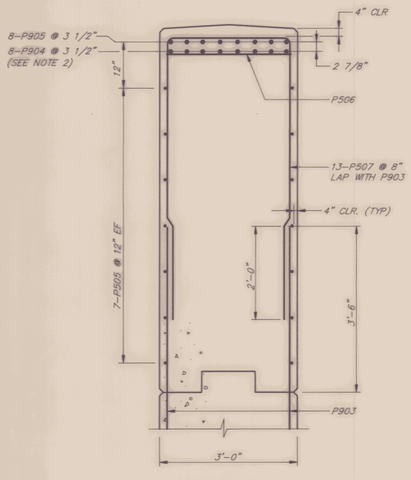
3/8" = 1'-0"



NOTE : FOOTING AND P901 DOWELS NOT SHOWN.

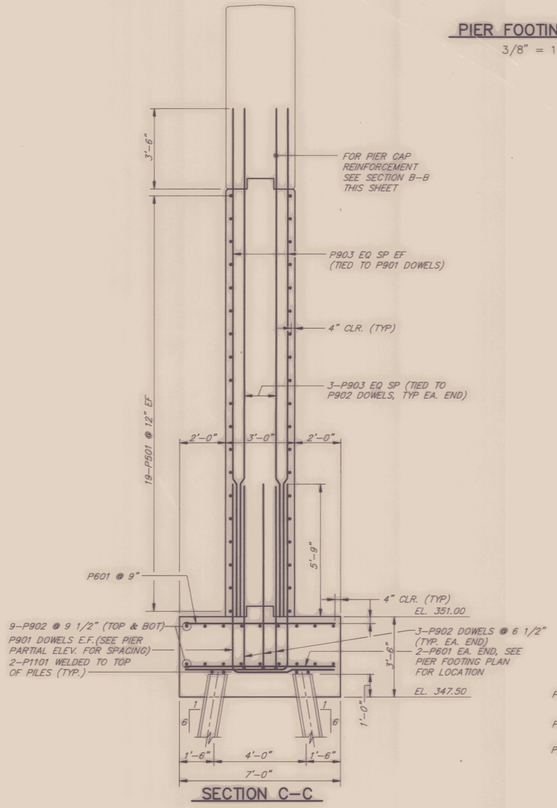
PIER – PARTIAL ELEVATION

3/8" = 1'-0"



SECTION B–B

3/4" = 1'-0"



SECTION C–C

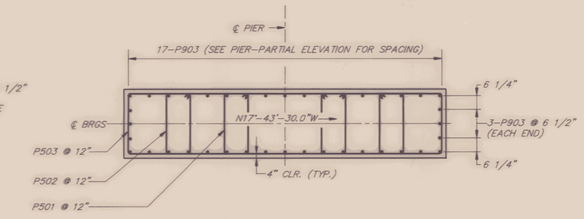
3/8" = 1'-0"

NOTE : 1. FOR LOCATION OF SECTIONS B–B, C–C AND D–D SEE SHEET BR318.

2. ADJUST SPACING OF TOP #9 BARS IN PIER CAP TO CLEAR ANCHOR BOLTS.

3. ABBREVIATIONS : E.F. – EACH FACE
F.F. – FAR FACE
N.F. – NEAR FACE

SEE WRITTEN ORDER 102 FOR REINF. STEEL CHANGES



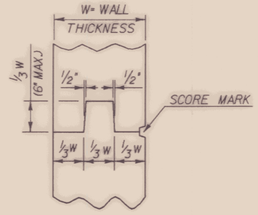
SECTION D–D

3/8" = 1'-0"

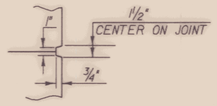
AS BUILT 5/12/94 JD

STATE OF VERMONT
AGENCY OF TRANSPORTATION

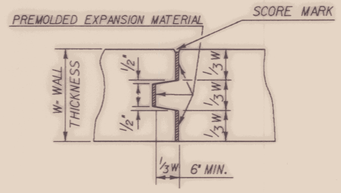
TOWN OF ESSEX	Bridge No. 13
HIGHWAY NO. VT. RTE. 289	Log Sta.
	Surv. Sta. RAMP 15+00
VTE. RTE. 289 "RAMP D" OVER CVRR	
PIER DETAILS	
Designed by KRH	Drawn by DJA / M.W.D.
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR319	Sheet No. 184 of 400



TYPICAL CONCRETE WALL CONSTRUCTION JOINT



SCORE MARK DETAIL



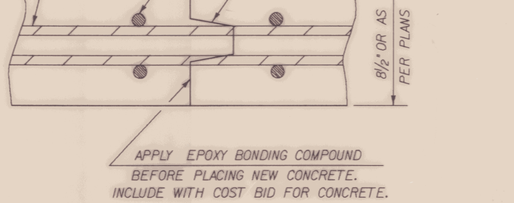
TYPICAL CONCRETE WALL EXPANSION JOINT



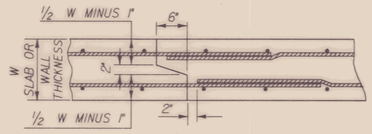
P.V.C. WATERSTOP FOR EXPANSION JOINTS

THE COSTS FOR P.V.C.WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.

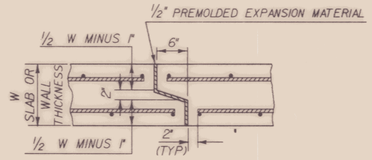
SEE ALTERNATE CONFIGURATION ON SHEET BR 306.



TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS



TYPICAL CONCRETE BOX CONSTRUCTION JOINT



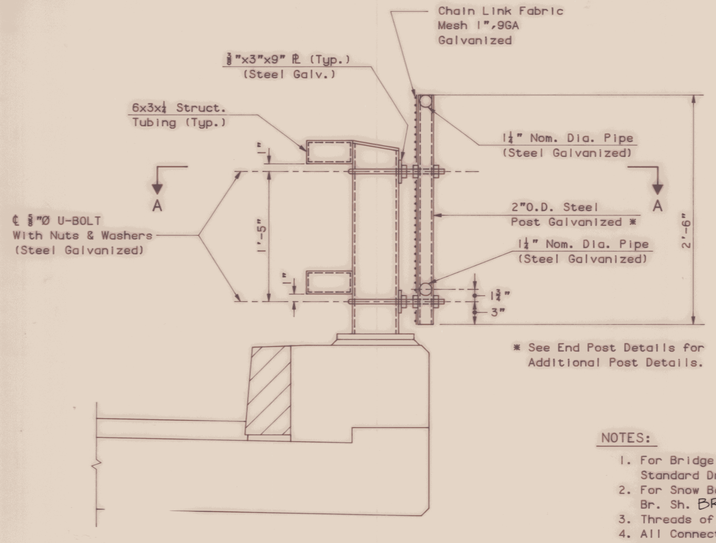
TYPICAL CONCRETE BOX EXPANSION JOINT

WATERSTOPS SHALL BE INSTALLED ALONG TOP SLABS AND WALLS ON ALL EXPANSION JOINTS OF DRY CONCRETE BOXES

AS BUILT 5/12/94 JG

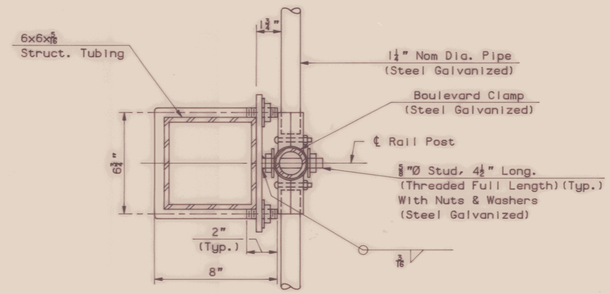
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ESSEX	Bridge No. 13
Highway No. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP D" OVER CVRR	
CONCRETE JOINT DETAILS	
Designed By ——	Drawn By ——
Checked By RJS Date 10-12-90	Bridge Design Supervisor MWO Date 10-12-90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
I.G.C. Info. ZFA:[30,32]83E069DET.DGN	PRF:CONCJOINT
Bridge Sheet No. BR 320	Sheet 185 of 400

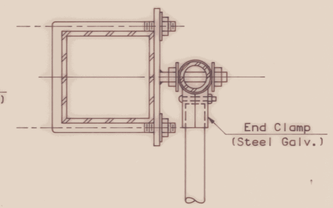


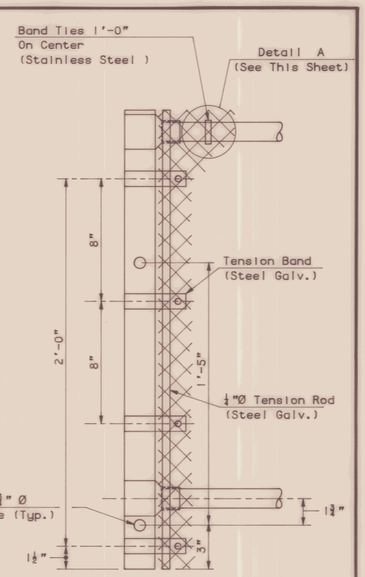
* See End Post Details for Additional Post Details.

TYPICAL SECTION
1½" - 1'-0"



SECTION A-A
3" = 1'-0"

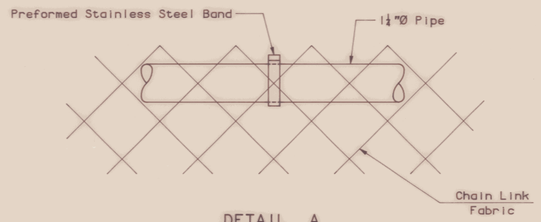




END POST DETAILS
3" = 1'-0"

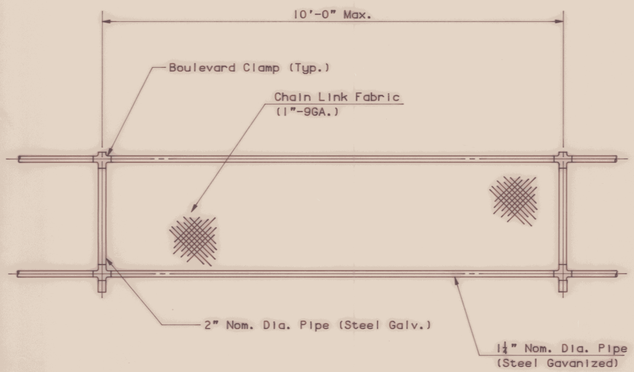
NOTES:

1. For Bridge Railing Details, See Standard Drawing SB-R4A-82.
2. For Snow Barrier Location See Br. Sh. BR301.
3. Threads of Studs and U-Bolts to be 5/8NC-2.
4. All Connection Plates to be Galvanized After Fabrication
5. 1¼" Pipe Length Shall be Field Cut to Fit Post Spacing.
6. Chain Link Fabric to be Knuckled Top and Bottom.



DETAIL A
No Scale

SNOW BARRIER DETAILS



ELEVATION - SNOW BARRIER
No Scale

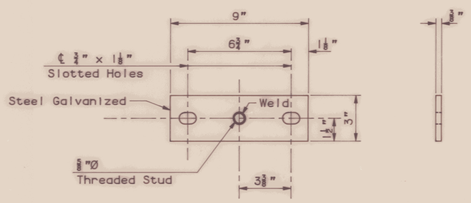
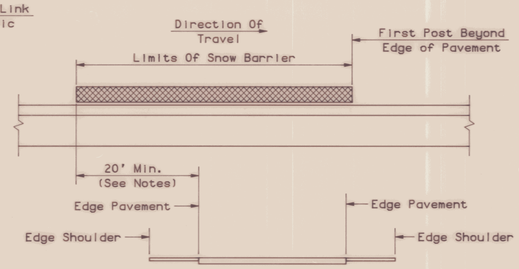


PLATE DETAIL
3" = 1'-0"



SECTION - TENSION BAND
3"=1'-0"



SCHEMATIC SNOW BARRIER LIMITS
No Scale

NOTES:

1. Snow Barrier Shall Begin at the First Rail Post Which Will Provide a Minimum Distance of 20' (as Shown), or as Directed by the Engineer.
2. Where a Railroad is Being Crossed, All References to Edge of Pavement Shall be Edge of Railroad Rail. AS BUILT 5/12/94

SEE WRITTEN ORDER 20
FOR CLARIFICATIONS ON CLAMPS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF Essex	Bridge No. 13
HIGHWAY NO. Vt. Rte. 289	Log Sta.
	Surv. Sta. Ramp 13+00
Vt. Rte. 289 "Ramp D" Over CVRR	
Snow Barrier Details	
Designed by ———	Drawn by ———
Checked by RJS date 10-12-90	Bridge Design Supervisor MWO date 10-12-90
PROJECT Williston - Colchester	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR321	Sheet 186 of 400

BR-6

191 of 465

GIRDER 1 – BRIDGE 3			
DISTANCE	THEORETICAL BOTTOM OF SLAB ELEVATION	TOP OF BEAM ELEVATION	DEPTH
ABUTMENT 1	385.161		
5	384.900		
10	384.640		
15	384.377		
20	384.114		
25	383.848		
30	383.583		
35	383.316		
40	383.049		
45	382.783		
50	382.520		
55	382.258		
60	382.002		
PIER	381.774		
65	381.750		
70	381.506		
75	381.267		
80	381.030		
85	380.796		
90	380.561		
95	380.324		
100	380.085		
105	379.841		
110	379.593		
115	379.339		
120	379.079		
125	378.814		
130	378.541		
135	378.263		
140	377.979		
145	377.690		
150	377.397		
155	377.100		
160	376.801		
ABUTMENT 2	376.772		

GIRDER 2 – BRIDGE 3			
DISTANCE	THEORETICAL BOTTOM OF SLAB ELEVATION	TOP OF BEAM ELEVATION	DEPTH
ABUTMENT 1	385.149		
5	384.888		
10	384.629		
15	384.366		
20	384.104		
25	383.839		
30	383.574		
35	383.308		
40	383.042		
45	382.776		
50	382.513		
55	382.252		
60	381.997		
PIER	381.770		
65	381.745		
70	381.502		
75	381.263		
80	381.027		
85	380.794		
90	380.559		
95	380.322		
100	380.084		
105	379.841		
110	379.594		
115	379.341		
120	379.081		
125	378.816		
130	378.544		
135	378.267		
140	377.983		
145	377.695		
150	377.402		
155	377.106		
160	376.808		
ABUTMENT 2	376.778		

GIRDER 3 – BRIDGE 3			
DISTANCE	THEORETICAL BOTTOM OF SLAB ELEVATION	TOP OF BEAM ELEVATION	DEPTH
ABUTMENT 1	385.137		
5	384.877		
10	384.619		
15	384.375		
20	384.095		
25	383.831		
30	383.566		
35	383.301		
40	383.035		
45	382.770		
50	382.508		
55	382.247		
60	381.992		
PIER	381.766		
65	381.741		
70	381.499		
75	381.261		
80	381.025		
85	380.792		
90	380.558		
95	380.322		
100	380.084		
105	379.842		
110	379.595		
115	379.342		
120	379.083		
125	378.819		
130	378.548		
135	378.271		
140	377.988		
145	377.700		
150	377.408		
155	377.112		
160	376.815		
ABUTMENT 2	376.785		

GIRDER 4 – BRIDGE 3			
DISTANCE	THEORETICAL BOTTOM OF SLAB ELEVATION	TOP OF BEAM ELEVATION	DEPTH
ABUTMENT 1	385.127		
5	384.867		
10	384.609		
15	384.348		
20	384.087		
25	383.823		
30	383.559		
35	383.294		
40	383.029		
45	382.764		
50	382.503		
55	382.243		
60	381.988		
PIER	381.763		
65	381.738		
70	381.496		
75	381.259		
80	381.024		
85	380.791		
90	380.558		
95	380.322		
100	380.085		
105	379.843		
110	379.597		
115	379.345		
120	379.086		
125	378.822		
130	378.552		
135	378.276		
140	377.993		
145	377.706		
150	377.414		
155	377.119		
160	376.823		
ABUTMENT 2	376.793		

ROADWAY SLAB NOTES

1. AFTER THE GIRDERS ARE ERECTED, BUT BEFORE FORMS ARE BUILT, ELEVATIONS ON THE TOP FLANGE OF GIRDER ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE OF THESE ELEVATIONS AND THOSE SHOWN IN THE TABLE, GIVES THE ACTUAL DISTANCE FROM THE TOP OF GIRDER TO THE BOTTOM OF SLAB.

2. ELEVATIONS SHOWN ARE FINISHED BOTTOM OF SLAB ELEVATIONS ADJUSTED FOR TOTAL DEAD LOAD DEFLECTION LESS THE DEFLECTION DUE TO STEEL WEIGHT.

3. FOR DEAD LOAD DEFLECTION SCHEDULES, SEE BR308

4. BRIDGE SEAT ELEVATIONS AS SHOWN ON THESE PLANS, HAVE BEEN LOWERED TO ACCOUNT FOR RESIDUAL CAMBER AND TO MAINTAIN A MINIMUM HAUNCH.

SEE FIELD ENGINEER'S NOTES AND CALCULATIONS IN BRIDGE BOOK FOR FINAL ELEVATIONS AND HAUNCH DEPTHS

AS BUILT 5/12/94 SP

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 13 Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP D" OVER CVRR	
BEAM PROFILE TABLES – 1	
Designed by FMG/M.J.K.	Drawn by M.W.D.
Checked by RJS date 10-12-90	Bridge Design Supervisor MWO date 10-12-90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1 (2)
Bridge Sheet No. BR322	Sheet 187 of 400

ABUTMENT 1

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
1																	
2	4	11	36-2	1A1101	STR												
3	4	11	22-10	1A1102	STR	▲											
4	4	11	24-1	1A1103	STR	▲											
5	73	5	6-6	1A501	STR	✱											
6	16	5	36-2	1A502	STR												
7	75	5	3-9	1A503	STR												
8	84	5	5-6	1A504	STR												
9	14	5	22-10	1A505	STR	▲											
10	14	5	24-1	1A506	STR	▲											
11	31	6	11-1	1A601	17	✱	3-1	8-0	0-0								
12																	
13	20	7	8-0	1A701	17	✱	3-1	4-11	0-0								
14	19	7	10-6	1A702	17		3-1	7-5	0-0								
15	2	7	13-2	1A703	STR												
16	1	7	18-3	1A704	STR												
17	16	8	5-3	1A801	19	✱	0-0	3-0	2-3				1-7⅛		1-7⅛		
18	2	5	7-8	1A507	STR												
19	3	5	11-3	1A508	STR												
20	1	5	12-6	1A509	STR												
21	1	5	11-3	1A510	STR												
22	2	5	12-6	1A511	STR												
23	30	5	32-10	1A512	STR												
24	8	5	8-3	1A513	19		2-3	6-0	0-0				0-10⅛		2-1		
25	8	5	7-5	1A514	19		2-3	5-2	0-0				0-10⅛		2-1		
26																	
27	8	5	9-8	1A515	ZZ		2-3	7-5					2-1		0-10⅛		
28	8	5	7-5	1A516	ZZ		2-3	5-2					2-1		0-10⅛		
29																	
30	33	5	5-9	1A517	17		1-0	3-9	1-0								
31	30	5	9-2	1A518	16	0-7	1-9	2-1	4-9				3-4		3-4		
32																	
33	6	5	5-4	1A519	STR												
34	6	5	4-3	1A520	17		0-9	3-4	0-0								
35	29	5	4-10	1A521	STR												
36	29	5	3-7	1A522	17		0-9	2-10	0-0								
37																	
38	4	5	6-1	1A523	19		2-3	3-10	0-0				0-10⅛		2-1		
39	4	5	5-11	1A524	19		2-3	3-8	0-0				0-10⅛		2-1		
40	4	5	7-7	1A525	ZZ		2-3	5-4					2-1		0-10⅛		
41	4	5	6-0	1A526	ZZ		2-3	3-9					2-1		0-10⅛		
42																	
43	2	5	18	1A527	STR												
44	1	5	3-3	1A528	STR												
45																	
46	4	5	6-8	E1A529	17		2-10	1-0	2-10								
47																	
48	1	5	3-3	1A530	STR												
49																	
50				WINGWALL 1													
51																	
52	15	5	13-2	1W501	STR	▲											
53	30	5	15-2	1W502	STR												
54	4	5	16-4	E1W503	STR												
55	16	5	6-8	E1W504	17		2-10	1-0	2-10								
56																	
57																	
58	8	7	13-2	1W701	STR	▲											
59																	
60				WINGWALL 2													
61																	
62																	
63	17	5	13-3	2W501	STR	▲											
64	30	5	16-11	2W502	STR												
65	4	5	18-2	E2W503	STR												
66	18	5	6-8	E2W504	17		2-10	1-0	2-10								
67																	
68	9	7	13-3	2W701	STR	▲											
69																	
70																	
71																	
72																	
73																	
74																	
75																	
76																	
77																	
78																	
79																	
80																	

ABUTMENT 2

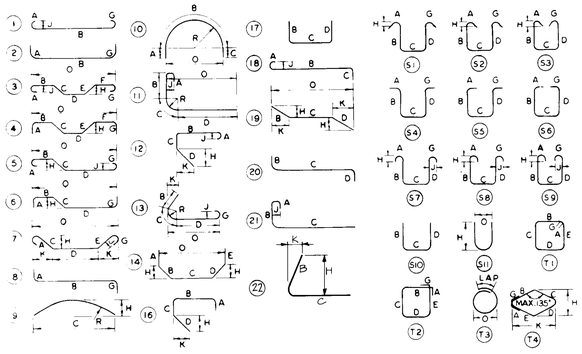
ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
81																	
82	4	11	35-7	2A1101	STR												
83	4	11	16-6	2A1102	STR												
84	4	11	17-9	2A1103	STR												
85	73	5	6-6	2A501	STR	✱											
86	16	5	35-7	2A502	STR												
87	68	5	3-9	2A503	STR												
88	68	5	5-5	2A504	STR												
89	16	5	18-9	2A505	STR	▲											
90	16	5	19-11	2A506	STR	▲											
91	31	6	11-1	2A601	17	✱	3-1	8-0	0-0								
92																	
93	16	7	8-0	2A701	17	✱	3-1	4-11	0-0								
94	15	7	10-6	2A702	17		3-1	7-5	0-0								
95	1	7	12-2	2A703	STR												
96	16	8	5-3	2A801	19	✱	0-0	3-0	2-3				1-7⅛		1-7⅛		
97	37	5	7-9	2A507	STR												
98	2	5	11-3	2A508	STR												
99	1	5	12-4	2A509	STR												
100	1	5	11-3	2A510	STR												
101	1	5	12-3	2A511	STR												
102	31	5	32-4	2A512	STR												
103	9	5	8-3	2A513	19		2-3	6-0	0-0				0-10⅛		2-1		
104	9	5	7-5	2A514	19		2-3	5-2	0-0				0-10⅛		2-1		
105																	
106	9	5	9-8	2A515	ZZ		2-3	7-5					2-1		0-10⅛		
107	9	5	7-5	2A516	ZZ		2-3	5-2					2-1		0-10⅛		
108																	
109	34	5	10-4	2A517	16	1-0	3-9	0-10	4-9				3-4		3-4		
110																	
111	6	5	5-3	2A519	STR												
112	6	5	4-0	2A520	17		0-9	3-3	0-0								
113	28	5	4-9	2A521	STR												
114	28	5	5-5	2A522	17		0-9	4-8	0-0								
115																	
116	4	5	6-1	2A523	19		2-3	3-10	0-0				0-10⅛		2-1		
117	4	5	5-11	2A524	19		2-3	3-8	0-0				0-10⅛		2-1		
118	4	5	7-7	2A525	ZZ		2-3	5-4					2-1		0-10⅛		
119	4	5	6-0	2A526	ZZ		2-3	3-9					2-1		0-10⅛		
120																	
121	2	5	1-8	2A527	STR												
122	1	5	3-3	2A528	STR												
123																	
124	2	5	6-8	E2A529	17		2-10	1-0	2-10								
125																	
126	1	5	3-3	2A530	STR												
127																	
128																	
129				WINGWALL 3													
130																	
131																	
132	13	5	12-2	3W501	STR	▲											
133	28	5	12-7	3W502	STR												
134	4	5	13-9	E3W503	STR												
135	13	5	6-8	E3W504	17		2-10	1-0	2-10								
136																	
137																	
138	7	7	12-2	3W701	STR	▲											
139																	
140				WINGWALL 4													
141																	
142																	
143	12	5	12-2	4W501	STR	▲											
144	28	5	11-1	4W502	STR												
145	4	5	12-2	E4W503	STR												
146	13	5	6-8	E4W504	17		2-10	1-0	2-10								
147																	
148	6	7	12-2	4W701	STR	▲											
149																	
150																	
151																	
152																	
153																	
154																	
155																	
156																	
157																	
158																	
159																	
160																	

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
161																	
162																	
163																	
164																	
165																	
166																	
167																	
168																	
169																	
170																	
171																	
172																	
173																	
174																	
175																	
176																	
177																	
178																	
179																	
180																	

ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	CROSS SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

TYPICAL BAR BENDS



SEE SHEET 2 FOR ADDITIONAL TYPICAL BAR BENDS

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT; AASHTO M 31 (ASTM A 615-81). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE"
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
5. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.

▲ DENOTES BARS TO BE CUT IN FIELD.
✱ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
△ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.

REV NO	MADE BY	DATE	DESCRIPTION

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	BRIDGE NO. 13
HIGHWAY NO. VT. RTE. 289	LOG STA. / SURV. STA. RAMP 15+00
VT. RTE. 289 "RAMP D" OVER CVRR	
REINFORCING STEEL SCHEDULE - 1	
DESIGNED BY LRH	DRAWN BY [illegible]
CHECKED BY LRS DATE 10-12-90	BRIDGE DESIGN SUPERVISOR MWO DATE 10-12-90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(4)
BRIDGE SHEET NO. BR323 SHEET	188 OF 400

193 OF 465

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
				PIER													
1																	
2	4	11	17-4	P1101	STR												
3																	
4	29	6	6-4	P601	STR	*											
5	18	6	17-4	P602	STR												
6																	
7	34	9	12-5	P901	B	4-2	8-3					0-0					
8	7	9	11-9	P902	B	3-6	8-3	*				0-0					
9	40	9	22-1	P903	STR												
10	19	5	13-11½	P501	T1	0-8	4-1⅛	2-2⅝	4-1⅛	2-2⅝		0-8					
11	38	5	11-3½	P502	T1	0-8	2-9⅛	2-2⅝	2-9⅛	2-2⅝		0-8					
12	38	5	10-6½	P503	T1	0-8	AVG 2-4⅞	2-2⅝	AVG 2-4⅞	2-2⅝		0-8					
13				(DIM. "B" AND "D" VARIES FROM 1-5⅞ TO 3-3⅞ (2 SETS OF 19 BARS))													
14																	
15	8	5	12-11	P504	19		2-0	10-11	0-0				0-8¾		1-10¼		
16	15	5	30-7	P505	STR	* ▲											
17	35	5	2-4	P506	STR												
18	13	5	14-6¾	P507	S10		6-2	2-2¾	6-2								
19	44	5	15-3¾	P508	T1	0-8	1-7⅞	AVG 5-4	1-7⅞	AVG 5-2		0-8					
20				(DIM "C" AND "E" VARIES FROM 3-4 TO 7-4 (4 SETS OF 11 BARS))													
21	14	5	6-4	P509	17		2-0	2-4	2-0								
22																	
23	8	9	33-1	P904	1	1-3	30-7					1-3		0-11¾			
24	8	9	37-5½	P905	13		2-11½	0-8	30-2¼			0-0		0-0	0-4	0-4¾	30-7
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32				DECK SLAB													
33																	
34																	
35	360	5	42-9	ES501	STR												
36	392	5	5-6	ES502	S5	0-10	1-5	1-0	1-5			0-10					
37	54	5	3-6	ES503	23		0-9	1-0	0-9	1-0							
38	54	5	4-1	ES504	20		2-0	0-9	1-4								
39	14	5	8-3	ES505	STR	△											
40	8	5	28-3	ES506	STR												
41																	
42	968	6	32-3	ES601	STR												
43	30	6	20-0	ES602	STR	△											
44	28	6	39-0	ES603	STR												
45																	
46																	
47				APPROACH SLAB 1													
48																	
49																	
50	22	5	19-6	IAS501	STR	*											
51																	
52	36	10	29-11	IAS1001	1	1-5	28-6					0-0				1-1¼	
53																	
54																	
55																	
56																	
57				APPROACH SLAB 2													
58																	
59																	
60	21	5	19-6	ZAS501	STR												
61																	
62	37	10	29-6	ZA1001	1	1-5	28-1	*				0-0				1-1¼	
63																	
64																	
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ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
81																	
82																	
83																	
84																	
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86																	
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158																	
159																	
160																	

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
161																	
162																	
163																	
164																	
165																	
166																	
167																	
168																	
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173																	
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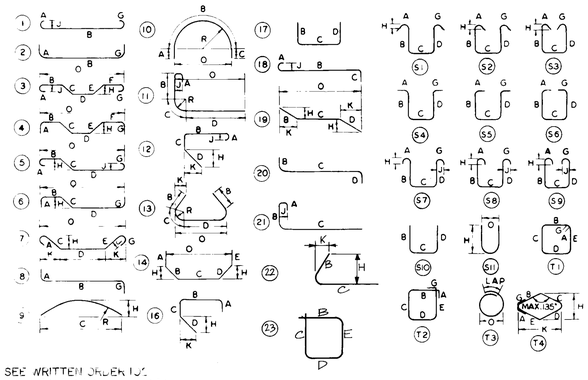
176																	
177																	
178																	
179																	
180																	

ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	CROSS SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

TYPICAL BAR BENDS



SEE WRITTEN ORDER IDS FOR REINF. STEEL CHANGES

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT," AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE"
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
5. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.

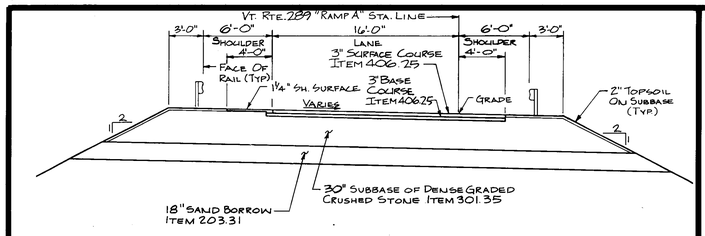
▲ DENOTES BARS TO BE CUT IN FIELD.
✱ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
△ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.

REV NO	MADE BY	DATE	DESCRIPTION
			AS E 11-[illegible]/24 SB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

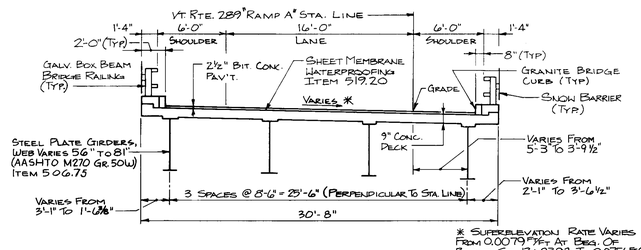
TOWN OF ESSEX	BRIDGE NO. 13
	LOG STA.
HIGHWAY NO. VT. RTE. 289	SURV. STA. RAMP 15+00
VT. RTE. 289 "RAMP D" OVER CVRR	
REINFORCING STEEL SCHEDULE-2	
DESIGNED BY KEH	DRAWN BY
CHECKED BY RJS DATE 10-12-90	BRIDGE DESIGN SUPERVISOR MWO DATE 10-12-90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
BRIDGE SHEET NO. BR324	SHEET 189 OF 488

124502



NEW HIGHWAY SECTION — BRIDGE APPROACHES

3/16"=1'-0"



BRIDGE TYPICAL SECTION

3/16"=1'-0"

* Superelevation Rate Varies From 0.0079 Ft/Ft At Brgs. Of Bridge Sta. 13+83.92 To 0.0756 Ft/Ft At End Of Bridge Sta. 17+18.67

NEW STRUCTURE

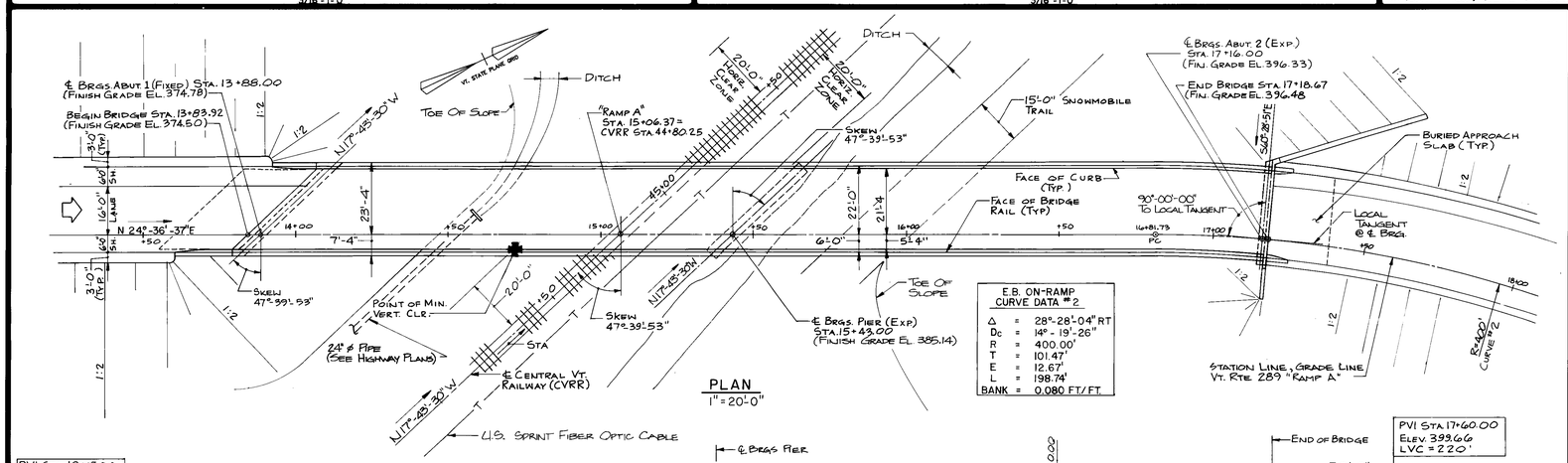
STRUCTURE GEOMETRY:

1. STRUCTURE TYPE Two Span Steel Multi-Girder — OVERALL LENGTH 334'-9" Along Station Line
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 155'-0", 173'-0" Along Station Line
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER – 23'-6" To CVRR Railway
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM –
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) –
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? N.A.

ALLOWABLE STRESSES:

1. DESIGN LIVE LOAD AASHTO HS-25-44
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL – ON LEDGE –
3. ALLOWABLE LOAD FOR PILING 70 Tons TYPE HP12 x 74 ESTIMATED LENGTH *
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO M270 Gr. 50W TENSION 27,000 PSI
5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION 24,000 PSI COMPRESSION 20,000 PSI
6. ALLOWABLE STRESS FOR CONCRETE CLASS A f'_c 3,500 PSI ** f_c 1,400 PSI
   CLASS B f'_c 3,500 PSI f_c 1,400 PSI

* Abut. 1 - 100', Abut 2 - Varies 100'-110', & Pier - 70' ** See General Note 15, Sheet BR602



EAST ELEVATION

1" = 20'-0"

E.B. ON-RAMP CURVE DATA # 2

Δ	=	28°-28'-04" RT
D_c	=	14° - 19'-26"
R	=	400.00'
T	=	101.47'
E	=	12.67'
L	=	198.74'
BANK	=	0.080 FT/FT

Note: All Dimensions and Slopes Indicated in Elevation, Except Span Length, Are Normal to CVRR.

IT IS A VIOLATION FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER ANY ITEM IN THESE CONTRACT DOCUMENTS IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

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CLOUGH, HARBOUR & ASSOCIATES ENGINEERS & PLANNERS

STATE OF VERMONT — JOHN M. KRUEGER — NO. 5599 — REGISTERED PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL John M Krueger 10/12/90 DATE

VAOT STANDARD SHEETS

SB-R4A - 82 9-18-89R

SB-R4B - 82 3-30-88R

INDEX OF DRAWINGS

DWG. NO.	DESCRIPTION
BR 601	PLAN, ELEVATION AND SECTIONS
BR 602	GENERAL NOTES AND COMMON DETAILS
BR 603	BRIDGE QUANTITY SHEET
BR 604	BORING INFORMATION SHEET (1 OF 2)
BR 605	BORING INFORMATION SHEET (2 OF 2)
BR 606	TRANSVERSE SECTION & DECK SLAB PLAN
BR 607	FRAMING PLAN AND GIRDER ELEVATION
BR 608	GIRDER DETAILS
BR 609	SPLICE DETAILS
BR 610	MISCELLANEOUS DETAILS
BR 611	BEARING DEVICE DETAILS
BR 612	EXPANSION JOINT DETAILS - 1
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BR 614	EXPANSION JOINT DETAILS - 3
BR 615	STRUCTURAL STEEL DETAILS
BR 616	BRIDGE CURB AND PAVEMENT JOINT DETAILS
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BR 619	ABUTMENT 1 - PLAN, ELEVATION & SECTION
BR 620	ABUTMENT 1 - SECTIONS AND DETAILS - 1
BR 621	ABUTMENT 1 - SECTIONS AND DETAILS - 2
BR 622	ABUTMENT 2 - PLAN & DETAILS
BR 623	ABUTMENT 2 - ELEVATION & SECTIONS
BR 624	ABUTMENT 2 - SECTIONS & DETAILS
BR 625	ABUTMENT 2 - WINGWALL SECTION AND DETAILS
BR 626	PIER PLAN, ELEVATIONS & SECTIONS
BR 627	PIER DETAILS
BR 628	CONCRETE JOINT DETAILS
BR 629	SNOW BARRIER DETAILS
BR 630	BEAM PROFILE TABLES
BR 631	REINFORCING STEEL SCHEDULE - 1
BR 632	REINFORCING STEEL SCHEDULE - 2

* Lane Loading Controls ** Truck Loading Controls

LOAD RATING (TONS)

STRESS LEVELS	TRUCK H *	HS **	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY 0.55 Fy = 27 KSI	25	45	X	X	X	X	X
POSTED 0.67 Fy = 33.5 KSI	45	70	77	X	67	68	74
OPERATING 0.75 Fy = 37.5 KSI	X	86	94	102	83	83	X

RECOMMENDED FOR APPROVAL _____ STRUCTURES ENGINEER DATE

RECOMMENDED FOR APPROVAL _____ CHIEF OF DESIGN DATE

APPROVED BY _____ DIRECTOR OF ENGINEERING & CONSTRUCTION DATE

REVISIONS

NO.	DESCRIPTION	BY & DATE
	BUILT	

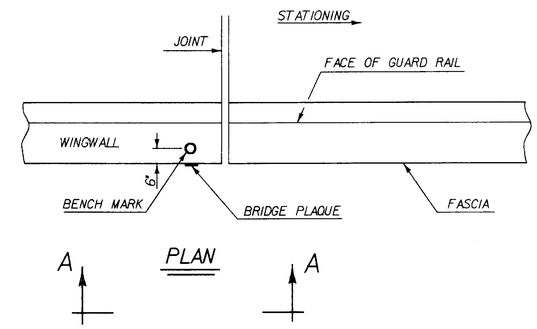
STATE OF VERMONT
AGENCY OF TRANSPORTATION

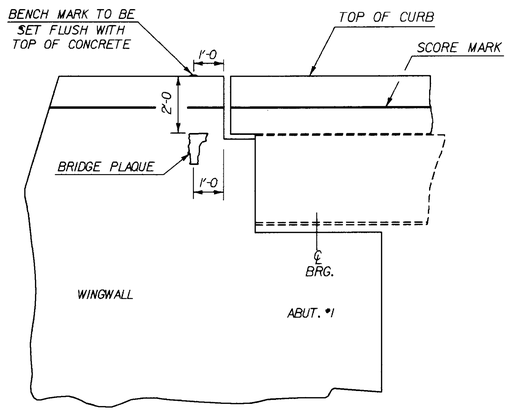
TOWN OF ESSEX	Bridge No. 14
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00

VT. RTE. 289 "RAMP A" OVER CVRR

PLAN, ELEVATION AND SECTIONS

Designed by KRH	Drawn by BW
Checked by date 10/11/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR601	Sheet 190 of 400





VIEW "A - A"

LOCATION OF BENCH MARK AND BRIDGE PLAQUE

THE BRIDGE PLAQUE AND BENCH MARK WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

GENERAL NOTES

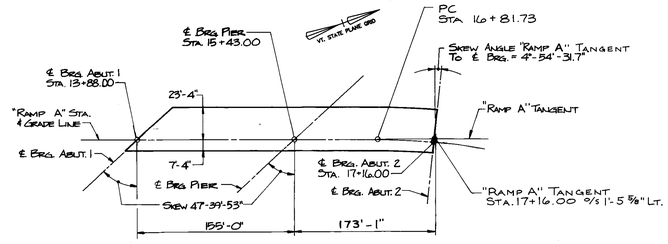
1. THE FOLLOWING NOTES SHALL APPLY UNLESS OTHERWISE NOTED ON THE PLANS.
2. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES , AND ITS LATEST REVISIONS.
3. DESIGN IS FOR HS-25-44 LOADING UNLESS OTHERWISE NOTED ON THE PLANS.
4. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER, TYPE III BOLTS MEETING AASHTO M 164. HOLES SHALL BE 15/16" DIAMETER. CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STATE FOR APPROVAL.
5. ALL WELDING SHALL CONFORM WITH THE PROVISIONS OF SUBSECTION 506.10.
6. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF BEAMS SHALL BE TAKEN AS DIRECTED BY THE ENGINEER FOR USE IN DETERMINING FINAL GRADE.
7. ANY FORM BRACKET HOLES IN FASCIA GIRDER WEBS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS. (TYPE III ON AASHTO M270 GR 50W STEEL)
8. MINIMUM COVER FOR REINFORCING STEEL SHALL BE TWO (2) INCHES ALONG BACK FACES OF WALLS AGAINST EARTH, AND THREE (3) INCHES ELSEWHERE.
9. REINFORCING PLACEMENT TOLERANCES SHALL BE:
   SPACING +- 1"
   CLEARANCE +- 1/4"
10. DECK CONCRETE SHALL BE "CONCRETE, CLASS A". ALL OTHER CONCRETE SHALL BE "CONCRETE, CLASS B" UNLESS OTHERWISE DESIGNATED ON THE PLANS.
11. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" BY 1".
12. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 1/2" PER FOOT. ABUTMENT SEATS SHALL BE SLOPED FULL WIDTH TOWARD CENTER SPAN. PIER SEATS SHALL BE SLOPED EACH WAY FROM CENTER. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.
13. FOR BRIDGE DECK POURS, THE MAXIMUM TIME LIMIT FOR ANY COMBINATION OF POURS DONE IN ONE DAY SHALL BE EIGHT HOURS. THERE SHALL BE A MINIMUM DELAY OF NINETY SIX HOURS BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANY OTHER POUR.
14. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP BEADS.
15. THE FOLLOWING TABLE OF ALLOWABLE STRESSES APPLY TO THESE PLANS FOR DESIGN PURPOSES:
    * CONCRETE: f'c = 3500 PSI fc=1400 PSI

	AASHTO M270 GR 50W	AASHTO M270 GR36
STRUCTURAL STEEL: F = (WORKING STRESS)	27,000 PSI	F = 20,000 PSI (WORKING STRESS)

	AASHTO M31
REINFORCING STEEL: Ft =	24,000 PSI

* NOTE: SPECIFICATIONS CALL FOR A CLASS A CONCRETE WHICH WILL PRODUCE 4000 PSI AT 28 DAYS.

16. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT UNLESS OTHERWISE NOTED.
17. FILL IN AREAS THROUGH WHICH PILES ARE TO BE DRIVEN SHALL HAVE A MAXIMUM STONE SIZE OF NINE (9) INCHES.
18. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
19. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.



STRUCTURE GEOMETRY SCHEMATIC
NTS

BUILT AS DESIGNED 5/12/94 JG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ESSEX	Bridge No. 14
Highway No. VT RTE 289	Log Sta. / Surv. Sta. RAMP 15+00
VT RTE 289 RAMP "A" OVER CVRR	
GENERAL NOTES AND COMMON DETAILS	
Designed By	Drawn By
Checked By RJS Date 10/12/90	Bridge Design Supervisor MWO Date 10/12/90
PROJECT WILLISTON-COLCHESTER	PROJECT NO. PB 033-1(2)
I.G.C. Info. ZFA\:[30,32]83E069DET.DGN	PRF:GENRLNOTE
Bridge Sheet No. BRG02	Sheet 191 of 488

EARTHWORK

V.C.	% GRD	STATION	GRADES ELEVATION ON TAN.	GRADES ELEVATION ON V.C.	CORR. V.C.	DIST.	AREA	CU. YDS.	AREA	CU. YDS.	AREA	CU. YDS.	AREA	CU. YDS.

BRIDGE QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION
STRUCTURES DIVISION

	NO.	ITEM	UNIT	QUANTITY BREAKDOWN: SUPER STRUCTURE	ABUTMENT No. 1	PIER	ABUTMENT No. 2	APPROACH SLABS	TOTAL	FINAL
*	203.32	GRANULAR BORROW (NOT FACTORED)	C.Y.		8,650		26,610		35,260	
	204.25	STRUCTURE EXCAVATION	C.Y.			140			140	
	204.30	GRANULAR BACKFILL FOR STRUCTURES	C.Y.			80			80	
*	406.25	BITUMINOUS CONCRETE PAVEMENT	TON	135					135	
	501.22	CONCRETE - CLASS A	C.Y.	340					340	
	501.25	CONCRETE - CLASS B (RAMP A OVER CVRR)	C.Y.		137	129	258	48	572	
	504.10	FURNISHING EQUIP. FOR DRIVING PILING	L.S.		0.33	0.33	0.33		1	
	505.16	STEEL PILING (HP12 x 74)	L.F.		2,300	1,820	4,640		8,760	
	505.36	TEMPORARY STEEL SHEET PILING	S.F.			2,150			2,150	
	~~506.40~~	~~PILE LOADING TEST~~	~~EA.~~		+	+	+		~~X~~	
	906.75	STRUCTURAL STEEL (PLATE GIRDER) (TOTAL WEIGHT = 490,362 LB)-RAMP A OVER CVRR	L.S.	1					1	
	507.15	REINFORCING STEEL	L.B.		12,100	29,600	28,470	10,340	80,810	
	507.17	EPOXY COATED REINFORCING STEEL	L.B.	115,650	440		1,550		117,640	
	508.15	SHEAR CONNECTORS (7/8" Ø x 7" TOTAL = 2,388)-RAMP A OVER CVRR	L.S.	1					1	
	514.10	WATER REPELLENT	GAL.	20	6	15	11		52	
	516.10	BRIDGE EXPANSION JOINT-RAMP A OVER CVRR	L.F.	31					31	
*	519.20	SHEET MEMBRANE WATERPROOFING	S.Y.	965					965	
	525.31	BRIDGE RAILING - 2 RAIL GALV. BOX BEAM	L.F.	706					706	
	531.10	BEARING DEVICE ASSEMBLY - RAMP A OVER CVRR	EA.		4	4	4		12	
*	613.10	STONE FILL - TYPE I	C.Y.		80		140		220	
	616.22	GRANITE BRIDGE CURB	L.F.	686					686	
	620.75	SNOW BARRIER	L.F.	80					80	
*	621.70	GUARD RAIL APPROACH SECTION TYPE I	EA.	2					2	
*	621.71	GUARD RAIL APPROACH SECTION TYPE II	EA.	2					2	

* DENOTES HIGHWAY ITEM

SEE COMPARISON SHEETS
FOR FINAL QUANTITIES.

~~AS BUILT 5/12/94~~ JD

BRIDGE AT STATION (S) 15+00
LOCATION VT. RT. 289 "RAMP A" OVER CVRR

Prepared by: JDH Checked by: RJS
SUPERVISOR: MWO

PROJECT NO. PB 033-1(2)
BR 603 OF
SHEET NO. 192 OF 400

BR-1

SOIL CLASSIFICATION

AASHTO

A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

UNIFIED SOIL SYSTEM

GW/GP	Clean Gravels (Few Fines)
GM/GC	Gravels (Appreciable Fines)
SW/SP	Clean Sands (Few Fines)
SM/SC	Sand (Appreciable Fines)
ML/CL	Low Plastic Silts & Clays
OL	Low Plastic Organic Silt
MH/CH	High Plastic Silts & Clays
OH	High Plastic Organic Silt
Pt	Highly Organic Soils

MOISTURE

DESCRIPTIVE TERM	OBSERVED IN FIELD	% ± BY ANALYSIS
Dry	No Visible Water	<10
Moist	Damp	10-20
Moist to Wet	Moist to Wet	21-50
Wet	Visible Water	51-70
Saturated		>70

ROCK QUALITY DESIGNATION

R.Q.D.	ROCK DESCRIPTION
<.25	Very Poor
.25 to .50	Poor
.51 to .75	Fair
.76 to .90	Good
>.90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS) N	DESCRIPTIVE TERM	CONSISTENCY (COHESIVE SOILS) N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊕	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1⅜" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1⅛"
BX	Core Size 1⅝"
NX	Core Size 2⅛"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
WOR	WEIGHT OF ROD
WOH	WEIGHT OF HAMMER

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gr	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

MUCK - Soft organic soil (containing > 10% organic material.

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

Chittenden County Highway PB 033-1(1), Contract 2

EAST BOUND ON RAMP OF RTE 289

HOLE NO. BB-22 STA. 14+40 OFFSET I.T. 18'

DRILLER EAST COAST DRILLING & BORING, INC.

LOG APPROVED BY CHA - Joe Burke

DATE: START 1-11-89 FINISH 1-12-89

SURFACE ELEVATION 340.2

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	8				M	TN-BRN	SM SILTY VF-SAND
							NO SAMPLE
	7				W	GR	ML CLAYEY SILT, SOME VF-SAND
	7				W	GR	ML SAME
	6				W	GR	ML CLAYEY SILT, SOME VF-SAND
	4				W	GR	ML SAME
	3				W	GR	ML SAME
	3				W	GR	ML SAME
	4				W	GR	ML SAME
	3				W	GR	ML SAME
	2				W	GR	ML SAME
	WOH				W	GR	ML SAME
	7				W	GR	ML SAME
							TILL BEGINS @ 63.0'
	88				W	GR	TILL SANDY GRAVEL, SOME SILT, SOME CLAY
	103				W	GR	TILL SANDY QUARTZ GRAVEL, SOME SILT & CLAY
							HOLE STOPPED @ 72.0' IN TILL

ABUT 1 BOTT OF PILE CAP EL. 360.50

ABUT. 1 EST PILE TIP EL. 262.0

Chittenden County Highway PB 033-1(1), Contract 2

EAST BOUND ON RAMP OF RTE 289

HOLE NO. BR-23 STA. 15+70 OFFSET I.T. 18'

DRILLER EAST COAST DRILLING & BORING, INC.

LOG APPROVED BY CHA - Joe Burke

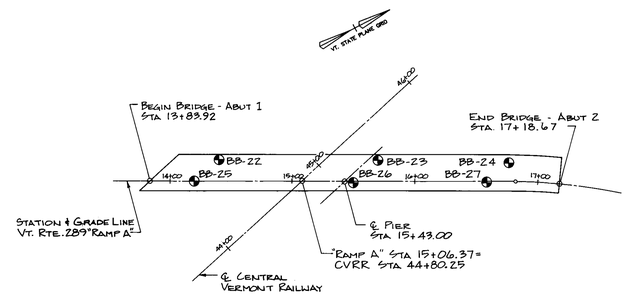
DATE: START 1-12-89 FINISH 1-12-89

SURFACE ELEVATION 345.4

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	4				M	TN	SM SILTY VF-SAND
	6				W	TN	ML VF-SANDY SILT, SOME CLAY
	2				W	GR	ML CLAYEY SILT, SOME VF-SAND
	4				W	GR	ML SAME
	1				W	GR	ML SAME
	WOR				W	GR	ML CLAYEY SILT
	WOR				W	GR	ML SAME
	WOH				W	GR	ML SAME
	WOR				W	GR	ML SAME
	WOR				W	GR	ML SAME
	WOR				W	GR	ML CLAYEY SILT, SOME F-C SAND
	42				W	GR	ML SAME, SOME F-GRAVEL (TILL)
	96				W	GR	TILL SAME
							HOLE STOPPED @ 67.0' IN TILL

PIER BOTT OF PILE CAP EL. 338.00

PIER EST. PILE TIP EL. 273.00



BORING LOCATION PLAN

N.T.S.

BUILT AS DESIGNED

GENERAL NOTES

1. The subsurface explorations shown herein were made between 11/30/88 & 1/13/89 for the Vermont Agency of Transpotation
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by Clough Harbour & Associates & may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering Judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.

PLOTTED 14-SEP-1988

STATE OF VERMONT
AGENCY OF TRANSPORTATION

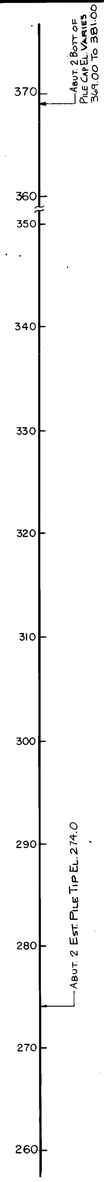
Town Of ESSEX	Bridge No. 14
	Log Sta.
Highway No. VT. RTE. 289	Surv. Sta. RAMP 15+00

VT. RTE. 289 "RAMP A" OVER CVRR

BORING INFORMATION SHEET (1 of 2)

Designed By J.B.	Drawn By D.L.
Checked By R.J.S. Date 10/12/90	Bridge Design Supervisor MWO Date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
L.G.C. Info. ZFA\L(30,5,1)BORINGST.DGN	BORING1
Bridge Sheet No. BR.604	Sheet 193 of 408

BB-A



Chittenden County Highway PB 033-1(1), Contract 2
EAST BOUND ON RAMP OF RTE 289
HOLE NO. BB-24 STA. 16+77 OFFSET LT. 17'
DRILLER EAST COAST DRILLING & BORING, INC.
LOG APPROVED BY CHA - Joe Burke
DATE: START 1-9-89 FINISH 1-10-89
SURFACE ELEVATION 345.3

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	7				M	TN	SM SILTY F-SAND, SOME CLAY
	5				W	TN	SM SAME
10	5				W	GR	ML SILT, TRACE F-SAND AND CLAY
	6				W	GR	ML SILT, SOME CLAY
20	1				W	GR	ML SILT, SOME CLAY
	WOR				W	GR	ML CLAYEY SILT
30	WOR				W	GR	ML SAME
	2				W	GR	CL SILTY CLAY
40	WOR				W	GR	CL CLAY, SOME SILT
	WOR				W	GR	CL CLAY, SOME SILT
50	WOR				W	GR	CL SAME; @ 51.4' CHANGE TO F-C SANDY CLAY, SOME SILT, TRACE GRAVEL
	87				W M	GR GR	CL SAME; @ 55.7' CHANGE TO TILL: SILT SOME F-C SAND, TRACE CLAY AND GRAVEL
60	105 +				M	GR	TILL SAME ========== HOLE STOPPED @ 62.0' IN TILL
70							

Chittenden County Highway PB 033-1(1), Contract 2
EAST BOUND ON RAMP OF RTE 289
HOLE NO. BB-25 STA. 14+20 OFFSET 0
DRILLER EAST COAST DRILLING & BORING, INC.
LOG APPROVED BY CHA - Joe Burke
DATE: START 1-12-89 FINISH 1-13-89
SURFACE ELEVATION 340.8

ABUT. 1 BOTT OF PILE CAP EL. 340.50

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	20				M	TN	SM SILTY VF-SAND, TRACE CLAY
10	17				W	TN	SM SAME
	8				W	GR	ML CLAYEY SILT, SOME VF-SAND
	4				W	GR	ML SAME
20	7				W	GR	ML CLAYEY SILT
	8				W	GR-BRN	ML SAME
30	1				W	GR	ML SAME
	WOR				W	GR	ML SAME
40	WOR				W	GR	ML SAME
	WOR				W	GR	ML SAME
50	WOR				W	GR	ML SAME
	WOR				W	GR	ML SAME
60	WOR				W	GR	ML SAME
	WOR				W	GR	ML CLAYEY SILT, SOME F-C SAND
70	100 +				M	GR	TILL - CLAYEY SILT, SOME GRAVEL & F-C SAND ========== HOLE STOPPED @ 70.5' IN TILL
80							

ABUT. 1 EST. PILE TIP EL. 262.0

Chittenden County Highway PB 033-1(1), Contract 2
EAST BOUND ON RAMP OF RTE 289
HOLE NO. BB-26 STA. 15+50 OFFSET 0
DRILLER EAST COAST DRILLING & BORING, INC.
LOG APPROVED BY CHA - Joe Burke
DATE: START 1-5-89 FINISH 1-6-89
SURFACE ELEVATION 342.9

PIER BOTT OF PILE CAP EL. 338.00

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	4				M-W	TN-BRN	ML SILT, TRACE CLAY AND F-SAND
	9				M-W	BRN	ML SILT, TRACE CLAY AND F-SAND
10	6				W	GR	ML SILT, SOME CLAY
	3				W	GR	ML SAME
20	7				W	GR	ML SILT, SOME CLAY
	4				W	GR	ML CLAYEY SILT
30	2				W	GR	CL CLAY, TRACE TO SOME SILT
	WOR				W	GR	CL SAME
40	2				W	GR	CL CLAY, TRACE SILT
	WOR				W	GR	CL CLAY, TRACE SILT
50	WOR				W	GR	CL SAME
	WOR				W	GR	CL SAME
60	WOR				W	GR	CL SAME
	100 +				D	GR	TILL: SILT, TRACE CLAY, GRAVEL & F-C SAND ========== HOLE STOPPED @ 65.65' IN TILL
70							
80							

PIER EST. PILE TIP EL. 273.0

Chittenden County Highway PB 033-1(1), Contract 2
EAST BOUND ON RAMP OF RTE 289
HOLE NO. BB-27 STA. 16+60 OFFSET 0
DRILLER EAST COAST DRILLING & BORING, INC.
LOG APPROVED BY CHA - JOE BURKE
DATE: START 1-10-89 FINISH 1-11-89
SURFACE ELEVATION 345.2

ABUT. 2 BOTT. OF PILE CAP EL VARIES 349.00 TO 381.00

DEPTH	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
	7				M	BRN OR	ML SILT, SOME F-SAND
	9				M-W	BRN	ML SILT, SOME F-SAND TRACE CLAY
10	6				W	GR	ML SILT, TRACE F-SAND, TRACE CLAY
	6				W	GR	ML SILT, SOME CLAY
20	1				W	GR	ML SILT, SOME CLAY
	WOR				W	GR	ML CLAYEY SILT
30	WOH				W	GR	CL CLAY, TRACE SILT
	WOH				W	GR	CL CLAY
40	WOR				W	GR	CL CLAY
	WOR				W	GR	CL CLAY
50	WOR				W	GR	CL CLAY
	WOR				W	GR	CL F-C SANDY CLAY, SOME SILT, TRACE F-C GRAVEL
60	100 +				D	GR	TILL, ROCK FRAGS
	100 +				D	GR	TILL - SILT, SOME F-C SAND, TRACE CLAY TRACE GRAVEL
70	103				D	GR	TILL SAME ========== HOLE STOPPED @ 72.0' IN TILL
80							

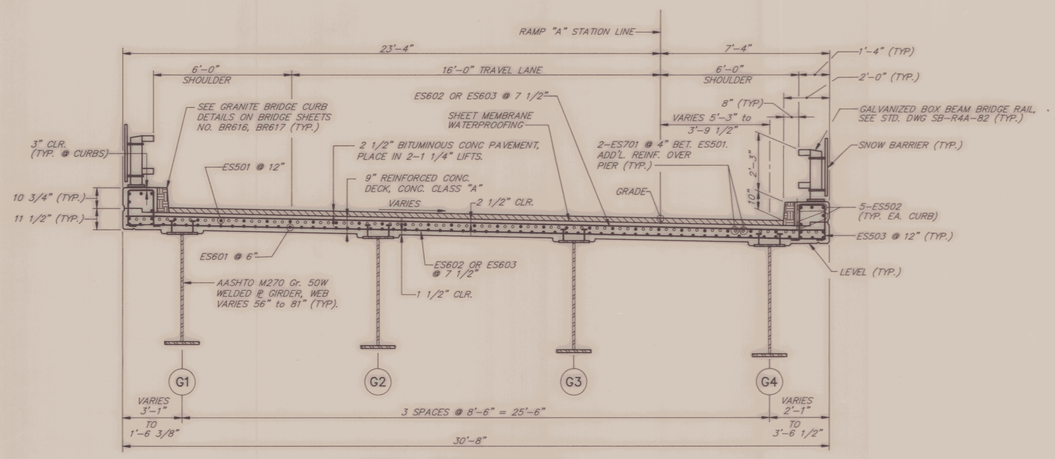
ABUT. 2 EST. PILE TIP EL. 274.0

BRIDGE 44-131-4015

BR-2

STATE OF VERMONT
AGENCY OF TRANSPORTATION

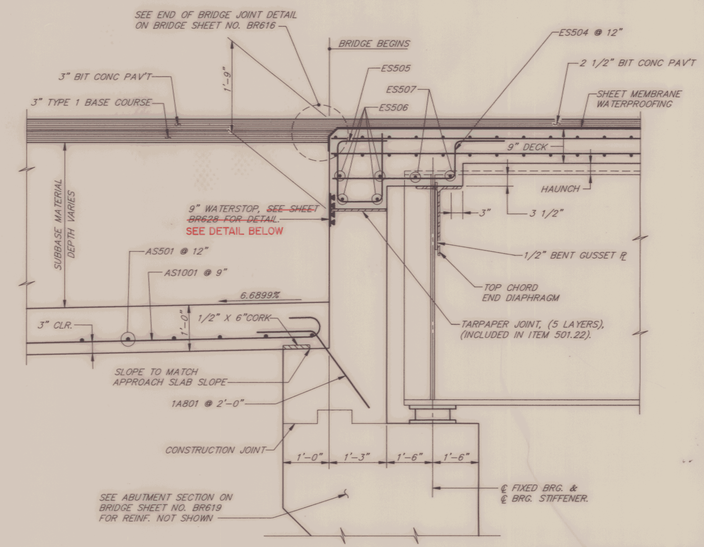
TOWN OF Essex	Bridge No. 14
HIGHWAY NO. Vt. Rte. 289	Log Sta.
	Surv. Sta. Ramp 19+00
Vt. Rte. 289 "Ramp A" Over CVRR	
Boring Information Sheet (2 of 2)	
Designed by J.B.	Drawn by D.L.
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT Williston - Colchester	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR605	Sheet 194 of 400



TYPICAL BRIDGE SECTION

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

NOTE : INTERMEDIATE & END CROSSFRAMES NOT SHOWN SEE BRIDGE SHEET NO. BR608 FOR CROSSFRAME DETAILS.

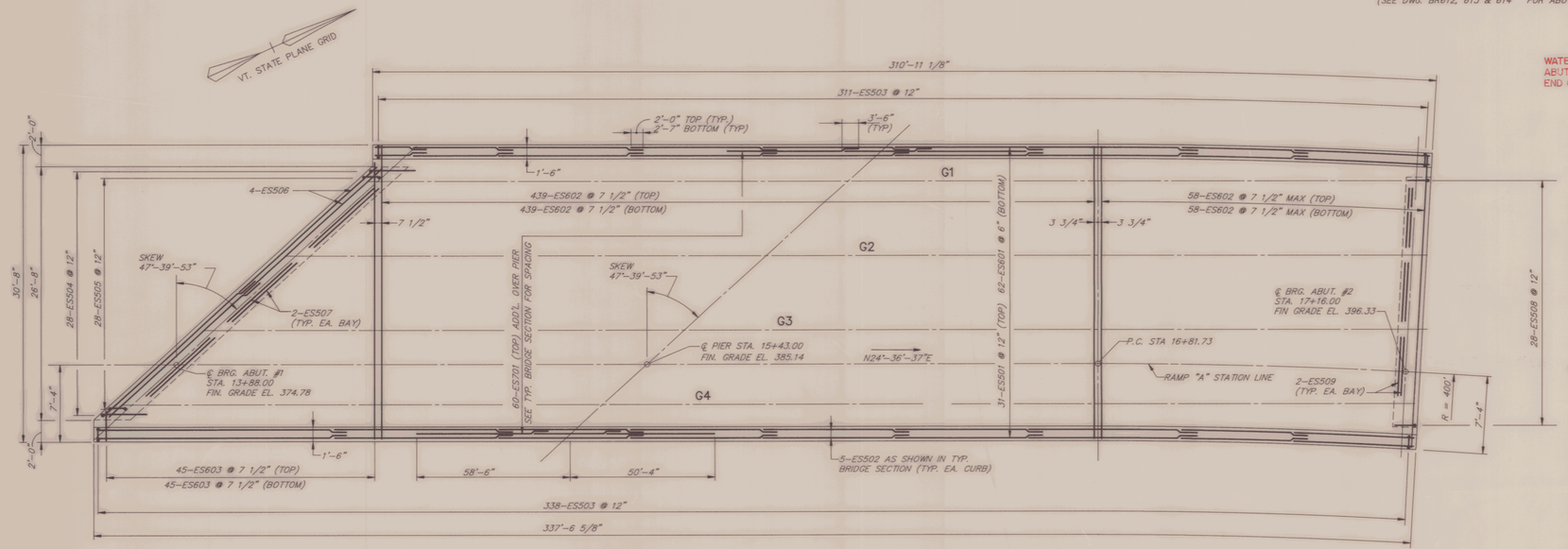


ABUTMENT #1 END OF BRIDGE DETAIL

3/4"=1'-0"

(SEE DWG. BR612, 613 & 614 FOR ABUTMENT #2 END OF BRIDGE DETAIL)

NOTE : SEE DWG. BR610 FOR APPROACH SLAB PLAN AND SECTION.

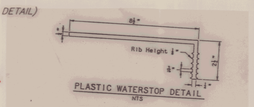


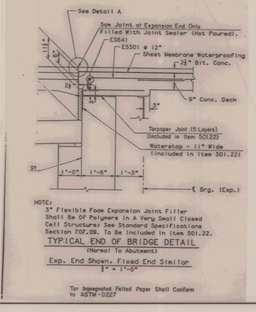
DECK REINFORCING PLAN

NTS

NOTES: 1. SEE DWG. BR610 FOR BRIDGE RAIL LAYOUT PLAN.
2. SEE DWG. BR610 FOR POUR SEQUENCE.

WATERSTOP DETAIL AT ABUT. 1 END OF BRIDGE





AS BUILT 5/12/94

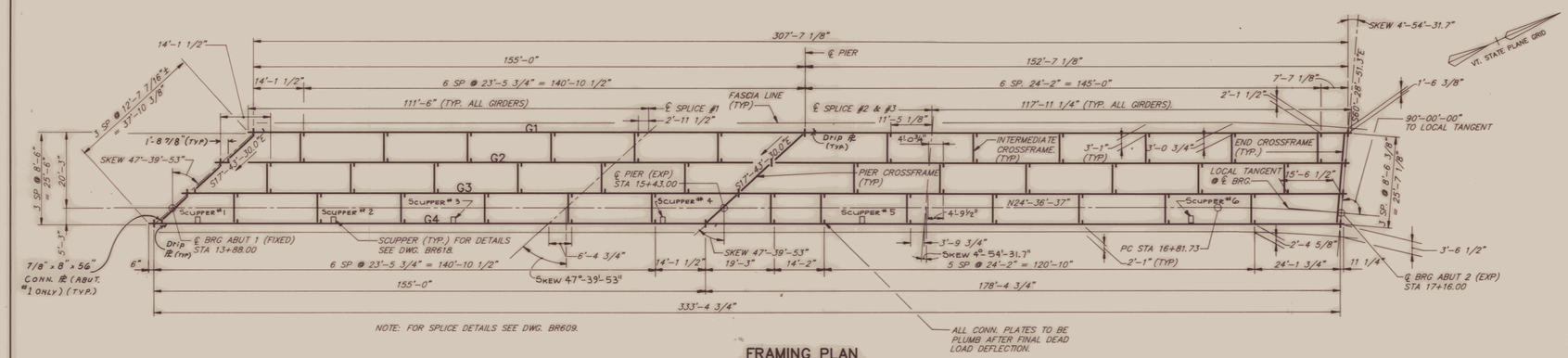
STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00

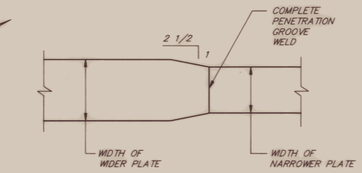
VT. RTE. 289 "RAMP A" OVER CVRR

TRANSVERSE SECTION & DECK SLAB PLAN

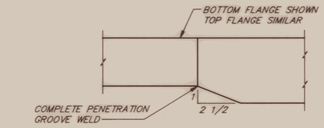
Designed by KRH/KLB	Drawn by DJA / M.W.D.
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR606	Sheet 195 of 400



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

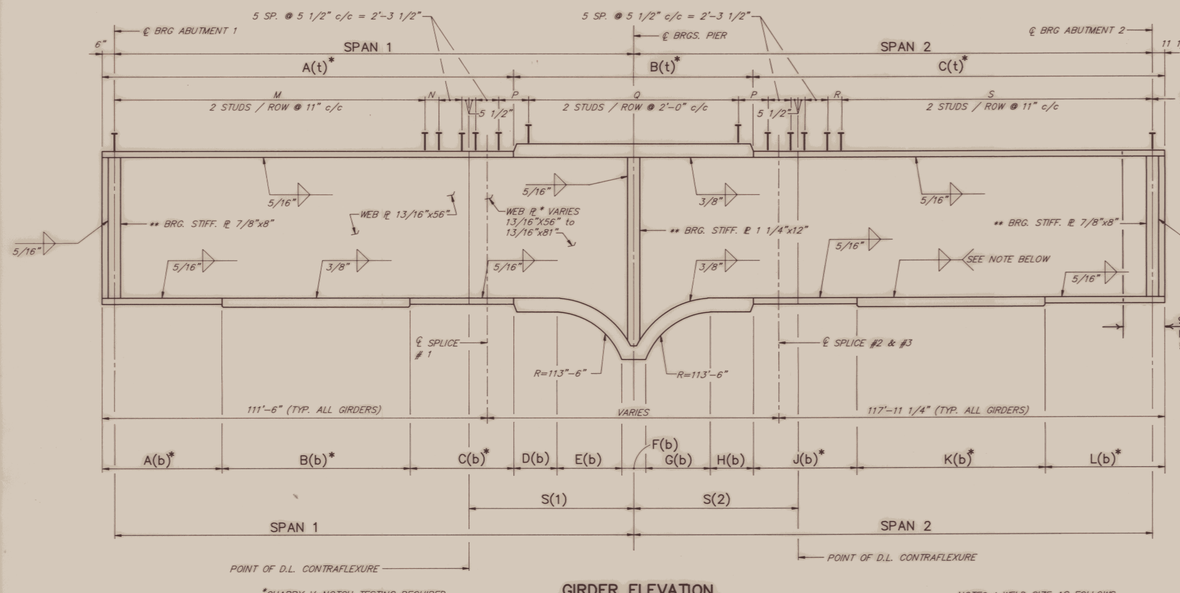


FLANGE WIDTH TAPER DETAIL
N.T.S.



FLANGE THICKNESS TAPER DETAIL
NTS

GIRDER NO.	SPAN 1 LENGTH	SPAN 2 LENGTH	TOTAL OF TWO SPANS	PT. OF D.L. CONTRAFLEXURE S1	PT. OF D.L. CONTRAFLEXURE S2	TOP FLANGE LENGTH A(t)	TOP FLANGE LENGTH B(t)	TOP FLANGE LENGTH C(t)	BOTTOM FLANGE LENGTH A(b)	B(b)	C(b)	D(b)	E(b)	F(b)	G(b)	H(b)	J(b)	K(b)	L(b)
G1	155'-0"	152'-7 1/8"	307'-7 1/8"	45'-10"	47'-1"	17"x1"x126'-6"	25"x1 5/8"x57'-0"	17"x1 1/16"x125'-6 3/8"	18"x1 1/4"x32'-6"	18"x1 13/16"x55'-0"	18"x1 1/4"x39'-0"	25"x1 5/8"x6'-0"	25"x1 5/8"x21'-6"	25"x1 5/8"x3'-0"	25"x1 5/8"x21'-6"	25"x1 5/8"x5'-0"	18"x1 1/4"x43'-0"	18"x1 5/8"x47'-6"	18"x1 1/4"x35'-0 3/8"
G2	155'-0"	161'-2 3/8"	316'-2 3/8"	49'-9"	48'-1"	17"x1"x118'-6"	25"x1 3/4"x68'-0"	17"x1"x131'-1 5/8"	18"x1 1/4"x34'-6"	18"x1 5/8"x47'-0"	18"x1 1/4"x37'-0"	25"x1 3/4"x14'-0"	25"x1 3/4"x21'-6"	25"x1 3/4"x3'-0"	25"x1 3/4"x21'-6"	25"x1 3/4"x8'-0"	18"x1 7/16"x44'-0"	18"x1 7/8"x56'-0"	18"x1 1/4"x31'-1 5/8"
G3	155'-0"	169'-9 1/2"	324'-9 1/2"	53'-3"	48'-4"	17"x1"x118'-6"	25"x1 7/8"x69'-0"	17"x1"x138'-8 3/4"	18"x1 1/4"x36'-6"	18"x1 1/2"x41'-0"	18"x1 1/4"x41'-0"	25"x1 7/8"x14'-0"	25"x1 7/8"x21'-6"	25"x1 7/8"x3'-0"	25"x1 7/8"x21'-6"	25"x1 7/8"x9'-0"	18"x1 3/4"x44'-0"	18"x2 5/16"x62'-6"	18"x1 1/2"x32'-2 3/4"
G4	155'-0"	178'-4 3/4"	333'-4 3/4"	56'-5"	47'-6"	17"x1 1/16"x117'-0"	25"x2 1/16"x68'-6"	17"x1 5/16"x149'-4"	18"x1 1/4"x35'-6"	18"x1 1/2"x35'-0"	18"x1 1/4"x46'-6"	25"x2 1/16"x15'-6"	25"x2 1/16"x21'-6"	25"x2 1/16"x3'-0"	25"x2 1/16"x21'-6"	25"x2 1/16"x7'-0"	22"x1 1/2"x44'-0"	22"x2 7/16"x82'-0"	18"x1 1/4"x23'-4"

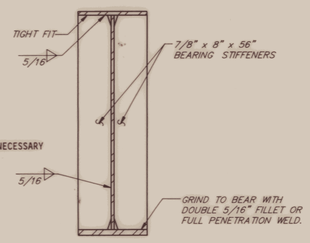


*CHARPY V-NOTCH TESTING REQUIRED
**AFTER FINAL DEAD LOAD DEFLECTION ALL BRG. STIFF. ARE TO BE PLUMB.

GIRDER ELEVATION
N.T.S.

NOTES: 1. WELD SIZE AS FOLLOWS
G1 & G2 : 3/8"
G3 & G4 : 1/2"
2. FOR SPLICE DETAILS SEE DWG BR609.

OMIT SHEAR STUDS WHERE NECESSARY TO CLEAR SPLICE PLATES.

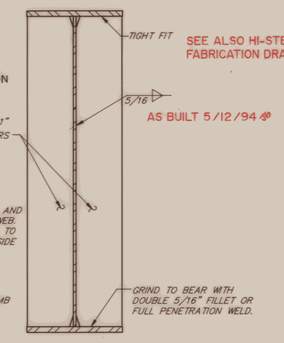


BEARING STIFFENERS AT ABUTMENT
3/4"=1'-0"

GIRDER NO.	SHEAR CONNECTORS – LENGTH M	N	P	Q	R	S
G1	105'-5"	1'-0 1/2"	1'-7 7/8"	84'-0"	7 1/2"	102'-8"
G2	101'-9"	9"	1'-2"	90'-0"	4 3/8"	110'-0"
G3	98'-1"	11"	1'-0 1/2"	94'-0"	5 5/8"	118'-3"
G4	95'-4"	6 1/4"	1'-2 1/8"	98'-0"	9 1/4"	127'-5"

9'-4" GIRDER TO BE PAINTED DARK BROWN IN ACCORDANCE WITH SECTION 506, STRUCTURAL STEEL

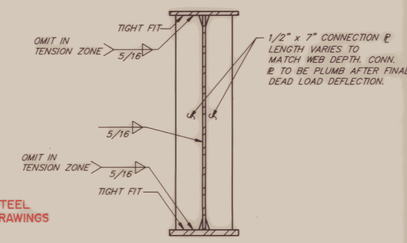
NOTES:
1. BEARING STIFFENERS AT ABUTMENT 1 AND AT PIER TO BE PLACED SQUARE TO WEB. BEARING STIFFENERS AT ABUTMENT 2 TO BE PLACED SQUARE TO WEB ON OUTSIDE FACE OF FASCIA GIRDERS.
2. SEE BRIDGE SHEET NO. BR615 FOR WELD TERMINATION AND COPING DETAIL.
3. ALL BEARING STIFFENERS TO BE PLUMB AFTER FINAL DEAD LOAD DEFLECTION.



SEE ALSO HI-STEEL FABRICATION DRAWINGS

AS BUILT 5/12/94 JP

BEARING STIFFENERS AT PIER
3/4"=1'-0"

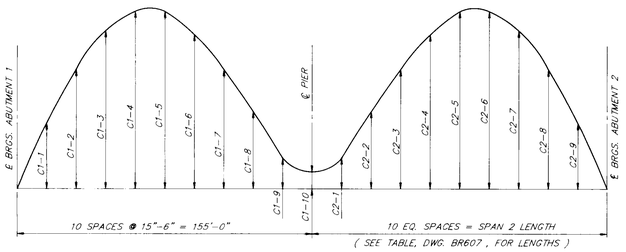


INTERMEDIATE CONNECTION PLATES
3/4"=1'-0"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

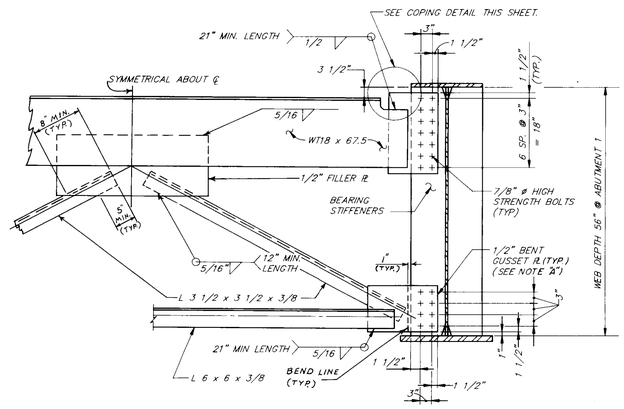
TOWN OF ESSEX	Bridge No. 14
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
FRAMING PLAN AND GIRDER ELEVATION	
Designed by Y.S.	Drawn by J.D.H. Sr. / M.W.D.
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor M.W.O. date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR607	Sheet 196 of 400

236 OF 465



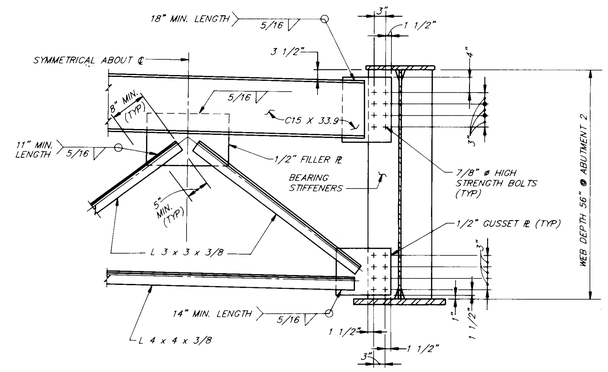
CAMBER DIAGRAM

N.T.S.



ABUTMENT 1 CROSSFRAME

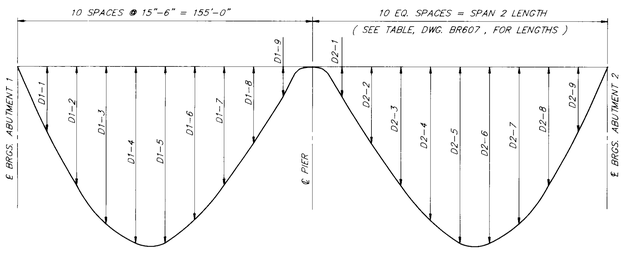
N.T.S.



NOTE: ABUTMENT NO.2 CROSSFRAMES SHALL BE PAINTED DARK BROWN IN ACCORDANCE WITH SECTION 506 STRUCTURAL STEEL.

ABUTMENT 2 CROSSFRAME

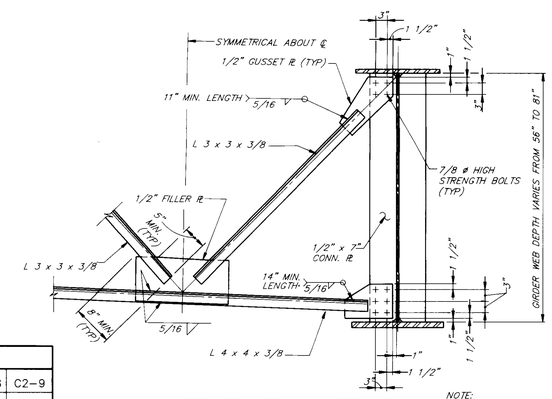
N.T.S.



DEAD LOAD DEFLECTION DIAGRAM

N.T.S.

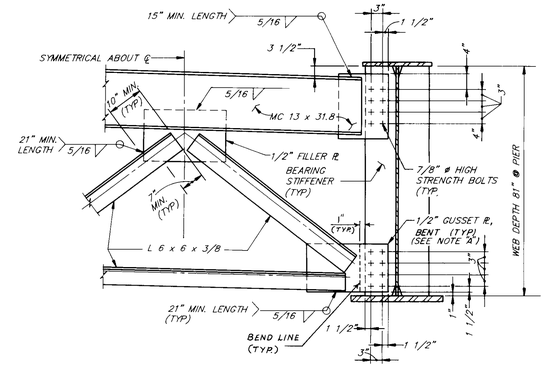
NOTE:
DEAD LOAD DEFLECTION AS SHOWN INCLUDES STEEL, DECK CONCRETE, RAILING, AND PAVEMENT.



INTERMEDIATE CROSSFRAME

N.T.S.

NOTE:
INTERMEDIATE CROSSFRAMES IN THE VICINITY OF THE PIER AND GIRDER HAUNCH WILL HAVE A VARIABLE HEIGHT DUE TO THE CROSSING OF THE HAUNCHES ON THE SKEW. ALL CONNECTING BOLTS AND WELDS REMAIN THE SAME.



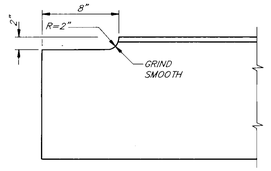
PIER CROSSFRAME

N.T.S.

AS BUILT 5/12/94 JD

DEAD LOAD DEFLECTION TABLE																			
GIRDER	D1-1	D1-2	D1-3	D1-4	D1-5	D1-6	D1-7	D1-8	D1-9	D2-1	D2-2	D2-3	D2-4	D2-5	D2-6	D2-7	D2-8	D2-9
G1	2 1/16	3 13/16	4 7/8	5 3/16	4 7/8	4	2 11/16	1 5/16	3/8	1/4	1	2 1/4	3 7/16	4 5/16	4 11/16	4 3/8	3 3/8	1 7/8
G2	2	3 9/16	4 9/16	4 13/16	4 7/16	3 1/2	2 1/4	1 1/16	1/4	7/16	1 1/2	3	4 1/2	5 9/16	5 15/16	5 1/2	4 1/4	2 3/8
G3	1 13/16	3 1/4	4 1/8	4 5/16	3 7/8	2 7/8	1 5/8	5/8	0	3/4	2 3/16	4	5 3/4	6 15/16	7 5/16	6 3/4	5 3/16	2 7/16
G4	1 5/16	2 7/16	3 9/16	3 5/8	3 1/8	2 1/8	1	3/16	-1/4	1	2 13/16	4 15/16	6 13/16	8	8 1/4	7 1/2	5 3/4	3 3/16

CAMBER TABLE																			
GIRDER	C1-1	C1-2	C1-3	C1-4	C1-5	C1-6	C1-7	C1-8	C1-9	C1-10	C2-1	C2-2	C2-3	C2-4	C2-5	C2-6	C2-7	C2-8	C2-9
G1	3 1/16	5 9/16	7 1/4	8 1/8	8 1/8	7 3/8	6 1/16	4 9/16	3 5/16	2 7/16	3 5/8	5 3/16	7 1/16	8 3/4	9 15/16	10-3/8	9 5/8	7 3/8	3 15/16
G2	2 7/8	5 1/4	6 13/16	7 9/16	7 1/2	6 11/16	5 3/8	4	2 13/16	2 1/16	3 7/16	5 1/4	7 3/8	9 3/8	10 11/16	11 3/16	10 3/8	7 15/16	4 1/4
G3	2 11/16	4 7/8	6 5/16	6 15/16	6 11/16	5 13/16	4 9/16	3 1/4	2 1/4	1 3/4	3 3/8	5 9/16	8	10 3/16	11 5/8	12 1/8	11 3/16	8 9/16	4 5/8
G4	2 7/16	4 7/16	5 5/8	6 1/8	5 13/16	4 15/16	3 11/16	2 9/16	1 3/4	1 7/16	3 5/16	5 13/16	8 1/2	10 13/16	12 1/4	12 9/16	11 9/16	8 3/4	4 3/4



COPING DETAIL

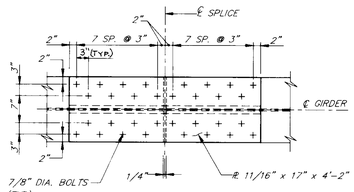
N.T.S.

SEE ALSO HI-STEEL FABRICATION DRAWINGS

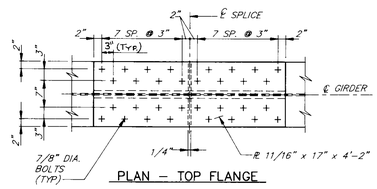
NOTE A:
GUSSET PLATES CONNECTING BEARING STIFFENERS TO CROSS FRAMES AT ABUTMENT 1 AND PIER TO BE BENT IN ACCORDANCE WITH 1989 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 10.23.2 AND ANY CURRENT REVISIONS. AT ABUTMENT 1, CARE SHOULD BE TAKEN TO AVOID INTERFERENCE WITH BEARING DEVICE ANCHOR BOLTS. (SEE BR611)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
GIRDER DETAILS	
Designed by YS/PJB	Drawn by M.W.D.
Checked by RJS date 10-12-90	Bridge Design Supervisor MWO date 10-12-90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR608	Sheet 197 of 400



PLAN – TOP FLANGE



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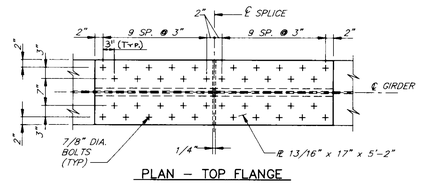

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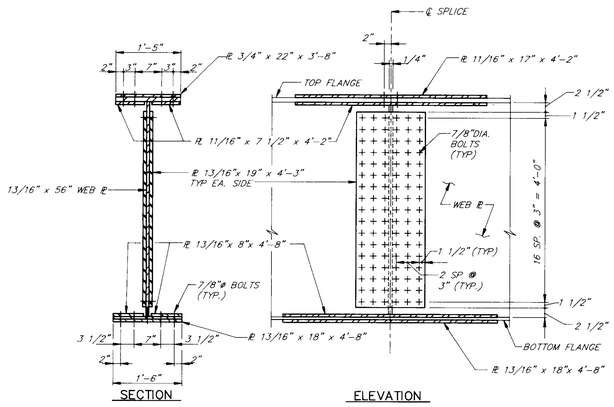
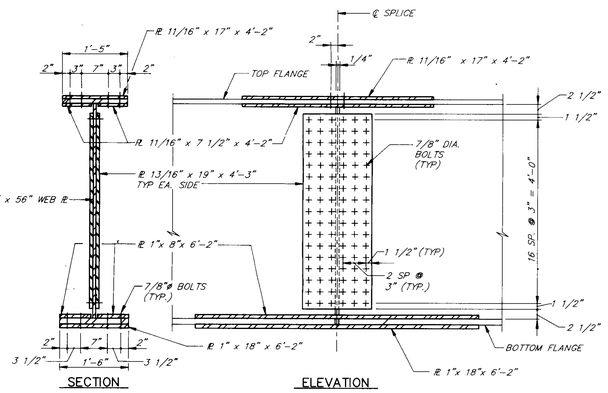


SECTION ELEVATION



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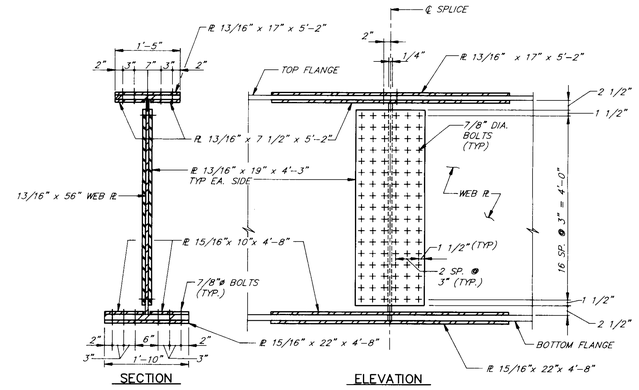
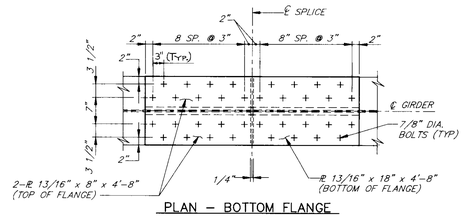
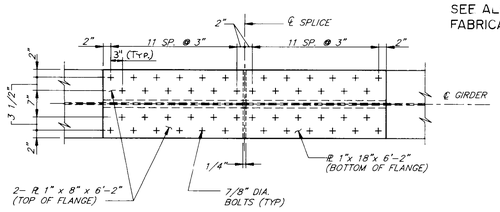


SECTION ELEVATION



PLAN – BOTTOM FLANGE

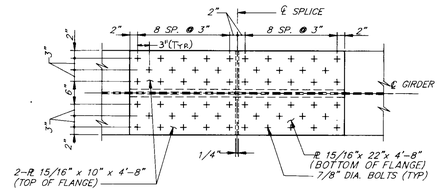
SPLICE # 1 DETAILS
3/4"=1'-0"



PLAN – BOTTOM FLANGE

SPLICE # 2 DETAILS (G1, G2, & G3)
3/4"=1'-0"

SEE ALSO HI-STEEL FABRICATION DRAWINGS



PLAN – BOTTOM FLANGE

SPLICE # 3 DETAILS (G4)
3/4"=1'-0"

AS BUILT 5/12/94 SP

FIELD SPLICE NOTES:

1. FOR THE LOCATION OF GIRDER SPLICES SEE DWG. BR607.
2. ALL BOLTS SHALL BE 7/8" DIA. H.S. BOLTS IN 15/16" DIA. HOLES; BOLTS SHALL COMFORM TO THE REQUIREMENTS OF AASHTO M164.
3. ALL SPLICE PLATES AND FILLER PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270 GR50W STEEL.
4. NUTS TO BE ON INSIDE FACE OF WEB SPLICE AT FASCIA GIRDERS.
5. NUTS TO BE UP ON ALL FLANGE SPLICES.

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VT. RTE. 289 "RAMP A" OVER CVRR	
SPLICE DETAILS	
Designed by K.R.H.	Drawn by M.W.D.
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor M.W.O. date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
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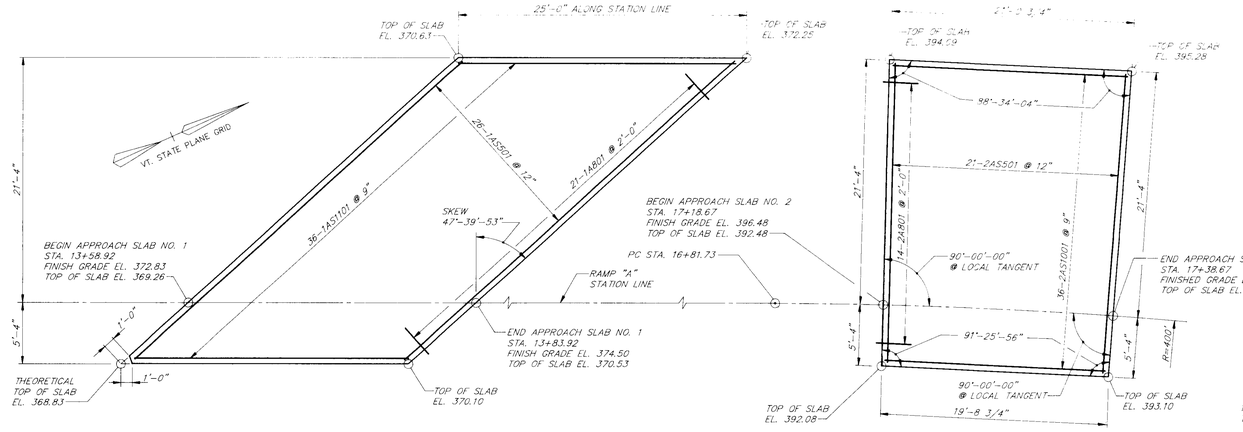
2 35 46.5

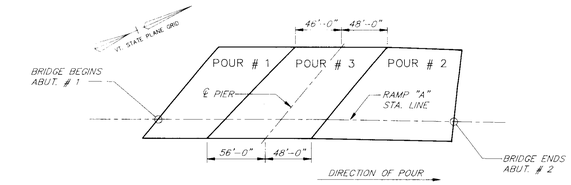


APPROACH SLAB NO. 1

APPROACH SLAB NO. 2

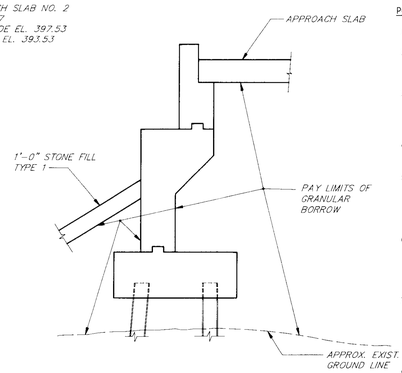
APPROACH SLAB 1 & 2 PLAN

3/16"=1'-0"



POUR SEQUENCE DIAGRAM

N.T.S.

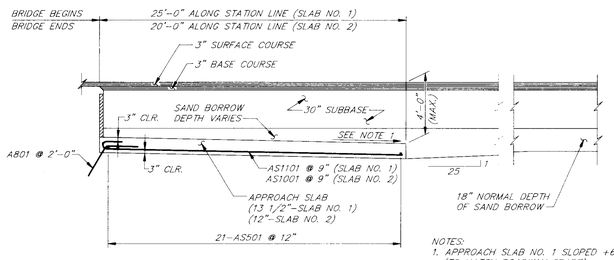


EARTH WORK LIMITS

N.T.S.

POUR SEQUENCE NOTES

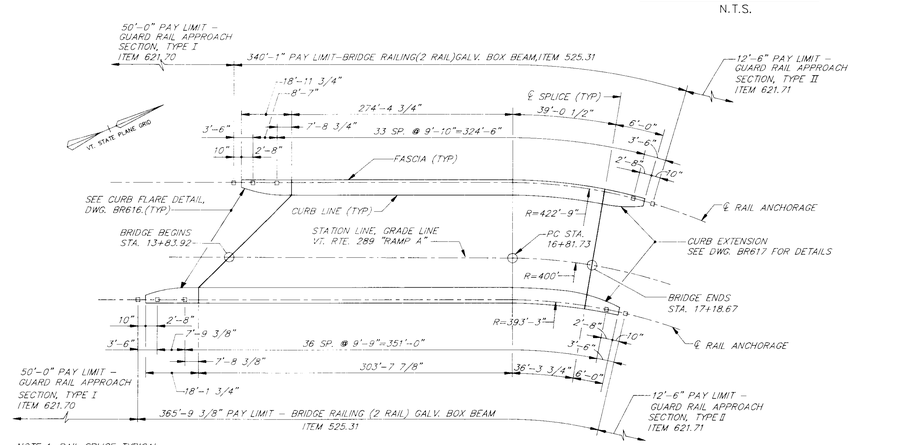
1. THE DECK SHALL BE PLACED IN THE DIRECTION SHOWN.
2. AT LEAST ONE (1) WEEK PRIOR TO PLACING ANY BRIDGE DECK CONCRETE, THE CONTRACTOR SHALL REVIEW HIS PROPOSED PLACEMENT PROCEDURE WITH THE ENGINEER.
3. IF APPROVED BY THE ENGINEER, POUR NO. 1 AND POUR NO. 2 MAY BE PLACED WITHIN THE SAME DAY. THE CONTRACTOR SHALL PROVIDE ADEQUATE LABOR, EQUIPMENT AND MATERIAL TO COMPLETE THE PLACEMENT OF BOTH POURS WITHIN AN EIGHT (8) HOUR PERIOD.
4. JOINTS BETWEEN POURS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAIL ON DRAWING BR628.
5. THE CONTRACTOR MAY, AT HIS OPTION, SUBMIT AN ALTERNATE PROCEDURE TO THE ENGINEER FOR REVIEW AND APPROVAL. NO RELATED WORK, INCLUDING THE INSTALLATION OF FORMS, MAY BE INITIATED BY THE CONTRACTOR UNTIL THE WRITTEN APPROVAL OF THE ALTERNATE PROCEDURE IS RECEIVED FROM THE ENGINEER.
6. CONCRETE PLACEMENT AND FINISHING OPERATIONS SHALL BE PERFORMED AS RAPIDLY AS POSSIBLE. THE ENGINEER MAY ORDER THE CONTRACTOR TO STOP HIS POUR OPERATIONS AT ANY TIME IF, IN THE ENGINEER'S OPINION, CONCRETE PLACED DURING THE POUR HAS STARTED TO SET OR IS ABOUT TO SET AND FURTHER PLACEMENT OF CONCRETE WILL CAUSE DEFLECTION CRACKING.
7. IN THE EVENT THE CONTRACTOR'S DECK PLACEMENT OPERATION IS STOPPED PRIOR TO COMPLETION OF POUR NO. 1, WHETHER BY HIS OWN DECISION OR BY ORDER OF THE ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FINISHED DECK GRADE WHICH MATCHES THE PLANNED PROFILE. ANY SUBSEQUENT REVISIONS TO FORMS MADE NECESSARY BY SUCH ACTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
8. DECK POUR NO. 1 AND POUR NO. 2 SHALL BE ACCOMPLISHED IN A MAXIMUM OF EIGHT (8) HOURS. SUBSEQUENT POURS (CONTINUOUS PLACEMENTS) WILL NOT BE PERMITTED UNTIL 96 HOURS AFTER THE COMPLETION OF THE PREVIOUS POUR. RETARDER SHALL BE USED AS DESCRIBED BY THE CONCRETE ENGINEER. ALL COMBINATIONS OF POURS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
9. LONGITUDINAL CONSTRUCTION JOINTS WILL NOT BE PERMITTED.
10. THE CONTRACTOR MAY, SUBJECT TO THE ENGINEER'S APPROVAL, USE A WATER REDUCER EITHER ALONE OR IN CONJUNCTION WITH A WATER-REDUCING AND SET RETARDING ADMIXTURE, SO AS TO ALLOW DELIVERY, PROPER PLACEMENT AND FINISH OF THE CONCRETE.
11. CONSTRUCTION JOINTS SHALL BE PLACED PARALLEL TO THE CENTERLINE OF PIER.



TYPICAL APPROACH SLAB SECTION

1/4" = 1'-0"

NOTES:
1. APPROACH SLAB NO. 1 SLOPED +6.6899% (TO MATCH ROADWAY GRADE). APPROACH SLAB NO.2 SLOPED -1/4"/FT.



NOTE 1. RAIL SPLICE TYPICAL AT EXP. END OF BRIDGE. 4" EXP. GAP REQ'D. AT RAIL SPLICE JOINT.
2. FOR CURVE DATA SEE DWG. BR601

PLAN – BRIDGE RAIL LAYOUT

N.T.S.

SEE ALSO BRIDGE RAIL FABRICATION DRAWINGS

NOTES:
1). SEE HIGHWAY PLANS FOR APPROACH RAIL LAYOUT.
2). SEE STD. DWG. SB – R4B – 82 FOR APPROACH RAIL DETAILS.
3). ALL CURB ENDS ARE TO BE FLARED AS SHOWN ON SHT. BR616.
4). RAIL SPLICE TO ACCOMODATE TOTAL ANTICIPATED THERMAL EXPANSION OF 3.75"

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VT. RTE. 289 "RAMP A" OVER CVRR	
MISCELLANEOUS DETAILS	
Designed by K.R.H.	Drawn by RFU / M.W.D.
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor M.W.O. date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR610	Sheet 199 of 400

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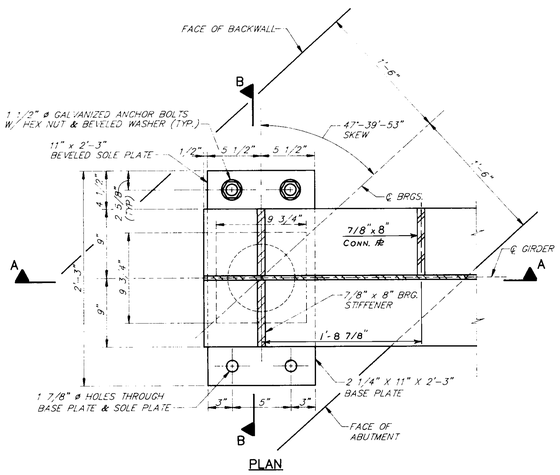
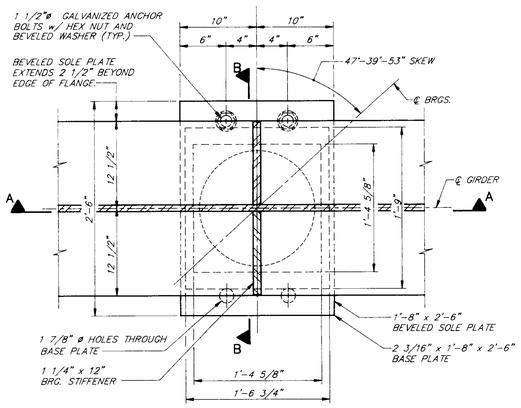
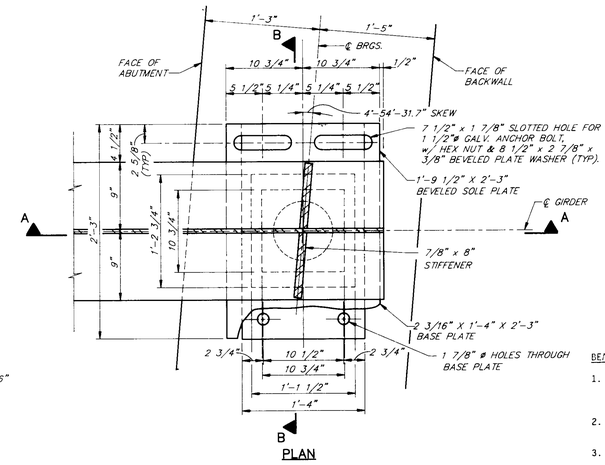


PLAN



PLAN



PLAN

SEE ALSO HI-STEEL FABRICATION DRAWINGS

BEARING DEVICE NOTES

1. BEARINGS SHALL CONFORM TO REQUIREMENTS OF SECTION 531. COMPONENTS SHALL CONFORM TO DESIGN, FABRICATION AND MATERIAL REQUIREMENTS OF THE APPLICABLE SUBSECTIONS OF SECTION 731, CONFINED ELASTOMER (POT) BEARING.
2. BEARINGS SHALL BE PAID FOR UNDER ITEM 531.10, "BEARING DEVICE ASSEMBLY,"- *RAMP A OVER CVRR.*
3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED AND SHALL INCLUDE WELDING AND BONDING PROCEDURES. SHOP DRAWINGS SHALL ALSO INDICATE WHETHER BEARING COMPONENTS ARE TO BE GALVANIZED OR METALIZED. IF METALIZING IS USED, THE SHOP DRAWINGS SHALL DENOTE THE TYPE OF SEAL COATING THAT WILL BE PLACED ON THE METALIZING.
4. SOLE PLATES AND WASHERS ARE TO BE GALVANIZED OR METALIZED AS PER SUBSECTION 506.15 (b) OR (c).
5. THE WELD BETWEEN THE SOLE PLATE AND BOTTOM FLANGE SHALL BE SMAW 8018 (C3). AREAS OF GALVANIZING ON THE SOLE PLATE DESTROYED IN THE WELDING PROCESS SHALL BE PAINTED WITH A ZINC-RICH PAINT.
6. THE CONCRETE SURFACE UNDER THE BEARING SHALL BE LEVEL.
7. ANCHOR BOLTS SHALL HAVE A 15-INCH MINIMUM EMBEDMENT INTO CONCRETE.
8. AN ALTERNATE BEARING CONFIGURATION MAY BE SUBMITTED FOR APPROVAL. THE ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN BELOW AND SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN.
9. IF AN ALTERNATE BEARING CONFIGURATION IS USED, BRIDGE SEAT ELEVATIONS SHALL BE ADJUSTED ACCORDINGLY.
10. DESIGN CRITERIA:
    A. MAXIMUM ALLOWABLE CONCRETE BEARING PRESSURE: 1,000 PSI
    B. DESIGN LOADS:
       ABUT. 1 - 177K MAXIMUM VERTICAL REACTION. HORIZONTAL CAPACITY SHALL BE MINIMUM 41K.
       PIER - 575K MAXIMUM VERTICAL REACTION. HORIZONTAL CAPACITY SHALL BE MINIMUM 10% OF VERTICAL LOAD.
       ABUT. 2 - 210K MAXIMUM VERTICAL REACTION. HORIZONTAL CAPACITY SHALL BE MINIMUM 10% OF VERTICAL LOAD.

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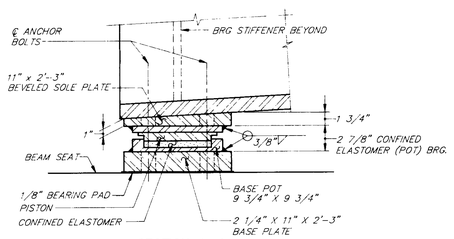
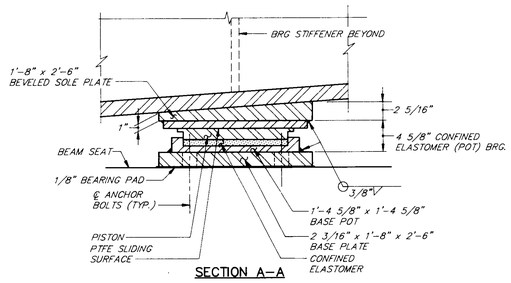
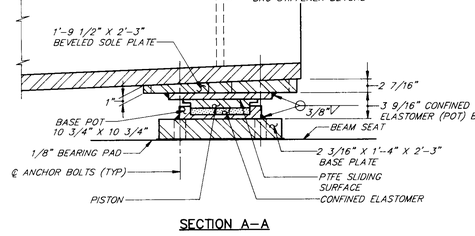


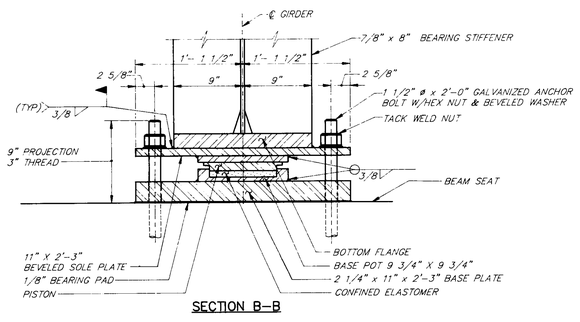
SECTION A–A



SECTION A–A



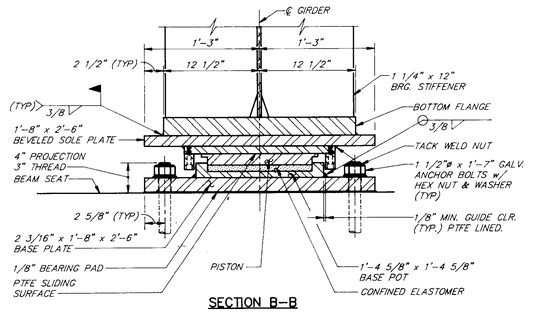
SECTION A–A



SECTION B–B

FIXED BEARING – (ABUTMENT 1)

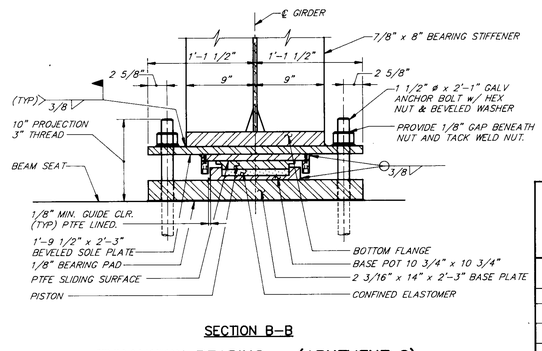
N.T.S.



SECTION B–B

EXPANSION BEARING – (PIER)

N.T.S.



SECTION B–B

EXPANSION BEARING – (ABUTMENT 2)

N.T.S.

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VT. RTE. 289 "RAMP A" OVER CVRR

BEARING DEVICE DETAILS

Designed by K.R.H.	Drawn by RFU / M.W.D.
Checked by R.J.S. date 10-12-90	Bridge Design Supervisor M.W.O. date 10-12-90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 0333 – 1(2)
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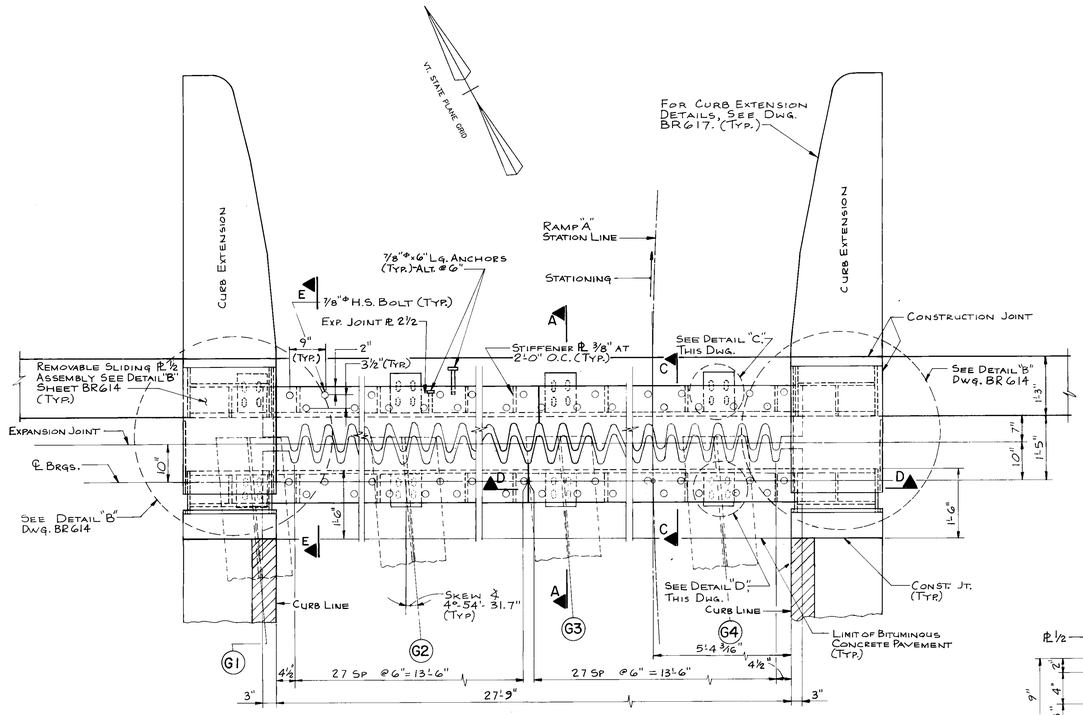
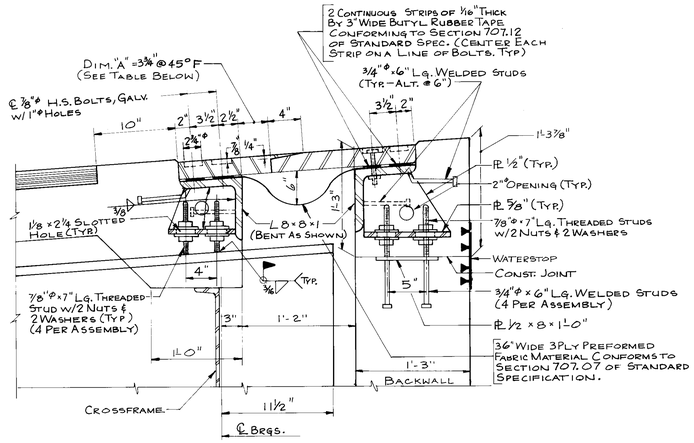


BRIDGE EXPANSION JOINT - PLAN ABUTMENT 2

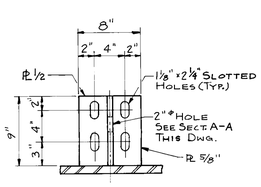
3/4" = 1'-0"



SECTION A-A

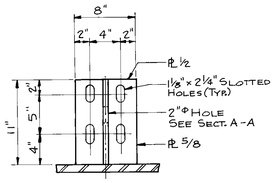
1 1/2" = 1'-0"

LOCATION	DIMENSION "A" AT GIVEN TEMPERATURE								
	15°F	25°F	35°F	45°F	55°F	65°F	75°F	85°F	95°F
ABUT. #2	4 9/16"	4 5/16"	4"	3 3/4"	3½"	3 3/16"	2 15/16"	2 11/16"	2 7/16"



DETAIL "C" AT GIRDERS

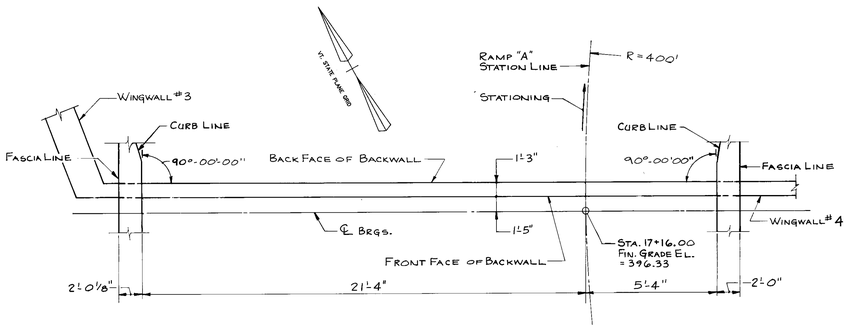
1 1/2" = 1'-0"



DETAIL "D" AT BACKWALL

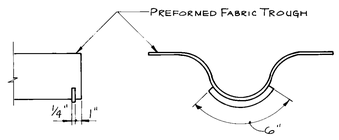
1 1/2" = 1'-0"

SEE ALSO MERRIMACK SHEET METAL FABRICATION DRAWINGS



EXPANSION JOINT LAYOUT - ABUTMENT 2

N.T.S.



TROUGH END DETAIL

(SEE NOTE 5)

BRIDGE EXPANSION JOINT NOTES

1. ALL STRUCTURAL STEEL FOR THE BRIDGE EXPANSION JOINTS SHALL BE AASHTO M270, GR36 GALVANIZED OR METALIZED.
2. THE 2⅝-INCH THICK EXPANSION JOINT PLATES SHALL BE CUT FROM 2 1/2" X 27" PLATE AND FURNISHED IN 14'-0" LENGTHS. THE ANGLES (8 X 8 X 1) SHALL BE FURNISHED IN CONTINUOUS LENGTHS (SEE DETAIL). THE FABRIC TROUGH SHALL BE CONTINUOUS PREFORMED FABRIC MATERIAL CONFORMING TO SECTION 707.07 OF STANDARD SPECIFICATION.
3. THE CURB PLATES SHALL BE AASHTO M270, GR36 GALVANIZED OR METALIZED.
4. THE HOPPERS AND DOWNSPOUTS SHALL BE GALVANIZED. PAYMENT FOR THE HOPPERS AND DOWNSPOUTS SHALL BE INCLUDED IN THE UNIT PRICE BID STRUCTURAL STEEL (ITEM 506.70).
5. DRIP BEADS OF 4" X 6" TWO-PLY POLYESTER MATERIAL SHALL BE CEMENTED TO THE CENTER OF EACH END OF THE FABRIC TROUGH WITH AN ADHESIVE APPROVED BY THE MANUFACTURER.
6. ALL STEEL SURFACES THAT WILL BE EMBEDDED IN CONCRETE SHALL BE COATED WITH EPOXY BONDING COMPOUND. (INCLUDED IN ITEM 516.10.)
7. BRIDGE EXPANSION JOINT SHALL BE THE UNIT PRICE BID PER LINEAR FOOT. (ITEM 516.10.)
8. ALL CURB PLATES, WELDED STUDS AND EPOXY COATING OF STRUCTURAL STEEL SHALL BE INCLUDED IN ITEM 516.10.

NOTES:

1. FOR SECTION C-C, D-D AND E-E, SEE SHEET BR 613
2. FOR DETAIL B, SEE SHEET BR 614. AS BUILT 5/12/94 JD

STATE OF VERMONT
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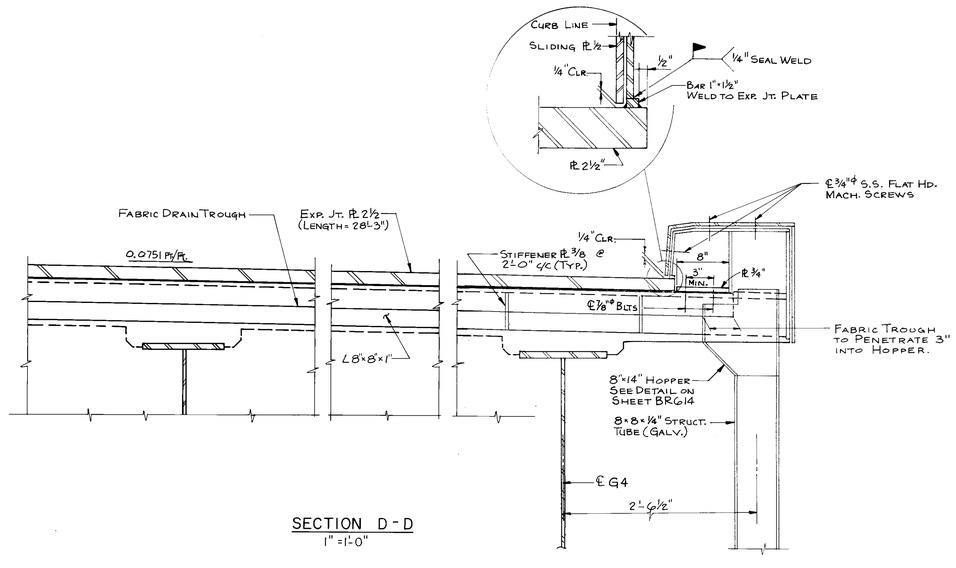
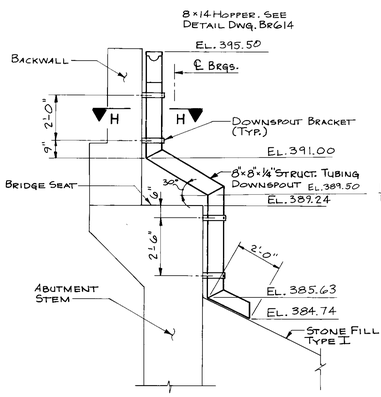
VT. RTE. 289 "RAMP A" OVER CVRR	
BRIDGE EXPANSION JOINT DETAILS-1	
Designed by B.W.	Drawn by B.W.
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor M.W.O. date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR612	Sheet 201 of 400

BRUNING 44-11-8(11)

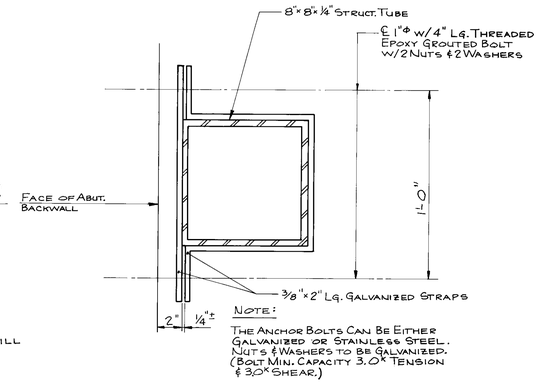
BR-2



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



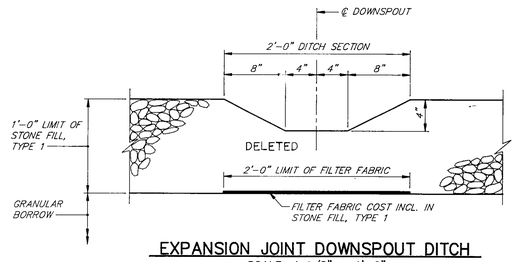
DOWNSPOUT DETAIL
3/8" = 1'-0"



NOTE:
THE ANCHOR BOLTS CAN BE EITHER GALVANIZED OR STAINLESS STEEL. NUTS & WASHERS TO BE GALVANIZED. (BOLT MIN. CAPACITY 3.0K TENSION & 3.0K SHEAR.)

SECTION H-H
3" = 1'-0"

NOTE: DITCH TO RUN PARALLEL TO 1:2 EMBANKMENT SLOPE.



EXPANSION JOINT DOWNSPOUT DITCH
SCALE: 1 1/2" = 1'-0"

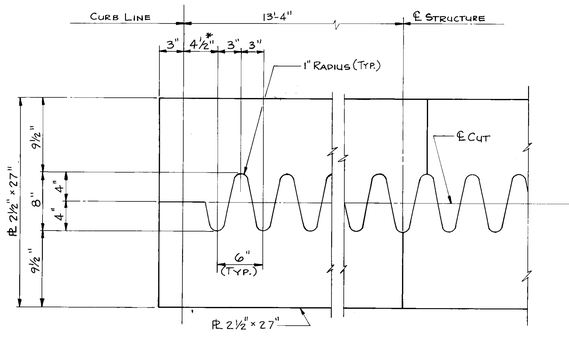
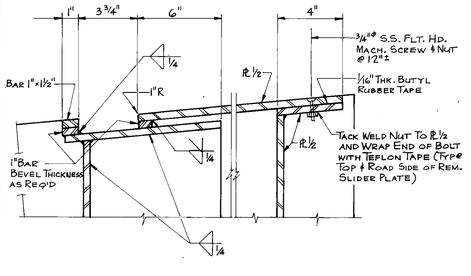


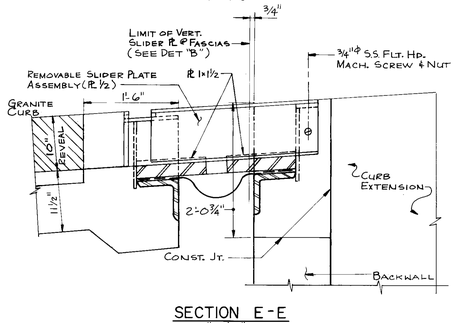
PLATE CUTTING DETAIL
1 1/2" = 1'-0"

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

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



DETAIL A
3" = 1'-0"



SECTION E-E
1" = 1'-0"

SEE ALSO MERRIMACK SHEET METAL FABRICATION DRAWINGS

NOTE:

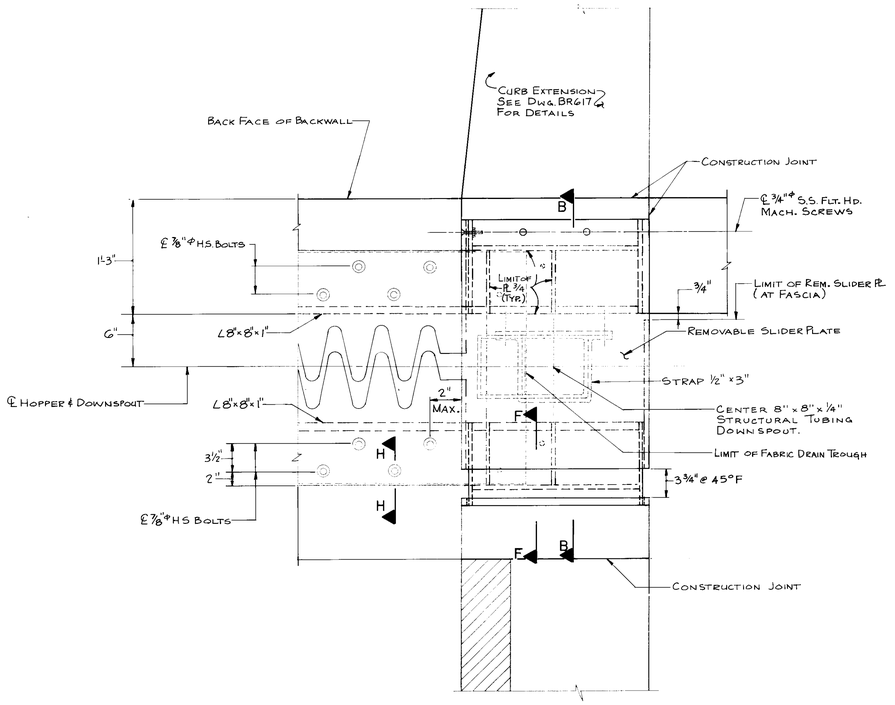
1. FOR LOCATION OF SECTION C-C, D-D & E-E SEE SHEET BR612.
* SEE BRIDGE EXPANSION JOINT PLAN, BR612
2. FOR LOCATION OF SEC. B-B SEE SHT. BR614.
3. FOR CURB EXTENSION DETAILS SEE SHT. BR617.

AS BUILT 5/12/94 JSB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

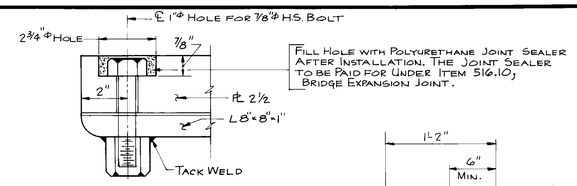
TOWN OF ESSEX	Bridge No. 14
HIGHWAY NO. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
BRIDGE EXPANSION JOINT DETAILS - 2	
Designed by B.W.	Drawn by B.W.
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor M.W.O. date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR613	Sheet 202 of 400

BRUNING 44-131-40151
BR-2

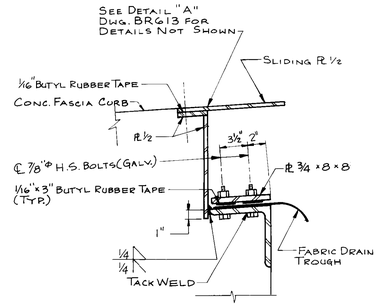


DETAIL B
1 1/2" = 1'-0"

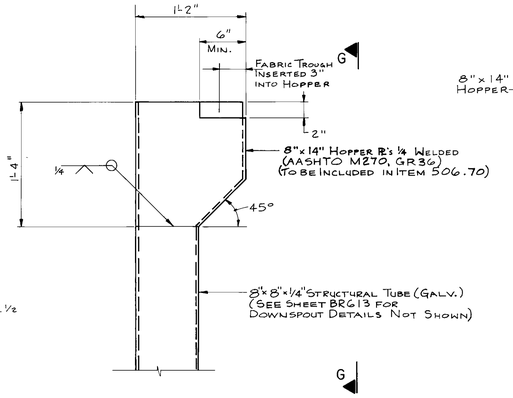
NOTE: DOWNSPOUT AT EAST CURBLINE ONLY.



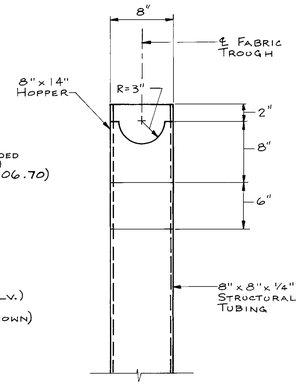
SECTION H-H
3/8" = 1'-0"



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



HOPPER DETAIL
1 1/2" = 1'-0"



VIEW G-G
1 1/2" = 1'-0"

SEE ALSO MERRIMACK SHEET METAL SHOP DRAWINGS

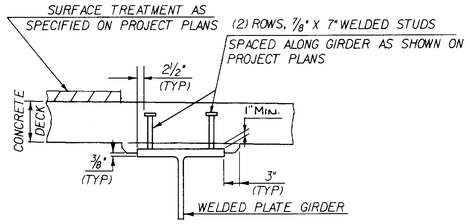
NOTE:
FOR SECTION B-B SEE SHEET BR613

AS BUILT 5/12/94 JG

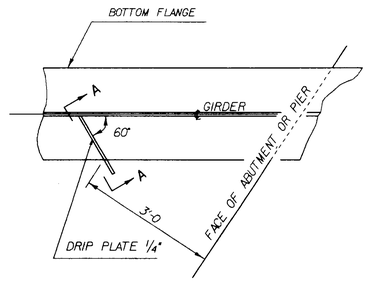
STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
BRIDGE EXPANSION JOINT DETAILS - 3	
Designed by B.W.	Drawn by B.W.
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor M.W.O. date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033 - 1(2)
Bridge Sheet No. BR614	Sheet 203 of 400

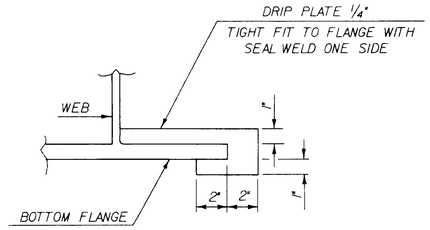
BIGUNTING 44-731-40151
SR-2



BEAM HAUNCH AND SHEAR CONNECTOR DETAILS

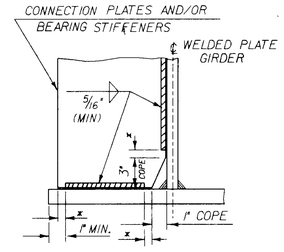


PLAN DRIP PLATE



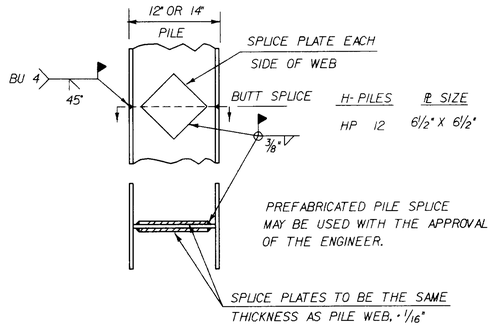
SECTION A - A

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS, ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS, OR AS INDICATED ON PROJECT PLANS.

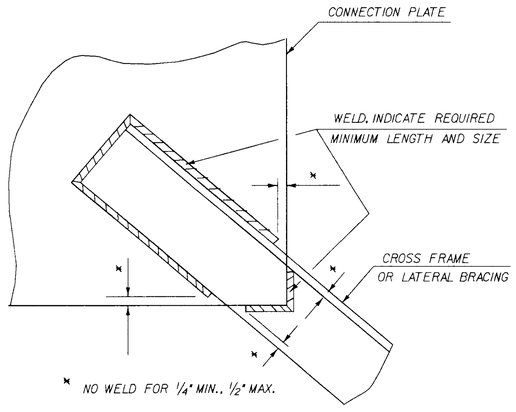


WELD TERMINATION DETAIL AND COPING DETAIL FOR WELDED PLATE GIRDERS

x NO WELD FOR 1/4" MIN., 1/2" MAX. (EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)



DETAIL OF PILE SPLICE

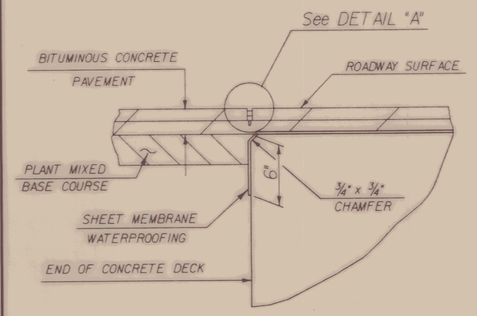


DETAILS OF WELD LOCATION AT CROSS FRAMES AND LATERAL BRACING

BUILT AS DESIGNED 5/12/94 SP

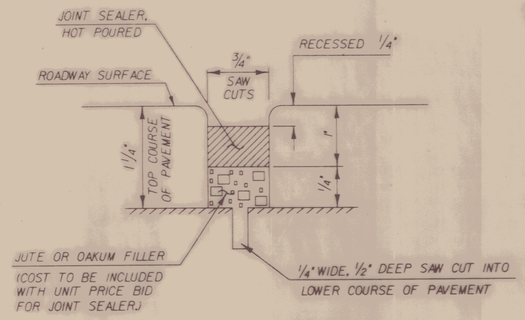
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of Essex	Bridge No. 14
	Log Sta.
Highway No. Vt. Rte. 289	Surv. Sta. Ramp 15+00
Vt. Rte. 289 "Ramp A" Over CVRR	
Structural Steel Details	
Designed By ——	Drawn By ——
Checked By RJS Date 10/12/90	Bridge Design Supervisor MWO Date 10/12/90
PROJECT Williston - Colchester	PROJECT NO. PB 033-1(2)
I.G.C. Info. ZFA\:[30,32]83E069DET.DGN	PRF:STRSTLDET
Bridge Sheet No. BR615	Sheet 204 of 400



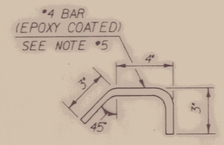
DETAIL FOR JOINT IN PAVEMENT AND SHEET MEMBRANE AT END OF BRIDGE

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.
(AT SOUTH ABUTMENT - FIXED END ONLY)



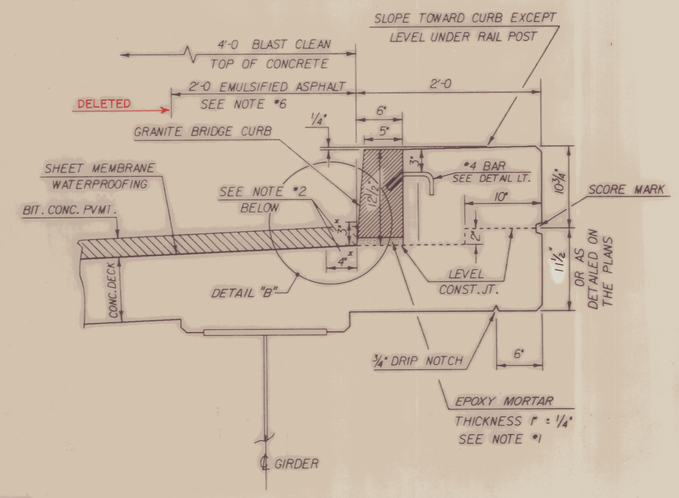
DETAIL "A"

NTS



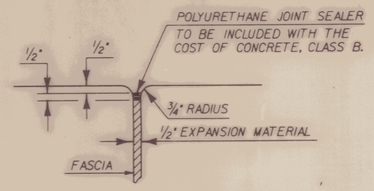
GRANITE BRIDGE CURB ANCHORAGE DETAIL

SCALE: 3" = 1'-0"



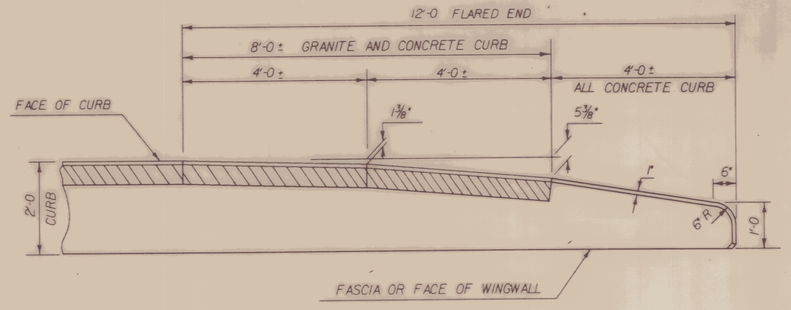
TYPICAL 2'-0 CURB SECTION WITH GRANITE CURB

SCALE: 1 1/2" = 1'-0



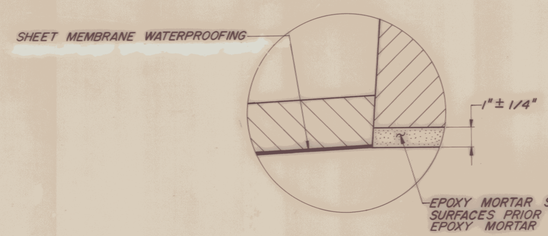
DETAILS OF JOINT BETWEEN FASCIA AND ABUTMENT

SCALE: 3" = 1'-0"



FLARED END DETAIL FOR 2'-0 CURB

CURB REINFORCING STIRRUP BARS SHALL BE TURNED OR CUT AS REQUIRED TO FIT FLARED ENDS.



DETAIL "B"

NTS

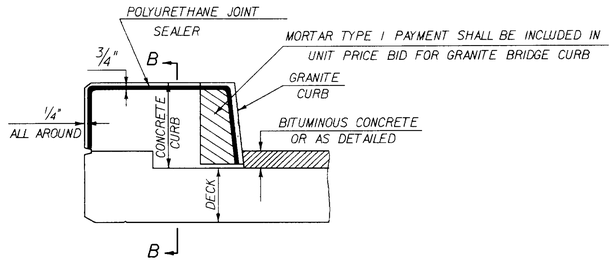
NOTES

1. PLACE EPOXY MORTAR FULL WIDTH OF GRANITE CURB.
2. THE 4-INCHES AND 3-INCHES REFERENCED DIMENSIONS INDICATE AREAS ALONG DECK AND UP FACE OF CURB FOR PLACEMENT OF TWO (2) COATS OF POLYURETHANE MEMBRANE.
3. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING.
4. SHEET MEMBRANE WATERPROOFING SHALL EXTEND TO FACE OF CURB AS SHOWN IN DETAIL B.
5. NO. 4 ANCHORS FOR GRANITE BRIDGE CURB SHALL BE EPOXY-COATED AND SHALL BE LOCATED 12 INCHES FROM EACH END OF EACH GRANITE SECTION. THE COST OF THESE ANCHORS INCLUDING DRILLING AND LEADING SHALL BE INCLUDED IN UNIT PRICE BID FOR GRANITE BRIDGE CURB. EPOXY BONDING COMPOUND (CONFORMING WITH SECTION 719) ~~MAY BE~~ USED IN LIEU OF LEADING.
6. DELETED ONE (1) COAT OF EMULSIFIED ASPHALT (RS-1) OR APPROVED SUBSTITUTE SHALL BE APPLIED ON TOP OF PAVEMENT AT THE LOW SIDE OF BANKED DECKS. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR BITUMINOUS CONCRETE PAVEMENT.

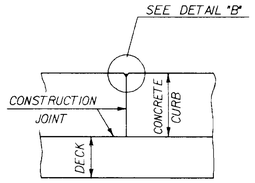
AS BUILT 5/12/94 JB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

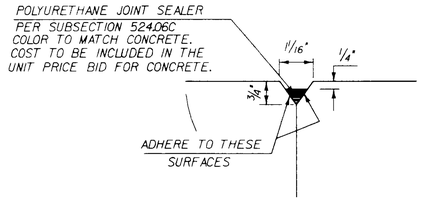
Town Of ESSEX	Bridge No. 14
Highway No. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
BRIDGE CURB & PAVEMENT JOINT DETAILS	
Designed By ——	Drawn By ——
Checked By RJS. Date 10/12/90	Bridge Design Supervisor MWO Date 10/12/90
PROJECT WILLISTON-COLCHESTER	PROJECT NO. PB 033-1(2)
L.G.C. Info. ZFAH\E30,32183E069DET.DGN	PRF:PAVEJTDET
Bridge Sheet No. BR616	Sheet 205 of 400



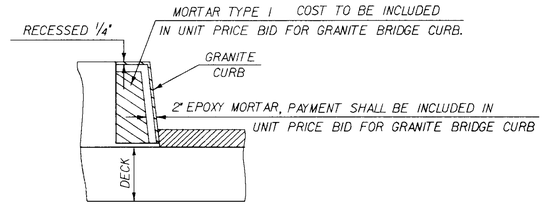
TYPICAL SECTION THROUGH GRANITE AND CONCRETE CURB CONSTRUCTION JOINT



SECTION B - B



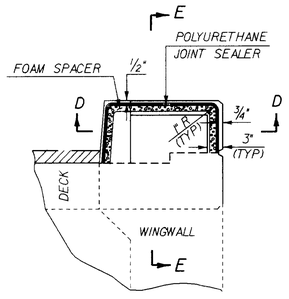
DETAIL "B"



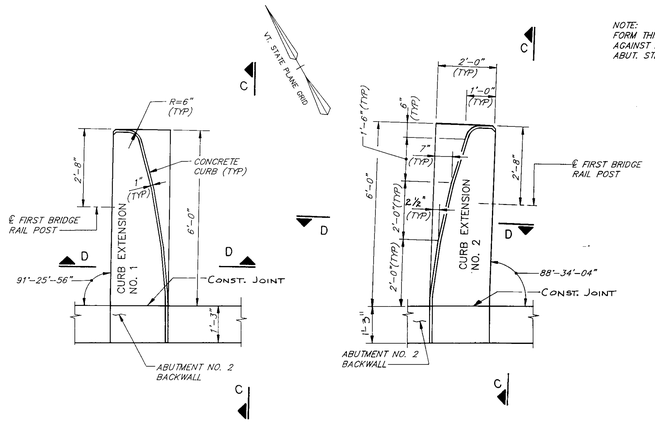
TYPICAL SECTION THROUGH JOINTS BETWEEN PIECES OF GRANITE BRIDGE CURB ONLY

NOTES:

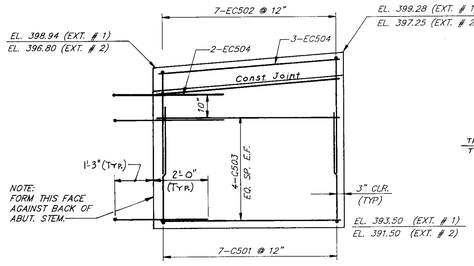
1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 20'-0 CENTER TO CENTER AND SHALL BE 1'-6 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS. EVERY JOINT IN CONCRETE CURB SHALL BE ACCOMPANIED BY A JOINT IN GRANITE BRIDGE CURB.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.
3. CONSTRUCTION JOINTS THROUGH SIDEWALKS SHALL BE SIMILAR TO CURB CONSTRUCTION JOINTS.



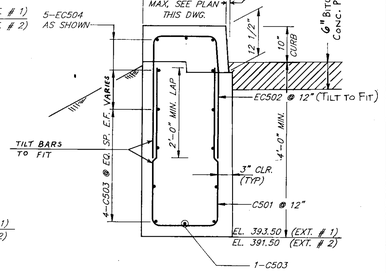
TYPICAL SECTION THROUGH CURB JOINT AT FIXED END OF BRIDGE BETWEEN END OF BRIDGE AND LONGITUDINAL WINGWALL



PLAN – CURB EXTENSIONS NO. 1 & NO. 2
1/2"=1'-0"



SECTION C–C
1/2"=1'-0"

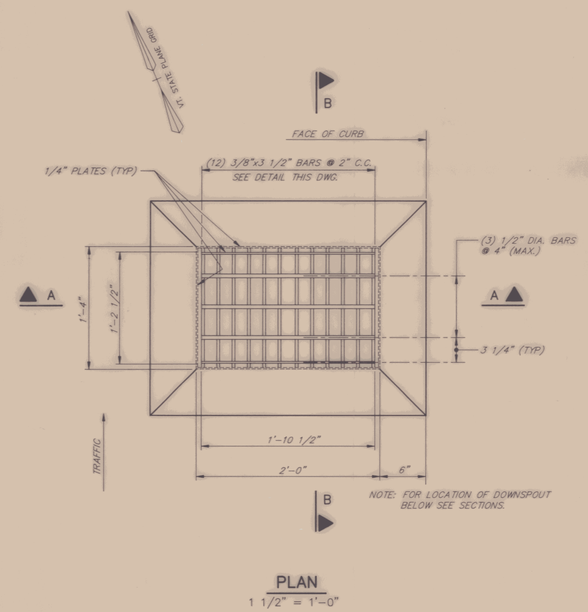


SECTION D–D
3/4"=1'-0"

AS BUILT 5/13/94 KB

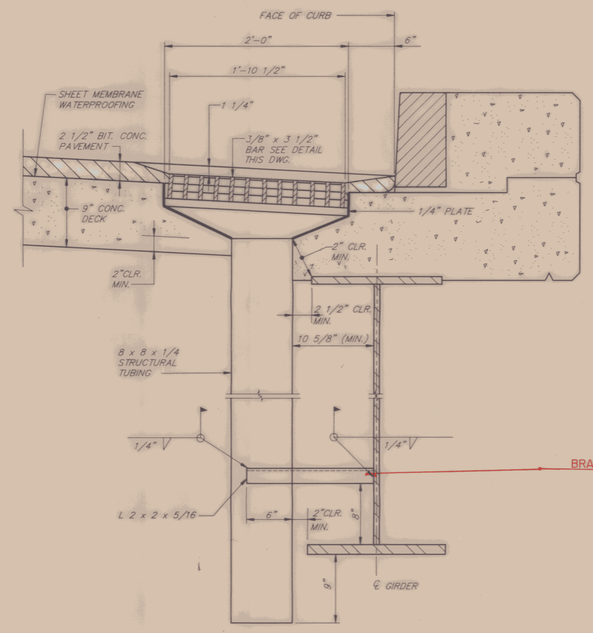
STATE OF VERMONT
AGENCY OF TRANSPORTATION

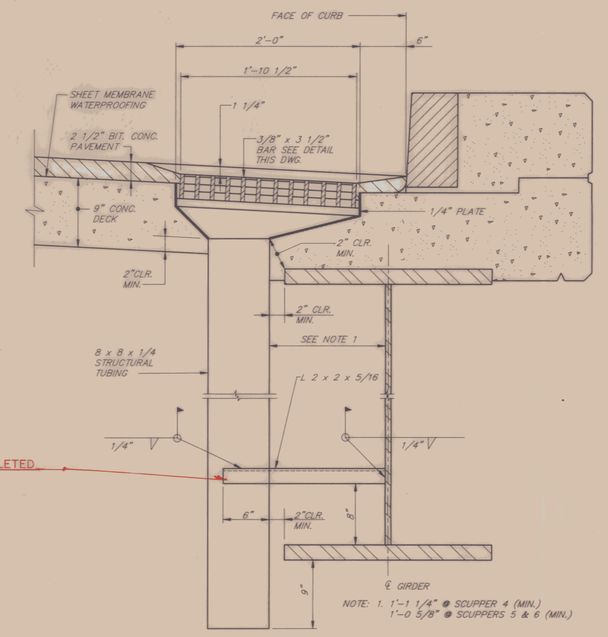
Town Of ESSEX	Bridge No. 14
Highway No. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
BRIDGE CURB DETAILS	
Designed By –	Drawn By –
Checked By RJS Date 10/12/90	Bridge Design Supervisor MWO Date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
I.G.C. Info. ZFA:[30,32]83E069DET.DGN	PRF:BRIDGCURB
Bridge Sheet No. BR617	Sheet 206 of 400



PLAN

1 1/2" = 1'-0"





BRACKETS DELETED

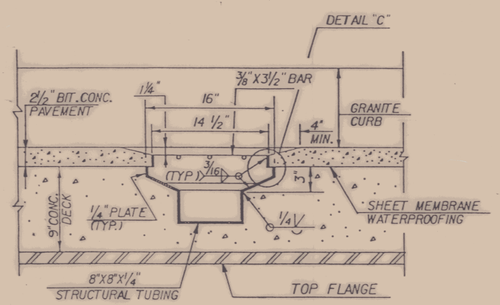
NOTE: 1. 1'-1 1/4" @ SCUPPER 4 (MIN.)
1'-0 5/8" @ SCUPPERS 5 & 6 (MIN.)

SECTION A – A @ SCUPPERS 1, 2, & 3

1 1/2" = 1'-0"

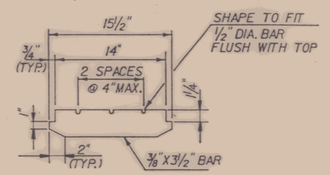
SECTION A – A @ SCUPPERS 4, 5, & 6

1 1/2" = 1'-0"



SECTION B-B

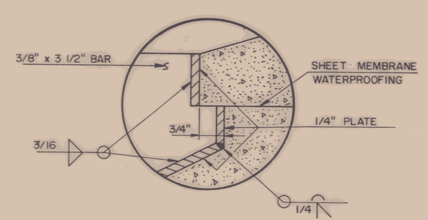
SCALE: 1½ = 1-0



BAR DETAIL FOR GRATE

SCALE: 1½" = 1'-0"

SCUPPER	℄ SCUPPER STATION LOCATION
1	14+02 , 3'-10" RT.
2	14+36 , 3'-10" RT.
3	14+70 , 3'-10" RT.
4	15+31 , 3'-10" RT.
5	15+85 , 3'-10" RT.
6	16+80 , 3'-10" RT.



DETAIL "C"

SCALE: 6" = 1'-0"

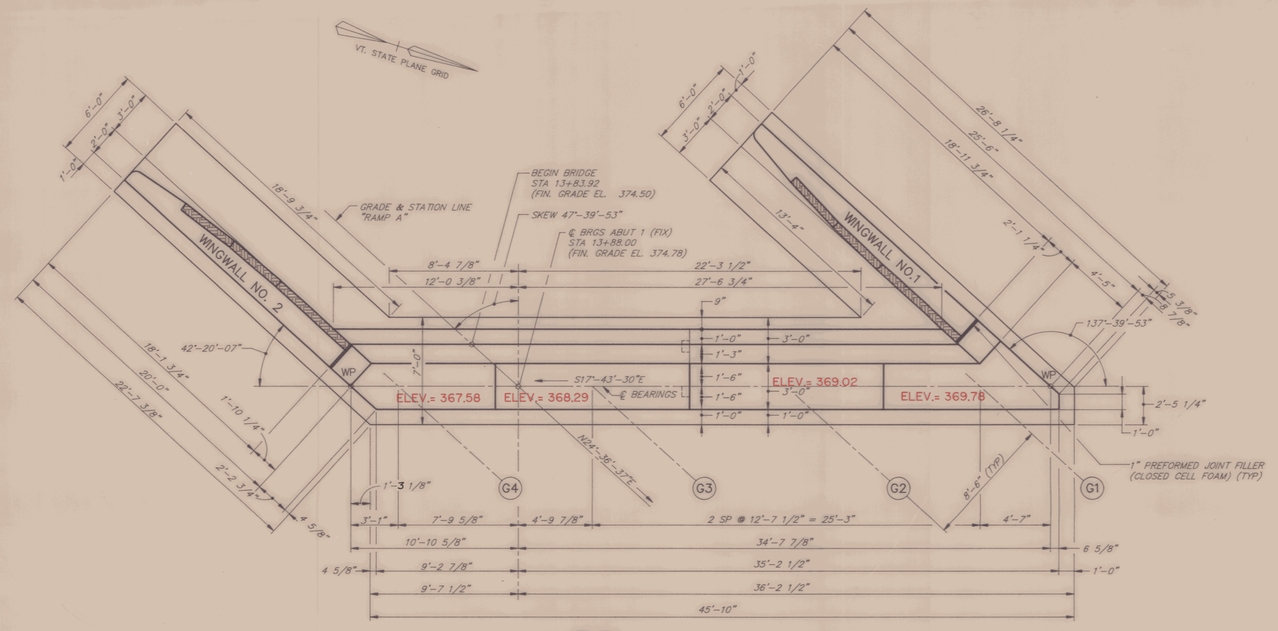
NOTES:

THE FOLLOWING NOTES APPLY TO ALL SCUPPERS UNLESS OTHERWISE NOTED ON PROJECT PLANS.
1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A-500 OR A-501.
2. ALL PLATES, BARS AND ANGLES SHALL CONFORM TO ASSHTO M270 GR. 36
3. ALL SCUPPERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AFTER FABRICATION.
4. THE TOP SURFACE OF SCUPPER SHALL BE SLOPED TO MATCH ROADWAY SLOPE AND GRADE.
5. THE BAR AND GRATE SECTION MAY BE PREFABRICATED PROVIDING THE GEOMETRY AND SECTION PROPERTIES ARE EQUIVALENT TO THE DETAILS SHOWN.
6. SEE SHEET BR607 AND TABLE THIS DWG. FOR SCUPPER LOCATIONS.
7. COST OF SCUPPERS AND APPURTENANCES INCLUDED IN ITEM 506.75. "STRUCTURAL STEEL (PLATE GIRDER), - RAMP A OVER CVRR."

AS BUILT 5/13/94 JS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

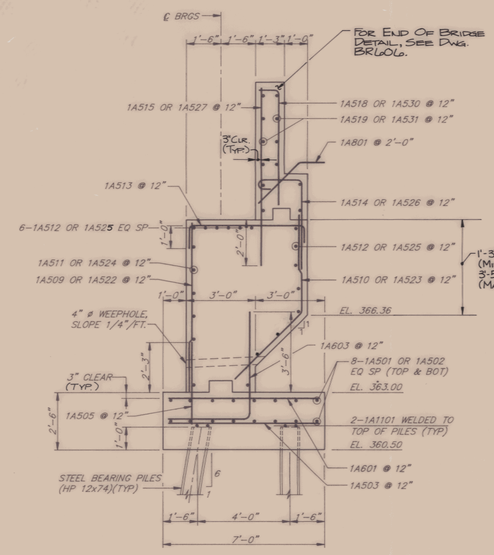
TOWN OF ESSEX	Bridge No. 14 / Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
SCUPPER DETAILS	
Designed by R.J.S.	Drawn by M.W.D.
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor M.W.O. date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR618	Sheet 207 of 400



PLAN
1/4" = 1'-0"

ELEVATION
1/4" = 1'-0"

NOTE :-
PILES NOT SHOWN FOR CLARITY.



ABUTMENT 1 – SECTION
3/8" = 1'-0"

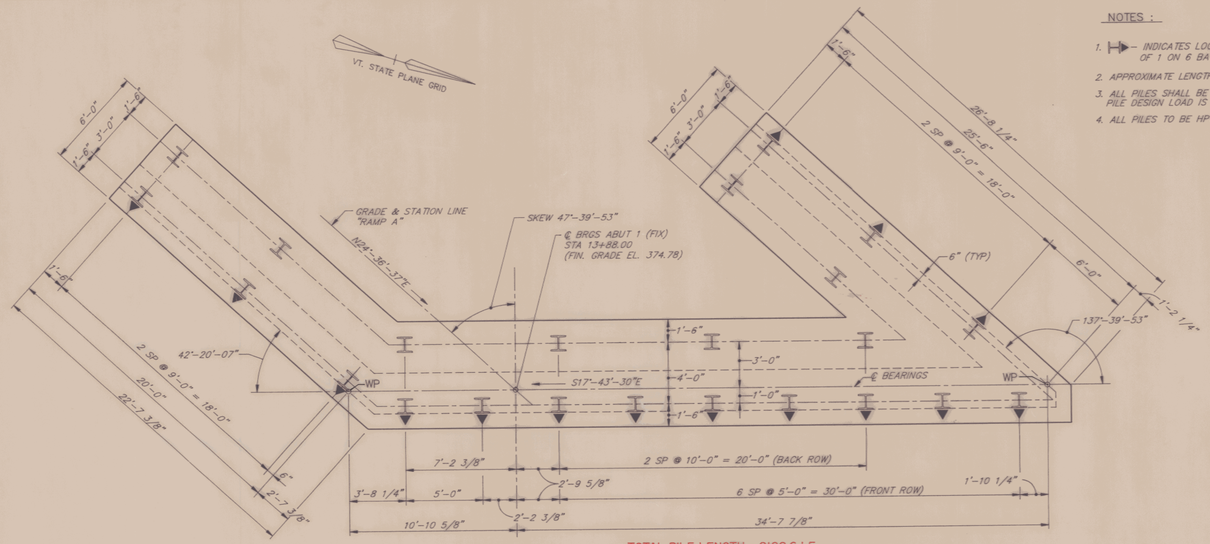
SEAT ELEV.S PER HI-STEEL FAB DRAWINGS.

Notes:
1. For Curb Flare Details See Dwg. BR616.
2. For Sections A-A, & B-B See Dwg. BR621.
3. Anchor Bolts Shall Be Set Before Abutment Concrete is Placed.

AS BUILT 5/13/94 SA

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
HIGHWAY NO. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
ABUTMENT 1 – PLAN, ELEVATION & SECTION	
Designed by K.R.H.	Drawn by MWD / JDH Sr
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor M.W.O. date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR619	Sheet 208 of 400



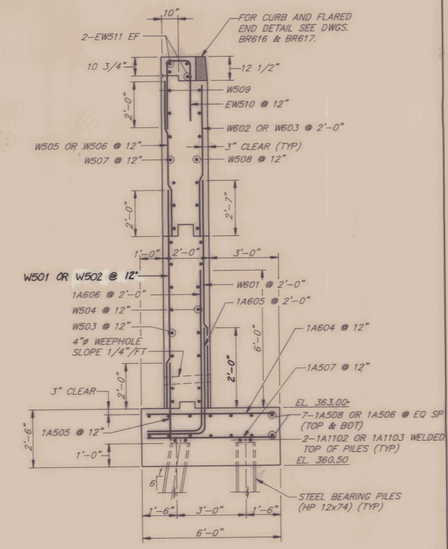
TOTAL PILE LENGTH = 2182.6 LF

ABUTMENT 1 – PILE LAYOUT

1/4" = 1'-0"

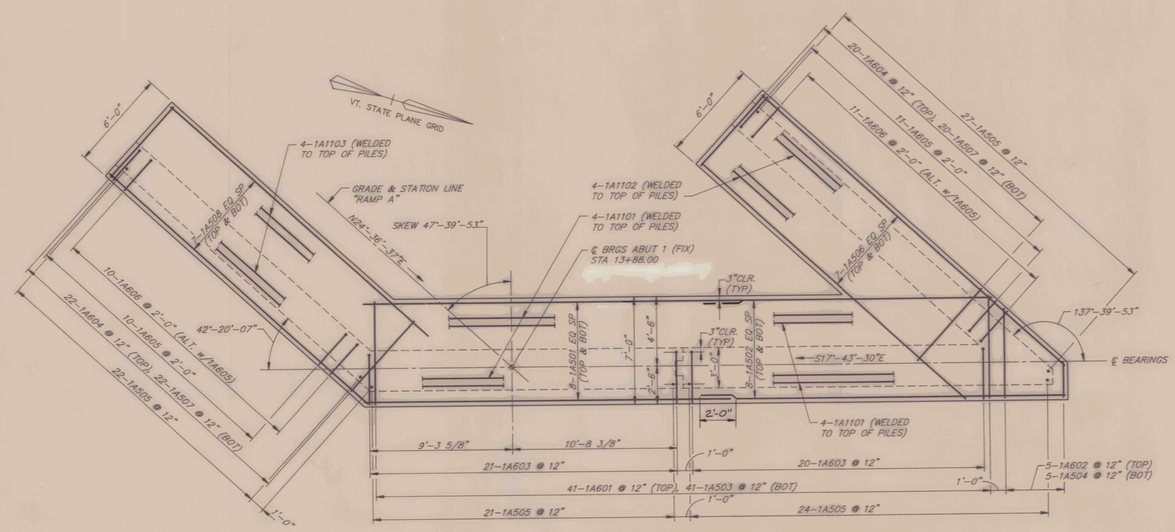
NOTES :

1. ⊢▶ – INDICATES LOCATION AND DIRECTION OF 1 ON 6 BATTERED PILE.
2. APPROXIMATE LENGTH OF THE PILES IS 100'.
3. ALL PILES SHALL BE DRIVEN TO REFUSAL. PILE DESIGN LOAD IS 70 TONS.
4. ALL PILES TO BE HP12x74, ITEM 505.16.



WINGWALLS 1 & 2 – SECTION

3/8" = 1'-0"



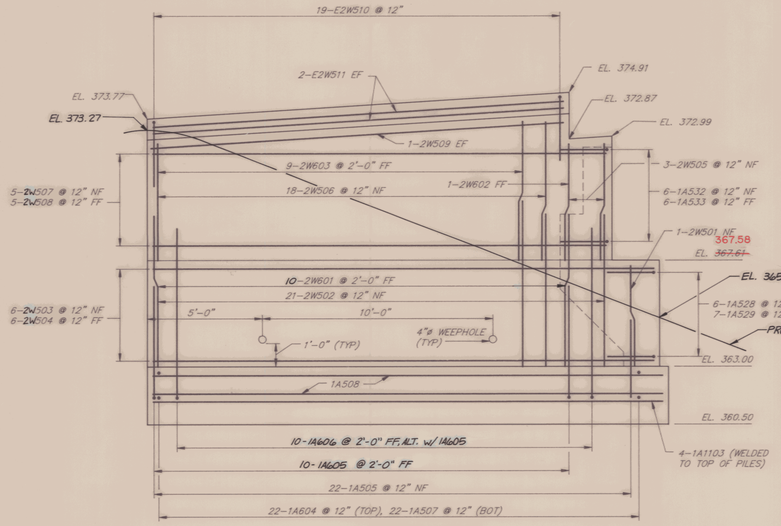
ABUTMENT 1 – FOOTING REINFORCEMENT PLAN

1/4" = 1'-0"

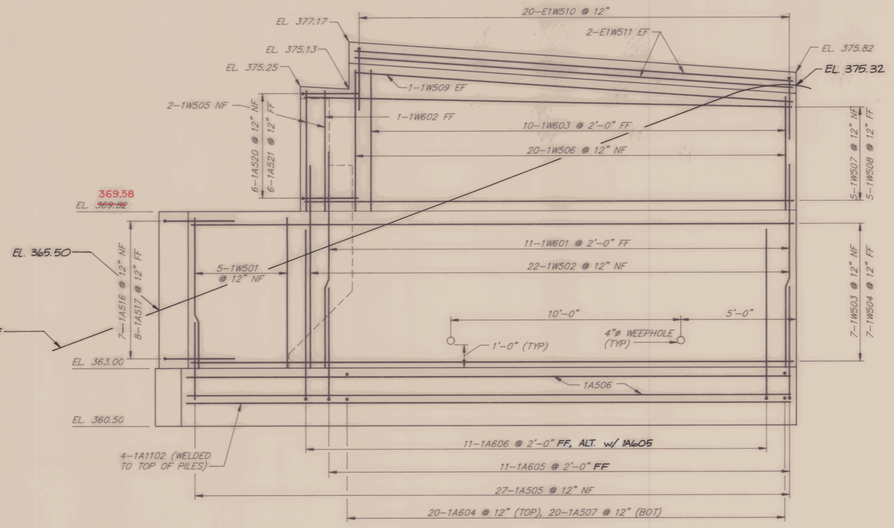
AS BUILT 5/13/94 sb

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14 / Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
ABUTMENT 1 – SECTIONS & DETAILS – 1	
Designed by K.R.H.	Drawn by J.D.H. Sr. / M.W.D.
Checked by R.J.S. date 12/12/90	Bridge Design Supervisor M.W.O. date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR620	Sheet 209 of 400



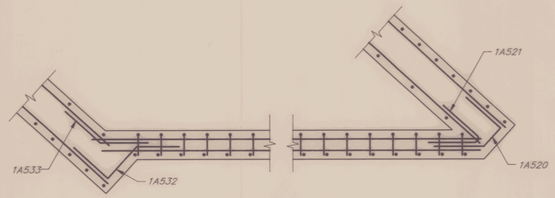
WINGWALL NO. 2



WINGWALL NO. 1

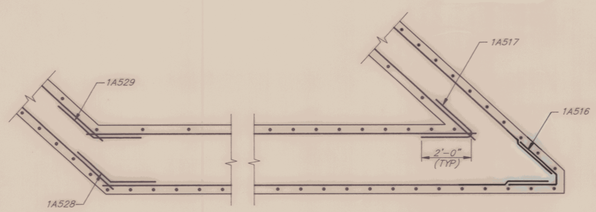
ABUTMENT 1 – WINGWALL ELEVATIONS

3/8" = 1'–0"



SECTION B–B

3/8" = 1'–0"



SECTION A–A

3/8" = 1'–0"

Notes:

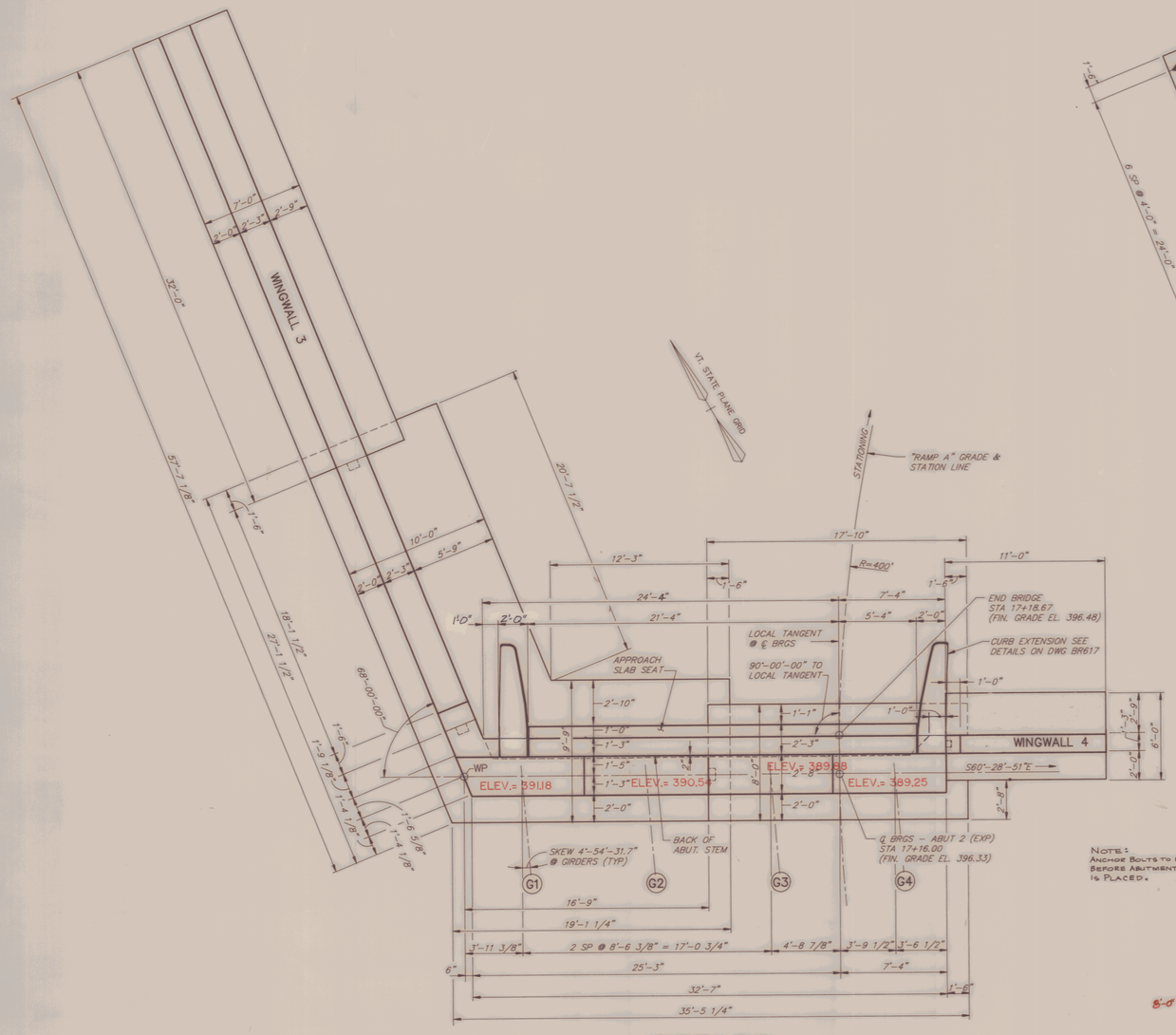
1. For Locations Of Sections A-A And B-B See Dwg. BR619.

AS BUILT 5/13/94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

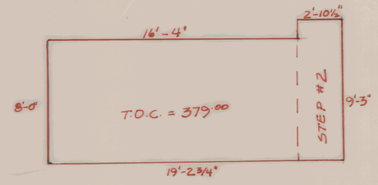
TOWN OF ESSEX	Bridge No. 14
HIGHWAY NO. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
ABUTMENT 1 – SECTIONS & DETAILS – 2	
Designed by K.R.H.	Drawn by JDH Sr./MWD
Checked by R.J.S. date 10/12/90	Bridge Design Supervisor M.W.O. date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. FB 033 – 1(2)
Bridge Sheet No. BR621	Sheet 210 of 400

250 OF 465



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

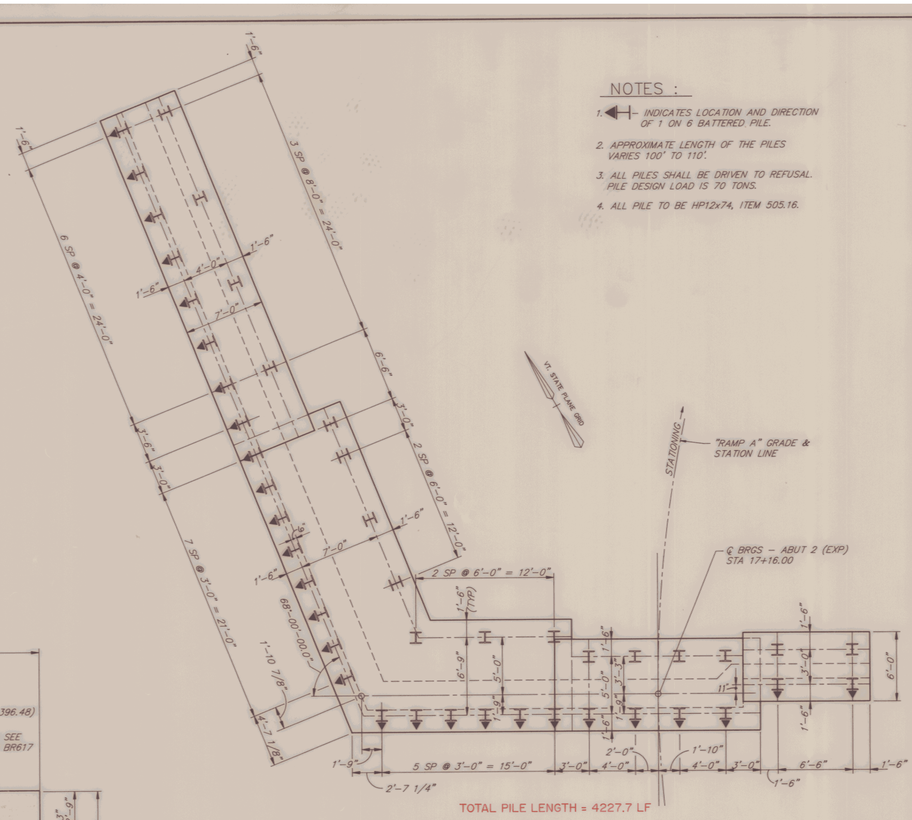
NOTE:
ANCHOR BOLTS TO BE SET BEFORE ABUTMENT CONCRETE IS PLACED.



FOOTING AS BUILT - RIGHT SIDE
STEP #2 PLACED MONOLITHICALLY WITH FOOTING.

NOTES :

1. INDICATES LOCATION AND DIRECTION OF 1 ON 6 BATTERED PILE.
2. APPROXIMATE LENGTH OF THE PILES VARIES 100' TO 110'.
3. ALL PILES SHALL BE DRIVEN TO REFUSAL. PILE DESIGN LOAD IS 70 TONS.
4. ALL PILE TO BE HP12x74, ITEM 505.16.



TOTAL PILE LENGTH = 4227.7 LF

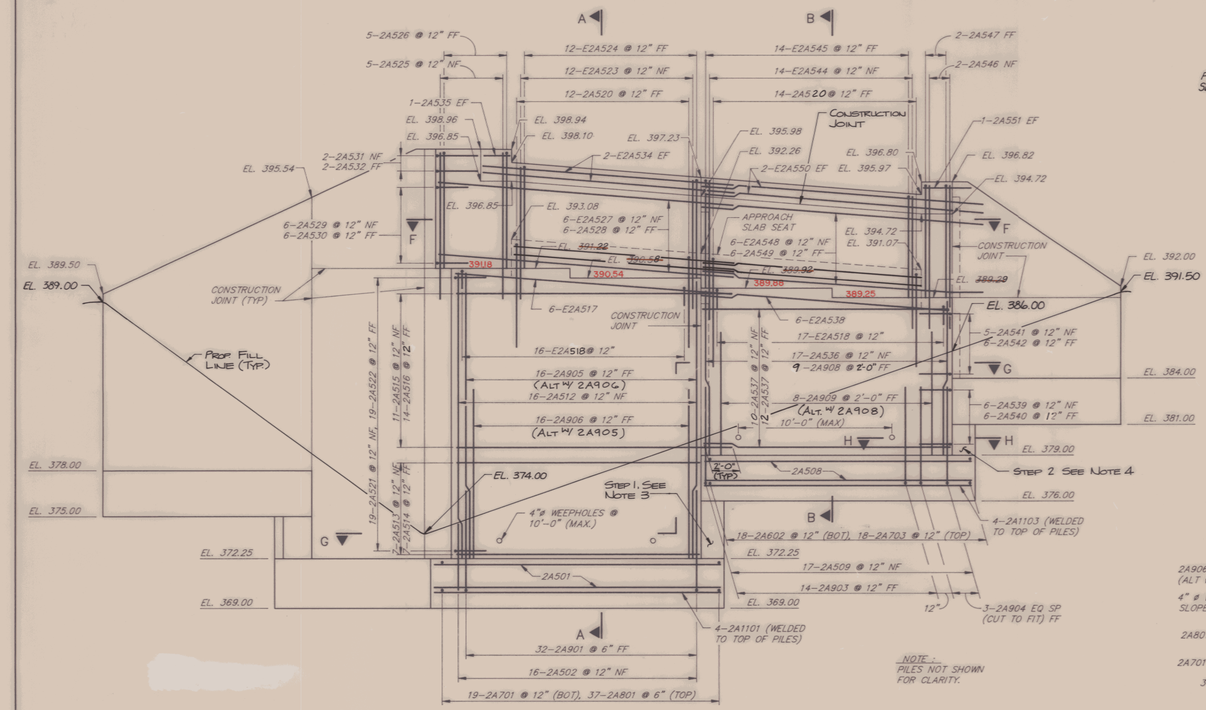
ABUTMENT 2 – PILE LAYOUT
3/16" = 1'-0"

AS BUILT 5/13/94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

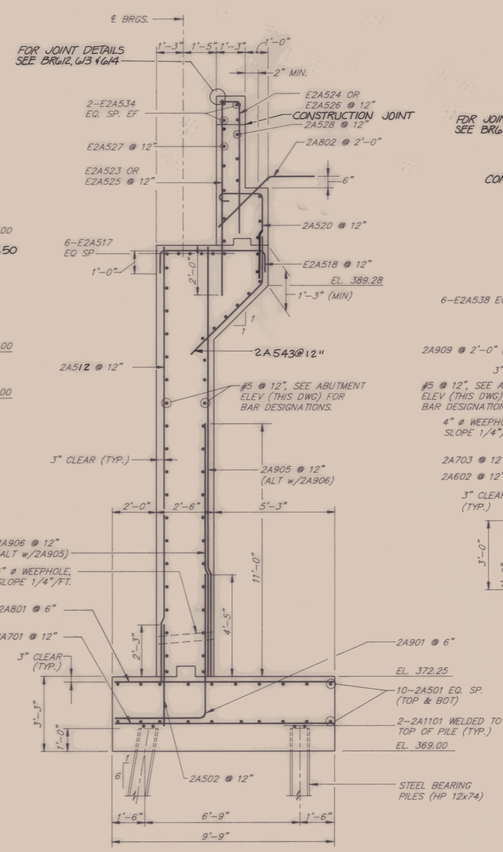
TOWN OF ESSEX	Bridge No. 14
HIGHWAY NO. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
ABUTMENT 2 – PLAN & DETAILS	
Designed by KRH	Drawn by JDH Sr.
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR622	Sheet 211 of 400

351 01465



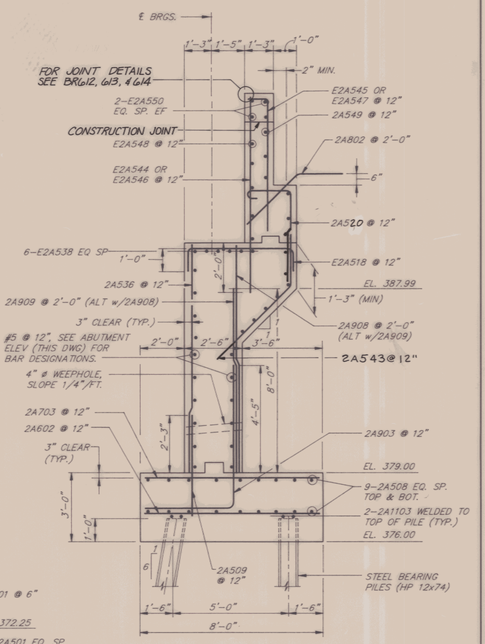
ABUTMENT 2 – ELEVATION

1/4" = 1'-0"



ABUTMENT 2 – SECTION A–A

3/8" = 1'-0"



ABUTMENT 2 – SECTION B–B

3/8" = 1'-0"

NOTES:

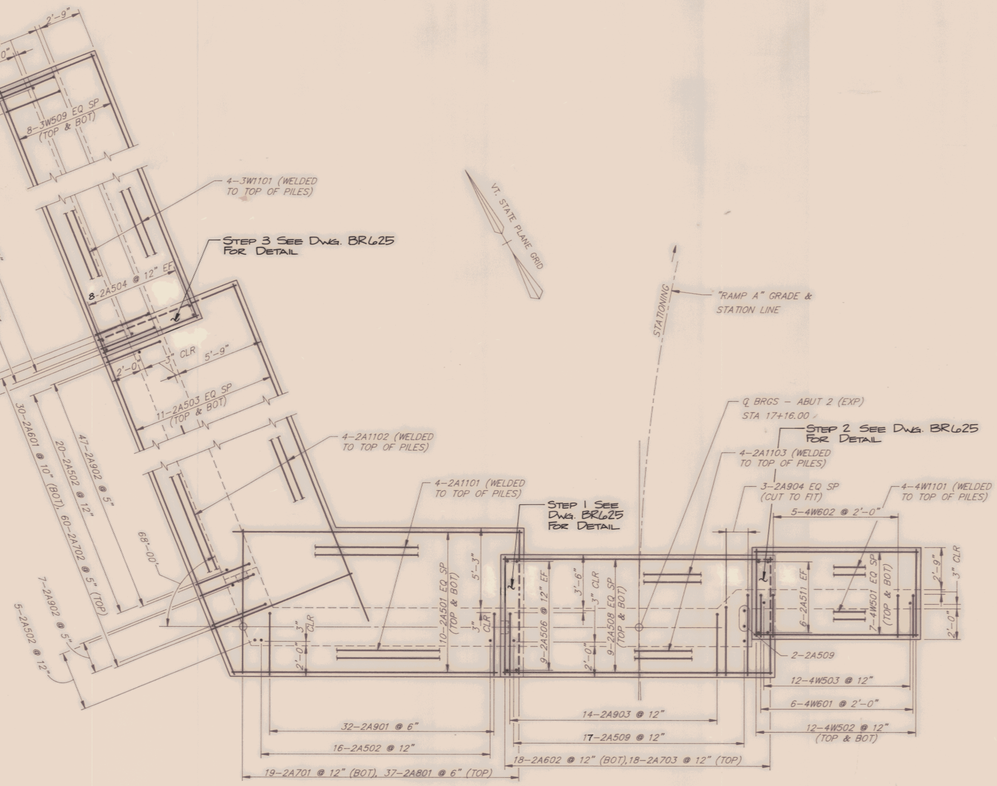
1. FOR SECTIONS F-F, G-G, AND H-H SEE DWG. BR624.
2. PREFIX "E" DENOTES BARS TO BE EPOXY COATED.
3. FOR REINF. SEE STEP 1 DETAIL, DWG. BR625.
4. FOR REINF. SEE STEP 2 DETAIL, DWG. BR625.

AS BUILT 5/13/94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
ABUTMENT 2 – ELEVATION & SECTIONS	
Designed by KRH	Drawn by JDH SR./DJA
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR623	Sheet 212 of 400

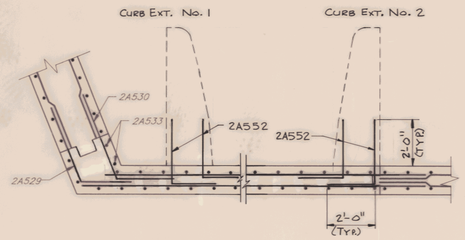
252 24 163



ABUTMENT 2 – FOOTING REINFORCEMENT PLAN

1/4" = 1'-0"

SEE SHEET BR622 FOR FOOTING AS BUILT

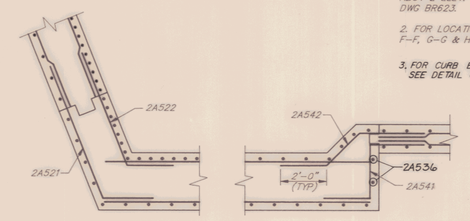


SECTION F–F

3/8" = 1'-0"

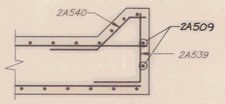
NOTES :-

1. FOR REINF. NOT NOTED, SEE ABUT 2 ELEV. & SECTIONS ON DWG BR623.
2. FOR LOCATION OF SECTIONS F–F, G–G & H–H, SEE DWG BR623.
3. FOR CURB EXTENSION REINF, SEE DETAIL ON DWG. BR617



SECTION G–G

3/8" = 1'-0"



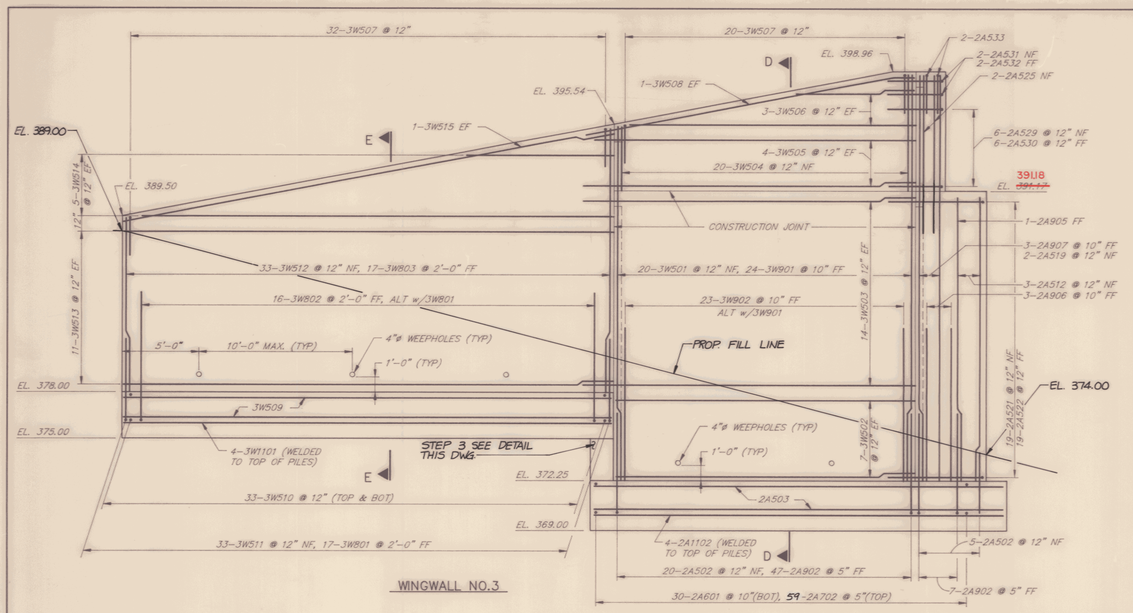
SECTION H–H

3/8" = 1'-0"

AS BUILT 5/13/94 JG

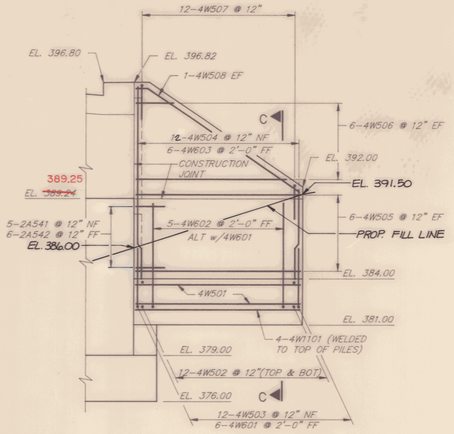
STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
HIGHWAY NO. VT. RTE. 289	Log Sta. Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
ABUTMENT 2 – SECTION & DETAILS	
Designed by KRH	Drawn by JDH Sr.
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR624	Sheet 213 of 400

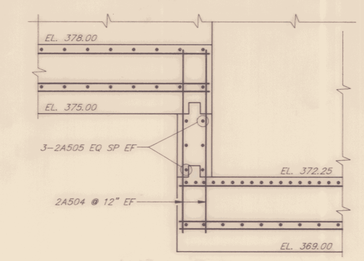


WINGWALL NO.3

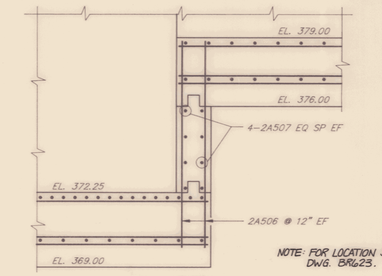
ABUTMENT 2 – WINGWALL ELEVATIONS
1/4" = 1'–0"



WINGWALL NO.4

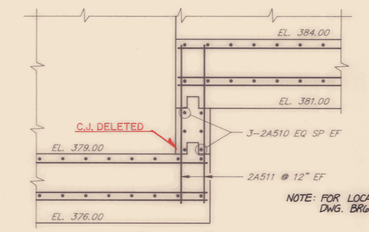


STEP 3 DETAIL
3/8" = 1'–0"



NOTE: FOR LOCATION SEE DWG. BR623.

STEP 1 DETAIL
3/8" = 1'–0"

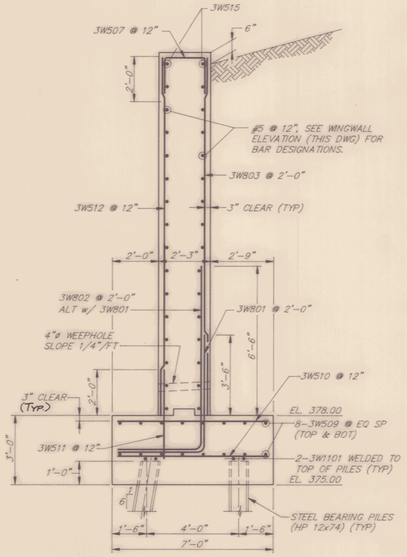


NOTE: FOR LOCATION SEE DWG. BR623.

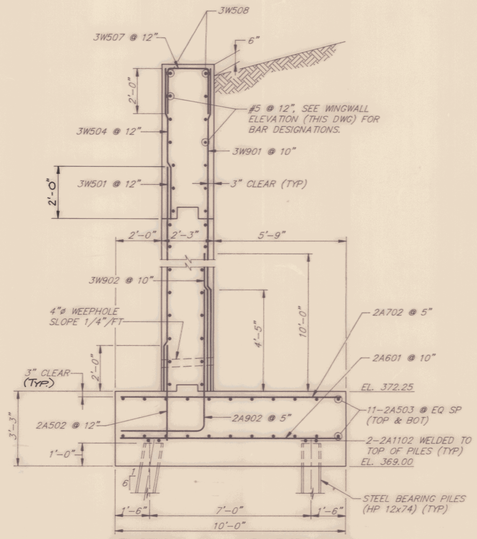
STEP 2 DETAIL
3/8" = 1'–0"

SEE SHT BR622 FOR AS BUILT

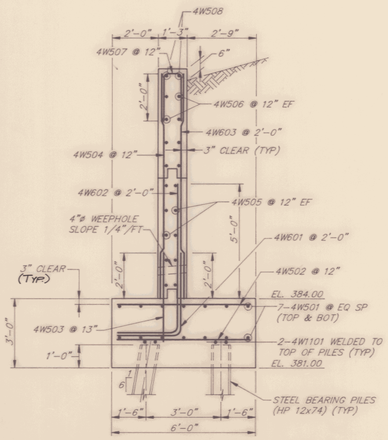
AS BUILT 5/13/94



WINGWALL 3 – SECTION E–E
3/8" = 1'–0"



WINGWALL 3 – SECTION D–D
3/8" = 1'–0"

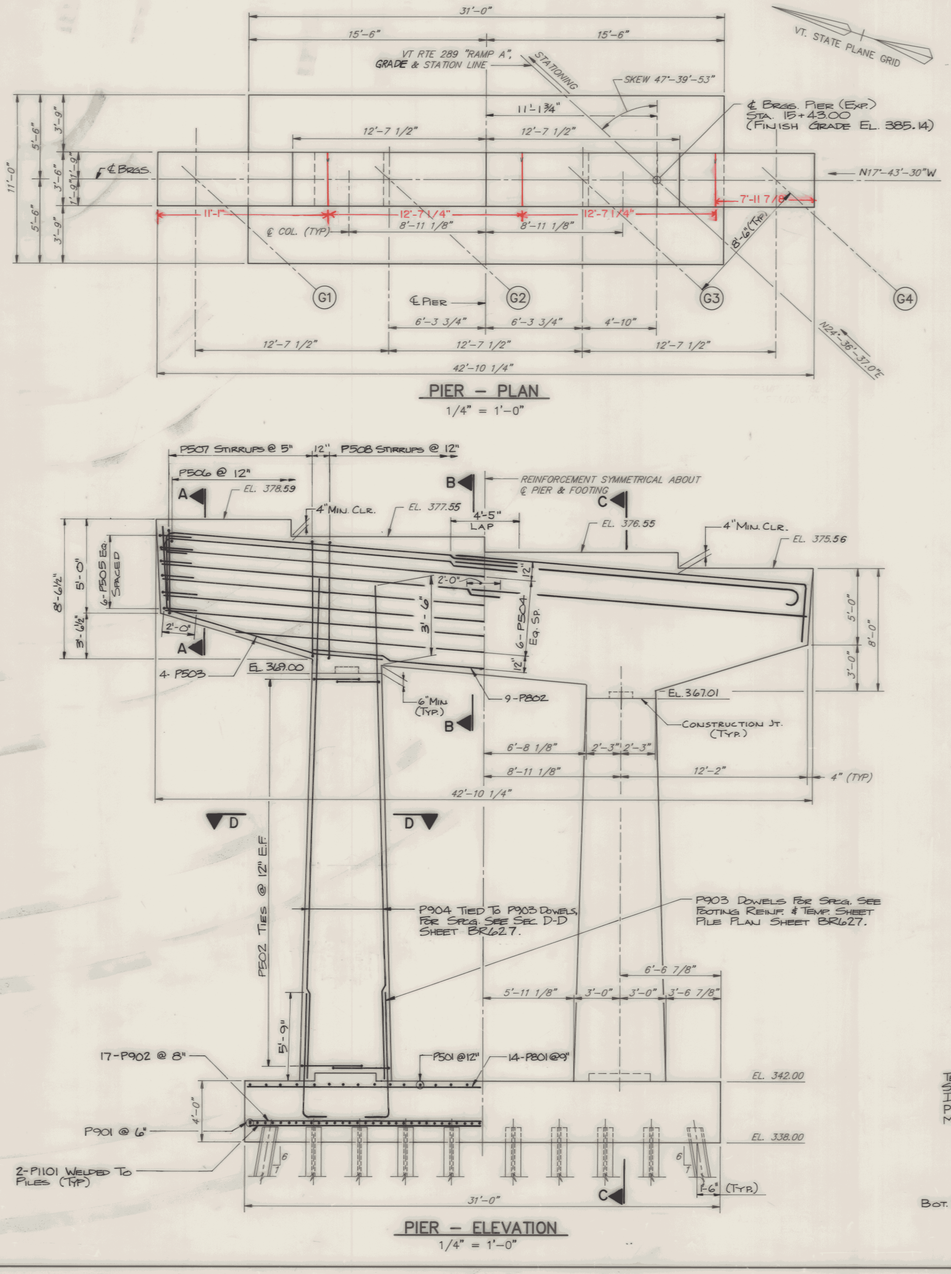


WINGWALL 4 – SECTION C–C
3/8" = 1'–0"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
HIGHWAY NO. VT. RTE. 289	Log Sta. Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
ABUTMENT 2 – WINGWALL SECTIONS & DETAILS	
Designed by KRH	Drawn by JDH Sr./DJA
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR625	Sheet No. 214 of 400

254 0-3 41-5

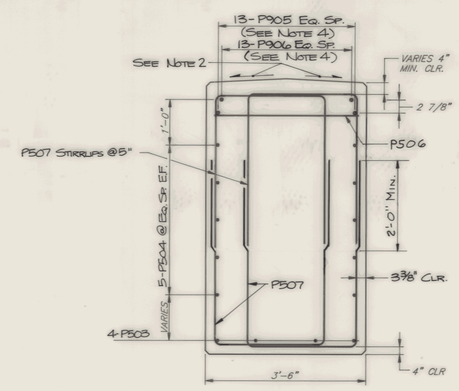


PIER – PLAN

1/4" = 1'-0"

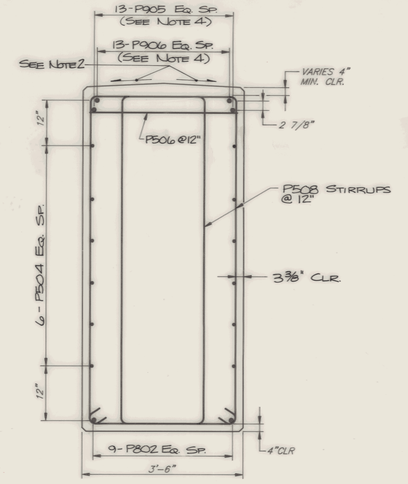
PIER – ELEVATION

1/4" = 1'-0"



SECTION A–A

3/4" = 1'-0"



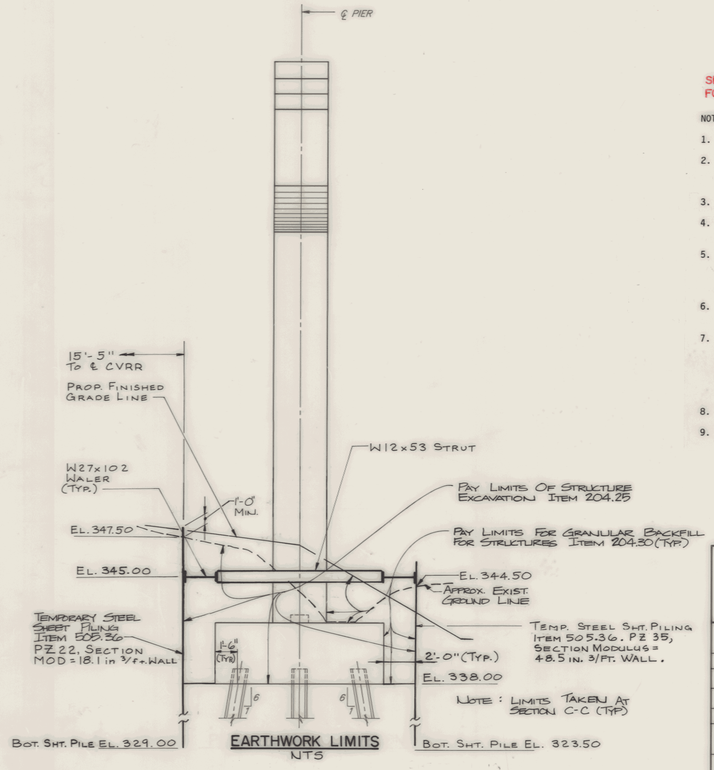
SECTION B–B

3/4" = 1'-0"

SEE WRITTEN ORDER 102
FOR REINF. STEEL CHANGES

NOTES:

1. FOR SECTION C-C AND D-D, SEE SHEET BR627.
2. TOP OF PIER SLOPED 1/2"/FT. EACH WAY FROM CENTER. SURFACE OF PIER CAP TO BE LEVEL UNDER BEARING DEVICES. SEE GENERAL NOTE 12, DWG. BR602.
3. E.F. DENOTES EACH FACE.
4. ADJUST SPACING OF TOP #9 BARS IN CAP BEAM TO CLEAR ANCHOR BOLTS.
5. FOR THIS STRUCTURE UNIT (PIER), COARSE AGGREGATE FOR CONCRETE, CLASS B SHALL BE LIMITED TO 3/4" STONE (MAX.) IN ACCORDANCE WITH TABLE 704.02B OF THE VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
6. ANCHOR BOLTS TO BE SET BEFORE PIER CONCRETE IS PLACED.
7. THE TEMPORARY SHEET PILING AND BRACING AS SHOWN IS TO PROTECT THE CVRR BED FROM SLOUGHING INTO THE OPEN EXCAVATION FOR THE PIER FOOTING. THE CONTRACTOR MAY SUBMIT, FOR APPROVAL BY THE CVRR, AN ALTERNATE SYSTEM OF RETAINING THE EARTH CUT BETWEEN PIER FOOTING AND THE CVRR TRACKS.
8. FOR LAYOUT OF SHEET PILING SYSTEM, SEE DWG. BR627.
9. WALES & STRUTS AASHTO M270 GR36. COST TO BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 505.36.



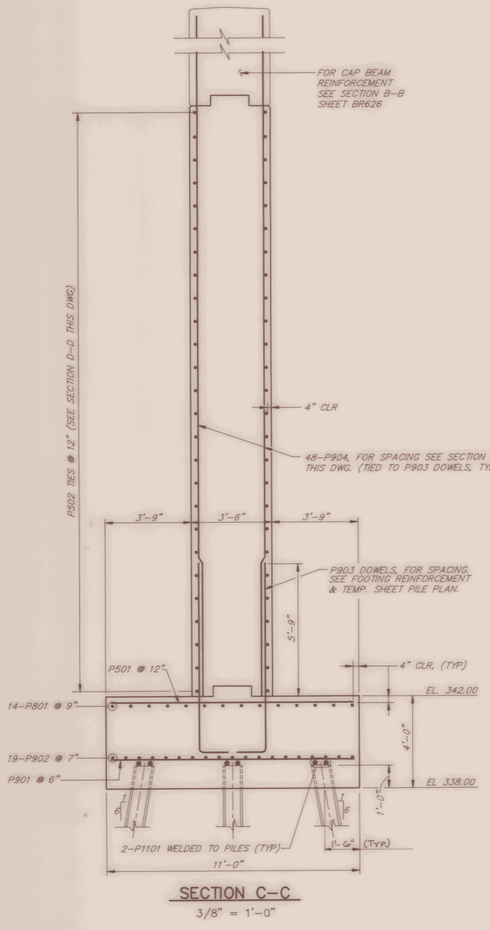
EARTHWORK LIMITS

NTS

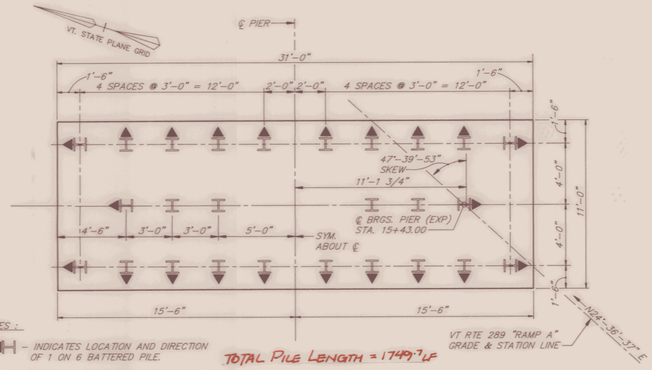
AS BUILT 5/13/94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
HIGHWAY NO. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
PIER PLAN, ELEVATIONS & SECTIONS	
Designed by YS	Drawn by RFU/JDH
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(4)
Bridge Sheet No. BR626	Sheet 215 of 400



SECTION C–C
3/8" = 1'–0"

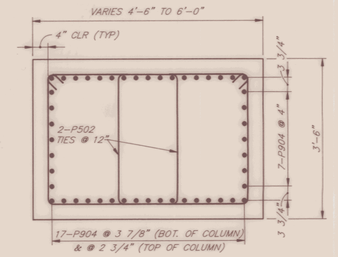


NOTES :

1. ⊣ – INDICATES LOCATION AND DIRECTION OF 1 ON 6 BATTERED PILE.
2. APPROXIMATE LENGTH OF THE PILES IS 70'.
3. ALL PILES SHALL BE DRIVEN TO REFUSAL. PILE DESIGN LOAD IS 70 TONS.
4. ALL PILES TO BE HP12x74, ITEM 505.16.

TOTAL PILE LENGTH = 1749.7 LF

PILE LAYOUT PLAN
1/4" = 1'–0"



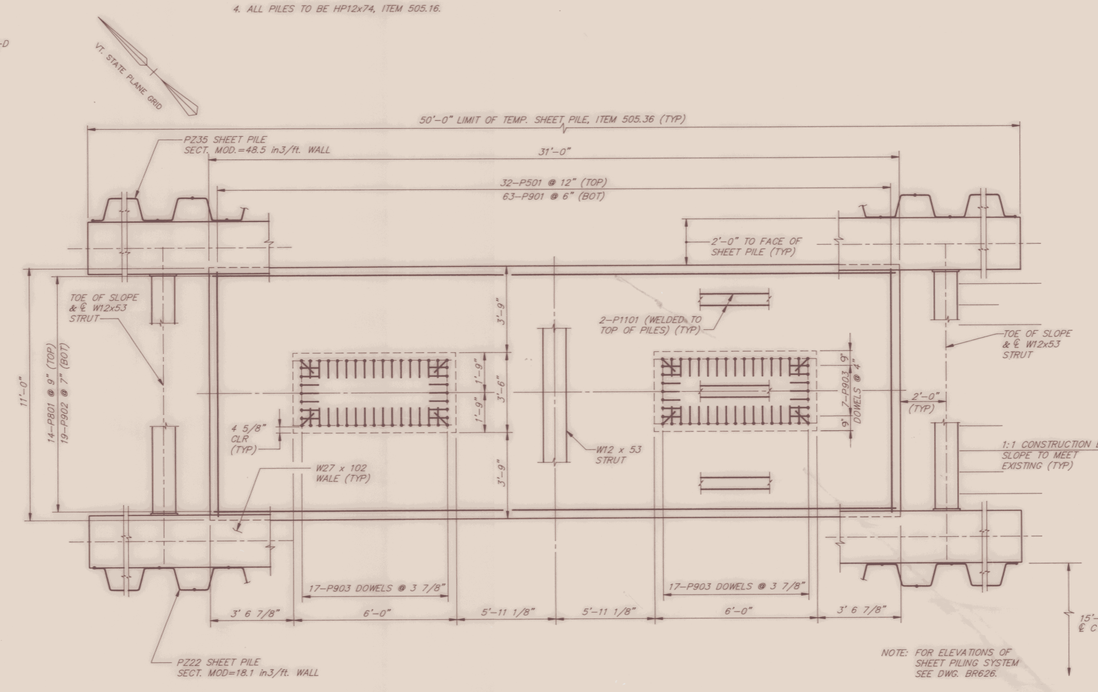
SECTION D–D
3/4" = 1'–0"

SEE WRITTEN ORDER 102
FOR REINF. STEEL CHANGES

NOTE : 1. FOR LOCATION OF SECTIONS C–C, AND D–D SEE SHEET BR626.

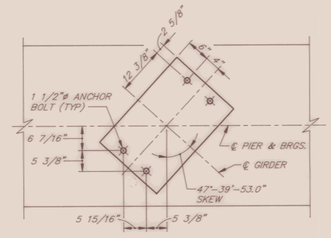
2. FOR THIS STRUCTURE UNIT (PIER), COARSE AGGREGATE FOR CONCRETE, CLASS B SHALL BE LIMITED TO 3/4" STONE (MAX.) IN ACCORDANCE WITH TABLE 704.02B OF THE VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

3. ANCHOR BOLTS SHALL BE SET BEFORE PIER CONCRETE IS PLACED.



NOTE: FOR ELEVATIONS OF SHEET PILING SYSTEM SEE DWG. BR626.

FOOTING REINFORCEMENT & TEMP. SHEET PILE PLAN
3/8" = 1'–0"



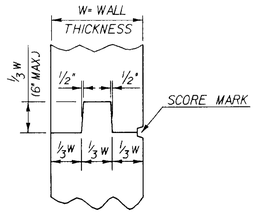
ANCHOR BOLT LAYOUT
3/4" = 1'–0"

AS BUILT 5/13/94 JGS

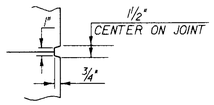
STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
HIGHWAY NO. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RT. 289 "RAMP A" OVER CVRR	
PIER DETAILS	
Designed by YS	Drawn by RFU / M.W.D.
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033–1(2)
Bridge Sheet No. BR627	Sheet 216 of 400

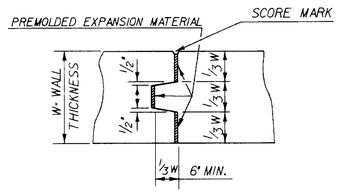
25L 05 16.5



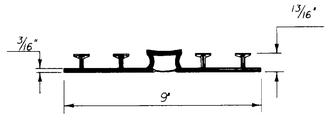
TYPICAL CONCRETE WALL CONSTRUCTION JOINT



SCORE MARK DETAIL

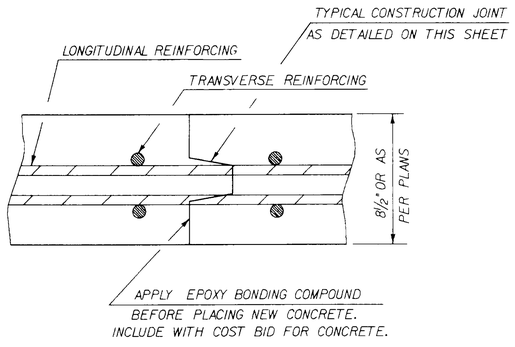


TYPICAL CONCRETE WALL EXPANSION JOINT

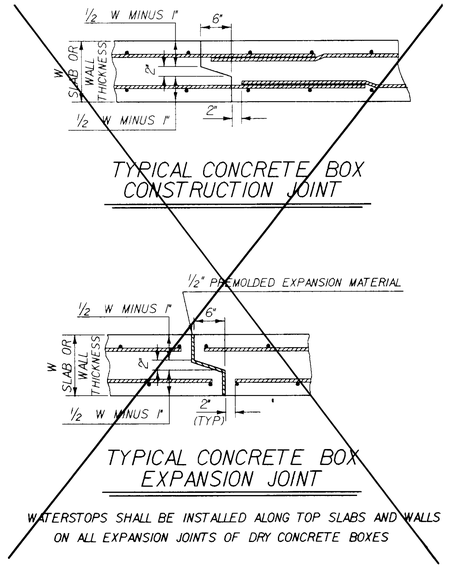


P.V.C. WATERSTOP FOR EXPANSION JOINTS

THE COSTS FOR P.V.C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.



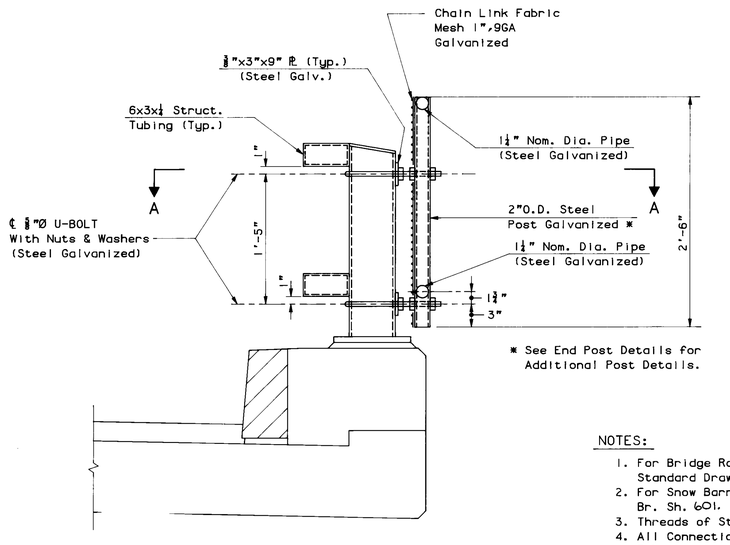
TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS



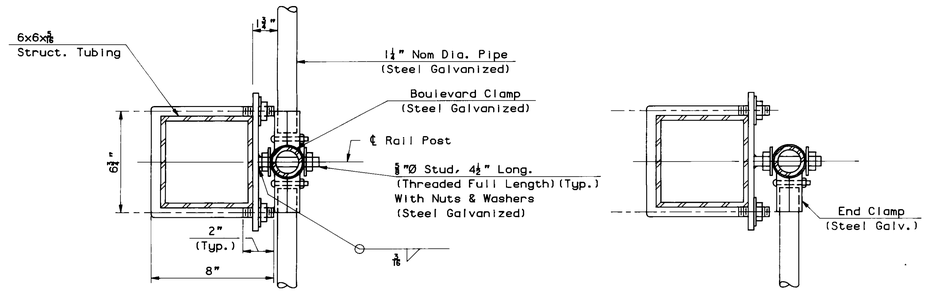
WATERSTOPS SHALL BE INSTALLED ALONG TOP SLABS AND WALLS ON ALL EXPANSION JOINTS OF DRY CONCRETE BOXES

STATE OF VERMONT
AGENCY OF TRANSPORTATION

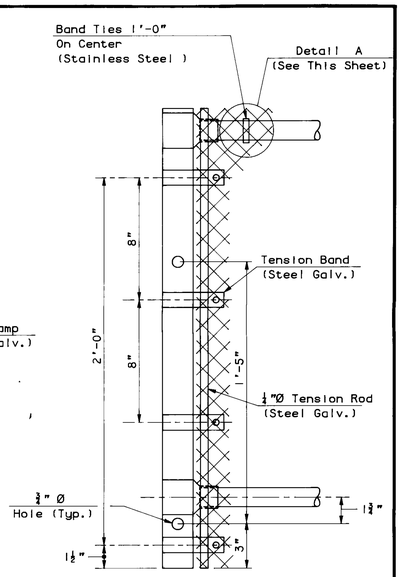
Town Of ESSEX	Bridge No. 14
	Log Sta.
Highway No. Vt. Rte. 289	Surv. Sta. Ramp 15+00
Vt. Rte. 289 "Ramp A" over CVRR	
CONCRETE JOINT DETAILS	
Designed By —	Drawn By —
Checked By RJS Date 10/12/90	Bridge Design Supervisor MWO Date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
I.G.C. Info. ZFAI:[30,32]83E069DET.DGN PRF:CONCJOINT	
Bridge Sheet No. BR628	Sheet 217 of 400



TYPICAL SECTION
1½" = 1'-0"



SECTION A-A
3" = 1'-0"



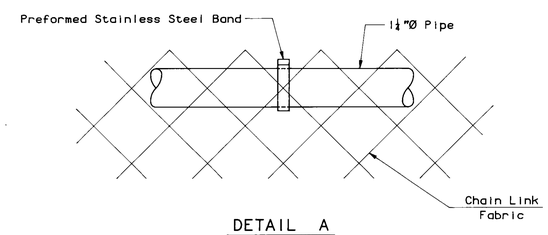
END POST DETAILS
3" = 1'-0"

NOTES:

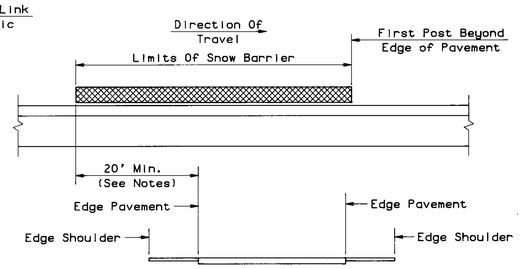
1. For Bridge Railing Details, See Standard Drawing SB-R4A-82.
2. For Snow Barrier Location See Br. Sh. 601.
3. Threads of Studs and U-Bolts to be 5/8NC-2.
4. All Connection Plates to be Galvanized After Fabrication
5. 1¼" Pipe Length Shall be Field Cut to Fit Post Spacing.
6. Chain Link Fabric to be Knuckled Top and Bottom.

SEE WRITTEN ORDER # 20
FOR CLARIFICATIONS ON CLAMPS

SNOW BARRIER DETAILS



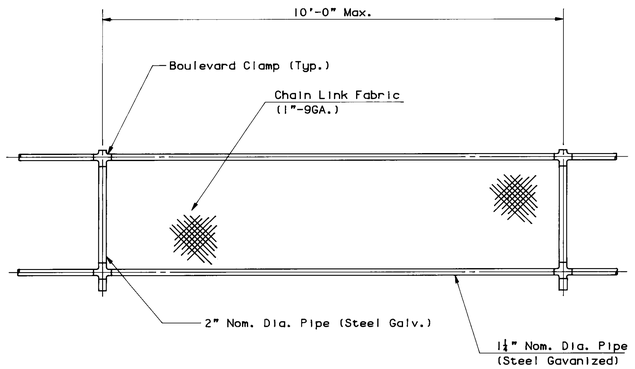
DETAIL A
No Scale



SCHEMATIC SNOW BARRIER LIMITS
No Scale

NOTES:

1. Snow Barrier Shall Begin at the First Rail Post Which Will Provide a Minimum Distance of 20'(as Shown), or as Directed by the Engineer.
2. Where a Railroad is Being Crossed, All References to Edge of Pavement Shall be Edge of Railroad Rail. AS BUILT 5/13/94 JG



ELEVATION - SNOW BARRIER
No Scale



SECTION - TENSION BAND
3"=1'-0"

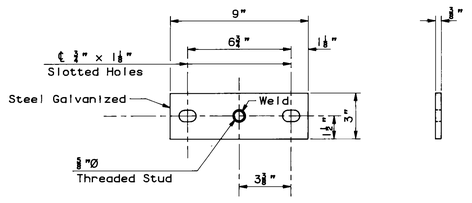


PLATE DETAIL
3" = 1'-0"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
HIGHWAY NO. VT. RTE. 289	Log Sta. / Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
SNOW BARRIER DETAILS	
Designed by ——	Drawn by ——
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB033-1(2)
Bridge Sheet No. BR629	Sheet 218 of 400

MILLER REPROGRAPHICS CO., INC.

GIRDER 1

DISTANCE	THEORETICAL BOTTOM OF SLAB ELEVATION	TOP OF BEAM ELEVATION	HAUNCH DEPTH
ABUTMENT 1	375.568		
5	375.967		
10	376.366		
15	376.763		
20	377.157		
25	377.548		
30	377.936		
35	378.318		
40	378.698		
45	379.071		
50	379.440		
55	379.805		
60	380.164		
65	380.519		
70	380.871		
75	381.216		
80	381.557		
85	381.896		
90	382.230		
95	382.561		
100	382.890		
105	383.217		
110	383.543		
115	383.869		
120	384.194		
125	384.525		
130	384.857		
135	385.193		
140	385.532		
145	385.876		
150	386.223		
155 (PIER)	386.574		
160	386.930		
165	387.290		
170	387.653		
175	388.023		
180	388.395		
185	388.770		
190	389.149		
195	389.530		
200	389.912		
205	390.294		
210	390.676		
215	391.056		
220	391.433		
225	391.808		
230	392.180		
235	392.546		
240	392.910		
245	393.269		
250	393.623		
255	393.953		
260	394.282		
265	394.602		
270	394.913		
275	395.207		
280	395.490		
285	395.771		
290	396.047		
295	396.322		
300	396.595		
305	396.867		
ABUTMENT 2	397.008		

GIRDER 2

DISTANCE	THEORETICAL BOTTOM OF SLAB ELEVATION	TOP OF BEAM ELEVATION	HAUNCH DEPTH
ABUTMENT 1	374.810		
5	375.199		
10	375.586		
15	375.973		
20	376.355		
25	376.735		
30	377.112		
35	377.483		
40	377.852		
45	378.215		
50	378.573		
55	378.929		
60	379.277		
65	379.623		
70	379.964		
75	380.299		
80	380.632		
85	380.961		
90	381.287		
95	381.609		
100	381.930		
105	382.250		
110	382.569		
115	382.889		
120	383.211		
125	383.535		
130	383.861		
135	384.191		
140	384.524		
145	384.862		
150	385.209		
155 (PIER)	385.549		
160	385.901		
165	386.255		
170	386.613		
175	386.977		
180	387.343		
185	387.714		
190	388.088		
195	388.464		
200	388.841		
205	389.220		
210	389.598		
215	389.974		
220	390.349		
225	390.720		
230	391.086		
235	391.450		
240	391.809		
245	392.164		
250	392.519		
255	392.855		
260	393.189		
265	393.510		
270	393.824		
275	394.129		
280	394.423		
285	394.704		
290	394.977		
295	395.248		
300	395.515		
305	395.779		
310	396.042		
315	396.304		
ABUTMENT 2	396.567		

GIRDER 3

DISTANCE	THEORETICAL BOTTOM OF SLAB ELEVATION	TOP OF BEAM ELEVATION	HAUNCH DEPTH
ABUTMENT 1	374.084		
5	374.460		
10	374.836		
15	375.211		
20	375.582		
25	375.950		
30	376.315		
35	376.676		
40	377.034		
45	377.386		
50	377.733		
55	378.077		
60	378.416		
65	378.750		
70	379.082		
75	379.407		
80	379.729		
85	380.049		
90	380.365		
95	380.680		
100	380.992		
105	381.304		
110	381.617		
115	381.931		
120	382.247		
125	382.566		
130	382.888		
135	383.214		
140	383.542		
145	383.876		
150	384.214		
155 (PIER)	384.556		
160	384.903		
165	385.254		
170	385.609		
175	385.969		
180	386.330		
185	386.697		
190	387.066		
195	387.438		
200	387.810		
205	388.185		
210	388.557		
215	388.930		
220	389.298		
225	389.664		
230	390.028		
235	390.386		
240	390.743		
245	391.091		
250	391.436		
255	391.779		
260	392.111		
265	392.439		
270	392.753		
275	393.060		
280	393.357		
285	393.644		
290	393.924		
295	394.191		
300	394.458		
305	394.717		
310	394.975		
315	395.230		
320	395.483		
ABUTMENT 2	395.726		

GIRDER 4

DISTANCE	THEORETICAL BOTTOM OF SLAB ELEVATION	TOP OF BEAM ELEVATION	HAUNCH DEPTH
ABUTMENT 1	373.391		
5	373.754		
10	374.116		
15	374.477		
20	374.836		
25	375.192		
30	375.544		
35	375.892		
40	376.237		
45	376.577		
50	376.914		
55	377.247		
60	377.575		
65	377.898		
70	378.219		
75	378.535		
80	378.850		
85	379.161		
90	379.468		
95	379.775		
100	380.081		
105	380.387		
110	380.694		
115	381.002		
120	381.315		
125	381.629		
130	381.947		
135	382.268		
140	382.594		
145	382.924		
150	383.258		
155 (PIER)	383.595		
160	383.938		
165	384.284		
170	384.634		
175	384.988		
180	385.346		
185	385.706		
190	386.069		
195	386.433		
200	386.800		
205	387.166		
210	387.532		
215	387.897		
220	388.259		
225	388.619		
230	388.974		
235	389.326		
240	389.673		
245	390.017		
250	390.355		
255	390.690		
260	391.019		
265	391.343		
270	391.663		
275	391.972		
280	392.275		
285	392.564		
290	392.847		
295	393.120		
300	393.386		
305	393.648		
310	393.907		
315	394.165		
320	394.416		
325	394.668		
330	394.915		
ABUTMENT 2	395.085		

ROADWAY SLAB NOTES

1. AFTER THE GIRDERS ARE ERECTED, BUT BEFORE FORMS ARE BUILT, ELEVATIONS ON THE TOP FLANGE OF GIRDER ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE OF THESE ELEVATIONS AND THOSE SHOWN IN THE TABLE, GIVES THE ACTUAL DISTANCE FROM THE TOP OF GIRDER TO THE BOTTOM OF SLAB.

2. ELEVATIONS SHOWN ARE FINISHED BOTTOM OF SLAB ELEVATIONS ADJUSTED FOR TOTAL DEAD LOAD DEFLECTION LESS THE DEFLECTION DUE TO STEEL WEIGHT.

3. FOR DEAD LOAD DEFLECTION SCHEDULES, SEE BR608.

4. BRIDGE SEAT ELEVATIONS AS SHOWN ON THESE PLANS, HAVE BEEN LOWERED TO ACCOUNT FOR RESIDUAL CAMBER AND TO MAINTAIN A MINIMUM HAUNCH.

SEE FIELD ENGINEER'S NOTES AND CALCULATIONS IN BRIDGE BOOK FOR FINAL ELEVATIONS AND HAUNCH DEPTH.

AS BUILT 5/13/94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
BEAM PROFILE TABLES – 1	
Designed by DT/MJK	Drawn by
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON – COLCHESTER	PROJECT NO. PB 033 – 1(2)
Bridge Sheet No. BR630	Sheet 219 of 400

ABUTMENT 1

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
1																	
2	8	11	23-11	1A1101	STR.												
3																	
4	16	5	23-8	1A501	STR.												
5	16	5	23-8	1A502	STR.	▲											
6	42	5	6-6	1A503	STR.	*											
7	5	5	5-6	1A504	STR.	▲											
8																	
9	42	6	6-6	1A601	STR.	*											
10	5	6	5-6	1A602	STR.	▲											
11	41	6	8-6	1A603	17		0-0	3-6	5-0								
12																	
13	45	5	3-9	1A505	STR.												
14	25	5	6-7	1A509	STR.	▲*											
15	17	5	7-8	1A510	19		0-0	3-6	4-2				2-11¼		2-11¼		
16	6	5	23-10	1A511	STR.												
17	13	5	20-0	1A512	STR.	▲											
18	38	5	6-9	1A513	17		1-0	4-9	1-0								
19	17	5	6-6	1A514	12	0-7	1-9	4-2	0-0				0-0	0-5	0-0		
20	19	5	7-2	1A515	STR.												
21	7	5	4-7½	1A516	12	0-0	2-0	0-7½	2-0				1-5⅜	0-0	1-4		
22	8	5	4-0	1A517	12	0-0	2-0	0-0	2-0				1-5⅜	0-0	1-4		
23	19	5	5-7	1A518	17	▲*	0-0	0-9	4-10	(CUT DIM "D" TO FIT)							
24	12	5	18-10	1A519	STR.	▲											
25																	
26	40	8	5-3	1A801	19	*	0-0	3-0	2-3				1-7⅛		1-7⅛		
27																	
28	6	5	5-6	1A520	12	0-0	2-0	1-6	2-0			0-0	1-5⅜	0-0	1-4		
29	6	5	4-0	1A521	12	0-0	2-0	0-0	2-0			0-0	1-5⅜	0-0	1-4		
30	22	5	5-1	1A522	STR.	▲*											
31	23	5	6-2	1A523	19		0-0	2-0	4-2				2-11¼		2-11¼		
32	5	5	22-6	1A524	STR.												
33	12	5	25-2	1A525	STR.												
34	23	5	6-6	1A526	12	0-7	1-9	4-2	0-0	▲			0-0	0-5	0-0		
35	22	5	7-1	1A527	STR.												
36	6	5	4-0	1A528	19		0-0	2-0	2-0				1-5⅜		1-4		
37	7	5	4-0	1A529	19		0-0	2-0	2-0				1-5⅜		1-4		
38	23	5	5-7	1A530	17	▲*	0-0	0-9	4-10	(CUT DIM "D" TO FIT)							
39	12	5	25-2	1A531	STR.												
40	6	5	6-0	1A532	22		2-0	2-0	2-0				1-5⅜		1-4		
41	6	5	4-0	1A533	19		0-0	2-0	2-0				1-5⅜		1-4		
42																	

WINGWALL 1

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
43																	
44																	
45	27	5	3-6	1A505	STR.												
46	14	5	26-2	1A506	STR.	▲											
47	20	5	5-6	1A507	STR.												
48																	
49	20	6	5-6	1A604	STR.												
50	11	6	6-0	1A605	17		0-0	2-6	3-6								
51	11	6	10-0	1A606	17		0-0	2-6	7-6								
52																	
53	4	11	26-2	1A1102	STR.	▲											
54																	
55	6	5	6-7	1W501	STR.	*											
56	22	5	8-10	1W502	STR.												
57																	
58	12	6	9-5	1W601	STR.	*											
59																	
60	7	5	25-9	1W503	STR.												
61	7	5	23-8	1W504	STR.												
62	3	5	5-1	1W505	STR.	*											
63																	
64	2	6	5-1	1W602	STR.	*											
65																	
66	20	5	6-1	1W506	STR.	▲											
67																	
68	10	6	6-1	1W603	STR.	▲											
69																	
70	5	5	20-6	1W507	STR.												
71	5	5	20-3	1W508	STR.												
72	2	5	18-5	1W509	STR.												
73	20	5	7-0	E1W510	17		3-0	1-0	3-0								
74	4	5	18-5	E1W511	STR.												
75																	
76																	
77																	
78																	
79																	
80																	

WINGWALL 2

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
81																	
82	22	5	3-6	1A505	STR.												
83	22	5	5-6	1A507	STR.												
84	14	5	22-1	1A508	STR.												
85																	
86	22	6	5-6	1A604	STR.												
87	10	6	6-0	1A605	17		0-0	2-6	3-6								
88	10	6	10-0	1A606	17		0-0	2-6	7-6								
89																	
90	4	11	22-1	1A1103	STR.												
91																	
92	2	5	4-4	2W501	STR.	*											
93	21	5	6-8	2W502	STR.												
94																	
95	11	6	7-3	2W601	STR.	*											
96																	
97	6	5	21-8	2W503	STR.												
98	6	5	19-9	2W504	STR.												
99	3	5	5-0	2W505	STR.												
100	18	5	6-0	2W506	STR.	▲											
101																	
102	1	6	5-0	2W602	STR.												
103	9	6	6-0	2W603	STR.	▲											
104																	
105	5	5	19-6	2W507	STR.												
106	5	5	17-10	2W508	STR.												
107	2	5	17-8	2W509	STR.												
108	19	5	7-0	E2W510	17		3-0	1-0	3-0								
109	4	5	17-8	E2W511	STR.												
110																	

ABUTMENT 2

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
111																	
112																	
113	4	11	18-10	2A1101	STR.												
114	4	11	17-4	2A1103	STR.												
115																	
116	20	5	18-10	2A501	STR.												
117	22	5	4-6	2A502	STR.	*											
118																	
119	20	7	9-3	2A701	STR.	*											
120	38	8	9-3	2A801	STR.	*											
121	33	9	10-8	2A901	17	*	0-0	4-0	6-8								
122	7	9	10-5	2A902	17		0-0	3-9	6-8								
123																	
124	18	5	8-9	2A506	STR.												
125	8	5	7-6	2A507	STR.												
126	18	5	17-4	2A508	STR.												
127	19	5	4-3	2A509	STR.												
128	6	5	5-6	2A510	STR.												
129	12	5	6-9	2A511	STR.												
130																	
131	14	9	10-5	2A903	17		0-0	4-0	6-5								
132	3	9	11-10	2A904	17		0-0	5-5	6-5	(CUT DIM. "C" TO FIT)							
133	19	6	7-6	2A602	STR.	*											
134	18	7	7-6	2A703	STR.												
135	19	5	18-8	2A512	STR.	▲											
136																	
137	17	9	18-8	2A905	STR.	▲											
138	20	9	11-0	2A906	STR.	*											
139																	
140	7	5	16-0	2A513	STR.												
141	7	5	15-0	2A514	STR.												
142	11	5	18-0	2A515	STR.												
143	14	5	17-0	2A516	STR.												
144	6	5	18-0	E2A517	STR.												
145	34	5	6-2	E2A518	17	*	1-0	4-2	1-0								
146	2	5	26-5	2A519	STR.												
147																	
148	3	9	26-5	2A907	STR.												
149																	
150	26	5	5-8	2A520	12	0-7	1-9	3-4	0-0						0-0	0-5	0-0
151	19	5	8-5	2A521	19		0-0	6-5	2-0						1-10¼		0-9
152	19	5	7-1	2A522	19		0-0	5-1	2-0						1-10¼		0-9
153	12	5	9-0	E2A523	STR.												
154	12	5	7-3	E2A524	17	▲	0-0	0-9	6-6	(CUT DIM "D" TO FIT)							
155	7	5	9-6	2A525	STR.												
156	5	5	7-9	2A526	17	▲	0-0	0-9	7-0	(CUT DIM "D" TO FIT)							
157	6	5	19-4	E2A527	STR.												
158	6	5	18-0	E2A528	STR.												
159																	
160																	

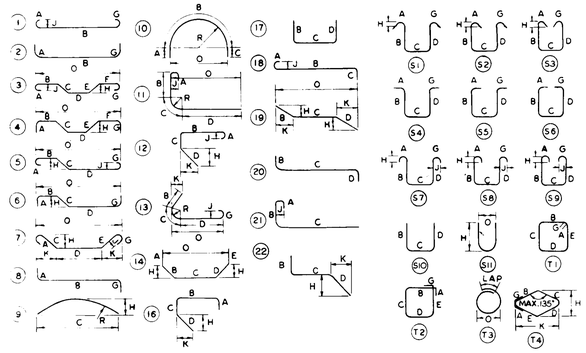
ABUTMENT 2 CONTINUED

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
161																	
162	6	5	5-9	2A529	19		0-0	3-9	2-0				1-10⅛		0-9		
163	6	5	5-8	2A530	19		0-0	3-8	2-0				1-10⅛		0-9		
164	2	5	6-3	2A531	19		0-0	3-9	2-6				2-4		0-11		
165	2	5	6-7	2A532	19		0-0	3-8	2-11				2-8½		1-1		
166	2	5	5-9	2A533	17		2-0	1-9	2-0								
167	4	5	16-0	E2A534	STR.												
168	2	5	1-6	2A535	STR.												
169	20	5	10-7	2A536	STR.	▲*											
170																	
171	10	9	10-7	2A908	STR.	▲*											
172	8	9	8-0	2A909	STR.												
173																	
174	22	5	16-1	2A537	STR.												
175	6	5	16-1	E2A538	STR.												
176	6	5	5-8	2A539	17		0-0	2-0	3-8								
177	6	5	6-1	2A540	19	▲	2-0	2-1	2-0	(CUT DIM "D" TO FIT)			1-4⅞		1-4⅞		
178	5	5	6-8	2A541	19		2-0	2-8	2-0				2-0		0-0		
179	6	5	6-1	2A542	19		2-0	2-1	2-0				1-4⅞		1-4⅞		
180																	

ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	CROSS SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

TYPICAL BAR BENDS



SEE WRITTEN ORDER # 102 FOR REINF. STEEL CHANGES.

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT," AASHTO M 31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE"
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
5. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.

▲ DENOTES BARS TO BE CUT IN FIELD.
* DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
△ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.

REV NO.	MADE BY	DATE	DESCRIPTION
			AS BUILT 5/13/94 SG

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	BRIDGE NO. 14
	LOG STA.
HIGHWAY NO. VT. RTE. 289	SURV. STA. RAMP 15+00
VT. RTE. 289 "RAMP A" OVER CVRR	
REINFORCING STEEL SCHEDULE-1	
DESIGNED BY ———	DRAWN BY RFU
CHECKED BY RJS DATE 10/12/90	BRIDGE DESIGN SUPERVISOR MWO DATE 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1 (2)
BRIDGE SHEET NO. BR631	SHEET 220 OF 400

124852

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
				ABUTMENT 2 CONTINUED													
1																	
2	26	5	8-5	2A543	19		4-6	3-11	0-0				3-2		3-2		
3	14	5	9-2	E2A544	STR												
4	14	5	7-4	E2A545	17	*	0-0	0-9	6-7								
5																	
6	2	5	9-4	2A546	STR												
7	2	5	7-7	2A547	17		0-0	0-9	6-10								
8	6	5	18-1	E2A548	STR												
9	6	5	18-1	2A549	STR												
10	4	5	18-1	E2A550	STR												
11	2	5	2-6	2A551	STR												
12	24	5	5-3	2A555	17		0-0	2-0	3-3								
13	29	8	5-3	2A802	19	*	0-0	3-0	2-3				1-7⅛		1-7⅛		
14																	
15				WINGWALL 3													
16																	
17	4	11	26-8	2A1102	STR												
18																	
19	20	5	4-6	2A502	STR												
20	22	5	26-8	2A503	STR												
21	16	5	7-9	2A504	STR												
22	31	6	9-6	2A601	STR	*											
23	59	7	9-6	2A702	STR												
24	6	5	6-6	2A505	STR												
25	47	9	10-5	2A902	17		0-0	3-9	6-8								
26	20	5	20-11	3W501	STR												
27	24	9	25-5	3W901	STR												
28	24	9	10-0	3W902	STR	*											
29																	
30	14	5	19-2	3W502	STR												
31	28	5	21-5	3W503	STR												
32	21	5	7-7	3W504	STR	▲ *											
33	8	5	21-5	3W505	STR												
34	6	5	19-0	3W506	STR	▲											
35	52	5	5-9	3W507	17		2-0	1-9	2-0								
36	2	5	21-9	3W508	19		0-0	20-6	1-3				0-3		1-2¾		
37																	
38	4	11	31-6	3W1101	STR												
39	16	5	31-6	3W509	STR												
40	67	5	6-6	3W510	STR	*											
41	33	5	4-0	3W511	STR												
42																	
43	17	8	9-3	3W801	17		0-0	3-9	5-6								
44	16	8	12-3	3W802	17		0-0	3-9	8-6								
45	18	8	17-3	3W803	STR	▲ *											
46																	
47	33	5	17-3	3W512	STR	▲											
48	22	5	31-9	3W513	STR												
49	10	5	30-6	3W514	STR	▲											
50	2	5	32-2	3W515	STR												
51																	
52				WINGWALL 4													
53																	
54	4	11	10-6	4W1101	STR												
55	14	5	10-6	4W501	STR												
56	25	5	5-6	4W502	STR	*											
57	12	5	4-0	4W503	STR												
58																	
59	7	6	6-9	4W601	17	*	0-0	2-9	4-0								
60	5	6	9-9	4W602	17		0-0	2-9	7-0								
61	6	6	12-7	4W603	STR	▲											
62																	
63	12	5	12-7	4W504	STR	▲											
64	13	5	10-9	4W505	STR	*											
65	12	5	9-8	4W506	STR	▲											
66	12	5	4-9	4W507	17		2-0	0-9	2-0								
67	2	5	13-0	4W508	19		0-0	12-0	1-0				0-5		0-11		
68																	
69				PIER													
70																	
71	6	11	30-6	P1101	STR												
72	64	9	10-6	P901	STR	*											
73	19	9	30-6	P902	STR												
74	33	5	10-6	P501	STR	*											
75	15	8	30-6	P801	STR	*											
76	96	9	10-0	P903	17		0-0	1-7	8-5								
77																	
78																	
79	108	5	AVERAGE 12-2¾	P802	T1	0-8	2-6	AVERAGE 2-11⅝	2-6	AVERAGE 2-11⅝			0-8				
80	(DIM. "C" AND "E" VARY FROM 2-5⅜ TO 3-5" (2 SETS OF 54 BARS))																

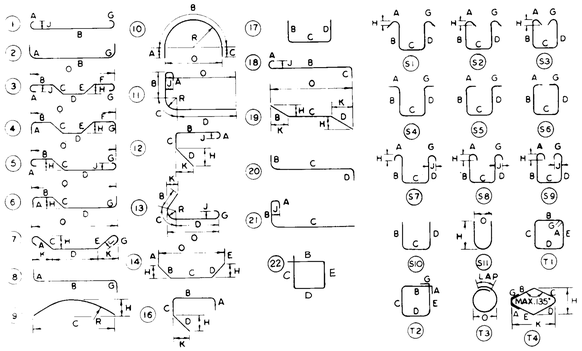
ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
81																	
82																	
83	9	5	19-0	P503	14	*	4-6	10-0	4-6	0-0	0-0	0-0		3-6½		14-6	
84	24	5	22-2	P504	STR	▲											
85	12	5	7-0	P805	17			2-0	3-0	2-0							
86	44	5	3-0	P506	STR												
87	80	5	12-0	P507	S10	▲	4-9	2-6	4-9								
88	44	5	21-4	P508	T1	0-8	2-6	7-6	2-6	7-6		0-8					
89																	
90	10	8	22-4⅛	P802	STR	*											
91																	
92	96	9	30-6	P904	STR	▲											
93	26	9	27-11	P905	17	*	4-6	23-5	0-0								
94	26	9	24-8	P906	1		1-3	23-5				0-0		0-11¾			
95																	
96																	
97																	
98																	
99																	
100																	
101																	
102																	
103																	
104				DECK SLAB													
105																	
106	558	6	39-9	ES601	STR	▲											
107	994	6	30-2	ES602	STR												
108	91	6	30-2	ES603	STR	▲ *											
109																	
110	279	5	39-3	ES501	STR	▲											
111	90	5	39-3	ES502	STR	▲											
112	649	5	5-3½	ES503	55		0-10	1-3¾	1-0	1-3¾		0-10					
113																	
114	181	7	38-7	ES701	STR	*											
115																	
116	28	5	4-4	ES504	20		2-6	0-10	1-0								
117	28	5	5-4	ES505	22		0-0	1-4	1-4	1-4	1-4						
118	4	5	39-0	ES506	STR												
119	6	5	12-1	ES507	STR												
120	28	5	2-7	ES508	16		0-0	0-10	0-7	1-2		0-10		0-10			
121	7	5	8-0	ES509	STR	*											
122																	
123				APPROACH SLAB 1													
124																	
125	36	11	26-8½	1AS1101	1			24-6				1-7		0-7½			
126	26	5	38-10	1AS501	STR												
127																	
128				APPROACH SLAB 2													
129																	
130	37	10	22-5¾	2AS1001	1	▲ *	20-4¾					1-5		0-6			
131	22	5	26-2	2AS501	STR	*											
132																	
133				CURB EXTENSION 1													
134																	
135	7	5	8-9	1C501	17		3-7½	1-6	3-7½								
136	7	5	8-9	E1C502	17		3-7½	1-6	3-7½								
137	10	5	5-6	1C503	STR	*											
138	5	5	5-3	E1C504	STR												
139																	
140																	
141																	
142				CURB EXTENSION 2													
143																	
144	7	5	8-9	2C501	17		3-7½	1-6	3-7½								
145	7	5	8-9	E2C502	17		3-7½	1-6	3-7½								
146	10	5	5-6	2C503	STR	*											
147	5	5	5-3	E2C504	STR												
148																	
149																	
150																	
151																	
152																	
153																	
154																	
155																	
156																	
157																	
158																	
159																	
160																	

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
161																	
162																	
163																	
164																	
165																	
166																	
167																	
168																	
169																	
170																	
171																	
172																	
173																	
174																	
175																	
176																	
177																	
178																	
179																	
180																	

ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	CROSS SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

TYPICAL BAR BENDS



SEE WRITTEN SPECIFICATIONS FOR REINFORCING STEEL CHAIRS.

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT," AASHTO M 31 (ASTM A 615-91). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE"
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
5. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.

▲ DENOTES BARS TO BE CUT IN FIELD.
* DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
△ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.

REV NO.	MADE BY	DATE	DESCRIPTION
			AS BUILT 7/17/94 RFL

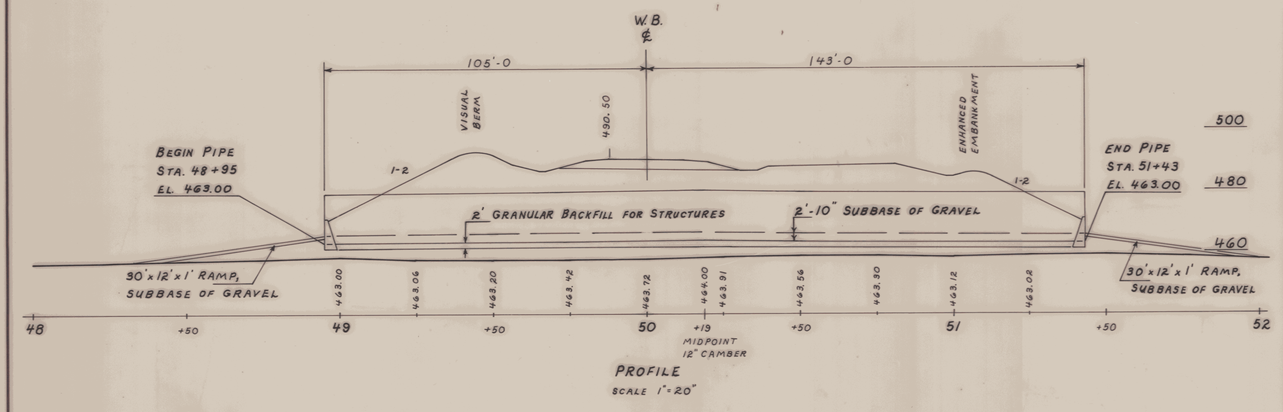
STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	BRIDGE NO. 14
HIGHWAY NO. VT RTE. 289	LOG STA.
	SURV. STA. RAMP 15+00

VT. RTE. 289 "RAMP A" OVER CVRR

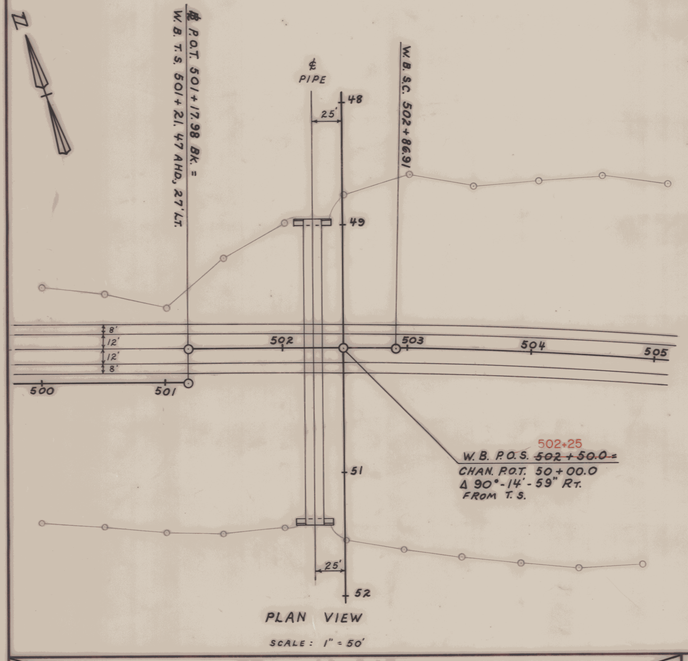
REINFORCING STEEL SCHEDULE-2

DESIGNED BY	DRAWN BY RFL
CHECKED BY RJS DATE 10/12/90	BRIDGE DESIGN SUPERVISOR MWO DATE 10/12/90
PROJECT WILLISTON-COLCHESTER	PROJECT NO. PB 033-1(2)
BRIDGE SHEET NO. BR632	SHEET 221 OF 409



PROFILE

SCALE 1"=20'



PLAN VIEW

SCALE: 1" = 50'

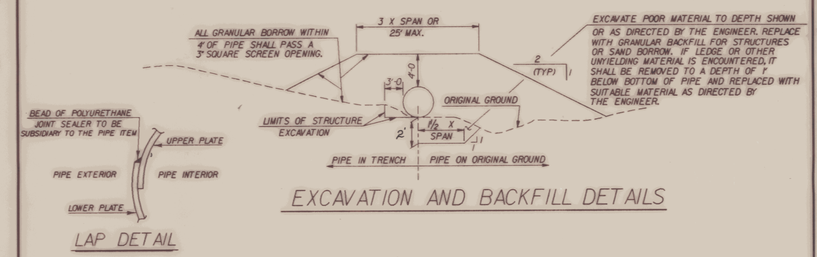
SUBBASE OF GRAVEL DETAIL

SCALE: 1" = 10'

REVISED 6-25-91 RJR

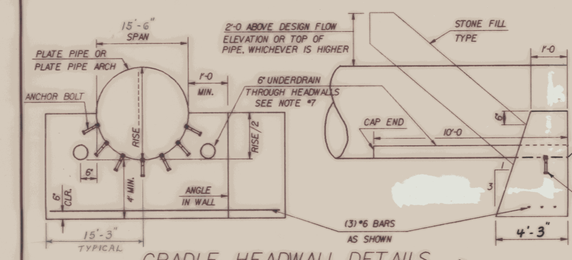
~ NOTES ~

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1990, AND THE LATEST A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGWAY BRIDGES. DESIGN IS FOR HS-25 LIVE LOAD.
2. UNLESS OTHERWISE INDICATED 4 BOLTS PER LINEAR FOOT FOR STEEL PLATES AND 5 1/3 BOLTS FOR ALUMINUM PLATES ARE REQUIRED ALONG THE LOGITUDINAL SEAMS. ALL CONNECTIONS FOR STRUCTURAL PLATE SECTIONS SHALL BE MADE WITH BOLTS MEETING ASTM A-449 (GALVANIZED AFTER FABRICATION).
3. IN LONGITUDINAL JOINTS LOCATED AT THE SPRING LINE OF PLATE PIPE ARCHES OR WITHIN 20° OF HORIZONTAL ON PIPES, THE BOLT NEAREST THE VISIBLE EDGE OF LAPPED JOINTS, AS VIEWED FROM INSIDE THE PIPE, SHALL BE PLACED IN THE VALLEY OF THE CORRUGATIONS.
4. WHEN NORMAL CONSTRUCTION OR REGULAR TRAFFIC IS MAINTAINED OVER THE PIPE THE CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF FIVE 5 FEET OF COMPACTED MATERIAL.
5. ALUMINUM PIPE WHICH IS TO BE IN CONTACT WITH CONCRETE SHALL HAVE CONTACT SURFACES THOROUGHLY COATED WITH ZINC CHROMATE OR BITUMINOUS OR ASPHALTIC PAINT.
6. PIPES SHALL BE FACTORY ELONGATED 5% (PIPE ARCHES SHALL NOT BE ELONGATED).
7. THE ENDS OF THE PIPE SHALL BE CUT SQUARE.
8. THE CONTRTACTOR SHALL INCLUDE AT THE OUTLET END, A 10 FOOT PIECE OF 6" UNDERDRAIN EACH SIDE ON SAME GRADIENT AS CULVERT CONFORMING TO SUBSECTIONS 711.01. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CULVERT PIPE.

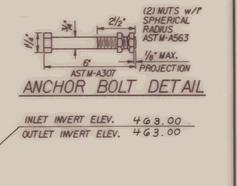


EXCAVATION AND BACKFILL DETAILS

LAP DETAIL



CRADLE HEADWALL DETAILS



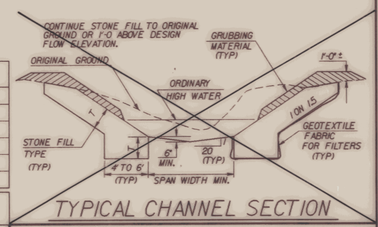
ANCHOR BOLT DETAIL

INLET INVERT ELEV. 463.00
OUTLET INVERT ELEV. 463.00

(1) ROW GALVANIZED ANCHOR BOLTS SPACED IN ALTERNATE CIRCUMFERENTIAL SEAM HOLES (18.2" C-C) TO BE FURNISHED WITH AND INCLUDED IN COST OF PIPE.

REINFORCING STEEL SCHEDULE

NO. PCS.	SIZE	LENGTH	MARK	TYPE
6	6	30'-0"	CHG01	STR.



TYPICAL CHANNEL SECTION

ESTIMATED QUANTITIES

NO.	ITEM	UNIT	TOTAL	FINAL
203.32	GRANULAR BORROW	C.Y.	11,690	3386
204.25	STRUCTURE EXCAVATION	C.Y.	350	377
204.30	GRANULAR BACKFILL FOR STRUCTURES	C.Y.	530	224
301.15	SUBBASE OF GRAVEL	C.Y.	400	
301.35C	SUBASE OF CRUSHED STONE	C.Y.		246
501.25	CONCRETE, CLASS B	C.Y.	42	55,220
507.15	REINFORCING STEEL	Lb.	280	271
511.15	CORRUGATED GALVANIZED METAL PLATE PIPE, 186" DIA. x 0.138", (100,688 Lb.) STA. 502+25	EA.	1	1

~ HYDRAULIC DATA ~

DRAINAGE AREA	DESIGN FLOW Q	DESIGN OUTLET VELOCITY
DESIGN TAILWATER DEPTH	ELEVATION	
ORDINARY HIGH WATER DEPTH		
Q 10 FLOW	HEADWATER ELEVATION	
Q 25 FLOW	HEADWATER ELEVATION	
Q 50 FLOW	HEADWATER ELEVATION	
Q 100 FLOW	HEADWATER ELEVATION	
COMMENTS		

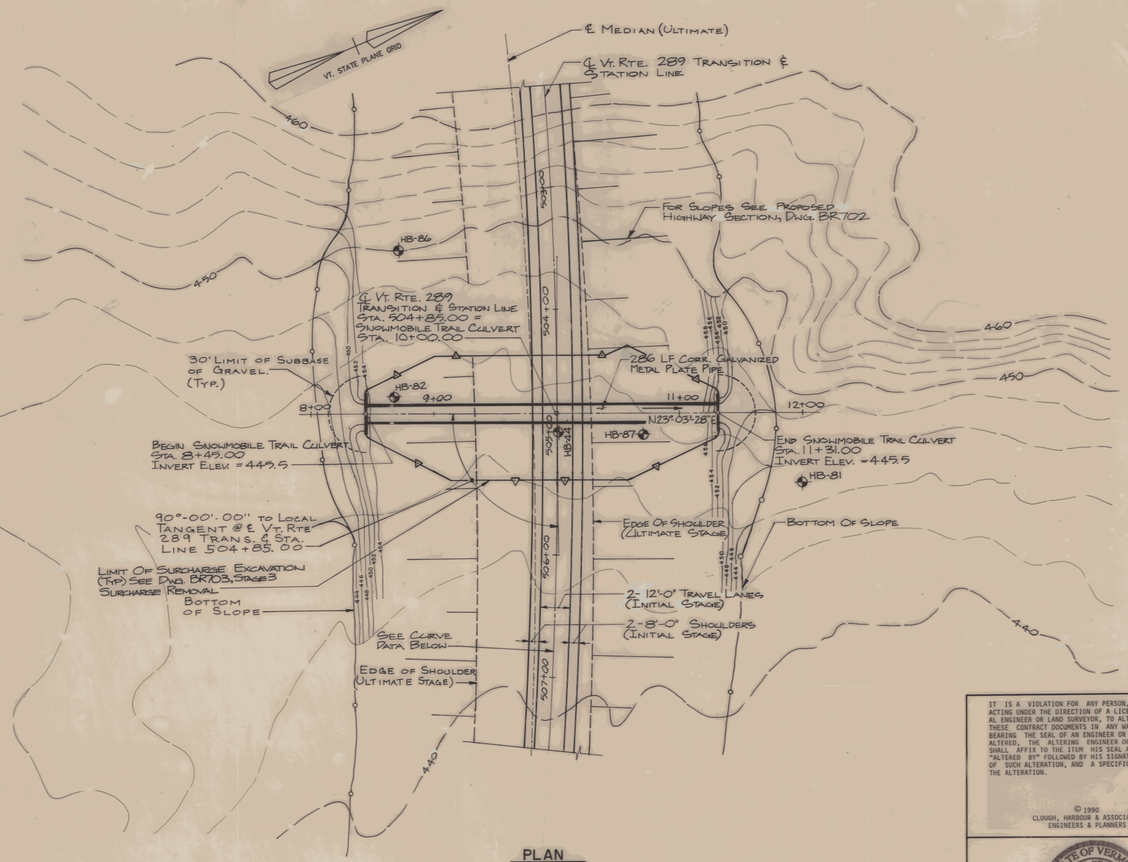
DETAILS OF STRUCTURAL PLATE PIPE CULVERTS

	STEEL	STEEL	ALUMINUM
CORRUGATIONS	6"x2"		
SIZE OF PIPE OR PIPE ARCH	15'-6" DIA.		
WATERWAY AREA	N.A.		
PLATE THICKNESS (COATED)	0.138"		
BOLT SIZE	3/4"		
WEIGHT PER LINEAR FOOT	406#/ft.		
TOTAL WEIGHT	100.7 KIPS		

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of ESSEX	Bridge No. 14-3
Highway No. VT. RTE. 289	Log Sta. / Surv. Sta. 502+25
VT. RTE. 289 OVER SNOWMOBILE TRAIL CULVERT	
AS BUILT 6/9/94 DG	
Designed By DZG	Drawn By DZG
Checked By RJR Date 6/91	Bridge Design Supervisor Date
PROJECT WILLISTON-COLCHESTER	PROJECT NO. PB 033-1(2)
I.G.C. Info. ZHI:[30,51]PIPEFORM.DGN	PRF:PIPESHEET
Bridge Sheet No. 701	Sheet 222 of 400

Revised



PLAN
1" = 50'-0"

VT. RTE. 289 CURVE DATA # 3

ΔT	= 32°-12'-45" Rt.
ΔC	= 29°-42'-03" Rt.
De	= 01°-30'-00"
R	= 3819.72'
Tt	= 1186.76'
Tc	= 1012.81'
Et	= 196.37'
Ec	= 131.99'
Lt	= 2314.94'
Lc	= 1980.06'
La	= 167.44'
Bank	= 0.030 Ft/Ft Rt.

IT IS A VIOLATION FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER ANY ITEM IN THESE CONTRACT DOCUMENTS IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

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CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS

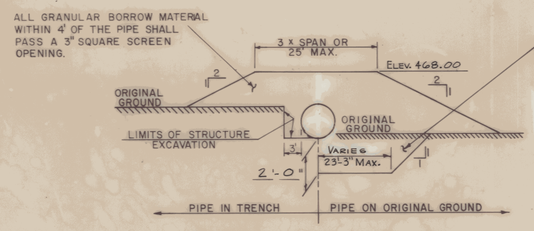
STATE OF VERMONT
JOHN E. KRUEGER
NO. 5590
REGISTERED
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL BY
John M. Brugle 10/12/90
DATE

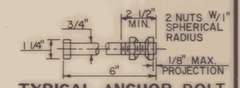
CHA CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS

NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986, AND THE LATEST AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. DESIGN IS FOR HS-25 LIVE LOADING.
2. UNLESS OTHERWISE INDICATED, 4 BOLTS PER LINEAR FOOT FOR STEEL PLATES AND 5 1/2 BOLTS FOR ALUMINUM PLATES ARE REQUIRED ALONG THE LONGITUDINAL SEAMS. ALL CONNECTIONS FOR STRUCTURAL PLATE SECTIONS SHALL BE MADE WITH GALVANIZED AASHTO M164 BOLTS.
3. WHEN NORMAL CONSTRUCTION OR REGULAR ROADWAY TRAFFIC IS MAINTAINED OVER THE PIPE, THE CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF 5 FEET OF COMPACTED MATERIAL.
4. ALUMINUM PIPE THAT IS TO BE IN CONTACT WITH CONCRETE SHALL HAVE CONTACT SURFACES THOROUGHLY COATED WITH ZINC CHROMATE, BITUMINOUS OR ASPHALTIC PAINT.
5. PIPES SHALL BE FACTORY-ELONGATED, 5-PERCENT (PIPE ARCHES SHALL NOT BE ELONGATED).
6. THE ENDS OF THE PIPE SHALL BE CUT SQUARE (NOT BEVELED TO MATCH SLOPES).
7. AT THE OUTLET END, INCLUDE A 10-FOOT PIECE OF 6-INCH UNDERDRAIN EACH SIDE ON SAME GRADIENT AS CULVERT CONFORMING TO SECTION 711.01. COST TO BE INCLUDED IN UNIT PRICE BID FOR THE CULVERT PIPE.
8. PIPE TO BE INSTALLED AFTER SURCHARGING IS COMPLETE. SEE SHEET BR703 FOR SURCHARGE DETAILS.
9. FOR BORING LOGS, SEE "GEOTECHNICAL ENGINEERING REPORT FOR THE PROPOSED CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY/WILLISTON-COLCHESTER PB 033-1(1) DESIGN CONTRACT NO. 2," BY CLOUGH, HARBOUR & ASSOCIATES, AUGUST 1990.
10. BOLT HOLES NEAREST THE VISIBLE EDGE OF LONGITUDINAL LAPPED JOINTS (WHEN VIEWED FROM THE INSIDE OF THE PIPE) SHALL BE PLACED IN THE VALLEYS OF THE CORRUGATIONS.

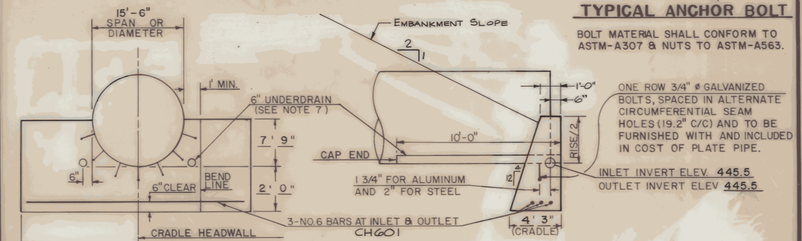


TYPICAL BACKFILL SECTION



TYPICAL ANCHOR BOLT

BOLT MATERIAL SHALL CONFORM TO ASTM-A307 & NUTS TO ASTM-A563.



HEADWALL DETAILS

REINFORCING STEEL SCHEDULE

NO. PIECES	SIZE	LENGTH	MARK	TYPE		
6	6	30'-0"	CH601	STR.		

ESTIMATED QUANTITIES * Denotes Roadway Item REFER TO SHEET 222A OF 400

NO.	ITEM	UNIT	TOTAL	FINAL
203.15	COMMON EXCAVATION	C.Y.	17450	
203.31	SAND BORROW - MODIFIED	C.Y.	3960	
203.32	GRANULAR BORROW	C.Y.	18970	
204.25	STRUCTURE EXCAVATION	C.Y.	370	
301.15	SUBBASE OF GRAVEL	C.Y.	460	
501.25	CONCRETE CLASS B	C.Y.	42	
507.15	REINFORCING STEEL	LBS.	280	
511.13	186" ø CORR. GALV. METAL PLATE PIPE (0.218") (6"x2")	EA.	1	

DETAILS OF STRUCTURAL PLATE PIPE CULVERTS *

	STEEL	STEEL	ALUMINUM
CORRUGATIONS	6"x2"		
SIZE OF PIPE OR PIPE ARCH	15'-6" Dia.		
WATERWAY AREA (S.F.)	NA		
PLATE THICKNESS (COATED)	0.218"		
BOLT SIZE	3/4"		
WEIGHT PER LINEAR FOOT	618#/Ft.		
TOTAL WEIGHT	176.7 Kips		

STATE OF VERMONT
AGENCY OF TRANSPORTATION

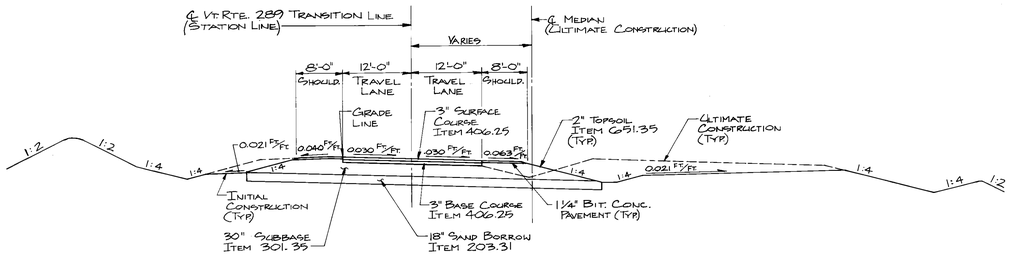
TOWN OF ESSEX	Bridge No. 14-3
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. 504+85

VT. RTE. 289 OVER SNOWMOBILE TRAIL CULVERT

PLAN & DETAILS

Designed by PJB	Drawn by DJA
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON-COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR701	Sheet 222 of 400

REV. 3/24/87

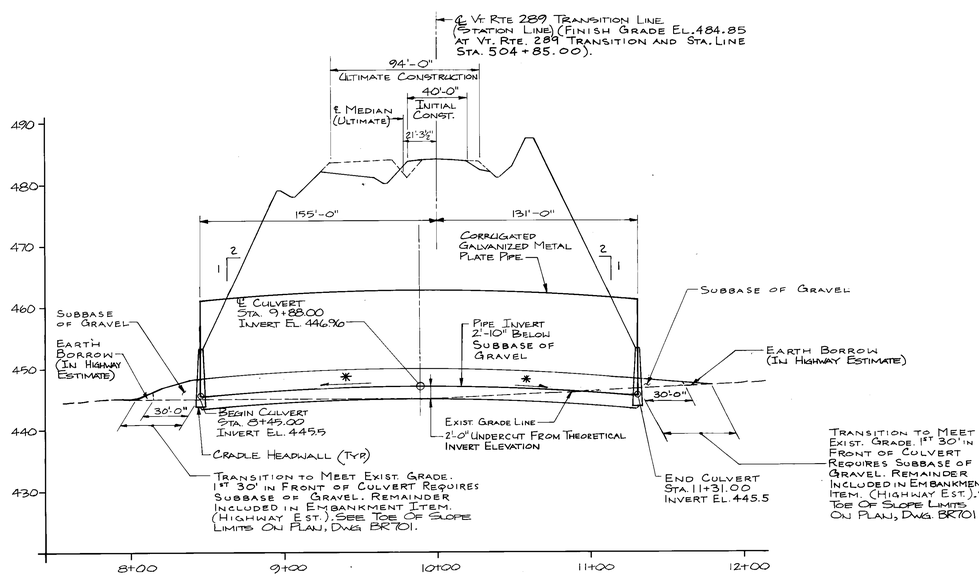


PROPOSED HIGHWAY SECTION

Scale : 3/32" = 1'-0"

CULVERT PROFILE TABLE		
POINT	STATION	THEORETICAL INVERT ELEVATION
BEGIN	8 + 45.00	445.50
0.1L	8 + 73.60	446.03
0.2L	9 + 02.20	446.43
0.3L	9 + 30.80	446.73
0.4L	9 + 59.40	446.90
0.5L	9 + 88.00	446.96
0.6L	10 + 16.60	446.90
0.7L	10 + 45.20	446.73
0.8L	10 + 73.80	446.43
0.9L	11 + 02.40	446.03
END	11 + 31.00	445.50

TABLE "A"

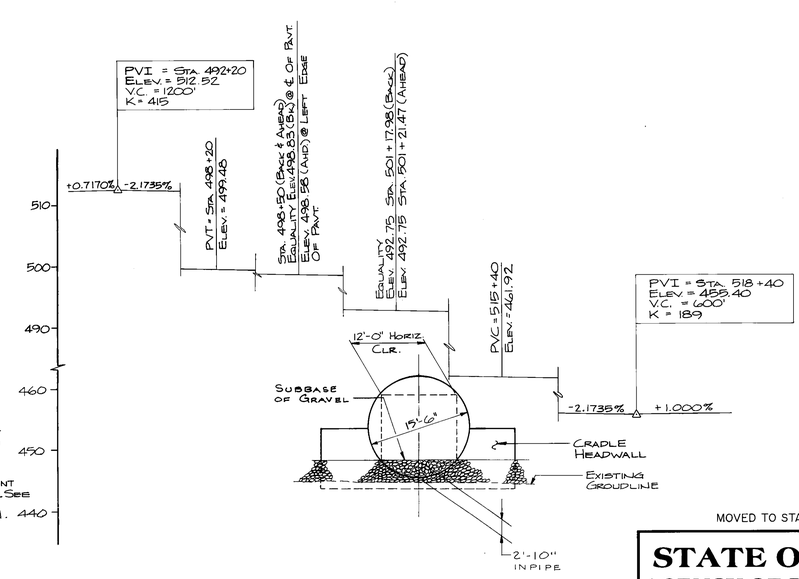


LONGITUDINAL SECTION

(LOOKING DOWNSTATION)

Scale: Horizontal = 1"=40'-0"
Vertical = 1"=10'-0"

* Pipe Camber is Parabolic. Maximum Camber @ Pipe ℄ is 17½"!



ELEVATION

Scale : 1"=10'-0"

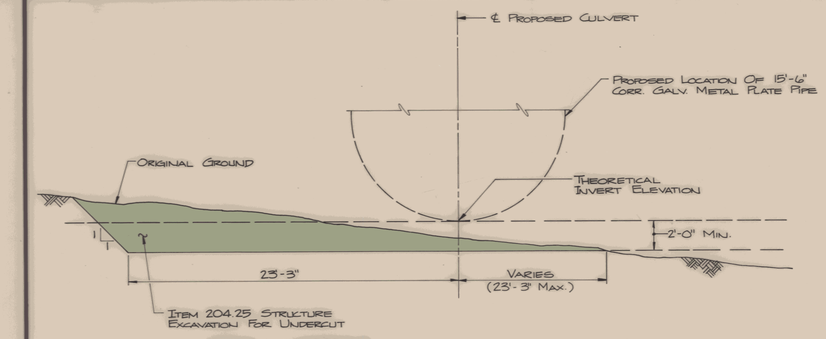
MOVED TO STA.502+25

STATE OF VERMONT
AGENCY OF TRANSPORTATION

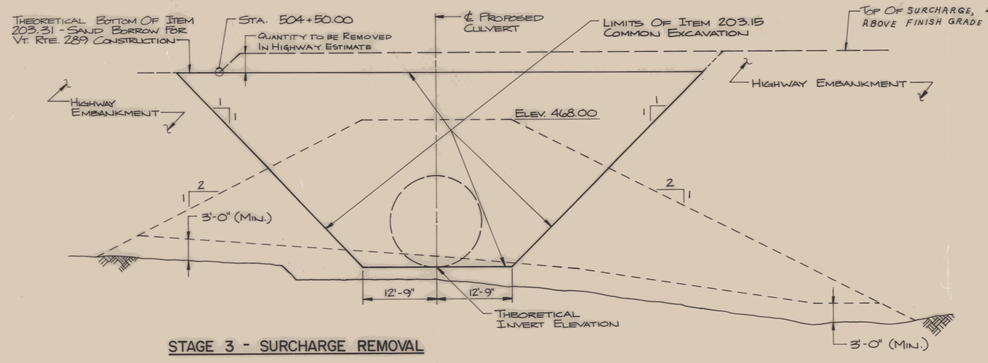
TOWN OF ESSEX	Bridge No. 14 - 3
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. 504+85
VT. RTE. 289 OVER SNOWMOBILE TRAIL CULVERT	
ELEVATION AND SECTIONS	
Designed by PJB	Drawn by DJA
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033 - 1(2)
Bridge Sheet No. BR 702	Sheet 223 of 400

BRUNING 44-131-40151

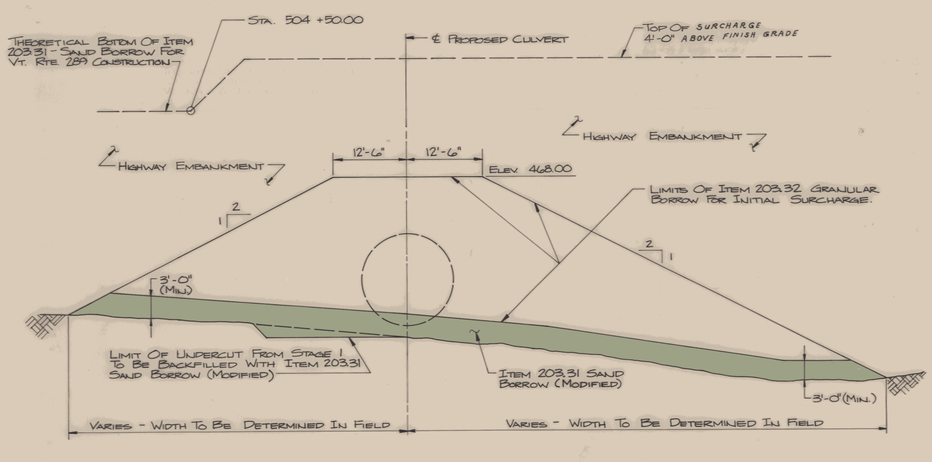
BR-2



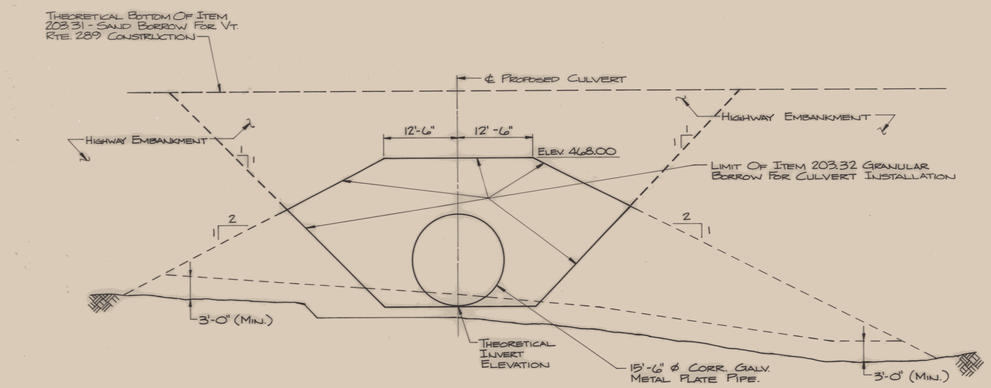
STAGE 1 - UNDERCUT



STAGE 3 - SURCHARGE REMOVAL



STAGE 2 - SURCHARGE CONSTRUCTION
(SURCHARGE TO REMAIN IN PLACE A MIN. OF 7 MONTHS)



STAGE 4 - CULVERT INSTALLATION

SURCHARGE DETAILS

N.T.S.

CONSTRUCTION SEQUENCING

THE CONTRACTOR WILL BE REQUIRED TO SURCHARGE THE AREA WHERE THIS CULVERT IS TO BE LOCATED PRIOR TO INSTALLATION. THE FOLLOWING IS THE DIRECTED CONSTRUCTION SEQUENCING:

- IN AREAS ALONG THE CULVERT WHERE THE THEORETICAL INVERT ELEVATION (SEE TABLE A SHEET BR702) IS LESS THAN 2 FEET ABOVE THE ORIGINAL GROUND SURFACE, AN UNDERCUT WILL BE REQUIRED. THE LIMITS OF THE UNDERCUT WILL BE ESTABLISHED BY PROJECTING THE FINAL INVERT ELEVATIONS ALONG THE CULVERT TO A WIDTH OF 23'-3" ON BOTH SIDES OF THE CULVERT CENTERLINE. THE DEPTH OF THE UNDERCUT WILL BE DETERMINED BY PROJECTING DOWN 2 FEET VERTICALLY FROM THE THEORETICAL CULVERT INVERT. THE UNDERCUT AREAS WILL THEN BE BACKFILLED WITH SAND BORROW (MODIFIED) TO THE ORIGINAL GROUND SURFACE PRIOR TO SURCHARGING. SEE STAGE I DETAIL FOR UNDERCUT LIMITS.
- THE CONTRACTOR SHALL THEN CONSTRUCT A 3 FOOT (MIN.), MEASURED VERTICALLY FROM THE ORIGINAL GROUND SURFACE, LAYER OF SAND BORROW (MODIFIED). THE WIDTH WILL BE DETERMINED IN THE FIELD TO ACCOMMODATE THE ORIGINAL GROUND SURFACE. THE CONTRACTOR SHALL INSTALL PVDs AND INSTRUMENTATION IN COMFORMANCE WITH THE PVD DRAWINGS G-1 TO G-11. SEE STAGE II DETAIL FOR SURCHARGE CONSTRUCTION.
- THE CULVERT SURCHARGE AREA, SHALL BE CONSTRUCTED SIMULTANEOUSLY WITH THE CONSTRUCTION OF THE HIGHWAY EMBANKMENTS ADJACENT TO THE CULVERT SURCHARGE AREA. EMBANKMENT CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE STAGE CONSTRUCTION SHOWN ON DRAWINGS G-1 TO G-11 OF THE PVD DRAWINGS. THE CULVERT SURCHARGE AREA SHALL BE CONSTRUCTED TO THE ELEVATION SHOWN ON PLAN SHEET G-9. GRANULAR BORROW MUST BE USED TO ELEVATION 468.00. SEE STAGE II DETAIL FOR SURCHARGE CONSTRUCTION AND DRAWING G-9.
- PRIOR TO INSTALLATION OF THE CULVERT, THE AREA SHALL BE SURCHARGED FOR A PERIOD OF NOT LESS THAN TWO (2) MONTHS OF A.O.B.E.. THE SURCHARGE PERIOD WILL BEGIN UPON COMPLETION OF THE PLACEMENT OF MATERIAL TO SUBGRADE ELEVATION AND AS OUTLINED ON THE PVD DRAWINGS G-1 TO G-11.
- AFTER THE SURCHARGE TIME FRAME HAS ELAPSED, EXCAVATION FOR THE INSTALLATION OF THE CULVERT MAY COMMENCE. RECOMMENDED LIMITS OF EXCAVATION ARE TO THE THEORETICAL INVERT ELEVATION OF THE CULVERT AND TO A BOTTOM WIDTH OF 12'-9" ON BOTH SIDES OF THE CULVERT CENTERLINE. THE EXCAVATION SIDE SLOPES SHALL BE NO STEEPER THAN A 1H:1V RATIO. THE EXCAVATED MATERIALS (GRANULAR BORROW & HIGHWAY EMBANKMENT) SHALL BE STORED SEPARATELY FOR USE DURING THE BACKFILLING OF THE CULVERT. SEE STAGE III DETAIL FOR SURCHARGE REMOVAL LIMITS.
- DURING THE INSTALLATION OF THE CULVERT, THE CONTRACTOR SHALL USE THE STORED GRANULAR BORROW (SEPARATE PAY ITEM FROM INITIAL SURCHARGING AND STORED HIGHWAY EMBANKMENT (NO SEPARATE PAY ITEM FROM INITIAL SURCHARGING) TO BACKFILL ADJACENT TO THE CULVERT AS REQUIRED. SEE STAGE IV DETAIL FOR BACKFILLING LIMITS.
- THE CONTRACTOR SHALL RECEIVE SEPARATE PAYMENT FOR THE UNDERCUT AND BACKFILL, THE INITIAL SURCHARGE CONSTRUCTION, THE EXCAVATION OF THE SURCHARGED MATERIAL AND THE WORK ASSOCIATED WITH THE INSTALLATION AND BACKFILLING OF THE CULVERT. THE PAYMENTS SHALL BE TO THE LIMITS AS ESTABLISHED ON THE PLANS AND SHALL BE AS FOLLOWS:

UNDERCUT AND BACKFILL	- ITEM 204.25 STRUCTURE EXCAVATION - ITEM 203.31 SAND BORROW (MODIFIED) (EQUAL QUANTITIES)
INITIAL SURCHARGING	- ITEM 203.32 GRANULAR BORROW - ITEM 203.31 SAND BORROW (MODIFIED)
EXCAVATION OF SURCHARGE	- ITEM 203.15 COMMON EXCAVATION (PAY LIMIT TO 1:1 SIDE SLOPES)
BACKFILL OF CULVERT	- ITEM 203.32 GRANULAR BORROW

SNOWMOBILE CULVERT MOVED TO STA.502+25

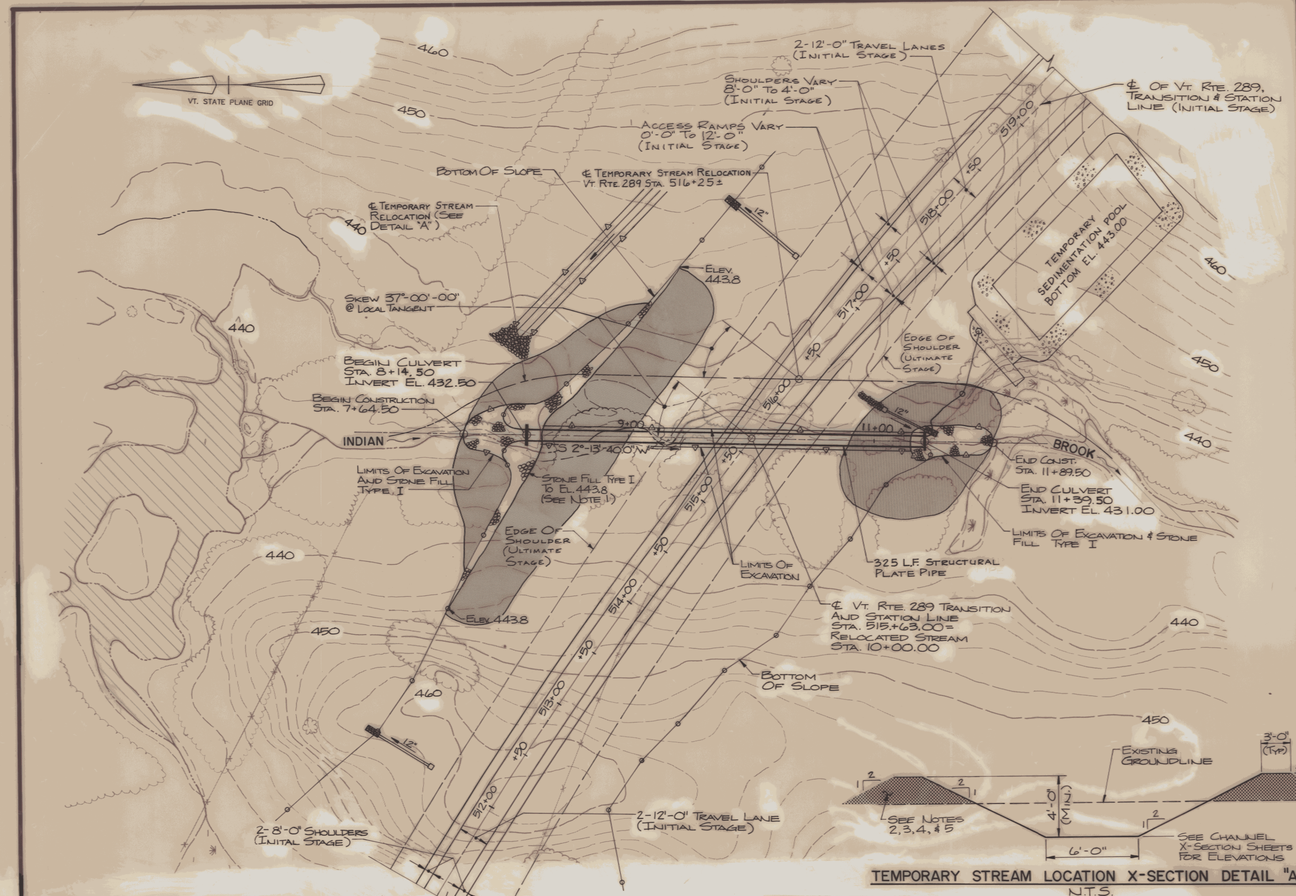
AS BUILT 6/9/94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14-3
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. 504+85
VT. RTE. 289 OVER SNOWMOBILE TRAIL CULVERT	
SURCHARGE DETAILS	
Designed by PJB	Drawn by RFU
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB033-1(2)
Bridge Sheet No. BR703	Sheet 224 of 400

BR-2

364 & 365



TEMPORARY STREAM LOCATION X-SECTION DETAIL "A"
N.T.S.

VT. RTE. 289 CURVE DATA #3

ΔT	32°-12'-45" Rt.
Δc	29°-42'-03" Rt.
Dc	01°-30'-00"
R	3819.72'
TT	1186.76'
TC	1012.81'
ET	186.37'
EC	131.99'
LT	2314.94'
LC	1980.06'
LS	1671.44'
Bank	0.030 Ft./Ft. Right

KEY: ▭ - NATIVE TURF ESTABLISHMENT AREA SEE DETAIL SHEET BR 802

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ENGINEERS & PLANNERS

NOTES:

1. EXTEND STONE TO MEET EXISTING GROUND-LINE ELEVATION 443.8 (INLET ONLY).
2. DESIGN FOR TEMPORARY STREAM CHANNEL BASED ON 10-YEAR STORM.
3. IN ORDER TO MAINTAIN A 4-FOOT-MINIMUM CHANNEL DEPTH, USE EXCAVATED MATERIAL TO CONSTRUCT CHANNEL EMBANKMENT SLOPE TO CORRECT HEIGHT.
4. WHEREVER FILL IS REQUIRED TO BUILD UP CHANNEL EMBANKMENT, THE CONTRACTOR IS REQUIRED TO REMOVE TOPSOIL AND CLEAR AREA OF ANY VEGETATION.
5. EXCAVATED MATERIAL USED TO BUILD UP TEMPORARY STREAM CHANNEL EMBANKMENT SHALL BE COMPACTED TO 95 PERCENT OF STANDARD PROCTOR DENSITY.

CHA CLOUGH, HARBOUR & ASSOCIATES ENGINEERS & PLANNERS

RECOMMENDED FOR APPROVAL John McKnight 10/29/90 DATE

STATE OF VERMONT JOHN M. KRUEGER NO. 5599 REGISTERED PROFESSIONAL ENGINEER

HYDRAULIC DATA

DRAINAGE AREA = 3.32 SQ. MI. DESIGN FLOW Q 50

Q_{10} =	190 C.F.S.	Q_{10} HEADWATER ELEVATION =	439.5
Q_{25} =	270 C.F.S.	Q_{25} HEADWATER ELEVATION =	440.7
Q_{50} =	330 C.F.S.	Q_{50} HEADWATER ELEVATION =	441.8
Q_{100} =	370 C.F.S.	Q_{100} HEADWATER ELEVATION =	442.5

TAILWATER DEPTH AT Q 50 = 6.3 FEET, ELEVATION 439.3

OUTLET VELOCITY AT Q 50 = 7.8 FEET PER SECOND

ORDINARY HIGHWATER DEPTH — FEET

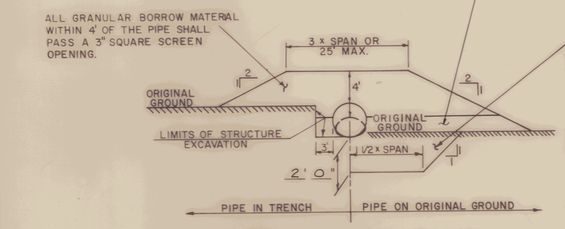
COMMENTS: —

DETAILS OF STRUCTURAL PLATE PIPE CULVERTS

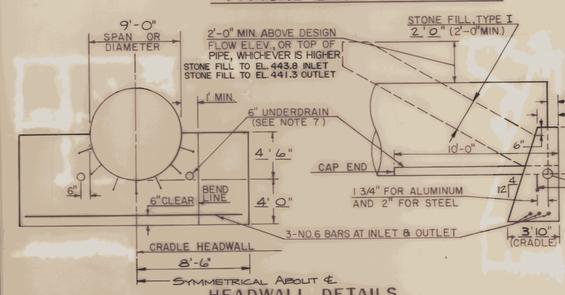
	OPTION 1 STEEL	STEEL	OPTION 2 ALUMINUM
CORRUGATIONS	6" x 2"		9" x 2½"
SIZE OF PIPE OR PIPE ARCH	9'-0" DIA.		9'-0" DIA.
WATERWAY AREA (S.F.)	53.1		53.1
PLATE THICKNESS (COATED)	0.168"		0.200"
BOLT SIZE	¾"		¾"
WEIGHT PER LINEAR FOOT	285 LBS/FT.		122.5 LBS./FT.
TOTAL WEIGHT	92.6 KIPS		39.8 KIPS

NOTES

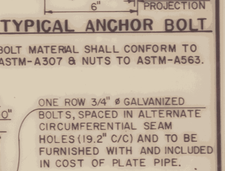
1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986, AND THE LATEST A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. DESIGN IS FOR HS-25 LIVE LOADING.
2. UNLESS OTHERWISE INDICATED FOUR (4) BOLTS PER LINEAR FOOT FOR STEEL PLATES AND FIVE AND ONE THIRD (5 1/2) BOLTS FOR ALUMINUM PLATES ARE REQUIRED ALONG THE LONGITUDINAL SEAMS. ALL CONNECTIONS FOR STRUCTURAL PLATE SECTIONS SHALL BE MADE WITH GALVANIZED ASTM A-449 BOLTS.
3. WHEN NORMAL CONSTRUCTION OR REGULAR ROADWAY TRAFFIC IS MAINTAINED OVER THE PIPE THE CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF 3 FEET OF COMPACTED MATERIAL.
4. ALUMINUM PIPE THAT IS TO BE IN CONTACT WITH CONCRETE SHALL HAVE CONTACT SURFACES THOROUGHLY COATED WITH ZINC CHROMATE, OR BITUMINOUS, OR ASPHALTIC PAINT.
5. PIPES SHALL BE FACTORY ELONGATED 5% (PIPE ARCHES SHALL NOT BE ELONGATED).
6. THE ENDS OF THE PIPE SHALL BE CUT SQUARE (NOT BEVELED TO MATCH SLOPES).
7. AT THE OUTLET END INCLUDE A 10 FOOT PIECE OF 6" UNDERDRAIN EACH SIDE ON SAME GRADIENT AS CULVERT CONFORMING TO SECTION 711.01. COST TO BE INCLUDED IN UNIT PRICE BID FOR THE CULVERT PIPE.
8. BOLT HOLES NEAREST THE VISIBLE EDGE OF LONGITUDINAL LAPPED JOINTS (WHEN VIEWED FROM THE INSIDE OF THE PIPE) SHALL BE PLACED IN THE VALLEYS OF THE CORRUGATIONS.



TYPICAL BACKFILL SECTION



HEADWALL DETAILS



TYPICAL ANCHOR BOLT

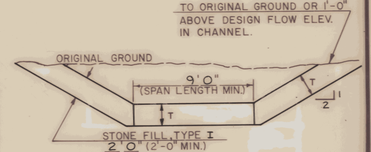
BOLT MATERIAL SHALL CONFORM TO ASTM-A307 & NUTS TO ASTM-A563.

ONE ROW 3/4" ø GALVANIZED BOLTS, SPACED IN ALTERNATE CIRCUMFERENTIAL SEAM HOLES (19.2" C/C) AND TO BE FURNISHED WITH AND INCLUDED IN COST OF PLATE PIPE.

INLET INVERT ELEV. 432.50
OUTLET INVERT ELEV. 431.00

REINFORCING STEEL SCHEDULE

NO. PIECES	SIZE	LENGTH	MARK	TYPE		
6	6	16'-6"	CH601	STR		



TYPICAL CHANNEL SECTION

ESTIMATED QUANTITIES * Denotes Roadway Item AS BUILT 6/9/94

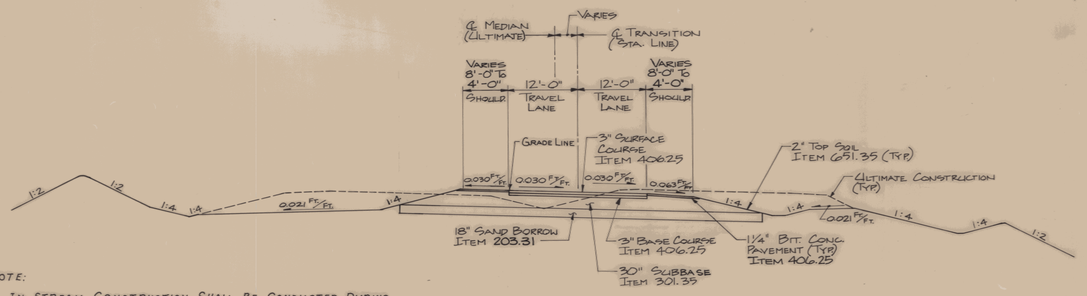
NO.	ITEM	UNIT	TOTAL	FINAL
203.27	Unclassified Channel Excavation	C.Y.	180	216
203.31	Sand Borrow - Modified	C.Y.	2480	2180
203.32	Granular Borrow	C.Y.	2210	2432
204.25	Structure Excavation	C.Y.	960	1032
501.25	Concrete Class "B"	C.Y.	22	22.960
507.15	Reinforcing Steel	LBS.	150	150
	Begin Options			
511.15	108"ø Corr. Galv. Metal Plate Pipe (0.168")	EA.	1	1
511.25	108"ø Corr. Alum. Alloy Plate Pipe (0.200")	EA.	1	
	End Options			
613.10	Stone Fill, Type I	C.Y.	450	277.800
613.10	Stone Fill, Type I (Culvert Liner)	C.Y.	130	130.
614.10	Temp. Relocation of Stream	L.S.	1	1
651.40	Grubbing Material (NTE)	S.Y.	4000	28895

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF Essex	Bridge No. 14-4
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. 515+63.00
VT. RTE. 289 OVER INDIAN BROOK	
PLAN AND DETAILS	
Designed by PJB	Drawn by RFU
Checked by RJS date 10-12-90	Bridge Design Supervisor MWO date 10-12-90
PROJECT Williston-Colchester	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR801	Sheet 225 of 400

REV. 3/24/97

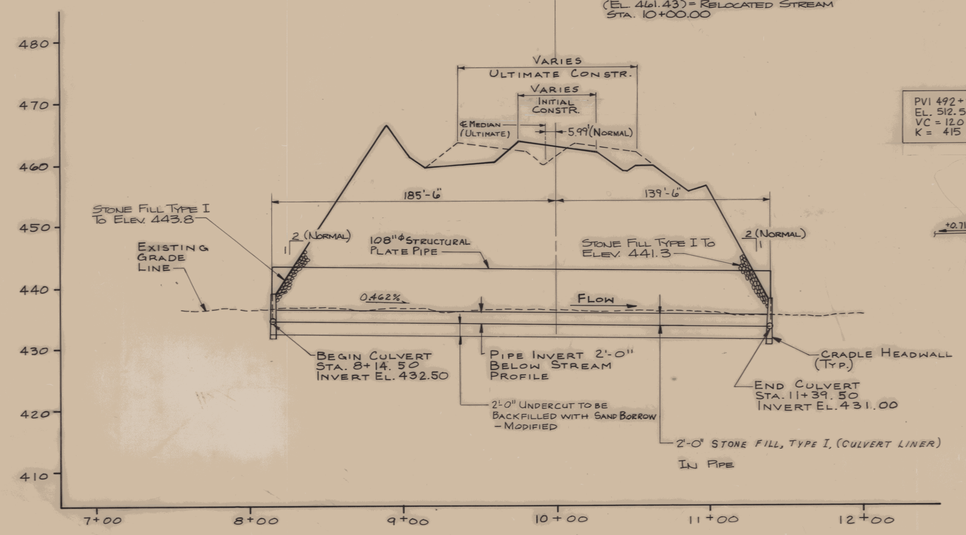
225 of 465



PROPOSED HIGHWAY SECTION
Scale : 3/32" = 1'-0"

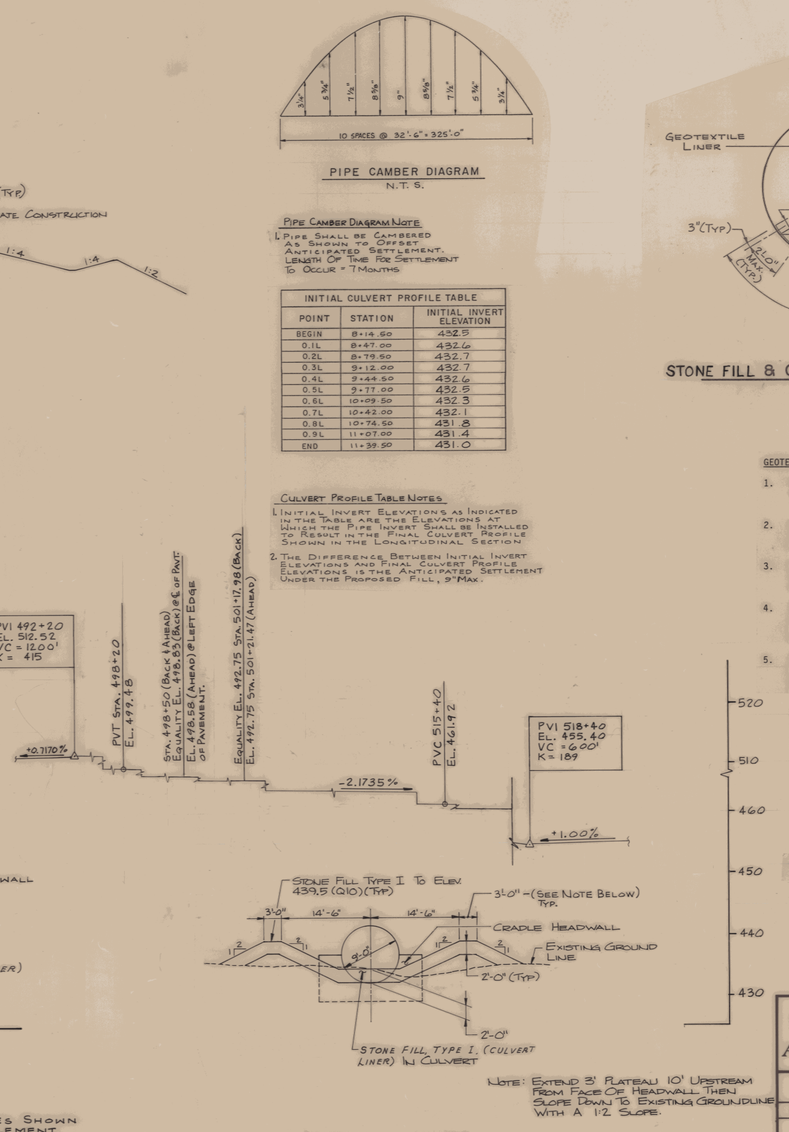
NOTE:

IN-STREAM CONSTRUCTION SHALL BE CONDUCTED DURING THE PERIOD JUNE 1 - OCTOBER 1. CULVERT INVERT ELEVATIONS SHALL BE INSTALLED TWO FEET BELOW STREAMBED LEVEL. CONTRACTOR MAY PROPOSE CONSTRUCTION METHODS AND EROSION/SEDIMENTATION CONTROL PROCEDURES WHICH MAY BE CONSIDERED SUITABLE FOR IMPLEMENTATION DURING THE RESTRICTED PERIOD. SUCH A PROPOSAL WILL BE REVIEWED BY THE DEPARTMENTS OF FISH AND WILDLIFE AND ENVIRONMENTAL CONSERVATION, UPON REQUEST.



LONGITUDINAL SECTION
(ALONG RELOCATED STREAM)
Scale: Horiz. 1" = 40'
Vert. 1" = 10'

NOTE: Final Grades Shown After Settlement. See Pipe Camber Table This Dwg.



Note: Extend 3' Plateau 10' Upstream From Face Of Headwall Then Slope Down To Existing Groundline With A 1:2 Slope.

ELEVATION - INLET END
Scale: 1" = 10'-0"

PIPE CAMBER DIAGRAM
N.T.S.

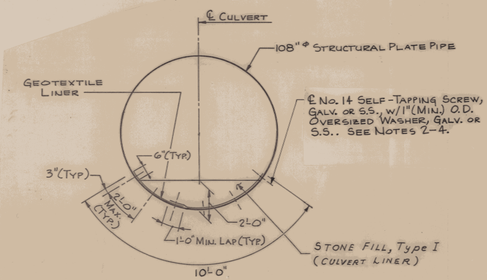
Pipe Camber Diagram Note

1. Pipe Shall be Cambered As Shown to Offset Anticipated Settlement. Length Of Time For Settlement To Occur = 7 Months

INITIAL CULVERT PROFILE TABLE		
POINT	STATION	INITIAL INVERT ELEVATION
BEGIN	8+14.50	432.5
0.1L	8+47.00	432.6
0.2L	8+79.50	432.7
0.3L	9+12.00	432.7
0.4L	9+44.50	432.6
0.5L	9+77.00	432.5
0.6L	10+09.50	432.3
0.7L	10+42.00	432.1
0.8L	10+74.50	431.8
0.9L	11+07.00	431.4
END	11+39.50	431.0

Culvert Profile Table Notes

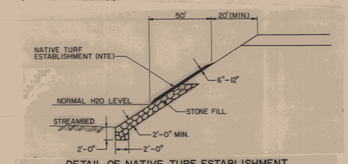
1. Initial Invert Elevations as Indicated in the Table are the Elevations at Which the Pipe Invert Shall be Installed to Result in the Final Culvert Profile Shown in the Longitudinal Section
2. The Difference Between Initial Invert Elevations and Final Culvert Profile Elevations is the Anticipated Settlement Under the Proposed Fill, 9" Max.



STONE FILL & GEOTEXTILE LINING DETAIL
N.T.S.

GEOTEXTILE LINING NOTES

1. FOR ADDITIONAL INSTALLATION AND MATERIAL REQUIREMENTS FOR STONE FILL, TYPE I (CULVERT LINER) AND GEOTEXTILE LINER, SEE SPECIAL PROVISIONS.
2. ROWS OF LONGITUDINAL FASTENERS, AS SHOWN ABOVE, SHALL BE INSTALLED AT 24 FEET MAXIMUM SPACING ALONG THE CENTERLINE OF CULVERT AND AT ALL LAP LOCATIONS.
3. GALVANIZING DAMAGED DURING DRILLING OPERATIONS, AS REQUIRED TO INSTALL GEOTEXTILE FASTENERS, SHALL BE REPAIRED IN ACCORDANCE WITH SECTION 511.12.
4. THE CONTRACTOR MAY SUBMIT AN ALTERNATE METHOD FOR SECURING THE GEOTEXTILE LINER IN PLACE. THE ALTERNATE FASTENING METHOD SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL IN ACCORDANCE WITH SECTION 105.03.
5. THE COST OF THE GEOTEXTILE LINER, INCLUDING FASTENERS, GALVANIZING TOUCH-UP AND LINER PLACEMENT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 613.10, STONE FILL, TYPE I, (CULVERT LINING)



DETAIL OF NATIVE TURF ESTABLISHMENT

NOTES:

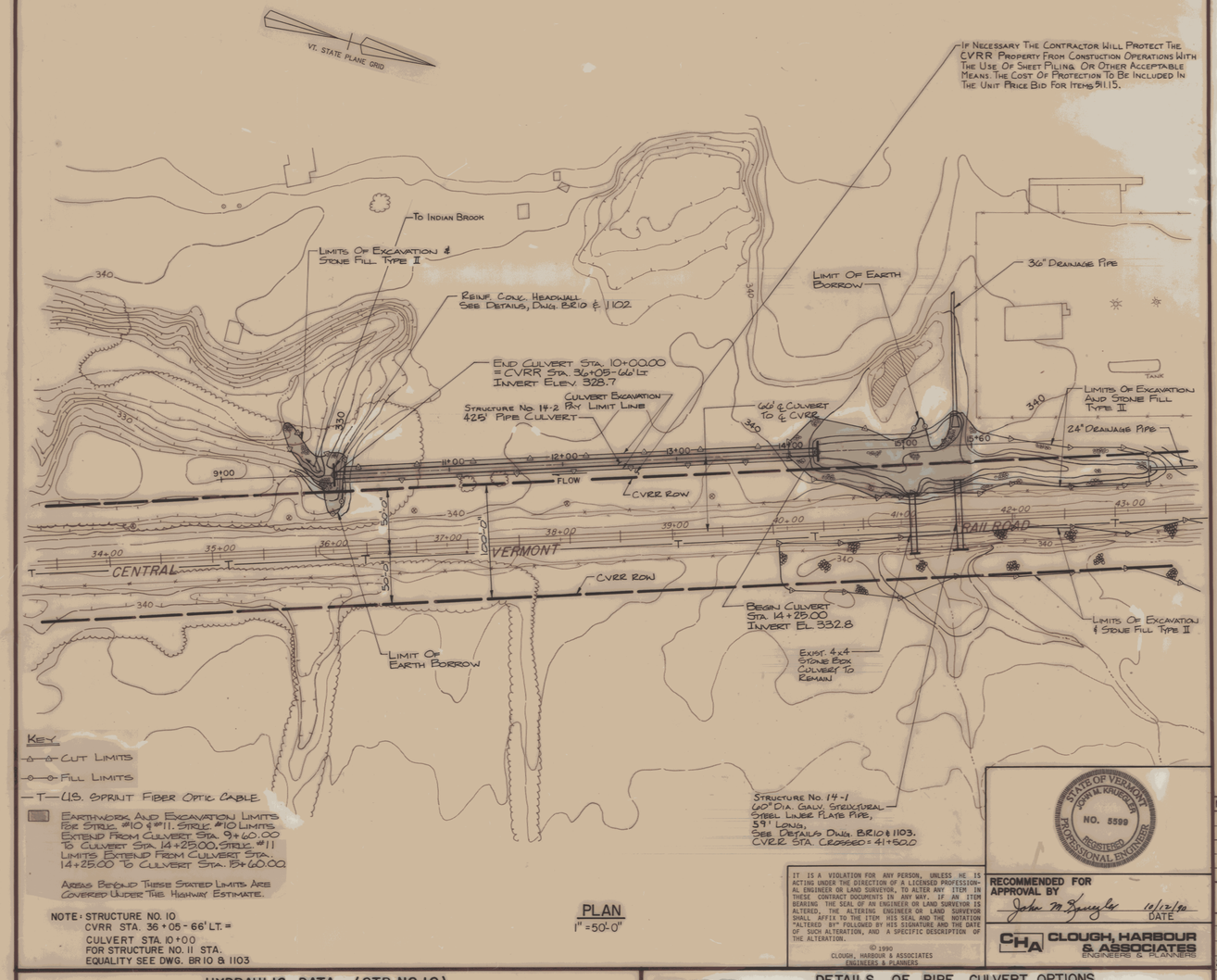
1. NATIVE TURF ESTABLISHMENT (NTE) SHALL CONSIST OF PLACING STREAM BANK GRUBBINGS AS SHOWN.
2. NTE SHALL BE PAID FOR UNDER ITEM 651.40 - GRUBBING MATERIAL.
3. HAY MULCH SHALL BE PLACED ON NTE AND SHALL BE PAID FOR SEPARATELY.
4. NTE SHALL BE PLACED AS SHOWN BUT IN NO CASE SHALL IT BE PLACED CLOSER THAN 20' TO THE EDGE OF ROADWAY SHOULDER.
5. TOPSOIL REMOVED FROM EXCAVATION AND EMBANKMENT AREAS SHALL BE SAVED AND REUSED FOR REVEGETATION AREAS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14-4
	Log Sta.
HIGHWAY NO. VT. RTE. 289	Surv. Sta. 515+65
VT. RTE. 289 OVER INDIAN BROOK	
ELEVATION AND SECTIONS	
Designed by PJB	Drawn by DJA
Checked by RJS date 10-12-90	Bridge Design Supervisor MWO date 10-12-90
PROJECT WILLISTON-COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR 802	Sheet 226 of 400

BRENNG 44.13 (40.15)

BR-2



NOTE: STRUCTURE NO. 10
CVRR STA. 36+05-66' LT. =
CULVERT STA. 10+00
FOR STRUCTURE NO. 11 STA.
EQUALITY SEE DWG. BR10 & 1103

PLAN
1" = 50'-0"

IT IS A VIOLATION FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER ANY ITEM IN THESE CONTRACT DOCUMENTS IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.
© 1990
CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS

STATE OF VERMONT
JOHN M. KRUEGER
NO. 5599
REGISTERED
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL BY
John M Krueger 10/12/90
DATE

CHA CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS

HYDRAULIC DATA (STR. NO. 10)

DRAINAGE AREA = 0.26 SQ. MI. DESIGN FLOW Q 100 =

Q_{10} =	94 C.F.S.	Q_{10} HEADWATER ELEVATION =	335.6
Q_{25} =	— C.F.S.	Q_{25} HEADWATER ELEVATION =	—
Q_{50} =	— C.F.S.	Q_{50} HEADWATER ELEVATION =	—
Q_{100} =	169.3 C.F.S.	Q_{100} HEADWATER ELEVATION =	336.9

TAILWATER DEPTH AT Q 100 = 5.0' FEET, ELEVATION 333.7
OUTLET VELOCITY AT Q 100 = 8.82 FEET PER SECOND
ORDINARY HIGHWATER DEPTH — FEET
COMMENTS: —

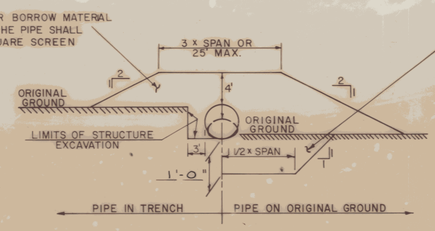
STRUCTURE #10 — DETAILS OF PIPE CULVERT OPTIONS

	OPTION 1 CORR. GALV. METAL PLATE PIPE	OPTION 2 CORR. STEEL PIPE	OPTION 3 CORR. ALUMINUM ALLOY PIPE
CORRUGATIONS	6" x 2"	3" x 1"	3" x 1"
SIZE OF PIPE OR PIPE ARCH	78" DIA.	78" DIA.	78" DIA
WATERWAY AREA (S.F.)	32.7	32.7	32.7
PLATE THICKNESS (COATED)	0.109"	0.138"	0.135"
BOLT SIZE	3/4"	—	—
WEIGHT PER LINEAR FOOT	134 LBS./FT.	152 LBS/FT.	52 LBS/FT.
TOTAL WEIGHT	57 KIPS	64.6 KIPS	22.1 KIPS

NOTES STRUCTURE NO. 10

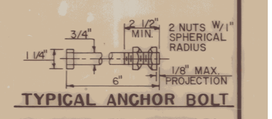
1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986, AND THE LATEST AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. DESIGN IS FOR H-15-44 LIVE LOADING (STRUCTURE NO. 10).
2. UNLESS OTHERWISE INDICATED, 4 BOLTS PER LINEAR FOOT FOR STEEL PLATES AND 5 1/3 BOLTS FOR ALUMINUM PLATES ARE REQUIRED ALONG THE LONGITUDINAL SEAMS. ALL CONNECTIONS FOR STRUCTURAL PLATE SECTIONS SHALL BE MADE WITH GALVANIZED ASTM A-449 BOLTS.
3. WHEN NORMAL CONSTRUCTION OR REGULAR ROADWAY TRAFFIC IS MAINTAINED OVER THE PIPE, THE CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF 3 FEET OF COMPACTED MATERIAL.
4. ALUMINUM PIPE THAT IS TO BE IN CONTACT WITH CONCRETE SHALL HAVE CONTACT SURFACES THOROUGHLY COATED WITH ZINC CHROMATE, BITUMINOUS OR ASPHALTIC PAINT.
5. PIPES SHALL BE FACTORY-ELONGATED, 5-PERCENT (PIPE ARCHES SHALL NOT BE ELONGATED).
6. THE ENDS OF THE PIPE SHALL BE CUT SQUARE (NOT BEVELED TO MATCH SLOPES).
7. AT THE OUTLET END, INCLUDE A 10-FOOT PIECE OF 6-INCH UNDERDRAIN EACH SIDE ON SAME GRADIENT AS CULVERT CONFORMING TO SECTION 711.01. COST TO BE INCLUDED IN UNIT PRICE BID FOR THE CULVERT PIPE.
8. DETAILS BELOW APPLY TO STRUCTURE NO. 10, 78-INCH-DIAMETER PIPE CULVERT.
9. IN ACCORDANCE WITH VERMONT AGENCY OF TRANSPORTATION SPECIFICATION 515.10, THE CONTRACTOR MUST FURNISH DETAILED PLANS OF HIS MATERIALS, CONSTRUCTION SCHEDULE AND INSTALLATION PROCEDURE FOR APPROVAL OF THE ENGINEER SUBJECT TO REVIEW BY THE CHIEF ENGINEER OF THE RAILROAD PRIOR TO ORDERING HIS MATERIALS.
10. BOLT HOLES NEAREST THE VISIBLE EDGE OF LONGITUDINAL LAPPED JOINTS (WHEN VIEWED FROM THE INSIDE OF THE PIPE) SHALL BE PLACED IN THE VALLEYS OF THE CORRUGATIONS.

ALL GRANULAR BORROW MATERIAL WITHIN 4' OF THE PIPE SHALL PASS A 3" SQUARE SCREEN OPENING.



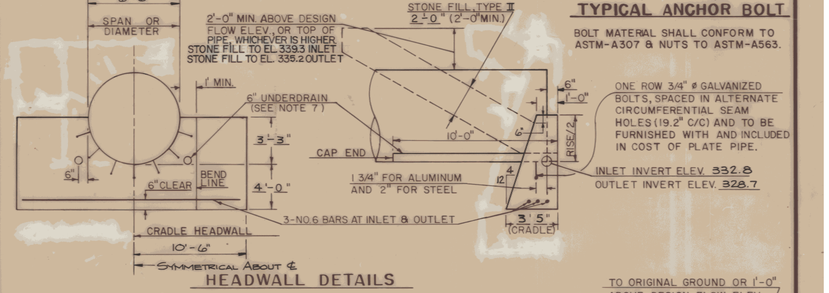
EXCAVATE POOR MATERIAL TO DEPTH SHOWN OR AS DIRECTED BY THE ENGINEER AND REPLACE WITH GRANULAR BACKFILL FOR STRUCTURES OR SAND BORROW. IF LEDGE OR OTHER UNYIELDING MATERIAL IS ENCOUNTERED IT SHALL BE REMOVED TO A DEPTH OF TWELVE (12) INCHES BELOW BOTTOM OF PIPE AND REPLACED WITH SUITABLE MATERIAL AS DIRECTED BY ENGINEER.

TYPICAL BACKFILL SECTION



TYPICAL ANCHOR BOLT

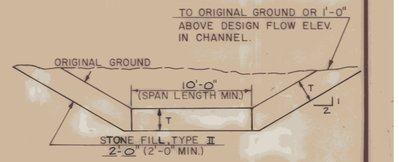
BOLT MATERIAL SHALL CONFORM TO ASTM-A307 & NUTS TO ASTM-A563.



HEADWALL DETAILS

REINFORCING STEEL SCHEDULE

NO. PIECES	SIZE	LENGTH	MARK	TYPE		
6	6	20'-6"	CH601	STR.		



TYPICAL CHANNEL SECTION

ESTIMATED QUANTITIES (STRUCTURE 10) * Denotes Roadway Item — AS BUILT 6/10/94

NO.	ITEM	UNIT	TOTAL	FINAL
203.27	UNCLASSIFIED CHANNEL EXCAVATION	C.Y.	100	116
203.30	EARTH BORROW *	C.Y.	20	—
203.32	GRANULAR BORROW *	C.Y.	1490	1774
204.25	STRUCTURE EXCAVATION	C.Y.	2010	3106
501.25	CONCRETE CLASS B	C.Y.	22	21.40
507.15	REINFORCING STEEL	LB.	190	189
	BEGIN OPTIONS			
511.15	78"Ø CORR. GALV. METAL PLATE PIPE (0.109")	EA.	1	
601.098	78"Ø CORR. STEEL PIPE (0.138")(3x1")	LF	425	425
601.098	78"Ø CORR. ALUM. ALLOY PIPE (0.135" X3x1")	LF	425	
	END OPTIONS			
613.11	STONE FILL TYPE II *	CY	190	119.800

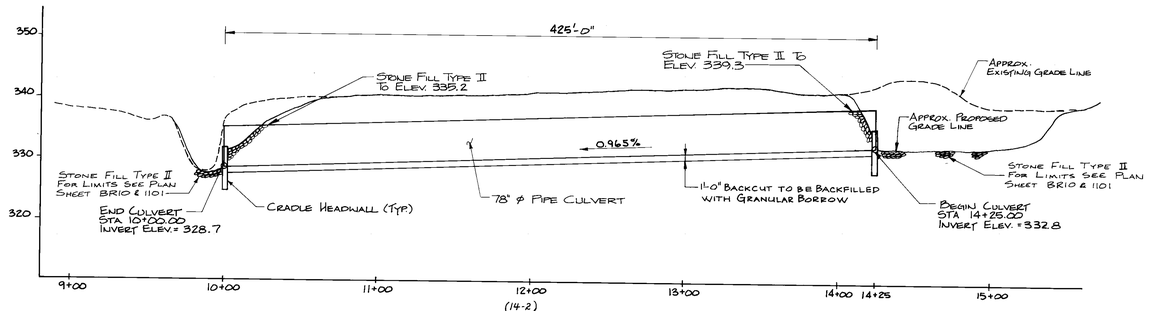
STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14-1 & 14-2
HIGHWAY NO.	Log Sta.
	Surv. Sta. CVRR 38+00

CVRR CULVERT & STEEL LINER PLATE PIPE
PLAN AND DETAILS

Designed by PJB	Drawn by BW
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON-COLCHESTER	PROJECT NO. PB 033-1 (2)
Bridge Sheet No. BR10 & 1101	Sheet 227 of 400

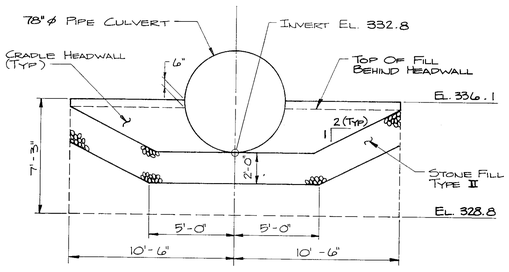
REV. 3/24/87



(14-2)

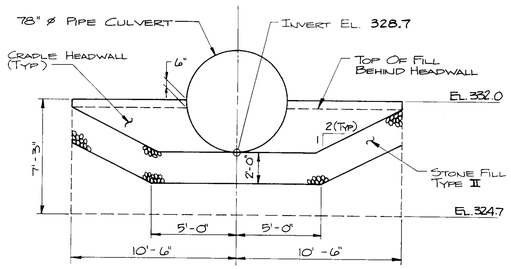
STRUCTURE NO. 10 - LONGITUDINAL SECTION

SCALE: HORIZ. 1" = 40'
VERT. 1" = 10'



INLET OF PIPE

1/4" = 1'-0"



OUTLET OF PIPE

1/4" = 1'-0"

SEE CHANGE ORDER NO.6

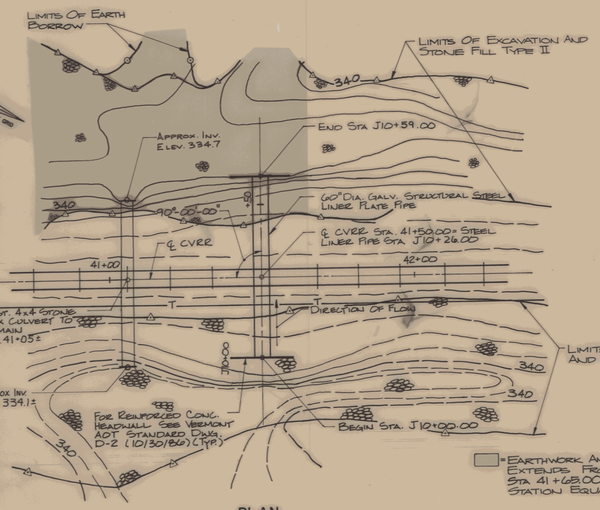
AS BUILT 6/10/94 R.C.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14-1 & 14-2
HIGHWAY NO.	Log Sta.
	Surv. Sta. CVRR 38+00
CVRR CULVERT & STEEL LINER PLATE PIPE	
STRUCTURE NO. 10 DETAILS (B.R. No. 14-2)	
Designed by PJB	Drawn by RF
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON - COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR 10 & 1102	Sheet 228 of 400

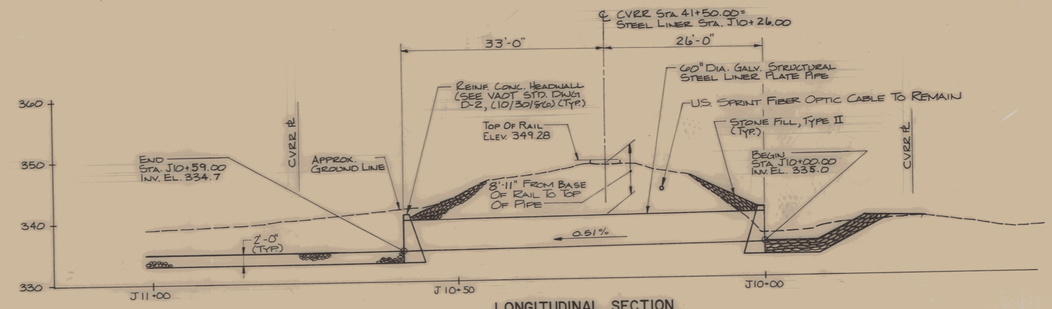
BRUNING 44-131 40151

BR-2



PLAN
GALV. STRUCTURAL STEEL LINER PLATE PIPE
1"=20'

▭ = EARTHWORK AND EXCAVATION LIMITS FOR STRUCTURE 11. (BR. No. 14-1) EXTENDS FROM CVRR STA. 40+30.00 TO CVRR STA. 41+68.00 (SEE SHEET BR10 # 1101 FOR CVRR STATION EQUALITY WITH CULVERT LINE STATIONING)



LONGITUDINAL SECTION
GALV. STRUCTURAL STL. LINER PLATE PIPE
1"=10'

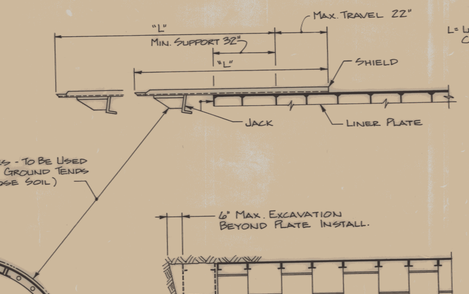
NOTES (STRUCT. No. 11) (BR. No. 14-1)

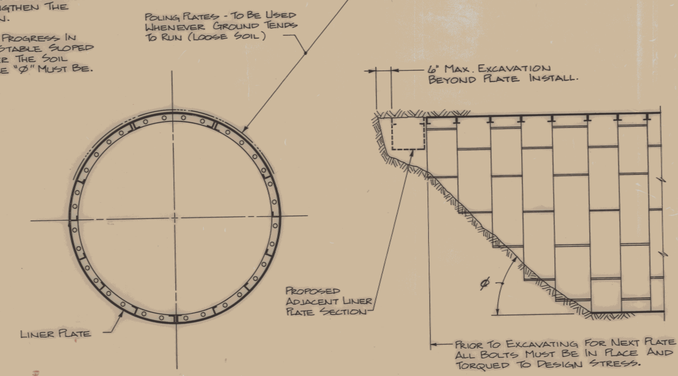
1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986, AND THE LATEST A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. 60" DIA. GALV. STRUCTURAL STEEL LINER PLATE PIPE TO BE:
   - A. 2 FLANGE
   - B. THICKNESS = 0.1046"
   - C. SECTION MOD.$_S$ = 0.0437 IN^3/IN
   - D. MOMENT OF INERTIA, I_S = 0.0491 IN^4/IN
3. INSTALLATION OF THE 60" DIA. GALV. STRUCTURAL STEEL LINER PLATE PIPE TO BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS, "GALVANIZED STRUCTURAL STEEL LINER PLATE PIPE," ITEM 515.10.
4. DESIGN LIVE LOADING IS FOR COOPER E 80 RAIL ROAD LOADING PLUS 50 PERCENT FOR IMPACT.
5. DESIGN UNIT WEIGHT OF SOIL IS TO BE 140 P.C.F.
6. INSTALLATION OF THE LINER PLATE PIPE IN AN OPEN CUT WILL NOT BE ALLOWED
7. DURING THE CONSTRUCTION OF THE HEADWALL THE CONTRACTOR WILL PROTECT THE CVRR PROPERTY FROM CONTRUCTION OPERATIONS WITH THE USE OF SHEET PILING OR OTHER ACCEPTABLE MEANS. THE COST OF PROTECTION TO BE INCLUDED IN THE UNIT PRICES BID FOR ITEM 515.10. THE CONTRACTOR SHALL SUBMIT DETAILS FOR APPROVAL. (SEE NOTE 9 DWG. BR10 # 1101)

UNDER TRACK PIPE NOTES:
1) THIS DETAIL SUPPLIED BY THE GRAND TRUNK-WESTERN - RAILROAD - OFFICE OF CHIEF ENGINEER, 1333 BREWERY PARK BLVD. DETROIT, MICHIGAN, 48207 - (SHT. GT-9A)

2) AS "Ø" FLATENS & LENGTH OF OVER-HANG LINER PL'S INCREASE, NEEDLE BEAM(S) RESTING IN UNDISTURBED GROUND WILL BE REQUIRED TO STRENGTHEN THE CANTILEVERED SECTION.

3) LINER PLATE SHALL PROGRESS IN STEPS TO MAINTAIN STABLE SLOPED HEADING. THE LOOSER THE SOIL THE FLATTER THE ANGLE "Ø" MUST BE.





UNDER TRACK PIPE INSTALLATION REQUIREMENTS — MULTI-PLATE
NTS

HYDRAULIC DATA (STR. NO. 11)

DRAINAGE AREA = 0.19 SQ. MI. DESIGN FLOW Q 100
Q_{10} = 42 C.F.S. Q_{10} HEADWATER ELEVATION = 338.4
Q_{25} = —— C.F.S. Q_{25} HEADWATER ELEVATION = ——
Q_{50} = —— C.F.S. Q_{50} HEADWATER ELEVATION = ——
Q_{100} = 110 C.F.S. Q_{100} HEADWATER ELEVATION = 340.7
TAILWATER DEPTH AT Q 100 = 2.99 FEET, ELEVATION 337.7
OUTLET VELOCITY AT Q 100 = 8.97 FEET PER SECOND
ORDINARY HIGHWATER DEPTH —— FEET
COMMENTS: ——

SEE CHANGE ORDER NO.8 ITEM 515.10A

ESTIMATED QUANTITIES (STRUCTURE 11) * Denotes Roadway Item AS BUILT 6/10/94 PC

NO.	ITEM	UNIT	TOTAL	FINAL
203.27	UNCLASSIFIED CHANNEL EXCAVATION	C.Y.	1350	
	FINAL PAID IN ROADWAY DS.537			1350
203.30	EARTH BORROW	C.Y.	30	
501.25	CONCRETE CLASS B	C.Y.	25	24.600
507.15	REINFORCING STEEL	L.B.	50	50
515.10A	GALV. STRUCTURAL STEEL LINER PLATE PIPE (60"-0.1046") (MOD.)	L.F.	59	59
* 613.11	STONE FILL TYPE II	C.Y.	520	
	FINAL PAID IN ROADWAY DS.537			920

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ESSEX	Bridge No. 14-1 & 14-2
HIGHWAY NO.	Log Sta.
	Surv. Sta. CVRR 38+00

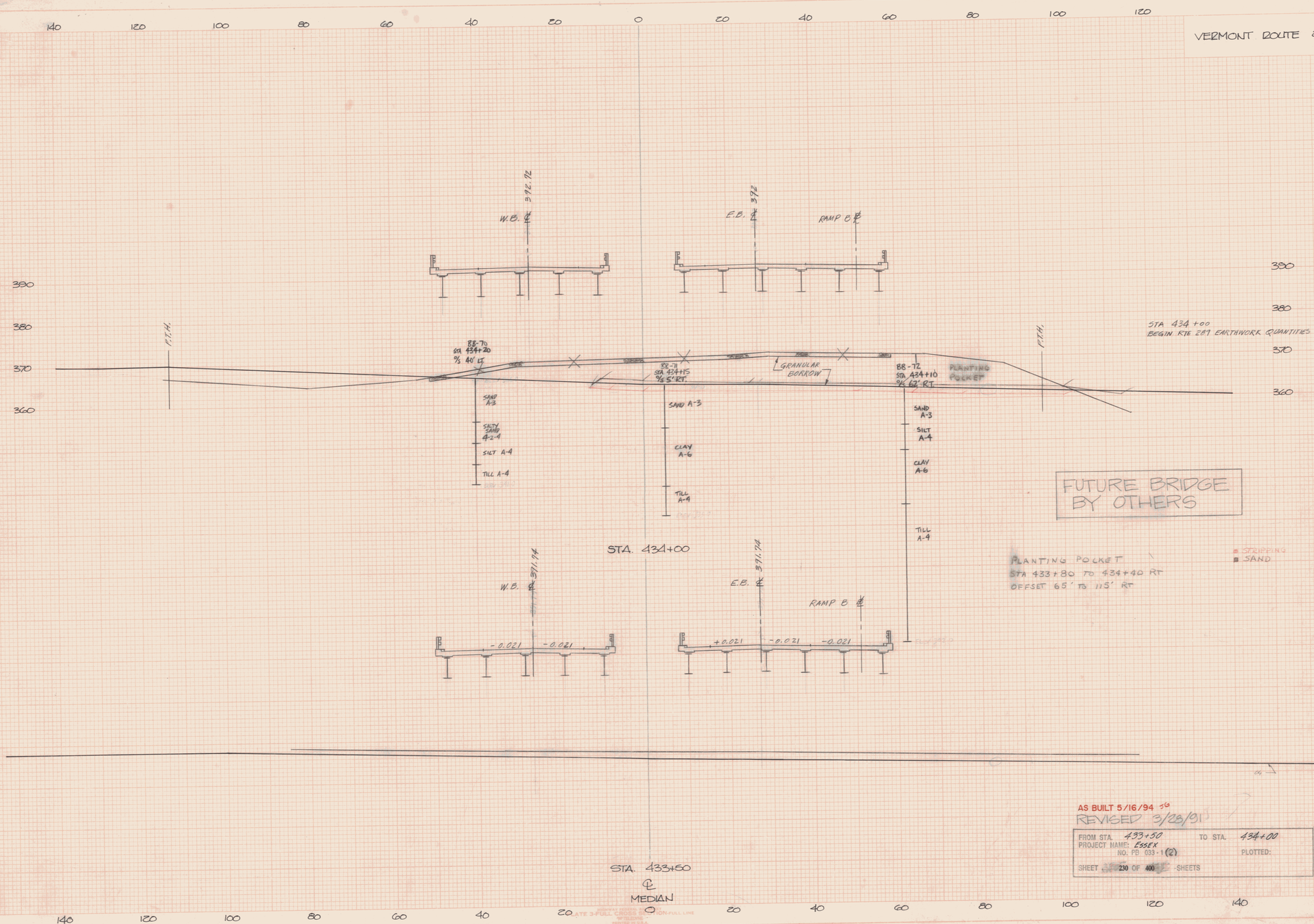
CVRR CULVERT AND STEEL LINER PLATE PIPE
STRUCTURE NO. 11 PLAN AND DETAILS (BR. No. 14-1)

Designed by PJB	Drawn by RMF
Checked by RJS date 10/12/90	Bridge Design Supervisor MWO date 10/12/90
PROJECT WILLISTON-COLCHESTER	PROJECT NO. PB 033-1(2)
Bridge Sheet No. BR10 & 1103	Sheet 229 of 400

BR-2

569 OF 1115

VERMONT ROUTE 289



STA 434+00
BEGIN RTE 289 EARTHWORK QUANTITIES

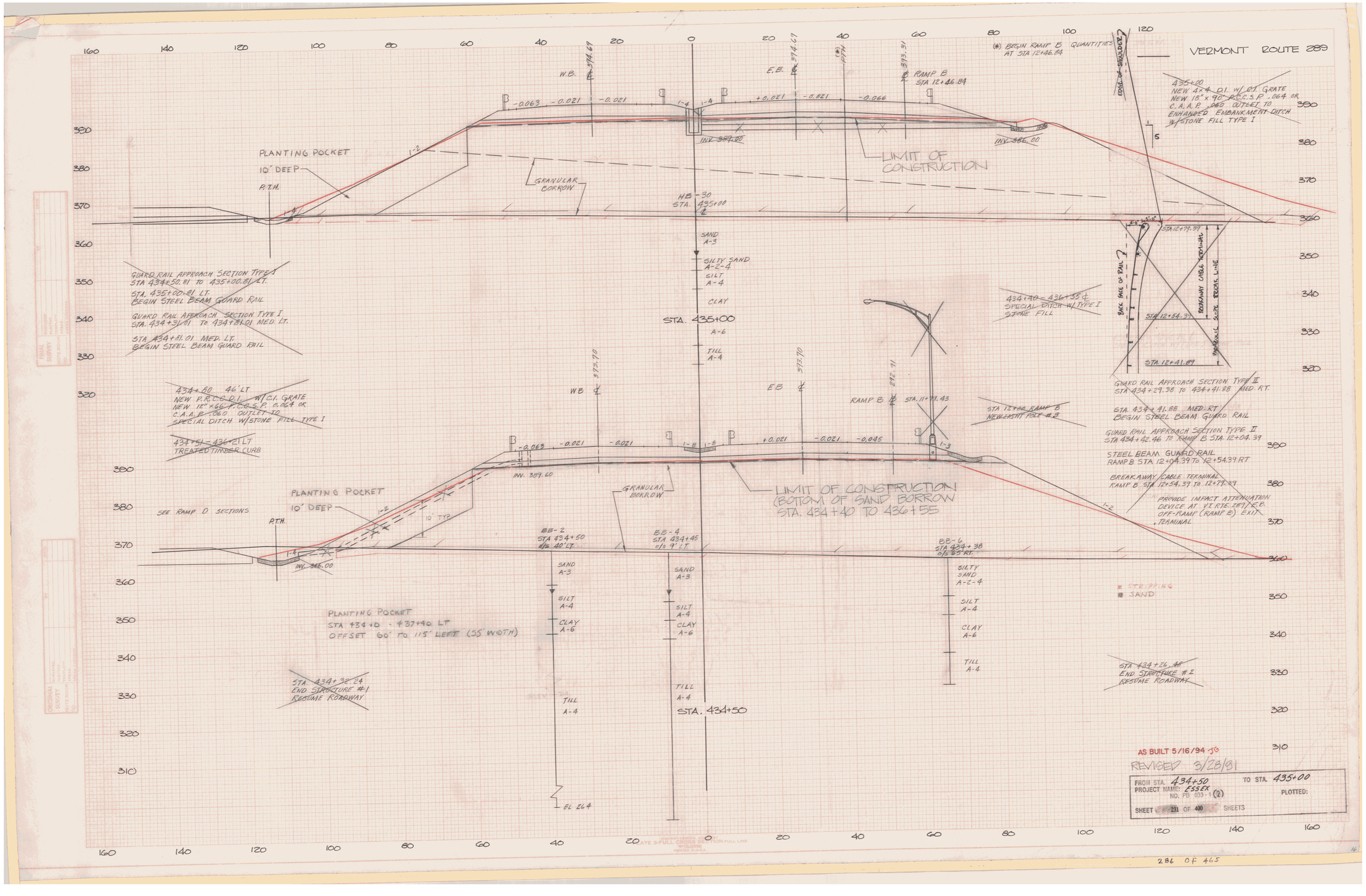
FUTURE BRIDGE BY OTHERS

PLANTING POCKET
STA 433+80 TO 434+40 RT
OFFSET 65' TO 115' RT

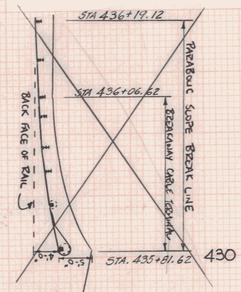
■ STRIPING
■ SAND

AS BUILT 5/16/94 SG
REVISED 3/28/91

FROM STA.	433+50	TO STA.	434+00
PROJECT NAME:	ESSEX		
NO.	FB 033-1 (2)	PLOTTED:	
SHEET	230 OF 400 SHEETS		


VERMONT ROUTE 289
(*) BEGIN RAMP B QUANTITIES AT STA 12+46.84
435+00
NEW 4x4 D.I. W/ C.I. GRATE
NEW 18" x 90' P.C.C.S.P. .064 OR
C.A.A.P. .060 OUTLET TO
ENHANCED EMBANKMENT DITCH
W/STONE FILL TYPE I
W.B.
E.B.
RAMP B
STA 12+46.84
INV. 389.00
INV. 386.00
PLANTING POCKET
10' DEEP
P.T.H.
GRANULAR BORROW
LIMIT OF CONSTRUCTION
HB-30
STA. 435+00
SAND
A-3
SILTY SAND
A-2-4
SILT
A-4
CLAY
STA. 435+00
A-6
TILL
A-4
GUARD RAIL APPROACH SECTION TYPE I
STA 434+50.81 TO 435+00.81 LT.
STA. 435+00.81 LT.
BEGIN STEEL BEAM GUARD RAIL
GUARD RAIL APPROACH SECTION TYPE I
STA. 434+31.01 TO 434+81.01 MED. LT.
STA 434+81.01 MED. LT.
BEGIN STEEL BEAM GUARD RAIL
434+80 46' LT
NEW P.R.C.C.D.I. W/C.I. GRATE
NEW 12" x 66' P.C.C.S.P. 0.064 OR
C.A.A.P. .060 OUTLET TO
SPECIAL DITCH W/STONE FILL TYPE I
434+51 - 436+21 LT
TREATED TIMBER CURB
434+40 - 436+55 ℄
SPECIAL DITCH W/ TYPE I
STONE FILL
STA 12+79.39
STA 12+54.39
STA 12+41.89
BACK FACE OF RAIL
BREAKAWAY CABLE TERMINAL
PARABOLIC SCOPE BREAK LINE
GUARD RAIL APPROACH SECTION TYPE II
STA 434+29.38 TO 434+41.88 MED. RT.
STA. 434+41.88 MED. RT
BEGIN STEEL BEAM GUARD RAIL
GUARD RAIL APPROACH SECTION TYPE II
STA 434+42.46 TO RAMP B STA. 12+04.39
STEEL BEAM GUARD RAIL
RAMP B STA 12+04.39 TO 12+54.39 RT
BREAKAWAY CABLE TERMINAL
RAMP B STA 12+54.39 TO 12+79.39
PROVIDE IMPACT ATTENUATION DEVICE AT VT RTE. 289/E.B. OFF-RAMP (RAMP B) EXIT TERMINAL
STA 12+00 RAMP B
NEW LIGHT POLE #3
WB
EB
RAMP B
STA. 11+79.43
INV. 389.60
GRANULAR BORROW
LIMIT OF CONSTRUCTION
(BOTTOM OF SAND BORROW
STA. 434+40 TO 436+55
SEE RAMP D SECTIONS
PLANTING POCKET
10' DEEP
P.T.H.
10' TYP.
INV. 386.00
BB-2
STA 434+50
o/s 40' LT.
BB-4
STA 434+45
o/s 9' LT.
BB-6
STA 434+38
o/s 65' RT.
SAND
A-3
SILT
A-4
CLAY
A-6
TILL
A-4
SILTY SAND
A-2-4
STA. 434+50
EL 264
PLANTING POCKET
STA 434+0 - 437+40 LT
OFFSET 60' TO 115' LEFT (55' WIDTH)
STA. 434+32.24
END STRUCTURE #1
RESUME ROADWAY
STA 434+26.48
END STRUCTURE #2
RESUME ROADWAY
STRIPPING
SAND
AS BUILT 5/16/94 JG
REVISED 3/28/91
FROM STA. 434+50
TO STA. 435+00
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED:
SHEET 231 OF 400 SHEETS
286 OF 465

VERMONT ROUTE 289



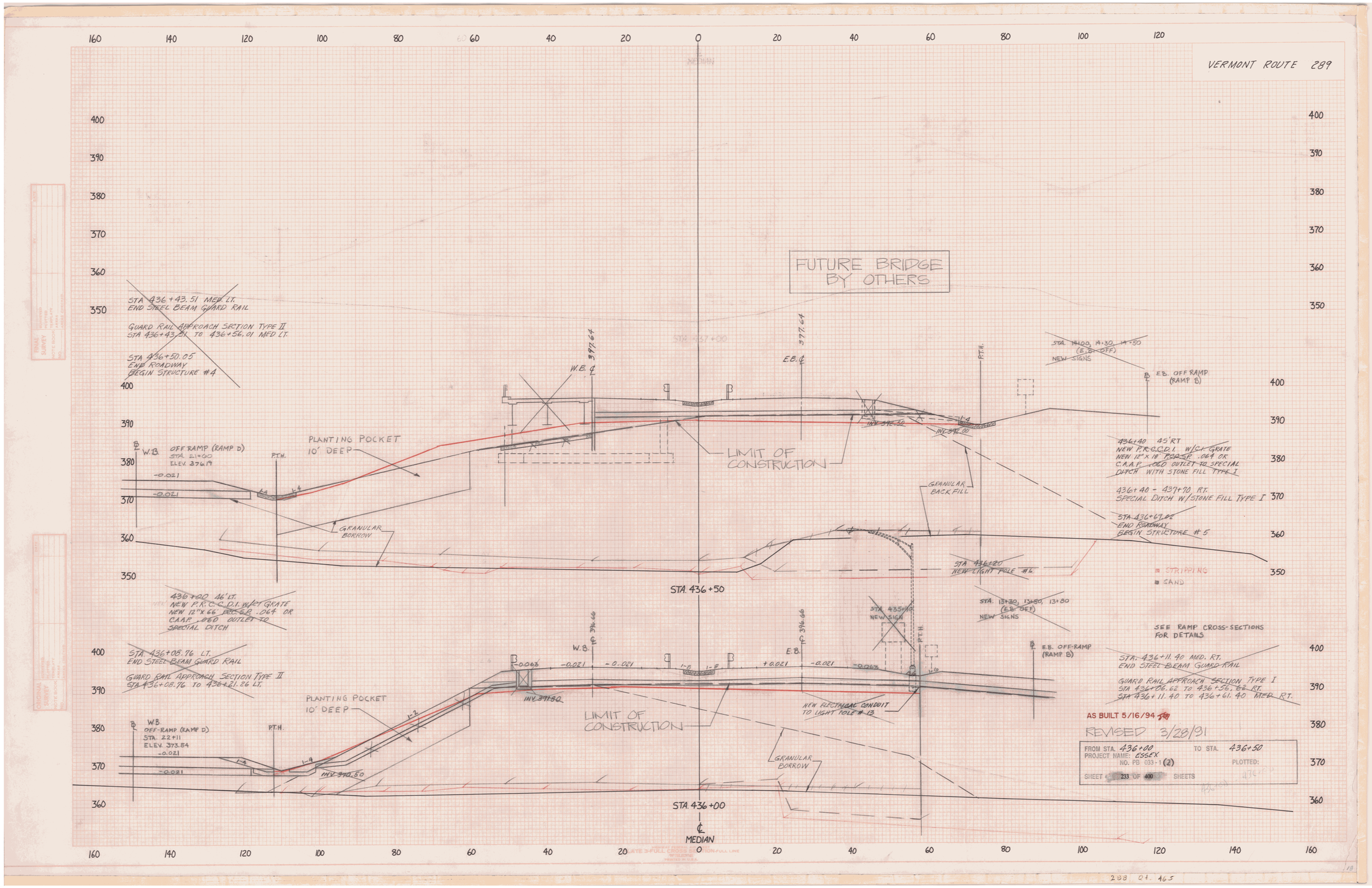
~~BREAK AWAY CABLE TERMINAL~~
~~STA 435+06.62 TO 436+06. 62 RT~~

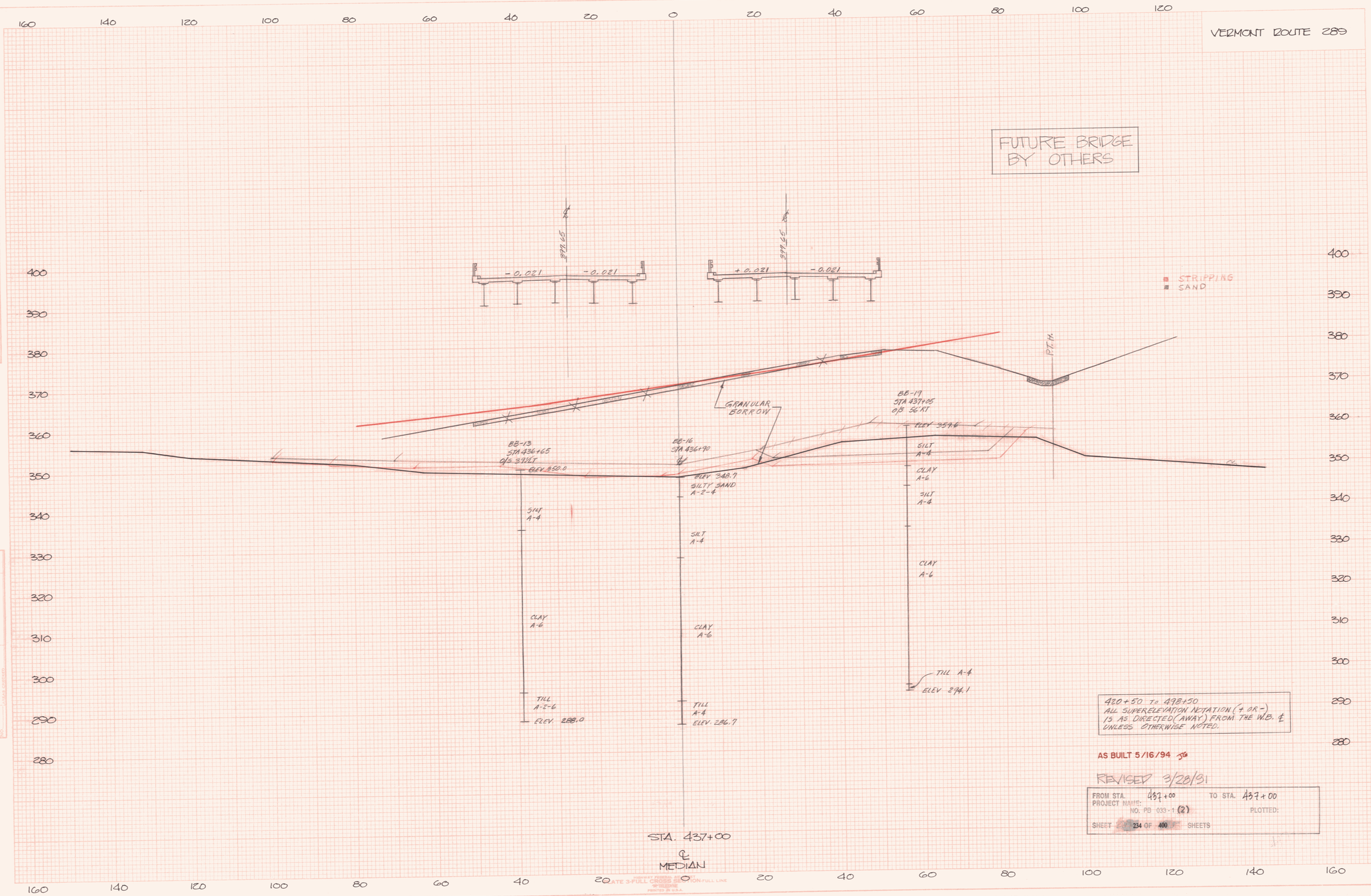
■ STRIPPING
● SAND

AS BUILT 5/16/94 JB
REVISED 3/28/91

FROM STA. 435+50	TO STA. 435+50
PROJECT NAME: 255EX	
NO. PB 033-1 (2)	PLOTTED:
SHEET 232 OF 400 SHEETS	

287 OF 465


VERMONT ROUTE 289
FUTURE BRIDGE BY OTHERS
STA 436+43.51 MED. LT.
END STEEL BEAM GUARD RAIL
GUARD RAIL APPROACH SECTION TYPE II
STA 436+43.51 TO 436+56.01 MED LT.
STA 436+50.05
END ROADWAY
BEGIN STRUCTURE #4
W.B. OFF RAMP (RAMP D)
STA. 21+60
ELEV. 376.19
PLANTING POCKET
10' DEEP
GRANULAR BORROW
W.B. ℄
E.B. ℄
LIMIT OF CONSTRUCTION
GRANULAR BACK FILL
STA. 14+00, 14+30, 14+50
(E.B. OFF)
NEW SIGNS
E.B. OFF RAMP (RAMP B)
436+40 45' RT
NEW P.R.C.C.D.I. W/C.I. GRATE
NEW 12" x 18' P.C.S.P. .064 OR
C.A.A.P. .060 OUTLET TO SPECIAL
DITCH WITH STONE FILL TYPE I
436+40 - 437+70 RT.
SPECIAL DITCH W/STONE FILL TYPE I
STA 436+69.02
END ROADWAY
BEGIN STRUCTURE #5
STA 436+20
NEW LIGHT POLE #6
STA. 436+50
STRIPPING
SAND
436+00 46' LT.
NEW P.R.C.C.D.I. W/C.I. GRATE
NEW 12" x 66' P.C.S.P. .064 OR
C.A.A.P. .060 OUTLET TO
SPECIAL DITCH
STA. 436+08.76 LT.
END STEEL BEAM GUARD RAIL
GUARD RAIL APPROACH SECTION TYPE II
STA 436+08.76 TO 436+21.26 LT.
STA. 435+70
NEW SIGN
STA. 13+30, 13+50, 13+80
(E.B. OFF)
NEW SIGNS
SEE RAMP CROSS-SECTIONS FOR DETAILS
STA. 436+11.40 MED. RT.
END STEEL BEAM GUARD RAIL
GUARD RAIL APPROACH SECTION TYPE I
STA 436+06.62 TO 436+56.62 RT.
STA 436+11.40 TO 436+61.40 MED. RT.
W.B. OFF-RAMP (RAMP D)
STA. 22+11
ELEV. 373.54
PLANTING POCKET
10' DEEP
INV. 391.80
INV. 390.50
LIMIT OF CONSTRUCTION
NEW ELECTRICAL CONDUIT TO LIGHT POLE # 13
GRANULAR BORROW
STA. 436+00
MEDIAN
AS BUILT 5/16/94
REVISED 3/28/91
FROM STA. 436+00 TO STA. 436+50
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED:
SHEET 233 OF 400 SHEETS
288 04.465

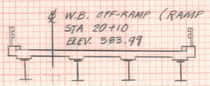

VERMONT ROUTE 289
FUTURE BRIDGE BY OTHERS
STRIPPING
SAND
-0.021
-0.021
+0.021
-0.021
399.65
399.65
P.T.H.
GRANULAR BORROW
BB-13
STA 436+65
O/S 39½'LT
ELEV 350.0
SILT
A-4
CLAY
A-6
TILL
A-2-6
ELEV. 288.0
BB-16
STA 436+90
ELEV 348.7
SILTY SAND
A-2-4
SILT
A-4
CLAY
A-6
TILL
A-4
ELEV. 286.7
BB-19
STA 437+05
O/S 56'RT
ELEV 359.6
SILT
A-4
CLAY
A-6
SILT
A-4
CLAY
A-6
TILL A-4
ELEV 294.1
STA. 437+00
℄ MEDIAN
420+50 TO 498+50
ALL SUPERELEVATION NOTATION (+ OR -)
IS AS DIRECTED (AWAY) FROM THE W.B. ℄
UNLESS OTHERWISE NOTED.
AS BUILT 5/16/94
REVISED 3/28/91
FROM STA. 437+00 TO STA. 437+00
PROJECT NAME:
NO. PB 033-1 (2)
PLOTTED:
SHEET 234 OF 400 SHEETS

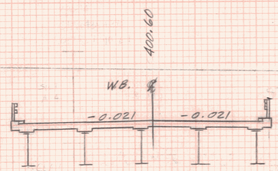
289 of 465

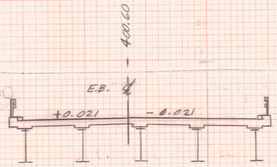
VERMONT ROUTE 289

160 140 120 100 80 60 40 20 0 20 40 60 80 100 120

390
380
370
360
350
340

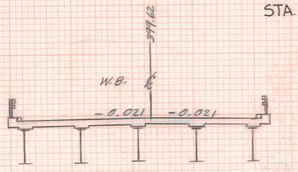


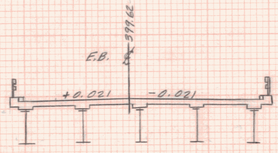


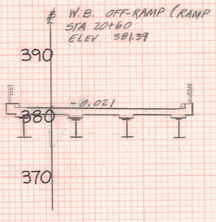


FUTURE MAINLINE
BRIDGE BY OTHERS

STA. 438+00







GRANULAR BORROW

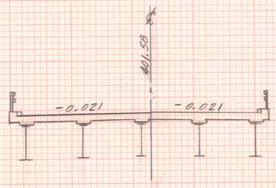
STA. 437+50
℄
MEDIAN

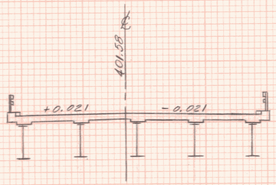
AS BUILT 5/16/94 JG
REVISED 3/28/91

FROM STA. 437+50 TO STA. 438+00
PROJECT NAME ESSEX
NO. PB 033 + (2) PLOTTED:
SHEET 235 OF 400 SHEETS

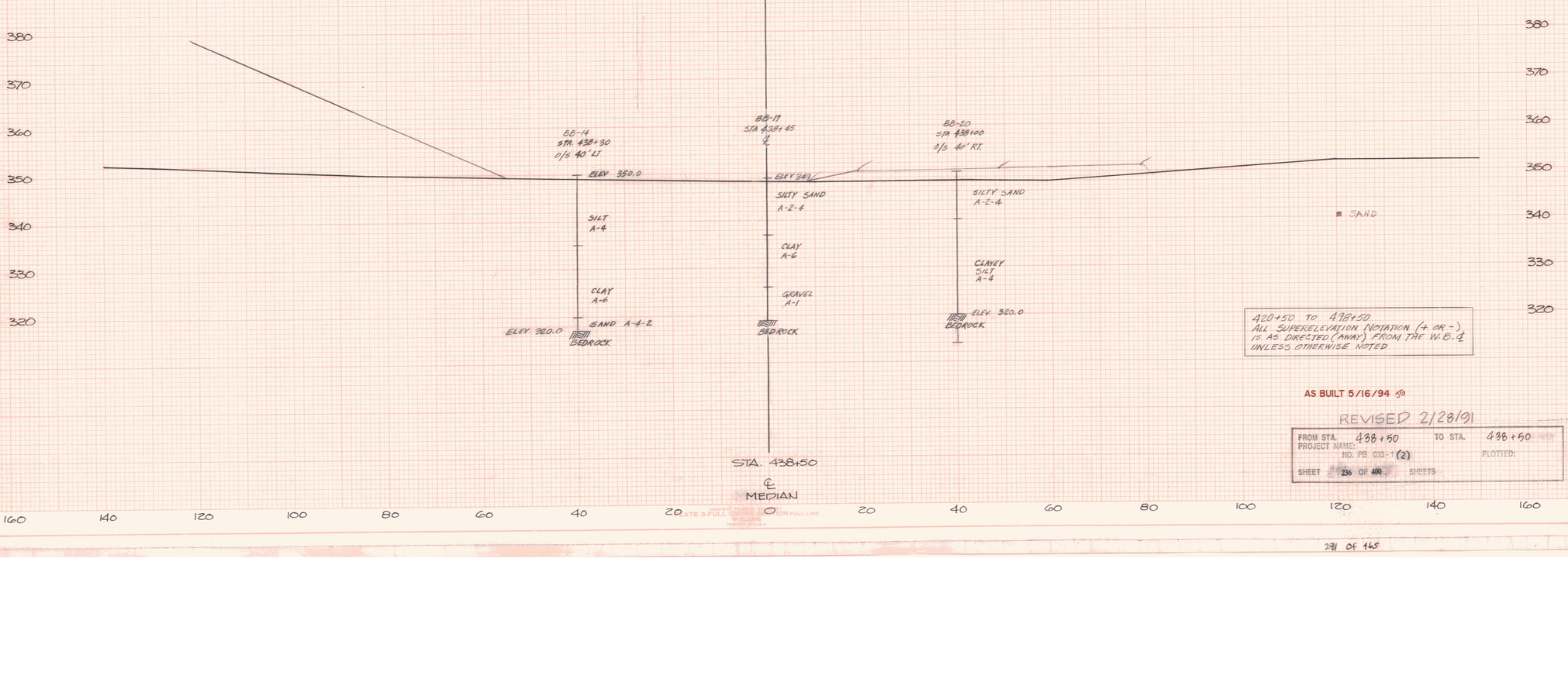
270 of 985

VERMONT ROUTE 289





BRIDGEWORK
NOT TO BE BUILT
UNDER THIS CONTRACT

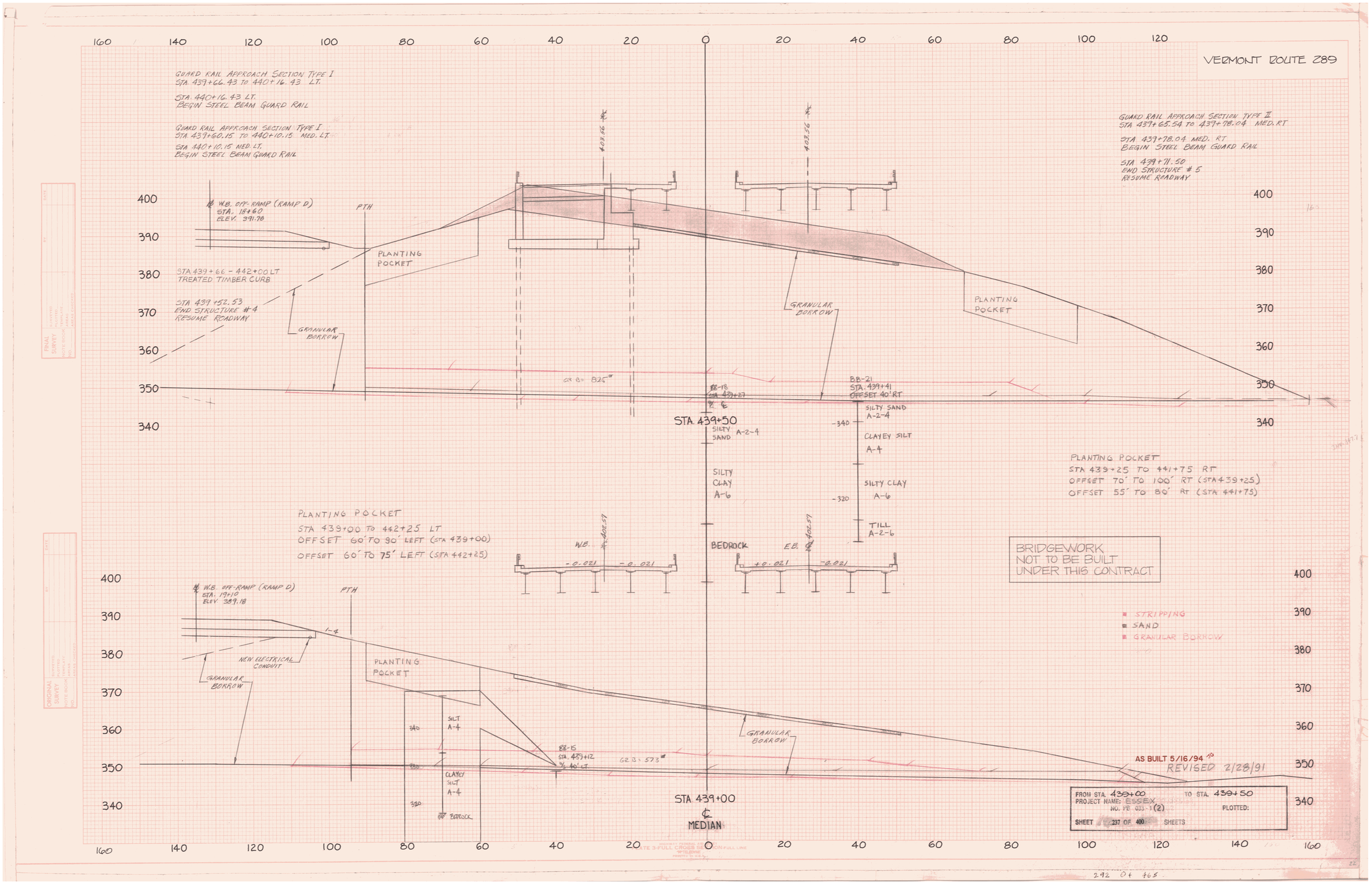


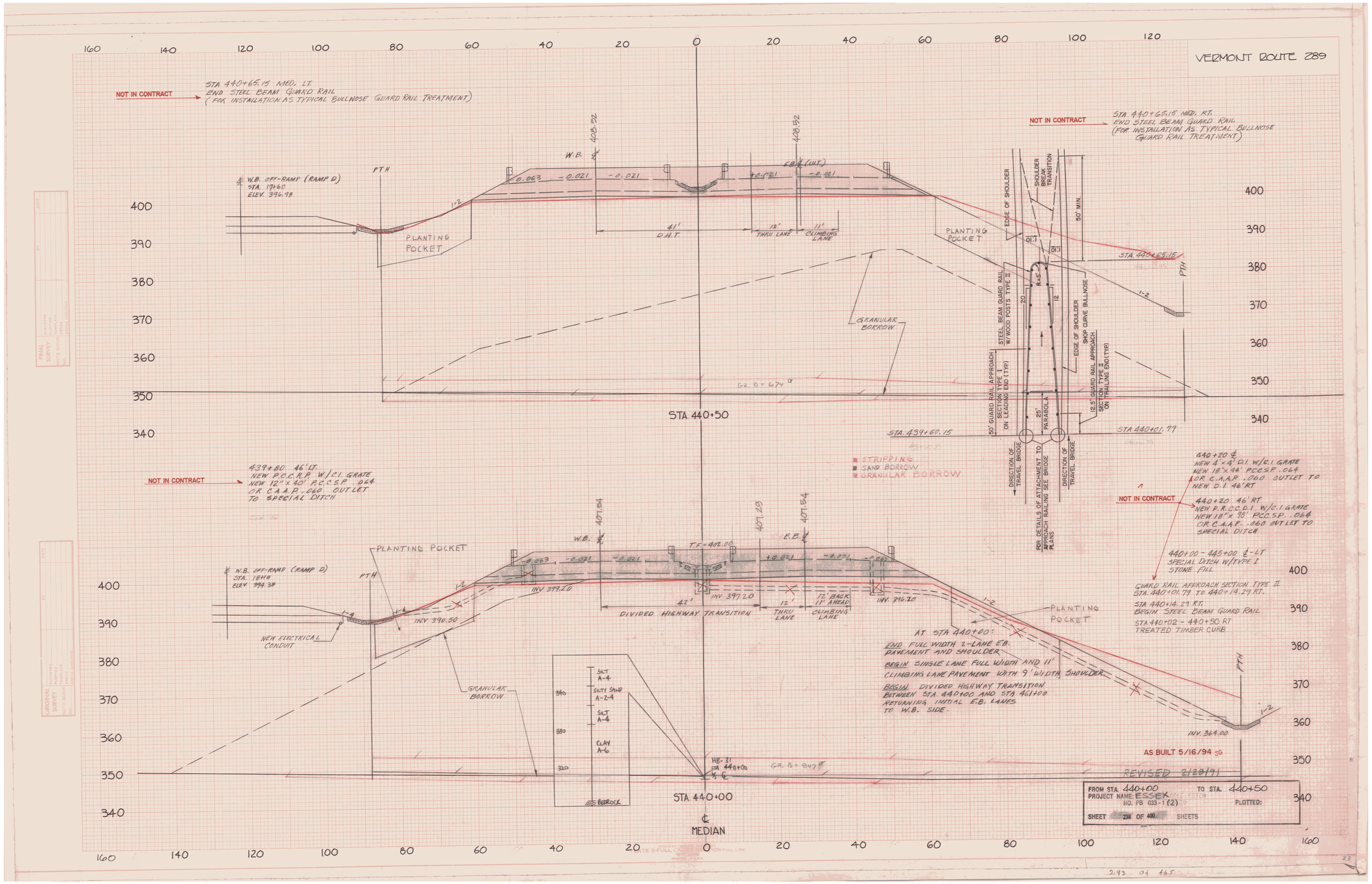
420+50 TO 438+50
ALL SUPERELEVATION NOTATION (+ OR -)
IS AS DIRECTED (AWAY) FROM THE W.B. ℄
UNLESS OTHERWISE NOTED

AS BUILT 5/16/94 JB

REVISED 2/28/91

FROM STA. 438+50 TO STA. 438+50
PROJECT NAME:
NO. PB 033-1 (2) PLOTTED:
SHEET 236 OF 400 SHEETS


VERMONT ROUTE 289
GUARD RAIL APPROACH SECTION TYPE I
STA. 439+66.43 TO 440+16.43 LT.
STA. 440+16.43 LT.
BEGIN STEEL BEAM GUARD RAIL
GUARD RAIL APPROACH SECTION TYPE I
STA. 439+60.15 TO 440+10.15 MED. LT.
STA. 440+10.15 MED. LT.
BEGIN STEEL BEAM GUARD RAIL
GUARD RAIL APPROACH SECTION TYPE II
STA. 439+65.54 TO 439+78.04 MED. RT
STA. 439+78.04 MED. RT
BEGIN STEEL BEAM GUARD RAIL
STA. 439+71.50
END STRUCTURE # 5
RESUME ROADWAY
W.B. OFF-RAMP (RAMP D)
STA. 18+60
ELEV. 391.78
PTH
PLANTING POCKET
STA 439+66 - 442+00 LT
TREATED TIMBER CURB
STA 439+52.53
END STRUCTURE #4
RESUME ROADWAY
GRANULAR BORROW
GRANULAR BORROW
PLANTING POCKET
BB-21
STA. 439+41
OFFSET 40' RT
STA. 439+50
SILTY SAND A-2-4
CLAYEY SILT A-4
SILTY CLAY A-6
TILL A-2-6
BEDROCK
PLANTING POCKET
STA 439+25 TO 441+75 RT
OFFSET 70' TO 100' RT (STA 439+25)
OFFSET 55' TO 80' RT (STA 441+75)
PLANTING POCKET
STA 439+00 TO 442+25 LT
OFFSET 60' TO 90' LEFT (STA 439+00)
OFFSET 60' TO 75' LEFT (STA 442+25)
W.B.
E.B.
BRIDGEWORK
NOT TO BE BUILT
UNDER THIS CONTRACT
STRIPPING
SAND
GRANULAR BORROW
W.B. OFF-RAMP (RAMP D)
STA. 19+10
ELEV. 389.18
NEW ELECTRICAL CONDUIT
GRANULAR BORROW
PLANTING POCKET
SILT A-4
CLAYEY SILT A-4
BEDROCK
GRANULAR BORROW
STA 439+00
℄
MEDIAN
AS BUILT 5/16/94
REVISED 2/28/91
FROM STA. 439+00 TO STA. 439+50
PROJECT NAME: ESSEX
NO. PB 033-1(2)
PLOTTED:
SHEET 237 OF 400 SHEETS


VERMONT ROUTE 289
NOT IN CONTRACT
STA 440+65.15 MED. LT.
END STEEL BEAM GUARD RAIL
(FOR INSTALLATION AS TYPICAL BULLNOSE GUARD RAIL TREATMENT)
NOT IN CONTRACT
STA 440+65.15 MED. RT.
END STEEL BEAM GUARD RAIL
(FOR INSTALLATION AS TYPICAL BULLNOSE GUARD RAIL TREATMENT)
W.B. OFF-RAMP (RAMP D)
STA. 17+60
ELEV. 396.98
PTH
PLANTING POCKET
W.B.
E.B. (ULT.)
41' D.H.T.
12' THRU LANE
11' CLIMBING LANE
GRANULAR BORROW
STA. 440+65.15
STA. 439+60.15
STA 440+01.79
STA 440+50
STRIPPING
SAND BORROW
GRANULAR BORROW
NOT IN CONTRACT
439+80 46' LT.
NEW P.C.C.R.P. W/C.I. GRATE
NEW 12" x 40' P.C.C.S.P. .064
OR C.A.A.P. .060 OUTLET
TO SPECIAL DITCH
NOT IN CONTRACT
440+20 ℄
NEW 4'x4' D.I. W/C.I. GRATE
NEW 18"x 44' P.C.C.S.P. .064
OR C.A.A.P. .060 OUTLET TO
NEW D.I. 46' RT
NOT IN CONTRACT
440+20 46' RT
NEW P.R.C.C.D.I. W/C.I. GRATE
NEW 18"x 98' P.C.C.S.P. .064
OR C.A.A.P. .060 OUTLET TO
SPECIAL DITCH
440+00 - 445+00 ℄-LT
SPECIAL DITCH W/TYPE I
STONE FILL
GUARD RAIL APPROACH SECTION TYPE II
STA. 440+01.79 TO 440+14.29 RT.
STA 440+14.29 RT.
BEGIN STEEL BEAM GUARD RAIL
STA 440+02 - 440+50 RT
TREATED TIMBER CURB
W.B. OFF-RAMP (RAMP D)
STA. 18+10
ELEV. 394.38
PLANTING POCKET
NEW ELECTRICAL CONDUIT
GRANULAR BORROW
INV 390.50
INV 399.20
INV 397.20
INV. 396.20
INV. 364.00
T.F.=402.00
42'
DIVIDED HIGHWAY TRANSITION
12' THRU LANE
12' BACK 11' AHEAD
CLIMBING LANE
PLANTING POCKET
AT STA 440+00:
END FULL WIDTH 2-LANE E.B. PAVEMENT AND SHOULDER
BEGIN SINGLE LANE FULL WIDTH AND 11' CLIMBING LANE PAVEMENT WITH 9' WIDTH SHOULDER
BEGIN DIVIDED HIGHWAY TRANSITION BETWEEN STA. 440+00 AND STA 461+00 RETURNING INITIAL E.B. LANES TO W.B. SIDE.
SILT A-4
SILTY SAND A-2-4
SILT A-4
CLAY A-6
BEDROCK
HB-31
STA 440+00
STA 440+00
℄ MEDIAN
AS BUILT 5/16/94
REVISED 2/28/91
FROM STA. 440+00 TO STA. 440+50
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED:
SHEET 238 OF 400 SHEETS
293 of 465

VERMONT ROUTE 289

NOT IN CONTRACT

STA. 441+51.79 RT.
END STEEL BEAM GUARD RAIL

BREAKAWAY CABLE TERMINAL
STA. 441+51.79 TO 441+76.79 RT.

SEE E.B. ON RAMP CROSS-SECTIONS FOR DETAILS (RAMP A)

℄ W.B. OFF-RAMP (RAMP D)
STA. 16+60
ELEV. 402.11

W.B. ℄ 410.50

E.B. ℄ (ULT.) 410.50

P.T.H.

-0.026
-0.026
1-4
PLANTING POCKET
-0.063
-0.016
-0.021
-0.076
-0.021
STA. 441+50
+0.017
-0.021
-0.021
39' D.H.T.
12' THRU LANE
11' CLIMBING LANE
1-4
PLANTING POCKET
P.T.H.

EDGE OF SHOULDER
6
STA 441+76.79 RT.
BACK FACE OF RAIL
STA 441+51.79
BREAKAWAY CABLE TERMINAL
PARABOLIC SLOPE BREAK LINE
STA. 441+39.29

410 400 390 380 370 360 350 340

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

440+80 46' LT.
NEW P.R.C.C.D.I. W/C.I. GRATE
NEW 12"X 36' ACC.S.P. .064 OR C.A.A.P. OUTLET TO SPECIAL DITCH

NOT IN CONTRACT

NOT IN CONTRACT

441+20 46' RT
NEW P.R.C.C. D.I. W/C.I. GRATE
NEW 12" X 60' P.C.C.S.P. .064 OR C.A.A.P. .060 OUTLET TO SPECIAL DITCH

SAND BORROW

W.B. ℄ 409.51

E.B. (U.T.) 409.51

℄ W.B. OFF-RAMP (RAMP D)
STA. 17+10
ELEV. 399.68
+0.003
+0.003
NEW ELECTRICAL CONDUIT
1-4
INV. 395.80
PLANTING POCKET
P.T.H.
+0.063
-0.02
-0.021
VARY
VARY
+0.021
-0.021
INV. 401.00
STA. 441+00
40' DIVIDED HIGHWAY TRANSITION
12' THRU LANE
11' CLIMBING LANE
INV. 401.80
PLANTING POCKET
1-3
INV. 387.50
P.T.H.

RAMP D SUPERELEVATION NOTATION (+ OR -) IS AS DIRECTED (AWAY) FROM THE W.B. ℄ RTE. 289

GRANULAR BORROW

AS BUILT 5/16/94

REVISED 2/28/91

FROM STA. 441+00 TO STA. 441+50
PROJECT NAME: ESSEX
NO. PB 033-1(2) PLOTTED:
SHEET 239 OF 400 SHEETS

MEDIAN

410 400 390 380 370 360 350 340

160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

FINAL SURVEY

ORIGINAL SURVEY

2-94-01 465

VERMONT ROUTE 289

END TWO LANE (24') W.B. PAVEMENT. BEGIN TRANSITION TO SINGLE LANE STA 443+00

EDGE OF SHOULDER

STA. 443+91.43 LT

PARABOLIC SLOPE BREAK LINE

ROADWAY CURB REQUIRED

STA. 443+66.43

STA. 443+53.93

BACK FACE OF RAIL

W.B. OFF-RAMP (RAMP D)
STA. 15+09
ELEV. 408.61

P.T.H.

W.B. ℄ 409.95

E.B. ℄ (ULT.)

27'

36' D.H.T.

-0.021 ⅟ₜ

+0.021 ⅟ₜ

LEVEL

STA. 443+00

E.B. (TRANSITION) GRADE ELEVATION MOVES FROM ULT. ℄ TO LEFT EDGE OF PAVEMENT AT STA 442+70 (AS PAVEMENT SURFACE IS LEVEL)

W.B. OFF-RAMP (RAMP D)
STA. 15+59
ELEV. 409.65

W.B. ℄ 409.21

409.71

E.B. ℄ (ULT.)

37' D.H.T.

STA. 442+25 AHEAD E.B. BEGIN FULL 16' SAND BORROW AND 30' SUB-BASE

STA. 442+50

STA. 441+85
NEW SIGN

■ SAND BORROW

W.B. OFF-RAMP (RAMP D)
STA 16+09
℄ ELEV. 404.51

411.48

NEW ELECTRICAL CONDUIT

PLANTING POCKET

38' DIVIDED HIGHWAY TRANSITION

12' LANE

11' CLIMBING LANE

STA. 442+00
℄
MEDIAN

NOTE: SUBBASE LOCATION AND GRADE (AS NOTED) IS SHOWN TO SATISFY MINIMUM STANDARD REQUIREMENTS FOR BOTH INITIAL AND ULTIMATE (STAGE) PAVEMENT LOCATION. ANY DEVIATIONS FROM THIS DATA MUST ALSO SATISFY THOSE REQUIREMENTS.

420+50 TO 498+50
ALL SUPERELEVATION NOTATION (+ OR -) IS AS DIRECTED (AWAY) FROM THE W.B. ℄ UNLESS OTHERWISE NOTED

AS BUILT 5/16/94 SD

REVISED 2/28/91

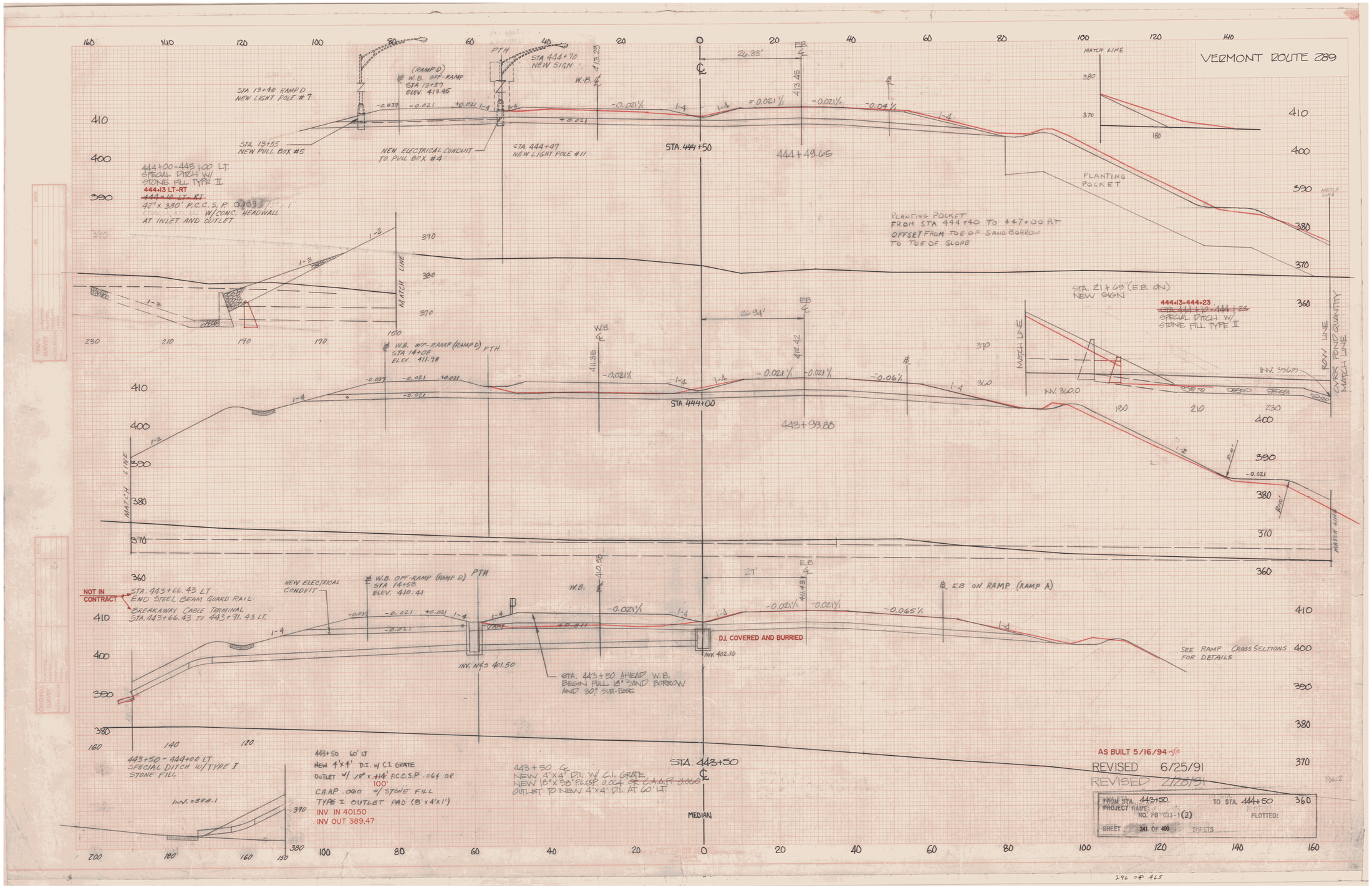
FROM STA. 442+00 TO STA. 443+00
PROJECT NAME: ESSEX
NO. PB 033-1(2) PLOTTED:
SHEET 240 OF 400 SHEETS

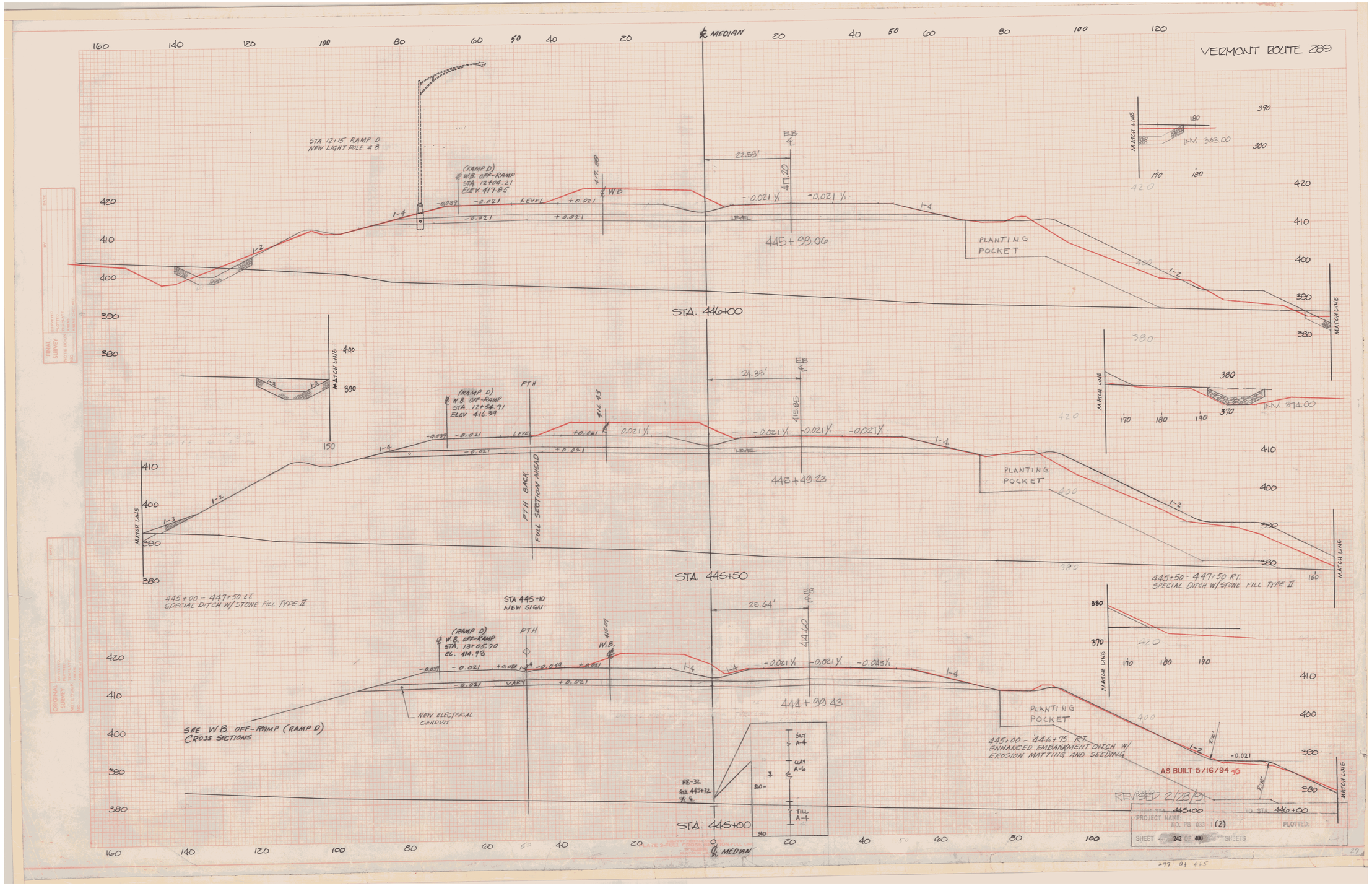
FINAL SURVEY — SURVEYED, PLOTTED, PLOTTED BY, PLOTTING CHECKED, CHECKED

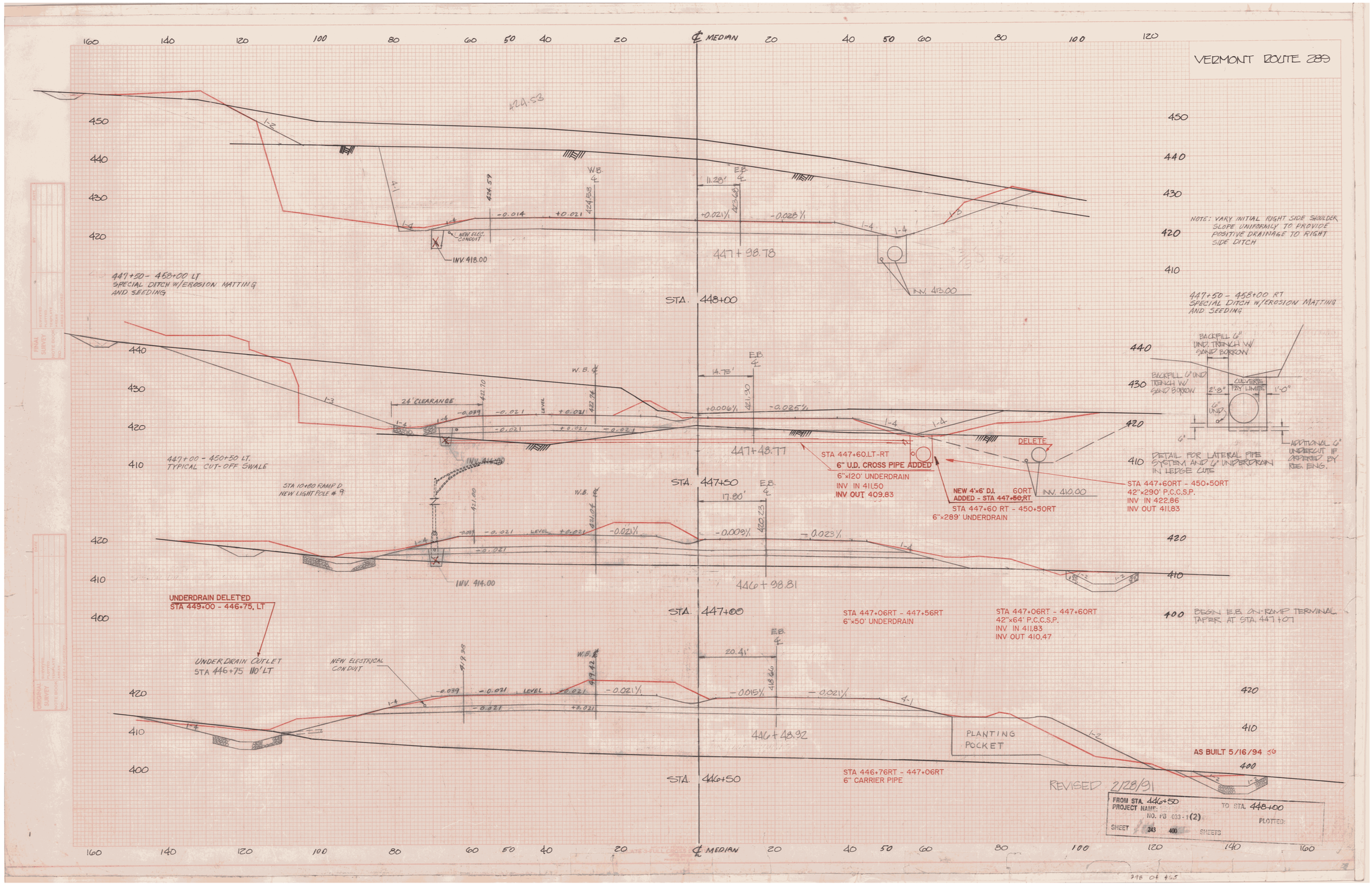
ORIGINAL SURVEY — SURVEYED, PLOTTED, PLOTTED BY, PLOTTING CHECKED, CHECKED

25

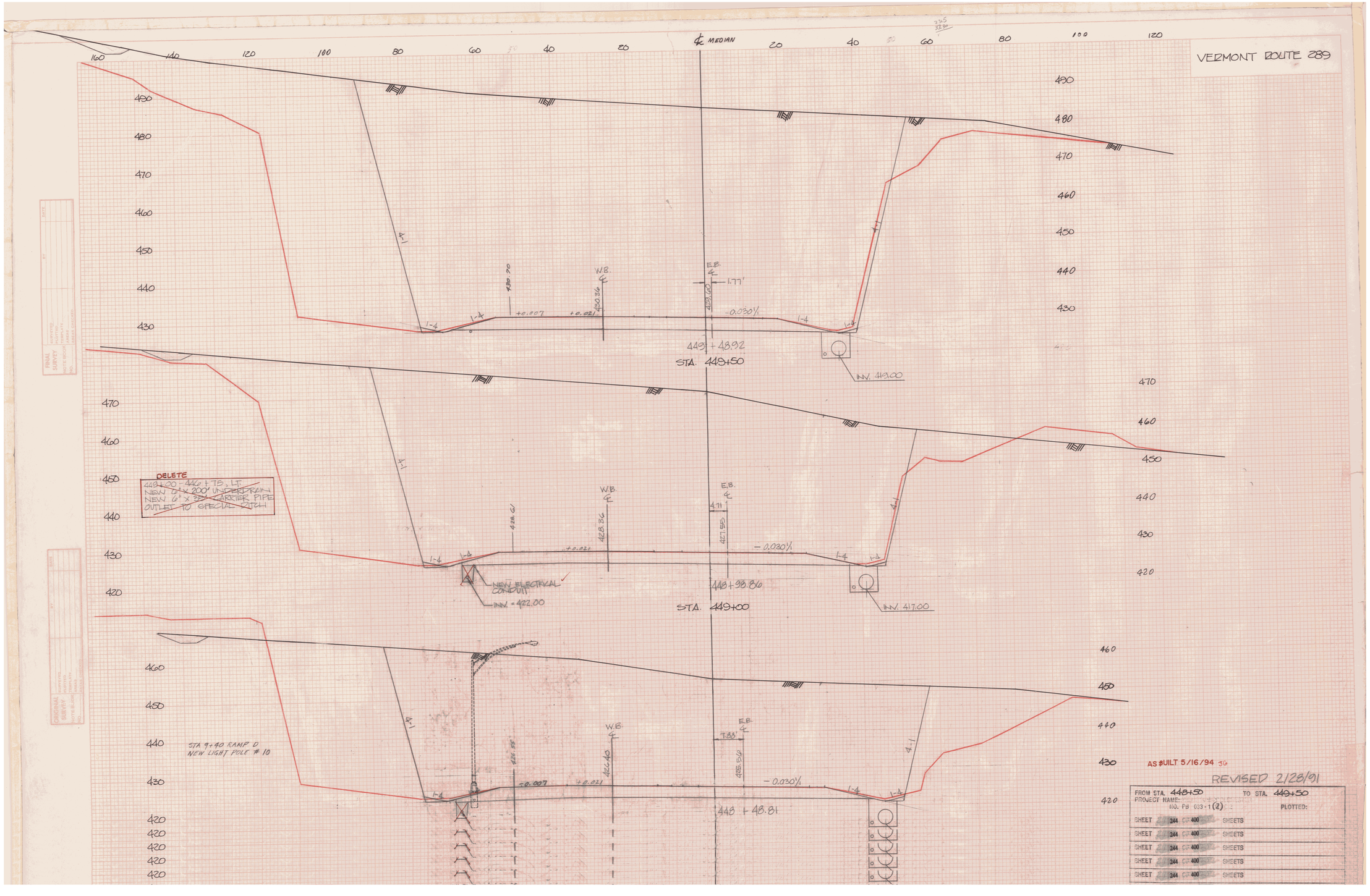
295 OF 415

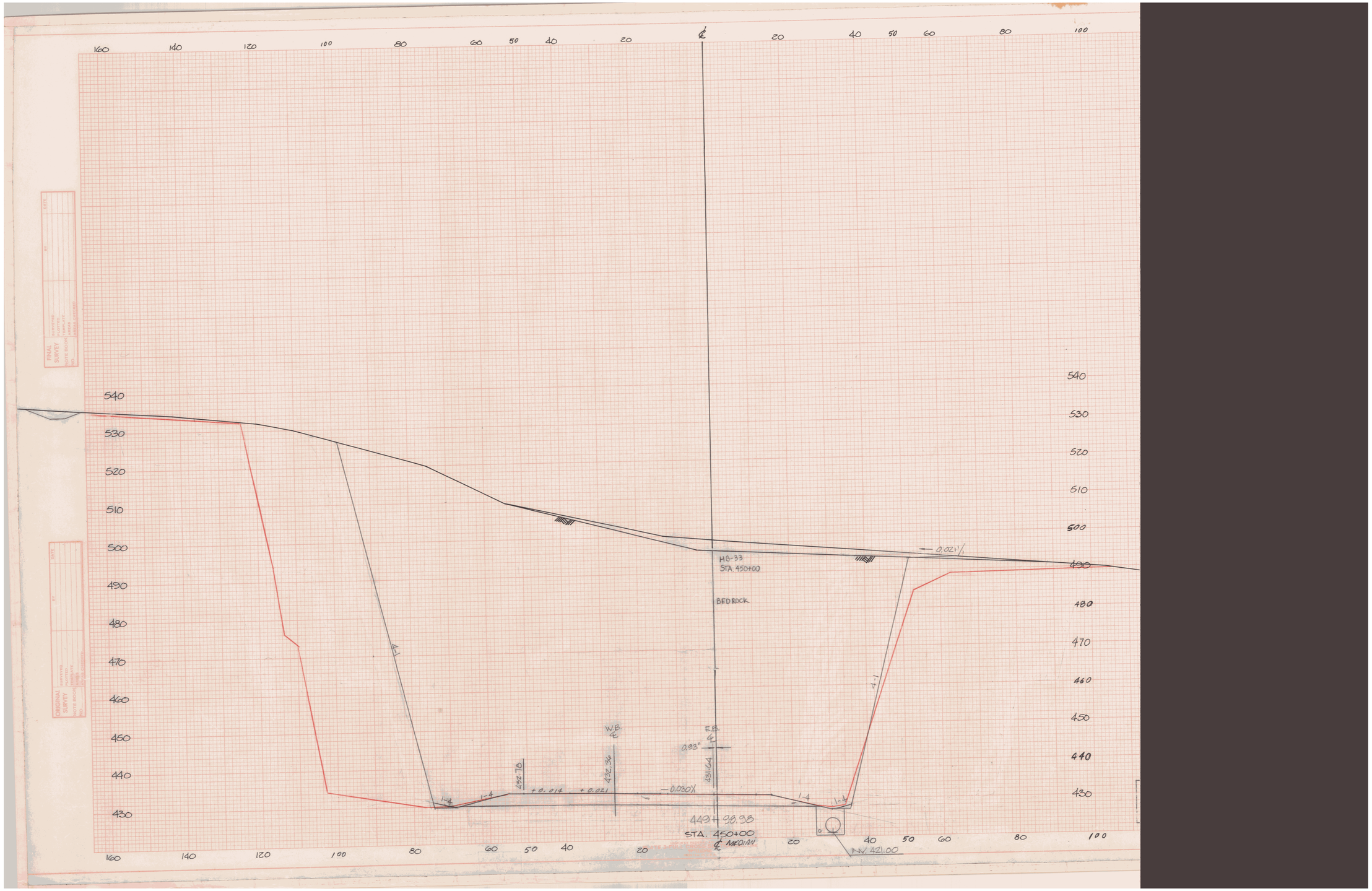

VERMONT ROUTE 289
STA 13+40 RAMP D
NEW LIGHT POLE #7
STA. 13+55
NEW PULL BOX #5
(RAMP D)
W.B. OFF-RAMP
STA 13+57
ELEV. 413.45
NEW ELECTRICAL CONDUIT
TO PULL BOX #4
STA 444+70
NEW SIGN
STA. 444+47
NEW LIGHT POLE #11
STA. 444+50
444+49.65
444+00-445+00 LT.
SPECIAL DITCH W/
STONE FILL TYPE II
444+13 LT-RT
42" x 380' P.C.C.S.P. 0.109
W/CONC. HEADWALL
AT INLET AND OUTLET
PLANTING POCKET
PLANTING POCKET
FROM STA 444+40 TO 447+00 RT
OFFSET FROM TOE OF SAND BORROW
TO TOE OF SLOPE
MATCH LINE
STA. 21+65 (E.B. ON)
NEW SIGN
444+13-444+23
SPECIAL DITCH W/
STONE FILL TYPE II
W.B. OFF-RAMP (RAMP D)
STA 14+08
ELEV. 411.98
STA. 444+00
443+99.88
INV. 360.0
ROW LINE
CVRR POND QUANTITY
MATCH LINE
NOT IN CONTRACT
STA. 443+66.43 LT
END STEEL BEAM GUARD RAIL
BREAKAWAY CABLE TERMINAL
STA. 443+66.43 TO 443+91.43 LT.
NEW ELECTRICAL CONDUIT
W.B. OFF-RAMP (RAMP D)
STA 14+58
ELEV. 410.41
E.B. ON RAMP (RAMP A)
D.I. COVERED AND BURRIED
INV. N&S 401.50
INV. 402.10
STA. 443+50 AHEAD W.B.
BEGIN FULL 18" SAND BORROW
AND 30" SUB-BASE
SEE RAMP CROSS SECTIONS
FOR DETAILS
443+50 - 444+00 LT
SPECIAL DITCH W/TYPE I
STONE FILL
INV. = 383.1
443+50 60' LT
NEW 4'x4' D.I. W/ C.I. GRATE
OUTLET W/ 18" x 114' P.C.C.S.P. .064 OR
100'
C.A.A.P. .060 W/ STONE FILL
TYPE I OUTLET PAD (8'x4'x1')
INV IN 401.50
INV OUT 389.47
443+50 ℄
NEW 4'x4' D.I. W/ C.I. GRATE
NEW 18"x58' P.C.C.S.P. 0.064 OR C.A.A.P. 0.060
OUTLET TO NEW 4'x4' D.I. AT 60' LT.
STA. 443+50
MEDIAN
AS BUILT 5/16/94
REVISED 6/25/91
REVISED 2/28/91
FROM STA. 443+50 TO STA. 444+50
PROJECT NAME:
NO. PB 033-1(2)
PLOTTED:
SHEET 241 OF 400 SHEETS
296 OF 465


VERMONT ROUTE 289
℄ MEDIAN
STA 12+15 RAMP D
NEW LIGHT POLE #8
(RAMP D)
℄ W.B. OFF-RAMP
STA. 12+04.21
ELEV. 417.85
℄ W.B.
EB ℄
22.59'
417.20
-0.021 1/1
-0.021 1/1
LEVEL
445+99.06
PLANTING POCKET
STA. 446+00
MATCH LINE
INV. 383.00
(RAMP D)
℄ W.B. OFF-RAMP
STA. 12+54.91
ELEV. 416.39
PTH
416.43
24.33'
415.85
0.021 1/1
-0.021 1/1
-0.021 1/1
-0.021 1/1
445+49.23
PTH BACK
FULL SECTION AHEAD
INV. 374.00
STA. 445+50
445+00 - 447+50 LT.
SPECIAL DITCH W/ STONE FILL TYPE II
445+50 - 447+50 RT.
SPECIAL DITCH W/ STONE FILL TYPE II
STA 445+10
NEW SIGN
(RAMP D)
℄ W.B. OFF-RAMP
STA. 13+05.70
EL. 414.93
PTH
W.B.
415.07
25.64'
414.60
-0.021 1/1
-0.021 1/1
-0.045 1/1
VARY
444+99.43
NEW ELECTRICAL CONDUIT
SEE W.B. OFF-RAMP (RAMP D)
CROSS SECTIONS
PLANTING POCKET
445+00 - 446+75 RT.
ENHANCED EMBANKMENT DITCH W/
EROSION MATTING AND SEEDING
AS BUILT 5/16/94
REVISED 2/28/91
SILT A-4
CLAY A-6
TILL A-4
HB-32
STA 445+32
STA. 445+00
℄ MEDIAN
PROJECT NAME:
NO. PB 033-1 (2)
PLOTTED:
SHEET 242 OF 400 SHEETS



VERMONT ROUTE 289
℄ MEDIAN
NOTE: VARY INITIAL RIGHT SIDE SHOULDER SLOPE UNIFORMLY TO PROVIDE POSITIVE DRAINAGE TO RIGHT SIDE DITCH
447+50 - 458+00 LT
SPECIAL DITCH W/EROSION MATTING AND SEEDING
447+50 - 458+00 RT
SPECIAL DITCH W/EROSION MATTING AND SEEDING
STA. 448+00
447+00 - 450+50 LT.
TYPICAL CUT-OFF SWALE
STA 10+80 RAMP D
NEW LIGHT POLE # 9
24' CLEARANCE
INV. 418.00
INV. 413.00
INV. 414.00
INV. 410.00
447+98.78
447+48.77
446+98.81
446+48.92
STA. 447+50
STA. 447+00
STA. 446+50
STA 447+60.LT-RT
6" U.D. CROSS PIPE ADDED
6"x120' UNDERDRAIN
INV IN 411.50
INV OUT 409.83
NEW 4'x6' D.I. 60RT
ADDED - STA 447+50,RT
STA 447+60 RT - 450+50RT
6"x289' UNDERDRAIN
DELETE
STA 447+60RT - 450+50RT
42"x290' P.C.C.S.P.
INV IN 422.86
INV OUT 411.83
BACKFILL 6" UND. TRENCH W/ SAND BORROW
CULVERTS PAY LIMITS
ADDITIONAL 6" UNDERCUT IF ORDERED BY RES. ENG.
DETAIL FOR LATERAL PIPE SYSTEM AND 6" UNDERDRAIN IN LEDGE CUTS
UNDERDRAIN DELETED
STA 449+00 - 446+75, LT
UNDERDRAIN OUTLET
STA 446+75 110' LT
NEW ELECTRICAL CONDUIT
STA 447+06RT - 447+56RT
6"x50' UNDERDRAIN
STA 447+06RT - 447+60RT
42"x64' P.C.C.S.P.
INV IN 411.83
INV OUT 410.47
BEGIN E.B. ON-RAMP TERMINAL TAPER AT STA. 447+07
PLANTING POCKET
STA 446+76RT - 447+06RT
6" CARRIER PIPE
AS BUILT 5/16/94
REVISED 2/28/91
FROM STA. 446+50
TO STA. 448+00
PROJECT NAME:
NO. PB 033-1(2)
PLOTTED:
SHEET 243 400 SHEETS


VERMONT ROUTE 289
℄ MEDIAN
W.B. ℄
E.B. ℄
1.77'
-0.030'/'
+0.007
+0.021
449 + 48.92
STA. 449+50
INV. 419.00
DELETE
449+00 - 446 + 75, LT.
NEW 6" x 200' UNDERDRAIN
NEW 6" x 35' CARRIER PIPE
OUTLET TO SPECIAL DITCH
-0.030'/'
NEW ELECTRICAL CONDUIT
INV. = 422.00
448 + 98.86
STA. 449+00
INV. 417.00
STA 9+40 RAMP D
NEW LIGHT POLE # 10
-0.007
+0.021
-0.030'/'
448 + 48.81
AS BUILT 5/16/94 JG
REVISED 2/28/91
FROM STA. 448+50
TO STA. 449+50
PROJECT NAME:
NO. PB 033-1(2)
PLOTTED:
SHEET 244 OF 400 SHEETS


160
140
120
100
80
60
50
40
20
℄
20
40
50
60
80
100
540
530
520
510
500
490
480
470
460
450
440
430
4-1
HG-33
STA. 450+00
BEDROCK
-0.021'/
W.B. ℄
E.B. ℄
0.93'
432.36
431.64
432.78
+0.014
+0.021
-0.030'/
1-4
449+98.98
STA. 450+00
℄ MEDIAN
INV. 421.00
FINAL SURVEY
ORIGINAL SURVEY

VERMONT ROUTE 289

450+50 - 458+00 LT.
TYPICAL CUT-OFF SWALE

160 140 120 100 80 60 50 40 20 0 20 40 50 60 80 100 120

550 540 530 520 510 500 490 480 470 460 450 440 430 420

550 540 530 520 510 500 490 480 470 460 450 440 430 420

4:1

4:1

450+50, 70' LT.
NEW 4'X4' D.I. W/ C.I. GRATE
NEW 18"X 94' R.C.S.P. 0.024 ~~CR~~
~~C.A.A.P. 0.060~~ OUTLET TO
NEW D.I. AT 28' RT.

W.B. ℄

EB ℄

3.39'

434.36

433.23

1:4 +0.02% +0.02% -0.030% 1:4 1:4

INV. ~~428.00~~ INV 427.57

FUTURE BIKE PATH (typ)

STA 450+50 RT-LT
6"x90' UNDERDRAIN

INV 425.86
INV. = ~~426.00~~

450+49.06

STA. 450+50

STA 450+50RT
4'x6' D.I.
42" INV 422.86

INV. = ~~423.00~~

~~447+60, 58' RT~~

450+50, 28' RT. ~~447+25, 90' RT.~~
NEW 4'X 6' D.I. W/ C.I. GRATE
NEW 42"X 326' R.C.S.P. 0.109 OR
~~C.A.A.P. 0.135~~ OUTLET TO
SPECIAL DITCH

447+60
450+50 - ~~447+25~~ RT.
NEW 6"X 300' UNDERDRAIN
AND 6"X 25' CARRIER PIPE
OUTLET TO SPECIAL DITCH

450+50, 50' LT. - 25' RT.
NEW 6" X 75' UNDERDRAIN
OUTLET TO NEW 4'X 6' D.I.
AT 450+50, 28' RT.

AS BUILT 5/16/94 JG

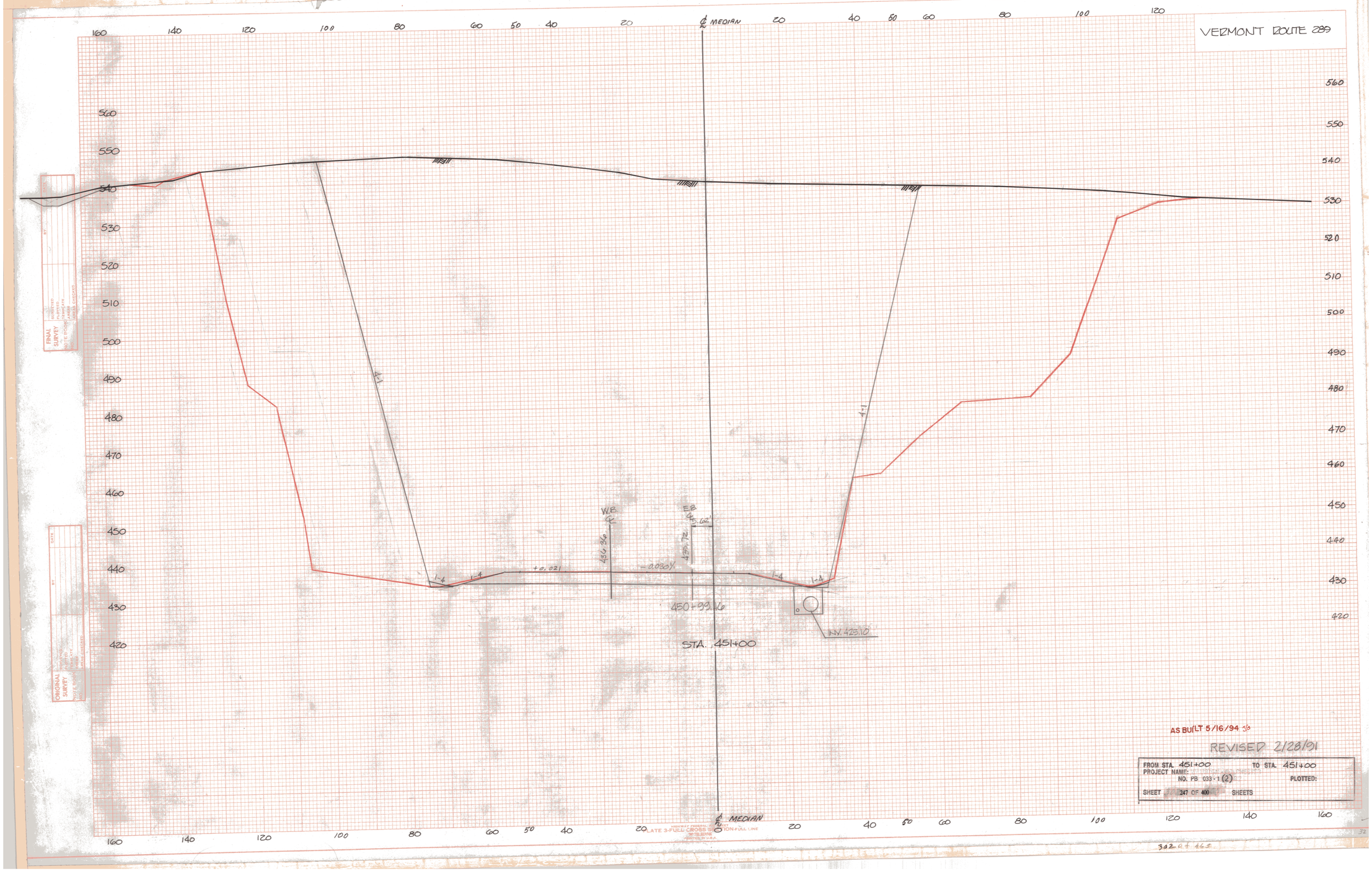
REVISED 2/28/91

FROM STA. 450+50 TO STA. 450+50
PROJECT NAME:
NO. PB 033-1(2) -
PLOTTED:
SHEET 246 OF 400 SHEETS

160 140 120 100 80 60 50 40 20 0 ℄ MEDIAN 20 40 50 60 80 100 120 140 160

301 IX 465

VERMONT ROUTE 289



FINAL SURVEY

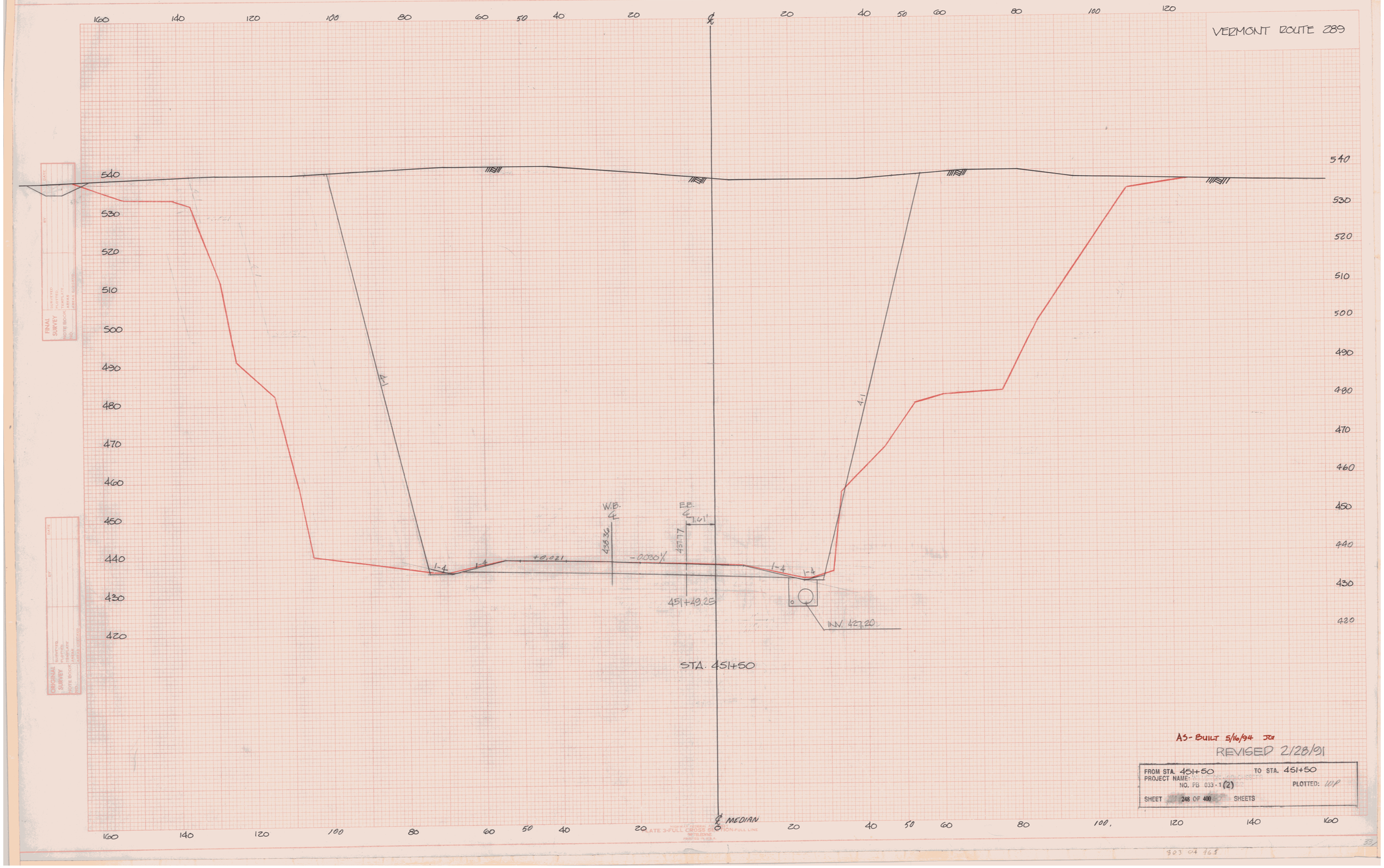
ORIGINAL SURVEY

AS BUILT 5/16/94

REVISED 2/28/91

FROM STA. 451+00	TO STA. 451+00
PROJECT NAME:	
NO. PB 033-1 (2)	PLOTTED:
SHEET 247 OF 400 SHEETS	

VERMONT ROUTE 289

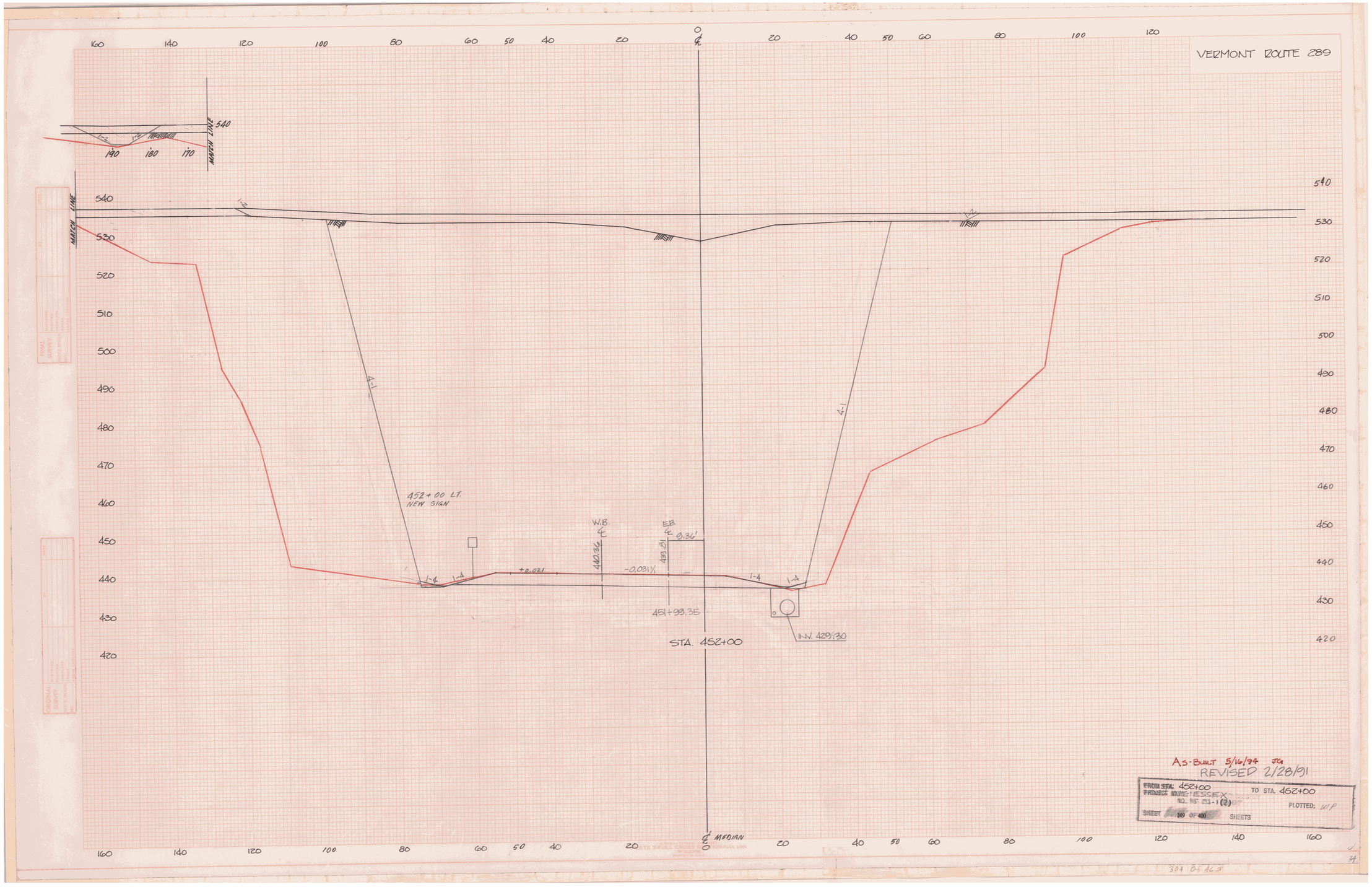


FINAL SURVEY
ORIGINAL SURVEY

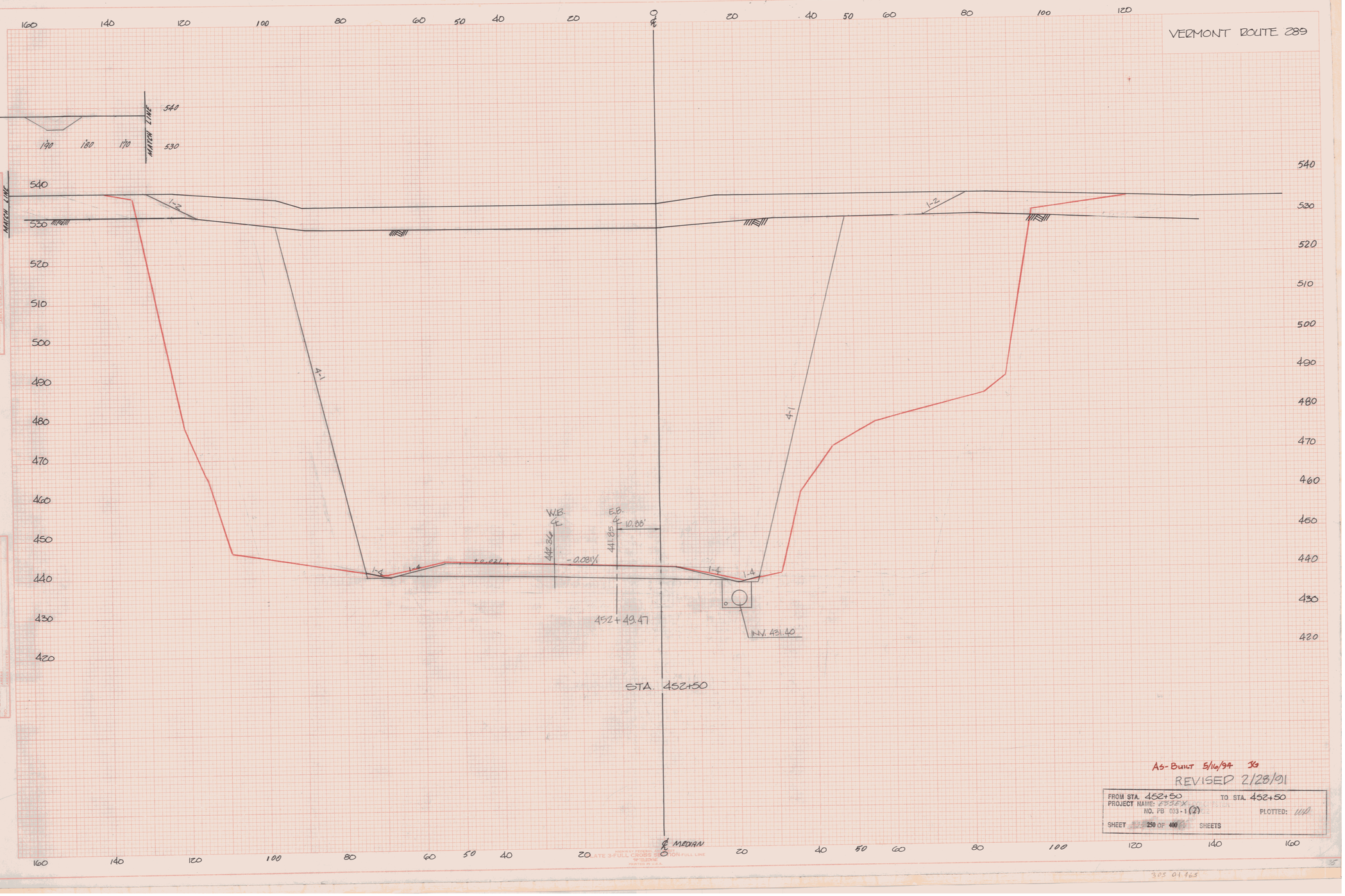
As-Built 5/16/94 JG

REVISED 2/28/91

FROM STA. 451+50	TO STA. 451+50
PROJECT NAME:	
NO. FB 033-1 (2)	PLOTTED:
SHEET 248 OF 400 SHEETS	


VERMONT ROUTE 289
MATCH LINE
452+00 LT.
NEW SIGN
W.B.
E.B.
9.36'
440.36
439.81
+0.021
-0.031
451+99.35
INV. 429.30
STA. 452+00
4-1
1-4
1-2
℄ MEDIAN
AS-BUILT 5/16/94 JG
REVISED 2/28/91
FROM STA. 452+00
TO STA. 452+00
PROJECT NAME: ESSEX
NO. BR 033-1(2)
PLOTTED: WP
SHEET 249 OF 400 SHEETS

VERMONT ROUTE 289



As-Built 5/16/94 JG

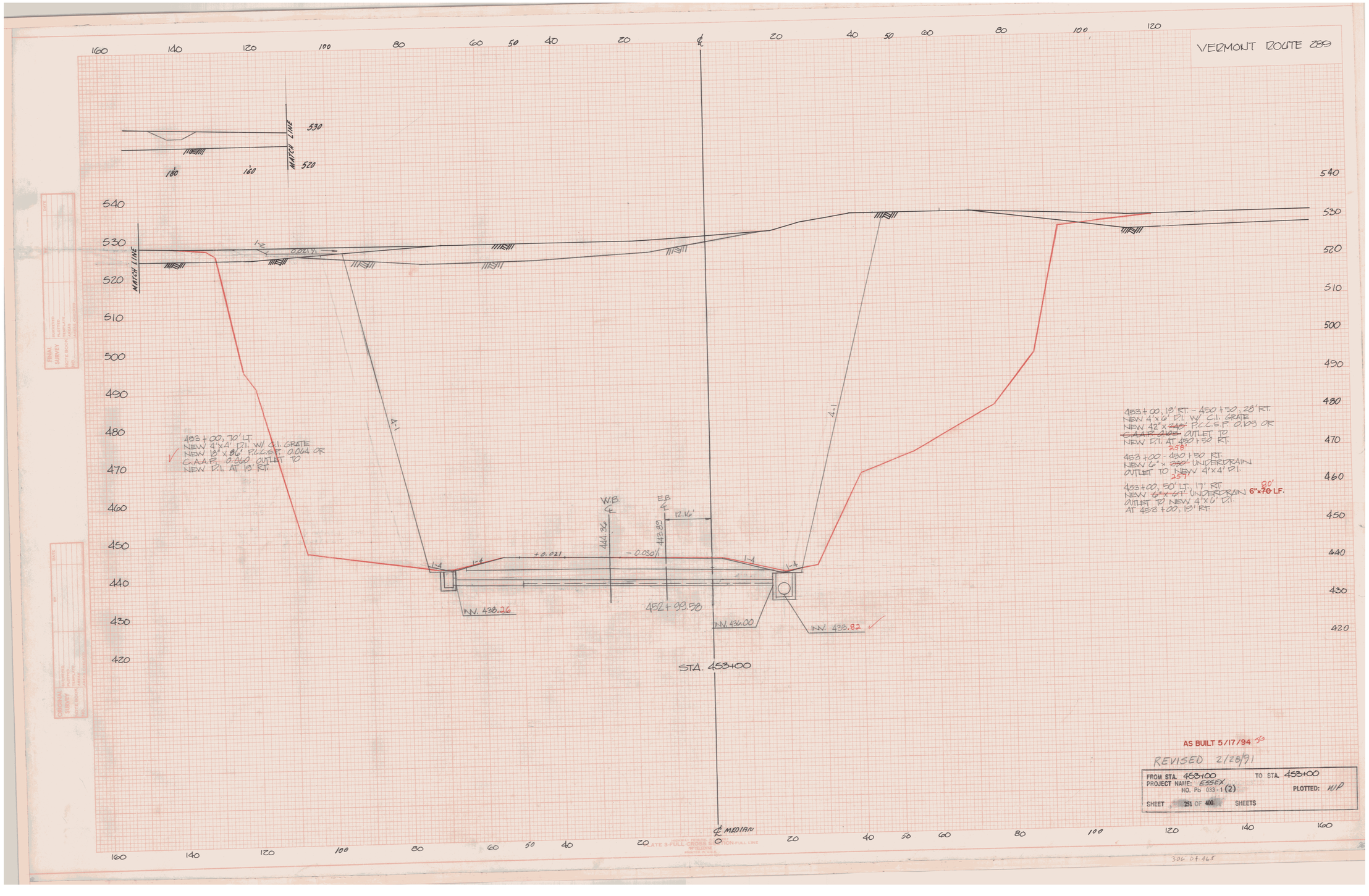
REVISED 2/28/91

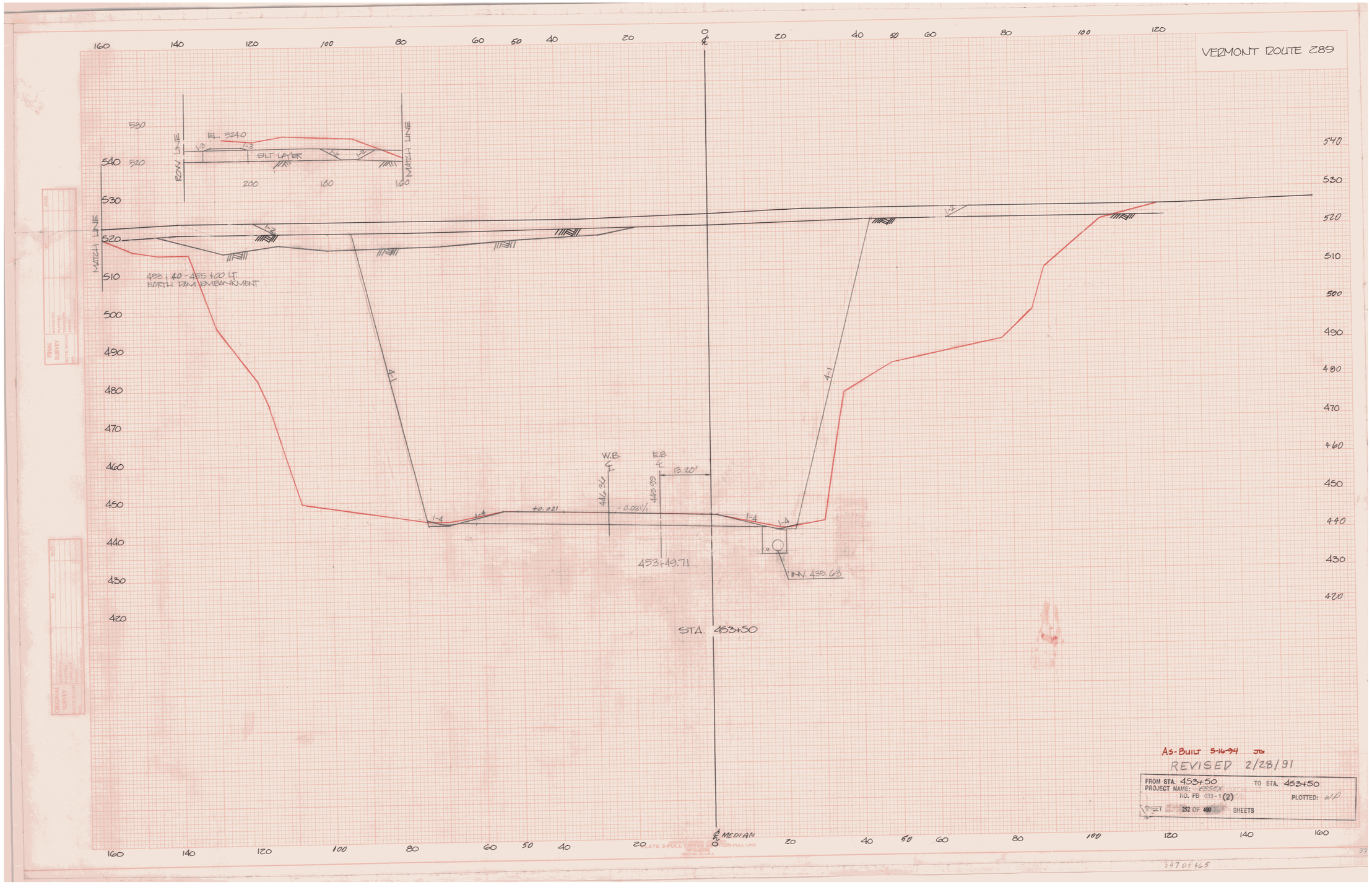
FROM STA. 452+50 TO STA. 452+50
PROJECT NAME: ESSEX
NO. FB 003-1 (2) PLOTTED: 11/2
SHEET 250 OF 400 SHEETS

FINAL SURVEY

ORIGINAL SURVEY

305 01 463


VERMONT ROUTE 289
MATCH LINE
530
520
180
160
540
530
520
510
500
490
480
470
460
450
440
430
420
1-2
0.021 1/1
4-1
4-1
453+00, 70' LT.
NEW 4'x4' D.I. W/ C.I. GRATE
NEW 18" x 86' P.C.C.S.P. 0.064 OR
C.A.A.P. 0.060 OUTLET TO
NEW D.I. AT 19' RT.
453+00, 19' RT. - 450+50, 28' RT.
NEW 4'x6' D.I. W/ C.I. GRATE
NEW 42" x ~~243'~~ P.C.C.S.P. 0.109 OR
~~C.A.A.P. 0.105~~ OUTLET TO
NEW D.I. AT 450+50 RT.
258'
453+00 - 450+50 RT.
NEW 6" x ~~230'~~ UNDERDRAIN
OUTLET TO NEW 4'x4' D.I.
257'
453+00, 50' LT., 17' RT.
NEW ~~6" x 67'~~ UNDERDRAIN 6"x~~70~~ 80' LF.
OUTLET TO NEW 4'x6' D.I.
AT 453+00, 19' RT.
W.B. ℄
E.B. ℄
12.16'
444.36
443.89
+0.021
-0.030 1/1
1-4
1-4
1-4
1-4
INV. 438.26
452+99.58
INV. 436.00
INV. 433.82
STA. 453+00
℄ MEDIAN
AS BUILT 5/17/94 JG
REVISED 2/28/91
FROM STA. 453+00
TO STA. 453+00
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED: WP
SHEET 251 OF 400 SHEETS
306 of 465


VERMONT ROUTE 289
ROW LINE
MATCH LINE
EL. 524.0
SILT LAYER
453+40 - 455+00 LT.
EARTH DAM EMBANKMENT
W.B.
E.B.
13.20'
+0.021
-0.031
453+49.71
INV. 435.63
STA. 453+50
MEDIAN
AS-BUILT 5-16-94 JG
REVISED 2/28/91
FROM STA. 453+50
TO STA. 453+50
PROJECT NAME: ESSEX
NO. PB 033-1(2)
PLOTTED: WP
SHEET 252 OF 400 SHEETS
397 of 465

VERMONT ROUTE 289

HB-34
STA 455+00
SILT A-4
CLAY A-6
BEDROCK
EL. 523.0
SILT LAYER
CLAY LAYER
ROW LINE
MATCH LINE
EL. 424.0
STA. 455+00
INV. 442.00
W.B. ℄
452.00
+0.021
+0.025
4:1
1:2
1:3
1:4
W E T A R E A
STA. 454+50
℄ MEDIAN
INV. 433.83
450.02
+0.021
AS-BUILT 5/16/94. JG
REVISED 2/28/91
FROM STA. 454+50 TO STA. 455+00
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED: 4/1/
SHEET 254 OF 400 SHEETS
FINAL SURVEY
ORIGINAL SURVEY
309 OF 465

VERMONT ROUTE 289

WET AREA

MATCH LINE

ROW LINE

EL. 521.5

SILT LAYER

CLAY LAYER

1-3

1-2

0.021%

4-1

455+50 - 456+30 LT.
EARTH DAM EMBANKMENT
WITH STONE FILL TYPE I

W.B. ℄

456.36

+0.021

1-4

INV. = 447.86

INV. 448.37

INV. = 446.12

STA. 456+00

456+00, 69' LT.
NEW 4'x4' DI W/ GI. GRATE
NEW 18" X 82' R.C.C.P. 0.004 OR
~~S.A.A.P. 0.005~~ OUTLET TO
NEW DI AT 16' RT.

EL. 525.0

1-N

456+00, 16' RT. - 453+00, 13' RT.
NEW 4'x6' DI. W/ GI. GRATE
NEW 36" X ~~300'~~ 298' R.C.C.P. 0.100 OR
~~S.A.A.P. 0.105~~ OUTLET TO
NEW DI. AT 453+00, RT.
290'

456+00 - 453+00 RT.
NEW 6' X ~~300'~~ UNDERDRAIN W/ CAPPED END
OUTLET TO NEW 4'X6' DI.
453+00, RT. 288'

456+00, 50' LT - 14' RT.
NEW ~~6"~~ X ~~64'~~ UNDERDRAIN 6"x80 LF
OUTLET TO NEW 4'X6' DI
AT 456+00, RT. 16'

AS BUILT 5/16/94 JB

REVISED 2/28/91

FROM STA. 455+50 TO STA. 456+00
PROJECT NAME: ESSEX
NO. PB 033-1(2) PLOTTED:
SHEET 255 OF 400 SHEETS

VERMONT ROUTE 289



AS BUILT 5/16/94

REVISED 2/28/91

FROM STA. 456+50 TO STA. 457+00
PROJECT NAME: ESSEX
NO. PB 033-1(2) PLOTTED: WP
SHEET 256 OF 400 SHEETS

FINAL SURVEY NOTE BOOK

ORIGINAL SURVEY NOTE BOOK

VERMONT ROUTE 289

458+00 - 463+50 RT.
EARTH DAM EMBANKMENT

458+00 - 473+00 LT.
SPECIAL DITCH
W/ EROSION MATTING & SEEDING

458+00 - 463+00 LT.
TYPICAL CUT-OFF SWALE

SEE DRAINAGE PLANS
FOR LIMITS OF SWALE

458+00 - 473+00 RT.
SPECIAL DITCH
W/ EROSION MATTING & SEEDING

458+00 - 456+00 RT.
NEW 6"x 200' UNDERDRAIN
OUTLET TO ~~4'x4'~~ D.I.
4'x6'

SILT LAYER
CLAY LAYER

MATCH LINE

INV. 454.25

STA. 458+00

STA. 457+40
NEW SIGN

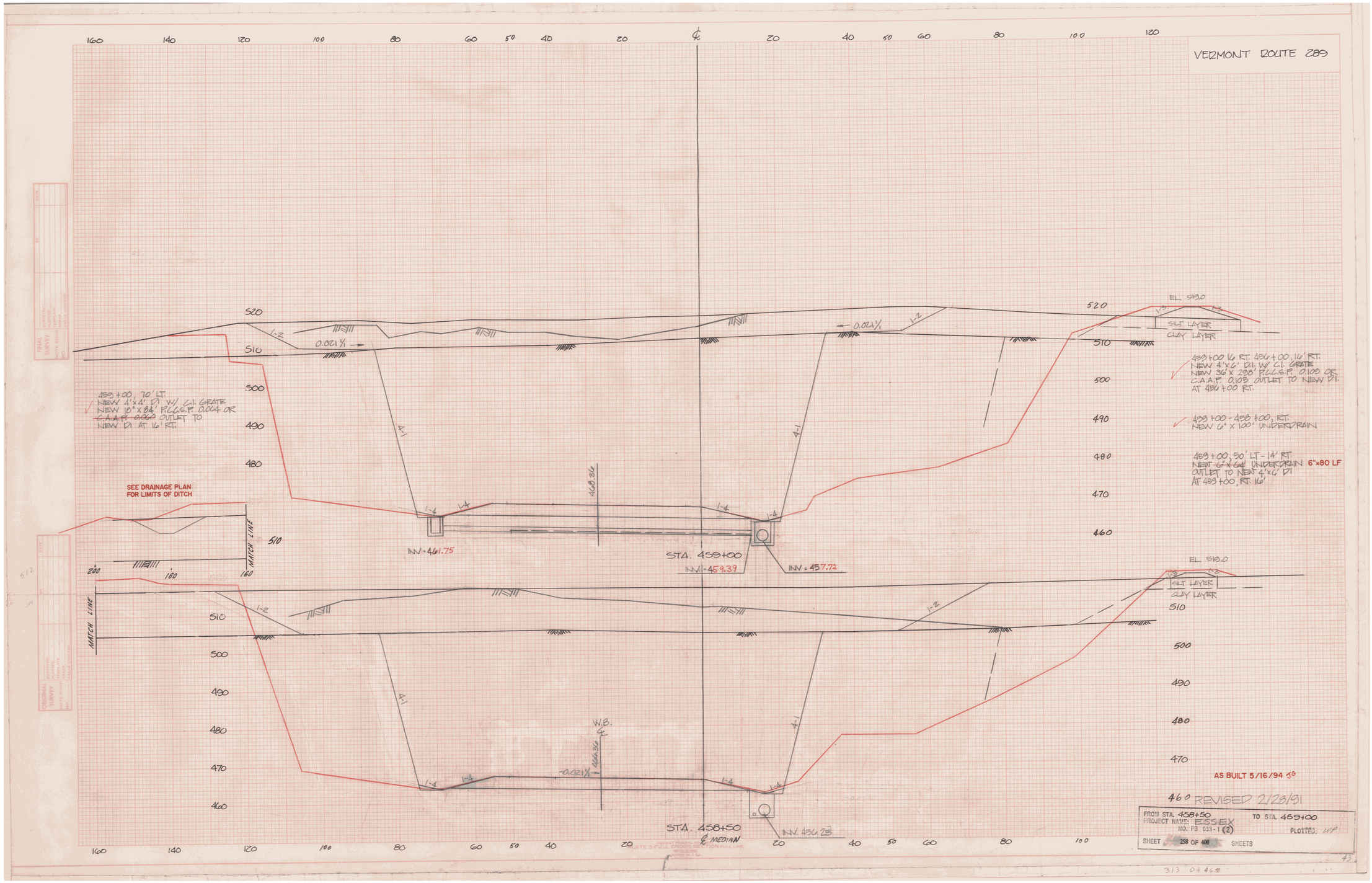
INV. 452.25

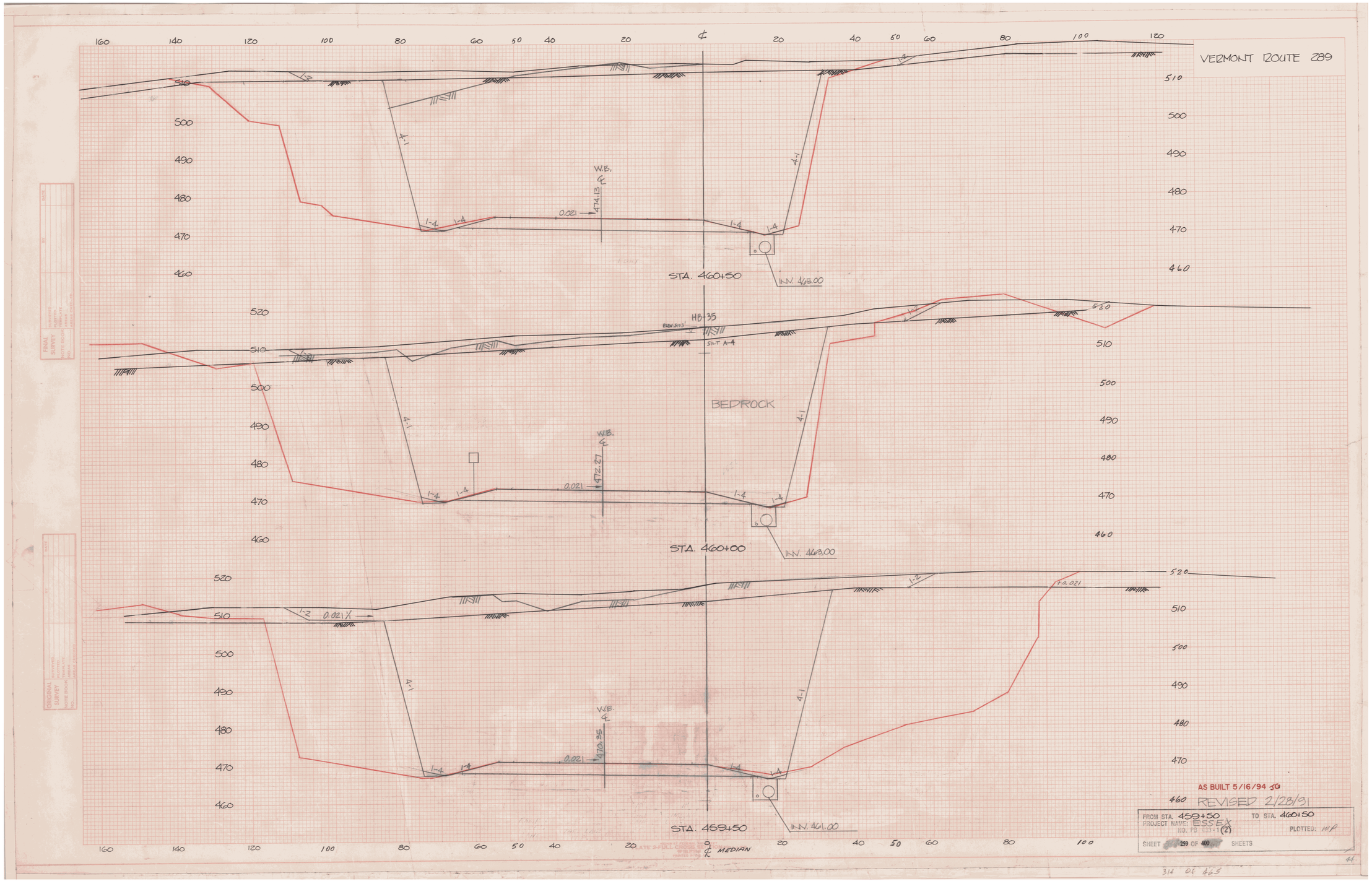
STA. 457+50

AS BUILT 5/16/94

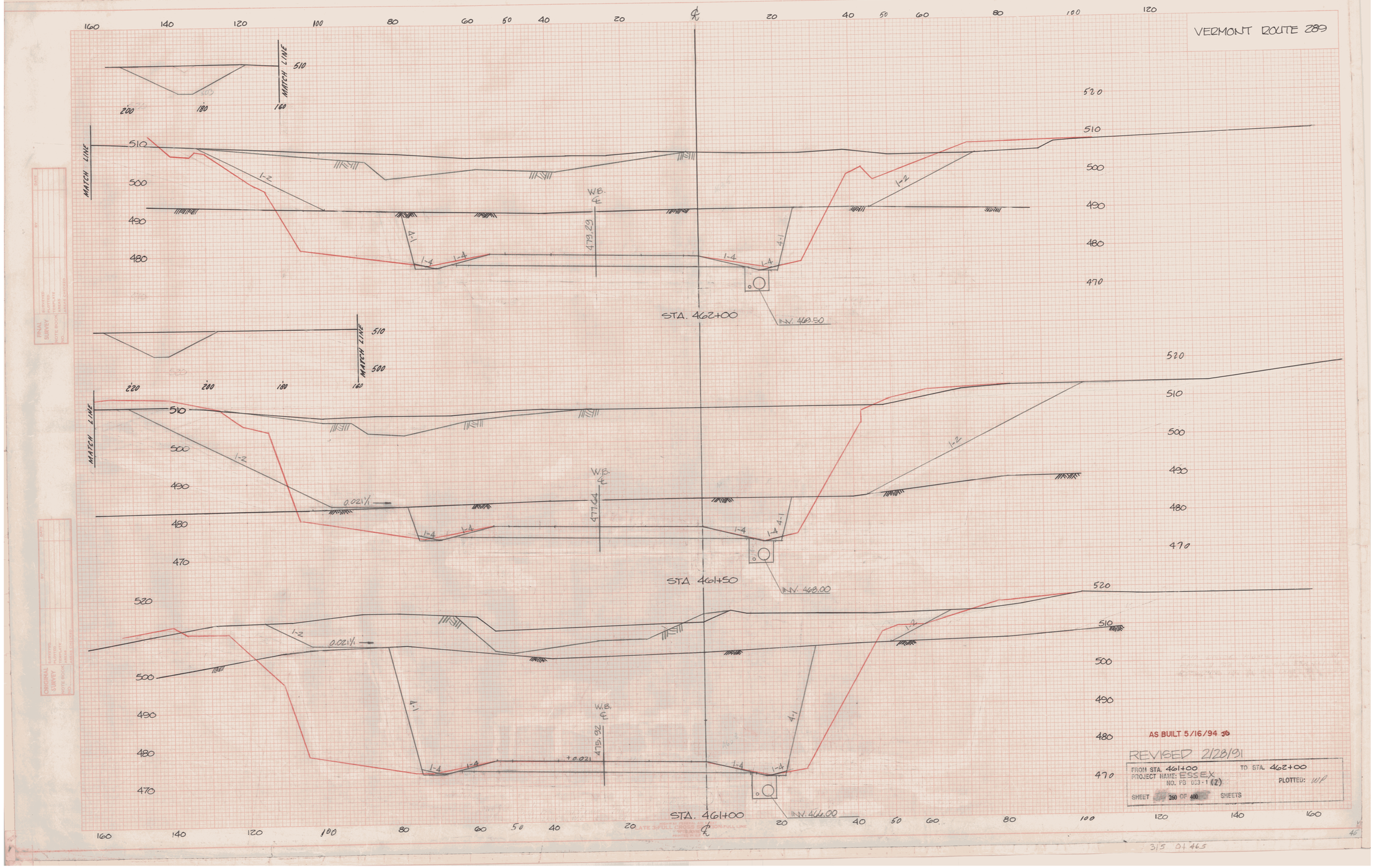
REVISED 2/28/91

FROM STA. 457+50 TO STA. 458+00
PROJECT NAME: ESSEX
NO. FB 033-1 (2) PLOTTED: WP
SHEET 257 OF 400 SHEETS


VERMONT ROUTE 289
EL. 519.0
SILT LAYER
CLAY LAYER
459+00, 70' LT.
NEW 4'x4' DI W/ C.I. GRATE
NEW 18"x84' P.C.C.S.P. 0.064 OR
~~C.A.A.P. 0.060~~ OUTLET TO
NEW DI AT 16' RT.
459+00 16 RT. 456+00, 16' RT.
NEW 4'x6' DI. W/ C.I. GRATE
NEW 36"x 298' P.C.C.S.P. 0.109 OR
C.A.A.P. 0.105 OUTLET TO NEW DI.
AT 456+00 RT.
459+00 - 458+00, RT.
NEW 6" x 100' UNDERDRAIN
459+00, 50' LT - 14' RT.
NEW ~~6"x64'~~ UNDERDRAIN 6"x80 LF
OUTLET TO NEW 4'x6' DI
AT 459+00, RT. 16'
SEE DRAINAGE PLAN
FOR LIMITS OF DITCH
MATCH LINE
INV. 461.75
STA. 459+00
INV. 459.39
INV. 457.72
EL. 519.0
SILT LAYER
CLAY LAYER
W.B.
STA. 458+50
℄ MEDIAN
INV. 456.25
AS BUILT 5/16/94
REVISED 2/28/91
FROM STA. 458+50
TO STA. 459+00
PROJECT NAME: ESSEX
NO. PB 033-1 (2)
PLOTTED: WP
SHEET 258 OF 400 SHEETS


VERMONT ROUTE 289
STA. 460+50
INV. 465.00
W.B. ℄
474.13
0.021
4-1
1-4
HB-35
SILT A-4
BEDROCK
STA. 460+00
INV. 463.00
472.27
STA. 459+50
INV. 461.00
470.35
0.021
1-2
+0.021
℄ MEDIAN
AS BUILT 5/16/94 JG
REVISED 2/28/91
FROM STA. 459+50
TO STA. 460+50
PROJECT NAME: ESSEX
NO. PB 033-1(2)
PLOTTED: WP
SHEET 259 OF 400 SHEETS
314 OF 465

VERMONT ROUTE 289



AS BUILT 5/16/94 JB

REVISED 2/28/91

FROM STA. 461+00 TO STA. 462+00

PROJECT NAME: ESSEX PLOTTED: W/P

NO. FD 003-1 (2)

SHEET 260 OF 400 SHEETS

315 OF 465