2-8'x5' R.C.B.C.

13th ST. BRIDGE

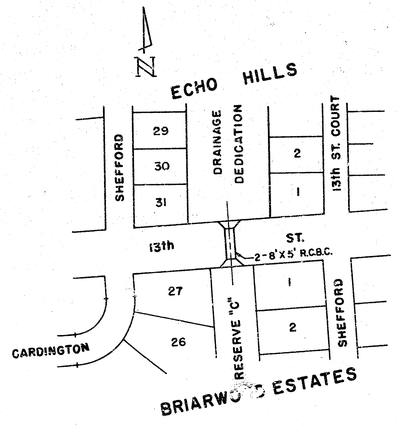
ONE-HALF MILE WEST OF MAIZE ROAD

CITY OF WICHITA, KANSAS

R.W. BRUGGEMAN DIRECTOR OF ENGINEERING / CITY ENGINEER

DATE:

PROJ. NO. 472 76 245 81061 000 000 004



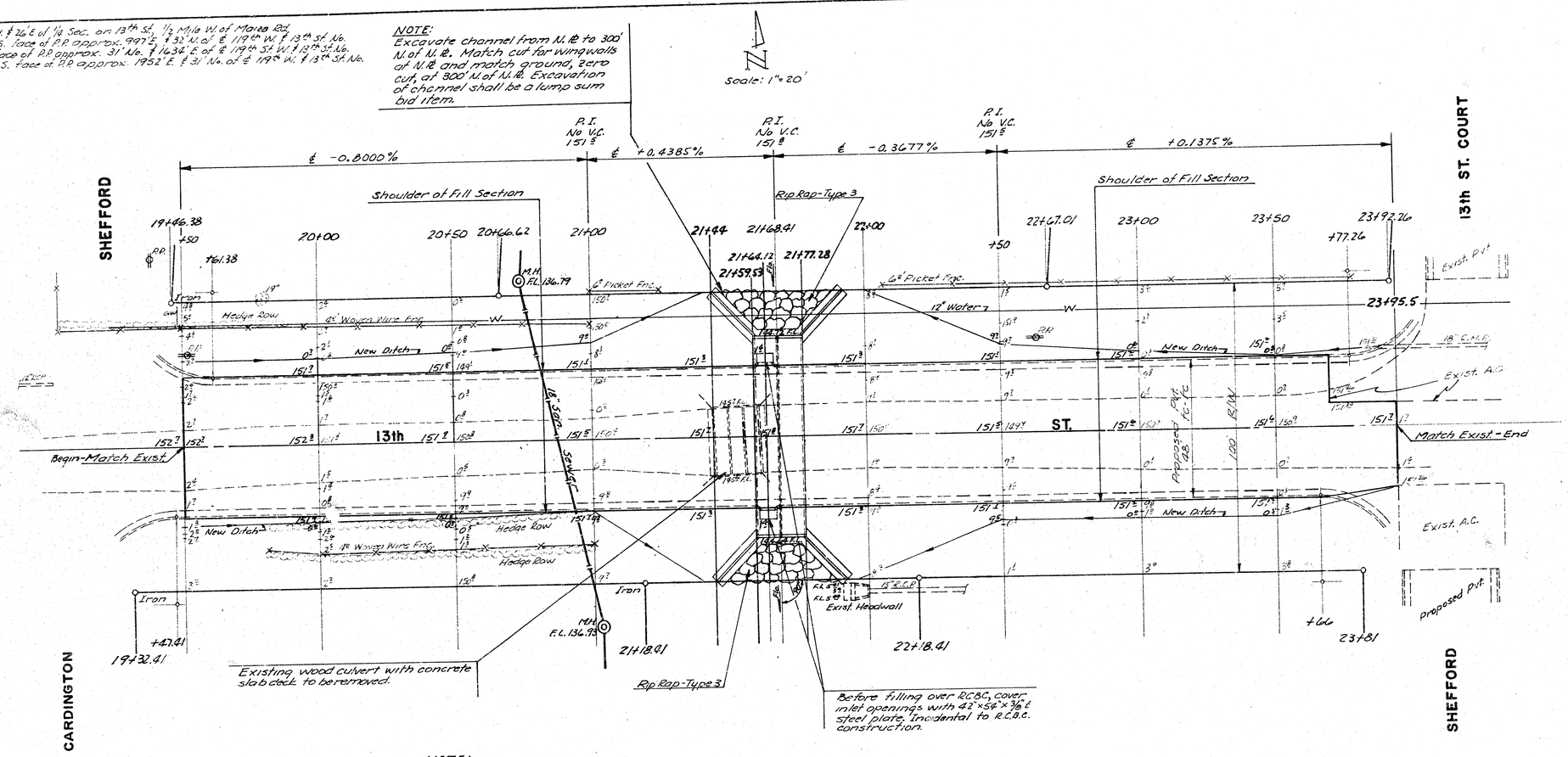
LOCATION MAP
SCALE: 1" = 150'

1/8

1/8

B.M. 157.975 City Std. 26' N. & 26' E of 1/4 Sec. on 13th St. 1/2 Mile W. of Maize Rd.
B.M. 159.654 Bridge Spk. S. face of P.P. approx. 997' E. & 32' N. of ℄ 119th W. & 13th St. No.
B.M. 158.74 R.R. Spk. E. face of P.P. approx. 31' No. & 1634' E. of ℄ 119th St. W. & 13th St. No.
B.M. 153.16 Bridge Spk. S. face of P.P. approx. 1952' E. & 31' No. of ℄ 119th W. & 13th St. No.

NOTE:
Excavate channel from N. ℞ to 300' N. of N. ℞. Match cut for wingwalls at N. ℞ and match ground, zero cut, at 300' N. of N. ℞. Excavation of channel shall be a lump sum bid item.



NOTE:
After the RCBC is constructed, compacted fill is to be added to the 13th St. roadway between the limits shown, and set to the elevations shown on the plan.

2/8

2 - 8' x 5' R.C.B.C.

13th ST. BRIDGE

ONE-HALF MILE WEST OF MAIZE ROAD

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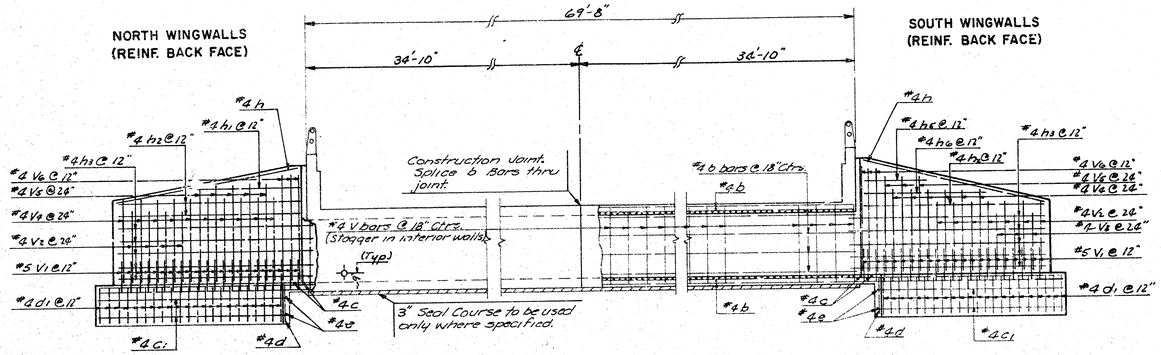
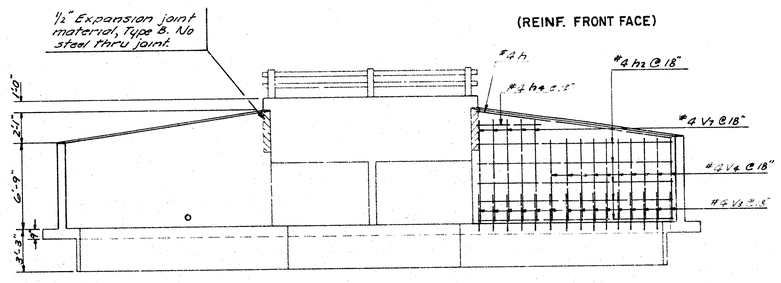
2/8

Survey B.R. Plan D.E.C. Ext. Checked



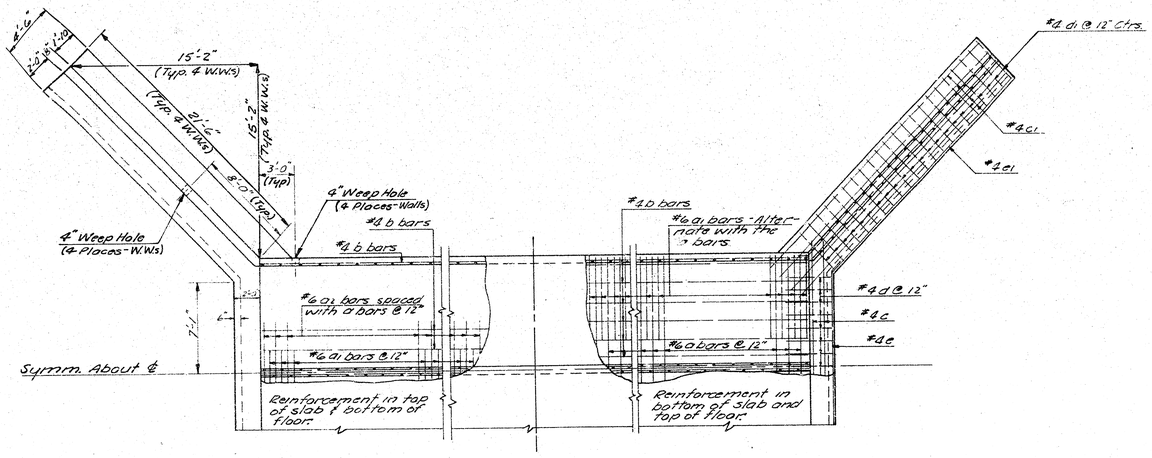
ELEVATION & SECTION

3/16" = 1' C"



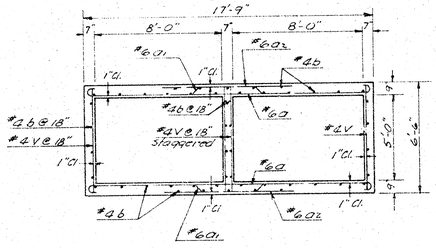
END ELEVATION & SECTION
(NORTH WINGWALLS)

NO SCALE



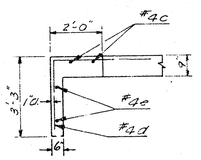
PLAN & SECTION

3/16" = 1' 0"



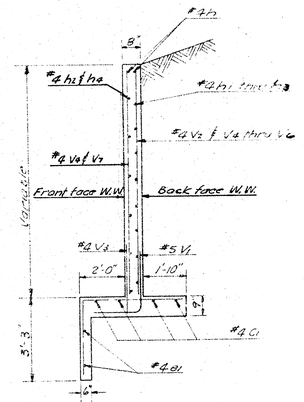
BOX SECTION

NO SCALE



APRON SECTION
(TYP.)

NO SCALE



WINGWALL SECTION
(NORTH WINGWALLS)

NO SCALE

3/8

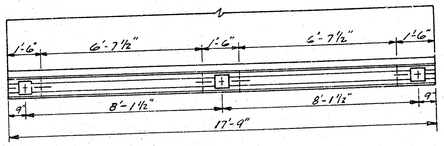
2 - 8'x5' R.C.B.C.

13th ST. BRIDGE

ONE-HALF MILE WEST OF MAIZE ROAD

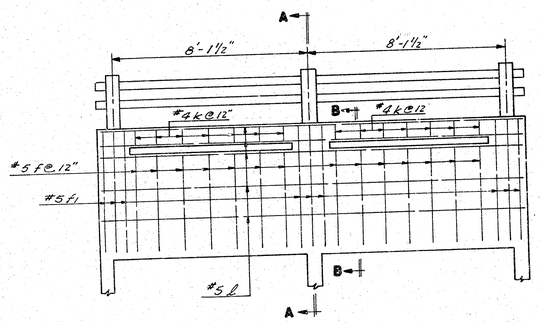
PROJ. NO. 472 76 245 81061 000 000 004

3/S



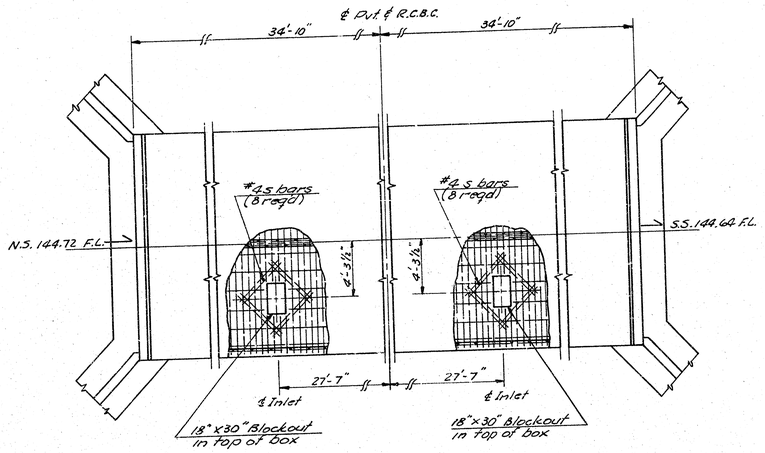
PLAN - RAILING

NO SCALE



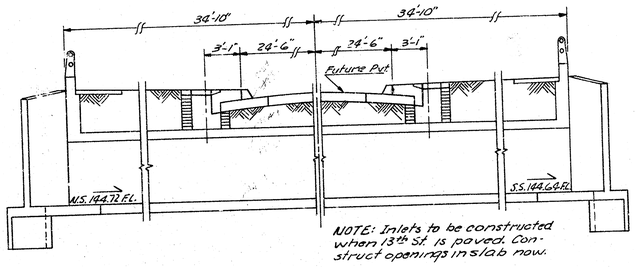
ELEVATION & SECTION - RAILING

NO SCALE



CURB INLETS - LOCATION

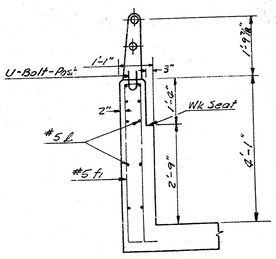
NO SCALE



NOTE: Inlets to be constructed when 13th St. is paved. Construct openings in slab now.

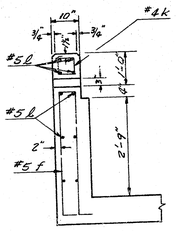
CURB INLETS - SECTION

NO SCALE



SECTION A-A

NO SCALE



SECTION B-B

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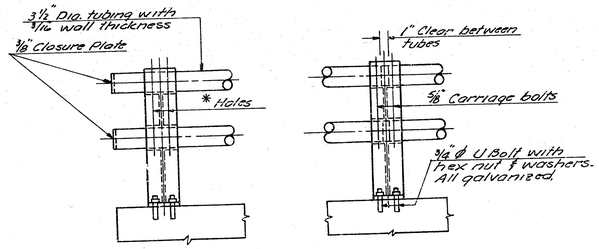
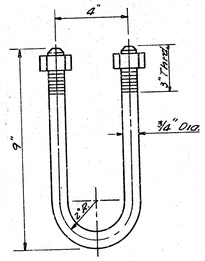


* Holes: 11/16" square holes in post under head, and 11/16" round holes under nuts for ⅝" ø x 5½" carriage bolts with hex nuts.

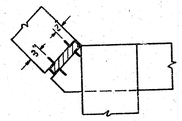
DETAIL - ALUMINUM RAILING

NO SCALE

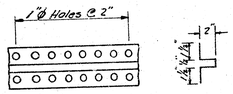


GALVANIZED U BOLT

NO SCALE



WING EXPAN. JOINT



12 OZ. SHEET COPPER RETAINER
8 REQ'D

NOTE: Aluminum Handrail
Aluminum posts shall be Reynolds Aluminum Highway Products Bridge Railing System No. 2R19A or equal. Top & bottom rails shall be 3½ O.D. x ⅛" wall tube of 6063-T6 Aluminum.
Aluminum shims between concrete and post base may be used. The space below posts shall be thoroughly caulked with Aluminastic compound or other approved material.

4/8

2 - 8'x5' R.C.B.C.

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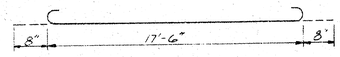
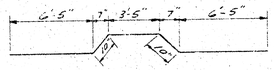
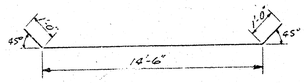


a



a1



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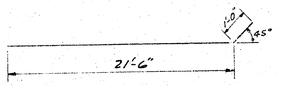

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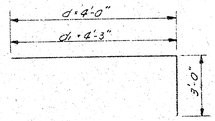

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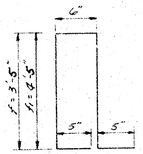
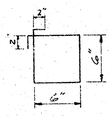


f f1



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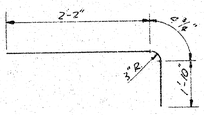


V1

BILL OF MATERIALS

	ITEMS	QUANTITY	UNIT
Lump Sum	Class A-AE Concrete	130.8	C.Y.
	Reinforcing Steel	16,526.6	Lbs.
	Hand Excavation	15.9	C.Y.
	Aluminum Handrail	35.5	L.F.
	Class A Concrete Seal Course	11.5	C.Y.
Bid Items	* Excavation	314.7	C.Y.
	* Compacted Fill	1774.2	C.Y.
	Rip Rap - Type 3	97.8	S.Y.
	* Borrow	2065.0	C.Y.

* Includes quantities for RCBC and fan fill on 13th St. Does not include quantities for channel excavation. (300' N. of R)

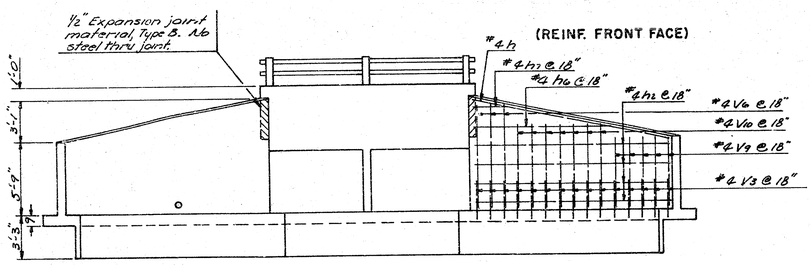
BAR SCHEDULE

BAR	SIZE	LENGTH	NO.	SHAPE	WEIGHT
a	#6	18'-10"	140		3959.57
a1	#6	17'-11"	140		3768.22
a2	#6	8'-0"	140		1682.24
b	#4	35'-8"	100		2382.76
c	#4	19'-6"	6		52.10
c1	#4	23'-6"	16		261.86
d	#3	7'-0"	30		140.28
d1	#3	7'-3"	88		426.18
e	#3	16'-6"	4		44.09
e1	#3	21'-4"	6		113.99
f	#5	6'-2"	28		238.60
f1	#5	10'-2"	18		190.93
h	#4	21'-4"	8		113.99
h1	#4	12'-6"	2		16.70
h2	#4	21'-3"	24		340.68
h3	#4	22'-2"	20		300.60
h4	#4	6'-6"	2		8.68
h5	#4	8'-0"	2		10.67
h6	#4	14'-6"	4		38.74
h7	#4	3'-6"	2		4.68
k	#5	2'-9"	28		43.58
l	#5	17'-6"	20		365.05
s	#3	4'-6"	16		48.10
v	#3	2'-3"	190		793.25
v1	#5	2'-4¾"	88		403.35
v2	#3	5'-2"	22		80.83
v3	#3	3'-0"	60		120.24
v4	#3	6'-6"	52		225.78
v5	#3	7'-5"	16		79.30
v6	#3	8'-3"	18		99.20
v7	#6	8'-0"	10		53.44
v8	#4	4'-6"	6		18.06
v9	#6	5'-7"	10		37.27
v10	#6	6'-9"	12		63.13

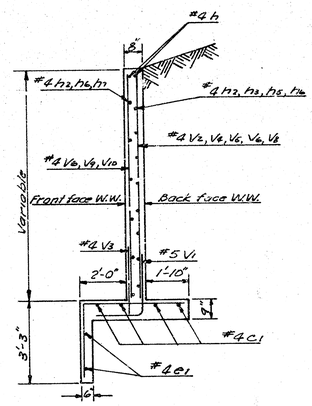
BENDING DIAGRAMS

ALL DIMENSIONS OUT TO OUT OF BARS

NO SCALE



END ELEVATION & SECTION
(SOUTH WINGWALLS)
NO SCALE



WINGWALL SECTION
(SOUTH WINGWALLS)
NO SCALE

GENERAL NOTES

1. CLASS A-AE - CONCRETE SHALL BE USED THROUGHOUT ON THE STRUCTURE. THE REINFORCING STEEL SHALL CONFORM TO A.S.T.M. SPECIFICATIONS.
2. EARTHWORK - ALL EARTHWORK SHALL BE CONSIDERED AS "COMMON EXCAVATION" EXCEPT FOR THE TOEWALL. TOEWALL EXCAVATION SHALL BE INCLUDED IN "LUMP SUM BID".
3. BACKFILL - ALL BACKFILL AND EXCAVATION TO EXTEND TO (2') BEYOND SIDES OF BOX AND WING-WALLS.
4. BEVEL - ALL EXPOSED EDGES OF CONCRETE WITH 3/4" TRIANGULAR MOULDING.
5. WEEPHOLES - COURSE AGGREGATE SHALL BE DEPOSITED BEHIND EACH WEEPHOLE TO OCCUPY A SPACE EXTENDING (15") IN ALL DIRECTIONS ABOVE WEEPHOLE FLOW LINE. THIS WORK SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED A PART OF THE EXCAVATION WORK.
6. SEAL COURSE - A SEAL COURSE CONSISTING OF 3" CLASS "A" CONCRETE SHALL BE CONSTRUCTED ONLY WHERE SPECIFIED ON THE PLANS OR BY THE ENGINEER. NO REINFORCING SHALL BE PLACED UNTIL THE SEAL COURSE HAS GAINED SUFFICIENT STRENGTH TO PERMIT WORKING UPON IT WITHOUT DAMAGE.
7. BIDDING OF CULVERT - THE CULVERT SHALL BE BID AS A "LUMP SUM BID" WHICH SHALL INCLUDE THE FOLLOWING ITEMS: CLASS A-AE CONCRETE, REINFORCING STEEL, HAND EXCAVATION AND ALUMINUM HAND RAIL. ALL OTHER ITEMS SHALL BE INCLUDED AS BID ITEMS.
8. THE QUANTITIES SHOWN IN THE "BILL OF MATERIALS OR ITEMS" WHICH ARE INCLUDED IN THE"LUMP SUM BID" OF THE CULVERT ARE FOR "INFORMATION PURPOSES ONLY". THE CONTRACTOR MUST SATISFY HIMSELF AS TO THE "QUANTITIES" AND THE ENGINEER ASSUMES NO RESPONSIBILITIES FOR THEIR ACCURACY. THE CONTRACTOR WILL HAVE THE FULL RESPONSIBILITY FOR PROVIDING ALL MATERIALS ON THE DETAILED PLANS NECESSARY TO COMPLETE THE PROJECT.

5/8

2-8'x5' R.C.B.C.

13th ST. BRIDGE

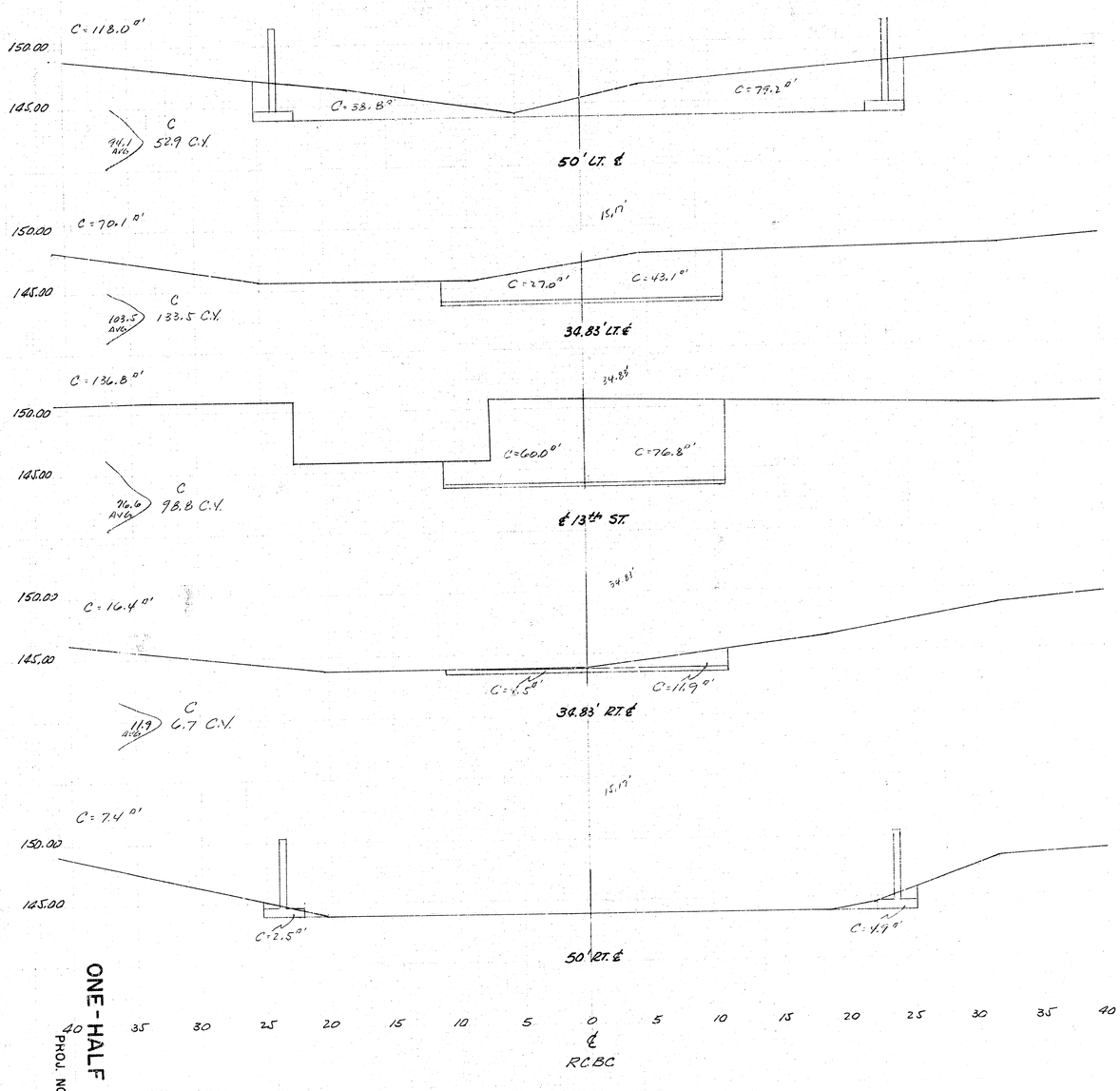
ONE-HALF MILE WEST OF MAIZE ROAD

PROJ. NO. 472 76 245 81061 000 000 004

5/5

HAND EXCAV. - TOE WALLS

$4\left(2.41 \times \frac{1.5}{2} \times 2.5\right) + 2\left(14.28 \times \frac{1.5}{2} \times 2.5\right) = \frac{429}{27} = 15.9$ C.Y.



RCBC

EARTHWORK - THIS SHEET (RCBC)

EXCAV.	HAND EXCAV.
291.7 C.Y.	15.9 C.Y.

COMPACTED FILL FOR RCBC IS INCLUDED IN EARTHWORK CALCULATIONS FOR 13th ST.

ONE-HALF MILE WEST OF MAIZE ROAD

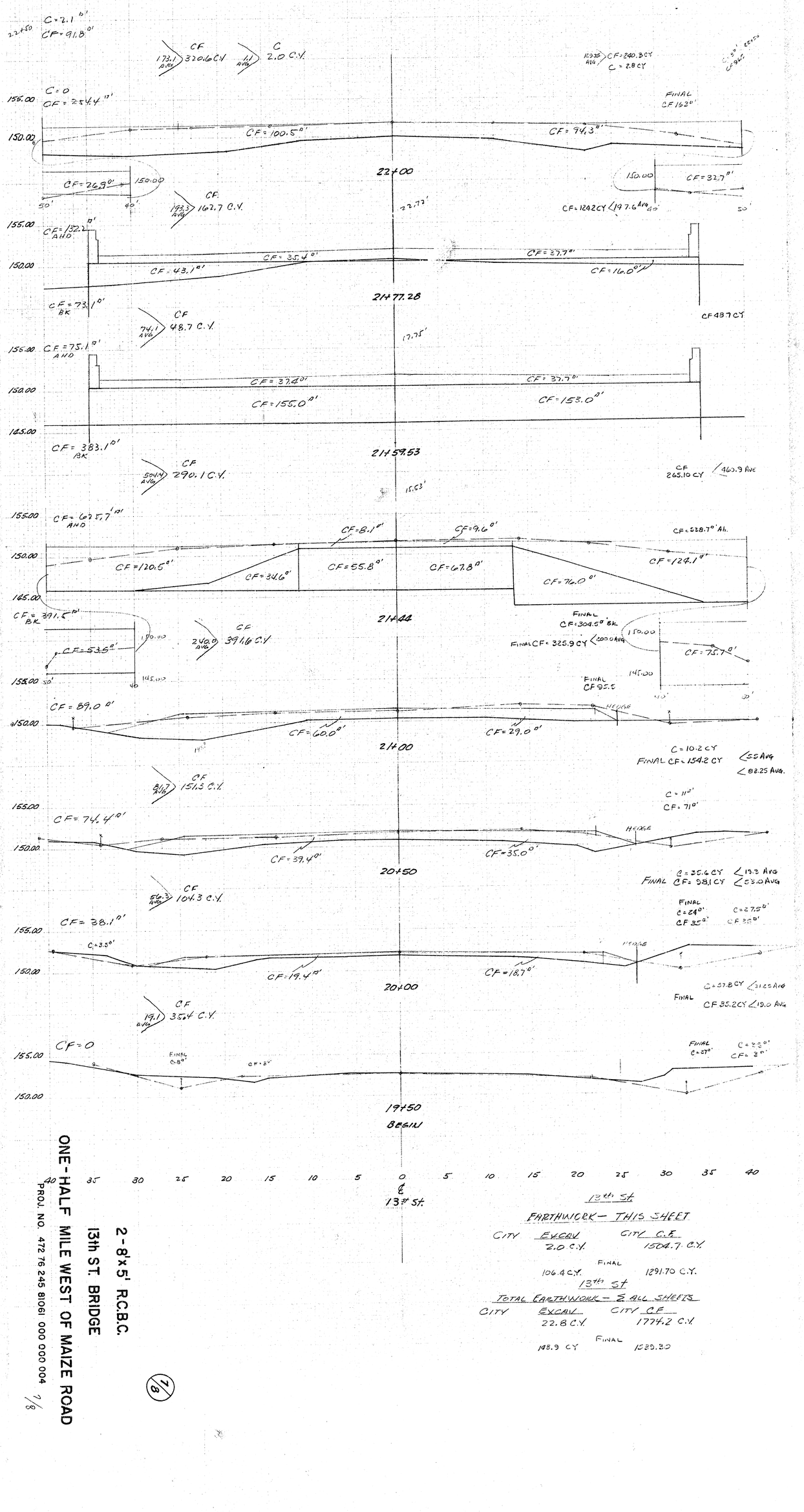
PROJ. NO. 472 76 245 8106I 000 000 004

2 - 8' x 5' R.C.B.C.

13th ST. BRIDGE

G 8

S/S



13th St.

FARTHWORK — THIS SHEET

CITY EXCAV	CITY C.E.
2.0 C.Y.	1504.7 C.Y.
FINAL	
106.4 C.Y.	1291.70 C.Y.

13th St.

TOTAL EARTHWORK — 2 ALL SHEETS

CITY EXCAV	CITY CF
22.8 C.Y.	1774.2 C.Y.
FINAL	
148.9 CY	1635.30

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13th ST. BRIDGE

2-8'x5' R.C.B.C.

PROJ. NO. 472 76 245 81061 000 000 004

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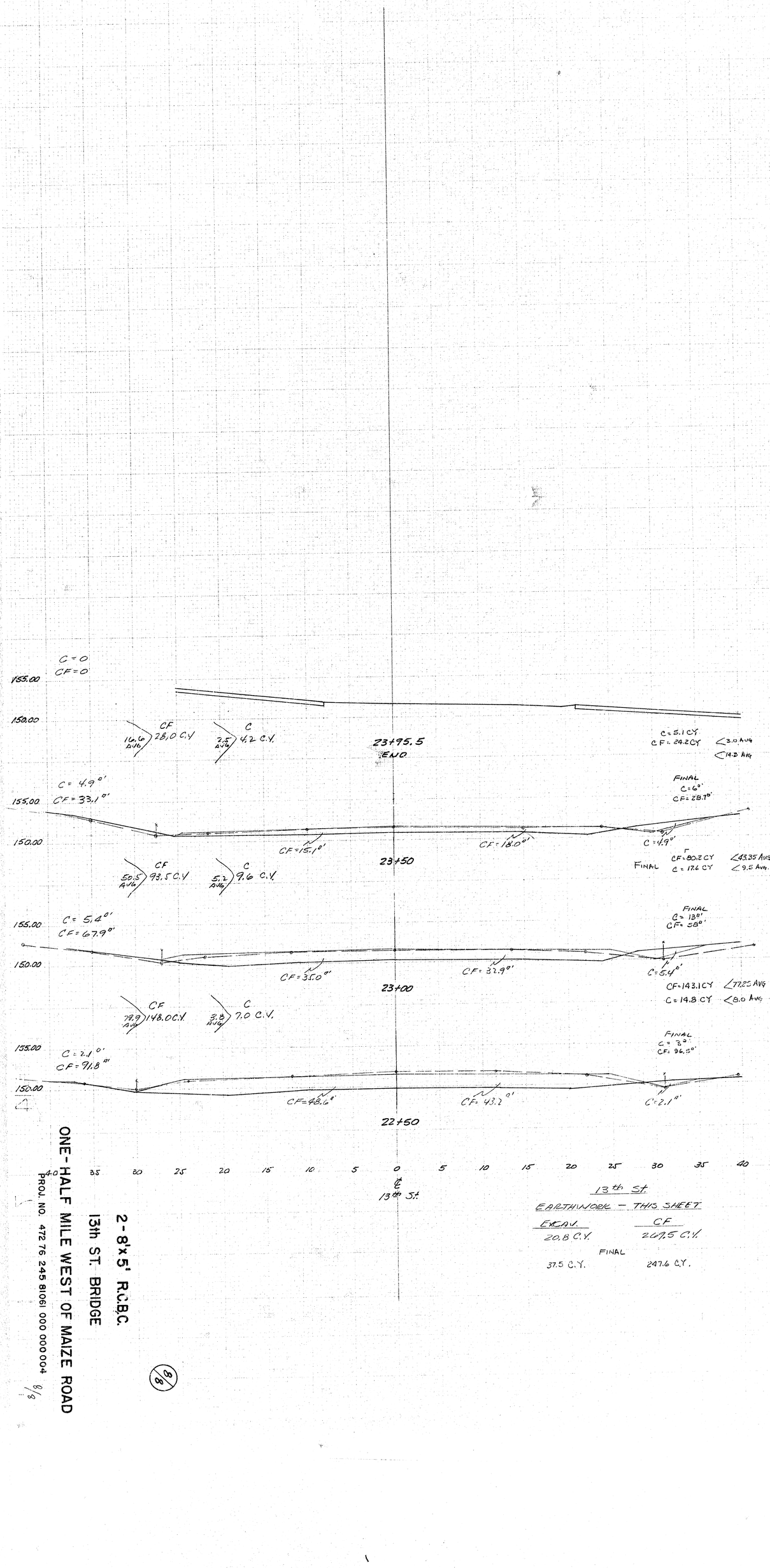
(7/8)



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8/8

(8/8)