

# COUNTY ROAD 62

MADAWASKA RIVER BDG.  
AT COMBER MERE

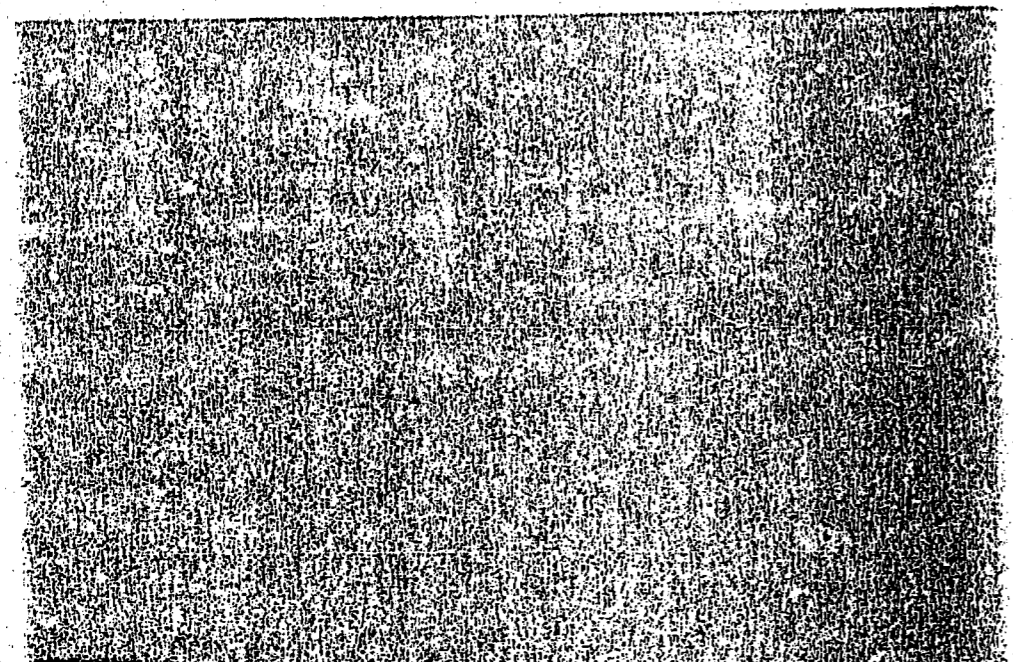
MTO CONT# 58-240

APR/58

RE-HAB : 2001

B145

COUNTY STRUCTURE B145



TYPE OF CROSSING		River
DESIGN TYPE		Steel Plate Girder
DESIGN SPAN	118' - 118'	
ROADWAY	28'	
SIDEWALKS	1 @ 5'	
SKEW	N11	
DECK LENGTH	241'6"	
FOUNDATION		
WINGWALLS		
LOADING	420-S16	

NAME		Madawaska River
		Combermere Br.
HEET	DATE	DRAWING DETAILS
1	458	Plan & Elevation
2		Structural Steel Details
3	558	Footing Plan
4		Abutment & Wingwall Details
5	658	Deck & Details
6		Reinforcing Steel Schedule
7		" " " "
8		" " " "
9		Handrail
10	360	Electrical System Details

TWP# 329-76

Renfrew		62	Radcliffe	6	V	30-76
DRAWING NO.						
STRUCTURE	SURVEY	W.P.	SOILS	B.W.	INDEX NO.	CONTRACT
B 410	E 3320	27-57	4-5'	91	1898	58-240 58-188 84-13
D 4042	3B329					
	C-1390					
	E 2763					

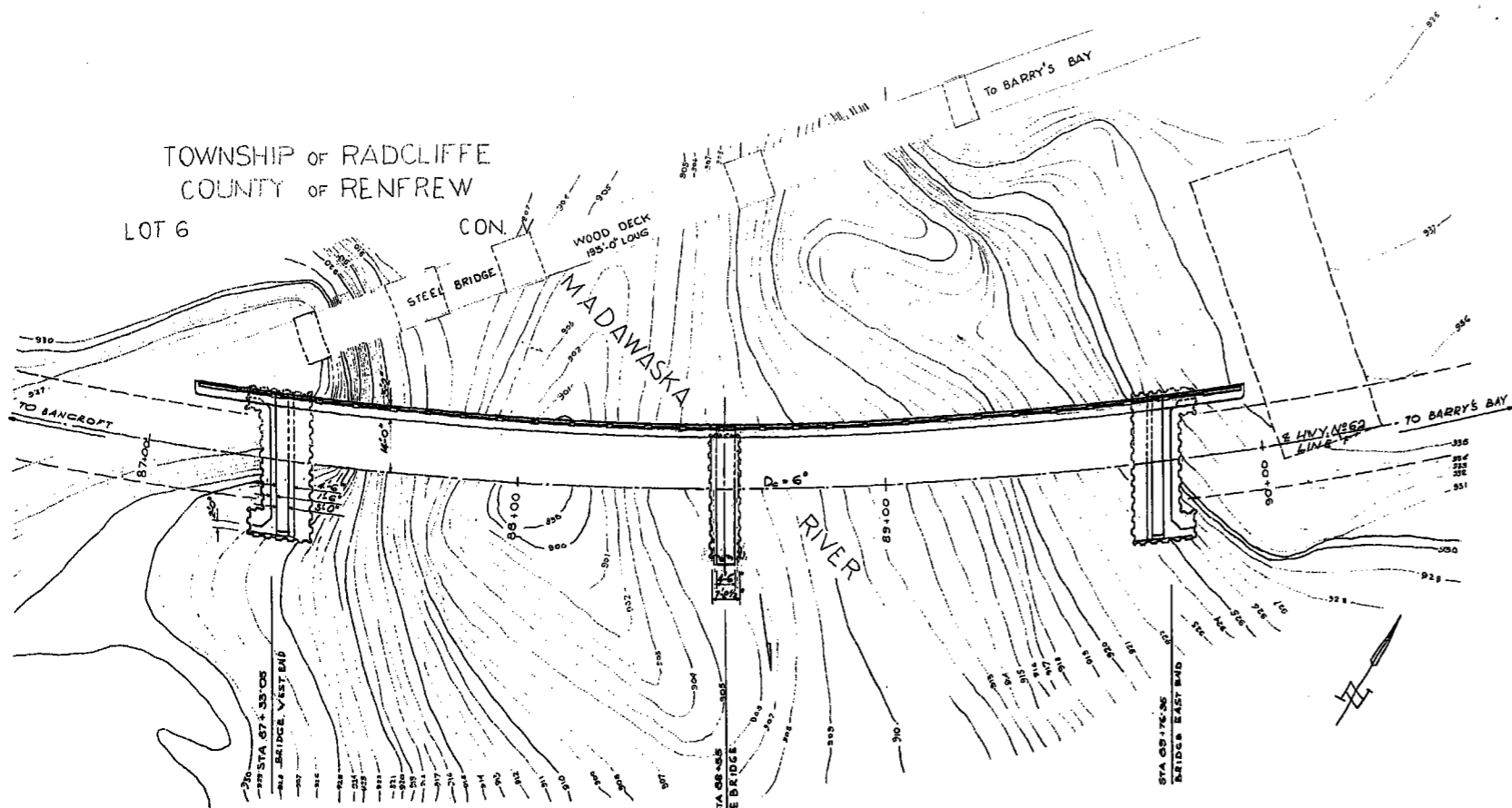
DESIGN BY: D.H.O.  
CONTRACTOR SUB: Minco Steelworks Ltd.  
CONTRACTOR SUPER: Ardelt Industries of Can.

INSPECTION REPORT: Apr. 63  
APPROVALS: [Signature]

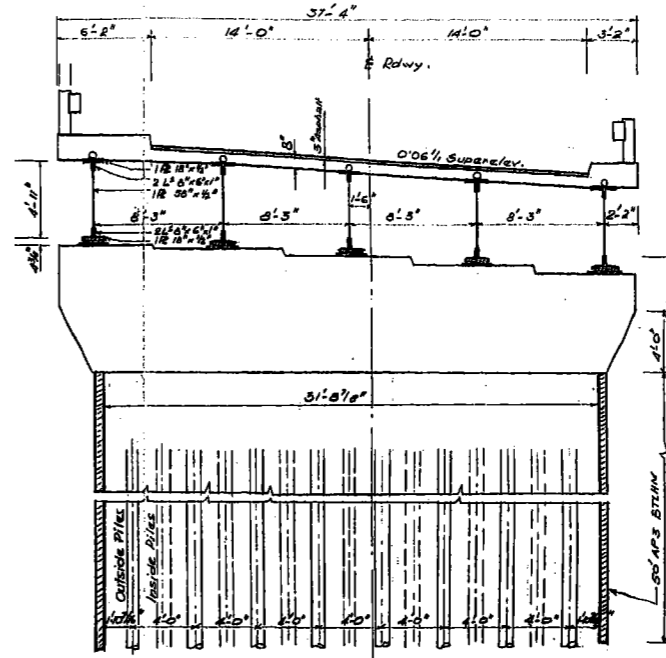
REMARKS: NWPA Approval Dec-Sec. 11-12-58  
TWP# 329-76

FORM PL-BD-5 25M-61-1441

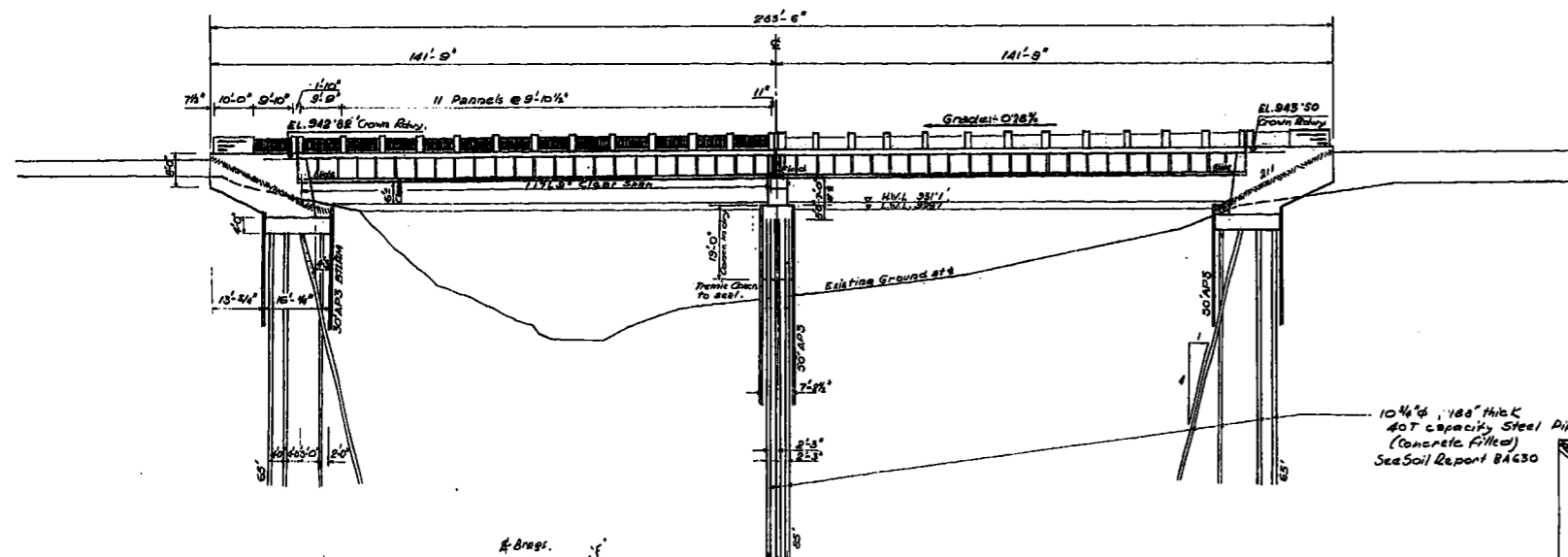
TOWNSHIP OF RADCLIFFE  
 COUNTY OF RENFREW  
 LOT 6



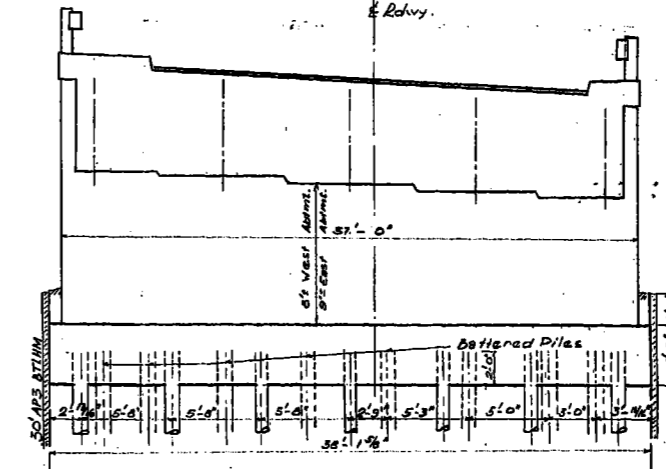
PLAN  
 SCALE: 1 IN. = 20 FT.



MIDDLE PIER SECTION  
 Scale: 3/16" = 1'

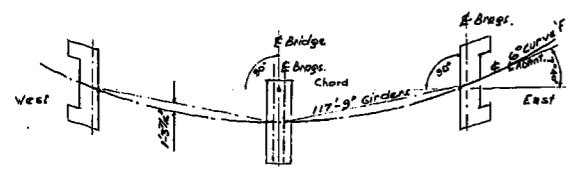


ELEVATION  
 SCALE: 1 IN. = 20 FT.

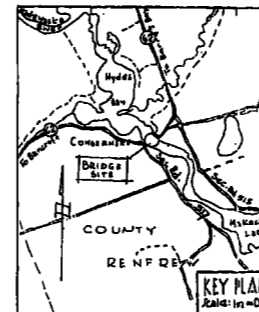


END ABUTMENT SECTION  
 Scale: 3/16" = 1'

10 3/4" x 148" thick  
 40T capacity Steel Pipes  
 (Concrete Filled)  
 See Soil Report B4630



BRIDGE ALIGNMENT  
 Not to scale



V.P. 27-57  
 DEPARTMENT OF HIGHWAYS-ONTARIO  
 BRIDGE OFFICE-TORONTO

MADAWASKA RIVER BRIDGE

THE KING'S HIGHWAY No. 62 DIV. No. 10  
 CO. RENFREW  
 TWP. RADCLIFFE LOT 6 CON. V

PRELIMINARY PLAN

APPROVER  
 BRIDGE ENGINEER CHIEF ENGINEER

REVISIONS	DATE	BY	DESCRIPTION

DESIGN	F. G.	CHECK		CONTRACT NUMBER	
DRAWN	F. G.	CHECK		LEADING NUMBER	
TRACING		CHECK		DRAWING NUMBER	D 1042-A
DATE	March 1958		65304		

Twp # 22.76.1.A

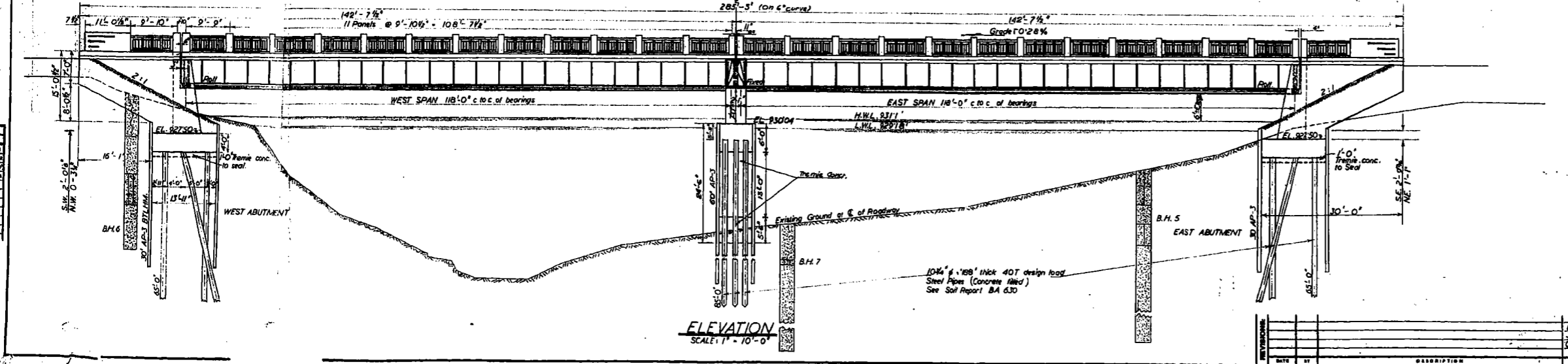
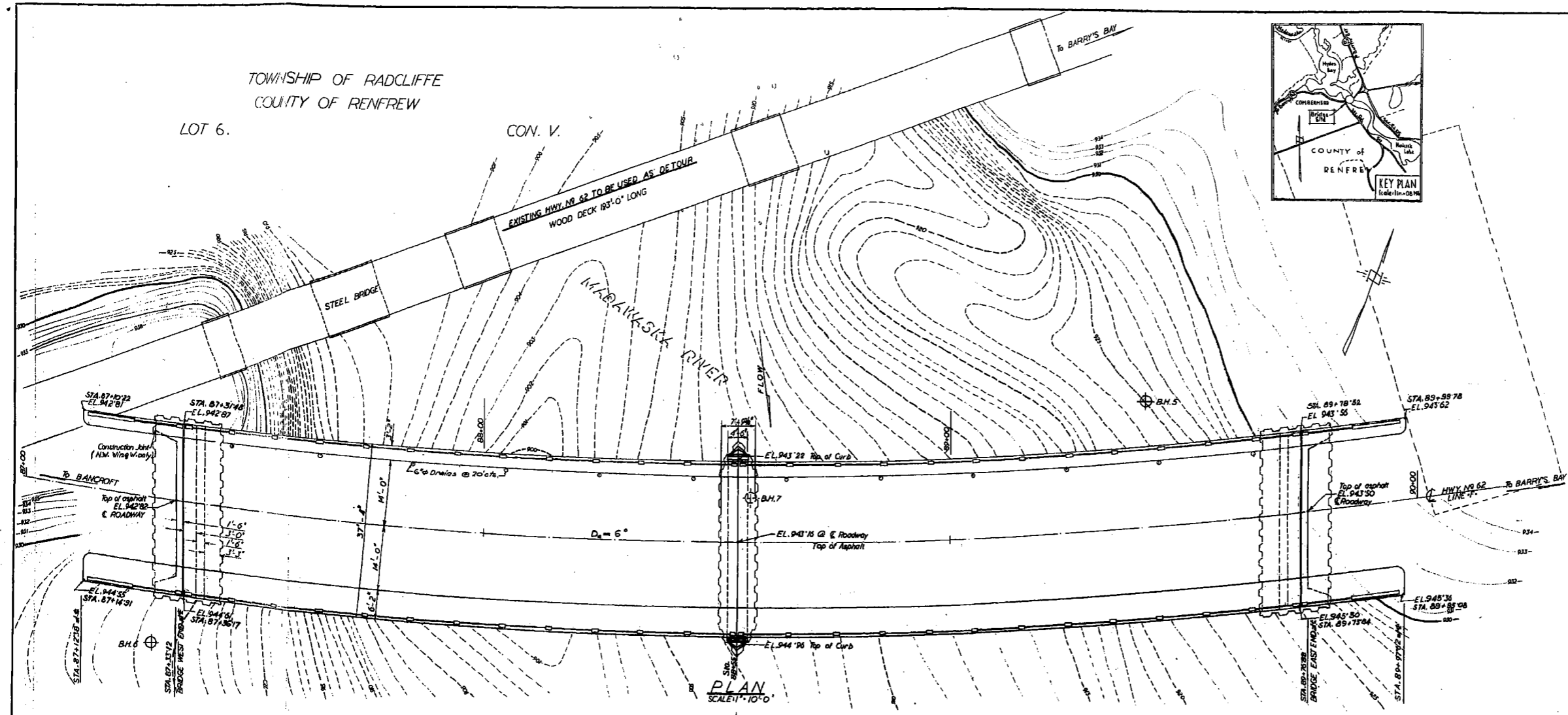
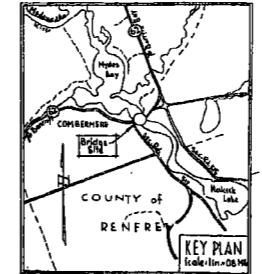
PRINT RECORD	FOR	DATE

TOWNSHIP OF RADCLIFFE  
COUNTY OF RENFREW

LOT 6.

CON. V.

EXISTING HWY. NO. 62 TO BE USED AS DETOUR  
WOOD DECK 193'-0" LONG



**NOTE TO DISTRICT ENGINEER.**  
Concrete work on this structure must not be commenced until instruments to fix control points have been erected and checked by the District Engineer.

**NOTE TO STRUCTURAL STEEL CONTRACTOR.**  
The design fabrication and erection of the structural steel shall be in accordance with the C.S.A. Specification for Steel Highway Bridges, S6, 1952. The painting of the Structural Steel shall be in accordance with Form No. 9 Revised March 1957.

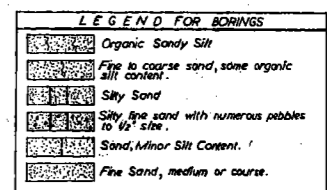
**NOTE TO GENERAL CONTRACTOR.**  
Structure to be built in accordance with form No. 9 revised March 1957 and the Special Provisions; extra copies of which may be obtained from the District Engineer.  
No concrete to be placed above bridge seat elevations until Structural Steel is erected.

**CONCRETE MIX**  
Structure - 3000 p.s.i. (Min. Strength in 28 days)  
Footings - 2500 p.s.i.  
Add 14 lb. Pozzolith-S per bag of cement.  
Maximum size of aggregate: DECK 3/4", FOOTINGS 1 1/2", REMAINDER 3/4"

**BORING DATA**  
The complete soil investigation report BA 630 may be examined at the Bridge Office, 280 Davenport Road, Toronto. The Department does not guarantee the accuracy of this report or the abridged version shown on these plans.

**REINFORCING STEEL.**  
Clear cover 2" where in contact with ground 3" unless otherwise noted.

**CONSTRUCTION NOTES.**  
1. All exposed edges to be chamfered 1".  
2. Structural Steel Contractor to camber beams 3/8"



FOR SOIL DATA SEE SOIL REPORT BA 630

PRINT RECORD

NO.	DATE	BY
1	1958-04-15	J.B.B.
2	1958-04-15	J.B.B.
3	1958-04-15	J.B.B.
4	1958-04-15	J.B.B.
5	1958-04-15	J.B.B.
6	1958-04-15	J.B.B.
7	1958-04-15	J.B.B.
8	1958-04-15	J.B.B.
9	1958-04-15	J.B.B.
10	1958-04-15	J.B.B.

WP 27-57

**DEPARTMENT OF HIGHWAYS, ONTARIO**  
BRIDGE OFFICE - TORONTO

**MADAWASKA RIVER BRIDGE**  
AT COMBERBERG

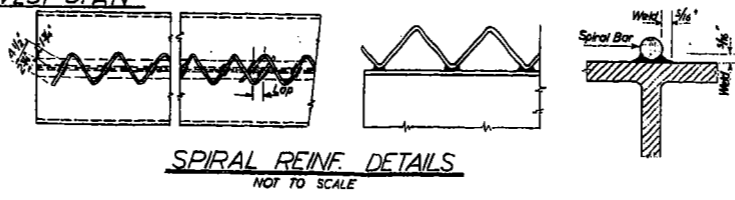
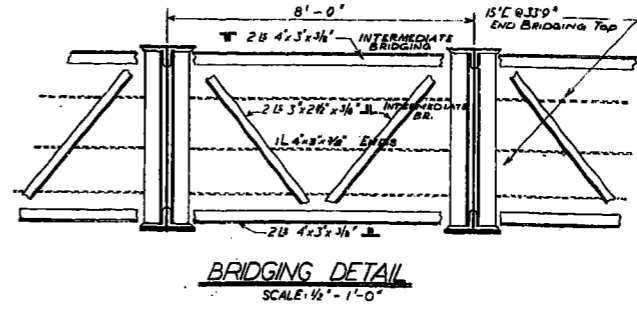
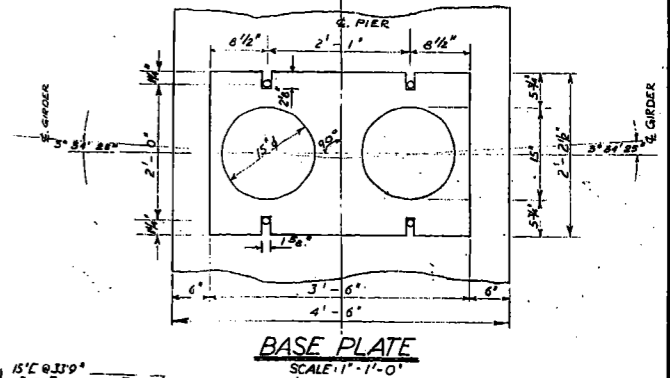
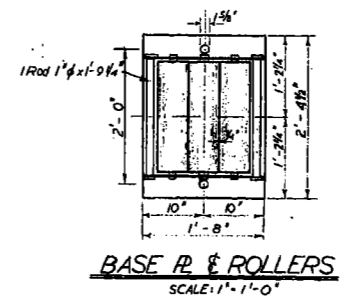
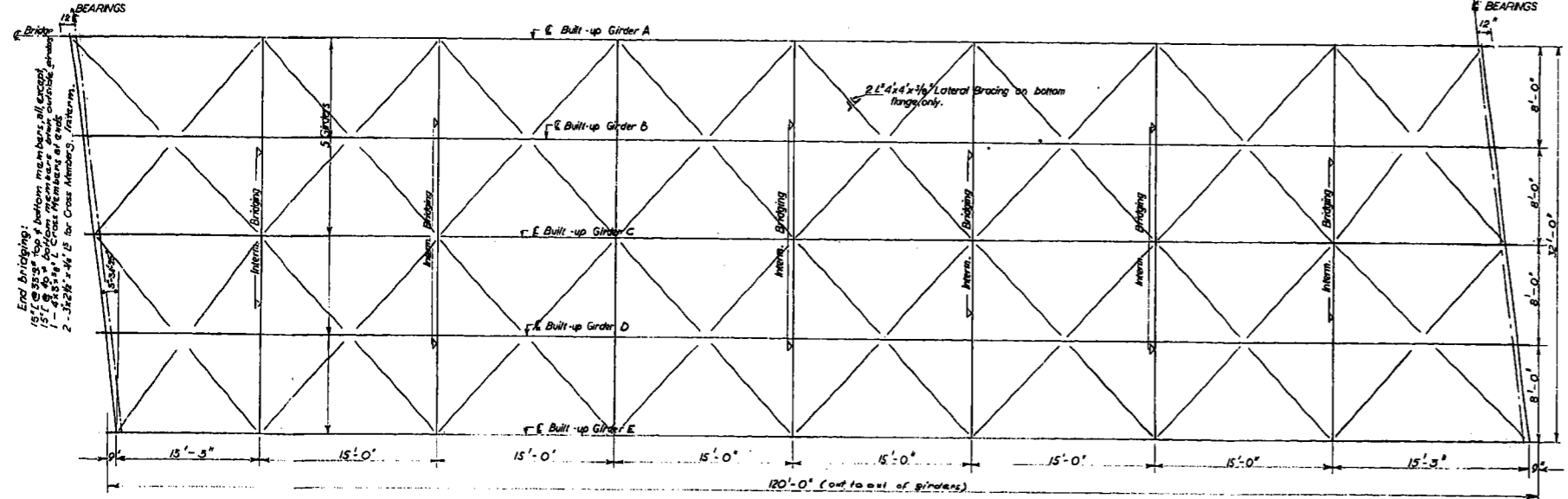
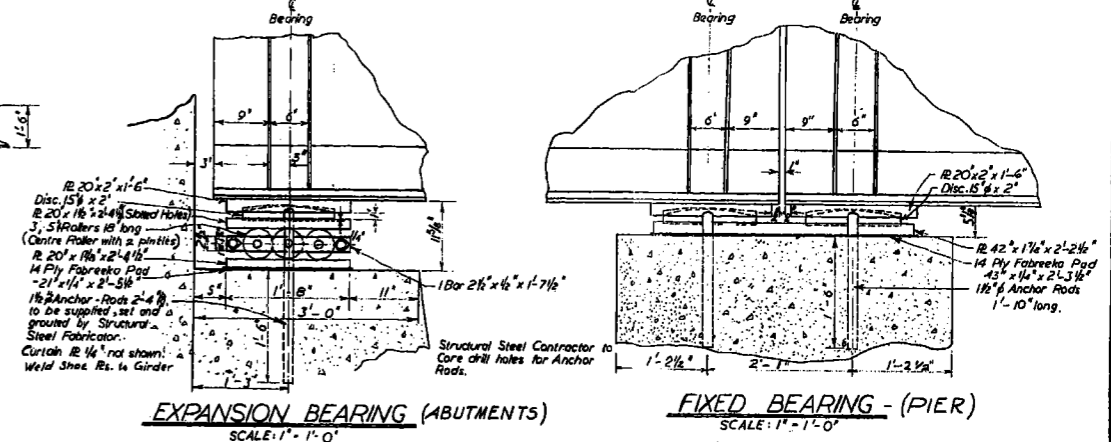
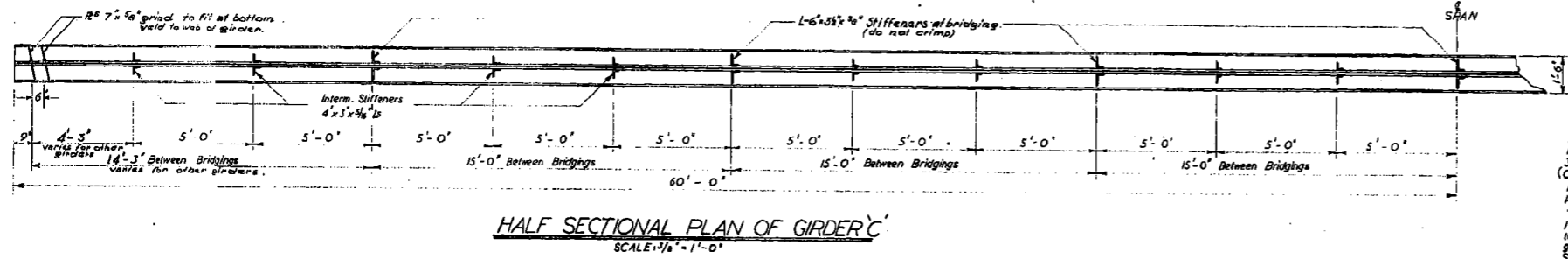
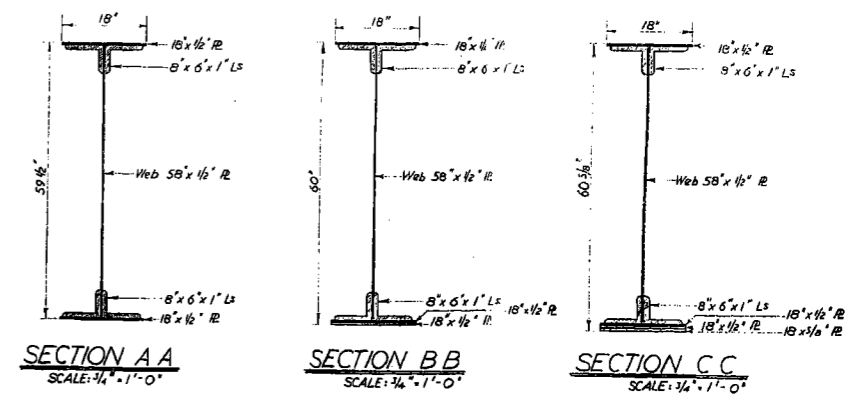
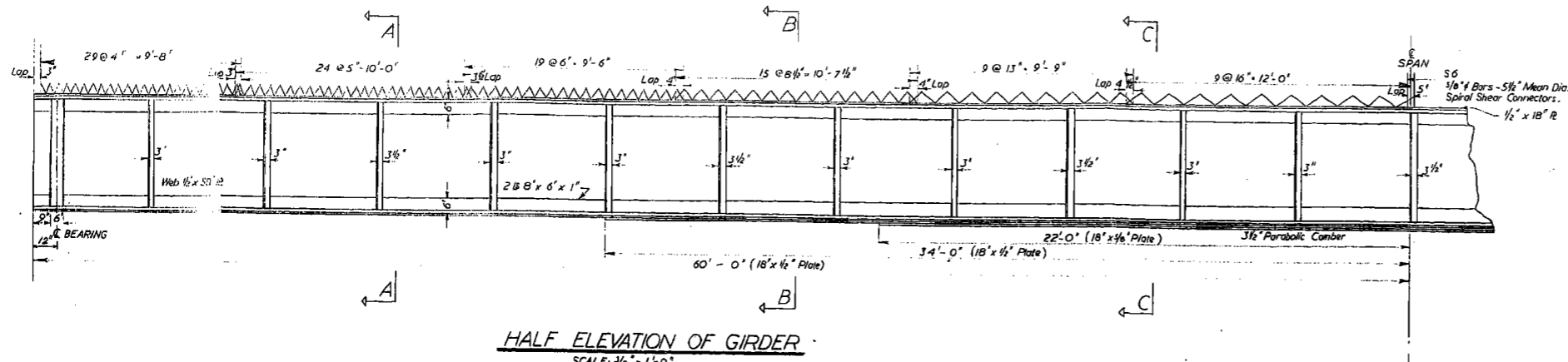
THE KING'S HIGHWAY No. 62. DIST. No. 10  
CO. RENFREW  
TWP. RADCLIFFE LOT 6 CON. V.

65294 **PLAN & ELEVATION**

APPROVED: *R. G. G.* F 29-76  
BRIDGE ENGINEER DESIGN ENGINEER

DESIGN	R.G.	CHECK	R.P.	DATE	1958-04-15
DRAWING	T.B.B.	CHECK	R.D.	DATE	1958-04-15
TRAINING		CHECK		DATE	1958-04-15

DATE: APRIL 1958



- GENERAL NOTES:**
1. Structural Steel - Medium Structural Grade.
  2. Do not paint steel which will be in contact with concrete i.e. top of girders & top of end beams.
  3. All rivets 1/2". All members riveted, except where shown.
  4. Welding where shown shall conform to the Standard Specification C.S.A. W.59, for welding of Bridges.
  5. Steel Contractor to provide 3/4" Parabolic Camber to Girder.
  6. Electrode used shall be classification E6015 or E6016.

W.P. 27-57  
**DEPARTMENT OF HIGHWAYS, ONTARIO**  
 BRIDGE OFFICE - TORONTO

**MADAWASKA RIVER BRIDGE**  
 (AT COMBERMERE)

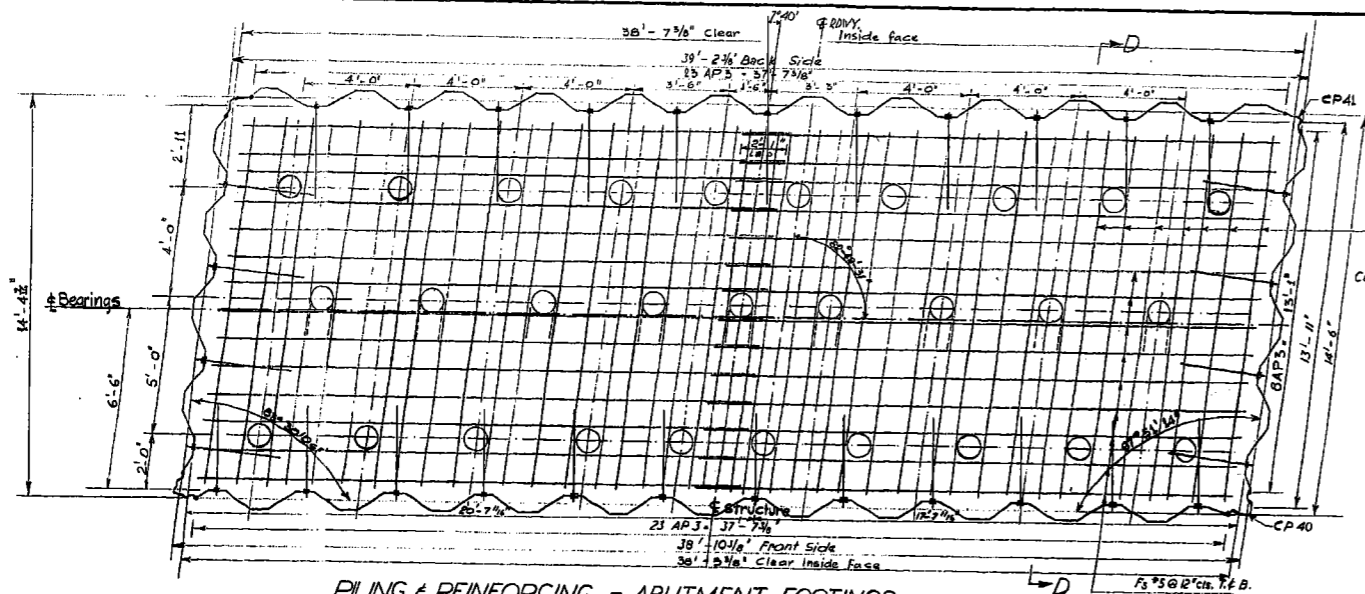
THE KING'S HIGHWAY No. 42 DIST. No. 10  
 CO. RENFREW  
 TWP. RADCLIFFE LOT 6 CON. V.

65296 **STRUCTURAL STEEL DETAILS**

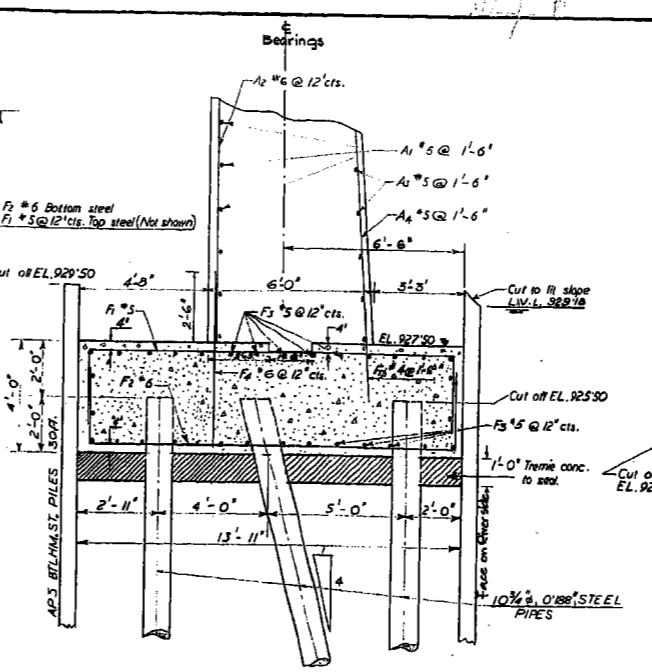
APPROVER: R. Koch  
 BRIDGE ENGINEER: [Signature]  
 DESIGN ENGINEER: [Signature]

DESIGNER	F.G.	CHECK	Adapted	CONTRACT NUMBER	SP-27-57
DRAWING	T.B.B.	INCHES	RD	DATE	SEP 1928
TRACING		CHECK		SCALE	H 20 S 16
DATE	APRIL, 1928			BRIDGE NO.	4042-2

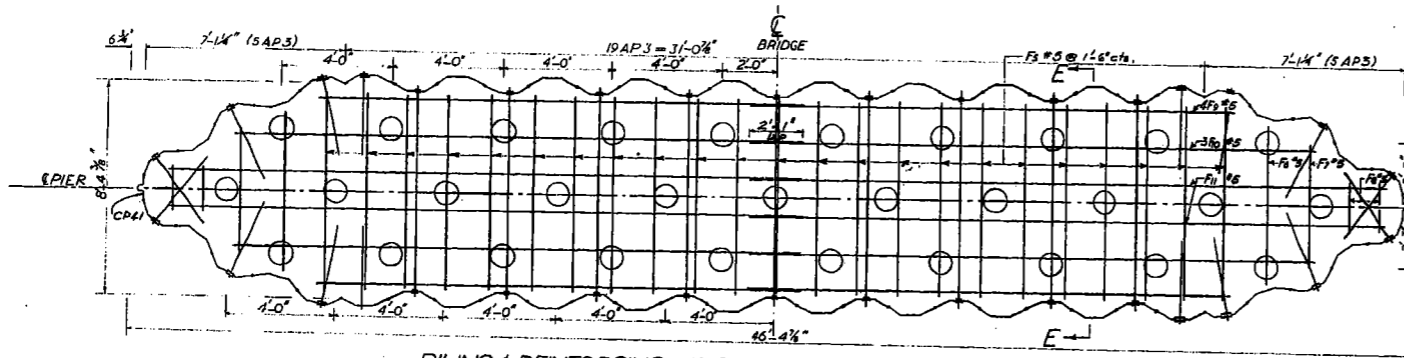
Twp. 32. 76-2-A



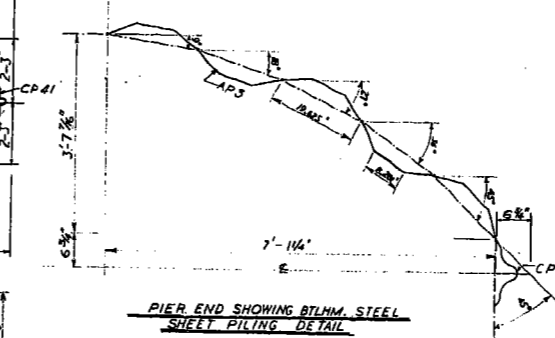
**PILING & REINFORCING - ABUTMENT FOOTINGS**  
WEST ABUTMENT SHOWN  
EAST ABUTMENT REFLECTED  
SCALE: 1/4" = 1'-0"



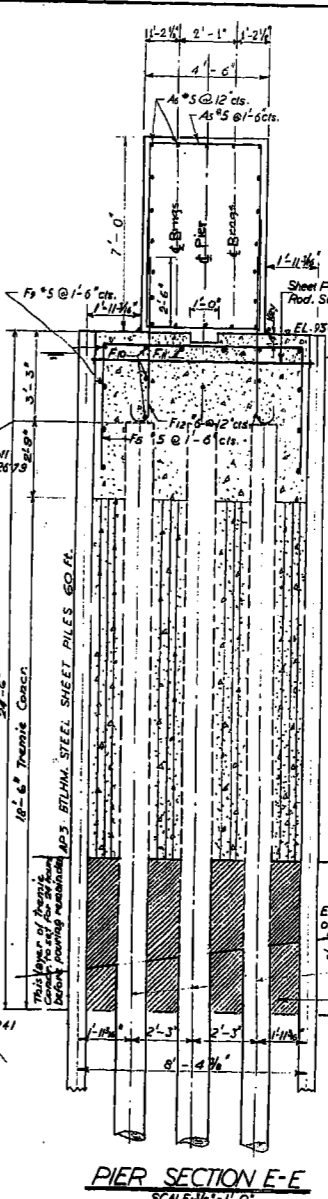
**ABUTMENT SECTION D-D**  
SCALE: 1/4" = 1'-0"



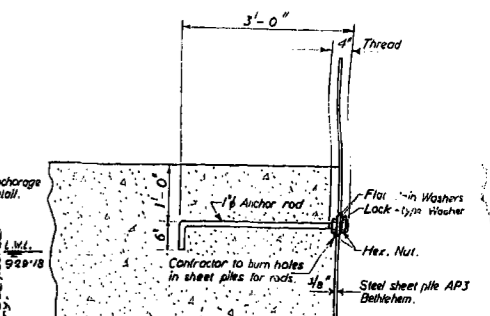
**PILING & REINFORCING - PIER FOOTING**  
SCALE: 1/4" = 1'-0"



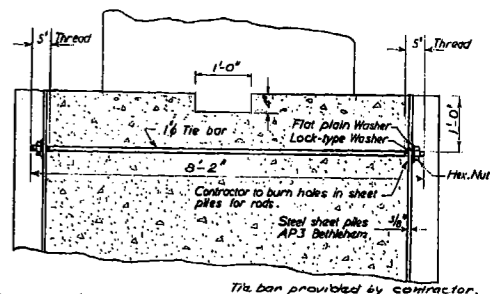
**PIER END SHOWING BTHM STEEL SHEET PILING DETAIL**  
SCALE: 1/4" = 1'-0"



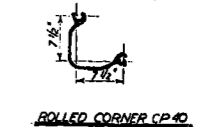
**PIER SECTION E-E**  
SCALE: 1/4" = 1'-0"



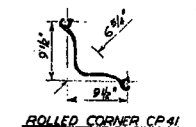
**DETAIL OF SHEET PILE ANCHORAGE - ABUTMENT FOOTING**  
SCALE: 1/4" = 1'-0"



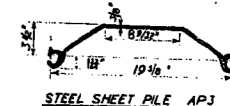
**DETAIL OF SHEET PILE ANCHORAGE - PIER FOOTING**  
SCALE: 1/4" = 1'-0"



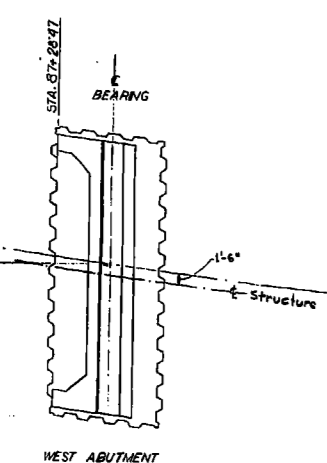
**ROLLED CORNER CP-40**



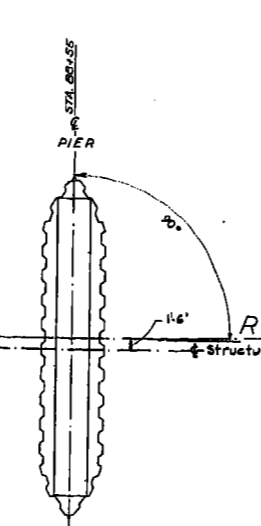
**ROLLED CORNER CP-41**



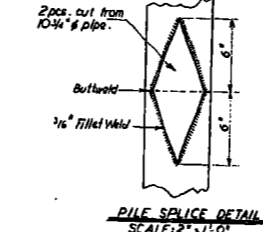
**STEEL SHEET PILE AP-3**



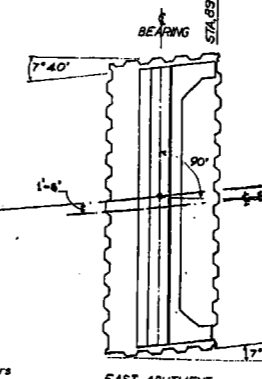
**WEST ABUTMENT**



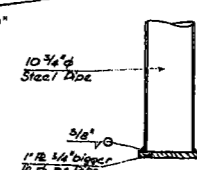
**PIER**



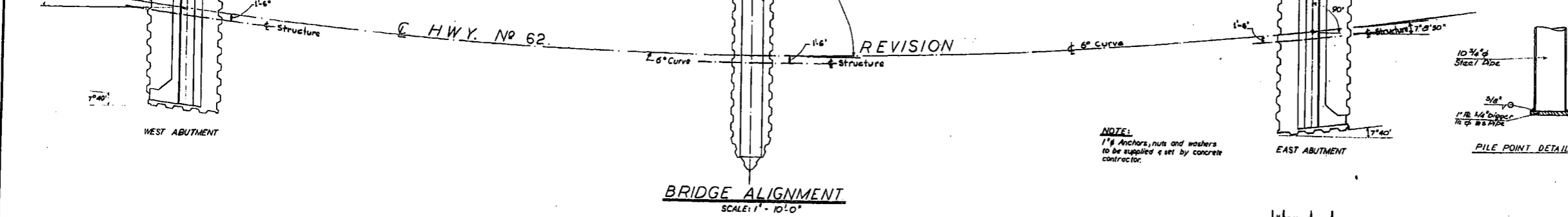
**PILE SPICE DETAIL**  
SCALE: 2\"/>



**EAST ABUTMENT**



**PILE POINT DETAIL**



**BRIDGE ALIGNMENT**  
SCALE: 1\"/>

REVISION

NOTE:  
1\"/>

NO.	FOR	DATE
1	FOR	1958
2	FOR	1958
3	FOR	1958
4	FOR	1958
5	FOR	1958
6	FOR	1958
7	FOR	1958
8	FOR	1958

NO.	DATE	BY	DESCRIPTION
1			
2			
3			

WP 27-57

**DEPARTMENT OF HIGHWAYS - ONTARIO**  
BRIDGE OFFICE - TORONTO

**MADAWASKA RIVER BRIDGE**

THE KING'S HIGHWAY No. 62  
CO. RENNREW  
TWP. RADCLIFFE LOT 6

DIST. NO. 40

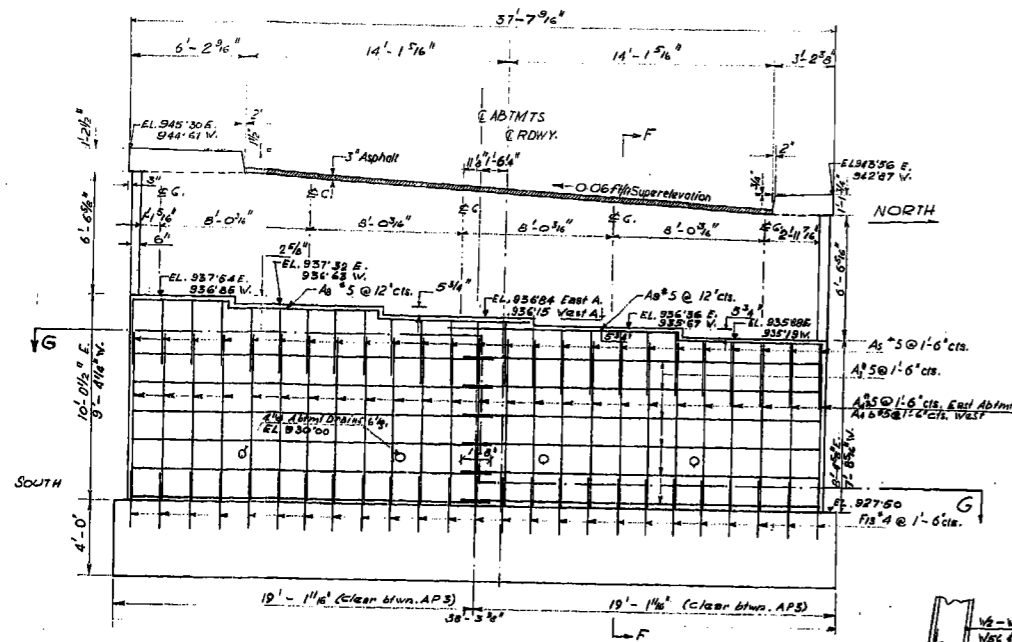
**65297 FOOTING PLAN**

APPROVED  
*[Signature]*  
BRIDGE ENGINEER

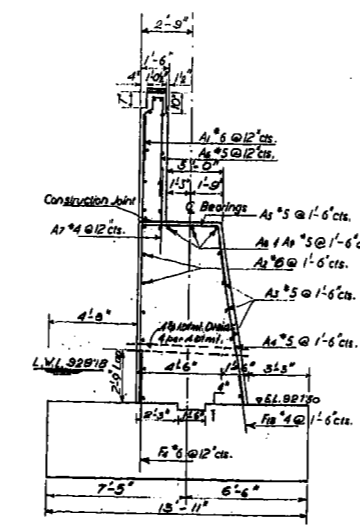
DESIGN	CHECK	DATE	DESIGNER	CHECKER	DATE
F.G.	R.P.				
T.B.B.	R.D.				

DATE MAY, 1958

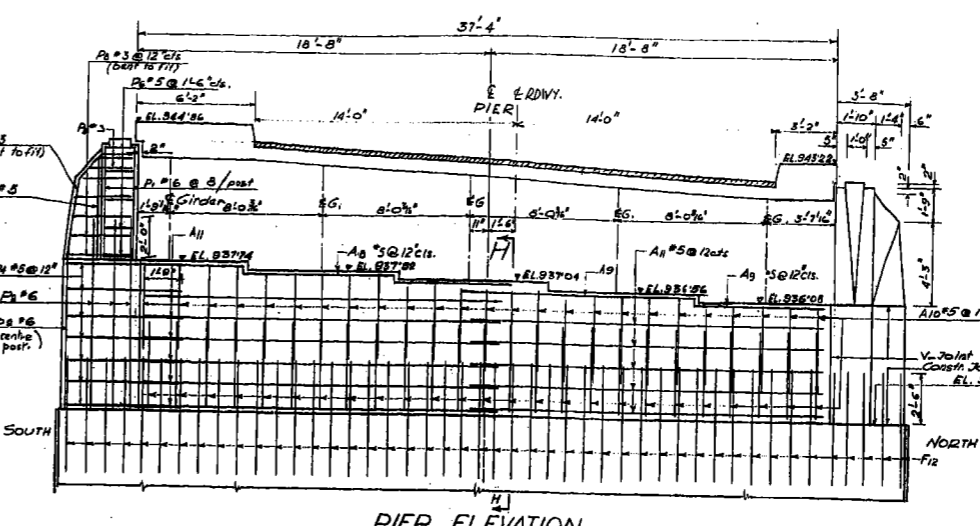
Twp 30 26



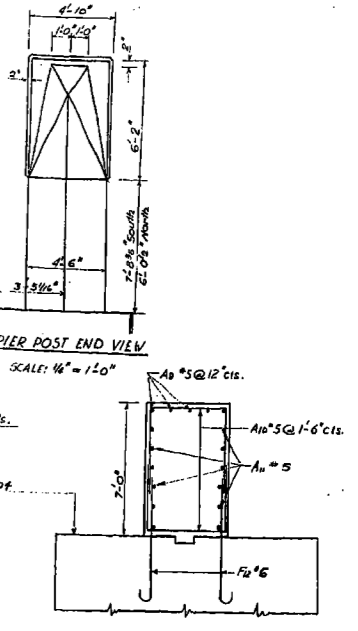
**FRONT FACE EAST ABUTMENT ELEVATION  
WEST ABUTMENT REFLECTED ELEVATION**  
SCALE: 1/4" = 1'-0"



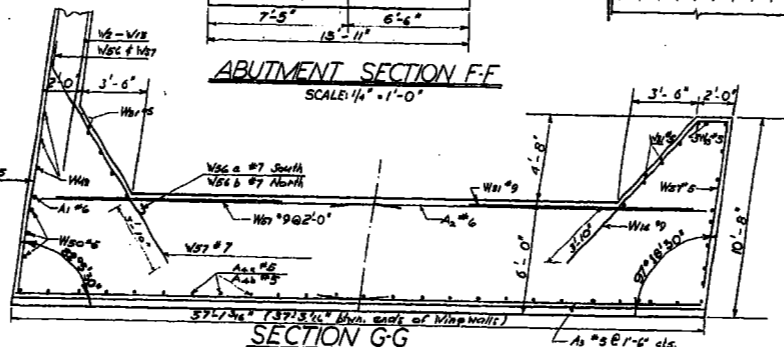
**ABUTMENT SECTION F-F**  
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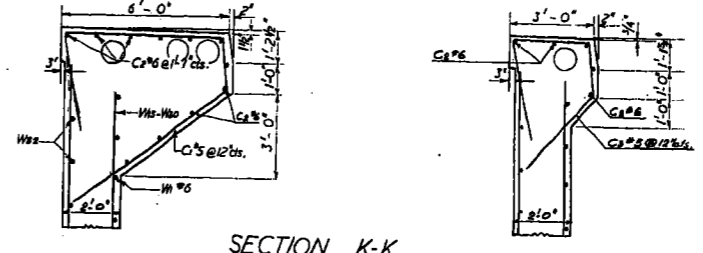
**PIER ELEVATION**  
SCALE: 1/4" = 1'-0"



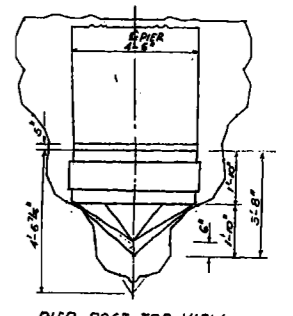
**SECTION H-H**  
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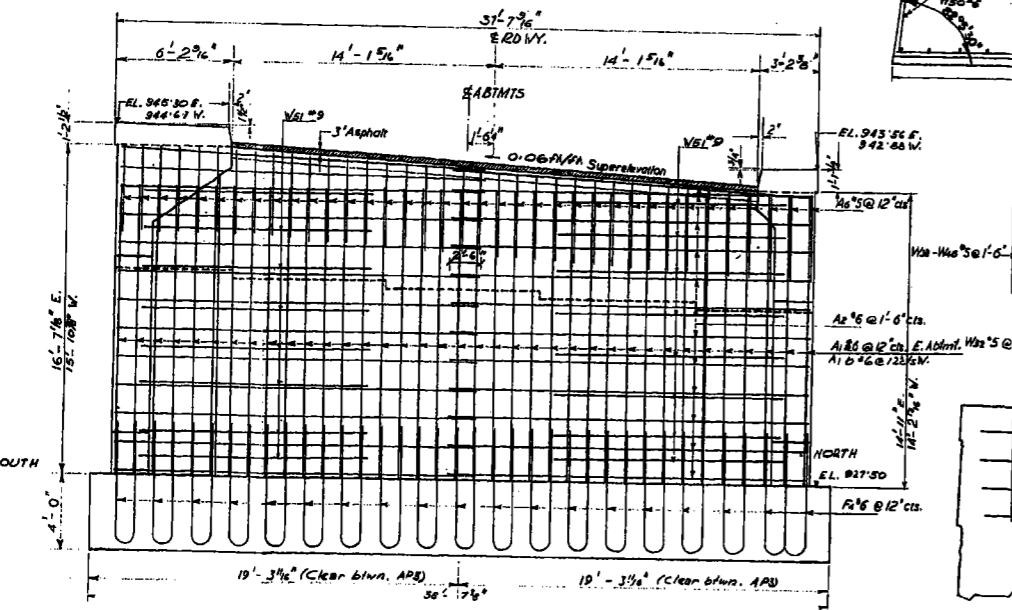
**SECTION G-G**  
SCALE: 1/4" = 1'-0"



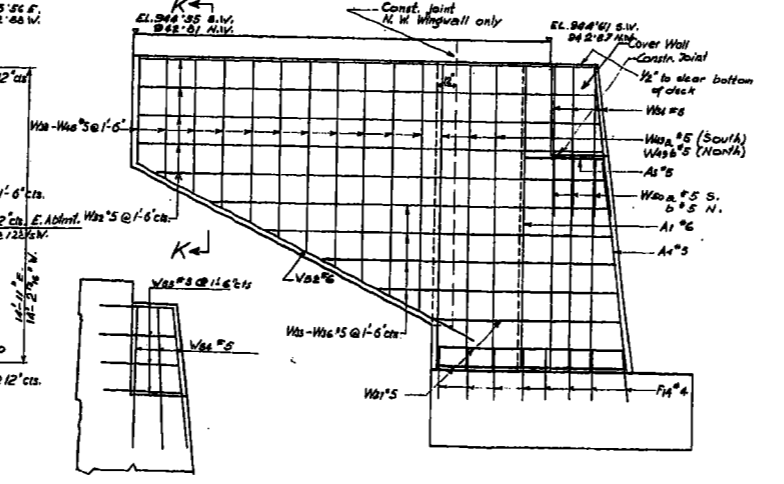
**SECTION K-K**  
SCALE: 3/4" = 1'-0"



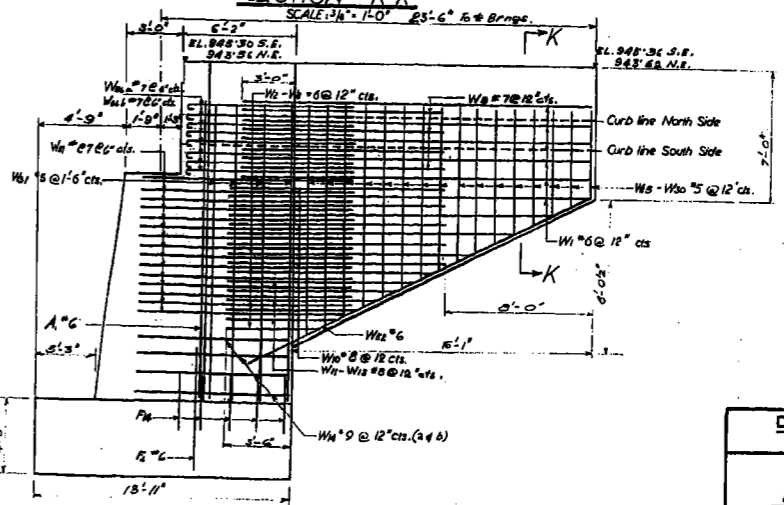
**PIER POST TOP VIEW**  
SCALE: 3/8" = 1'-0"



**BACK FACE EAST ABUTMENT ELEVATION  
WEST ABUTMENT REFLECTED ELEVATION**  
SCALE: 1/4" = 1'-0"



**COVER WALL INSIDE FACE  
SCALE: 1/4" = 1'-0"**  
**OUTSIDE FACE WINGWALLS  
SCALE: 1/4" = 1'-0"**



**INSIDE FACE WINGWALLS**  
SCALE: 1/4" = 1'-0"

NOTE: STEEL SHEET PILES NOT SHOWN ON THIS PLAN.  
FOOTING DIMENSIONS ARE CLEAR DISTANCES  
BETWEEN SHEET PILES.

W.P. 27-57

**DEPARTMENT OF HIGHWAYS, ONTARIO**  
BRIDGE OFFICE - TORONTO

**MADAWASKA RIVER BRIDGE**

THE KING'S HIGHWAY No. 62 DIST. No. 10  
CO. RENFREW  
TWP. RADCLIFFE LOT 6. CON. V.

**ABUTMENTS & WING WALLS DETAILS**

APPROVED: *R. J. [Signature]* BRIDGE ENGINEER  
DESIGN ENGINEER

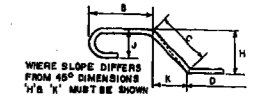
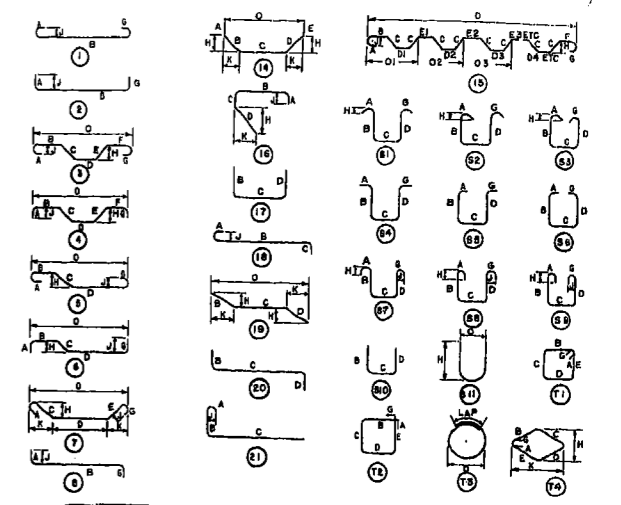
65298

DESIGNER	F. G.	CHECK	T. B. A.	CONTRACT NUMBER	50-183 58 P. 40
DRAWING	T. B. A.	CHECK	R. D.	ISSUED	50-183 58 P. 40
TRACING		CHECK		DATE	MAY, 1958.

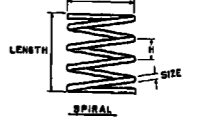
Twp 27-57-4-A

MARK	NO. BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	M	O	R	SHAPE	LOCATION
<b>PIER POSTS</b>																				
P <sub>1</sub>	4	3	4'-0"																	
P <sub>2</sub>	10	3	12'-0"	T	4"	1'-6"	4'-2"	1'-6"	4'-2"		4"									Ordered Straight Post Points Horizont. Bent to Fit in Field
P <sub>3</sub>	2	3	7'-0"																	Post Stirrups
P <sub>4</sub>	10	3	8'-0"																	Ordered Straight Post Points Edge Verticals Bent to Fit in Field Post Points Horizontal Bent to Fit in Field
<b>HANDRAILS</b>																				
H <sub>1</sub>	280	3	4'-0"	T	4"	1'-2"	6"	1'-2"	6"		4"									Handrail Intermediate Post Stirrups @ 12" c/c.

MARK	NO. BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	M	O	R	SHAPE	LOCATION
------	----------	------	--------	------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-------	----------



- ENLARGED VIEW SHOWING BAR BENDING DETAILS.**
- NOTES**
1. ALL DIMENSIONS ARE OUT TO OUT OF BAR.
  2. 'h' DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
  3. WHERE 'd' IS NOT SHOWN, 'h' WILL BE KEPT EQUAL TO OR LESS THAN 'h'. WHERE 'd' CAN EXCEED 'h', IT SHOULD BE SHOWN.
  4. 'h' DIMENSION ON STIRRUPS TO BE SHOWN WHERE NECESSARY TO RESTRICT HOOKS.
  5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER WORKING SHOULD HAVE LIMITS INDICATED.
  6. FIGURES IN CIRCLES SHOW TYPES.
  7. NO ALLOWANCE FOR BEND CURVATURE IS TO BE MADE EXCEPT FOR STANDARD HOOK AND RADI IN EXCESS OF SAME.
  8. SPACERS TO BE PROVIDED WITH ALL SPIRALS AS SPECIFIED IN A.C.I. 315-57.
  9. WEIGHT OF SPIRALS AND SPACERS NOT INCLUDED ON THIS DRAWING.



ALL BARS TO BE DETAILED AS PER A.C.I. SPECIFICATIONS.  
 ALL STEEL TO BE ~~MADAWASKA HIGHWAY BRIDGE~~ **STRUCTURAL GRADE**

PRINT RECORD			
NO.	FOR	DATE	BY
1	REVISED		
REVISIONS			
REINFORCING STEEL SCHEDULE			
NO.	DATE	BY	DESCRIPTION
1	JUNE 1958	R. K. L.	REVISION

85302

DATE JUNE, 1958

**W.F. 27-57**  
 DEPARTMENT OF HIGHWAYS, ONTARIO  
 BRIDGE OFFICE TORONTO

**MADAWASKA RIVER BRIDGE**

THE BRIDGE DIST. NO. 62  
 AS REVISED BY  
 JAN. 1958

CONTR. ACT NO. 1048

DATE JUNE, 1958

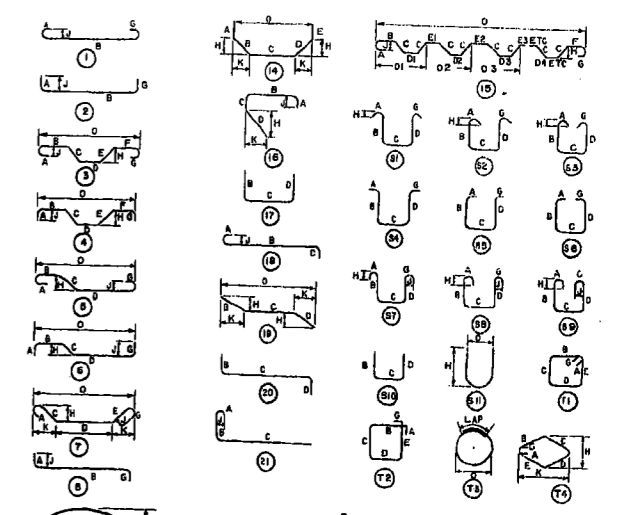
DATE JUNE, 1958





MARK	NO. BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	M	O	R	SHAPE	LOCATION
<b>HANDRAILS</b>																				
H <sub>1</sub>	144	6	10'-5"	5H								5'-1'							5"	Handrail Posts Vertical, Intermediate
H <sub>2</sub>	20	5	10'-8"																	End Posts Horizontal @ 1" c/c.
H <sub>3</sub>	20	5	11'-8"	2	6'	10'-8"					6"									Do
<b>PIER POSTS</b>																				
P <sub>1</sub>	16	6	5'-8"																Straight	Post Verticals @ per post
P <sub>2</sub>	14	6	9'-7"																Do	Post Base Verticals, Top & Elong. Spacing Post, in Order Built on site
P <sub>3</sub>	4	5	5'-6"																Do	Post Point Vertical
P <sub>4</sub>	14	5	12'-1"	28	2'-6"	3'-6"						2'-0"	1'-1"							Post Base Horizontals @ 12" c/c.

MARK	NO. BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	M	O	R	SHAPE	LOCATION
------	----------	------	--------	------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-------	----------

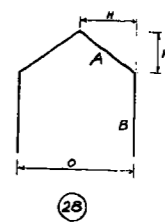
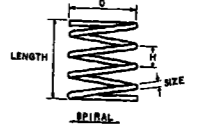


WHERE SLOPE DIFFERS FROM 45° DIMENSIONS 'W' & 'X' MUST BE SHOWN

**ENLARGED VIEW SHOWING BAR BENDING DETAILS.**

**NOTES**

1. ALL DIMENSIONS ARE OUT TO OUT OF BAR.
2. 'J' DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
3. WHERE 'J' IS NOT SHOWN, 'J' WILL BE KEPT EQUAL TO OR LESS THAN 'H'. WHERE 'J' CAN EXCEED 'H', IT SHOULD BE SHOWN.
4. 'H' DIMENSION ON STIRRUPS TO BE SHOWN WHERE NECESSARY TO RESTRICT HOOKS.
5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER WORKING SHOULD HAVE LIMITS INDICATED.
6. FIGURES IN CIRCLES SHOW TYPES.
7. NO ALLOWANCE FOR BEND CURVATURE IS TO BE MADE EXCEPT FOR STANDARD HOOK AND RADIUS IN EXCESS OF SAME.
8. SPACERS TO BE PROVIDED WITH ALL SPIRALS AS SPECIFIED IN A.C.I. 315-57.
9. WEIGHT OF SPIRALS AND SPACERS NOT INCLUDED ON THIS DRAWING.



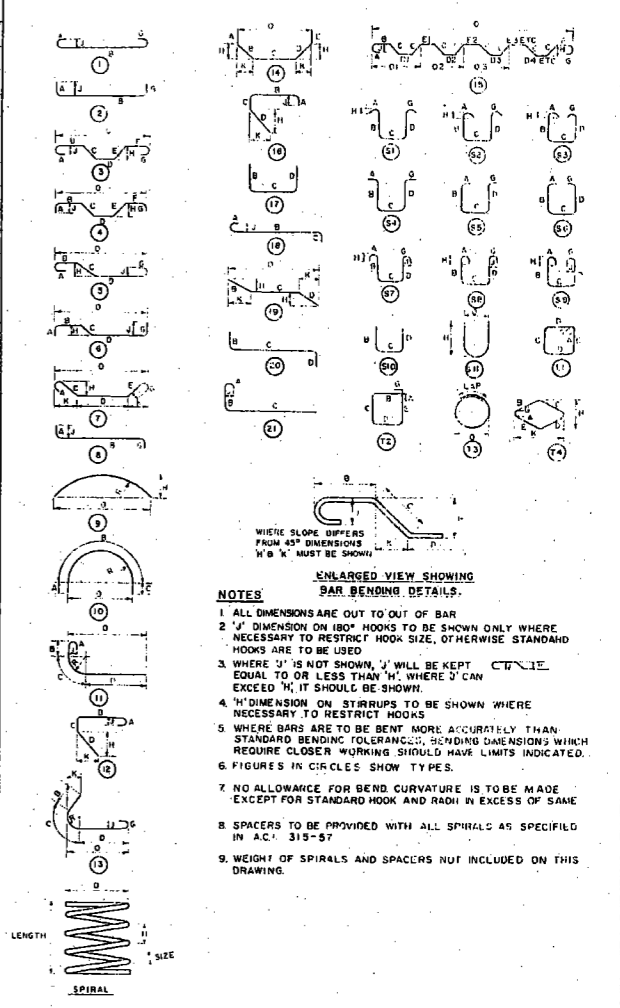
ALL BARS TO BE DETAILED AS PER A.C.I. SPECIFICATIONS.  
ALL STEEL TO BE HARD GRADE & HIGH BOND EXCEPT AS NOTED.

PRINT RECORD		DATE		FOR		DATE	
NO.	FOR	DATE	NO.	FOR	DATE	NO.	FOR
1	FOR	1968	2	FOR	1968		
REVISIONS							
DEPARTMENT OF HIGHWAYS, ONTARIO MADAWASKA RIVER BRIDGE REINFORCING STEEL SCHEDULE CONTRACT NUMBER DRAWING NUMBER							
DATE				DESCRIPTION			
JUNE 1968				85301			

Top 324-76-7-A

MARK	NO. BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	M	O	R	SHAPE	LOCATION
<b>PIER POSTS</b>																				
P <sub>1</sub>	4	3	4'-0"																	Order length Post Points Horizontal. Bent to fit in field.
P <sub>2</sub>	10	3	12'-0"	T	4	1-3	4-2	1-6	4-2		4									Post Stirrups
P <sub>3</sub>	2	3	7'-0"																	Order length Post Points Long Verticals Bent to fit in field.
P <sub>4</sub>	10	3	8'-0"																	Do Post Points Horizontal Bent to fit in field.
<b>HANDRAILS</b>																				
H <sub>1</sub>	237	3	4'-0"	T	4	1-2	6	1-2	6		4									Handrail Intermediate Post Stirrups @ 1' c/c.

MARK	NO. BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	M	O	R	SHAPE	LOCATION
------	----------	------	--------	------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-------	----------



ALL BARS TO BE DETAILED AS PER A.C.I. SPECIFICATIONS.  
**STRUCTURAL GRADE**  
 ALL STEEL TO BE **HARD-GRADE HIGH-BOND** EXCEPT AS NOTED.

PRINT		RECORD	
NO.	DATE	NO.	DATE
REVISIONS			
NO.	DATE	DESCRIPTION	

W.P. 27-57

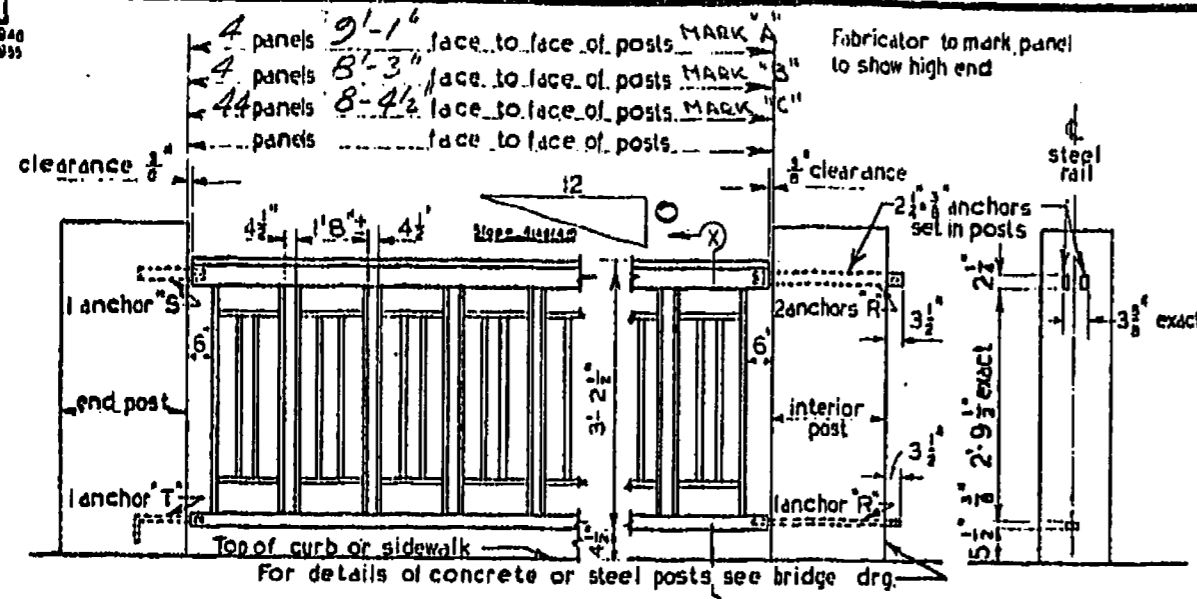
DEPARTMENT OF HIGHWAYS, ONTARIO

MADAWASKA RIVER BRIDGE

REINFORCING STEEL SCHEDULE

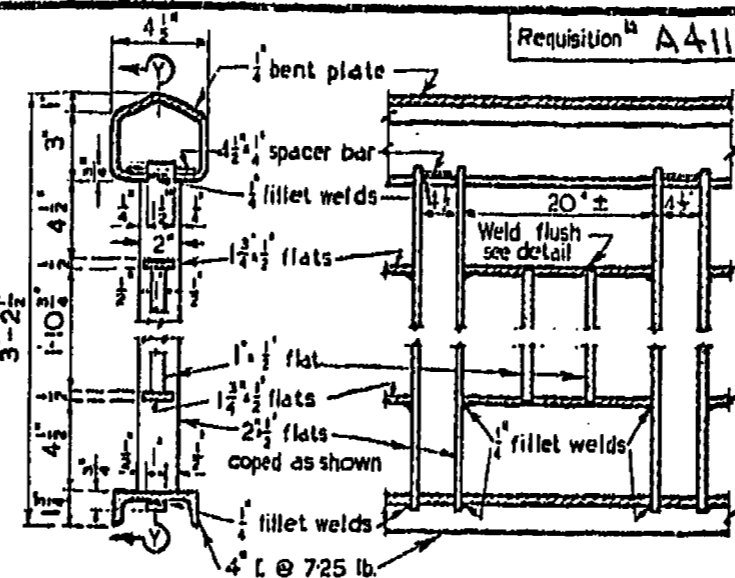
DATE JUNE, 1938

30 x 76 5/8"



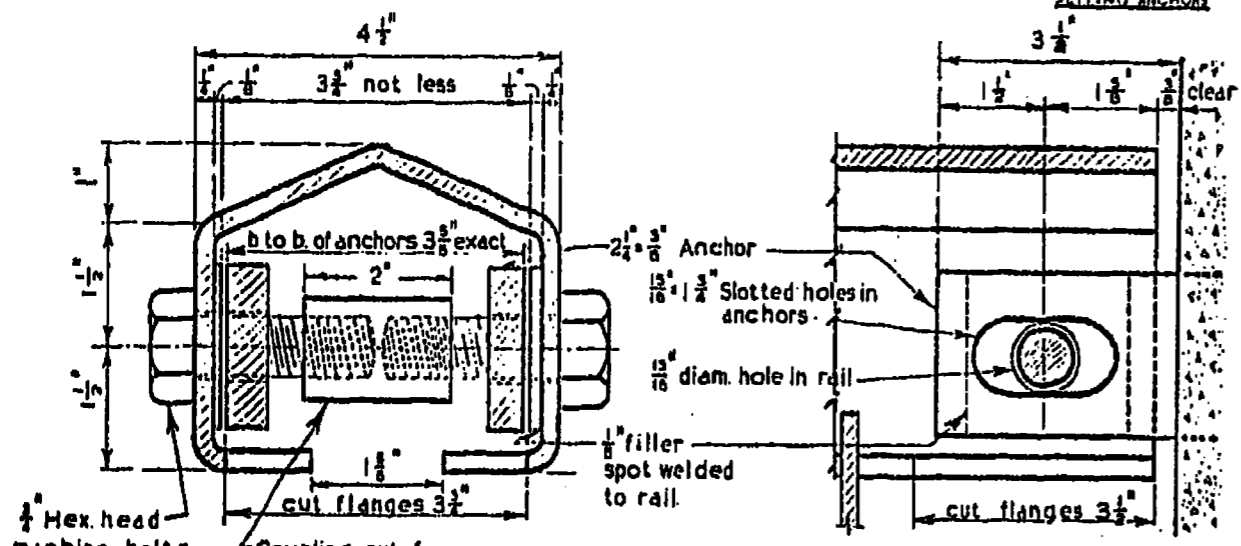
ELEVATION

END ELEV. OF POST  
 SHOWING DIMENSIONS FOR  
 SETTING ANCHORS

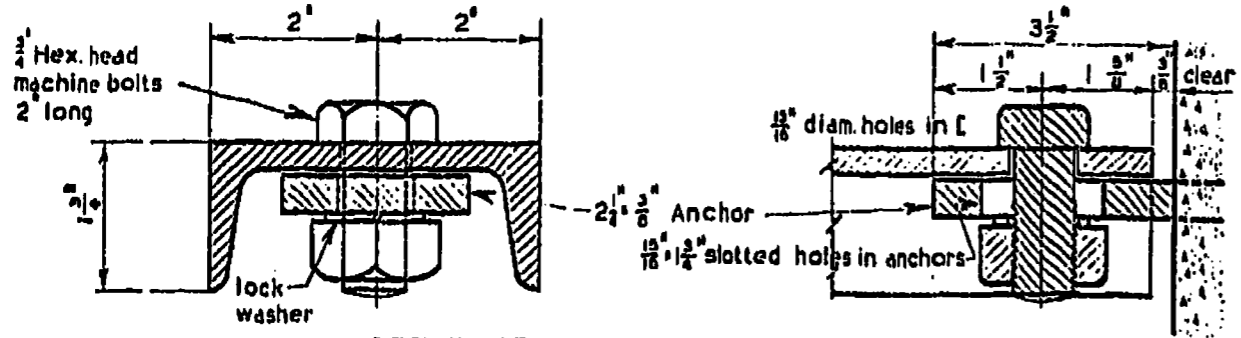


SECTION X-X

SECTION Y-Y



DETAIL OF TOP RAIL CONNECTION

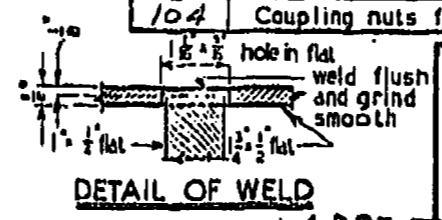


DETAIL OF BOTTOM RAIL CONNECTION

BILL OF MATERIAL	
No.	Details
—	Steel posts: Interior as per Steel posts: End as per
—	Anchors "R" 2 1/4" x 3/8"
104	Anchors "S" 2 1/4" x 3/8"
104	Anchors "T" 2 1/4" x 3/8"
104	3/4" Hexagon head machine bolts 2" long each with one square nut and one lock washer
208	3/4" Hexagon head machine bolts 2" long
104	Coupling nuts for 3/4" bolts

NOTE: Slotted holes in anchors must be finished smooth and true

65303



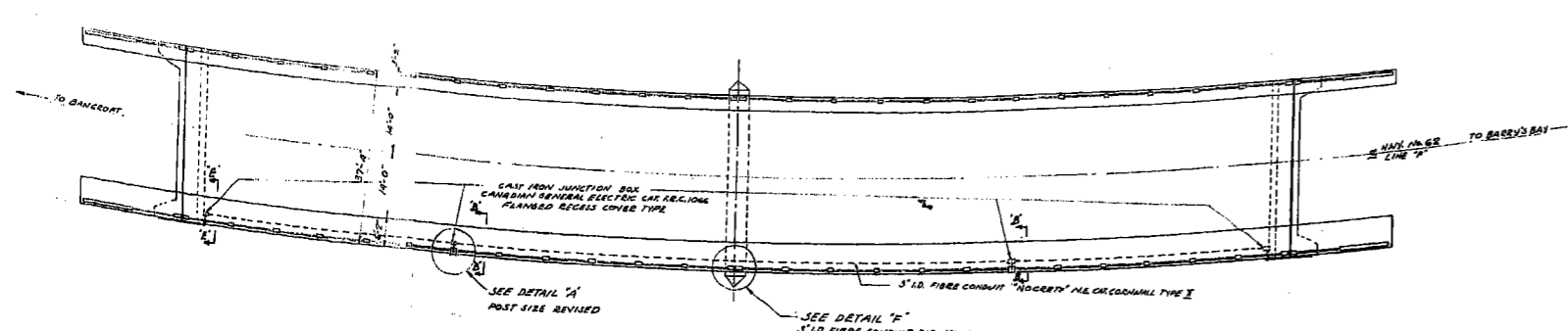
DETAILS OF  
 STEEL  
 HANDRAIL PANELS  
 FOR MADAWASKA  
 RIVER BRIDGE

NOTE: - All steel including bolt heads, nuts, and anchors, to be given one shop coat of paint applied by brush as per specifications.

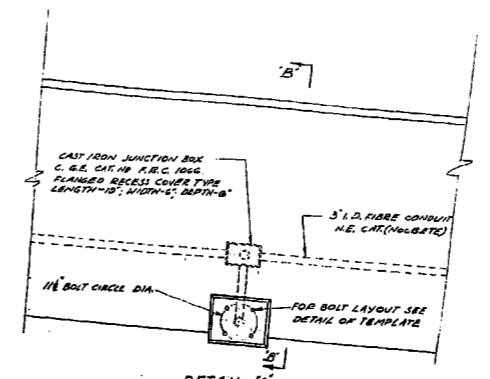
DRG. NO. 62  
 DEPARTMENT OF HIGHWAYS  
 TORONTO, ONTARIO  
 CONTRACT NO. 58-240  
 DRAWING NUMBER D-102-5  
 BRIDGE ENGINEER

TWP # 329-76-9.A

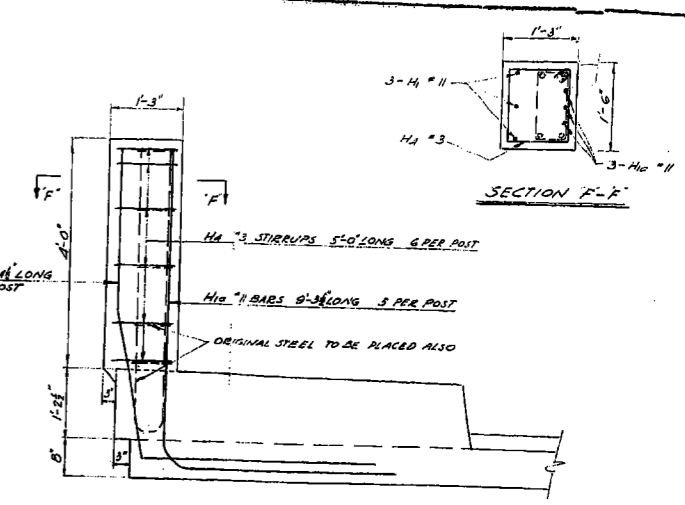
DRG. NO. 62  
 CHD. R. D.  
 DATE June 1958



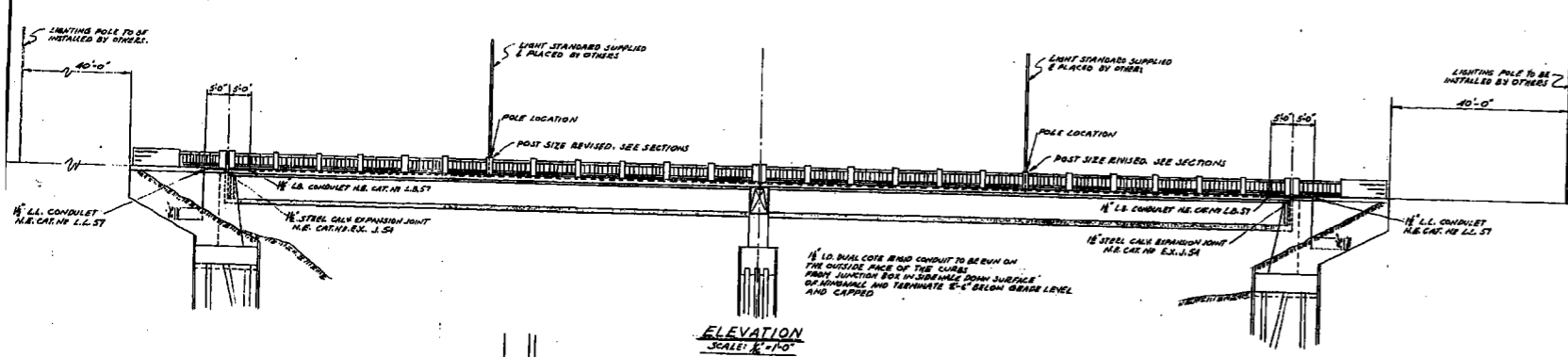
**PLAN**  
SCALE: 1/4" = 1'-0"



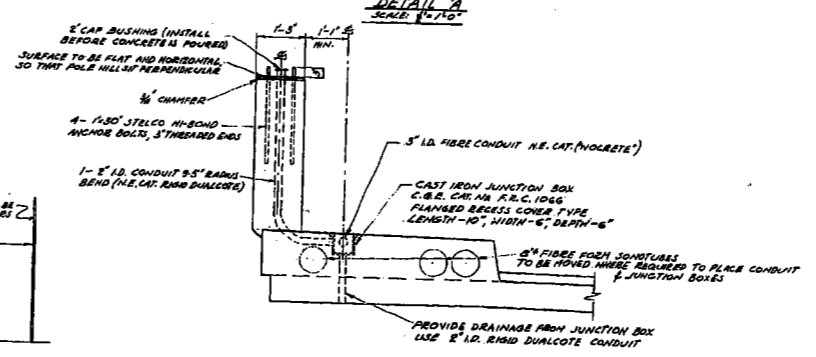
**DETAIL A**  
SCALE: 1/2" = 1'-0"



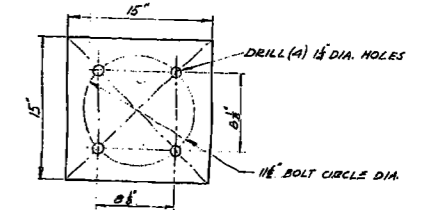
**SECTION OF HANDRAIL POST UNDER LAMP STANDARD**  
SHOWING ADDITIONAL STEEL REQUIRED  
SCALE: 3/8" = 1'-0"



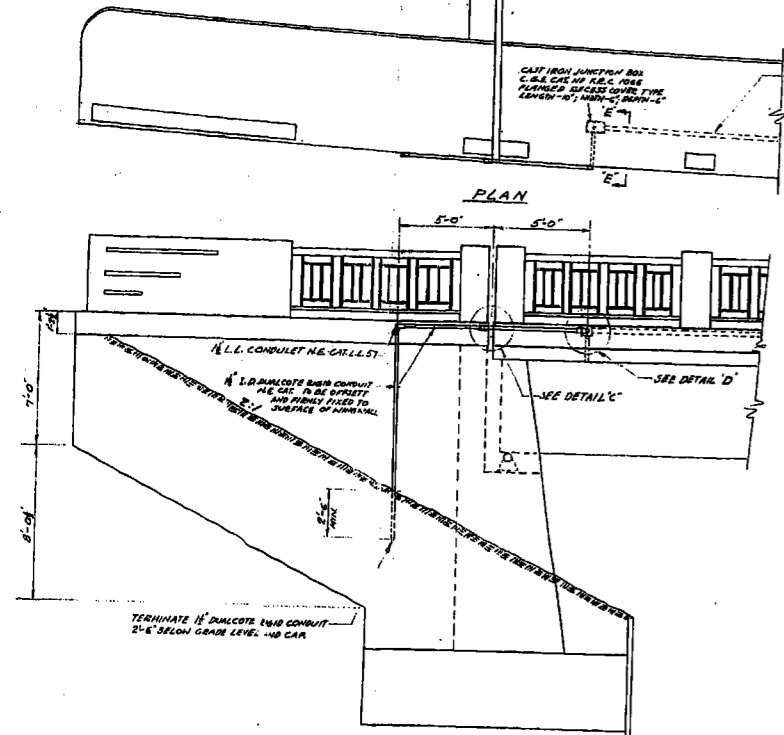
**ELEVATION**  
SCALE: 1/4" = 1'-0"



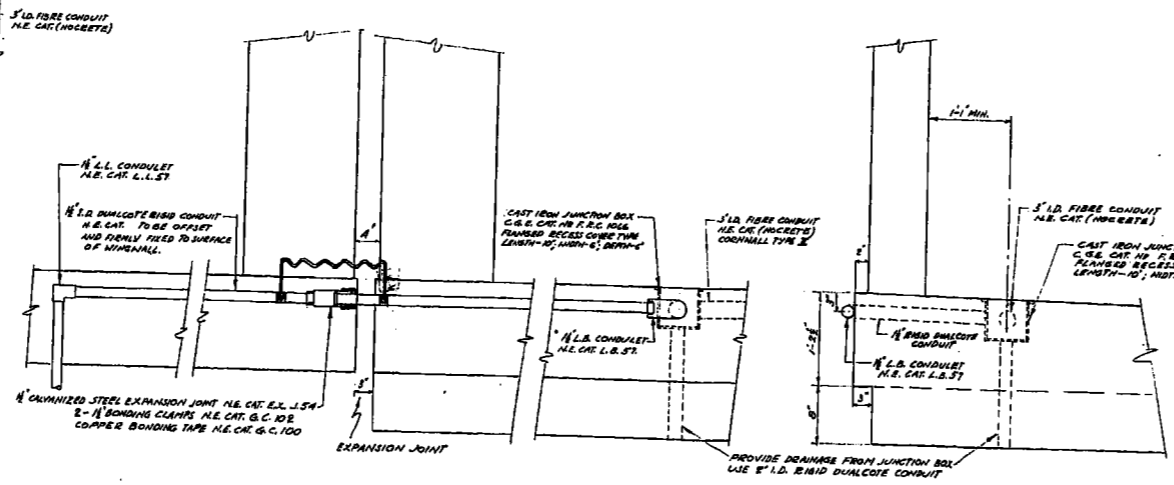
**SECTION B-B**  
SCALE: 1/2" = 1'-0"



**DETAIL OF TEMPLATE**  
STEEL PLATE 15" x 15"



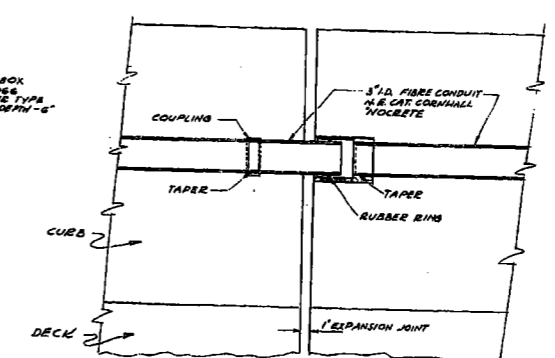
**ELEVATION**  
METHOD OF INSTALLING SURFACE CONDUIT  
SCALE: 3/8" = 1'-0"



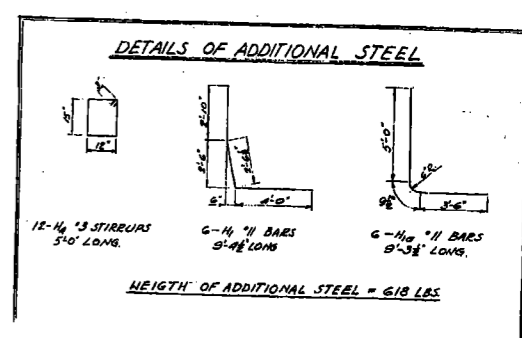
**DETAIL C**  
SCALE: 1/2" = 1'-0"

**DETAIL D**  
SCALE: 1/2" = 1'-0"

**ENLARGED SECTION E-E**  
SCALE: 1/2" = 1'-0"



**DETAIL F**  
METHOD OF INSTALLING FIBRE CONDUIT EXP JOINT AT PIER



HEIGHT OF ADDITIONAL STEEL = 618 LBS

Reg'n A54266 W.P. 27-57  
**DEPARTMENT OF HIGHWAYS, ONTARIO**  
 BRIDGE OFFICE - TORONTO  
**MADAWASKA RIVER BRIDGE**  
 AT COMBERBERG  
 THE KING'S HIGHWAY No. 62  
 CD. GENERAL  
 TWP. RADCLIFFE LOT 6  
 65295 **ELECTRICAL SYSTEM**  
 APPROVED: *[Signature]*  
 BRIDGE ENGINEER  

DESIGN	ADP/ED	CHECK	
DRAWING	G. J.	CHECK	ALM
TRACING		CHECK	
DATE	MARCH 1960		

 TWP 329-76-10-A

NO.	DATE	BY	DESCRIPTION