PARCEL	INSTRUMENT	DATE	GRANTOR	GRANTEE	RECORDED TUNBRIDGE BOOK	PAGE	DATE	REMARKS
A	Q.C.D.	5-12-38	FRANK H. & MABEL M. HAYWARD	ST. OF VT.	27	211	5-12-38	
A'	Q.C.D.	1-25-39	HUGH WILLIAMS	"	27	219	2-9-39	

WHITE RIVER - FIRST BRANCH

0.466 ac.

GUIDE POSTS

11+12 ± LT. - 1
15+00 ± RT. - 1
15+50 ± LT. - 1/3

CABLE GUARD RAIL

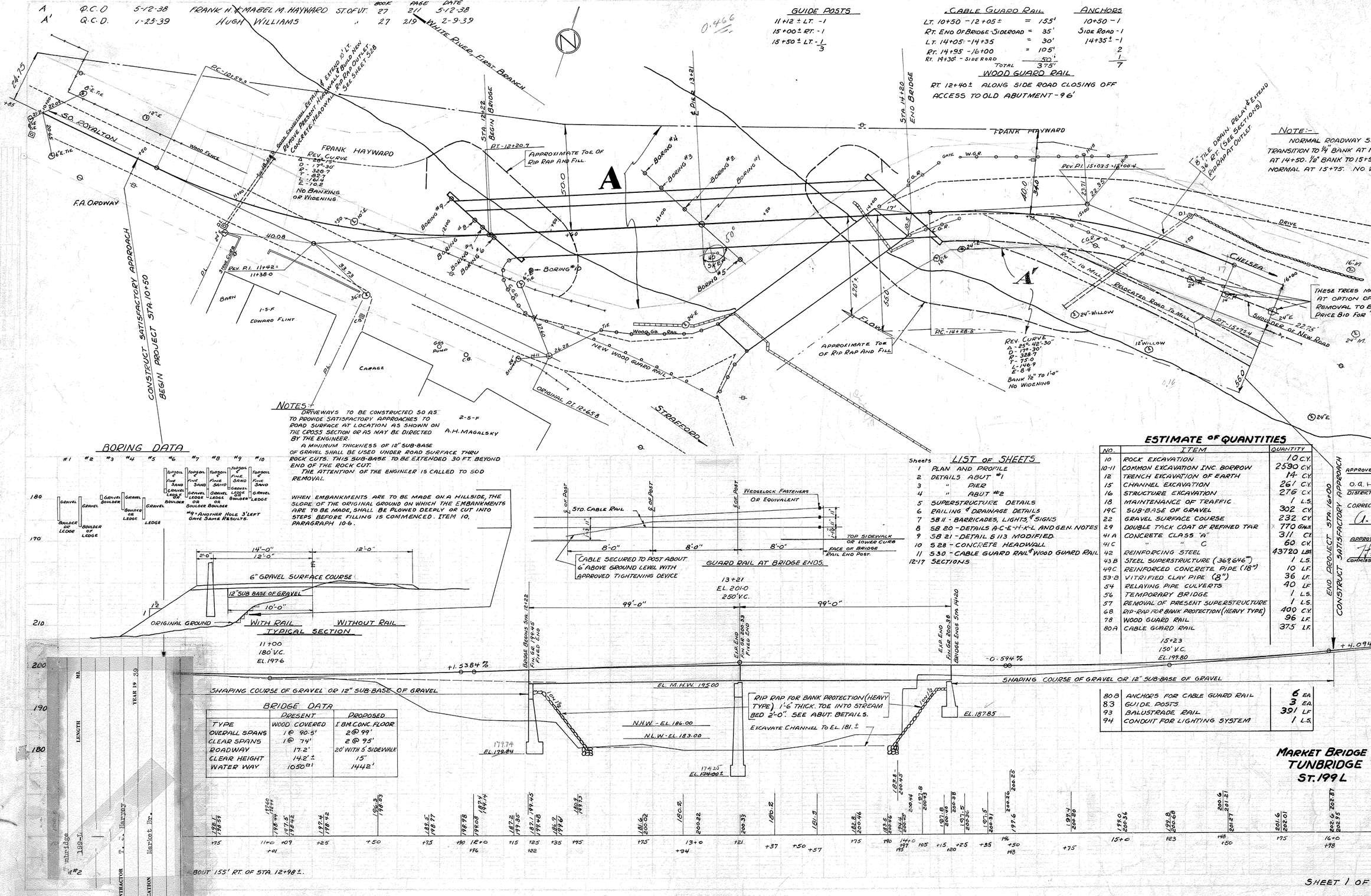
LT. 10+50 - 12+05 ±	=	155'
RT. END OF BRIDGE - SIDEROAD	=	35'
LT. 14+05 - 14+35	=	30'
RT. 14+95 - 16+00	=	105'
RT. 14+30 ± - SIDE ROAD		50'
TOTAL		375'

ANCHORS

10+50 - 1
SIDE ROAD - 1
14+35 ± - 1
2
1/7

WOOD GUARD RAIL

RT. 12+40 ± ALONG SIDE ROAD CLOSING OFF ACCESS TO OLD ABUTMENT - 96'



NOTES:-

DRIVEWAYS TO BE CONSTRUCTED SO AS TO PROVIDE SATISFACTORY APPROACHES TO ROAD SURFACE AT LOCATION AS SHOWN ON THE CROSS SECTION OR AS MAY BE DIRECTED BY THE ENGINEER.

A MINIMUM THICKNESS OF 12" SUB-BASE OF GRAVEL SHALL BE USED UNDER ROAD SURFACE THRU ROCK CUTS. THIS SUB-BASE TO BE EXTENDED 30 FT. BEYOND END OF THE ROCK CUT.

THE ATTENTION OF THE ENGINEER IS CALLED TO SOD REMOVAL.

WHEN EMBANKMENTS ARE TO BE MADE ON A HILLSIDE, THE SLOPE OF THE ORIGINAL GROUND ON WHICH THE EMBANKMENTS ARE TO BE MADE, SHALL BE PLOWED DEEPLY OR CUT INTO STEPS BEFORE FILLING IS COMMENCED. ITEM 10, PARAGRAPH 10.6.

BORING DATA

TYPICAL SECTION

11+00
180' V.C.
EL. 197.6

GUARD RAIL AT BRIDGE ENDS.

13+21
EL. 201.0
250' V.C.

BRIDGE DATA

	PRESENT	PROPOSED
TYPE	WOOD COVERED	I BM. CONC. FLOOR
OVERALL SPANS	1 @ 90.5'	2 @ 99'
CLEAR SPANS	1 @ 74'	2 @ 95'
ROADWAY	17.2'	20' WITH 5' SIDEWALK
CLEAR HEIGHT	14.2' ±	15'
WATER WAY	1050 □'	1442'

LIST OF SHEETS

Sheets	
1	PLAN AND PROFILE
2	DETAILS ABUT #1
3	" PIER
4	" ABUT #2
5	SUPERSTRUCTURE DETAILS
6	RAILING & DRAINAGE DETAILS
7	SB 11 - BARRICADES, LIGHTS & SIGNS
8	SB 20 - DETAILS A-C-E-H-K-L AND GEN. NOTES
9	SB 21 - DETAIL S 113 MODIFIED.
10	S 28 - CONCRETE HEADWALL
11	S 30 - CABLE GUARD RAIL & WOOD GUARD RAIL
12-17	SECTIONS

ESTIMATE OF QUANTITIES

NO.	ITEM	QUANTITY
10	ROCK EXCAVATION	10 C.Y.
10-11	COMMON EXCAVATION INC. BORROW	2590 C.Y.
12	TRENCH EXCAVATION OF EARTH	14 C.Y.
15	CHANNEL EXCAVATION	267 C.Y.
16	STRUCTURE EXCAVATION	276 C.Y.
18	MAINTENANCE OF TRAFFIC	1 L.S.
19C	SUB-BASE OF GRAVEL	302 C.Y.
22	GRAVEL SURFACE COURSE	232 C.Y.
29	DOUBLE TACK COAT OF REFINED TAR	770 GALS.
41A	CONCRETE CLASS "A"	311 C.Y.
41C	" " C	60 C.Y.
42	REINFORCING STEEL	43720 LBS.
43B	STEEL SUPERSTRUCTURE (363'646")	1 L.S.
49C	REINFORCED CONCRETE PIPE (18")	10 L.F.
53-B	VITRIFIED CLAY PIPE (8")	36 L.F.
54	RELAYING PIPE CULVERTS	40 L.F.
56	TEMPORARY BRIDGE	1 L.S.
57	REMOVAL OF PRESENT SUPERSTRUCTURE	1 L.S.
68	RIP-RAP FOR BANK PROTECTION (HEAVY TYPE)	400 C.Y.
78	WOOD GUARD RAIL	96 L.F.
80A	CABLE GUARD RAIL	375 L.F.
	15+23 150' V.C. EL. 199.80	
80B	ANCHORS FOR CABLE GUARD RAIL	6 EA.
83	GUIDE POSTS	3 EA.
93	BALUSTRADE RAIL	391 L.F.
94	CONDUIT FOR LIGHTING SYSTEM	1 L.S.

APPROVED:- June 6, 1938
O.A. Harding
DISTRICT HIGHWAY COMMISSIONER

CORRECT:-
A. W. Bishop
BRIDGE ENGINEER

APPROVED:- 1938.
H. E. Laughton
COMMISSIONER OF HIGHWAYS

MARKET BRIDGE
TUNBRIDGE
ST. 199 L

ABOUT 155' RT. OF STA. 12+98 ±.

SHEET 1 OF 17 SHEETS

Tunbridge '39

State of Vermont — **Department of Highways**

TUNBRIDGE (MARKET BRIDGE) — ~~F.A.P.~~ No. ST 199 L

FORM ENG. 1A — EARTHWORK SHEET NO. 193

PROFILE V. C.	% Grade	STATION	ELEVATION On VCurves	ELEVATION On Grades	Correction for Vertical Curve	DIST.	Total Excavation Earth and Rock AREA	Total Excavation Earth and Rock CU. YDS.	~~Balance and Rock Excavation~~ SURF. OF GRAVEL AREA	~~Balance and Rock Excavation~~ SURF. OF GRAVEL CU. YDS.	Embankment AREA	Embankment CU. YDS.	Shaping Course of Gravel ~~SUB-BASE~~ AREA	Shaping Course of Gravel ~~SUB-BASE~~ CU. YDS.
	-2.20%	10+00	199.80											
		+10	199.58	199.58	0	40								
		+50	198.70	198.86	+.16	25			PROJECT BEGINS		0	13		
		+75	198.15	198.59	+.44		0		13.5	10	28		0	
180' VC.		11+00	197.60	198.44	+.84	26		4		13		38		4
		+01	197.62	198.44	+.82	8	4	1	13.5	4	50	17	8	2
		+09	197.74	198.42	+.68	16	4	2	14.5	9	62	50	8	6
		+25	197.98	198.42	+.44		2		15.0		96		12	
						25				15		114		22
		+50	198.37	198.53	+.16		0		16.5		152		20	
						25				18		192		23
		+75	198.75	198.77	+.02				22		264		30	
		+90	198.98	198.98	0	25				21		308		30
		+96	199.08	199.08	0									
		12+00	199.14	199.14	-.00	15			24	14	400	186	34	22
		+15	199.37	199.35	-.02				26	10	270		44	
		+22	199.48	199.45	-.03	10			BRIDGE BEGINS			91		16
		+25	199.52	199.48	-.04				27	7	218		38	
		+35	199.68	199.61	-.07	10			9		150	68	12	9
						10				2		28		2
		+45	199.83	199.73	-.10				0		0		0	
		+75	200.29	200.02	-.27									
		13+00	200.68	200.22	-.46									
		+21	201.00	200.33	-.67									
250' VC.		+75	200.68	200.46	-.22									
		+90	200.59	200.46	-.13									
		+95	200.56	200.45	-.11									
		+97	200.55	200.45	-.10						80			
		14+00	200.53	200.44	-.09	5						13		
		+05	200.50	200.43	-.07	10			0	1	60	16	0	3
		+15	200.44	200.40	-.04				4	3	26		16	
		+20	200.41	200.38	-.03	10			BRIDGE ENDS			10		6
		+25	200.38	200.36	-.02				9	4	26	44	16	13
		+35	200.32	200.31	-.01	10			14.5		208		54	
		+46	200.26	200.26	0							130		24
		+48	200.25	200.25	0	15				9				
		+50							17	14	260	228	32	30
		+75	200.09	200.20	+.11	25	0		14		232		32	
						25		2				172		26
		15+00	199.94	200.36	+.42		2				140		26	
		+23	199.80	200.68	+.88	23	8	4			60	85	18	19
		+48	200.82	201.21	+.39	25	4	6			60	56	18	17
										65				
		+50	200.91	201.27	+.36	27		4				49		16
		+75	201.93	202.01	+.08		4				38		14	
		+98	202.87	202.87	0	25		3				34		8
									14					
		16+00	202.95				2		PROJECT ENDS		36		4	
						50		2		13		33		4
		+50	205.00				0		0		0		0	
		FILL IN FRONT OF ABUT. #1										260		
		" " " " " #2										219		
		CARRIED FORWARD												
		COLUMN FOOTINGS						28		232		2454		302

REVISIONS — By

VOLUMES — Computed by — Checked by

VERTICAL CURVES — Computed by H.E.S. 5/10/38 — Checked by C.H.K.

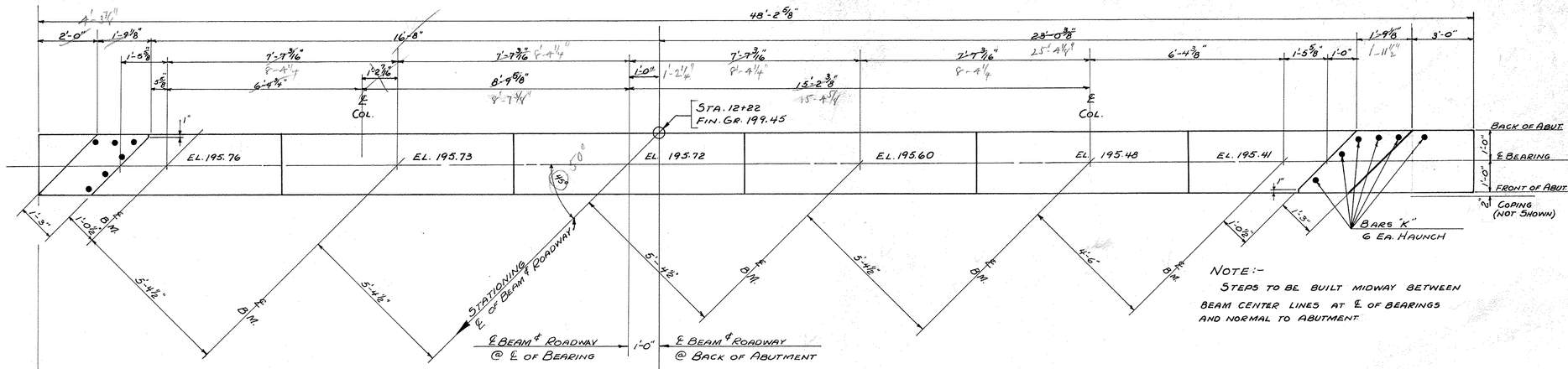
GRADES — Computed by H.E.S. 5/19/38 — Checked by C.H.K.

+1.5384%

-0.594%

+4.0945%

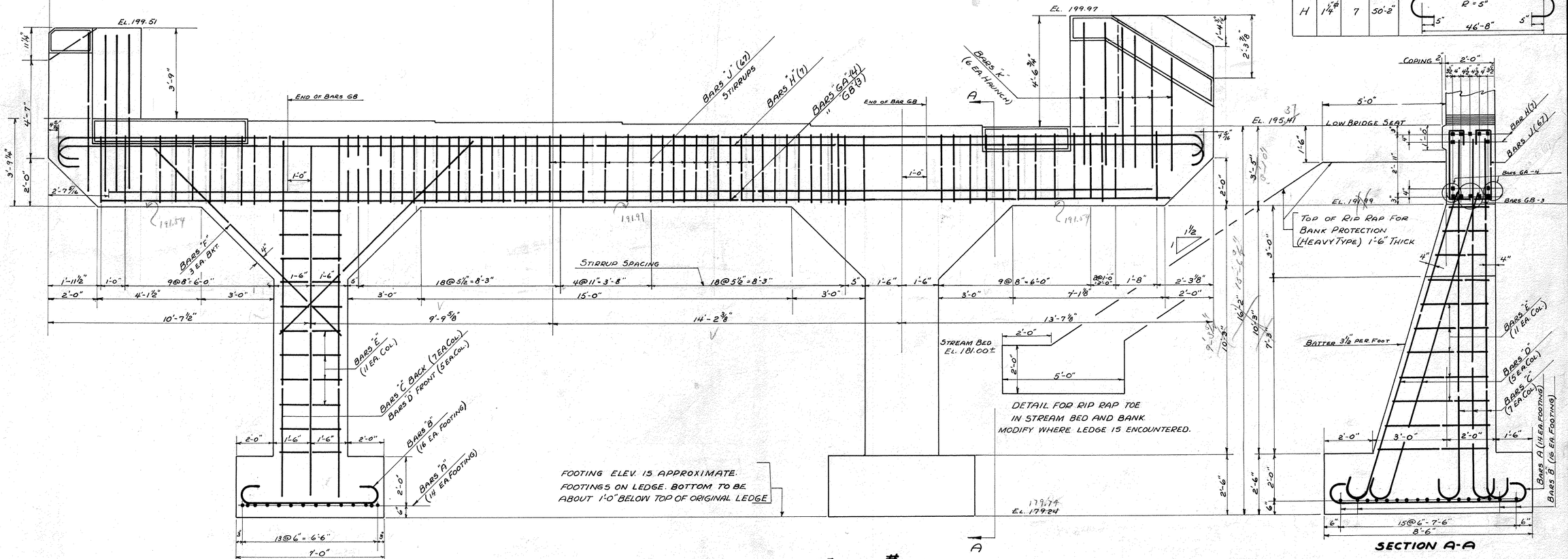
TOTAL FILL	2454
+10%	246
	2700
- COMM. EXCAV.	28
	2672
-40% STRUCT. EXCAV.	110
NET BORROW	2562
+ COMM. EXCAV.	28
COMM. EXCAV. INC. BORROW	2590



NOTE:-
STEPS TO BE BUILT MIDWAY BETWEEN BEAM CENTER LINES AT ℄ OF BEARINGS AND NORMAL TO ABUTMENT.

PLAN OF BRIDGE SEATS

REINFORCING STEEL				
BAR	SIZE	REQ'D.	TL.	DETAIL
A	7/8"ϕ	28	10'-1"	R = 4"
B	"	32	8'-7"	7'-4" FOR A; 5'-10" " B
C	1 1/4"ϕ	14	16'-7"	R = 5"
D	"	10	14'-9"	14'-10" FOR C; 13'-0" " D
E	1/4"ϕ	22	264 L.F. FOR 22 BARS	MIN. LGTH. 9'-0" MAX. LGTH. 15'-0" AV. LGTH. 12'-6" CUT AND BEND TO FIT IN FIELD.
F	1"ϕ	12	11'-0"	STRAIGHT
GA	1 1/8"ϕ	4	43'-0"	"
GB	1 1/8"ϕ	3	26'-0	"
J	5/8"ϕ	67	9'-10"	3'-1"
K	1"ϕ	12	7'-0"	STRAIGHT
H	1 1/4"ϕ	7	30'-2"	R = 5"; 46'-8"



FRONT ELEVATION

SECTION A-A

DETAILS OF ABUT #1 MARKET BRIDGE TUNBRIDGE

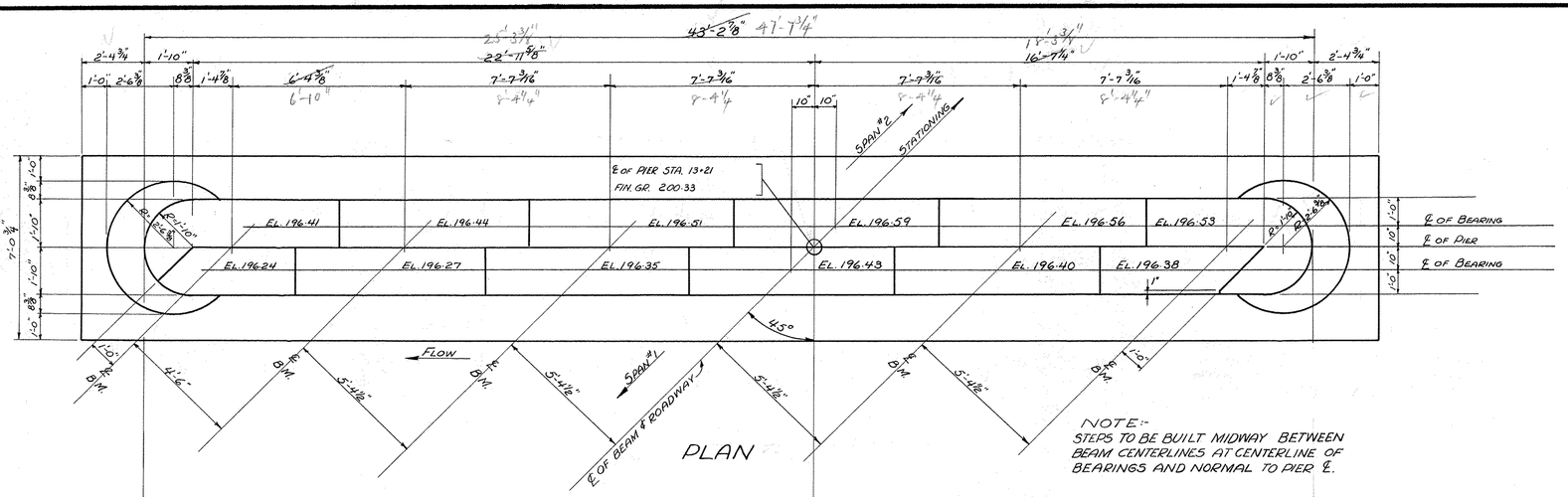
SCALE 1/2"=1'-0"

ESTIMATED QUANTITIES

Channel Excav.	51 C.Y.
Structure Excav.	48 C.Y.
Concrete Class "A"	36 C.Y.
Reinforcing Steel	7407 #
Rip Rap for Bank (Heavy Type)	136 C.Y.

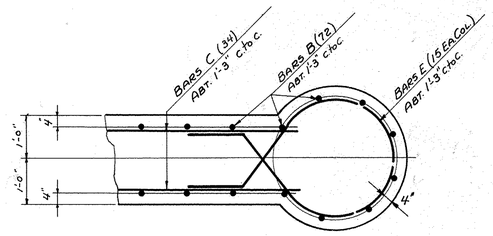
Surveyed by
Designed by H.E.S.
Drawn by H.E.S.
Traced by H.W.S.
Checked by C.H.K.
Series ST. No. 199L Filed
Sheet 2 of Sheets

PRINTED ON "IMPERIAL" TRACING CLOTH K & E CO., N.Y. E20241

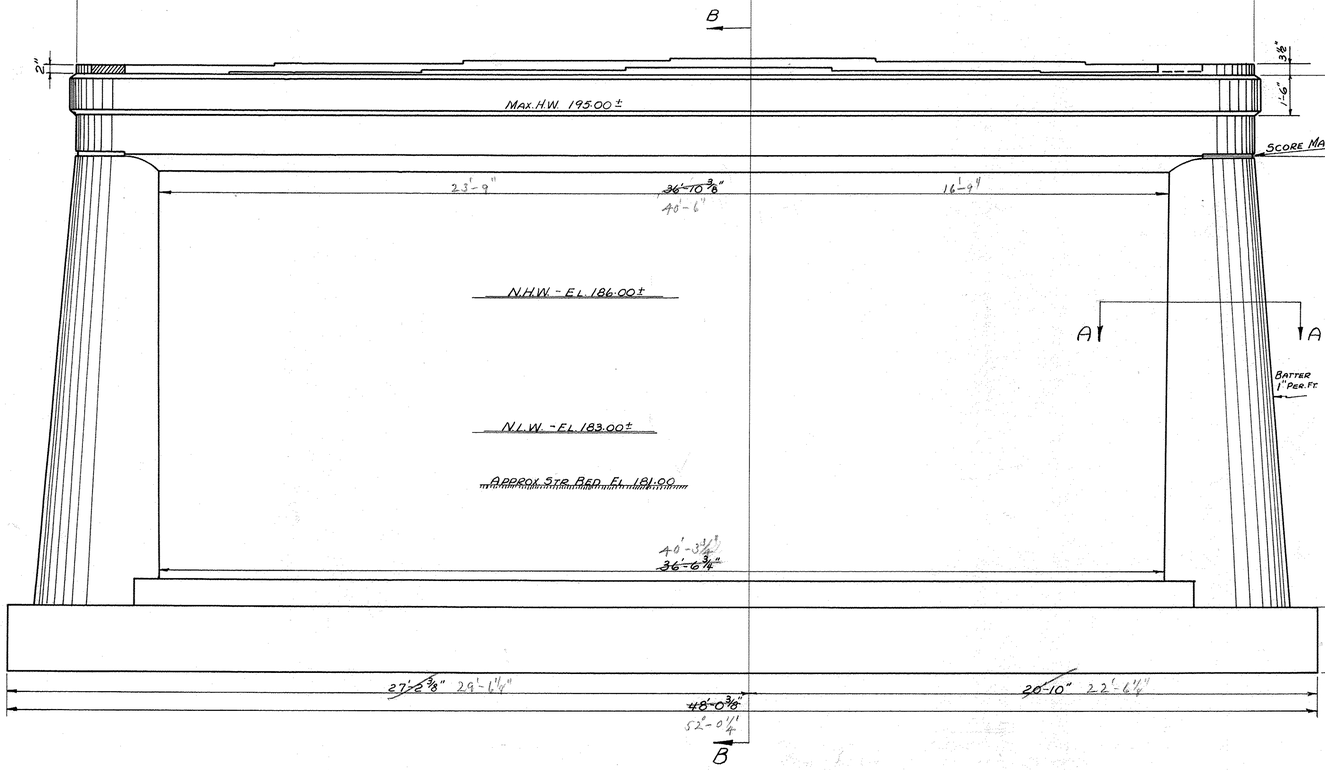


PLAN

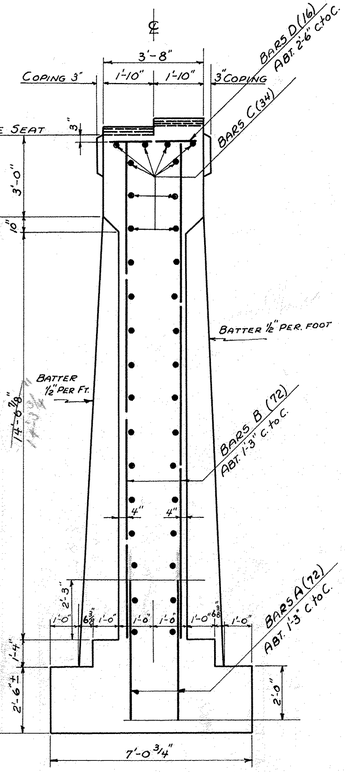
NOTE:-
STEPS TO BE BUILT MIDWAY BETWEEN BEAM CENTERLINES AT CENTERLINE OF BEARINGS AND NORMAL TO PIER ℄.



TYPICAL SECTION A-A
SCALE :- ½"=1'-0"



FRONT ELEVATION



SECTION B-B

REINFORCING STEEL				
BAR	SIZE	REQ'D.	T.L.	DETAIL
A	⅝"ø	72	5'-7"	STRAIGHT
B	"	72	18'-2"	"
C	½"ø	34	40'-0"	"
D	⅝"ø	16	3'-3"	"
E	⅜"ø	30	18'-0"	BEND IN FIELD

NOTES:-
BOTTOM OF FOOTINGS TO BE ON LEDGE, WHICH SHALL BE LEVELLED AT LEAST 6" BELOW ORIGINAL LEDGE SURFACE.
FOOTINGS MAY BE STEPPED IF AND AS DIRECTED BY THE ENGINEER.
FOOTINGS TO BE AT LEAST 2'-0" IN ANY CASE.

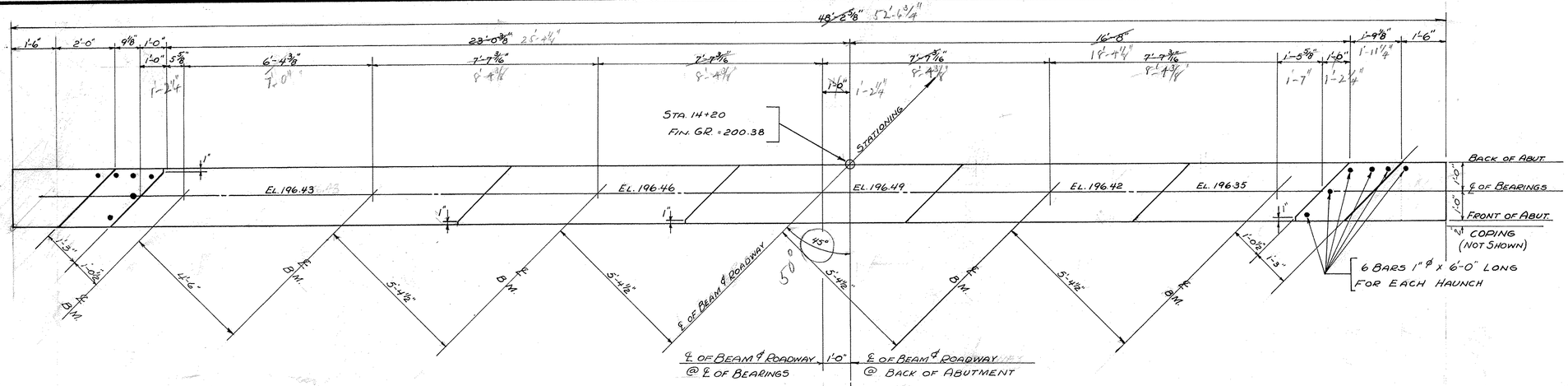
ESTIMATED QUANTITIES

STRUCTURE EXCAV.	116 C.Y.
CONCRETE CLASS "A"	120 C.Y.
REINFORCING STEEL	2948 Lbs.

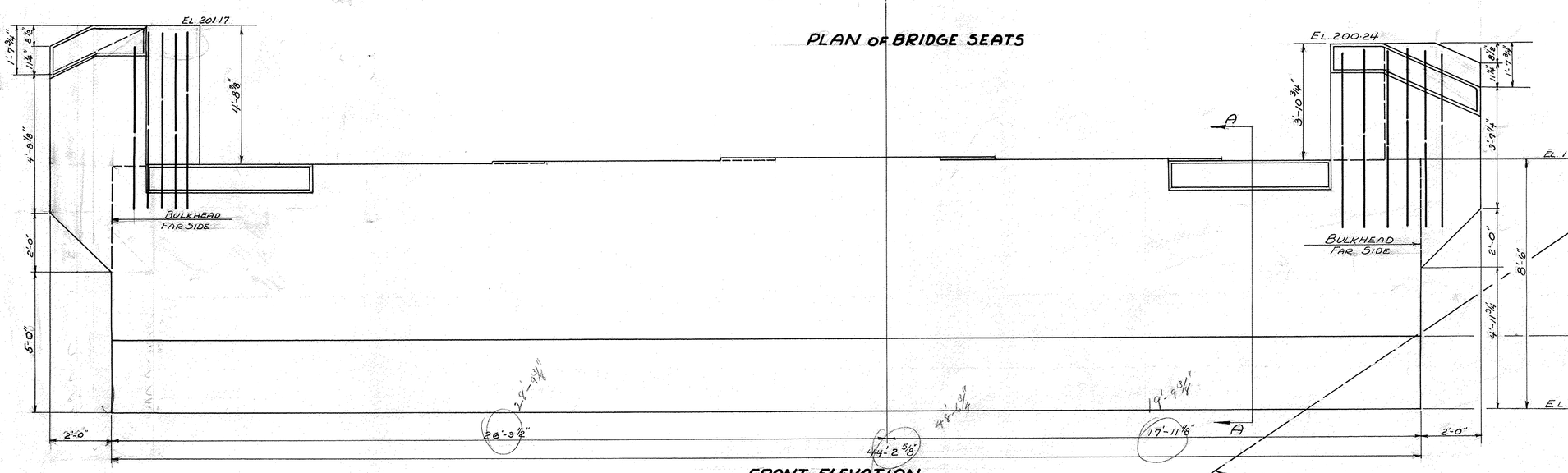
PIER DETAILS
MARKET BRIDGE
TUNBRIDGE
SCALE :- ⅜" = 1'-0" EXCEPT AS NOTED

Surveyed by
Designed by H.E.S.
Drawn by H.E.S.
Traced by H.W.S.
Checked by C.H.K.
Series ST. No. 199 L Filed
Sheet 3 of 17 Sheets

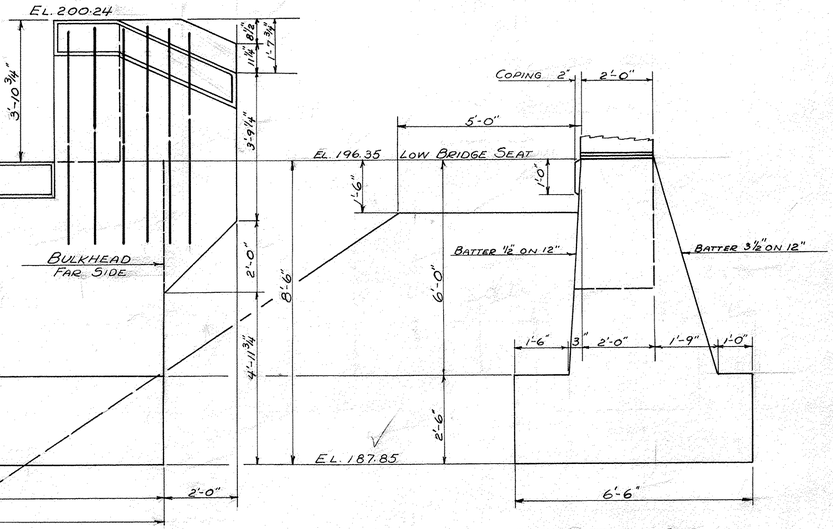
PRINTED ON
"HYPERALL" TRACING CLOTH
K & E CO., N.Y.
29241



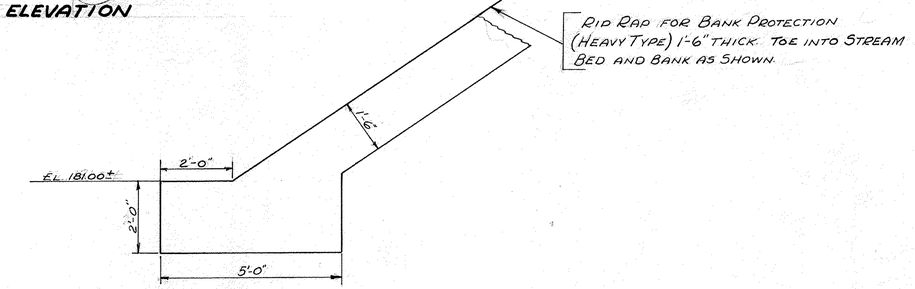
PLAN OF BRIDGE SEATS



FRONT ELEVATION



SECTION A-A



DETAIL OF RIP RAP TOE
IN STREAM BED OR BANK
MODIFY WHERE LEDGE IS ENCOUNTERED.

DETAILS OF ABUTMENT No. 2
MARKET BRIDGE
TUNBRIDGE

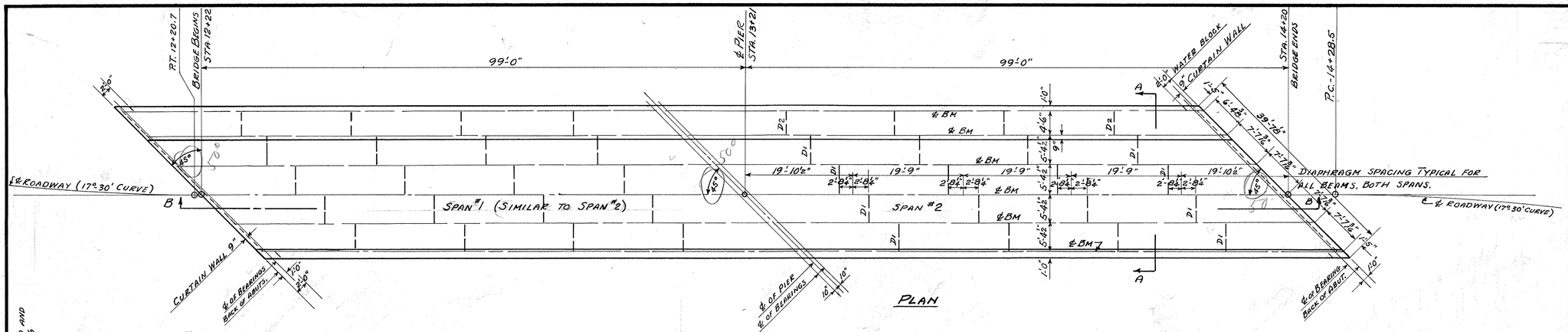
SCALE : ½" = 1'-0"

ESTIMATED QUANTITIES

CHANNEL EXCAVATION	210 C.Y.
STRUCTURE EXCAVATION	112 C.Y.
CONCRETE CLASS "C"	60 C.Y.
REINFORCING STEEL	193 LBS.
RIP RAP FOR BANK PROT(HEAVY TYPE)	269 C.Y.

Surveyed by
Designed by H.E.S.
Drawn by H.E.S.
Traced by H.W.S.
Checked by C.H.K.
Series ST. No. 1992 Filed
Sheet 4 of 17 Sheets

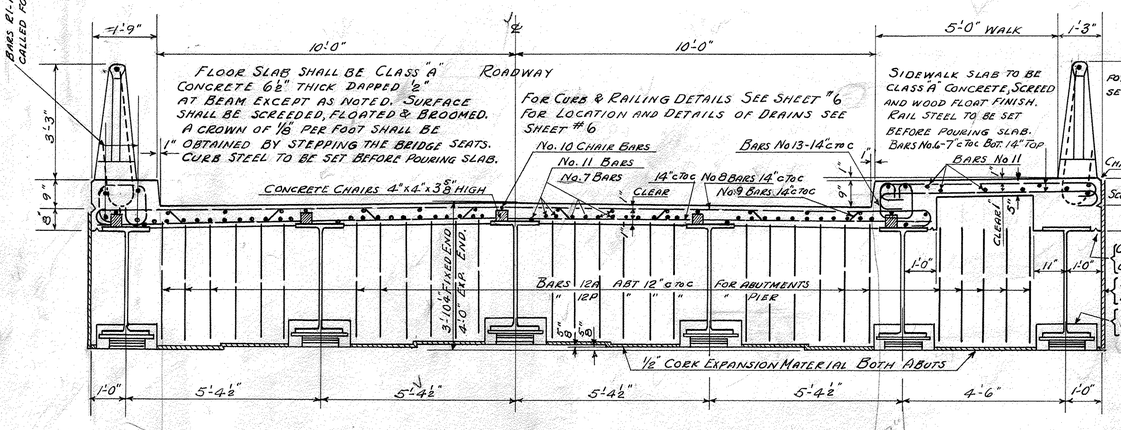
TRACED ON "IMPERIAL" TRACING CLOTH
KAFOL, N.H.
#20241



REINFORCING STEEL (FOR ONE SPAN)

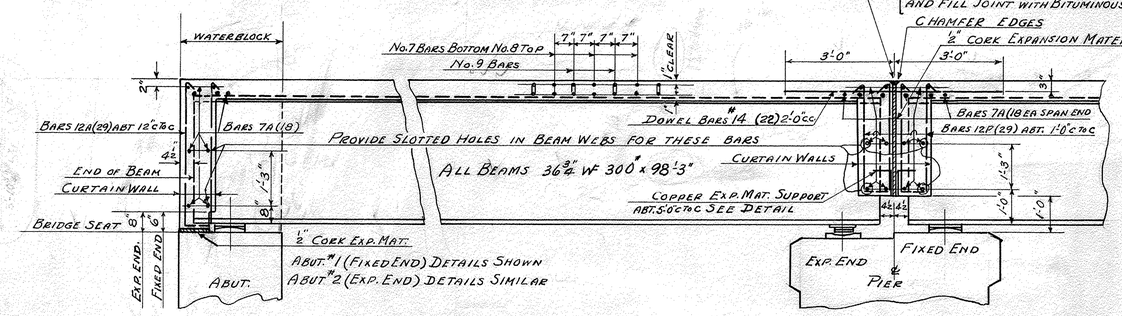
BAR	SIZE	REQ'D.	T.L.	DETAIL
6	5/8"ϕ	256	7'-4"	R=2" 4" 5'-7" FOR #6 4" 22'-10" " #8
8	"	86	24'-7"	
7	5/8"ϕ	86	22'-10"	STRAIGHT
7A	5/8"ϕ	36	21'-0"	STRAIGHT
9	5/8"ϕ	85	25'-8"	R=2" SYMM. ABT. ℄ 4'-10 3@1'-3 2'-4 3@1'-3 2'-4 3@1'-3 1'-2 11'-5"
10	¾"ϕ	15	34'-0"	STRAIGHT
11	½"ϕ	216	34'-0"	STRAIGHT.
12A	3/8"ϕ	29	7'-8"	12 6"
12P	3/8"ϕ	29	5'-11"	3'-4" FOR 12A 2'-5½" " 12P
13	5/8"ϕ	85	3'-11"	3" R=2" 6" 8"
14	1"ϕ	11	6'-0"	SMOOTH ROUND BARS. WRAP ONE END WITH PAPER.

BARS #1-#2-#3 DETAILED AND CALLED FOR ON SHEET #6

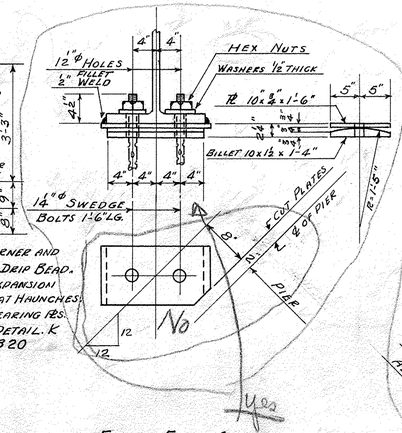


TYPICAL CROSS SECTION A-A

EXPANSION END ABUTMENT SHOWN
FIXED END ABUTMENT SIMILAR

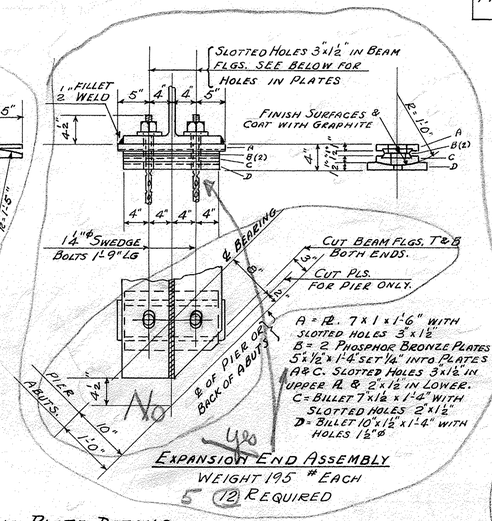


PART LONGITUDINAL SECTION B-B



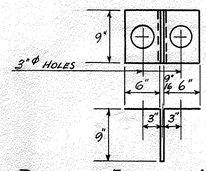
FIXED END ASSEMBLY

WEIGHT 124# EACH
5 (12) REQUIRED



EXPANSION END ASSEMBLY

WEIGHT 195# EACH
5 (12) REQUIRED



DETAIL OF EXPANSION MATERIAL SUPPORTS.

MATERIAL 20 OUNCE COPPER
9 REQUIRED
PAYMENT TO BE INCLUDED IN UNIT PRICE BID FOR CONCRETE CLASS 'A'
SCALE: 1" = 1'-0"

BEARING PLATE DETAILS

SCALE: 1" = 1'-0"

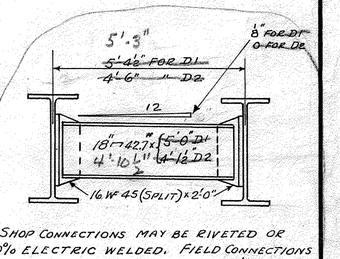
NOTES

STEEL SUPERSTRUCTURE :- TO INCLUDE (6) WF BEAMS, (12) BEARING PLATES, AND (20) DIAPHRAGMS PER SPAN.
CAMBER :- ALL BEAMS SHALL BE ROLLED TO A TRUE CIRCULAR CAMBER FOR THE FULL LENGTH OF THE BEAM. THE MIDDLE ORDINATE OF THE CAMBER TO BE 4½".
PAINT :- ALL STRUCTURAL STEEL SHALL BE PAINTED AS SPECIFIED UNDER ITEM 413-A-8 OF PAMPHLET E, STANDARD ROAD AND BRIDGE SPECIFICATIONS, STATE OF VERMONT, 1936. THE FINAL COAT OF PAINT SHALL BE GREEN UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
QUANTITIES :- THIS SHEET INCLUDES QUANTITIES FOR BRIDGE FLOOR ONLY. FOR DETAILS AND QUANTITIES FOR CURB AND RAIL SEE SHEET No. 6 SB #5C FOR LOCATION OF FIXED & EXPANSION BEARINGS SEE PLAN AND PROFILE SHEET No. 1
DRAINS :- FOR DETAILS AND LOCATION SEE SHEET #6

FURNISH TRANSVERSE BARS AS FOR SQUARE SPAN. FOR SKEW ENDS:- CUT BARS IN FIELD TO FIT. ONE SKEW END USING CUT OFF ENDS AT OPPOSITE END OF SPAN.

ALL LONGITUDINAL BARS TO BE PLACED PARALLEL TO THE CENTERLINE. ALL TRANSVERSE BARS NORMAL TO CENTERLINE, EXCEPT BARS 7A, WHICH ARE TO BE SET PARALLEL TO THE SKEW.

THE BAR 7A AT EACH SPAN END, WHICH IF EXTENDED, WOULD COME UNDER SIDEWALK SLAB, IS TO BE CUT OFF, USING THE CUT OFF END IN SIMILAR LOCATION IN SIDEWALK SLAB.



SHOP CONNECTIONS MAY BE RIVETED OR 100% ELECTRIC WELDED. FIELD CONNECTIONS SHALL BE 100% ELECTRIC WELDED. 4-½"ϕ BOLTS MAY BE USED AT EACH END FOR ERECTION.

DIAPHRAGMS TO BE PLACED AS SHOWN ON PLAN
32 - D1 REQUIRED 16
8 - D2 " "

DETAIL OF DIAPHRAGMS

ESTIMATED QUANTITIES

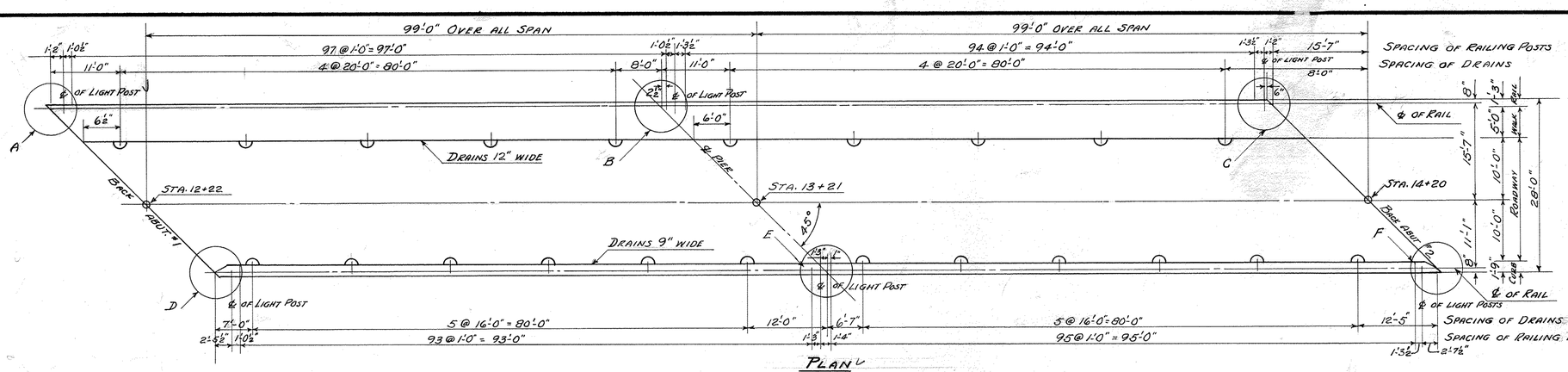
FOR BOTH SPANS	
CONCRETE CLASS "A"	143.6 C.Y.
REINFORCING STEEL	31,236 LBS.
STEEL SUPERSTRUCTURE	369,646 LBS.

SUPERSTRUCTURE DETAILS MARKET BRIDGE TUNBRIDGE

SCALE: ½" = 1'-0" EXCEPT NOTED.

Surveyed by	F. S. BARRETT
Designed by	J.G.G.
Drawn by	H.E.S.
Traced by	D.W.P.
Checked by	C.M.K.
Series ST.	No. 199 L Filed
	Sheet 5 of 17 Sheets

TRAVED ON HERCULITE TRACING CLOTH K & E CO. N.Y. #20241

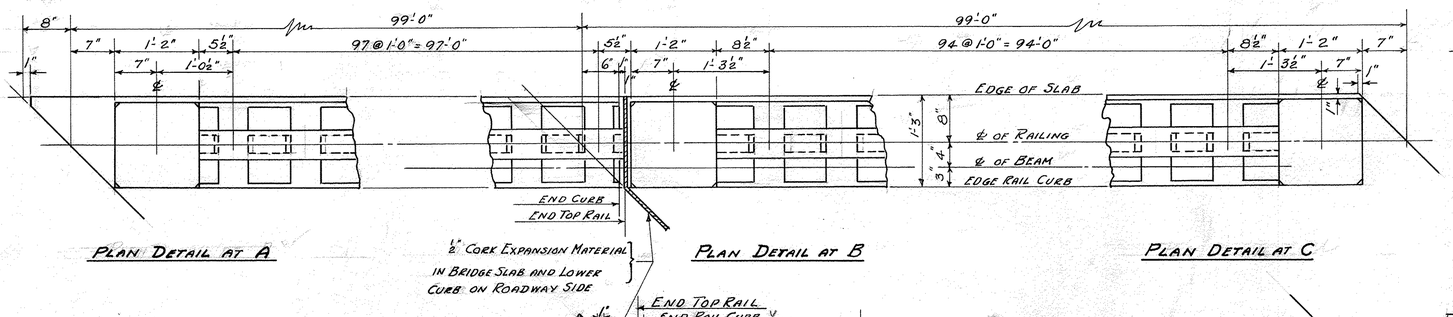


PLAN

SHOWING LAYOUT OF RAILING AND DRAINS
SCALE 1-1" = 10'-0"

REINFORCING STEEL

BAR	SIZE	REQD.	T.L.	DETAIL
R1	5/8"ϕ	200	5'-0"	R = 3", 4", 6", 11"
R2	5/8"ϕ	32	26'3"	STRAIGHT
R3	3/4"ϕ	384	6'-3"	R = 4", 1'-6", 4", 3'-8", 3'-12"
R4	3/4"ϕ	24	4'-6"	
R5	3/4"ϕ	20	19'-8"	STRAIGHT-CUT TO FIT AS NECESSARY

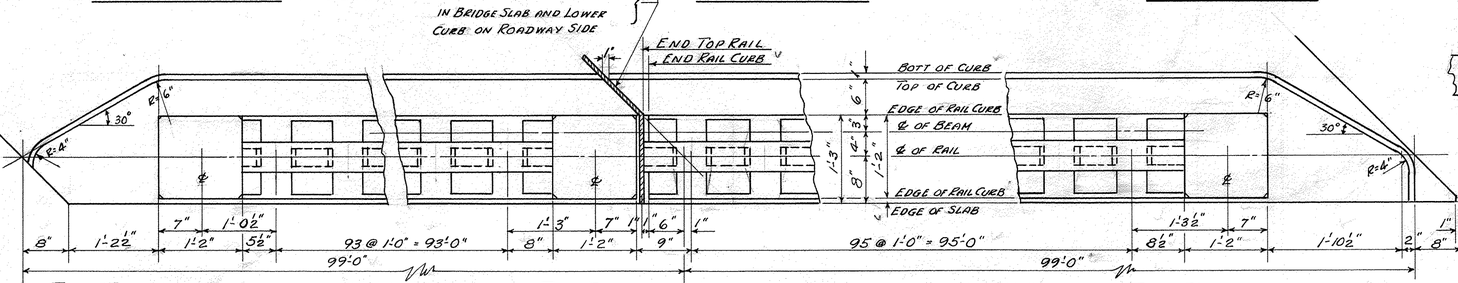


PLAN DETAIL AT A

PLAN DETAIL AT B

PLAN DETAIL AT C

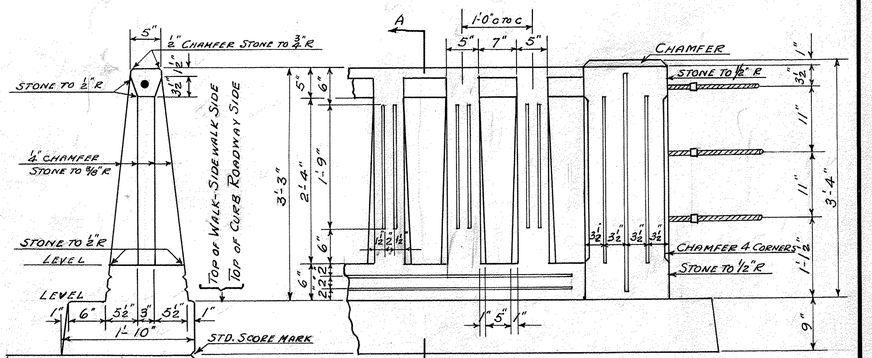
½" CORK EXPANSION MATERIAL IN BRIDGE SLAB AND LOWER CURB ON ROADWAY SIDE



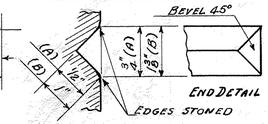
PLAN DETAIL AT D

PLAN DETAIL AT E

PLAN DETAIL AT F



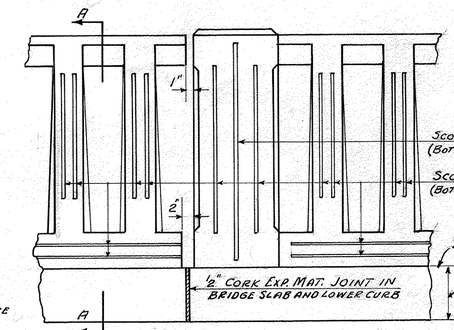
INSIDE ELEVATION AT END POSTS
TYPICAL FOR POINTS A-C-D-F
SCORE MARKS AS SHOWN BELOW



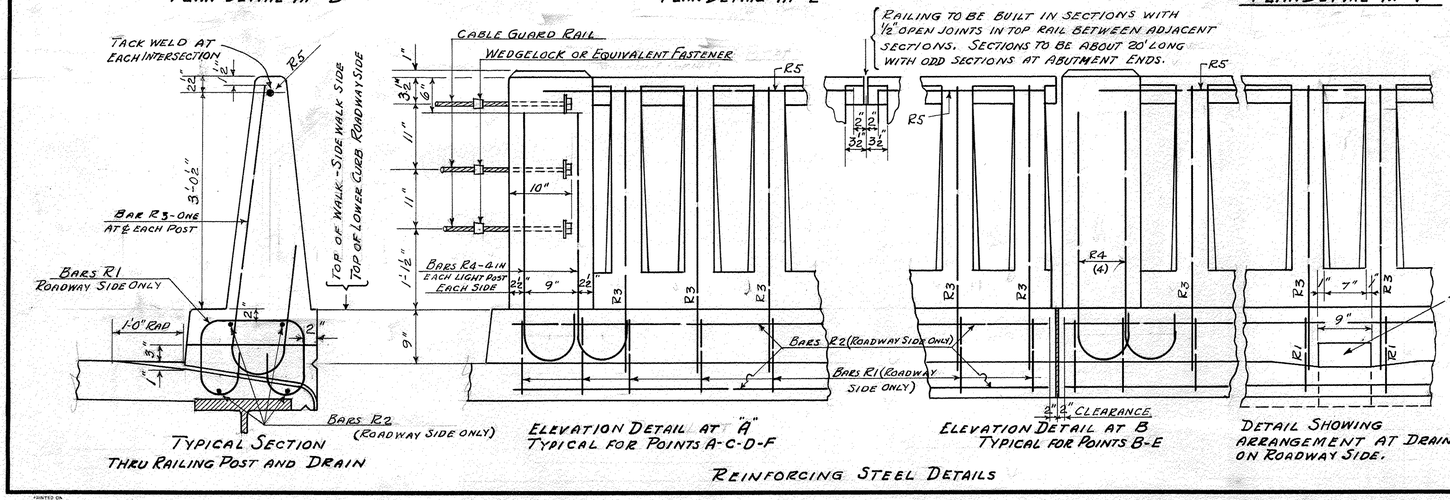
SECTION A-A

END DETAIL

DETAIL OF SCORE MARKS



INSIDE ELEVATION OVER PIER
DETAIL AT E SHOWN SIMILAR AT B
FOR DIMENSIONS NOT GIVEN SEE PLAN DETAILS AND ELEVATION ABOVE.



TYPICAL SECTION THRU RAILING POST AND DRAIN

ELEVATION DETAIL AT "A" TYPICAL FOR POINTS A-C-D-F

ELEVATION DETAIL AT B TYPICAL FOR POINTS B-E

DETAIL SHOWING ARRANGEMENT AT DRAINS ON ROADWAY SIDE.

NOTES:-

PAYMENT FOR BALUSTRADE RAIL SHALL INCLUDE:- CABLE FASTENERS AT END POSTS; CONCRETE CLASS A-A FOR LIGHT POSTS, BALUSTERS, AND TOP RAIL; CONCRETE CLASS "A" FOR RAIL CURB; RAIL STEEL (BARS R3-R4-R5); AND ALL LABOR AND OTHER MATERIALS INCIDENTAL TO THE INSTALLATION OF SAME.

QUANTITIES FOR CURB CONCRETE AND REINFORCING SHALL BE PAID FOR AT THE UNIT PRICE BID FOR CONCRETE CLASS "A" AND REINFORCING STEEL.

DRAINS TO BE INSTALLED AS INDICATED.

WEIGHT OF RAIL AND POSTS (WITHOUT CURB) ABT. 187#/Ft.
WEIGHT OF CURB ABT. 200#/Ft.

ESTIMATED QUANTITIES

BALUSTRADE RAIL	391 L.F
CONCRETE CLASS "A" (FOR LOWER CURB)	9.6 C.Y.
REINF. STEEL (" " ")	1920 LBS.

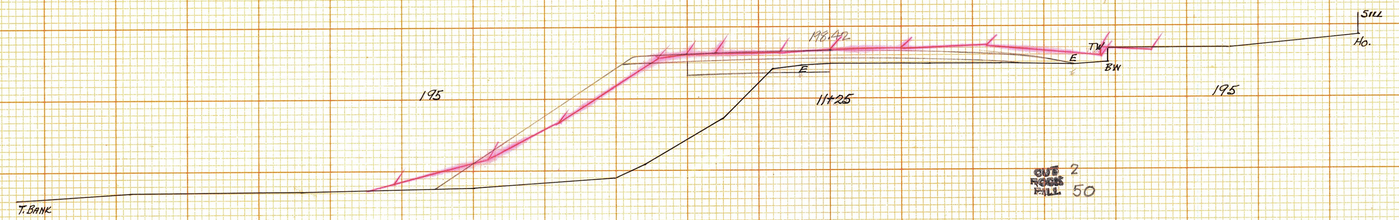
REINFORCING STEEL DETAILS

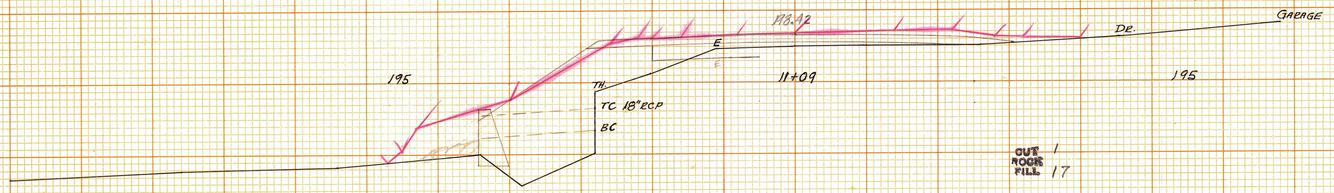
RAILING AND DRAINAGE DETAILS
MARKET BRIDGE
TUNBRIDGE
SCALE:- 1" = 1'-0" EXCEPT NOTED.

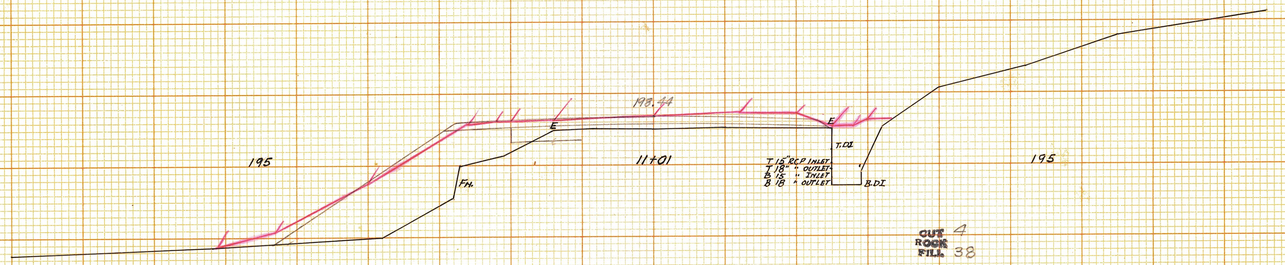
Surveyed by
Designed by H.E.S.
Drawn by H.E.S.
Traced by D.W.P.
Checked by C.H.K.
Series ST. No. 1991 Filed
Sheet 6 of 17 Sheets

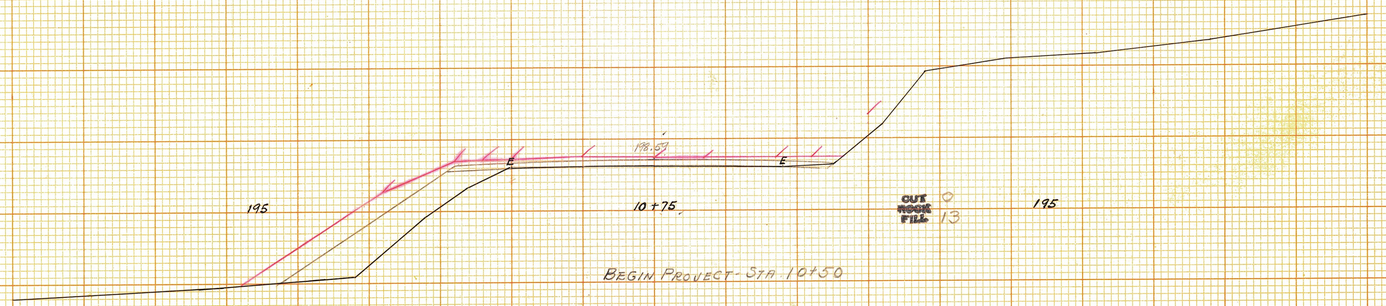
PRINTED ON "IMPERIAL" TRACING CLOTH
K & E CO., N. Y.
E 29241

℄









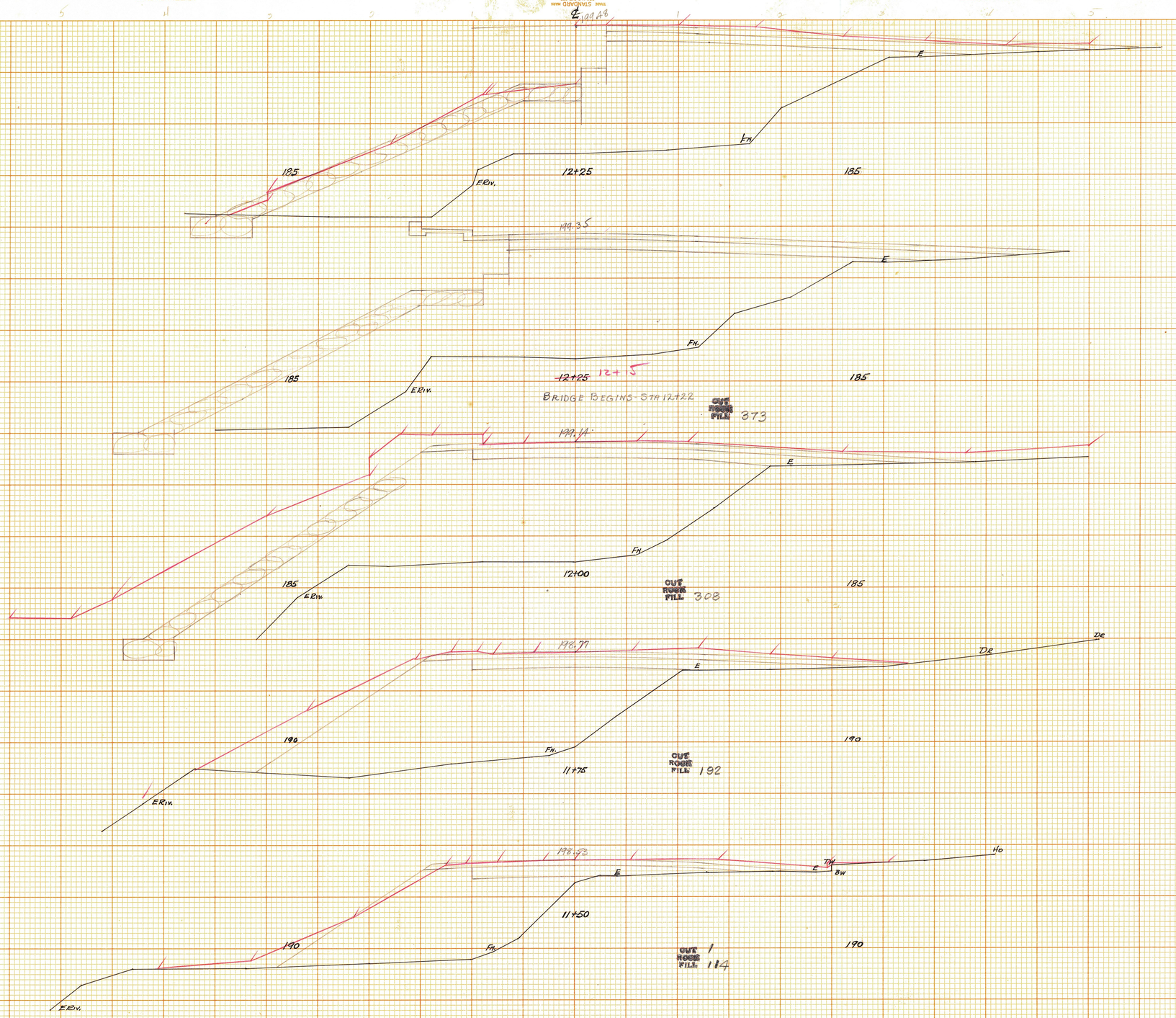
BEGIN PROJECT - STA 10+50

MARKET BRIDGE
TUNBRIDGE
ST. 1991

SHEET NO. 12 OF 17

℄

KEUFFEL & ESSER CO.
NEW YORK
TRADE STANDARD MARK
REG. U.S. PAT. OFF.
CROSS SECTION 10 X 10
100% RAG PAPER
MADE IN U.S.A.



MARKET BRIDGE
TUNBRIDGE
ST. 199-L

SHEET No. 13 OF 17

KEUFFEL & ESSER CO.
NEW YORK

TRACE STANDARD MARK
CROSS SECTION 10 X 10
100 SQ. AND MM. PAPER.
MADE IN U.S.A.

℄ 200.45

BR. ST.

185

13+97 B. ABUT.

200.45

185

T. ABUT.

200.46

185

B. ABUT.

13+95

185

E.R.

13+90

13+75

185

186

185

12+45 C.R.

185

E

FH

E

185

12+35 E. RIVER

185

FH

E

℄

MARKET BRIDGE

TUNBRIDGE

ST. 199-L

SHEET 14 OF 17

KEUFFEL & ESSER CO.
NEW YORK
TRADE STANDARD MADE
REG. U.S. PAT. OFF.
CROSS SECTION 10 X 10
100 SQ. INCH PAPER
MADE IN U.S.A.



MARKET BRIDGE
TUNBRIDGE
ST. 199-L
SHEET 15 OF 17

TRACE STANDARD MADE
CROSS SECTION 10 X 10
KEUFFEL & ESSER CO.
NEW YORK
MADE IN U.S.A.

FH.
E.DR.
E.DR.
E
E.
GR.
200'@
195
15+23
CUT 4
ROCK
FILL 85
T.O. TILE
B-O TILE
195
E.S.RD.
E.S.RD.
8" TILE DRAIN
TO BE RELAY & EXTENDED
E.RIV.

FH.
E
E
E GR.
200'@
195
15+00
CUT 2
ROCK
FILL 172
E.S.RD
E.SP.RD.
E.R.

FH.
E
E
E.S.RD.
200'@
195
14+75
CUT 0
ROCK
FILL 228
195
E.R.

FH.
E
E GR.
200'@
195
14+50
CUT 0
ROCK
FILL 130
195
E.R.

MARKET BRIDGE
TUNBRIDGE
ST. 199-L
SHEET 16 OF 17

TRADE STANDARD MADE
CROSS SECTION 10 X 10
100 DIVISIONS PER INCH
MADE IN U.S.A.
KEUFFEL & ESSER CO.
NEW YORK

CONSTRUCT SATISFACTORY APPROACH

E DR

E DR

T. WALL

B. WALL

C

207.16

TL

200

16+00

PROJECT ENDS

200

CONSTRUCT SATISFACTORY SIDEROAD APPROACH

E.S.R

E.S.R

ER

CUT 3
ROCK
FILL 34

E.DR.

E.DR.

T. WALL

B. WALL

C

208.91

GR

15+75

195

195

E.S.RD.

E.S.RD

ER

CUT 4
ROCK
FILL 49

E. DR.

E.DR.

T. WALL

T. O.F.

T.O.F. FILE
88' ±

3" TILE
RELAY AND EXTEND FT.

201.21

E

GR

195

15+28

195

E.S.RD.

E.S.RD

ER.

CUT 6
ROCK
FILL 56

MARKET BRIDGE
TUNBRIDGE
ST. 199-L
SHEET 17 OF 17

STA	AREA	DIST	VOL
0+00	0		
		50	884
	168		
		50	2963
	393		
		50	5556
	718		
		50	8889
	1059		
		50	12037
	1015		
		50	10463
	907		
		50	9259
	1611		
		50	14815
	2037		
		50	18241
	2222		
		50	20185
	1852		
		50	16852
	1389		
		50	12778
	1204		
		50	11019
	1167		
		50	10741
	1130		
		50	10370
	1019		
		50	9444
	870		
		50	8148
	722		
		50	6667
	593		
		50	5370
	463		
		50	4167
	370		
		50	3333
	296		
		50	2685
	241		
		50	2130
	185		
		50	1667
	148		
		50	1296
	111		
		50	963
	81		
		50	685
	56		
		50	463
	37		
		50	278
	19		
		50	93
	0		
			196,759
			3,643

STA	AREA	DIST	VOL
0+17	0		
		25	956
+42	88		
		11	1053
+53	96		
		50	5400
+103	146		
		5	633
+108	208		
		12	2844
+117	285		
		13	3611
1+10	286		
		8	1956
+18	138		
		15	926
+30	0		
		TOTAL	19,370
		TOTAL	3,585

Channel Sta.
Elevation

Natural Existing
channel sections
Asbuilt

K-Section water Railway Prism Asbuilt
Upstream To Grade

0+15

200

0+50

200

0+25

200

0+00

0 - CUT = -(0+10)

℄ 10 20 30 40 50 60 70

KEUFFEL & ESSER CO.
NEW YORK

TRADE STANDARD MARK
REG. U.S. PAT. OFF.
CROSS SECTION 10 X 10
100% RAG PAPER
MADE IN U.S.A.

0 - CUT = 1+75

200

1+50

200

1+25

200

1+00

℄ 10 20 30 40 50 60

KEUFFEL & ESSER CO.
NEW YORK

TRADE STANDARD MARK
REG. U.S. PAT. OFF.
CROSS SECTION 10 X 10
100% RAG PAPER
MADE IN U.S.A.

HAYWARD BORROW PIT

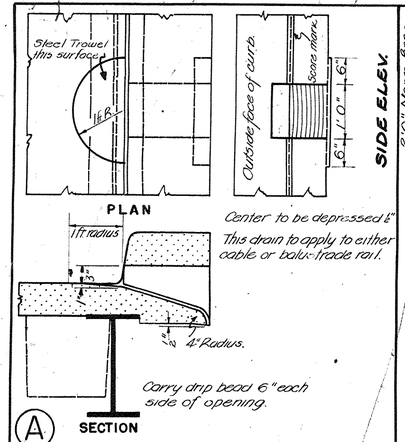
STA (FOOT)	AREA	DIST	VOL
	0 ✓		
		10	320 ✓
0+00	64 ✓		
		25	4663 7995
+25	82 69		12250 10662
		25	
+50	87 ✓		
		25	2150 ✓
+75	85 ✓		
		25	2250 ✓
1	95 ✓		
		25	1613 ✓
+25	54 ✓		
		25	2238 ✓
+50	145 ✓		
		25	1813
+75	0 ✓		

TOTAL CUT 13820 13997
✓ CY 512 518

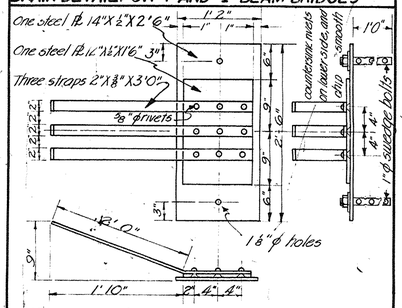
TENBRIDGE
STATE 1996
MARKET BRIDGE

HAYWARD BOROW PIT

FED.ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	VT.				



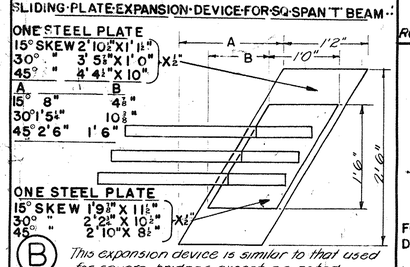
(A) DRAIN DETAIL FOR 'T' AND 'I' BEAM BRIDGES



Coat bottom of expansion plate and top of masonry plate with graphite. Paint those steel surfaces which will be exposed after erection with 2 field coats red lead in oil of approved graphite.

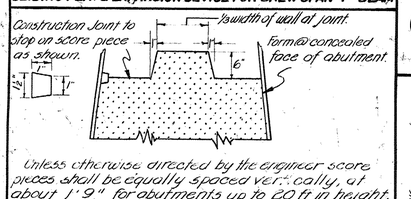
SLIDING PLATE EXPANSION DEVICE FOR SQ. SPAN 'T' BEAM

ONE STEEL PLATE	A	B
15° SKEW 2'10½" X 1'8"	8"	4½"
30° " 3'5½" X 1'0"	30°1'5½"	10½"
45° " 4'4½" X 10"	45°2'6"	1'6"



(B) This expansion device is similar to that used for square bridges except as noted.

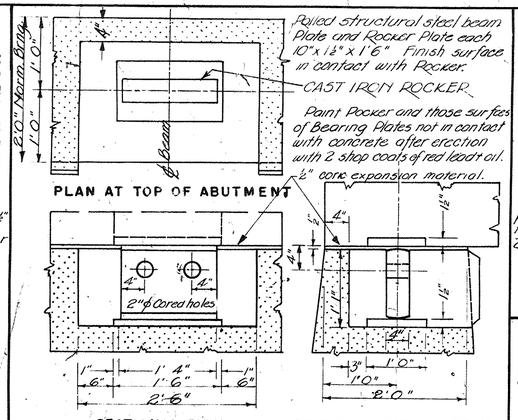
SLIDING PLATE EXPANSION DEVICE FOR SKEW SPAN 'T' BEAM



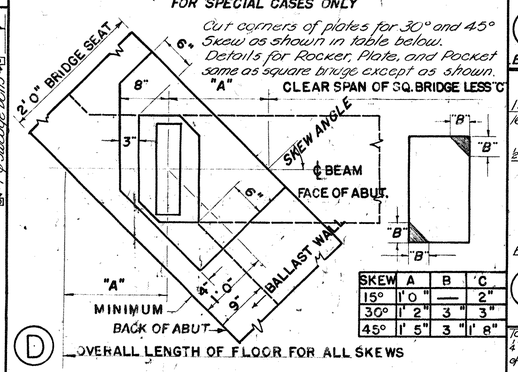
Unless otherwise directed by the engineer score pieces shall be equally spaced vertically, at about 1'9" for abutments up to 20 ft in height, and 2'6" for abutments above 20 ft height. They shall stop at underside of copings, and shall be carried around ends of walls or piers where they might be exposed to view. Score marks shall line horizontally and shall be at same level in all piers & abutments on the job.

(C) Construction joint may be made at any score mark.

SCORE MARK & CONST. JNT. FOR PIER & ABUT.



ROCKER EXPANSION DEVICE & POCKET FOR 'T' BEAM SPANS FOR SPECIAL CASES ONLY

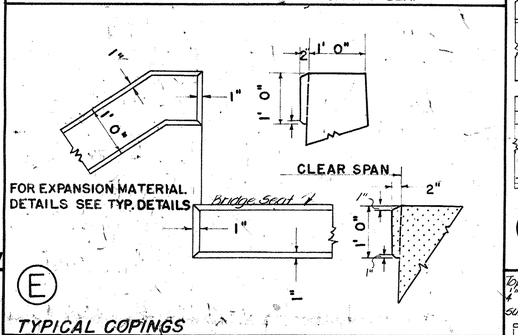


Cut corners of plates for 30° and 45° Skew as shown in table below. Details for Rocker, Plate, and Pocket same as square bridge except as shown.

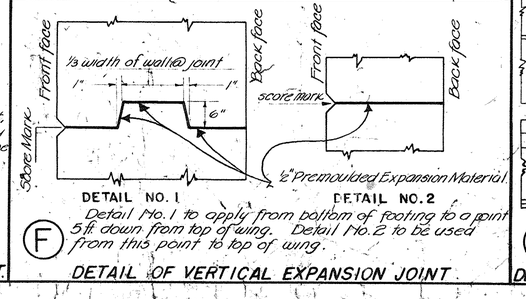
SKEW	A	B	C
15°	1'0"	—	2"
30°	1'2"	3"	3"
45°	1'5"	3"	1'8"

(D)

ROCKER EXPANSION DEVICE & POCKET FOR SKEW SPAN 'T' BEAM

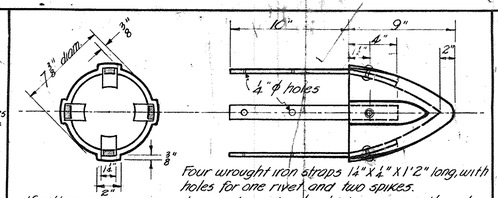


(E) TYPICAL COPINGS



(F) Detail No. 1 to apply from bottom of footing to a point 5 ft down from top of wing. Detail No. 2 to be used from this point to top of wing.

DETAIL OF VERTICAL EXPANSION JOINT

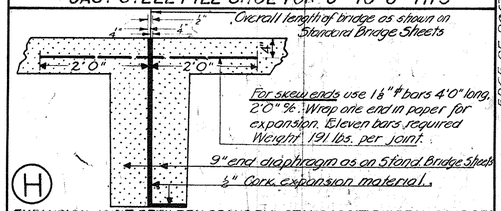


Four wrought iron straps 14"X1/4"X1'2" long, with holes for one rivet and two spikes.

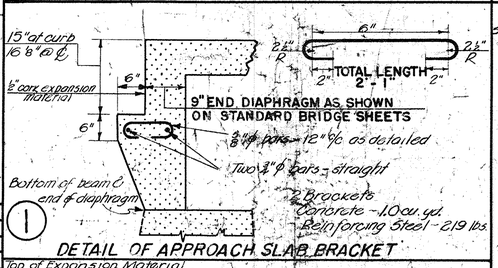
If jetting is necessary, two water jets should be used with water pressure of at least 150 lbs. per sq.in. Pump to be of piston type with a 6" dia. intake pipe & 4" outlet pipe. The jet pipe shall be about 2" dia. Nozzle to be circular in section & 1" to 1½" in diameter.

(G) Unit price bid for piles should include jetting, if necessary, and furnishing & setting pile shoes. Pile shoes, as shown above, to be used as directed by the Engineer.

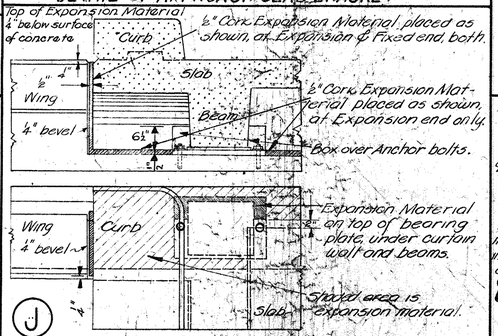
CAST STEEL PILE SHOE FOR 6" TO 8" TIPS



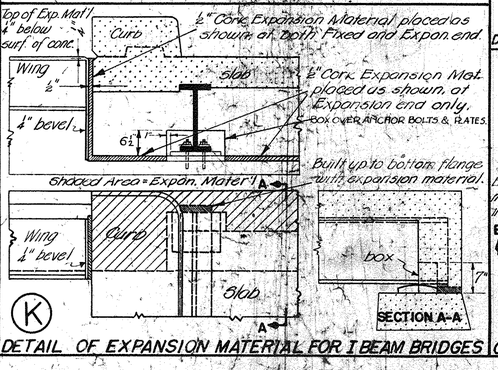
(H) EXPANSION JOINT BETWEEN SPANS FOR STANDARD 'T & I' BEAM BRIDGES



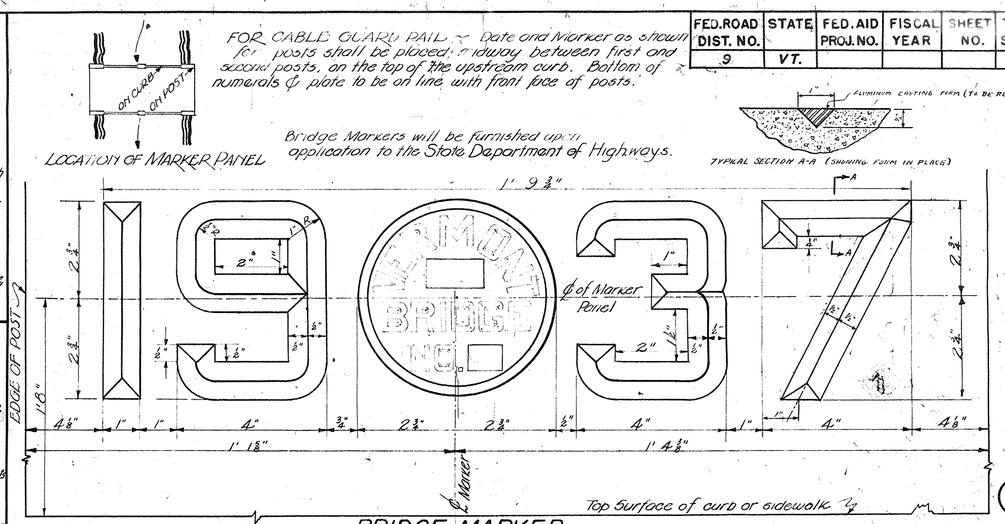
(I) DETAIL OF APPROACH SLAB BRACKET



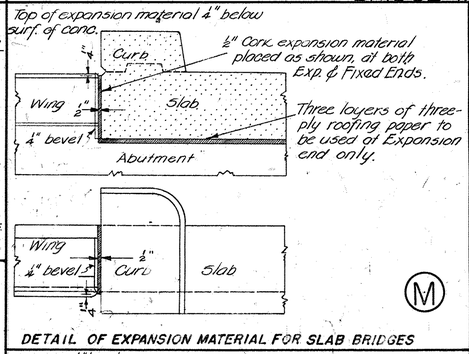
(J) DETAIL OF EXPANSION MATERIAL FOR 'T' BEAM BRIDGES



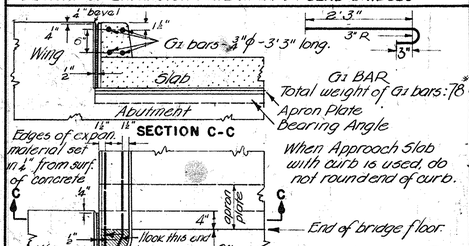
(K) DETAIL OF EXPANSION MATERIAL FOR I BEAM BRIDGES



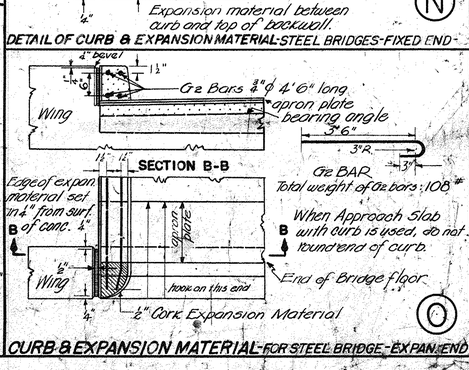
(L)



(M) DETAIL OF EXPANSION MATERIAL FOR SLAB BRIDGES



(N) DETAIL OF CURB & EXPANSION MATERIAL-STEEL BRIDGES-FIXED END



(O) CURB & EXPANSION MATERIAL-FOR STEEL BRIDGE-EXPAN. END

GENERAL NOTES

- The following notes shall govern the structures and details to which they apply.
- All work and material shall conform to the Standard Road and Bridge Specifications of the Vermont Department of Highways.
- Any suitable structure excavation used by the Contractor for any purpose other than Backfill or Approach fill shall be replaced by an equivalent quantity of Borrow by the Contractor at his expense unless same is ordered wasted by the Engineer.
- Piles shall be provided where suitable foundation can not be obtained within a reasonable depth. They shall be spaced not closer than 2'6" % , excepting as noted on plans or as directed by the Engineer. Where necessary, use detail (C) above.
- Foundations on ledge should be sloped toward the back of the footing about 1" per foot. Footings shown on plans for other conditions may be revised at the direction of the Engineer.
- All concrete for piers and gravity abutments shall be "Concrete Class C" unless otherwise directed or noted.
- All concrete for reinforced abutments shall "Concrete Class B" unless otherwise noted or directed.
- All concrete for T beam, I beam, and Slab bridges, and for curbs and rails shall be "Concrete Class A", and shall be paid for at the unit price bid for "Concrete Class A".
- All reinforcing steel for bridges and abutments shall be deformed bars, excepting as noted, and they shall conform to the standard specifications for new billet steel concrete reinforcement bars, Structural or Intermediate grade, of the American Society for Testing Materials, Serial designation A 15-33.
- 4" weep holes shall be provided in main abutment and wings. They shall be spaced symmetrically about ℄ of abutment at maximum spacing of 10 ft % . They shall be pitched 1" per foot - upward, from front to back; the lower end of the weep hole shall be 2'6" above the footing. The cost of work and material for weep holes shall be included in the unit price bid for concrete.
- The same expansion material between superstructure and substructure at expansion and at fixed end shall be included and paid for in price bid for "Concrete Class A".
- All work and material for expansion devices to be included in and paid for as the unit price bid for "Reinforcing Steel for T Beam Bridge".
- All exposed edges shall be chamfered. Dimensions of chamfer to be 1".
- Where pipes (existing or required) pass through abutments they shall be of materials and in locations directed by the Engineer.
- Cost of work & materials for such work to be included in and paid for at unit price for Abutment concrete. Where pipes are carried by superstructure they shall be supported as directed by the Engineer. The cost of all work and materials shall be paid for at the unit price bid for Superstructure Reinforcing Steel.

STATE OF VERMONT

DEPARTMENT OF HIGHWAYS

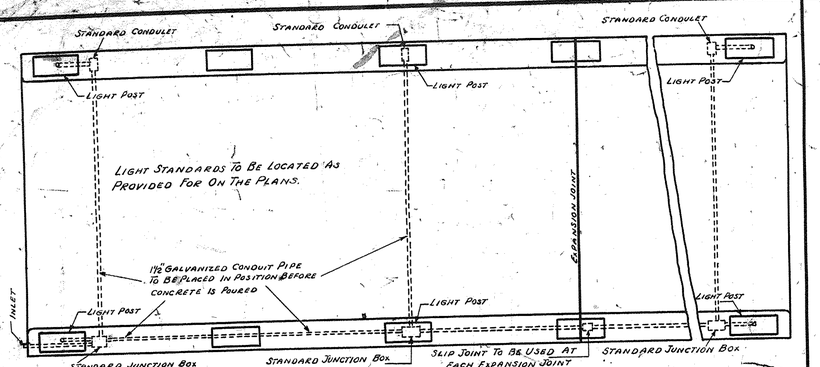
TYPICAL DETAILS

CORRECT A.D. Bishop BRIDGE ENGINEER

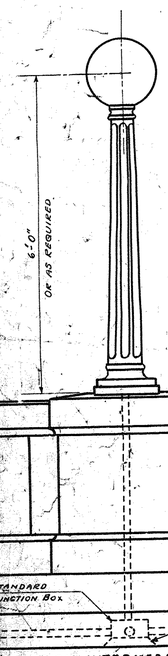
DESIGNED · DRAWN D.W.P. 1934

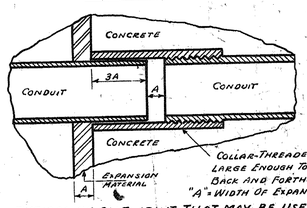
RETRACED R.E.G. OCT. 1936 CHECKED W.G.B. JAN. 1937

SERIES SB NO. 20 SHEET OF SHEETS

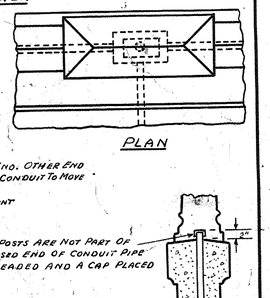


TYPICAL DIAGRAM OF LIGHTING SYSTEM



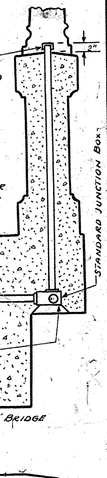


TYPICAL OF SLIP JOINT THAT MAY BE USED

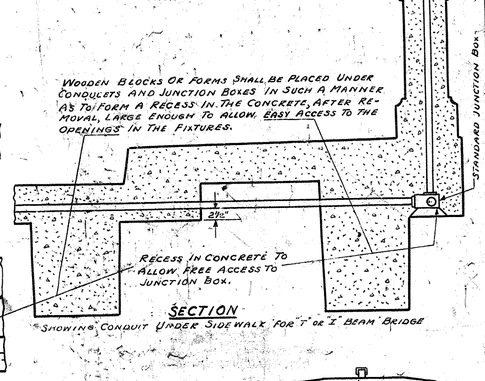


PLAN

When Light Posts Are Not Part Of Contract, Exposed End Of Conduit Pipe Shall Be Threaded And A Cap Placed There On.

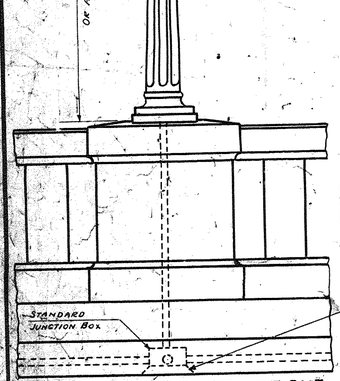


Wooden Blocks Or Forms Shall Be Placed Under Conduits And Junction Boxes In Such A Manner As To Form A Recess In The Concrete, After Removal, Large Enough To Allow Easy Access To The Openings In The Fixtures.



SECTION

Showing Conduit Under Sidewalk For "T or "I" Beam Bridge



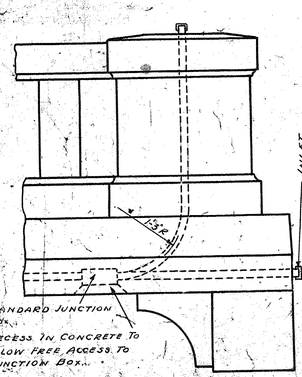
ELEVATION INTERMEDIATE LIGHT POST

SPECIFICATIONS

Company Furnishing Light Standards Shall Provide Anchor Bolt Plans. If Directed Anchor Bolts For Light Standards Shall Be Placed In Post Forms Before Concrete Is Placed.

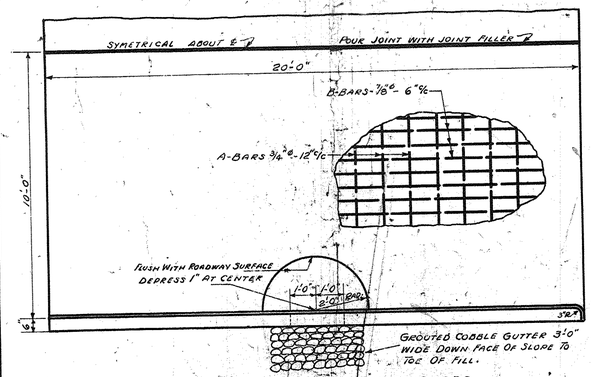
All Work And Materials Entered Into This Lighting System Installation Shall Be Standard Work And Materials, Required For This Class Of Work, And Shall Be Performed In Such A Manner As To Conform To The Code Of The National Board Of Fire Underwriters.

When Installation Of Lights Is Not Part Of Contract, Lump Sum Bid For Conduit For Lighting System, Shall Cover The Cost Or Labor And Materials For The Installation Of The Complete Conduit System, But Not To Include Wiring Or Lamp Post.

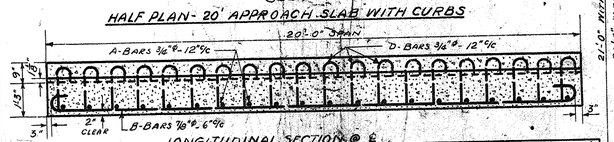


END LIGHT POST-SHOWING INLET

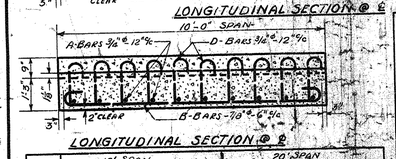
STANDARD DETAIL S-113



HALF PLAN- 20' APPROACH SLAB WITH CURBS

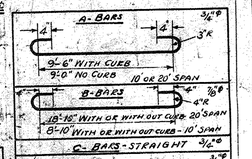


LONGITUDINAL SECTION @ ℄



LONGITUDINAL SECTION @ ℄

	10' Span				20' Span			
	A-Bar. With Curb	A-Bar No Curb	C-Bar	D-Bar	A-Bar With Curb	A-Bar No Curb	C-Bar	D-Bar
Size	⅞"ø	⅞"ø	⅞"ø	¾"ø	⅞"ø	⅞"ø	⅞"ø	¾"ø
Tot. Length	11'-8"	11'-2"	11'-6"	11'-6"	21'-8"	21'-2"	21'-6"	21'-6"
No'd	20	20	42	40	4	20	40	40



REINFORCING STEEL DETAILS

DETAIL AT EXPANSION END OF STEEL BRIDGE

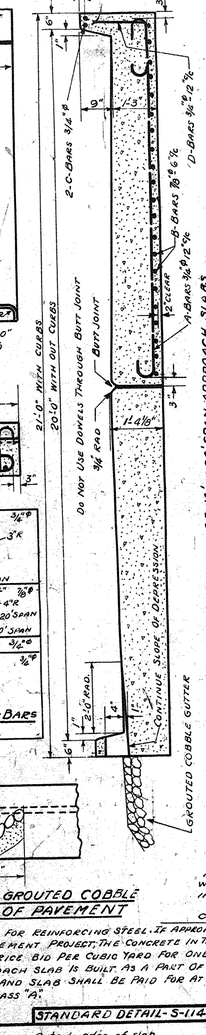
DETAIL AT FIXED END OF STEEL BRIDGE

	With Out Curb 10' Span	With Out Curb 20' Span	With Curb 10' Span	With Curb 20' Span
Concrete	9.6 C.Y.	19.2 C.Y.	10.6 C.Y.	20.7 C.Y.
Reinf. Steel	1292 Lbs.	2459 Lbs.	1567 Lbs.	2966 Lbs.

ESTIMATED QUANTITIES FOR ONE SLAB

All Reinforcing Steel Paid For At Unit Price Bid For Reinforcing Steel. In Approach Slab Is Built In Connection With A Concrete Pavement Project, The Concrete In The Curb And Slab Shall Be Paid For At The Unit Price Bid Per Cubic Yard For One Course Concrete Pavement. If Approach Slab Is Built As A Part Of A Bridge Project Only The Concrete In The Curb And Slab Shall Be Paid For At The Unit Price Bid Per Cubic Yard For Concrete Class "A".

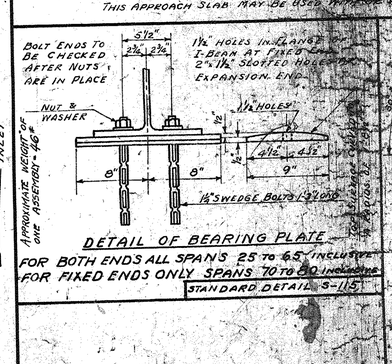
This Approach Slab May Be Used Wherever With Out A Curb.



CROSS SECTION OF 10 OR 20' SPAN APPROACH SLABS

CROSS SECTION OF GROUTED COBBLE GUTTER AT EDGE OF PAVEMENT

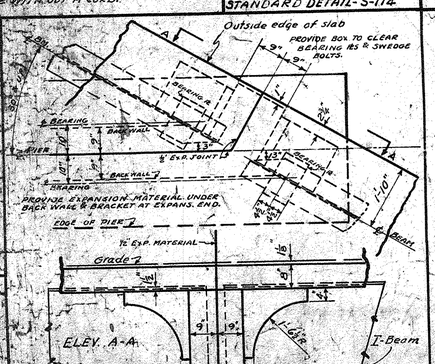
STANDARD DETAIL S-114



DETAIL OF BEARING PLATE

FOR BOTH ENDS ALL SPANS 25 TO 65' INCLUSIVE
FOR FIXED ENDS ONLY SPANS 70 TO 80 Inclusive

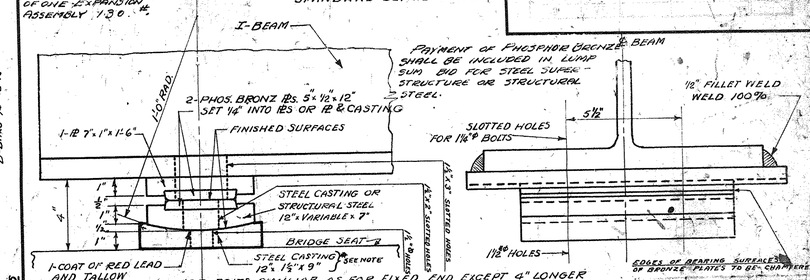
STANDARD DETAIL S-115



STANDARD DETAIL S-116

Approximate Weight Of One Expansion Assembly 130 #

NOTE: FOR FIXED END SEE STANDARD DETAIL S-115

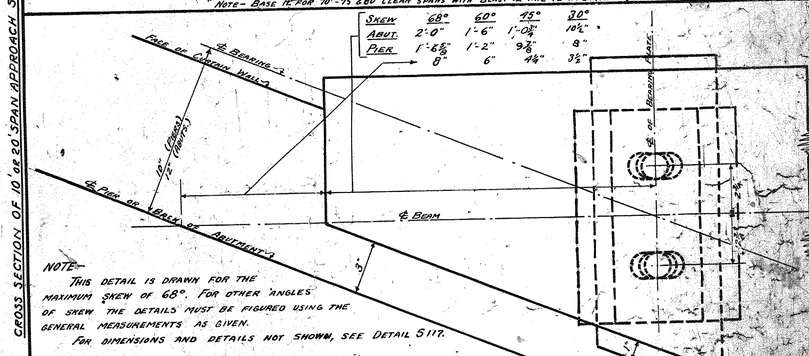


ANCHOR BOLTS SIMILIAR AS FOR FIXED END EXCEPT 4" LONGER

EXPANSION PLATES FOR 70-75 & 80 Ft. CLEAR SPANS- I BEAMS

* Note- Base Pl. For 70'-75' & 80' Clear Spans With Blast Pl. Are 12"x 1¼"x 12"

STANDARD DETAIL S-117



NOTE-

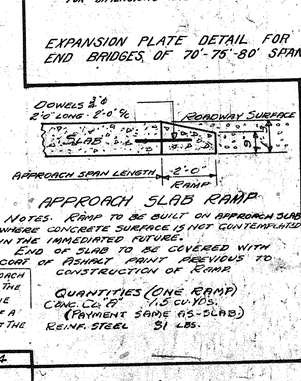
This Detail Is Drawn For The Maximum Skew Of 68°. For Other Angles Of Skew The Details Must Be Figured Using The General Measurements As Given.

For Dimensions And Details Not Shown, See Detail S-117.

EXPANSION PLATE DETAIL FOR SKEW END BRIDGES, OF 70'-75'-80' SPANS.

Large Plate Coped To Fit Skew Leaving ½" Beyond Edge Of Flange.

STANDARD DETAIL S-118



APPROACH SLAB RAMP

Notes: Ramp To Be Built On Approach Slab Where Concrete Surface Is Not Contemplated In The Immediated Future. End Of Slab To Be Covered With Coat Of Asphalt Paint Previous To Construction Of Ramp.

Quantities (One Ramp)
Conc. Cl. "A" 1.5 cu yds.
(Payment Same As Slab)
Reinf. Steel 31 lbs.

TYPICAL DETAILS

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

CORRECT: A.D. Gardner
BRIDGE ENGINEER

Revisions			
Standard Detail S-115 Added		7-M-34	
" S-114	"	9-V-35	
" S-117	"	10-A-38	
" S-118	"	12-D-38	
" S-114 Key Plan & Details Revised		5-M-39	

Surveyed by		
Designed by	C.W.P.	5/8/38
Drawn by	C.W.P.	5/8/38
Traced by	D.W.R.	5/8/38
Checked by	C.W.P.	
Series S.B.	No. 21	Filed
Sheet	of	Sheets

2005-Jan-7,30-BSC

BETHLEHEM STEEL COMPANY

FABRICATED STEEL CONSTRUCTION

Beth DRAFTING ROOM Beth WORKS

BILL OF RODS

TYPE A | TYPE B | TYPE C | TYPE D | TYPE E | TYPE F | TYPE G | TYPE H | TYPE K | TYPE M | TYPE N

LINE	No. OF RODS	MARK	TYPE	SECTION	RODS LENGTH L FT.	RODS LENGTH L IN.	DETAIL INFORMATION: BEVEL A	BEVEL B	SCREW E	SCREW D	INSERT	PIN-HOLE P.H.	Stamped	Ready for Del.	NUTS No.	NUTS OR HEX.	WEIGHT EACH WITH NUTS	MILL ORDER No. FOR POS.	MILL ORDER STOCK ORDER	MILL ORDER LENGTH FT.	MILL ORDER LENGTH IN.	ITEM
1																						
2	24	AB1	M	14	16				3½		R				24	Hex						SF9460
3	24	AB2	M	14	19				3½		R				24	Hex						↓
4																						
5																						
6	48	BW21	Std Bev Wash 2½ x ⅜ (Av Th.) x 2½									1 5/16" Hole										Pcs
7																						
8																						
9																						
10		Paint																				
11		Anchor Bolts Hdgs - Thrds one Coat of Oil																				
12		Bev Washers - One Coat																				
13																						
14																						
15																						
16																						
17																						
18																						
19																						
20		Ship List																				
21	12	AB1 - Span A																				
22	12	AB1 - Span B																				
23	12	AB2 - Span A																				
24	12	AB2 - Span B																				
25	24	BW21 - Span A																				
26	24	BW21 Span B																				
27																						

TOTAL WEIGHT OF MATERIAL ON THIS PAGE

PAINT- As Noted

ADD ALL TYPE K BOLTS ½"Ø TO 1¼"Ø INCL. UP TO 2'-6" INCL. IN LENGTH ON BOLT LIST, FORM 2819

( ) Supt. ☐ Layout ☐ Temp. Shop ☐ Smith Shop ☐ Leader ☐ Scale ☐ Punch. Dept. ☐ Erection ☐ O. Insp. ☐
( ) Supt. ☐ Fitter ☐ Mach. Shop ☐ Rod Shop ☐ Shipper ☐ Bill ☐ Owners ☐ S. Insp. ☐ App'l ☐

IN CHARGE OF Dickert

MADE BY FPD DATE 7/1/58

CHECKED BY JAJ DATE 7/1/58

SHOP NO.

REV. BY

DATE

CONTRACT CP3251-1

BILL PAGE NO. M 1 OF

USE AS B. F. P.

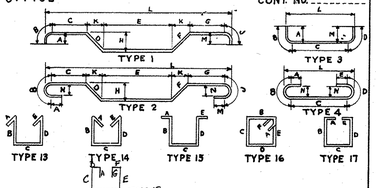
ACCOMP. T. J. Harvey & Son - Adams, Mass. STRUCTURE Market Bridge Tyngsboro, Vt.

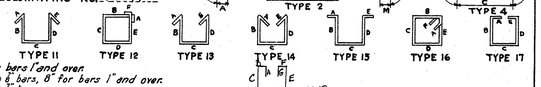
SHEET NO. 28
DATE 6-29-38
REVISION

BETHLEHEM STEEL COMPANY
BOSTON OFFICE

JOB No. 32R87
CONT. NO.

JOB MARKET BRIDGE
LOCATION TYNGBRIDGE, VT.
CUSTOMER THOMAS J. HARVEY & SON
ARCHITECT STATE OF VT.
THIS SHEET COVERS COMPLETE REIN.
MATERIAL SHOWN ON CUST DRAWING NO. LTC17





DEDUCTIONS.
- ½" for bars 4" to 8"
- 1" for bars 1" and over.

Square bend.
- 1" for bars 4" to 8"
- 2" for bars 1" and over

Type 11-13-14 6" for ¼" to ⅜" bars 8" for bars 1" and over
Type 15-17 3" for ¼" bars, 4" for ½" to ⅝" bars, 8" for bars 1" and over.
Type 12 3" for ¼" bars, 4" for ⅜" to ⅝" bars
Type 16 2" for ¼" bars, 3" for ⅜" to ⅝" bars

All dimensions are out to out. Dimensions omitted are zero.

LOCATION	REINFORCING STEEL								BENDING DIMENSIONS												
	NUMBER OF MEMBERS	PER MEMBER	TOTAL NO. REQ'D.	SIZE	LENGTH	MARK	SPACING	STRAIGHT BENT	TYPE	A	B	C	D	E	F	G	J	M	H	K	N	L
ABUT #1																						
FOOTING BARS	2	14	28	⅞" ⌀	10-1	A		B	4	4	1-0½	7-3	1-0½	4							7	8-0
" "	2	16	32	⅞" ⌀	8-7	B		B	4	4	1-0½	5-9	1-0½	4							7	6-6
COL. VERT. BACK	2	7	14	1¼" ⌀	16-7	C		B	4	5	1-4	14-10									9	15-3½
" " FRONT	2	5	10	1¼" ⌀	14-9	D		B	4	5	1-4	13-0									9	13-5½
COL. HOOPS	2	1	2	¼" ⌀	15-0	E1		S														
" "	2	1	2	¼" ⌀	14-5	E2		S														
" "	2	1	2	¼" ⌀	13-10	E3		S														
" "	2	1	2	¼" ⌀	13-3	E4		S														
" "	2	1	2	¼" ⌀	12-7	E5		S		ALL BENT IN FIELD												
" "	2	1	2	¼" ⌀	12-0	E6		S														
" "	2	1	2	¼" ⌀	11-5	E7		S														
" "	2	1	2	¼" ⌀	10-10	E8		S														
" "	2	1	2	¼" ⌀	10-2	E9		S														
" "	2	1	2	¼" ⌀	9-7	E10		S														
" "	2	1	2	¼" ⌀	9-0	E11		S														
BKT BARS	2	2x3	12	1" ⌀	11-0	F		S														
BM BOT	1	4	4	1⅛" ⌀	43-0	GA		S														
" "	1	3	3	1⅛" ⌀	26-0	GB		S														
" STIRRUPS	1	67	67	⅝" ⌀	9-10	J		B	18	9	6	3-1½	1-7	3-1½	6	9						
HAUNCH VERT	2	6	12	1" ⌀	7-0	K		S														
BM. TOP	1	7	7	1¼" ⌀	50-2	H		4	4	5½	1-4	46-7	1-4	5½							9	47-6
PIER REIN.																						
FOOTING DOWELS	1	72	72	⅞" ⌀	5-7	A		S														
VERT. EN. FACE	2	36	72	⅞" ⌀	18-2	B		S														
HOR. " "	2	17	34	½" ⌀	40-0	C		S														
HOR TOP OF PIER	1	16	16	⅞" ⌀	3-3	D		S														
COL. HOR.	2	15	30	⅜" ⌀	18-0	E		S		BENT IN FIELD												
ABUT #2																						
VERT IN HAUNCH	2	6	12	1" ⌀	6-0			S														

SHEET NO. B4
DATE 6-22-38
REVISION

BETHLEHEM STEEL COMPANY
BOSTON OFFICE

JOB NO. 38R37
CONT. NO.

JOB MARKET BRIDGE
LOCATION TWINBRIDGE, VT.
CUSTOMER THOMAS J. HARVEY & SON
ARCHITECT STATE OF VT.
THIS SHEET COVERS COMPLETE REIN.
MATERIAL SHOWN ON CUST DRAWING NO. LT to 17

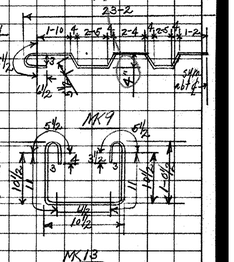
DEDUCTIONS:
- 1/2" for bars 4" to 8" / 1" for bars 1" and over.
- Square bend: 1" for bars 4" to 8" / 2" for bars 1" and over

Type 11-13-14 2" for 4" to 8" bars 4" for bars 1" and over.
Type 15-17 3" for 4" bars, 4" for 5/8" to 8" bars, 8" for bars 1" and over.
Type 12 3" for 4" bars, 4" for 5/8" to 8" bars
Type 16 2" for 4" bars, 3" for 5/8" to 8" bars

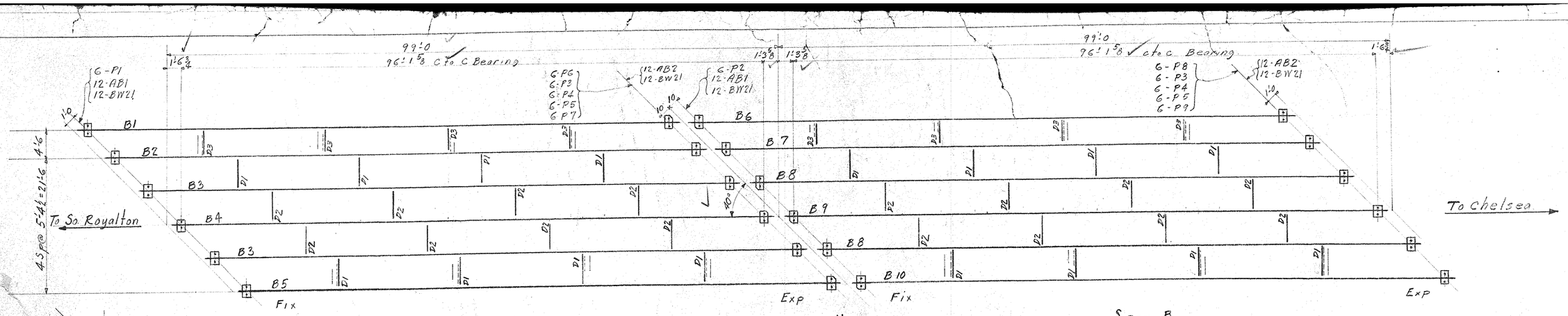
TYPE 1 TYPE 2 TYPE 3 TYPE 4
TYPE 11 TYPE 12 TYPE 13 TYPE 14 TYPE 15 TYPE 16 TYPE 17

All dimensions are out to out. Dimensions omitted are zero.

LOCATION	NUMBER OF MEMBERS	REINFORCING STEEL PER MEMBER	TOTAL NO. REQD.	SIZE	LENGTH	MARK	SPACING	DIAGRAM BENT TYPE	BENDING DIMENSIONS A	B	C	D	E	F	G	J	M	H	K	N	L
DECK 2 SPANS																					
SIDEWALK TO CURB	2	256	512	5/8 ϕ	7-4	6		B 4	5	5 1/2	5-7	5 1/2	5							3	5 11
DECK SLAB TRANS. TOP	2	86	172	5/8 ϕ	24-7	8		B 4	5	6 1/2	22-10	6 1/2	5							3	23-2
LONG BAT TOP	2	86	172	5/8 ϕ	22-10	7		S													
END OF SPAN	2	2x18	72	5/8 ϕ	21-0	7A		S													
DECK SLAB TRANS	2	85	170	5/8 ϕ	25-8	9		B			SEE DETAIL										
CHAIR BARS	2	15	30	3/4 ϕ	34-0	10		S													
BAT LONG	2	216	432	1 1/2 ϕ	34-0	11		S													
DOWEL AT EXP. JT.	1	11	11	1" PR	6-0	14		S			PLAIN ROUND										
STIR. SDWK. CURB	2	85	170	5/8 ϕ	3-11	13		B			SEE DETAIL										
BM. STIR. AT ABMT	2	29	58	3/8 ϕ	7-8	12A		B 13	4	3-4	6	3-4	4								
" " AT PIER	2	29	58	3/8 ϕ	5-11	12 P		B 13	4	2-5 1/2	6	2-5 1/2	4								
						MK R1															
RAILING																					
DOUBLE RAIL SIDE	1	200	200	5/8 ϕ	5-0	R1		B			SEE DETAIL										
HOK " "	1	32	32	5/8 ϕ	26-3	R2		S													
VERT 1ST SWK SIDE 1ST RAIL "	1	384	384	3/4 ϕ	6-3	R3		B 4	1-7	1-0	3-8									7	4-0
VERT EA. SIDE AT EA. SIDE LT. POST	2	3x4	24	3/4 ϕ	4-6	R4		B 4	4 1/2	1-0	3-11 1/2									7	3-5 1/2
TOP OF RAIL EA. SIDE	2	10	20	3/4 ϕ	19-8	R5		S			CUT TO FIT AS NECESSARY										
CABLE GUARD ANCH	7	8	56	1/2 ϕ	1-10			S													
CONCRETE HD. WALL	18" PIPE																				
	1	4	4	5/8 ϕ	4-0			S													



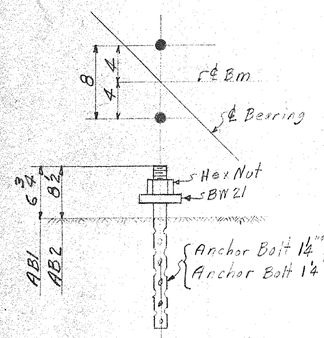
NOTE: CUT BARS IN FIELD TO FIT ONE SKEW END USING CUT OFF ENDS AT OPP. END OF SPAN.



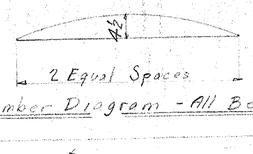
Span A

Plan

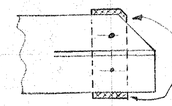
Span B



Anchor Bolt Setting



Camber Diagram - All Beams



½" Field Fillet Weld PL's P6 & P8 to Batt Flange of Bms.

General Notes

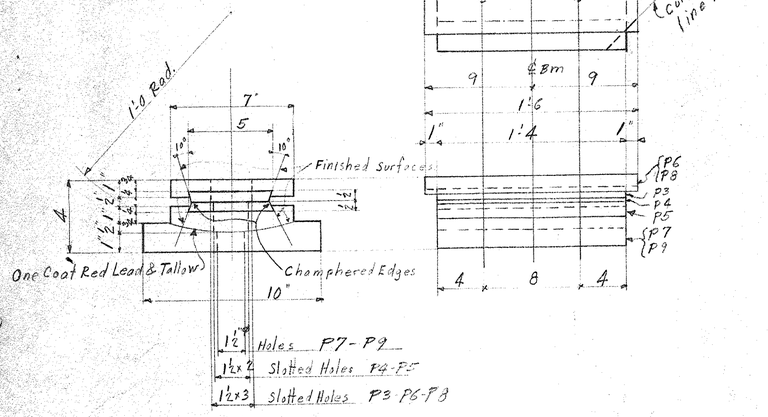
Anchor Bolts furnished by BSCo and set by others.

Erection by others.

Diaphragms to be 100% Field Welded by others.

Plates P6 & P8 to be Field Welded to beams by others (see sketch)

Finished surfaces to be coated with graphite by others.



Assembled Expansion Bearings

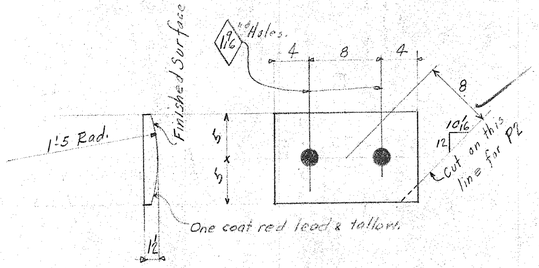
Steelton SF9434

- PL's 7 x 1 x 1'-6 (Grooved) (1/4") P6
- PL's 7 x 1 x 1'-6 (Grooved) (1/4") P8
- Phos. Bronze PL 5 x 1/2 x 1'-4 (1/4") P3
- Phos. Bronze PL 5 x 1/2 x 1'-4 (1/4") P4
- ASTM Specs B22-35T Class B
- PL's 7 x 1 1/2 x 1'-4 (Curved & Grooved) PlShip P5
- PL's 10 x 1 1/2 x 1'-4 (Dished) P7 (1/4") (PIS)
- PL's 10 x 1 1/2 x 1'-4 (Dished) P9 (1/4") (PIS)

Plates P6 & P8 shall be field welded to Bms B1 to B10. Plates P3 & P4 shall have a sliding fit in Plates P6-P8 & P5. The entire expansion bearing shall be shop assembled and match marked

PL's P3, P4, P5-P6 & P7 (Boxed for Ship.)

PL's P3, P4, P5-P8 & P9 (Boxed for Ship)



Fixed Bearing

P1 - PL 10 x 1 1/2 x 1'-4 (P1S) (1/2") }
P2 - PL 10 x 1 1/2 x 1'-4 (P1S) (1/2") } Steelton SF9434

REQUIRED LIST

Span A	Span B	Req'd	Mark	Description
6		6	P1	Fixed Bearing
	6	6	P2	Fixed Bearing
6	6	12	P3	Expansion Bearing
6	6	12	P4	
6	6	12	P5	
6		6	P6	
6		6	P7	
	6	6	P8	
	6	6	P9	

Changes OK JGG 7.20.38

RIVETS —
OPEN HOLES As Noted
REAM —
MILLING As Noted
PAINT One Coat.

SHOP CONTACT SURFACES

SHOP No.

TEMP.	
SUPT.	
LAYOUT	
FITTER	
SHOP INSP.	
PC. WK.	
B. SMITH	
MCH.	
ERECT.	
O. INSP.	

Market Bridge, Tunbridge, Vt.

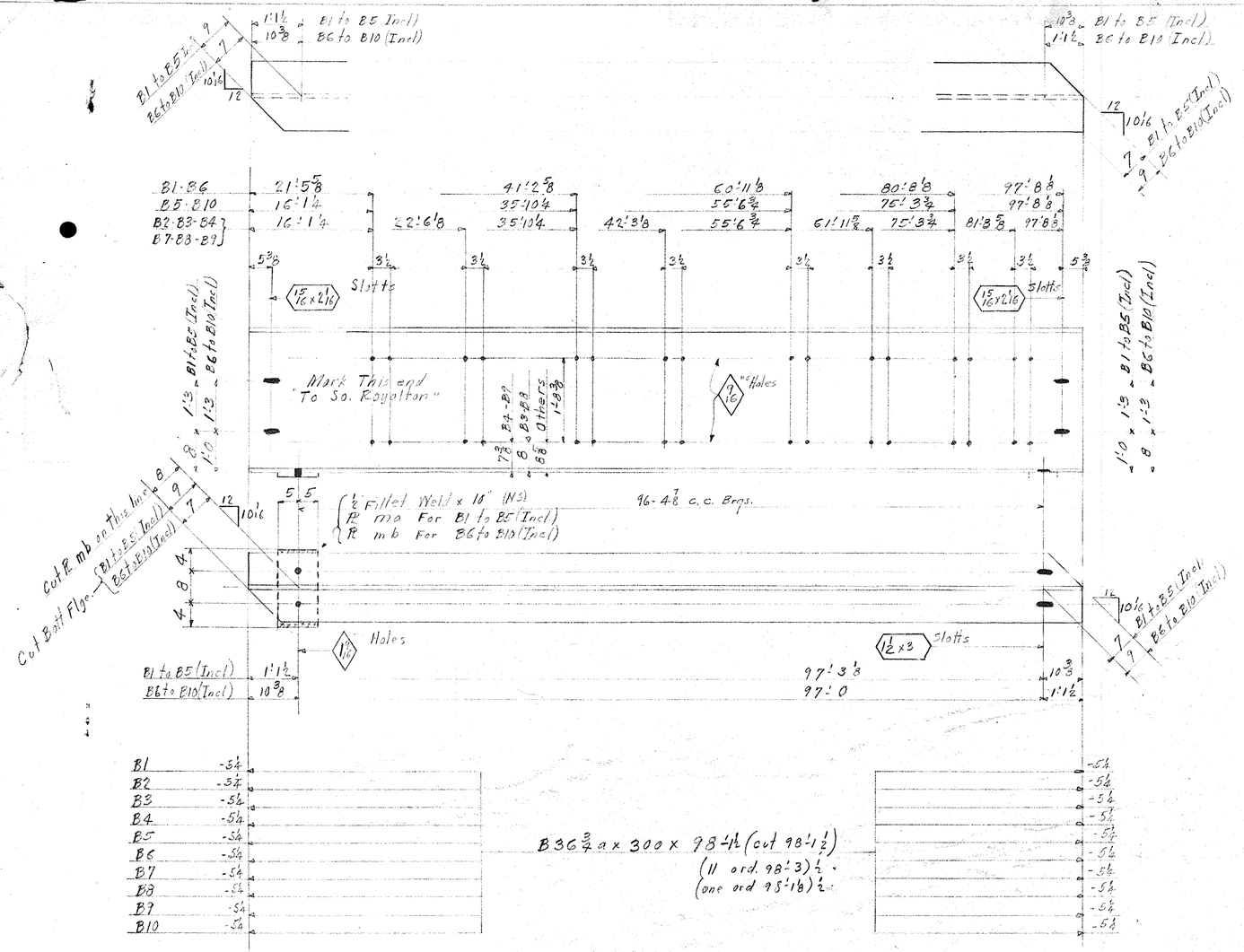
Cust - T. J. Harvey & Son - Adams, Mass.

BETHLEHEM STEEL COMPANY
FABRICATED STEEL CONSTRUCTION

BETHLEHEM DRAWING ROOM Beth. WORKS
IN CHARGE Pickat MADE BY LFD 7/4/38
CHECKED BY J.J.J. 7-8-38 TRACED BY
REVISED LAST ASSEM. MK.

CONTRACT CP3251-1 SHEET 1

Steelton SF9434

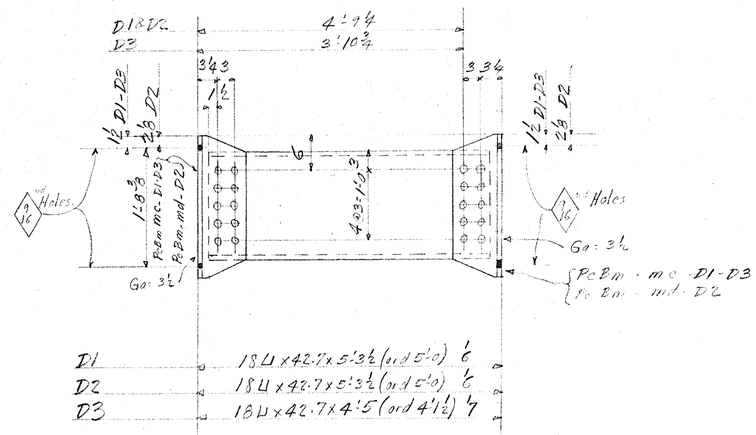


B36 ¾ a x 300 x 98'-½ (cut 98'-1½)
(11 ord. 98'-3) ½ "
(one ord 95'-1⅛) ½ "

6 Pe 10 x ¾ x 1'-6 ma ½ B1 to B5 (Incl)
6 Pe 10 x ¾ x 1'-6 mb ½ B6 to B10 (Incl)



Camber Diagram - All Beams



D1	18 W x 42.7 x 5'-3½ (or d 5'-0) 1
D2	18 W x 42.7 x 5'-3½ (or d 5'-0) 1
D3	18 W x 42.7 x 4'-5 (or d 4'-1½) 7

48 Pe Bm B16⅝ x 45 (split) x 2'-0 mc (4) D1 & D3
32 Pe Bm B15⅝ x 45 (split) x 2'-0 md (4) D2

REQUIRED LIST

Span A	Span B	Req'd	Mark	Description
One		One	B1	Beams
One		One	B2	
2		2	B3	
One		One	B4	
One		One	B5	
	One	One	B6	
	One	One	B7	
	2	2	B8	
	One	One	B9	
	One	One	B10	
8	8	16	D1	Diaphragms.
8	8	16	D2	
4	4	8	D3	

RIVETS ⅞"
OPEN HOLES As Noted
REAM —
MILLING —
PAINT One Coat.
SHOP CONTACT SURFACES

SHOP No.

TEMP.
SUPT.
LAYOUT
FITTER
SHOP INSP.
PC. WK.
B. SMITH
MCH.
ERECT.
O. INSP.

Market Bridge, Tunbridge, Vt.
Cust - T. J. Harvey & Son - Adams, Mass.

BETHLEHEM STEEL COMPANY
FABRICATED STEEL CONSTRUCTION
BETHLEHEM DRAWING ROOM Beth WORKS
IN CHARGE Dickert MADE BY FPP 7/1938
CHECKED BY J.A.V. 7/6/38 TRACED BY
REVISED LAST ASSEM. MK.

CONTRACT CP3251-1 SHEET 2