

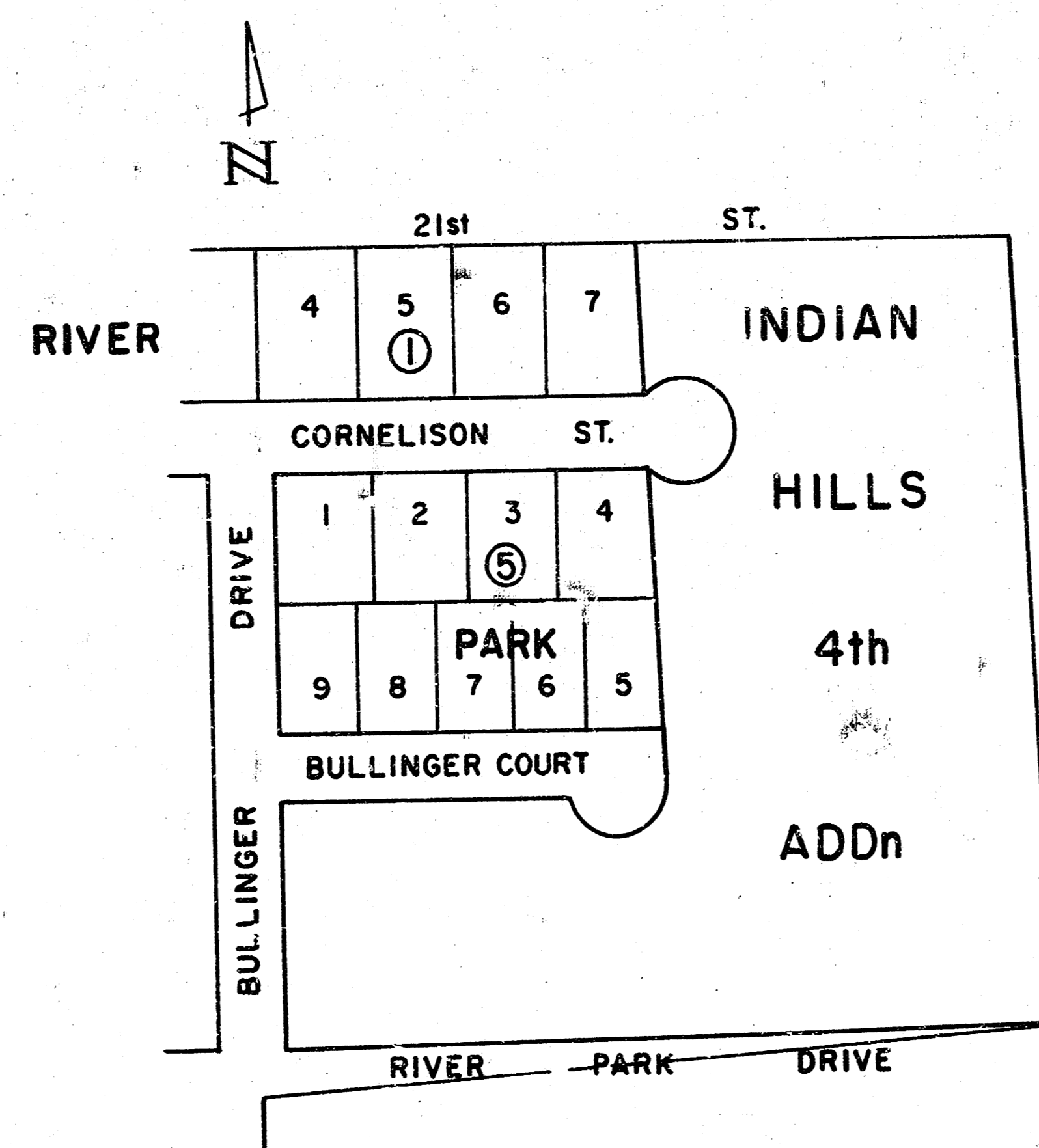
**BULLINGER COURT  
E.L. BULLINGER DRIVE TO  
AND INCLUDING CUL-DE-SAC**

**CITY OF WICHITA, KANSAS**

**R.W. BRUGGEMAN    DIRECTOR OF ENGINEERING / CITY ENGINEER**

**DATE:**

**PROJ. NO. 472 76 245 81133 000 000 001**

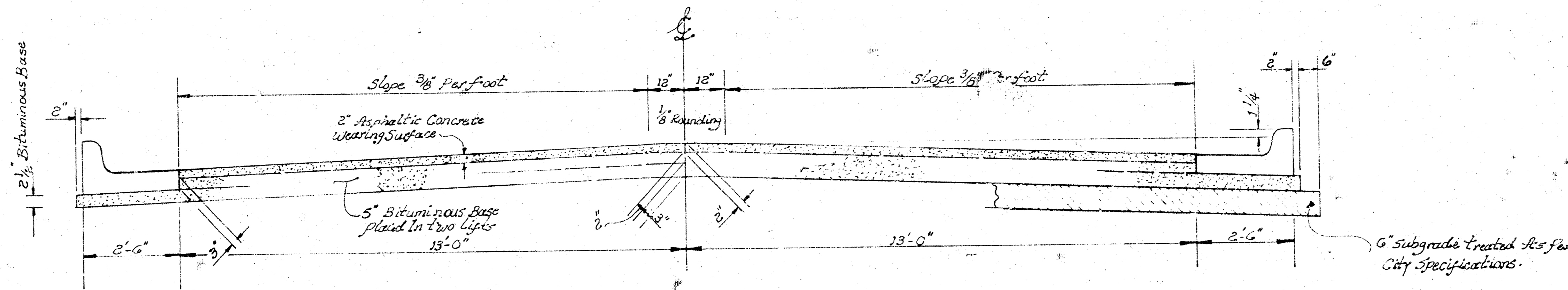


**LOCATION MAP  
SCALE - 1" = 150'**



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**TYPICAL SECTION**

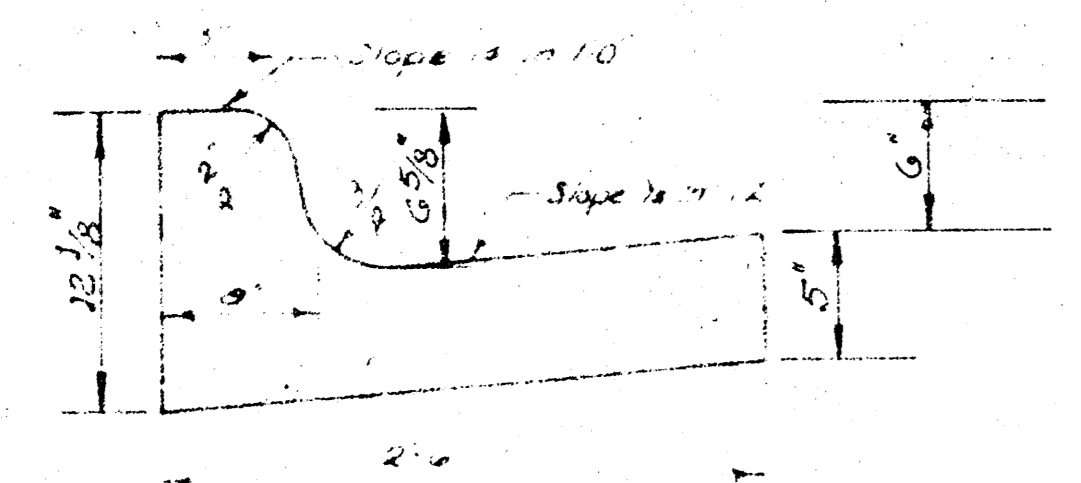
**31' ASPHALTIC CONCRETE PAVEMENT WITH BITUMINOUS BASE**

A TACK COAT OF EMULSIFIED ASPHALT (SS-1H) SHALL BE APPLIED AT AN APPROXIMATE RATE OF 0.05 GALLONS PER SQ YD BETWEEN LIFTS OF ASPHALTIC MATERIALS WHEN ORDERED BY THE ENGINEER. TACK COAT WILL NOT BE PAID FOR DIRECTLY AND SHALL BE CONSIDERED AS SUBSIDIARY TO PRICE BID FOR ASPHALTIC PAVEMENT.

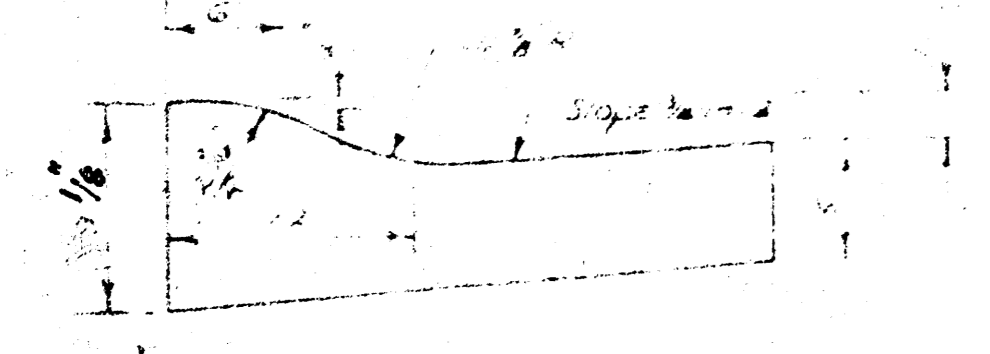
BITUMINOUS BASE AND ASPHALTIC CONCRETE WEARING SURFACE SHALL BE PLACED WITH A LAYDOWN MACHINE HAVING AUTOMATIC CONTROLS FOR CROWN AND GRADE. CONSTRUCTION JOINTS IN EACH LIFT SHALL BE STAGGERED A MINIMUM DISTANCE OF 1' WITH JOINTS IN PRECEDING LIFTS AND SUCH THAT A JOINT WILL BE CONSTRUCTED ON THE PAVEMENT CENTERLINE IN THE TOP LIFT.

*The A.C. pavement between the Comb. Curb & gutter shall be paid as Sec. 7" A.C. Pavement (5" Bituminous Base). The Bituminous Base under the Comb. Curb & gutter shall be paid as Sec. 3 1/2" Bituminous Base.*

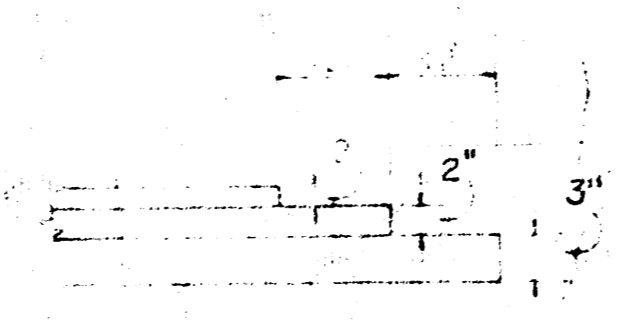
COMBINED CURB & GUTTER



ROLL TYPE CURB & GUTTER



**DETAIL OF TRANSVERSE CONSTRUCTION JOINTS**



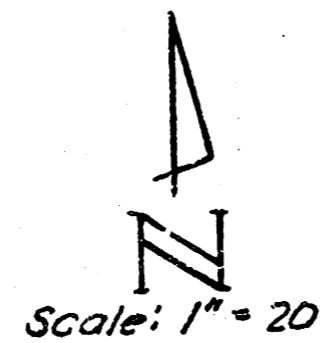
TRANSVERSE CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN FLEXIBLE BASE PAVEMENTS AT LOCATIONS WHERE PAVEMENT TEMPORARILY ENDS TO FACILITATE FUTURE PAVEMENT CONSTRUCTION AS SHOWN BY DETAIL. THE COST OF CONSTRUCTING THE TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE MEASURED OR PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE BID PRICE FOR SQUARE YARDS OF ASPHALTIC CONCRETE PAVEMENT.

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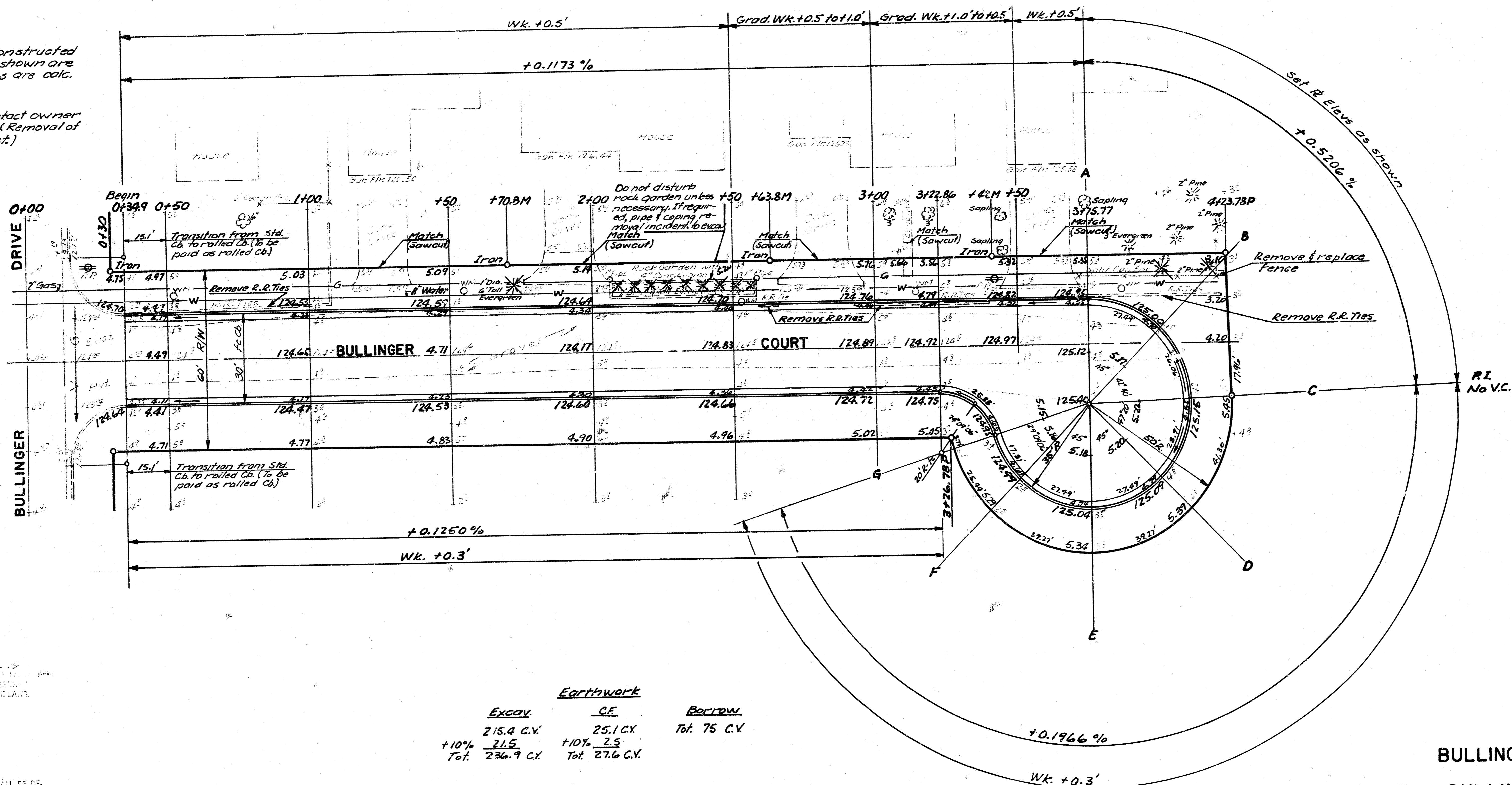
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B.M. 124.66 Top of Cb. N.S. Bullinger Ct on E.L. Bullinger Dr  
 B.M. 125.35 R.R. Spike, N.S. R.R. N.S. Bullinger Ct, 2nd Pole E. of Bullinger Dr  
 B.M. 124.15 Top of Cut Top E. Cb. Hyacinths at S.L. Cornelison  
 B.M. 124.20 Top of Cut Top S. Cb. River Park 2' E. of W.L. Bullinger  
 B.M. 126.75 City Std. Disc. N. of Sac. Line, 158' W. of W.L. Benjamin, Approx. 6' S. of N.R., 21st St. N.



NOTE: Roll Curb shall be constructed on this project. Curb grade shown are T.C. for Rolled Curb. Wk. elevs are calc. from T.C. - Roll Curb.

NOTE: Contractor shall contact owner for disposition of R.R. Ties. (Removal of R.R. Ties incidental to project.)



Earthwork		
Excav.	CE	Borrow
215.4 C.Y.	25.1 C.Y.	Tot. 75 C.Y.
+10% 21.5	+10% 2.5	
Tot. 236.9 C.Y.	Tot. 27.6 C.Y.	

**SUB-GRADE**  
 TYPE OF SUB-GRADE TREATMENT SHALL BE DETERMINED BY THE FIELD ENGINEER. SUB-GRADE TREATMENT MAY CONSIST OF LIME TREATMENT, CEMENT TREATMENT, SUB-GRADE MODIFICATION, OR ANY COMBINATION OF THESE.

NOTE: Trees to be removed are marked thus ~~✗~~ except that any tree marked for removal, which in the opinion of the Engineer can be saved, shall be spared.

8-20' DRIVES  
 Manipulation = 1588.0 S.Y.

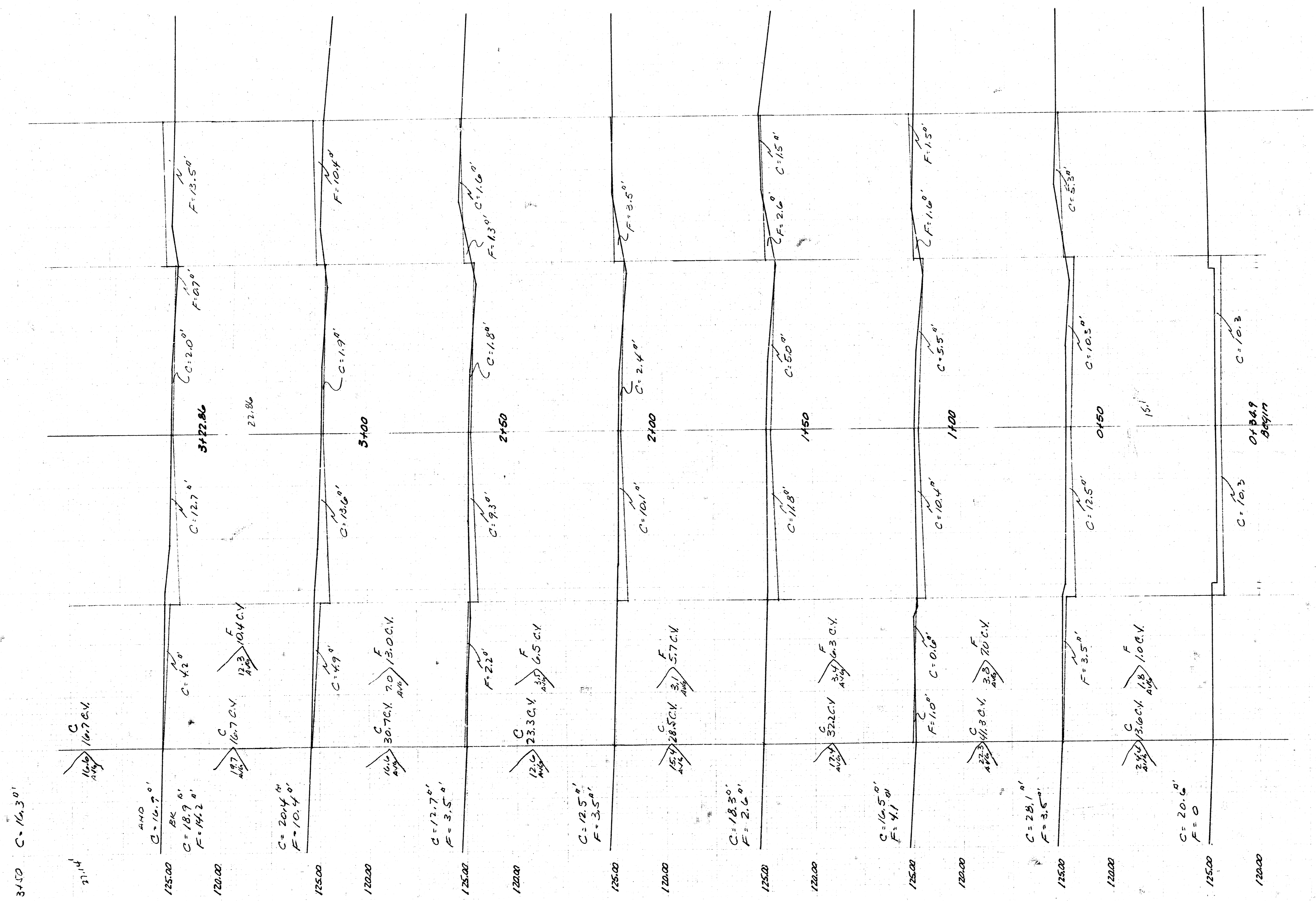
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SUBMITTED BY: A.R. 82  
 PREPARED BY: DEC  
 EXAMINED BY: [blank]  
 CHECKED BY: [blank]

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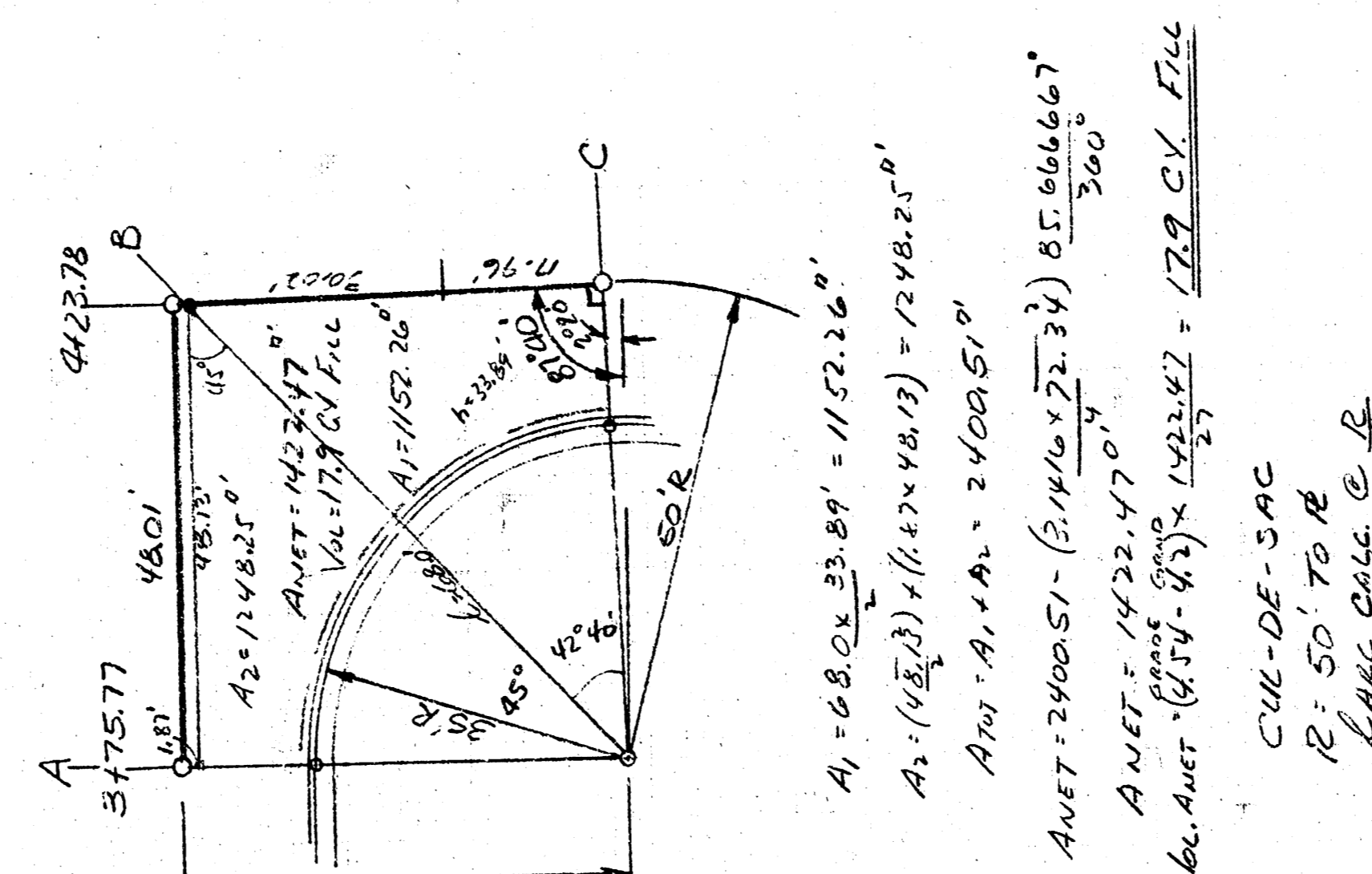
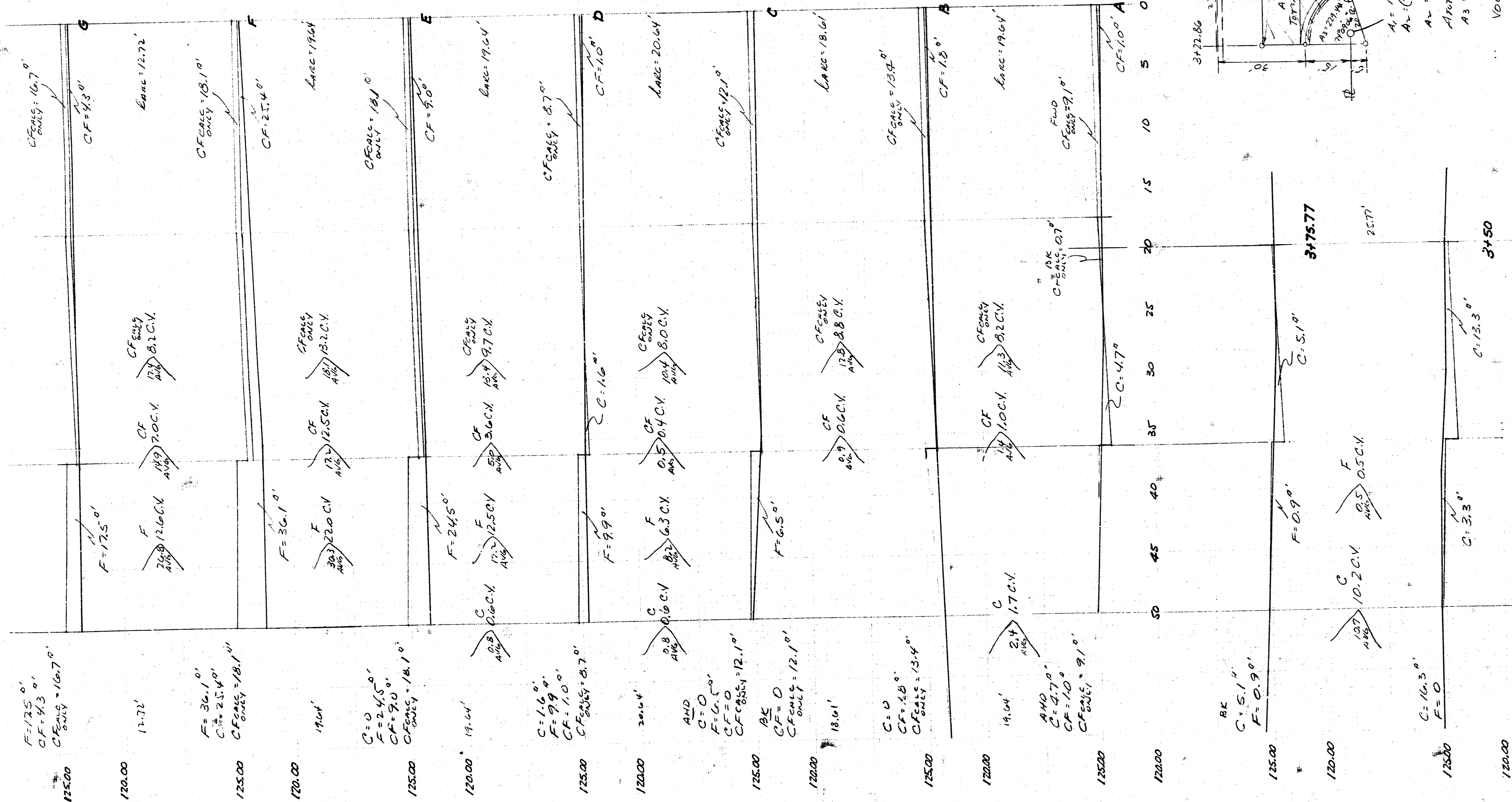
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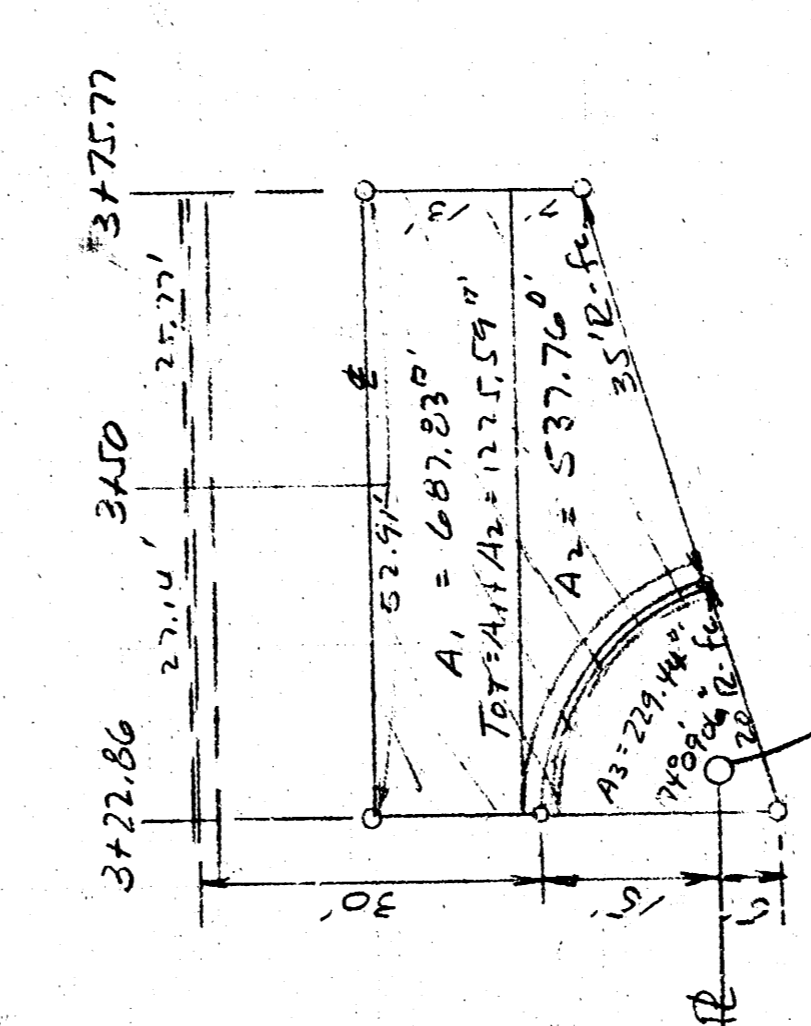
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EARTHWORK - THIS SHEET  
EXCAV. 202.0 CY FILL 499.0 Y

EARTHWORK - ALL SHEETS  
EXCAV. 1311.0 Y FILL 251.0 Y  
216.1 CY 1311.0 Y 251.0 Y 2670.0 Y



$A_1 = 0.802 \times 23.89' = 19.2226'$   
 $A_2 = (\sqrt{2}) \times (11.22 \times 19.22) = 228.225'$   
 $Area = A_1 + A_2 = 247.448'$   
 $Area = 240057 - (2.1416 \times 22.34) \times 85.866667 = 240057 - 422.470' = 239634.53'$   
 $Vol. Area = (Area \times 4') \times \frac{1}{2} = 479269.06' = 179 C.Y. Fill$



$A_1 = 13 \times 52.91 = 687.82'$   
 $A_2 = (2.217) \times (2.91 - 3.1416 \times 37.66) \times 74.15723481 = 74.15723481 \times 300 = 22247.17'$   
 $Area = 687.82' + 22247.17' = 22935.0'$   
 $Area = 687.82' + 537.76' = 1225.58'$   
 $Area = 3.1416 \times 37.66 \times 74.15723481 = 229.44'$   
 $Vol. Area = 4.34 - 4.1 \times (12.2558) = 10.9 C.Y. CF$   
 $Vol. A_1 = 4.91 - 3.8 \times (2.2944) = 9.4 C.Y. Fill$

Station	Excavation	Fill	CF	CF	CF
40	15.1 C.Y.	8.2 C.Y.	25.1 C.Y.	CF	CF
35					
30					
25					
20					
15					
10					
5					
0					
5					
10					
15					
20					
25					
30					
35					
40					

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