

8.8

B-14

STATE OF OHIO *BY ORDER 8.00-6.07*
 DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
 DIVISION OF HIGHWAYS

CLEVELAND-ELYRIA ROAD
 S.H. (I.C.H.) No. 31 SEC'S C1-C2
 CUYAHOGA COUNTY
 SR 20

1/38

Note: When suspending paving operations for the winter, the contractor shall place and maintain the traveled roadway in a passable condition satisfactory to the director.

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A C1 512-A C2	1928

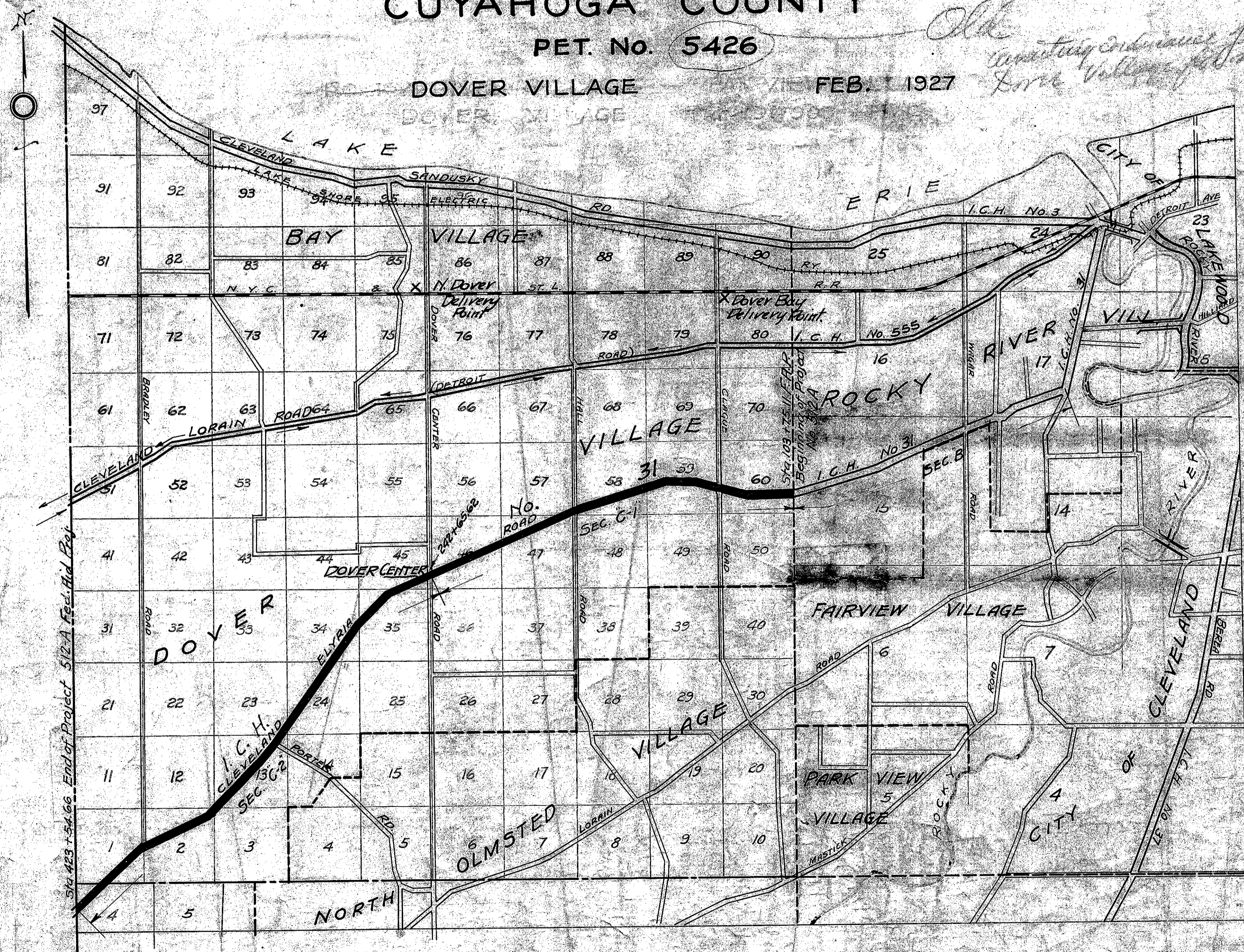
CLEVELAND-ELYRIA ROAD
 STATE HIGHWAY No. 31 SEC'S C1-C2
 CUYAHOGA COUNTY
 PET. No. 5426

SCALES
 PLAN 1"=50'
 PROFILE (HORIZONTAL) 1"=50'
 PROFILE (VERTICAL) 1"=10'
 INTERSECTIONS 1"=20'
 GROSS SECTIONS (HOR. & VERT.) 1"=5'
 TYPICAL PAV. SECTIONS 3/8"=1'

CONVENTIONAL LINES
 COUNTY LINE
 TOWNSHIP LINE
 SECTION LINE
 CITY AND VILLAGE LINE
 PROPERTY LINE
 " (FENCED)
 STEAM R.R.
 ELECTRIC RY.

INDEX
 TITLE PAGE Sheet ①
 SUMMARY Sheet ③ & ④
 TYPICAL PAV. SECTIONS Sheet ②
 PLAN & PROFILE Sheet ⑧ to ⑭
 DETAIL, EXTRA AREAS ETC. Sheet ⑥ & ⑦ & ⑭
 SUPERELEVATION TABLE Sheet ⑤
 CROSS SECTIONS Sheet ⑮ to ⑳

SUPPLEMENTAL PRINTS
 STANDARD DRAWING No. 98 or 100
 " " No. 95
 " " No.



DOVER VILLAGE FEB. 1927

PET. No. 5426

LOCATION PLAN

SCALE OF MILES

PORTION TO BE IMPROVED
 DETOURS SHOWN THIS

CONSTRUCTION BUREAU
 MAR 28 1928
 GROUND PHOTOLAB

We, the Commissioners of Cuyahoga County hereby approve these plans and certify that the right of way, 60 feet wide, is available for the construction, maintenance and repair of the above highway.

John J. Fincher
W. H. Morris

DATE: 4-2-28 COUNTY COMMISSIONERS

The Standard Specifications of the State of Ohio Division of Highways, in force on date of Contract will govern this improvement. I hereby approve these plans and declare that the making of this improvement will not require the closing of traffic of the highway, and that detours will be provided as shown on the plans and estimates.

Approved: *Frank R. Lander*
 Date: 2/28/27 Resident District Deputy

Approved: *W. H. Morris*
 Date: 4/2/28 Resident Division Deputy

Approved: *Harry J. Dink*
 Date: 3-21-28 First Asst. Director - Chief Engr.

Approved: *G. F. Adlesinger*
 Date: 3-21-28 State Highway Director

Approved: *Lee S. Reigister*
 Date: 3/21/28 Deputy Director (East)

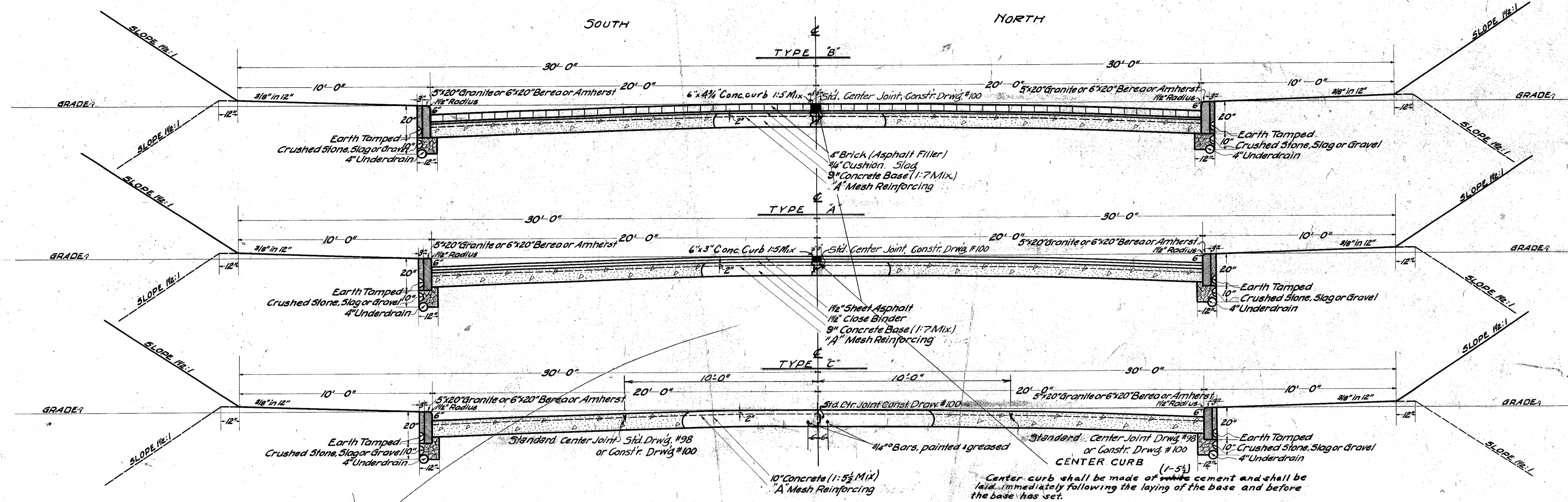
Approved: _____
 Date: _____ Deputy Director

Approved: _____
 Date: _____ Deputy Director

Recommended for Approval: _____
 Date: _____ District Engineer Bureau of Public Roads

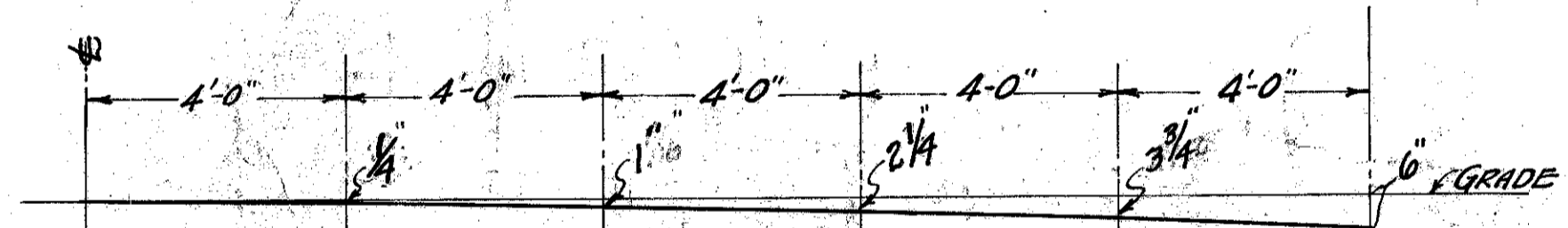
Recommended for Approval: _____
 Date: _____ Chief Engineer Bureau of Public Roads

Approved: _____
 Date: _____ Chief of Bureau



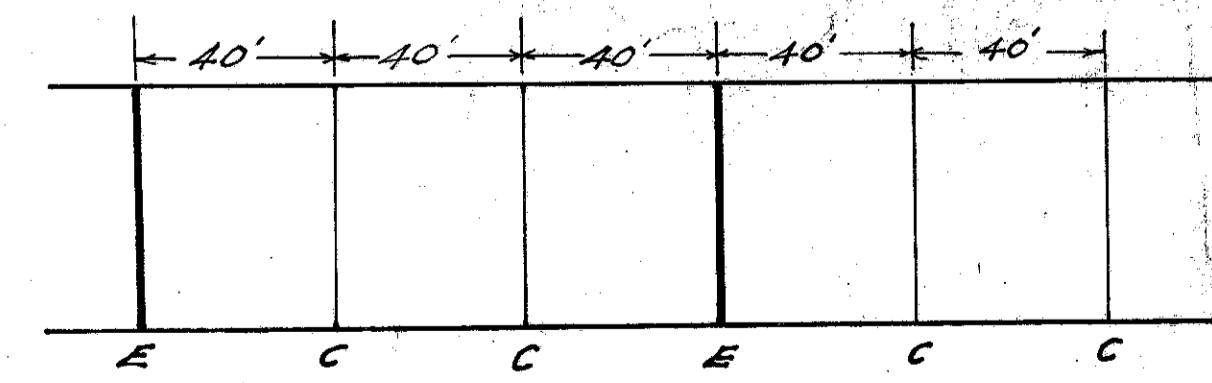
TRANSVERSE EXPANSION AND CONTRACTION JOINTS, DRAWING NO. 95, TO BE PLACED AS SHOWN BELOW.

Note:-
Center Marginal Curb to be of 1-5 mix concrete at 1-2 meter spacing Type B and C.



Note: All castings within the limits of pavement shall be raised to grade of finished pavement. Same to be included in the unit price bid per square yard of pavement.

ALTERNATE DRAG PLATE JOINT
In place of joints, drawings Nos. 98 or 100, other than at center or side construction joints, the traffic lane joints may be made by the Drag Plate Method with 3/8" x 2 1/4" premolded Asphalt Filler. Such method shall at all times meet with the approval of the Engineer. Same to be discontinued at any time by order of the Director.



E = Expansion Joints
C = Contraction Joints
SPACING OF TRANSVERSE JOINTS.

REINFORCING OVER TRENCHES
Steel to be fabricated into mats wired at each intersection and rigidly supported with chairs; or if steel is not fabricated into mats, each individual bar must be supported by chairs at ends of each bar.

#2 NOTE: "TEMPORARY BRIDGE CROSS OVERS"
The Contractor shall construct and maintain adequate Temporary Roadways & Bridges across all sections, lanes or crossovers of new laid pavement or base at all intersecting roads, streets or driveways. Same to be at least 16 Ft. roadway and to remain the specified time of twenty-one (21) days. At all main intersecting roads, the contractor shall, and at other places, may, at his option, provide crossing zones in new pavement or base of high early strength concrete which may permit removal of bridge and opening same to traffic within five (5) days. Such zones shall be at least 20 feet in width and be constructed by approved methods, preferably by excess cement content, and must be protected by the contractor and definitely marked for traffic by suitable barricades and lights. The cost of the above shall be included in the unit prices bid for concrete pavement or base.

NOTE: ALL EXCAVATED MATERIALS SHALL BE SO DISTRIBUTED ALONG THE ROAD AS TO MAKE THE SHOULDERS THE MINIMUM WIDTHS SHOWN ON THE CROSS-SECTION, unless otherwise directed. ALL EXCESS EXCAVATED MATERIALS SHALL BE USED TO UNIFORMLY WIDEN THE SHOULDERS ON THE FILLS ON BOTH SIDES, AS DIRECTED. THE SHOULDERS, SLOPES AND DITCHES SHALL BE CUT AND TRIMMED TO THE DIMENSIONS SHOWN ON THE CROSS-SECTION. ALL PRESENT GUARD RAIL NECESSARY TO BE MOVED SHALL BE TAKEN DOWN AND NEATLY STORED BY THE CONTRACTOR, AS DIRECTED.

"MAINTAIN TRAFFIC"

#1 NOTE. The pavement shall be laid in two longitudinal sections of 20 foot width for all types, with joints as shown on plans. North strip to be constructed first throughout length of project. The contractor shall maintain traffic on one side of the highway while the other side is being built, and shall provide adequate protection to the new pavement against traffic; also, at least two Flagmen and Watchmen to direct traffic during the working hours for entire course of construction. All of same to be included in the unit prices bid for Erection and Maintenance of Lights, Signs and Barricades, and Watchmen. The State to furnish Flagmen and Watchmen at all other times when required.

BRIDGES AND CULVERTS

All Bridges and culverts to be renewed, extended or repaired by Cuyahoga County in advance of the road construction.

S U M M A R Y S H E E T S E C T I O N C₁

Station	Type "A" Sec. "C ₁ "	Sq. Ft.	Sq. Yds.
103+75.11 to 242+65.62	<u>1/2" Sheet Asphalt on 1/2" Close Binder</u> 13,890.51 - 5.51 (Equation) = 13,885.00 x 40' (wide) Extra Areas See Sheet #6 Deduct 6" Header 388 ÷ 2 " 6" Marginal Curb 13,885.0 ÷ 2	555,400.0 5574.0 560,974.0 - 194.0 - 6942.50 + 9 553,837.5	16,153.75
103+75.11 to 242+65.62	<u>Concrete Base (Reinforced) 1:7 Mix.</u> 13,890.51 - 5.51 (Equation) = 13,885.0 x 40' (wide) Extra Area See Sheet #6	555,400.0 + 5574.0 9 560,974.0	62,330.4
103+75.11 to 242+65.62	<u>5" x 20" Granite Curb or 6" x 20" Berea or Amherst</u> 13,890.51 - 5.51 (Equation) = 13,885.0 x 2 Deduct Cut-Outs See Sheet #6	27,770.0 - 781.0	26,989.0 Lin. ft.
	<u>5" x 20" Granite Radius Curb See Sheet #6</u>	482.00	482 Lin. ft.
	<u>6" x 3" Concrete Header Curb 1:5 Mix. See Sheet #6</u> <u>6" x 3" Marginal Curb 1:5 Mix. See Sheet #2</u>	388.00 13,885.0	388 Lin. ft. 13,885.0 Lin. ft.
	<u>Excavation 8" Base = 13,012.7 + (239.3 - 17.2)</u> As per X-Sections Asphalt Sheet 7-R 19 744.1 cu. yds. For 9" Base See Sheet #6 = 239.3	= 13,234.8 Cu. Yds.	
Exc. for Extra Area			19,989.4 Cu. yds.
	<u>5" (Min) Concrete Sewer Encasement 1:8 Mix</u> See Table Sheet No. 7		212.38 cu. yds.
	<u>Mats over Trenches 7' Wide</u> 41 (Catch Basin Connections) @ 40' = 1640 202 + 56 + 40 (See Table Sheet #6) = 298 10 Lin. ft. 1/2" Bars per Lin. ft. of trench = 1938 x 10 19380 Lin. ft. x 0.668" per Lin. ft. =		12,945.8
Sta 182+46	<u>Storm Sewer</u> 6812 Lin. ft. 12" V.S.P. Storm Sewer (S.S.) 3393 " 15" " " + 355' (outlets - Sh. 7) 460 " 18" " " (D.S.) Outlets 350 " 24" " " Connections 1722 " 12" " " Connections 1 Manhole Cover Furnished + Set to Line + Grade 46 Catch Basins - Combination 41 Intake Basins 5 Manholes	6812 Lin. ft. 3748 " " 460 " " 350 " " 1722 " "	6812 Lin. ft. 3748 " " 460 " " 350 " " 1722 " "
	<u>4" Underdrain</u> 13,890.51 - 5.51 (Equation) = 13,885.0 x 2 Deduct Cut-Out	27,770.0 - 781.0	26,989.0
	Length of Curbs + Returns	26,989.0 + 482.00	27,471.0 Lin. ft.
103+75.11 to 242+65.62	<u>Finishing Berms, Slopes + Ditches (Both Sides)</u> Extra Concrete, Acc't. Superelevations (1-7 Mix) Monument Boxes Monument Boxes Furnished + Set Complete Erection of Lights, Signs, Barricades + Watchmen	13,885.0 400 Co. Yds. 16	

Station	Type "B" Sec. "C ₁ "	Sq. Ft.	Sq. Yds.
103+75.11 to 242+65.62	<u>4" Brick Asphalt Filler</u> 13,890.51 - 5.51 (Equation) = 13,885.00 x 40' (wide) Extra Areas See Sheet #6 Deduct 6" Header 388 ÷ 2 " 6" Marginal Curb 13,885.0 ÷ 2	555,400.00 + 5574.00 560,974.00 - 194.00 - 6942.50 + 9 553,837.5	16,153.75
103+75.11 to 242+65.62	<u>Concrete Base (Reinforced) 1:7 Mix.</u> 13,890.51 - 5.51 (Equation) = 13,885.0 x 40' (wide) Extra Areas See Sheet #6	555,400.0 + 5574.0 9 560,974.0	62,330.4
103+75.11 to 242+65.62	<u>5" x 20" Granite Curb or 6" x 20" Berea or Amherst</u> 13,890.51 - 5.51 (Equation) = 13,885.0 x 2 Deduct Cut-Outs See Sheet #6	27,770.0 - 781.0	26,989.0 Lin. ft.
	<u>5" x 20" Granite Radius Curb See Sheet #6</u>	482.0 Lin. ft.	482 Lin. ft.
	<u>6" x 3/4" Marginal Curb 1:5 Mix. See Sheet #2</u> <u>8" x 4/4" Concrete Header 1:2:3 Mix. See Sheet #6</u> <u>5" (Min) Concrete Sewer Encasement 1:8 Mix</u> See Table Sheet No. 7	13,885.0 388 Lin. ft. 212.38 cu. yds.	13,885.0 Lin. ft. 388 Lin. ft. 212.38 cu. yds.
	<u>Excavation 8" Base = 21,124.4 + (269.4 - 17.2)</u> 9" Base = As per X-Sections (See Table No. 1 Sheet 7-R) 22,855.8 cu. yds.	= 21,376.6 Cu. Yds.	
Exc. for Extra Area			23,125.2 cu. yds.
	<u>Mats Over Trenches 7' Wide</u> 41 (Catch Basin Connections) @ 40' = 1640 202 + 56 + 40 (See Table Sheet #6) = 298 10 Lin. ft. 1/2" Bars per Lin. ft. of trench = 1938 x 10 19380 Lin. ft. x 0.668" per Lin. ft. =		12,945.8
Sta 182+46	<u>Storm Sewer</u> 6812 Lin. ft. 12" V.S.P. Sewer Pipe 3393 " 15" " " + 355' (outlets - Sh. 7) 460 " 18" " " Outlets 350 " 24" " " Connections 1722 " 12" S.P. Connections 46 Catch Basins - Combination 41 Intake Basins 5 Manholes 1 Manhole Cover Furnished + Set to Line + Grade	6812 Lin. ft. 3748 " " 460 " " 350 " " 1722 " "	6812 Lin. ft. 3748 " " 460 " " 350 " " 1722 " "
	<u>4" Underdrain</u> 13,890.51 - 5.51 (Equation) = 13,885.0 x 2 Deduct Cut-Outs	27,770.0 - 781.0	26,989.0
	Length of Curbs Add Returns	26,989.0 + 482.00	27,471.0 Lin. ft.
103+75.11 to 242+65.62	<u>Finishing Berms, Slopes + Ditches Both Sides</u> Extra Concrete, Acc't. Superlevation (1-7 Mix) Monument Boxes Monument Boxes Furnished + Set Complete Erection of Lights, Signs, Barricades + Watchmen	13,885.0 400.0 Yds. 16	

Station	Type "C" Sec. "C ₁ "	Sq. Ft.	Sq. Yds.
103+75.11 to 242+65.62	<u>10" Concrete (Reinforced) 1:5 Mix. Incl. Const. Joint</u> 13,890.51 - 5.51 (Equation) = 13,885.0 x 40' (wide) Extra Areas See Sheet #6	555,400.0 + 5574.0 560,974.0	62,330.4
103+75.11 to 242+65.62	<u>5" x 20" Granite Curb or 6" x 20" Berea or Amherst</u> 13,890.51 - 5.51 (Equation) = 13,885.0 x 2 = Deduct Cut-Outs See Sheet #6	27,770.0 - 781.0	26,989.0 Lin. ft.
	<u>5" x 20" Granite Radius Curb See Sheet #6</u>	482 Lin. ft.	482 Lin. ft.
	<u>VOID</u> 13,890.51 - 5.51 (Equation) = 13,885.0 x 2 =	27,770.0	27,770.0 Lin. ft.
	<u>Excavation</u> As per Cross-Sections (Table No. 1 Sheet 7-R) 16,186.4 cu. yds. Exc. for Extra Area See Sheet #6 = 204.9		16,391.3 cu. yds.
	<u>5" (Min) Concrete Sewer Encasement 1:8 Mix</u> See Table Sheet No. 7		212.38 cu. yds.
	<u>Mats Over Trenches</u> 41 Catch Basin Connections @ 40' = 1640 202 + 56 + 40 (See Table Sheet #6) = 298 10 Lin. ft. 1/2" Bars per Lin. ft. of trench = 1938 x 10 19380 Lin. ft. x 0.668" per Lin. ft. =		12,945.8
Sta 182+46	<u>Storm Sewer</u> 6812 Lin. ft. 12" V.S.P. Sewer Pipe 3393 " 15" " " + 355' (outlets - Sheet 7) 460 " 18" " " Outlets 350 " 24" " " Connections 1722 " 12" Standard Sewer Pipe Connections 46 Catch Basins - Combination 41 Intake Basins 5 Manholes 1 Manhole Cover Furnished + Set to Line + Grade	6812 Lin. ft. 3748 " " 460 " " 350 " " 1722 " "	6812 Lin. ft. 3748 " " 460 " " 350 " " 1722 " "
	<u>4" Underdrain</u> 13,890.51 - 5.51 (Equation) = 13,885.0 x 2 Deduct Cut-Out	27,770.0 - 781.0	26,989.0
	Length of Curbs Add Returns	26,989.0 + 482.00	27,471.0 Lin. ft.
103+75.11 to 242+65.62	<u>Finishing Berms, Slopes + Ditches Both Sides</u> Extra Concrete Acc't. Supers. (1-5 Mix) Monument Boxes Monument Boxes Furnished + Set Complete Erection of Lights, Signs, Barricades + Watchmen	13,885.0 400 Co. Yds. 16	

CLEVELAND ELYRIA ROAD
S.H.C.H. 31 - SEC. C-1 & C-2
CUYAHOGA COUNTY

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

SUMMARY.

SECTION C 2.

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	572-A	1928

TYPE A		SQ. FEET	SQ. YARDS.
242+65.62 to 423+54.66 Extra Area	Sheet Asphalt on 1" Close Binder 18089.04 - 0.54 (Equations) = 18088.50 x 40' (wide) See Sheet # 6	723,540.0 3214.0 726,754.0 -131.50 9044.25 9/ 717,578.25	79,730.9
242+65.62 to 423+54.66 Extra Area	Concrete Base (Reinforced) 1:7 Mix 18089.04 - 0.54 (Equations) = 18088.50 x 40' (wide) See Sheet # 6	723,540.0 3214.0 9/ 726,754.0	180,750.4
242+65.62 to 423+54.66	5"x20" Granite Curb or 6"x20" Berea or (Amherst Curb) 18089.04 - 0.54 = 18088.50 x 2 Deduct Cutouts	36,177.00 477.00 35,700.00	35,700.00 Lin. Ft.
	5"x20" Granite Radius Curb See Sheet # 6	284.00	284.00 Lin. Ft.
	6"x3" Concrete Header 1:2:3 Mix. See Sheet # 6 6"x5" Marginal Curb - See Sheet # 2	263.00 18,088.50	263.00 Lin. Ft. 18,088.50 Lin. Ft.
Extra Area	Excavation 9" Base As per Cross Section for Asphalt Sheet # 7-A 28,388.7 See Sheet # 6 8" Base = 26145.6 + (104.3 - 9.9) 104.3	28,493.0 cu yds. 26,240.0 " "	234.1 cu yds.
	5" (Min) Concrete Sewer Encasement 1:8 Mix See Table Sheet # 7		
	Mats over Trenches 49 Catch Basin Conns. @ 40' = 1960 162 + 32 (See Table Sheet 6) = 194 10 Lin. Ft. 1/2" Bars per Lin. Ft. of trench = 2154 2154 x 10 x 0.668* per ft. =		14,388.8 lbs
	Storm Sewer 8890 Lin. Ft. 12" Vit. Sewer Pipe 3310 " " 15" " " + 780' (outlets - Sheet 7) = 4090 2058 " " 12" Standard Sewer Pipe Conn. 1325 " " 18" Vit. Sewer Pipe + 620' (outlets - Sheet 7) = 1945 565 " " 24" " " - Outlets 53 Catch Basins - Combination 5 Manholes 49 Intake Basins	8890 Lin. Ft. 4090 " " 2058 " " 1945 " " 565 " " 53 5 49	8890 Lin. Ft. 4090 " " 2058 " " 1945 " " 565 " " 53 5 49
242+65.62 to 423+54.66	4" Underdrain 18089.04 - 0.54 (Equations) 18088.50 x 2 Cut out	36,177.00 477.00 35,700.00 284.00 35,984.00	35,984.00 Lin. Ft.
	Add Returns		
242+65.62 to 423+54.66	Finishing Berms, Slopes, Ditches (Both Sides) 18089.04 - 0.54 = 18088.5	18088.5	18,088.5 Lin. Ft.
	Monument Boxes Furnished + Set Complete		33
	Erection of Lights, Signs + Barricades + Watchmen		
	Extra Concrete Acc't Supers. (1-7 Mix) 70 11 Curves - 199.93 + 199.10 + 199.35 + 199.54 + 199.94 + 199.83 + 199.94 + 299.49 + 199.70 + 195.49 + 199.70 = 2592.5 2592.5 x 20 x 0.8 = 960.0 Cu Yds, say 950 Cu Yds.		950 Cu Yds.

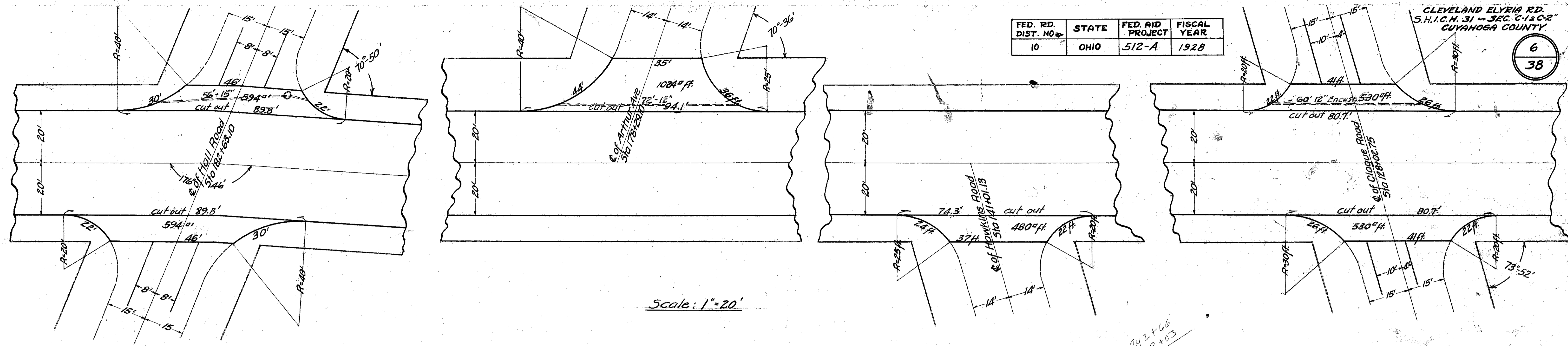
TYPE B		SQ. FEET	SQ. YARDS.
242+65.62 to 423+54.66 Extra Area	4" Brick (Asphalt Filler) 18089.04 - 0.54 = 18088.50 x 40' (wide) See Sheet # 6	723,540.0 3,214.0 726,754.0 -131.50 9044.25 9/ 717,578.25	79,730.9
242+65.62 to 423+54.66 Extra Area	Concrete Base (Reinforced) 1:7 Mix 18089.04 - 0.54 = 18088.50 x 40' (wide) See Sheet # 6	723,540.0 3,214.0 9/ 726,754.0	180,750.4
242+65.62 to 423+54.66	5"x20" Granite Curb or 6"x20" Berea or (Amherst Curb) 18089.04 - 0.54 = 18088.50 x 2 Deduct Cutouts	36,177.00 477.00 35,700.00	35,700.00 Lin. Ft.
	5"x20" Granite Radius Curb. See Sheet # 6	284.00	284.00 Lin. Ft.
	6"x4" Concrete Header 1:2:3 Mix. See Sheet # 6 6"x4" Marginal Curb - See Sheet # 2	263.00 18,088.50	263.00 Lin. Ft. 18,088.50 Lin. Ft.
Exc. for Extra Area	Excavation 9" Base As per Cross Section Sheet 7-A = 32,442.6 See Sheet # 6 8" Base = 30199.5 + (121.7 - 9.9) 121.7	32,564.3 cu yds. 30,311.3 " "	234.1 cu yds.
	5" (Min) Concrete Sewer Encasement 1:8 Mix See Table Sheet # 7		
	Mats over Trenches 49 Catch Basin Conns. @ 40' = 1960 162 + 32 (See Table Sheet 6) = 194 10 Lin. Ft. 1/2" Bars per Lin. Ft. of trench = 2154 2154 x 10 x 0.668* per ft. =		14,388.8 lbs
	Storm Sewer 8890 Lin. Ft. 12" Vit. Sewer Pipe 3310 " " 15" " " + 780' (outlet - Sh. 7) = 4090 2058 " " 12" Standard Sewer Pipe Conn. 1325 " " 18" Vit. Sewer Pipe + 620' (outlet - Sh. 7) = 1945 565 " " 24" " " - Outlets 53 Catch Basins - Combination 5 Manholes 49 Intake Basins	8890 Lin. Ft. 4090 " " 2058 " " 1945 " " 565 " " 53 5 49	8890 Lin. Ft. 4090 " " 2058 " " 1945 " " 565 " " 53 5 49
242+65.62 to 423+54.66	4" Underdrain 18089.04 - 0.54 = 18088.50 x 2 Cut out	36,177.00 477.00 35,700.00 284.00 35,984.00	35,984.00 Lin. Ft.
	Add Returns		
242+65.62 to 423+54.66	Finishing Berms, Slopes and Ditches Both Sides 18089.04 - 0.54 = 18088.50	18088.5	18,088.5 Lin. Ft.
	Monument Boxes Furnished and Set Complete		33
	Erection of Lights, Signs, Barricades + Watchmen		
	Extra Concrete Acc't Supers. (1-7 Mix)		950 Cu Yds.

TYPE C		SQ. FEET	SQ. YARDS.
242+65.62 to 423+54.66 Extra Area	10" Concrete (Reinforced) Including (Constr. Jt. 994100) 18089.04 - 0.54 = 18088.50 x 40' See Sheet # 6	723,540.0 3,214.0 9/ 726,754.0	80,750.4
242+65.62 to 423+54.66	5"x20" Granite Curb or 6"x20" Berea or (Amherst Curb) 18089.04 - 0.54 = 18088.50 x 2 Deduct Cutouts	36,177.00 477.00 35,700.00	35,700.00 Lin. Ft.
	5"x20" Granite Radius Curb See Sheet # 6	284.00	284.00 Lin. Ft.
242+65.62 to 423+54.66	Excavation As per Cross Section Sheet 7-A = 23,753.7 See Sheet # 6 Add Exc. for Extra Area	23,753.7 84.5	23,838.2 cu yds.
	5" (Min) Concrete Sewer Encasement 1:8 Mix See Table Sheet No. 7		234.1 cu yds.
	Mats over Trenches 49 Catch Basin Conns. @ 40' = 1960 162 + 32 (See Table Sheet 6) = 194 10 Lin. Ft. 1/2" Bars per Lin. Ft. of trench = 2154 2154 x 10 x 0.668* per Lin. Ft. =		14,388.8 lbs
	Storm Sewer 8890 Lin. Ft. 12" Vit. Sewer Pipe 3310 " " 15" " " + 780' (outlets - Sh. 7) = 4090 2058 " " 12" Standard Sewer Pipe Conn. 1325 " " 18" Vit. Sewer Pipe + 620' (outlet - Sh. 7) = 1945 565 " " 24" " " - Outlets 53 Catch Basins - Combination 5 Manholes 49 Intake Basins	8890 Lin. Ft. 4090 " " 2058 " " 1945 " " 565 " " 53 5 49	8890 Lin. Ft. 4090 " " 2058 " " 1945 " " 565 " " 53 5 49
242+65.62 to 423+54.66	4" Underdrain 18089.04 - 0.54 = 18088.50 x 2 Cut out	36,177.00 477.00 35,700.00 284.00 35,984.00	35,984.00 Lin. Ft.
	Add Returns		
242+65.62 to 423+54.66	Finishing Berms, Slopes and Ditches. 18089.04 - 0.54 = 18088.50	18088.5	18,088.5 Lin. Ft.
	Monument Boxes Furnished and Set Complete		33
	Erection of Lights, Signs, Barricades + Watchmen		
	Extra Concrete Acc't Supers. (1-5 Mix)		950 Cu Yds.

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

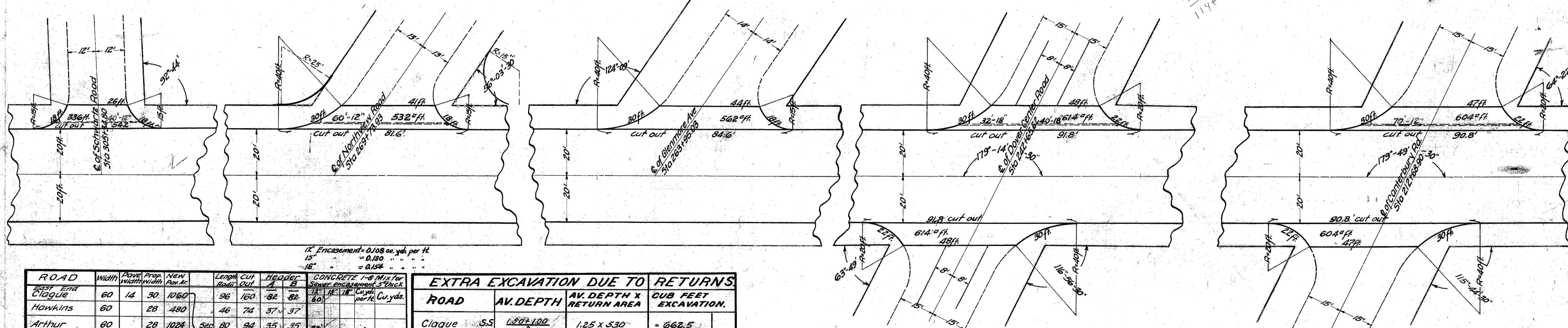
CLEVELAND ELYRIA RD.
S.H.I.C.H. 31 - SEC. C-1 & C-2
CUYAHOGA COUNTY

6
38



Scale: 1" = 20'

242+66
122+03
114+63



1" Encasement = 0.108 cu. yds. per ft.
15" = 0.130
18" = 0.154

ROAD	Width	Prop. Width	New Pav. In.	Length	Cut Out	Header A	Header B	CONCRETE 1-8 Mix for Sewer encasement 5" thick	15" per ft.	18" per ft.	
East End Clague	60	14	30	1060	96	160	82	32	19	18	
Hawkins	60	28	28	480	46	74	37	37			
Arthur	60	28	28	1024	80	94	35	35	72		
Hall	60	16	30	1188	104	180	92	92	56		
Canterbury	60	30	30	1208	104	182	94	94	70		
Dover Center	60	16	30	614	52	81	48	48	40	32	
Glenmore	60	28	28	562	48	84	44	44			
Northview	50	26	26	532	48	82	41	41	60		
Schwartz	40	24	24	336	36	55	26	26	40		
Porter	60	16	30	490	46	75	38	38			
Bradley Rd	60	16	30	680	54	90	44	44	62		
Total Sec. C ₁				5574	C ₁	482	781	383	388	202	
Total Sec. C ₂				3214	C ₂	284	477	263	263	58	

ROAD	AV. DEPTH	AV. DEPTH X RETURN AREA	CUB FEET EXTRA EXCAVATION.
Clague S.S.	1.50 x 1.00	1.25 x 530	= 662.5
Clague N.S.	1.00 x 1.00	1.00 x 530	= 530.0
Hawkins	1.50 x 1.00	1.25 x 480	= 600.0
Arthur	1.50 x 1.00	1.25 x 1024	= 1280.0
Hall S.S.	1.20 x 1.00	1.10 x 594	= 653.4
Hall N.S.	1.00 x 1.00	1.00 x 594	= 594.0
Canterbury S.S.	1.20 x 1.20	1.20 x 604	= 724.8
Canterbury N.S.	1.20 x 1.20	1.20 x 604	= 724.8
Dover Ctr. S.S.	1.50 x 1.00	1.25 x 614	= 383.7
Dover Ctr. N.S.	1.00 x 1.00	1.00 x 614	= 307.0
TOTAL			6460.2
Dover Ctr. S.S.	1.50 x 1.00	1.25 x 614	= 383.7
Dover Ctr. N.S.	1.00 x 1.00	1.00 x 614	= 307.0
Glenmore	1.50 x 1.00	1.25 x 562	= 702.5
Northview	1.50 x 1.00	1.25 x 532	= 665.0
Schwartz	1.00 x 0.60	0.80 x 336	= 268.8
Porter	1.00 x 1.00	1.00 x 490	= 490.0
Bradley Rd	SUPER ELEV.		
TOTAL			2817.0

See bottom for totals

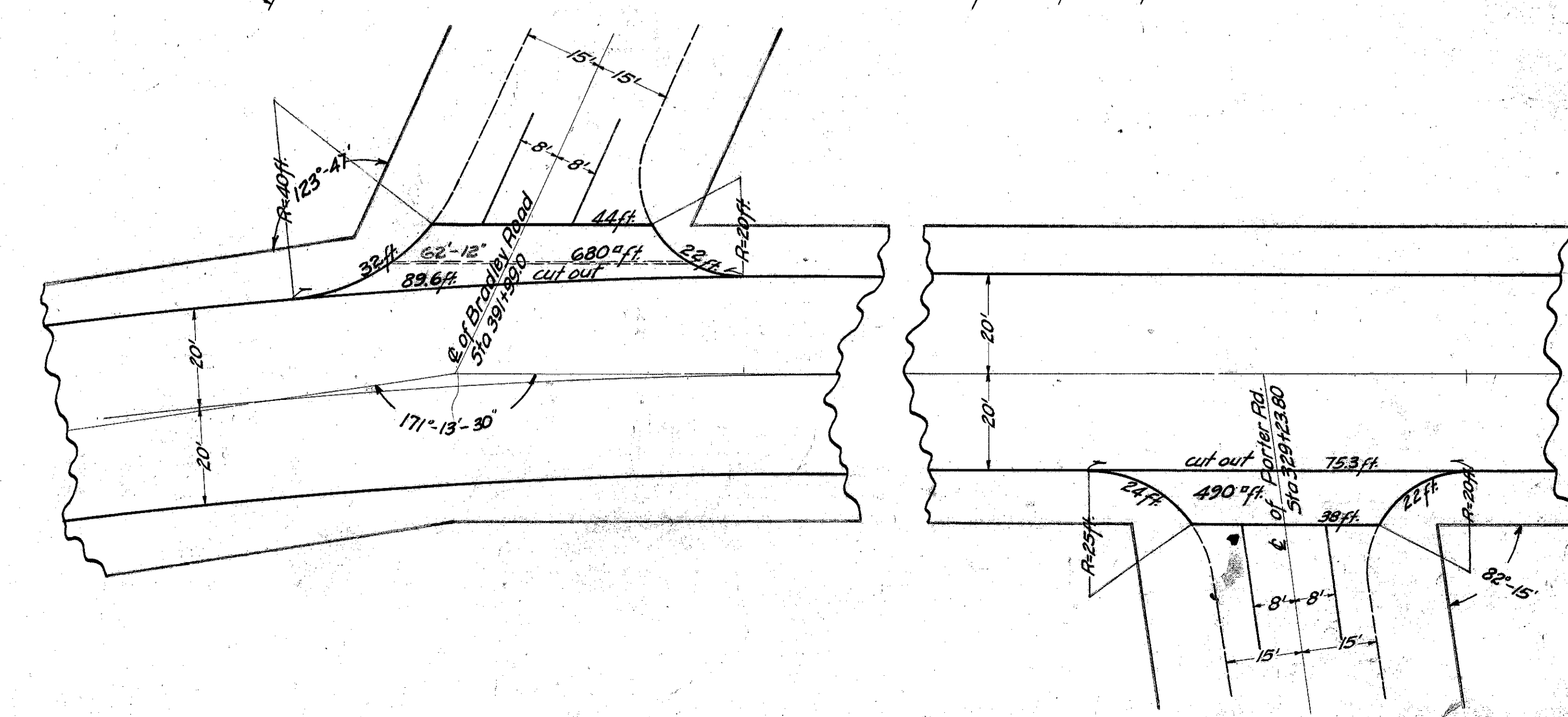
CORRECTIONS FOR TYPES B & C EXTRA EXCAVATION
 TYPE "B" increase depth 1 3/4" = (0.1458 x 5574 (Area)) = 27 = 30.1 cu. yds.
 TYPE "C" decrease depth 2" = (0.1667 x 5574 (Area)) = 27 = 34.4 cu. yds.

SEC. C-1
 239.3 (Type A)
 30.1
 269.4 Type B
 34.4
 204.9 Type C

SEC. C-2
 104.3 (Type A)
 17.4
 121.7 Type B
 19.8
 84.5 Type C

STATE STANDARD DWG. No. 300 = Cu. yds. Encasement
 Totals C-1 35.2 cu. yds.
 C-2 22.4

NOTE: Above quantities based on Type "A"
 see left for Types "B" & "C"



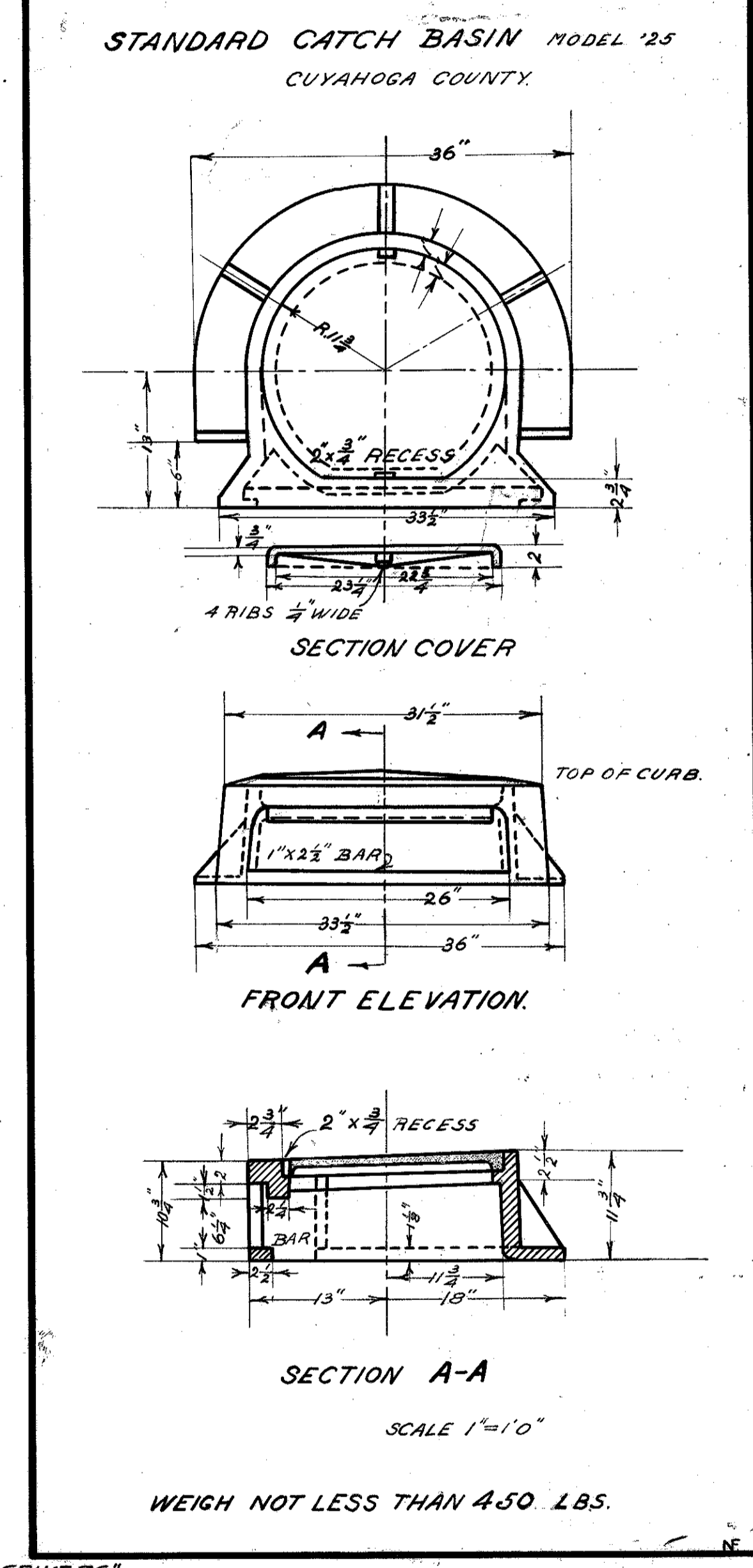
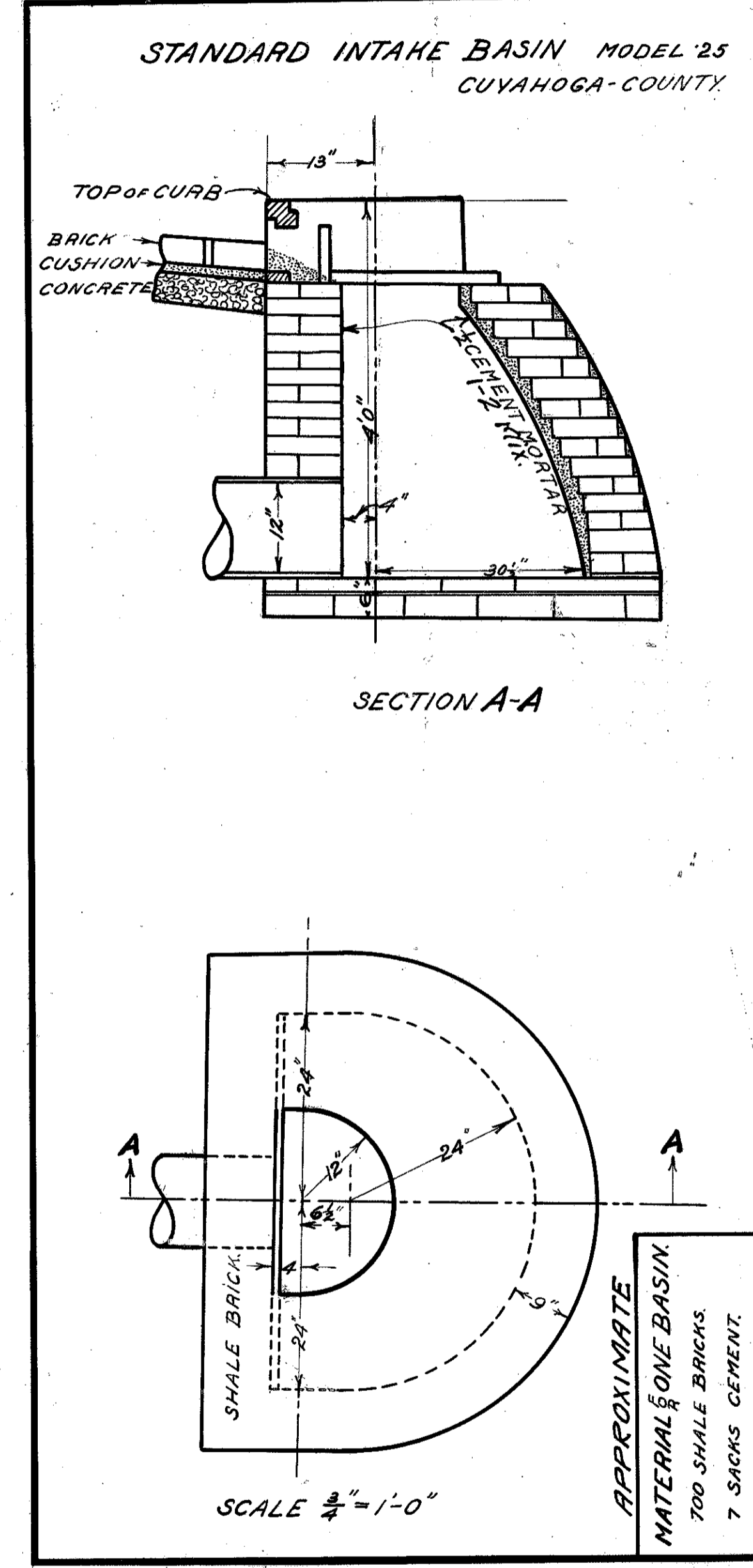
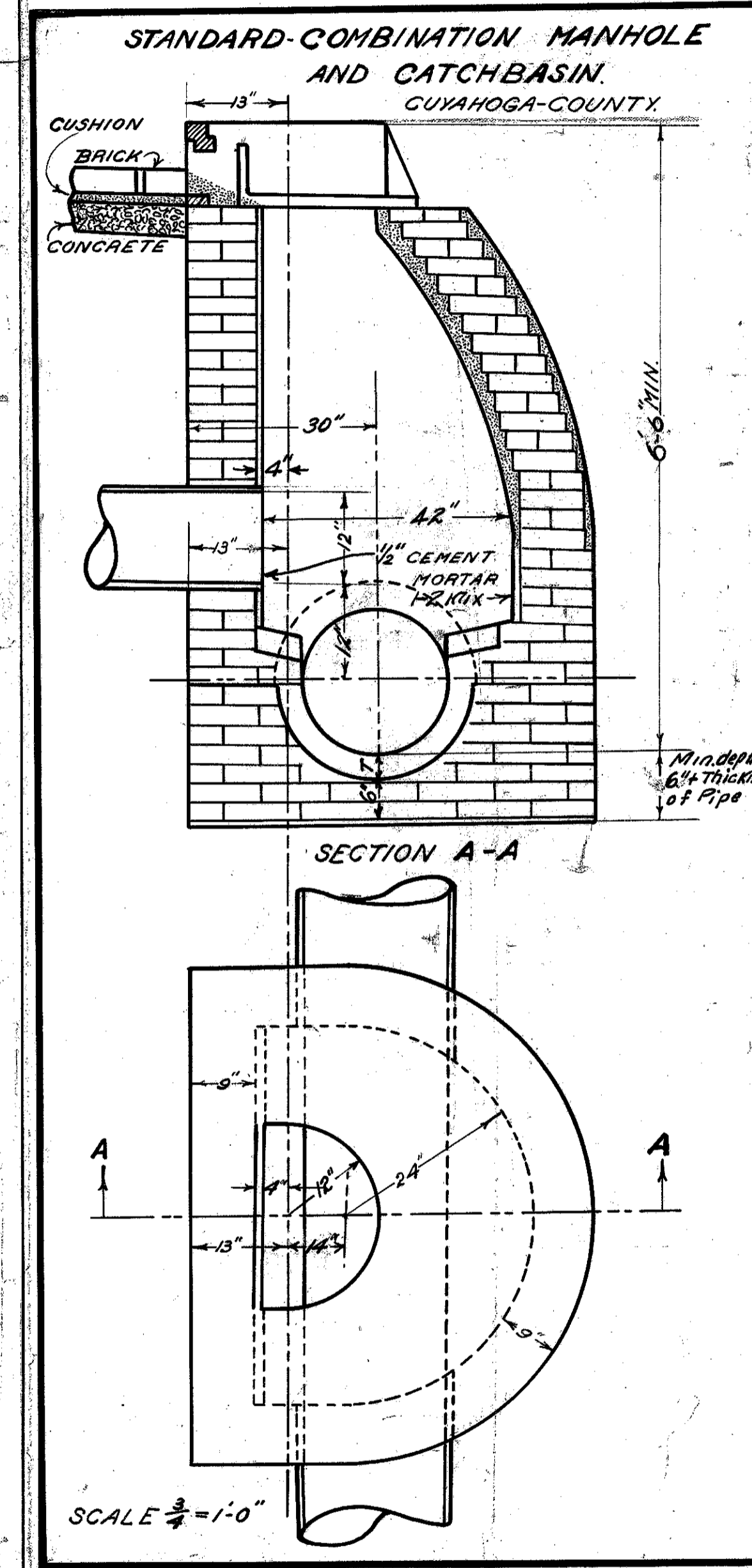
SEC. 1 **STORM-SEWER.** SEC. 2

STATION	CONN'G BASIN	MAN. HOLE	INTAKE BASIN	12" CONN'G	12" S.P.	15" S.P.	18" S.P.
103+75	✓	✓					
107+00	✓	✓	✓	✓	✓		
110+00	✓	✓	✓	✓	✓	625	
113+00	✓	✓	✓	✓	✓		
115+50	✓	✓	✓	✓	✓		
118+00 outlet	✓	✓	✓	✓	✓	800	
121+00	✓	✓	✓	✓	✓	250	
124+00	✓	✓					
126+00	✓	✓					
128+45	✓	✓	✓	✓	✓	745	
134+5 outlet	✓	✓					
135+00	✓	✓	✓	✓	✓		
137+00	✓	✓	✓	✓	✓	280	
140+70	✓	✓	✓	✓	✓		
144+00	✓	✓	✓	✓	✓		
146+85	✓	✓					
148+00	✓	✓	✓	✓	✓	730	
151+00 outlet	✓	✓	✓	✓	✓	300	
151+25	✓	✓	✓	✓	✓		
154+00	✓	✓	✓	✓	✓		
154+10	✓	✓	✓	✓	✓		
157+18	✓	✓	✓	✓	✓	593	
160+00	✓	✓	✓	✓	✓		
162+00	✓	✓	✓	✓	✓		
164+02	✓	✓					
166+00	✓	✓	✓	✓	✓	882	
172+00	✓	✓	✓	✓	✓		
175+00	✓	✓	✓	✓	✓		
177+75	✓	✓	✓	✓	✓		
180+00	✓	✓	✓	✓	✓	800	
182+00 outlet	✓	✓	✓	✓	✓	200	
182+35	✓	✓					
183+00 outlet	✓	✓	✓	✓	✓		
186+50	✓	✓	✓	✓	✓	350	
192+50	✓	✓	✓	✓	✓		
195+00 outlet	✓	✓	✓	✓	✓		
198+00	✓	✓	✓	✓	✓	530	
202+50	✓	✓	✓	✓	✓		
205+00	✓	✓	✓	✓	✓		
208+00	✓	✓	✓	✓	✓	530	
212+00 outlet	✓	✓	✓	✓	✓	400	
216+00	✓	✓	✓	✓	✓		
219+00	✓	✓	✓	✓	✓	700	
224+00	✓	✓	✓	✓	✓		
227+00	✓	✓	✓	✓	✓		
230+00	✓	✓	✓	✓	✓	600	
233+00	✓	✓	✓	✓	✓		
236+00	✓	✓	✓	✓	✓		
238+50 outlet	✓	✓	✓	✓	✓	850	
239+75 outlet	✓	✓	✓	✓	✓		
TOTALS	46	51	41	172	68	3393	

STATION	CONN'G BASIN	MAN. HOLE	INTAKE BASIN	12" CONN'G	12" S.P.	15" S.P.	18" S.P.
243+00	✓	✓		✓			
247+00	✓	✓	✓	✓	✓		725
250+50	✓	✓	✓	✓	✓		
254+00	✓	✓	✓	✓	✓	700	
257+00	✓	✓	✓	✓	✓		
259+50	✓	✓	✓	✓	✓	550	
267+50	✓	✓	✓	✓	✓		
268+00	✓	✓					
270+00 outlet	✓	✓	✓	✓	✓		
273+00	✓	✓	✓	✓	✓		
275+50	✓	✓	✓	✓	✓	800	
279+50	✓	✓	✓	✓	✓		
282+00 outlet	✓	✓	✓	✓	✓		
283+50	✓	✓					
286+00	✓	✓	✓	✓	✓		
289+00	✓	✓	✓	✓	✓	950	
295+50	✓	✓	✓	✓	✓		
299+00	✓	✓	✓	✓	✓		
302+00	✓	✓	✓	✓	✓	650	
305+10 outlet	✓	✓				310	
306+00	✓	✓	✓	✓	✓		
308+50	✓	✓	✓	✓	✓	340	
313+00	✓	✓	✓	✓	✓		
316+00	✓	✓	✓	✓	✓		
319+00 outlet	✓	✓	✓	✓	✓	600	
322+00	✓	✓	✓	✓	✓		
325+00	✓	✓	✓	✓	✓	600	
328+00	✓	✓	✓	✓	✓		
331+50	✓	✓	✓	✓	✓	650	
338+00	✓	✓	✓	✓	✓		
341+00 outlet	✓	✓	✓	✓	✓		
344+00	✓	✓	✓	✓	✓		
347+50	✓	✓	✓	✓	✓	950	
354+00	✓	✓					
356+88	✓	✓	✓	✓	✓		
359+00	✓	✓					
361+00	✓	✓	✓	✓	✓	700	
364+00	✓	✓					
367+00 outlet	✓	✓	✓	✓	✓	600	
370+00	✓	✓	✓	✓	✓	300	
373+00	✓	✓					
375+50	✓	✓	✓	✓	✓		
378+00	✓	✓	✓	✓	✓	800	
383+50	✓	✓	✓	✓	✓		
386+00	✓	✓	✓	✓	✓		
388+25 outlet	✓	✓	✓	✓	✓	175	
388+75 outlet	✓	✓					
392+00	✓	✓	✓	✓	✓		
394+85	✓	✓	✓	✓	✓		
397+00	✓	✓	✓	✓	✓	825	
401+00	✓	✓	✓	✓	✓		
404+00	✓	✓	✓	✓	✓		
407+00	✓	✓	✓	✓	✓	600	
411+50	✓	✓	✓	✓	✓		
413+40	✓	✓					
415+00	✓	✓	✓	✓	✓	800	
418+00	✓	✓	✓	✓	✓		
421+00 outlet	✓	✓	✓	✓	✓	600	
TOTALS	53	5	49	2058	809	3310	1325

STORM SEWER OUTLETS

Station	12"	15"	18"	24"
118+00			25	
118+50			30	
134+32			350	
151+00			20	
151+25			20	
182+00		30		
183+00		75		
195+00		250		
212+00		250		
238+50		40		
239+75		75		
Totals	355	160	350	
270+00		350		
282+00		200		
305+10		400		
319+00		200		
341+00		200		
367+00			800	
388+25			20	
388+75		30		
421+00			65	
Totals	780	620	565	



SEWER ENCASEMENT [STANDARD DRAWING # 300]
 All encasements to be 1-8 Mix Concrete
 SECTION C-1:-
 4# (Intake conn'x) x 40 x 0.108 = 177.12 cu.yds.
 Add for returns (Sheet #6) = 38.26 " "
 Total cu.yds. = 215.38 cu.yds.
 SECTION C-2:-
 4# (Intake conn'x) x 40 x 0.108 = 211.68 cu.yds.
 Add for returns (Sheet #6) = 22.40 " "
 Total cu.yds. = 234.08 cu.yds.

"LAYING SEWERS"
 All sewer pipe to be laid up with tight joints of 1-2 Mix cement sand mortar. Joints to be beveled forty-five (45) degrees with outside surface of pipe and bell.
BUILDING MANHOLES, CATCH BASINS, ETC.
 Manholes, catch basins & intakes to be constructed of No. 1 hard burned shale Building or Sewer Brick or No. 2 Paving Block. Bricks to be laid up with 1-2 Cement-Sand Mortar. Surface of Walls to be Trowel finished with a 1/2" layer of 1-2 Cement-Sand Mortar. All Concrete 1-6 1/2 Mix.

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

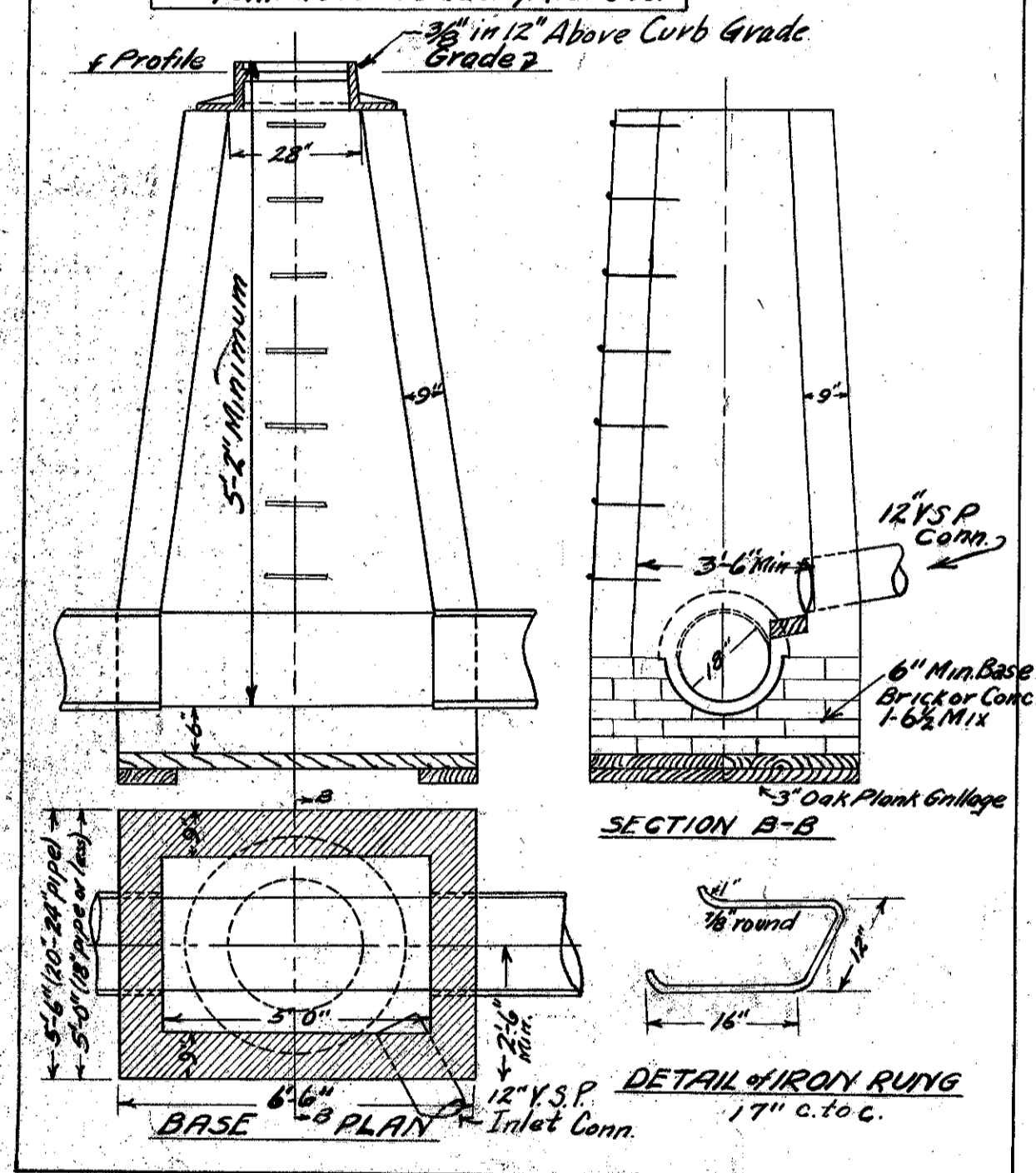
CLEVELAND-ELYRIA ROAD
S.H. (I.C.H.) NO. 31 SEC. C-1&C-2
CUYAHOGA COUNTY

**STANDARD MAN HOLE
CUYAHOGA COUNTY**

SCALE 3/8"=1'

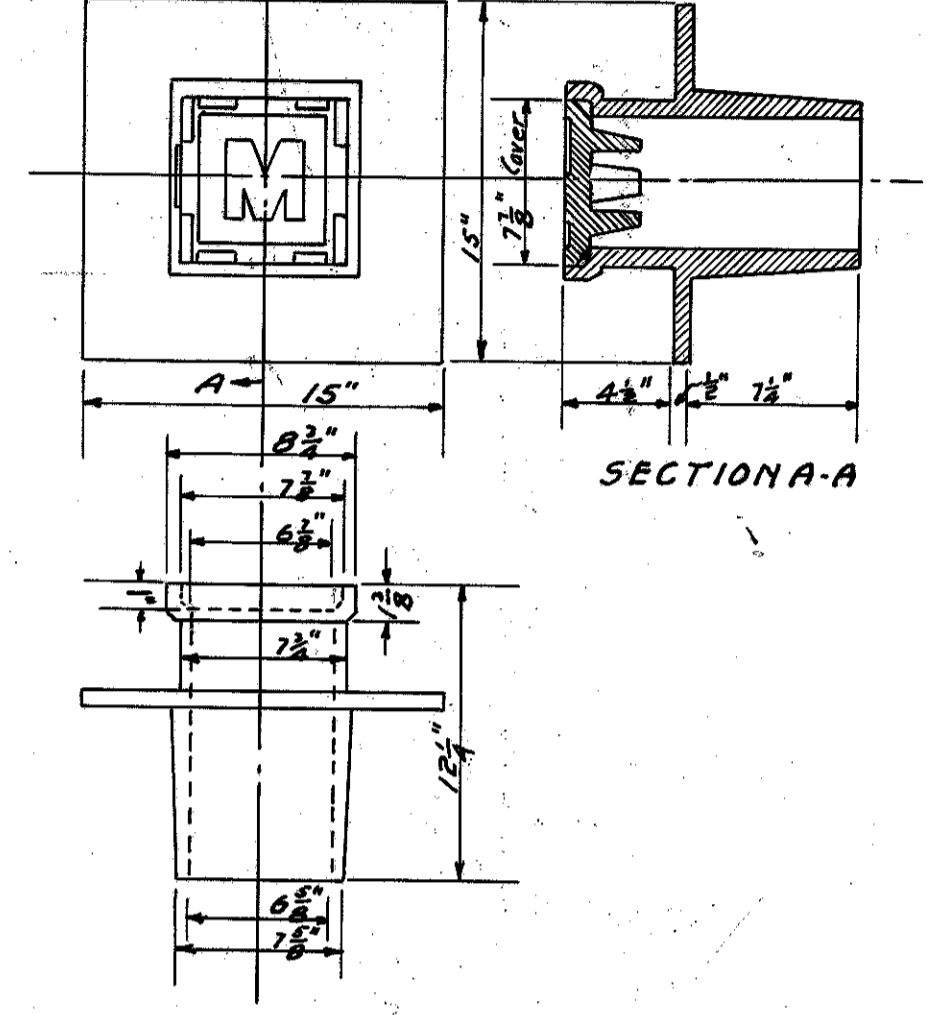
Note: All Manholes at Outlet Sewers not to be less than 5' plus Diameter of Outlet Sewer in depth to flow line unless otherwise directed account elevation of Outlet Ditch Thru Channels in M.H. may be built of Split S.P. back up with Brick Masonry or 1-6 1/2 Mix Conc.

NO. 1 MANHOLE COVER DIMENSIONS	
Diameter of Cover	26 inches
Thickness of Cover (Min)	2 "
Depth	10 "
Flange	7 "
Diameter of Base	10 "
Min Weight	525 lbs.
Furnished with solid or grated cover	

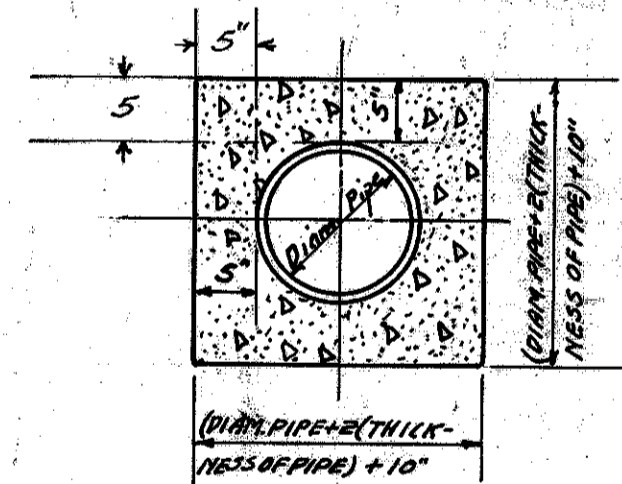


**STANDARD MONUMENT BOX
CUYAHOGA COUNTY**

A - Weight Complete 90*



**MINIMUM CROSS SECTION FOR
V.S.P. ENCASEMENT - FOR ALL DIAM.**



CONCRETE REQUIRED PER FOOT OF PIPE

- 12" V.S.P. = 0.108 Cu. Yds.
 - 15" " = 0.130 " "
 - 18" " = 0.154 " "
 - 24" " = 0.206 " "
- All concrete to be 1-8 Mix.

NOTE

Manholes and Catch Basins to be constructed of No. 1 hard burned shale Building or Sewer Brick or No. 2 Paving Block.
Bricks to be laid up with 1-2 Cement-Sand Mortar
Surface of Walls to be Trowel finished with a 1/2" layer of 1-2 Cement-Sand Mortar.
All Concrete 1-6 1/2 Mix.

EXCAVATION AND EMBANKMENTS

TABLE NO. 1 SECTION C-1 Type B Templet used 9" Base

STATION TO STATION	EXCAVATION	EMBANKMENT	EMB. + 22%	WASTE	
103+75.11	110+00	773.7	428.0	522.2	251.5
110+00	120+00	2098.4	886.4	1081.4	1077.0
120+00	130+00	1837.3	325.8	397.5	1433.8
130+00	140+00	2250.7	22.6	27.6	2223.1
140+00	150+00	1536.1	502.2	612.7	923.4
150+00	160+00	1535.8	697.4	850.8	688.0
160+00	170+00	1612.4	89.3	108.9	1503.5
170+00	180+00	1462.9	71.6	87.4	1375.5
180+00	190+00	1587.7	84.5	103.1	1484.6
190+00	200+00	1303.7	92.7	113.1	1190.6
200+00	210+00	1312.9	73.8	90.0	1222.9
210+00	220+00	1432.9	100.5	122.6	1310.3
220+00	230+00	1354.7	32.7	39.1	355.6
230+00	242+65.62	2756.6	619.3	783.5	2001.1
Type B		22,855.8	4321.2	5271.9	17,583.9
Less 1" for 8" Base		1731.4			
TYPE A		21,124.4	Type B Cu. Yds.		

1 1/4 (subgrade) to be deducted = 0.1458 @ 41.5 ft. width
Station 103+75.11 to Station 242+65.62 = 13890.51
Deduct Rect. Equation - 5.51
Total Lineal Feet 13885.00
Cu. yds. to deduct (13885.00 x 0.1458 x 41.5) ÷ 27 = 3111.7 cu. yds.
22,855.8 (Type B) - 3111.7 = 19,744.1 cu. yds. 9" Base
Less 1" for 8" Base 1731.4
Cu. Yds. = 18,012.7 Type A

TYPE C :-
3 3/4 (subgrade) to be deducted = 0.3125 @ 41.5 ft. width
Cu. yds. to deduct (13885.00 x 0.3125 x 41.5) ÷ 27 = 6669.4 cu. yds.
22,855.8 (Type B) - 6669.4 = 16,186.4 cu. yds.

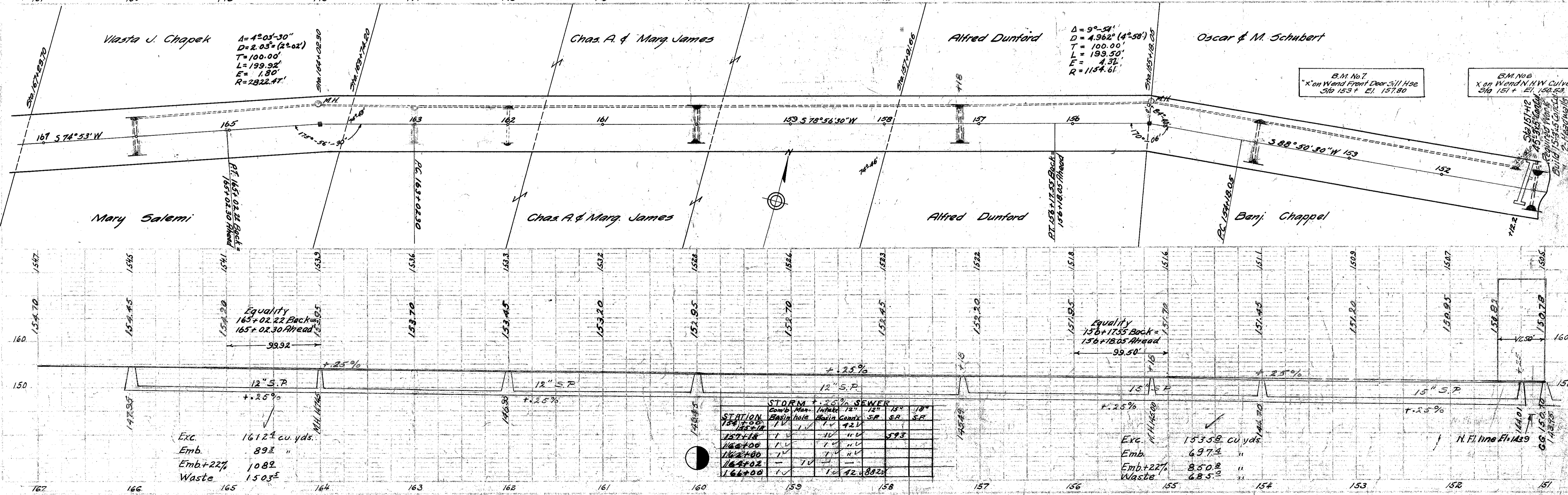
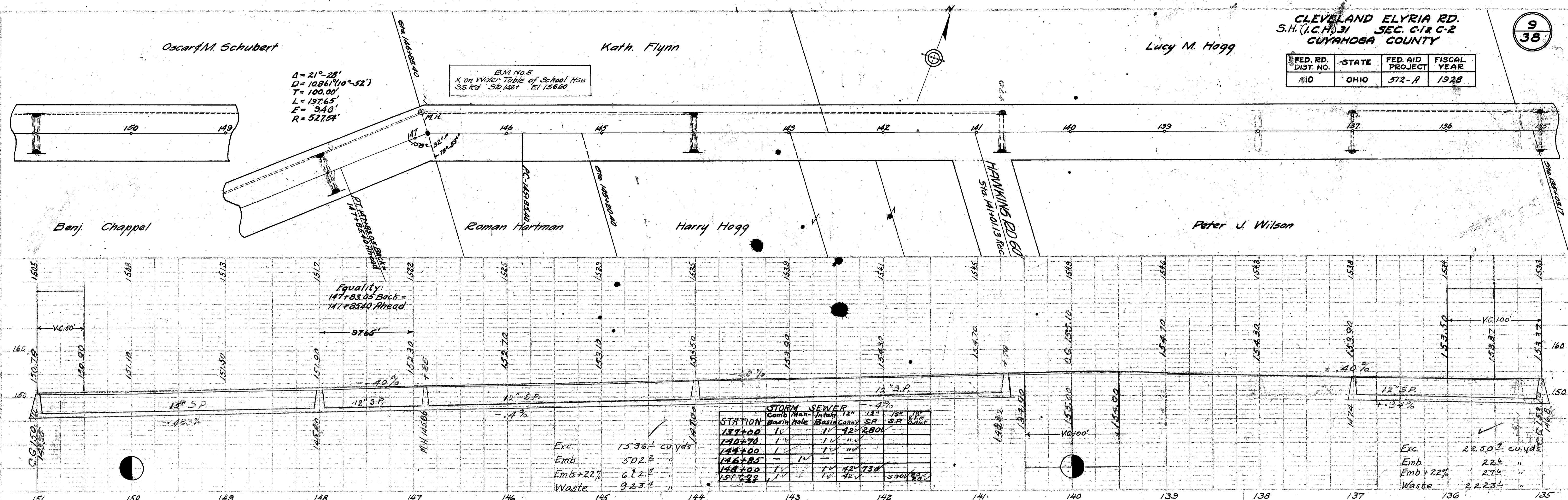
TABLE NO. 2 SECTION C-2 Type B Templet used 9" Base

STATION TO STATION	EXCAVATION	EMBANKMENT	EMB. + 22%	WASTE	
242+65.62	250+00	1256.8	101.5	123.8	1133.0
250+00	260+00	1994.7	259.9	317.1	1677.6
260+00	270+00	1600.8	722.1	881.0	719.8
270+00	280+00	2010.6	473.9	578.2	1432.4
280+00	290+00	1453.4	611.2	745.7	713.7
290+00	300+00	1790.8	304.5	371.5	1419.3
300+00	310+00	2507.7	232.2	283.3	2224.4
310+00	320+00	2745.6	82.4	100.4	1736.2
320+00	330+00	2710.1	223.8	280.4	2423.7
330+00	340+00	1777.2	461.6	563.2	1214.0
340+00	350+00	1412.8	579.7	707.2	705.6
350+00	360+00	1282.8	983.5	1199.9	82.9
360+00	370+00	1499.7	1168.5	1425.3	74.4
370+00	380+00	1543.1	474.8	573.3	963.8
380+00	390+00	1661.0	322.7	393.7	1267.3
390+00	400+00	1336.4	610.1	744.3	652.1
400+00	410+00	1713.1	183.1	223.4	1495.7
410+00	420+00	1573.5	442.1	533.4	1034.1
420+00	423+54.66	500.4	353.4	433.6	66.8
Type B		32,442.6	9343.8	11,399.7	21,042.8
Less 1" for 8" Base		2343.1			
TYPE A		30,109.5	Type B Cu. Yds.		

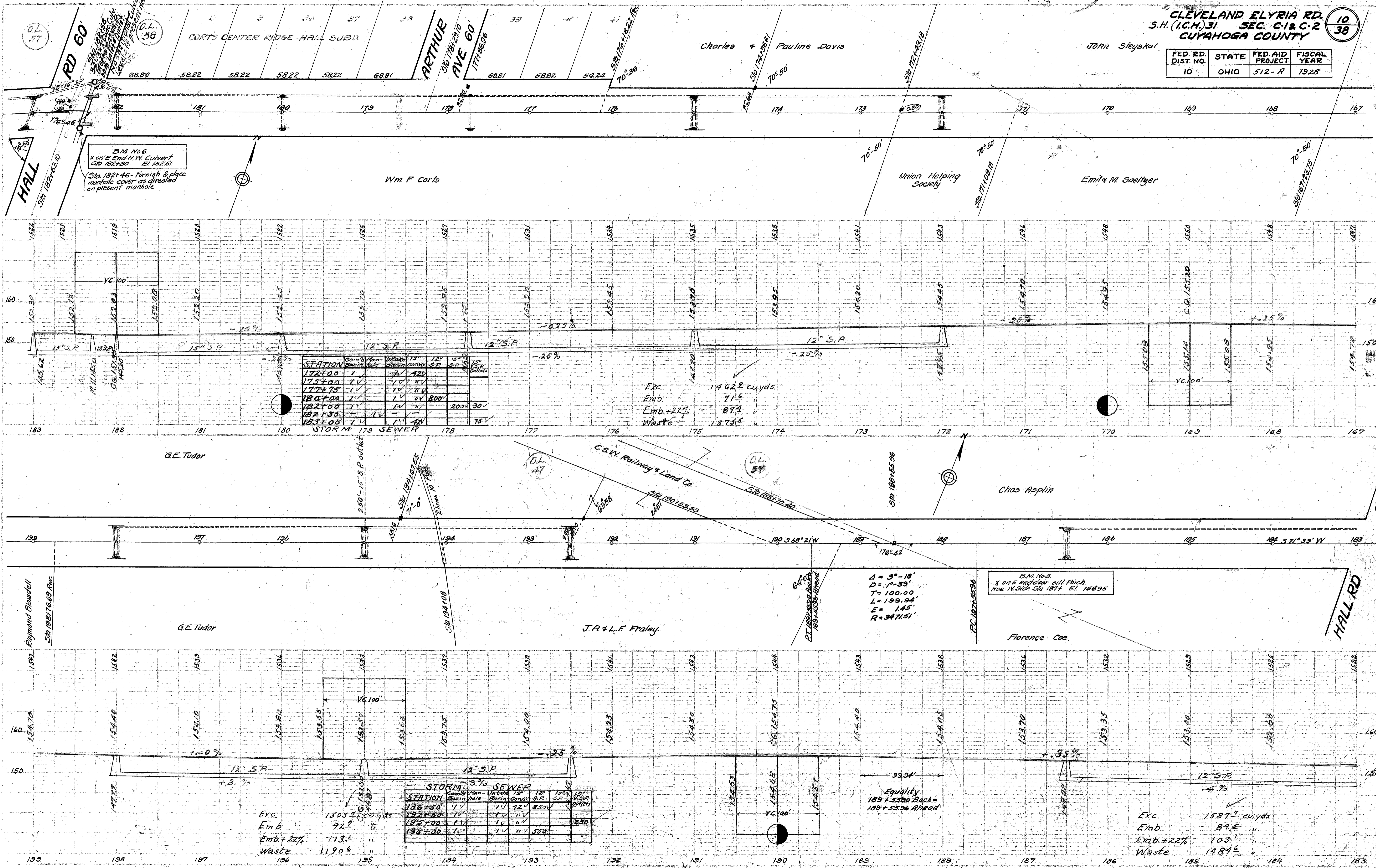
1 1/4 (subgrade) to be deducted = 0.1458 @ 41.5 ft. width
Station 242+65.62 to Station 423+54.66 = 18089.04
Rect. Equation - .34
Total Lineal Feet 18088.50
Cu. yds. to deduct (18088.50 x 0.1458 x 41.5) ÷ 27 = 4,053.9 cu. yds.
32,442.6 (Type B) - 4,053.9 = 28,388.7 cu. yds. 9" Base
Less 1" for 8" Base 2343.1
Cu. Yds. = 26,045.6 Type A

TYPE C :-
3 3/4 (subgrade) to be deducted = 0.3125 @ 41.5 ft. width
Cu. yds. to deduct (18088.50 x 0.3125 x 41.5) ÷ 27 = 8688.9 cu. yds.
32,442.6 (Type B) - 8688.9 = 23,753.7 cu. yds.

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928



FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928



STATION	Comb. Man. Basin	Man. hole	12\"/>
172+00	1	1	420
175+00	1	1	11
177+75	1	1	11
180+00	1	1	800
182+00	1	1	107
182+35	1	1	200
183+00	1	1	30
183+00	1	1	75

Exc. 1462.2 cu. yds.
Emb. 71.5 "
Emb.+22% 87.4 "
Waste 1375.5 "

STATION	Comb. Man. Basin	Man. hole	12\"/>
186+50	1	1	92
187+50	1	1	11
193+00	1	1	11
198+00	1	1	530

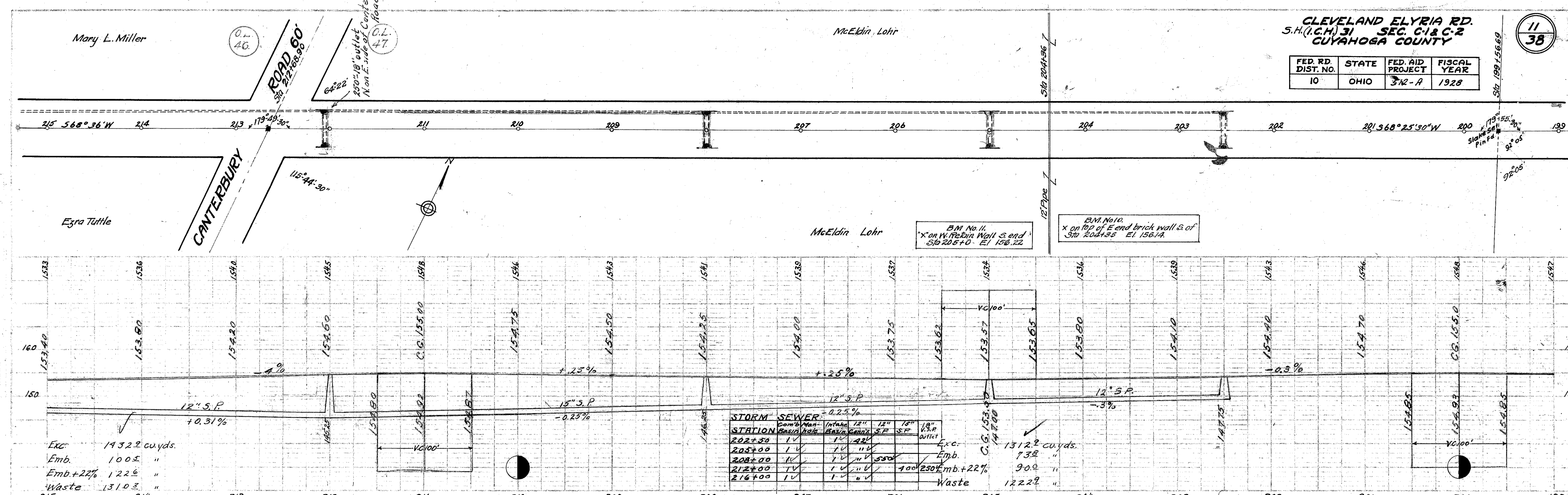
Exc. 1587.2 cu. yds.
Emb. 84.5 "
Emb.+22% 103.1 "
Waste 1484.6 "

$\Delta = 3^{\circ}-18'$
 $D = 1^{\circ}-39'$
 $T = 100.00$
 $L = 199.94'$
 $E = 1.45'$
 $R = 3471.51'$

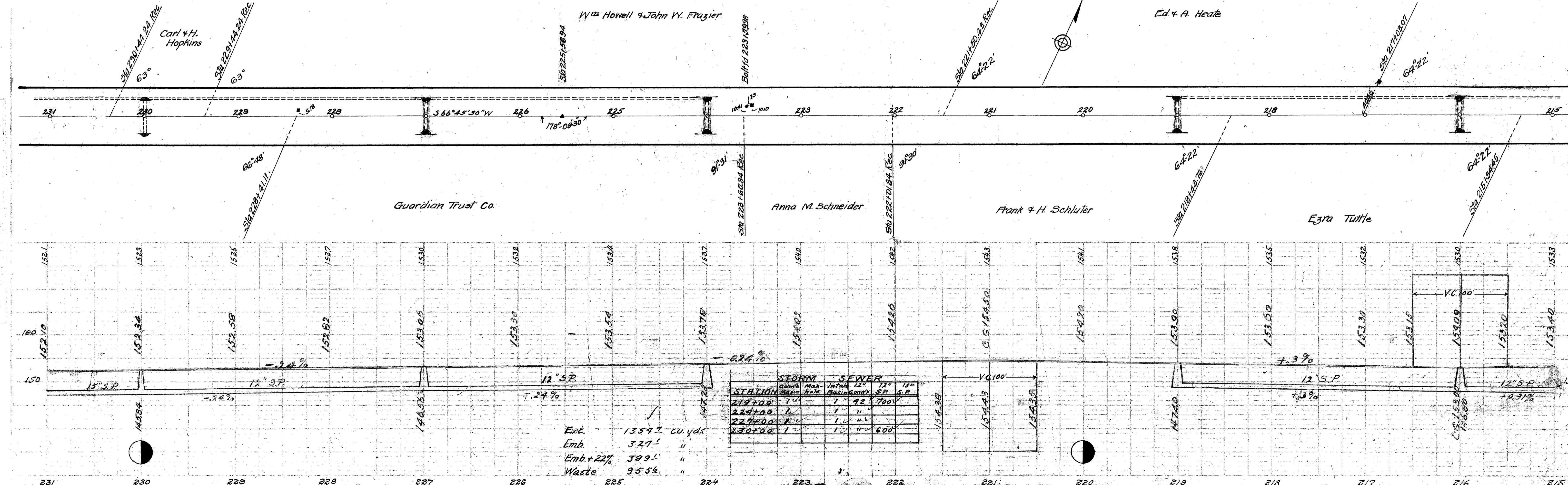
B.M. No. 9
x on E end of sill. Porch.
Hse N. Side Sta 187+ El. 156.95

Equality
189+53.90 Back =
189+53.96 Ahead

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	312-A	1928



STATION	Comb. Basin	Man. hole	Intake Basin	12" S.P.	12" S.P.	15" S.P.	18" V.S.P. Outlet
202+00	1	1	1	42"			
205+00	1	1	1	11"			
208+00	1	1	1	11"	550'		
212+00	1	1	1	11"	400'	250'	
216+00	1	1	1	11"			



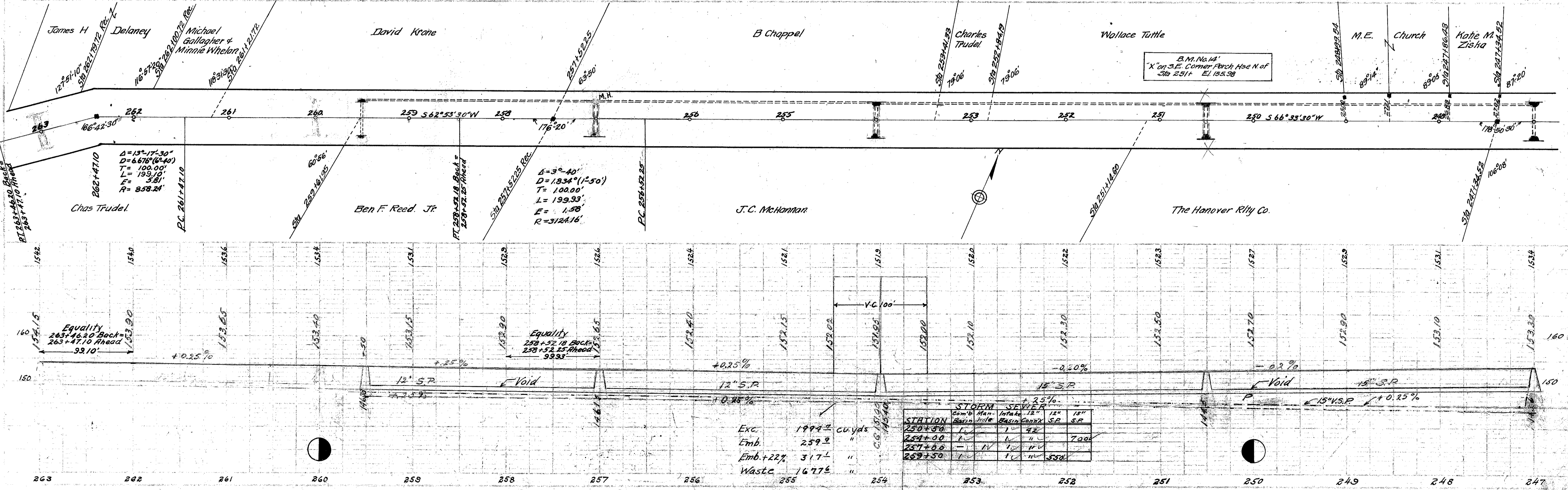
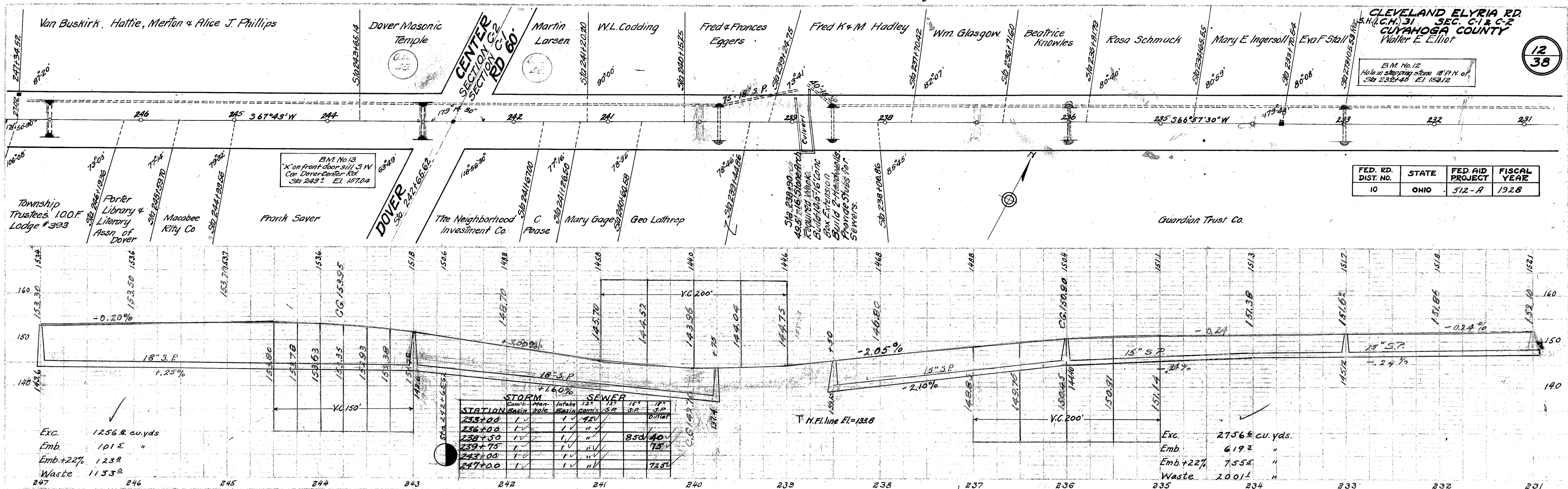
STATION	Comb. Basin	Man. hole	Intake Basin	12" S.P.	12" S.P.	15" S.P.
219+00	1	1	1	42"	700'	
223+00	1	1	1	11"		
227+00	1	1	1	11"		
230+00	1	1	1	11"	600'	

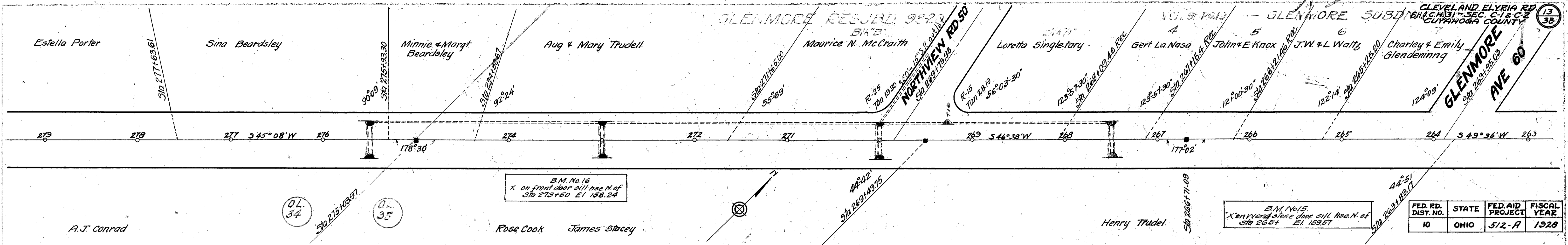
Exc. 13542 cu yds
Emb. 3271 "
Emb.+22% 3991 "
Waste 9556 "

CLEVELAND ELYRIA RD
S.H. (C.H.) 31 SEC. C-1 & C-2
CUYAHOGA COUNTY
Walter E. Elliot

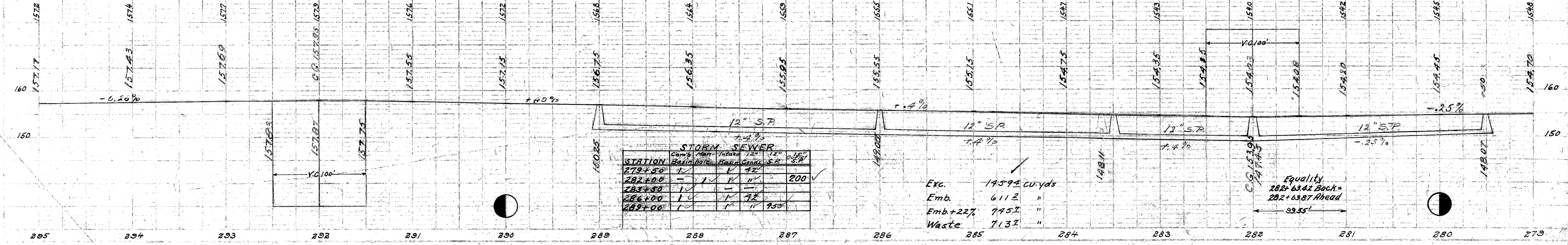
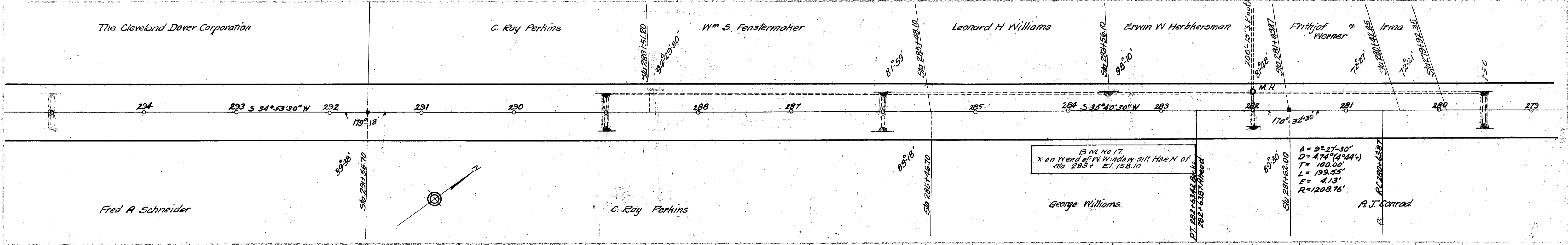
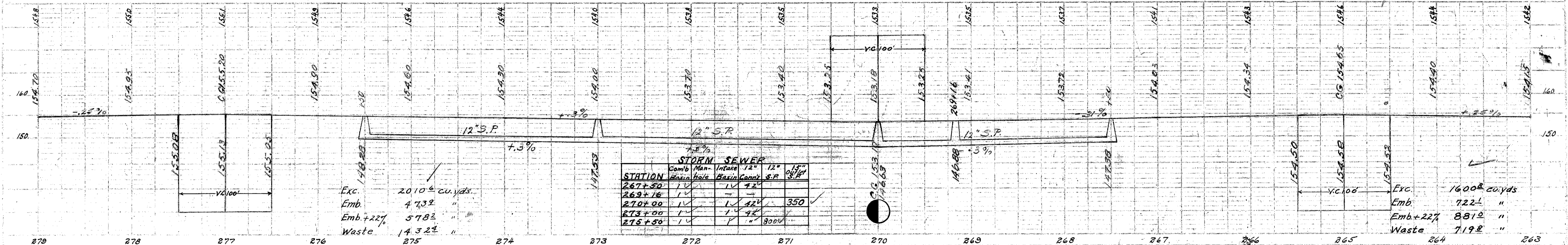
B.M. No. 12
Hole in stepping stone 18" N of
Sta. 238+40 El. 152.12

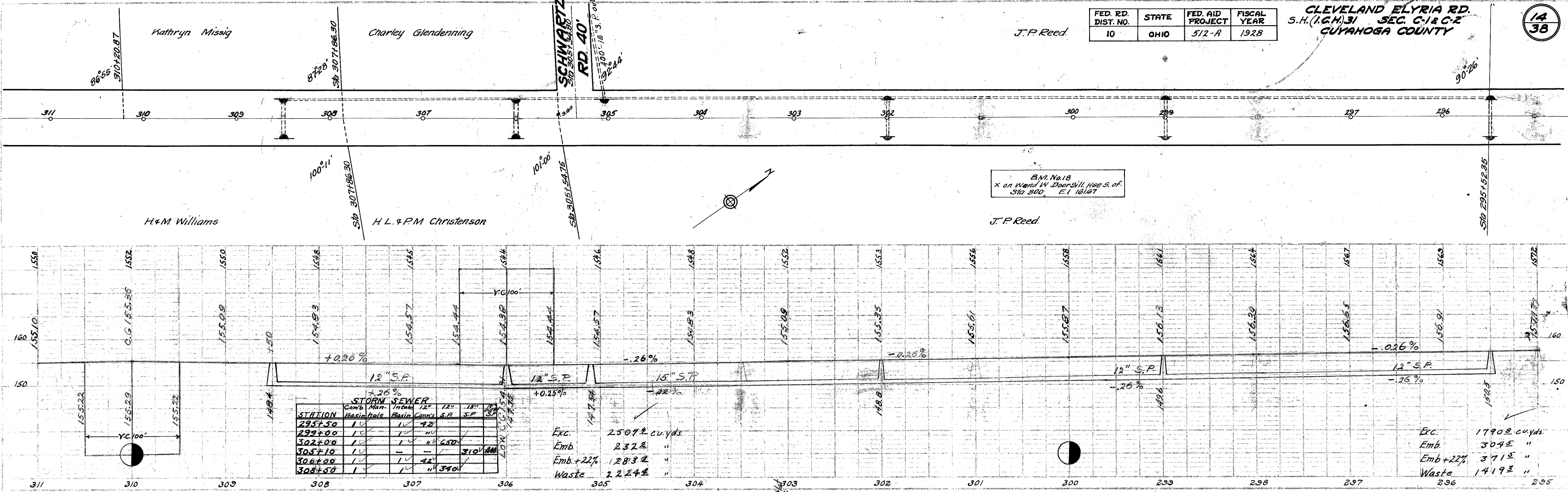
FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928





FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

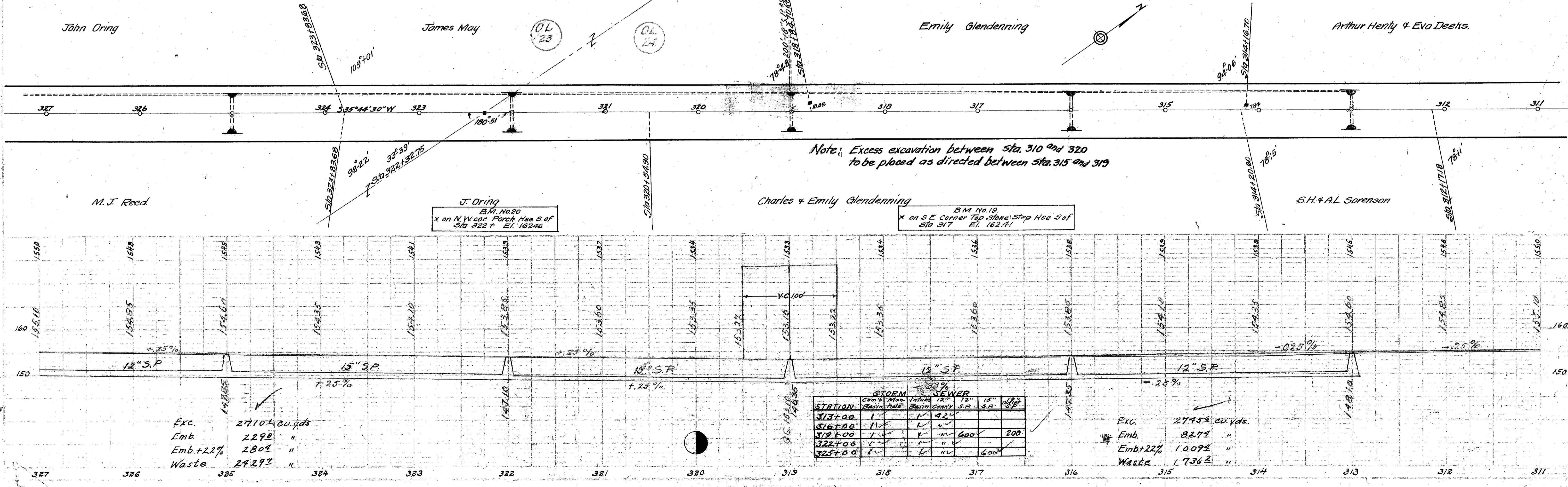




STATION	STORM SEWER		12" S.P.	15" S.P.	18" S.P.
	Com. Man. Basin	Intake			
295+50	1	1	42		
299+00	1	1			
302+00	1	1	600		
305+10	1	1		310	
306+00	1	1	42		
308+50	1	1	340		

Exc. 2507.4 cu yds
Emb. 232.2 "
Emb.+22% 1283.2 "
Waste 2224.4 "

Exc. 1790.2 cu yds
Emb. 304.5 "
Emb.+22% 371.5 "
Waste 1419.3 "



Note: Excess excavation between sta. 310 and 320 to be placed as directed between sta. 315 and 319

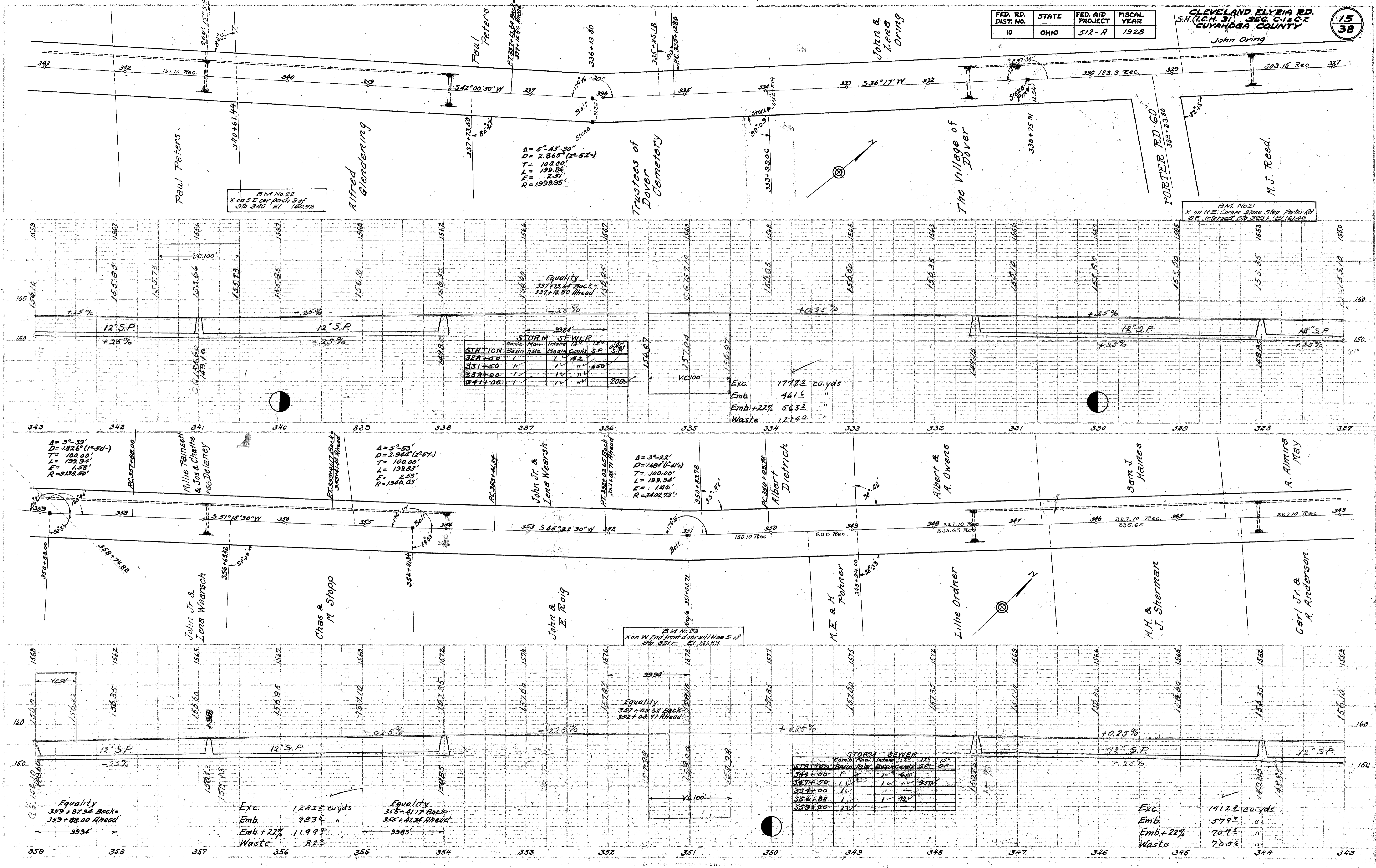
STATION	STORM SEWER		12" S.P.	15" S.P.	18" S.P.
	Com. Man. Basin	Intake			
313+00	1	1	42		
316+00	1	1			
319+00	1	1	600	200	
322+00	1	1			
325+00	1	1	600		

Exc. 2745.2 cu yds
Emb. 827.1 "
Emb.+22% 1009.2 "
Waste 1736.2 "

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

CLEVELAND ELYRIA RD.
S.H. (C.C.H. 31) SEC. C-1 & C-2
CUYAHOGA COUNTY
John Oring

15
38



$\Delta = 5^{\circ} 43' 30''$
 $D = 2,865' (2^{\circ} 52')$
 $T = 100.00'$
 $L = 199.84'$
 $E = 2.51'$
 $R = 1999.95'$

STORM SEWER

STATION	Comb. Basin	Man. Hole	Intake	12" Basin	12" Conch.	12" S.P.	12" S.P.
328+00	1	1	1	1	1	1	1
331+50	1	1	1	1	1	1	1
338+00	1	1	1	1	1	1	1
341+00	1	1	1	1	1	1	1

Exc. 1777.2 cu. yds
 Emb. 461.5 "
 Emb. + 22% 563.3 "
 Waste 1214.9 "

STORM SEWER

STATION	Comb. Basin	Man. Hole	Intake	12" Basin	12" Conch.	12" S.P.	12" S.P.
344+00	1	1	1	1	1	1	1
347+50	1	1	1	1	1	1	1
354+00	1	1	1	1	1	1	1
356+88	1	1	1	1	1	1	1
359+00	1	1	1	1	1	1	1

B.M. No. 22
 X on S.E. cor. porch S. of
 3/4 340 E.I. 160.92

B.M. No. 21
 X on N.E. Corner Stone Step Parter Rd
 SE intersect Sta 329 + E.I. 161.40

B.M. No. 23
 X on W End front door sill Hoe S. of
 3/4 351 E.I. 161.83

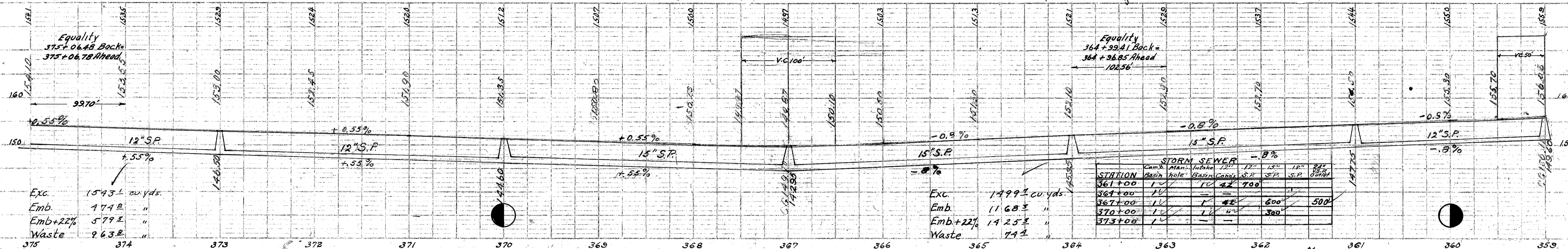
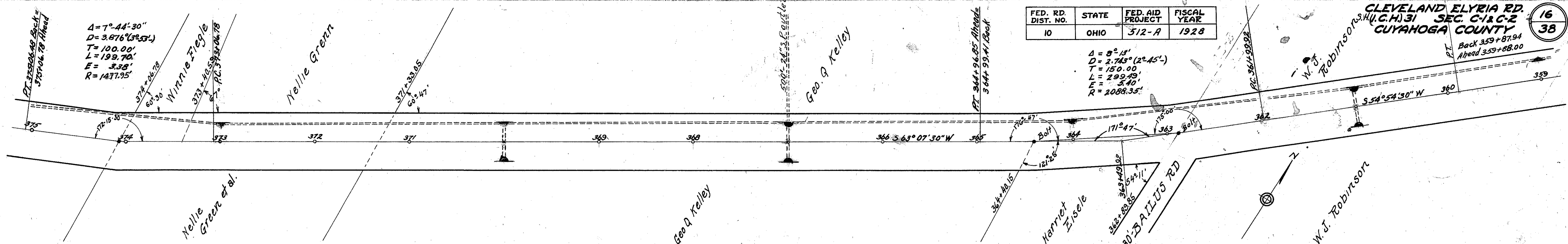
$\Delta = 3^{\circ} 39'$
 $D = 1826' (1^{\circ} 50')$
 $T = 100.00'$
 $L = 199.94'$
 $E = 1.58'$
 $R = 3198.50'$

$\Delta = 5^{\circ} 53'$
 $D = 2,944' (2^{\circ} 57')$
 $T = 100.00'$
 $L = 199.83'$
 $E = 2.59'$
 $R = 1946.03'$

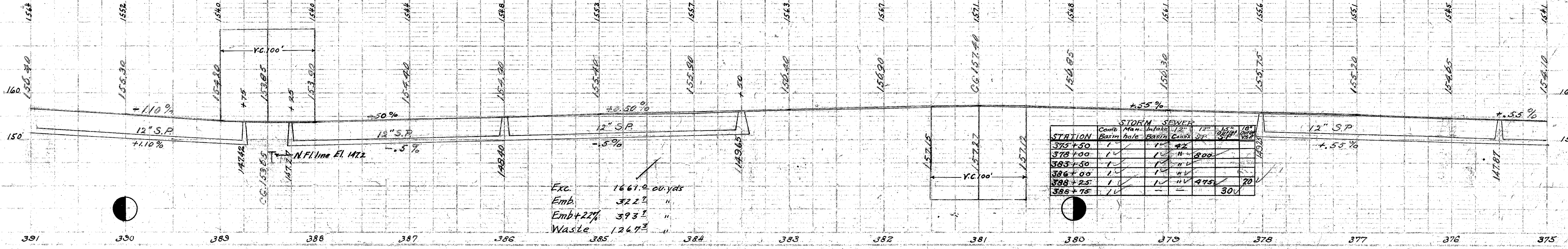
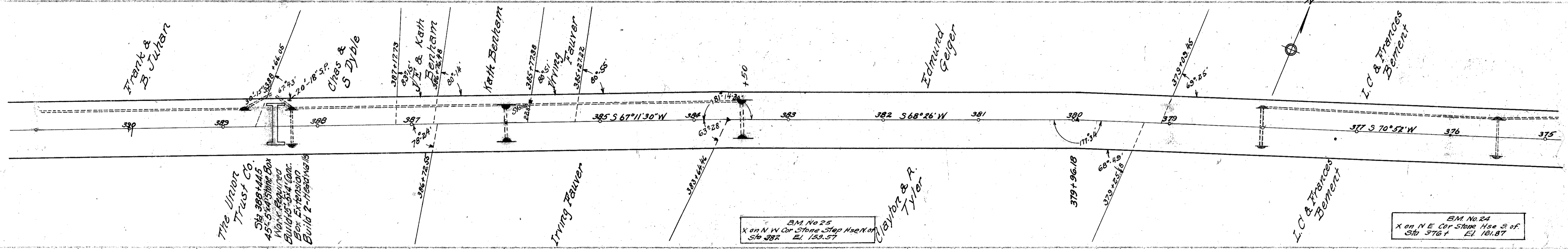
$\Delta = 3^{\circ} 22'$
 $D = 1484' (1^{\circ} 41')$
 $T = 100.00'$
 $L = 199.94'$
 $E = 1.46'$
 $R = 3402.73'$

Exc. 1282.8 cu. yds
 Emb. 983.5 "
 Emb. + 22% 1199.9 "
 Waste 82.2 "

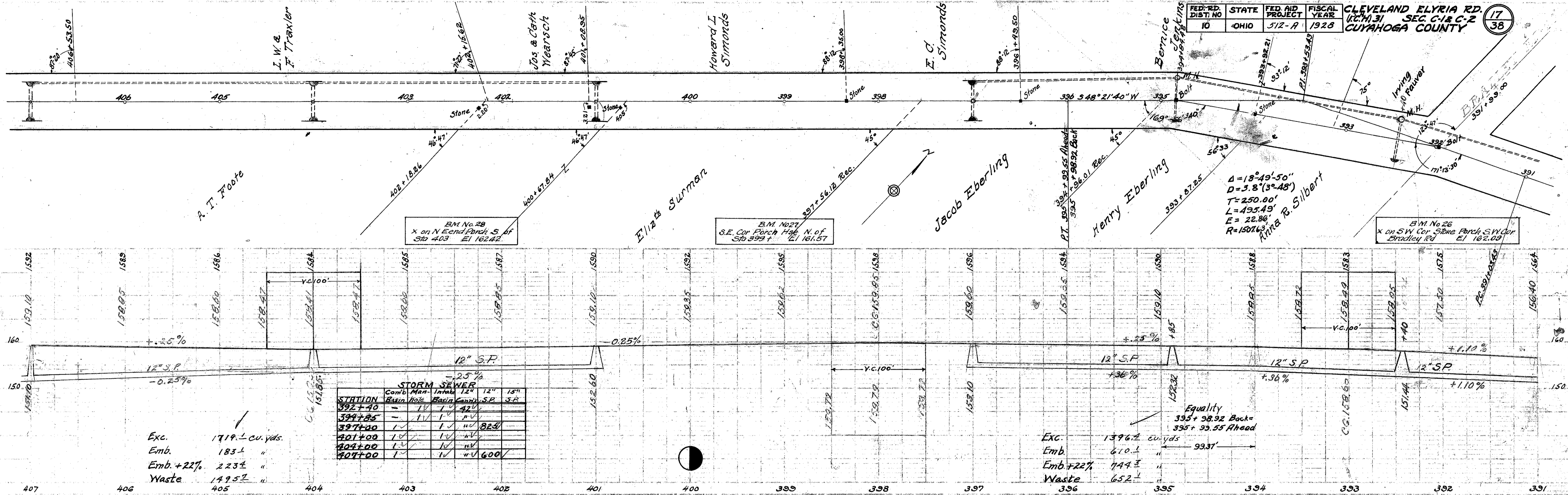
Exc. 1412.8 cu. yds
 Emb. 579.2 "
 Emb. + 22% 707.2 "
 Waste 70.5 "



STATION	STORM SEWER			
	Comp. Basin	Man. hole	Basin	Comp. Basin
361+00	1'	1'	10'	42'
364+00	1'	1'	4'	700'
367+00	1'	1'	4'	600'
370+00	1'	1'	4'	500'
373+00	1'	1'	4'	300'

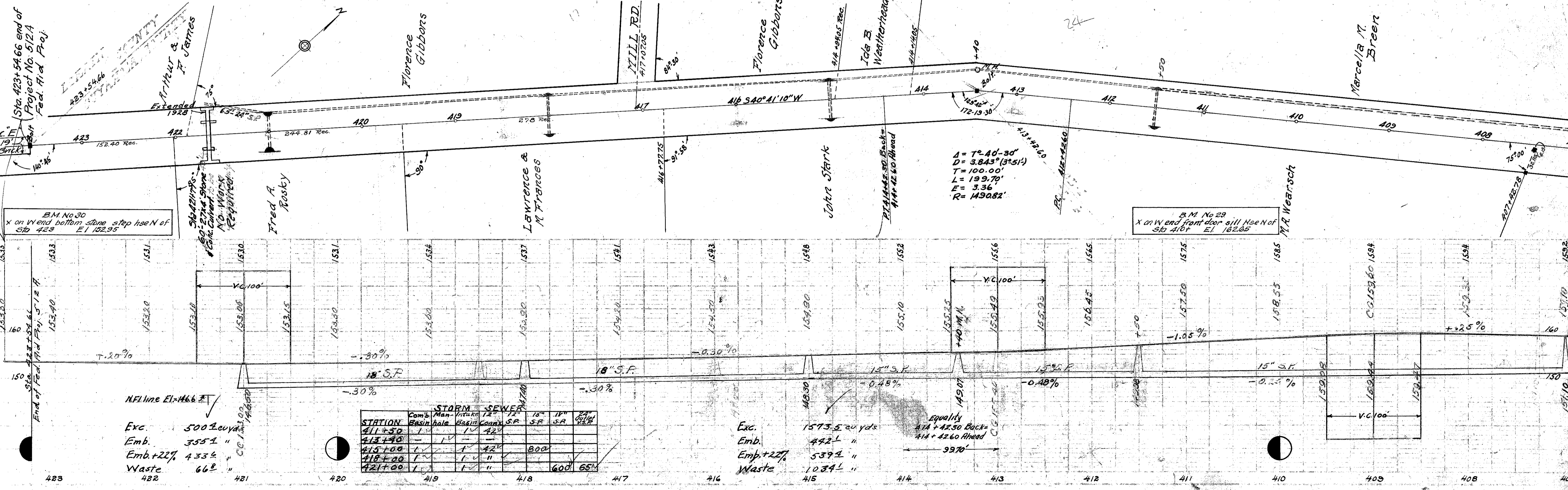


STATION	STORM SEWER			
	Comp. Basin	Man. hole	Basin	Comp. Basin
375+50	1'	1'	12'	12'
378+00	1'	1'	4'	200'
383+50	1'	1'	4'	200'
386+00	1'	1'	4'	200'
388+25	1'	1'	4'	475'
388+75	1'	1'	4'	300'



Exc. 1719.2 cu. yds.
Emb. 183.1 "
Emb.+22% 223.4 "
Waste 149.52 "

STATION	Basin	hole	Basin	Comp.	12" S.P.	15" S.P.
392+40	-	1V	1V	42"		
394+85	-	1V	1V	42"		
397+00	1V	1V	1V	82"		
401+00	1V	1V	1V	42"		
404+00	1V	1V	1V	60"		
407+00	1V	1V	1V	60"		



Exc. 500.2 cu. yds.
Emb. 355.1 "
Emb.+22% 433.4 "
Waste 66.8 "

STATION	Com'b. Man. Uprate	12" S.P.	15" S.P.	18" S.P.	24" S.P.
411+50	1V	1V	1V	42"	
413+40	-	1V	-	-	
415+00	1V	1V	1V	42"	800
418+00	1V	1V	1V	60"	
421+00	1V	1V	1V	60"	65"

B.8

CUY-USD 20-0.00N 6.07

FED. RD DIST. NO	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

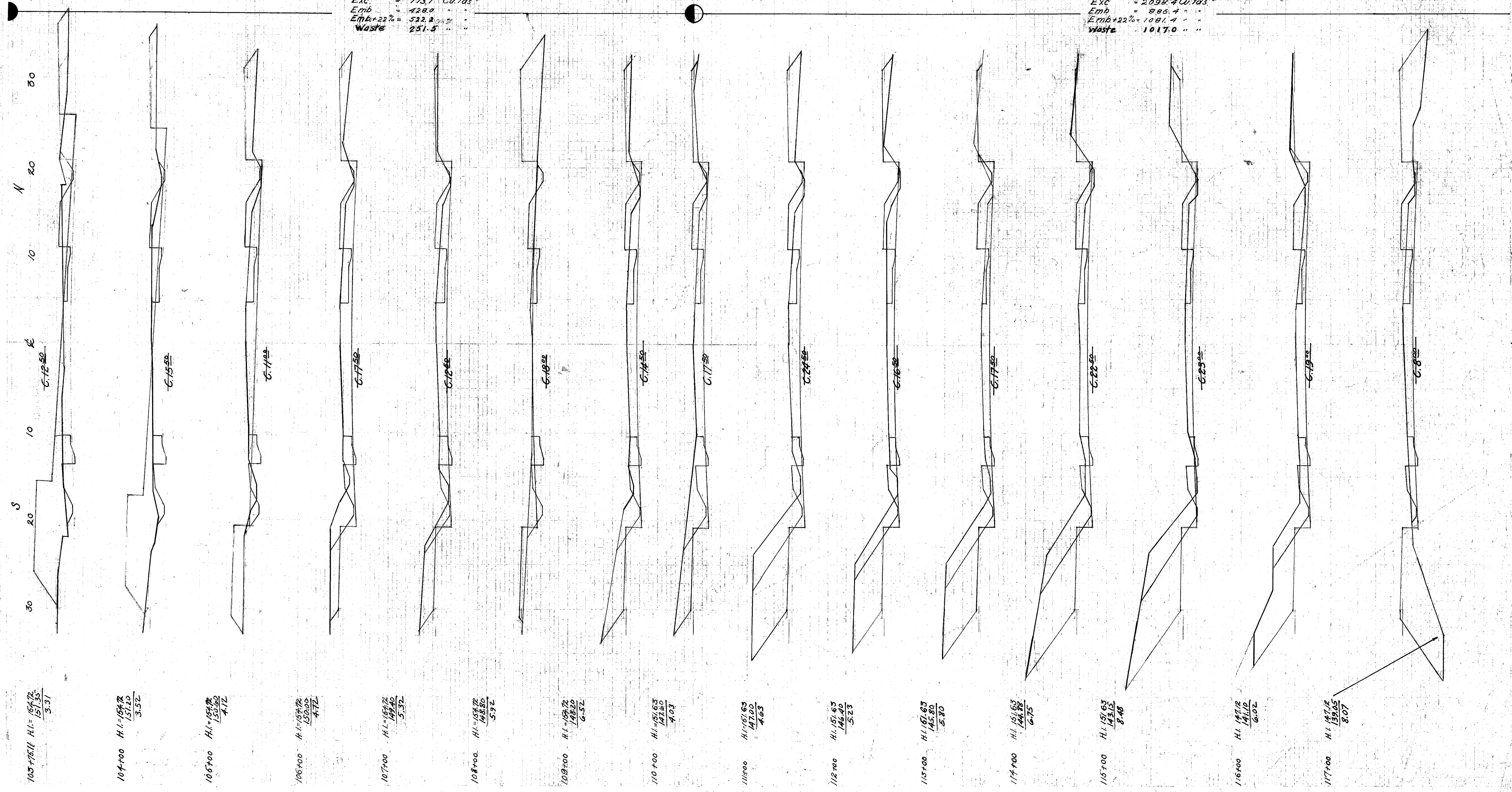
CLEVELAND-ELYRIA ROAD
 S.H.(C.H.) NO 31 SEC'S C-1 & C-2
 CUYAHOGA COUNTY

18
38

END AREA CUT FILL	CUT	FILL	CUT FILL
16.0	61.5		131.5
12.5	50.5		104.5
27.7	26.5		141.6
48.8	7.5		166.9
41.3	3.5		190.9
7.8	30.0		205.2
48.0	8.2		181.5
49.0	5.3		227.8
74.0	11.5		238.6
55.4	6.5		217.4
62.0	1.8		245.8
70.5	2.0		266.1
73.2	1.7		251.3
62.5	-		177.3
30.0	56.5		300.0

Exc. = 773.7 Cu. Yds
 Emb = 428.0
 Emb + 22% = 522.2
 Waste = 251.5

Exc = 2098.4 Cu. Yds
 Emb = 886.4
 Emb + 22% = 1081.4
 Waste = 1017.0



103+00 H.I. = 154.72
 151.35
 3.37

104+00 H.I. = 154.72
 150.00
 3.52

106+00 H.I. = 154.72
 150.00
 4.72

107+00 H.I. = 154.72
 148.50
 5.32

108+00 H.I. = 154.72
 148.50
 5.92

109+00 H.I. = 154.72
 148.20
 6.52

110+00 H.I. = 151.63
 147.00
 4.63

111+00 H.I. = 151.63
 147.00
 4.63

112+00 H.I. = 151.63
 146.40
 5.23

113+00 H.I. = 151.63
 145.80
 5.83

114+00 H.I. = 151.63
 144.80
 6.75

115+00 H.I. = 151.63
 143.00
 8.48

116+00 H.I. = 147.12
 141.10
 6.02

117+00 H.I. = 147.12
 139.05
 8.07

FED. AID DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

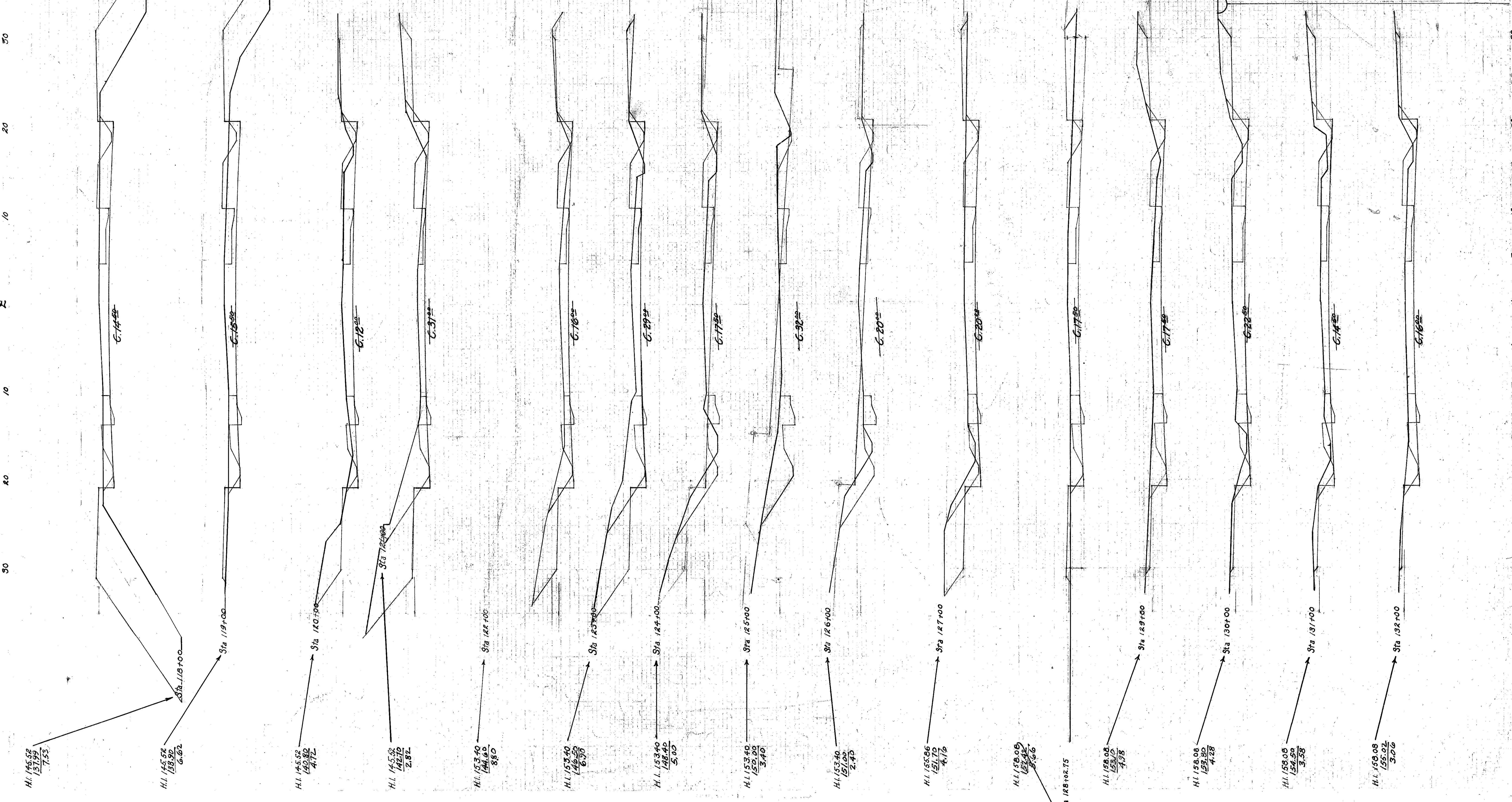
CLEVELAND-ELYRIA ROAD
 S.H.(C.H) NO 31 SEC'S C-1 & C-2
 CUYAHOGA COUNTY

Exc = 1937.3 Cu Yds.
 Emb = 325.8 " "
 Emb+22% = 397.5 " "
 Waste = 1439.8 " "

END AREA CUT	END AREA FILL	CUT	FILL
136.1	323.1		
433.5	118.0		
455.0	350.0		
1439.288.9			
1726.728			
52.0	7.3		
261.1	2.5		
890			
510	0.3		
272.3	11.7		
266.3	6.0		
1868	255.6		
1062	76.8		
210	335		
61.5	972		
122	190		
670	73		
3137	366		
465.0	13.6		
1768	234		
54.3			
2084	0.4		
555	0.2		
1768	0.4		
460			
466.5	0.2		

30 20 10 0 10 20 30

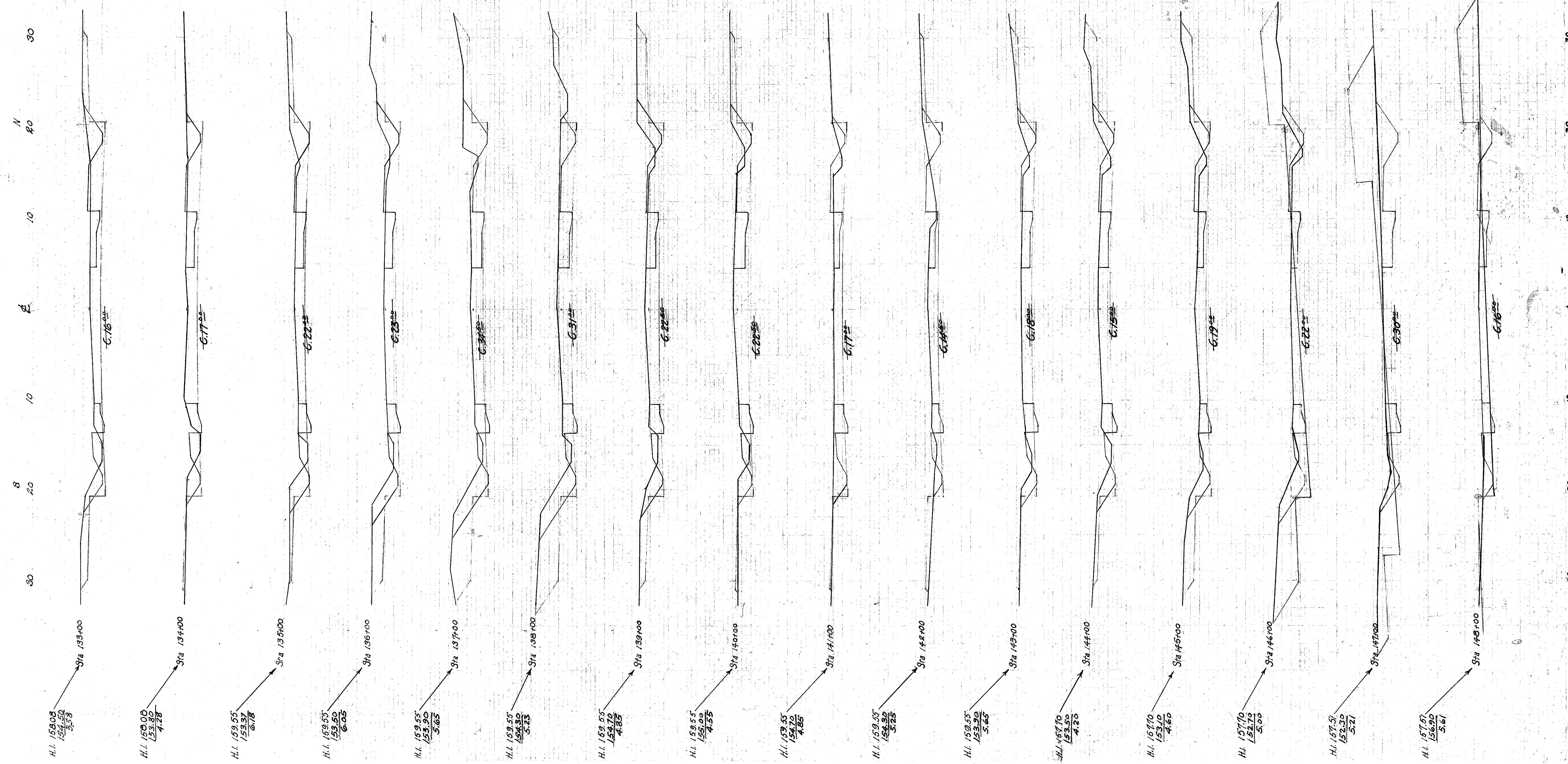
30 20 10 0 10 20 30



END AREA CUT FILL	CU YDS CUT FILL	CU YDS CUT FILL
60.0	-	189.8 0.4
48.5	2.0	200.9 3.7
52.0	-	106.1 3.7
71.0	-	227.8
65.0	-	248.9
32.5	3.0	310.1 5.6
70.0	-	242.3 5.6
57.0	1.5	235.2 2.8
42.0	1.5	183.3 5.6
42.5	5.0	186.4 12.1
45.0	0.5	182.0 10.1
59.0	-	192.6 0.9
21.7	-	21.7
87.5	-	106.3 50.9
43.5	27.5	141.6 128.3
28.0	41.7	93.5 132.7
22.5	30.0	

Exc = 2250.7 Cu. Yds
 Emb = 22.6 "
 Emb + 22% = 27.6 "
 Waste = 2223.1 " "

Exc = 1336.1 Cu. Yds
 Emb = 50.22 "
 Emb + 22% = 61.27 "
 Waste = 923.4 " "

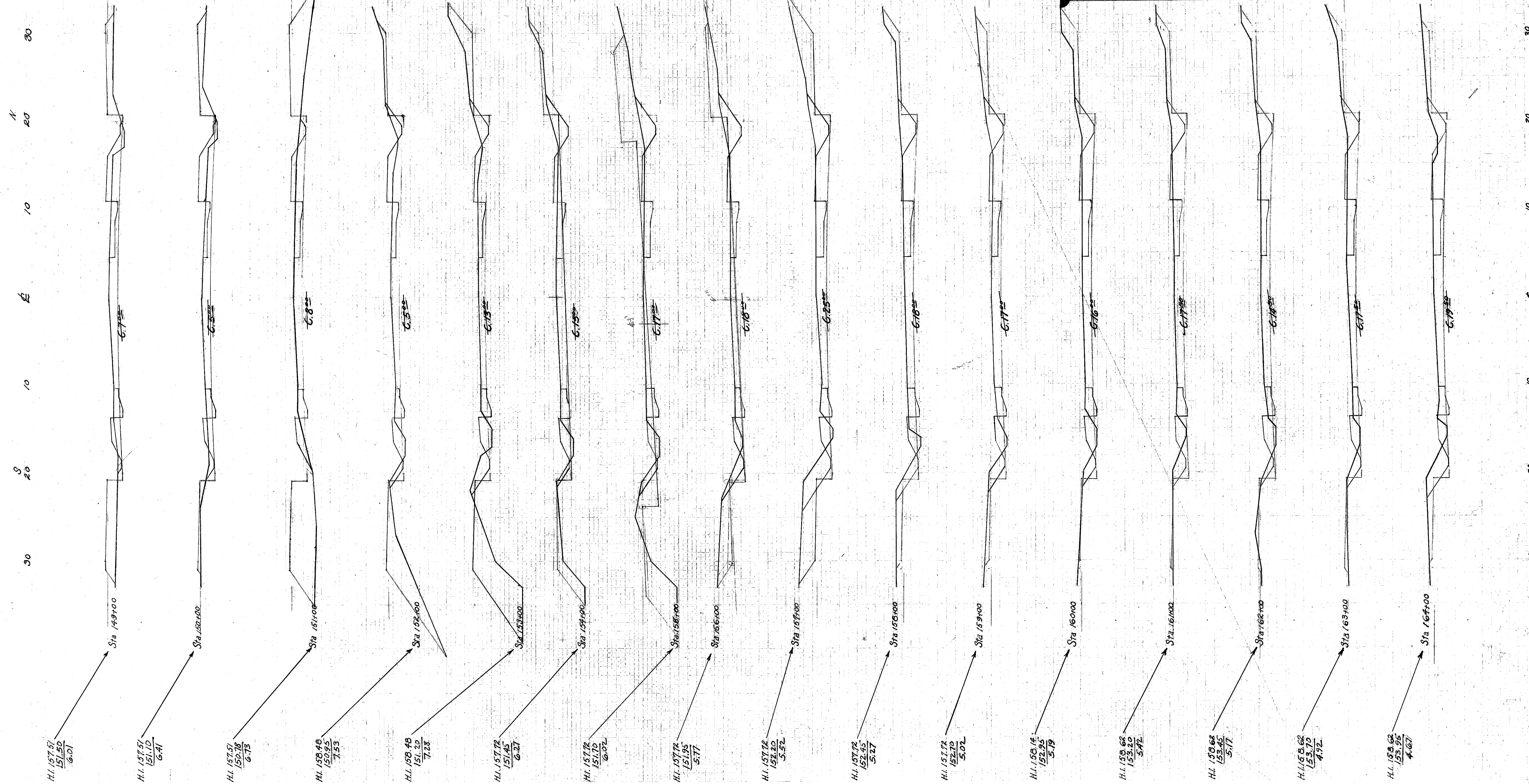


Exc = 1533.8 cu yds.
 Emb = 697.4
 Emb+22% = 830.8
 Waste = 665.0

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

CLEVELAND-ELYRIA ROAD
 (C.H.) NO. 31 SEC'S C-1 & C-2
 CUYAHOGA COUNTY

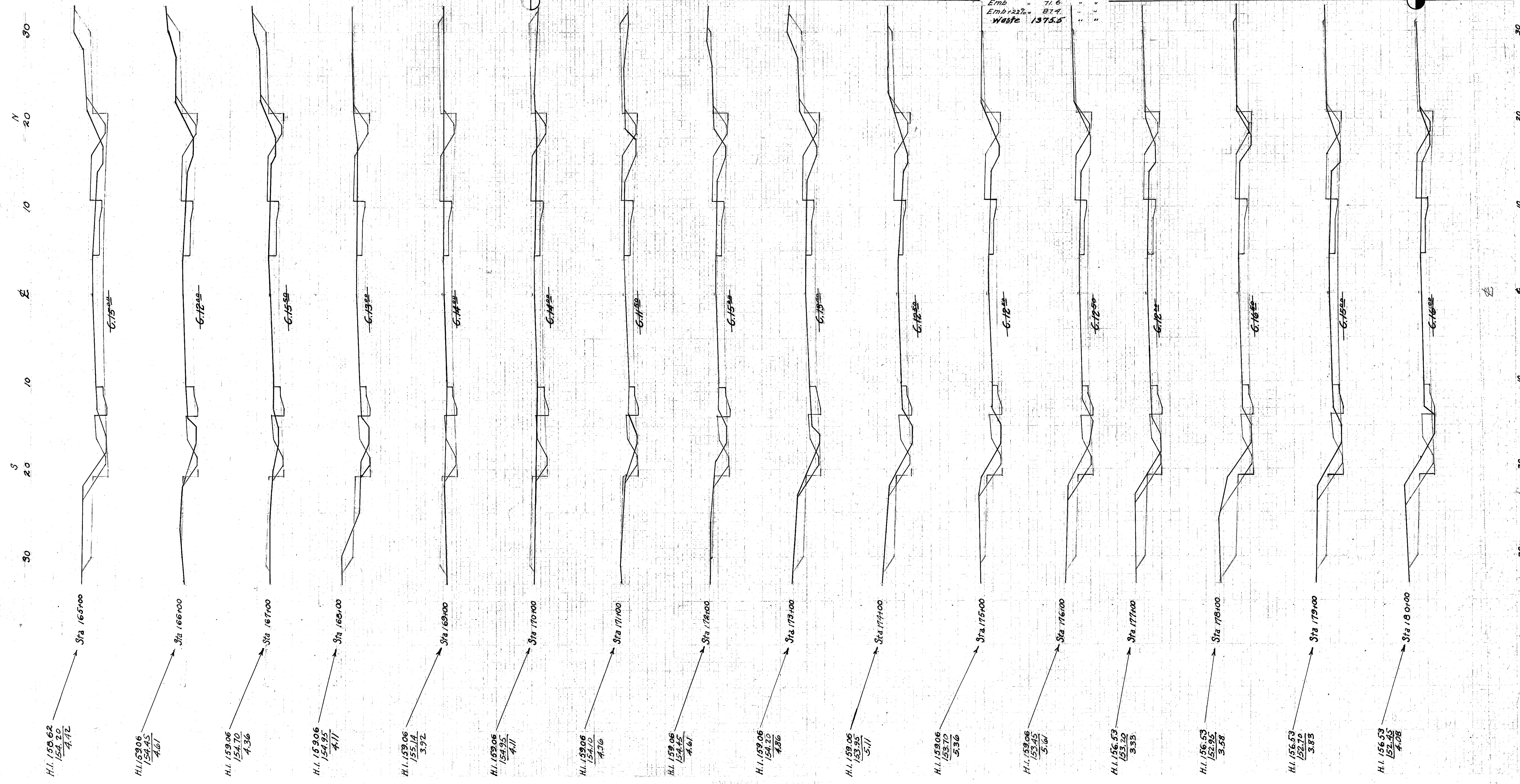
STA.	CUT	FILL	CUT/FILL	CU. YDS.
278	220		220	13.2
279	13.3		13.3	101.5
280	58.0		58.0	100.0
281	131.5		131.5	113.0
282	23.8		23.8	142.6
283	31.3		31.3	125.6
284	12.8		12.8	91.3
285	42.5		42.5	99.1
286	70.0		70.0	208.7
287	0.7		0.7	255.3
288	1.0		1.0	206.5
289	0.7		0.7	189.5
290	1.5		1.5	196.2
291	1.3		1.3	176.1
292	2.0		2.0	147.7
293	2.5		2.5	161.7
294	-		-	49.3



Exc = 1612.4 Cu. Yds
Emb = 89.3 Cu. Yds
Emb + 22% = 108.9 "
Waste = 1503.5 "

Exc = 1462.9 Cu. Yds
Emb = 71.6 "
Emb + 22% = 87.4 "
Waste = 1375.5 "

END AREA	CUT	FILL	CUT	FILL	CU. YDS.
57.5	-	197.7	-	-	-
42.5	0.3	185.2	0.6	-	-
42.8	3.8	188.9	7.6	-	-
29.8	3.0	176.2	12.6	-	-
37.5	4.3	164.7	14.4	-	-
36.5	11.3	157.0	25.8	-	-
29.8	8.6	122.8	36.8	-	-
32.7	-	115.7	15.9	-	-
48.5	-	100.4	-	-	-
34.8	0.7	159.3	1.3	-	-
38.0	-	136.7	1.3	-	-
37.8	0.2	140.3	0.4	-	-
43.3	0.7	150.2	1.7	-	-
50.5	1.5	123.7	4.1	-	-
38.0	0.7	163.9	4.1	-	-
41.3	2.5	146.9	6.0	-	-



H.I. 158.62
154.20
4.42 Sta 165+00
 H.I. 159.06
154.45
4.61 Sta 166+00
 H.I. 159.06
154.70
4.36 Sta 167+00
 H.I. 159.06
154.95
4.11 Sta 168+00
 H.I. 159.06
155.14
3.92 Sta 169+00
 H.I. 159.06
154.95
4.11 Sta 170+00
 H.I. 159.06
154.70
4.36 Sta 171+00
 H.I. 159.06
154.45
4.61 Sta 172+00
 H.I. 159.06
154.20
4.86 Sta 173+00
 H.I. 159.06
153.95
5.11 Sta 174+00
 H.I. 156.53
153.70
5.36 Sta 175+00
 H.I. 156.53
153.45
5.61 Sta 176+00
 H.I. 156.53
153.20
5.35 Sta 177+00
 H.I. 156.53
152.95
5.58 Sta 178+00
 H.I. 156.53
152.70
5.83 Sta 179+00
 H.I. 156.53
152.45
6.08 Sta 180+00

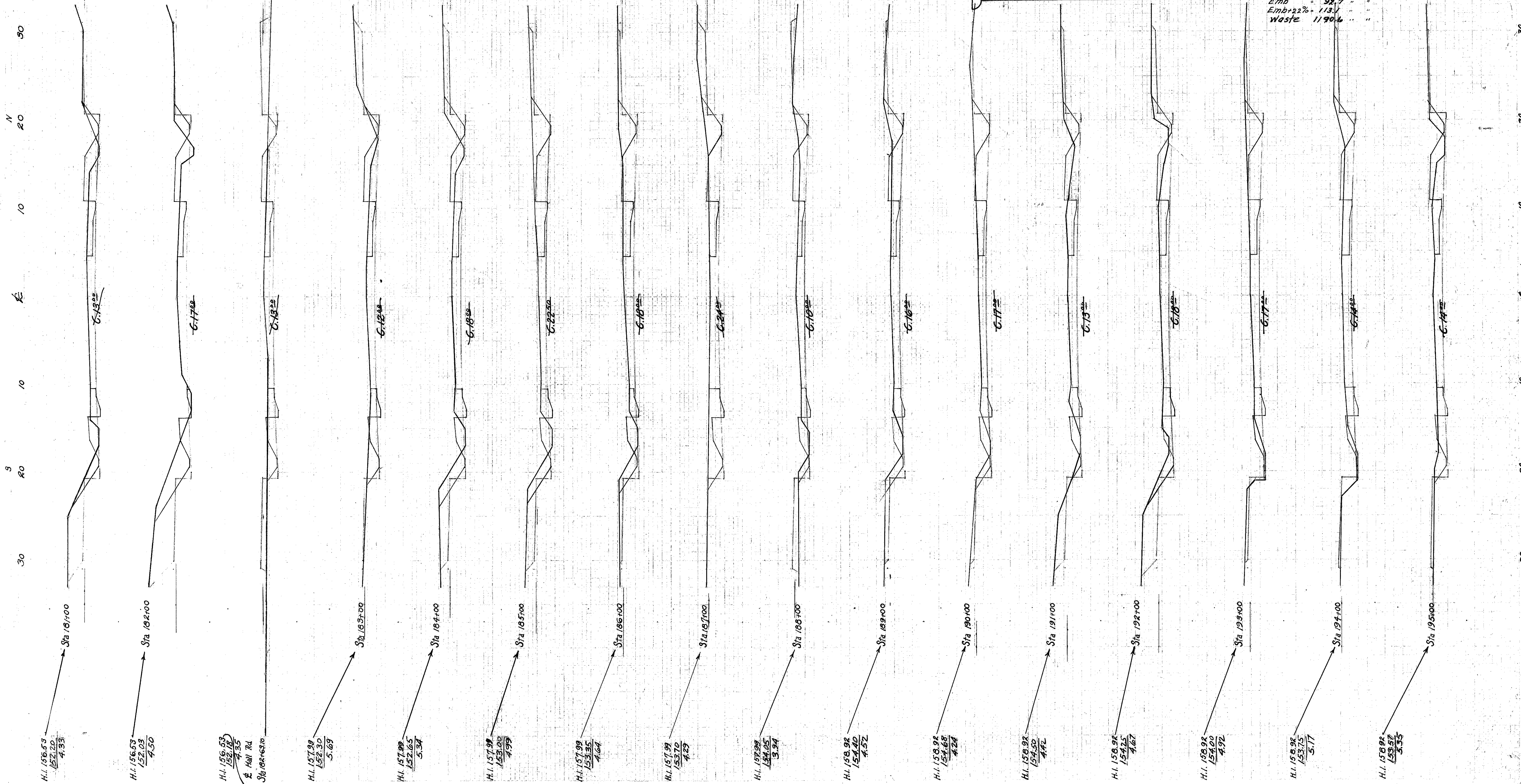
FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1988

CLEVELAND-ELYRIA ROAD
S.H. (I.C.H.) NO. 31 SECS C-1 & C-2
CUYAHOGA COUNTY

Exc = 1587.7 Cu. Yds
Emb = 84.5 " "
Emb+22% = 103.1 " "
Waste = 1484.6 " "

Exc = 1303.7 Cu. Yds
Emb = 92.7 " "
Emb+22% = 113.1 " "
Waste = 1190.6 " "

END AREA CU. YDS.	CUT	FILL	CUT/FILL
1615	4.6		
1661	2.8		
1692	1.5		
1701	18.3		
1710	15.0		
1720	12.0		
1726	5.2		
1732	0.3		
1746	1.7		
1752	0.6		
1764	1.1		
1771	18.9		
1781	18.5		
1792	18.9		
1803	0.4		
1812	0.9		
1825	0.5		
1833	0.5		
1853	1.9		
1860	6.2		
1876	5.9		
1883	2.3		
1892	3.0		



30
20
10
0
10
20
30

30
20
10
0
10
20
30

H.I. 156.53
152.20
4.33
E. Hill Rd
Sta 181+00 to 182+00

H.I. 156.53
152.03
4.50

H.I. 157.99
152.30
5.69

H.I. 157.99
152.65
5.34

H.I. 157.99
153.00
5.01

H.I. 157.99
153.35
5.36

H.I. 157.99
153.70
5.71

H.I. 157.99
154.05
6.06

H.I. 158.92
154.40
6.52

H.I. 158.92
154.75
6.83

H.I. 158.92
155.10
7.18

H.I. 158.92
155.45
7.53

H.I. 158.92
155.80
7.88

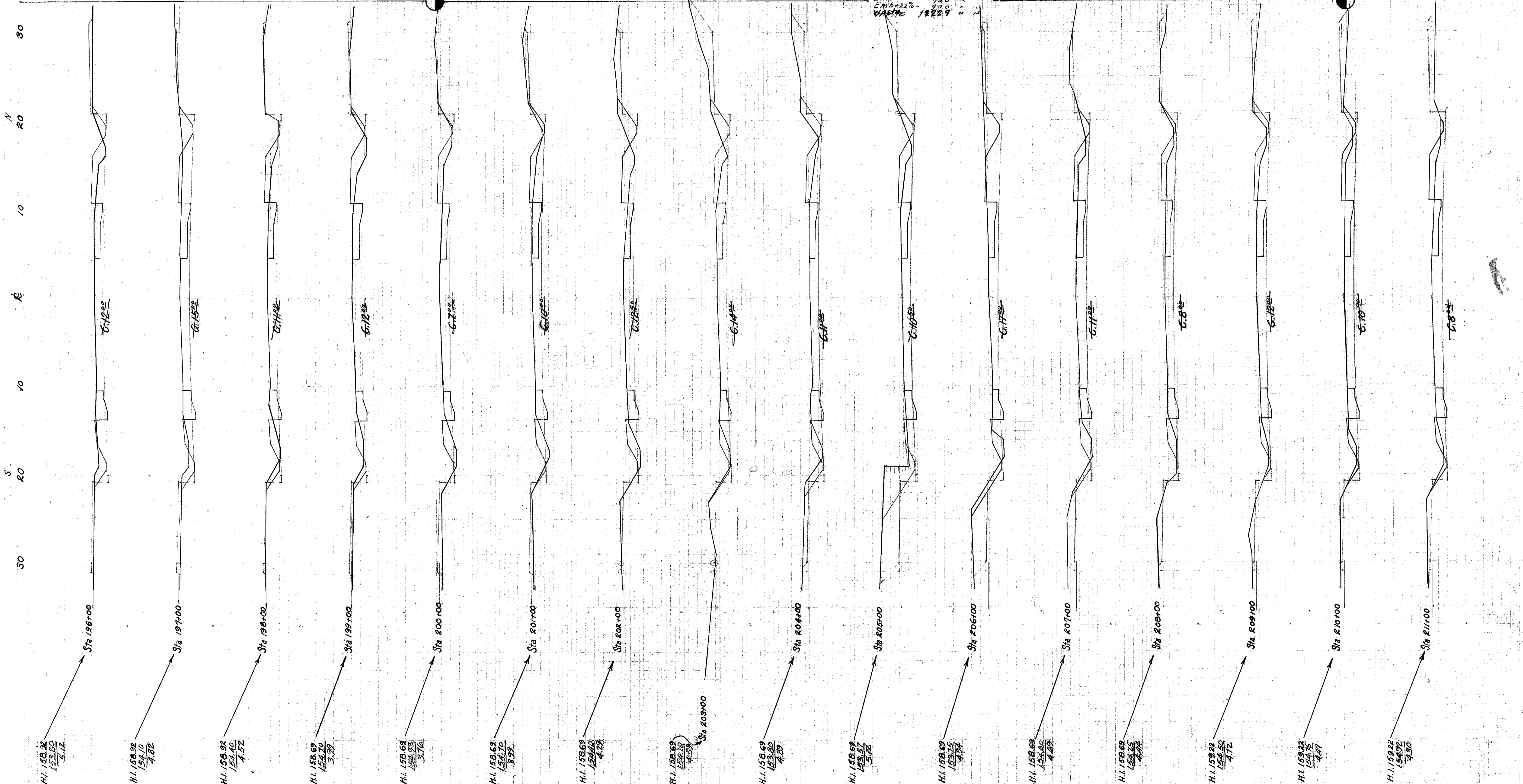
H.I. 158.92
156.15
8.23

H.I. 158.92
156.50
8.58

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

CLEVELAND-ELYRIA ROAD
 (I.C.H.) NO. 31 SECS C-1 & C-2
 CUYAHOGA COUNTY

END AREA CU. YDS.	CUT	FILL	CUT	FILL	CUT	FILL
132.9	17.1					
36.3	6.2					
124.4	18.9					
36.3	4.0					
146.9	9.3					
26.8	1.0					
100.2	10.1					
27.3	4.5					
97.7	17.5					
22.5	3.0					
102.5	16.7					
25.8	4.0					
17.5	8.5					
33.7	0.6					
130.9	1.9					
37.0	0.4					
38.5	-					
176.3	-					
56.7	-					
187.4	0.6					
44.5	0.3					
123.0	2.5					
32.7	1.0					
28.0	3.0					
27.0	4.7					
27.7	6.8					
30.2	7.2					

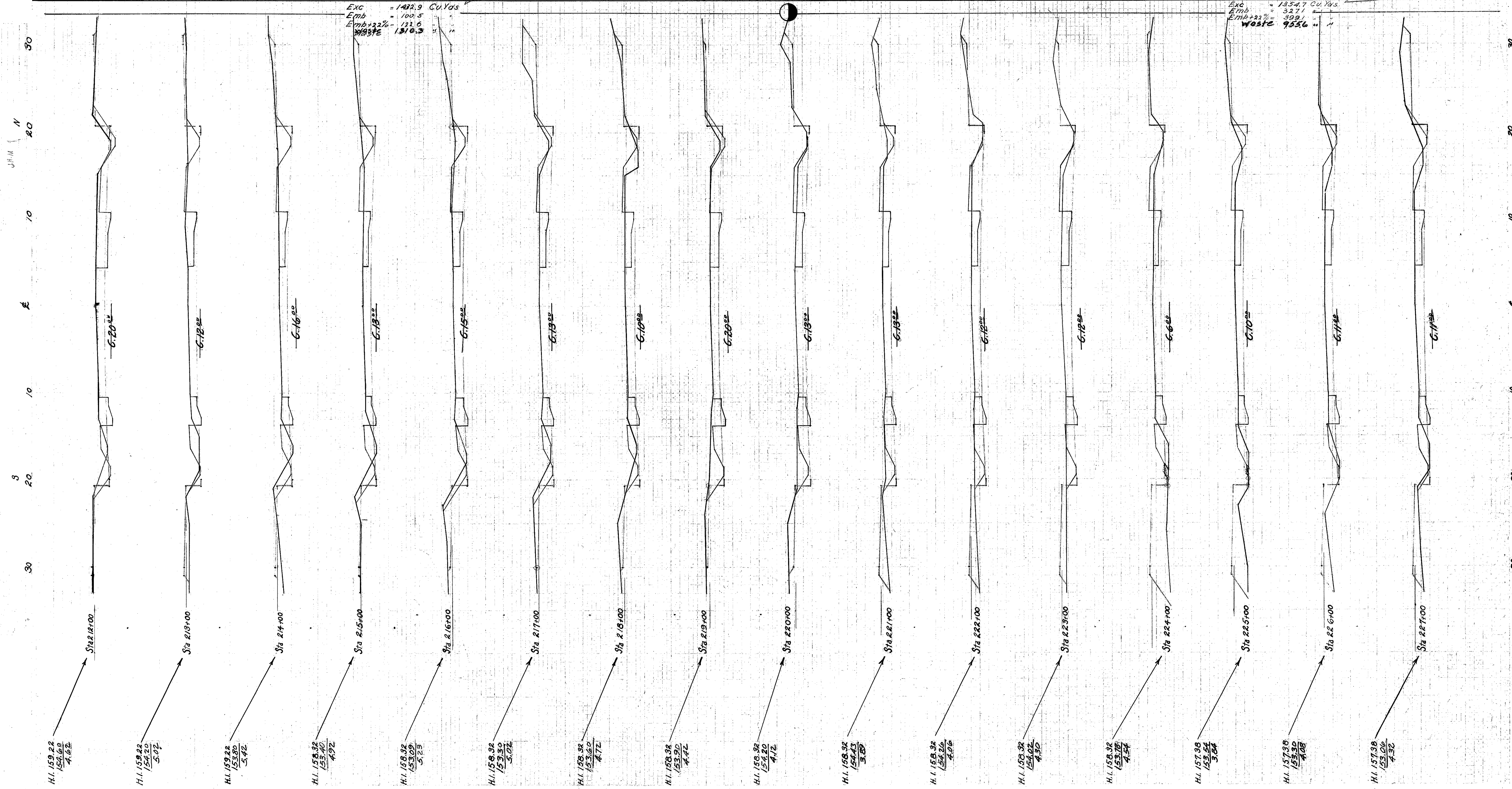


Exc 1312.9 Cu Yds
 Emb 73.9
 Emb +22% 90.0
 V.A.S. 1222.9

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1988

CLEVELAND-ELYRIA ROAD
 S.H. (L.C.H.) NO. 31 SECS C-1 & C-2
 CUYAHOGA COUNTY

END AREA CUT	AREA CUT	CUT FILL	CUT FILL
313	1.0	113.8	15.2
350	8.2	122.8	17.1
375	4.3	134.2	23.1
360	1.2	136.1	10.1
325	0.1	163.9	2.5
400	0.1	171.3	0.4
423	0.8	152.5	1.7
445	0.2	160.7	1.9
475	1.2	170.4	2.6
390	6.7	160.2	14.6
365	5.3	136.7	27.8
333	7.5	129.2	28.2
275	24.8	72.6	25.9
300	13.0	106.5	70.0
275	7.8	106.5	38.5
430	6.8	130.5	27.0



FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

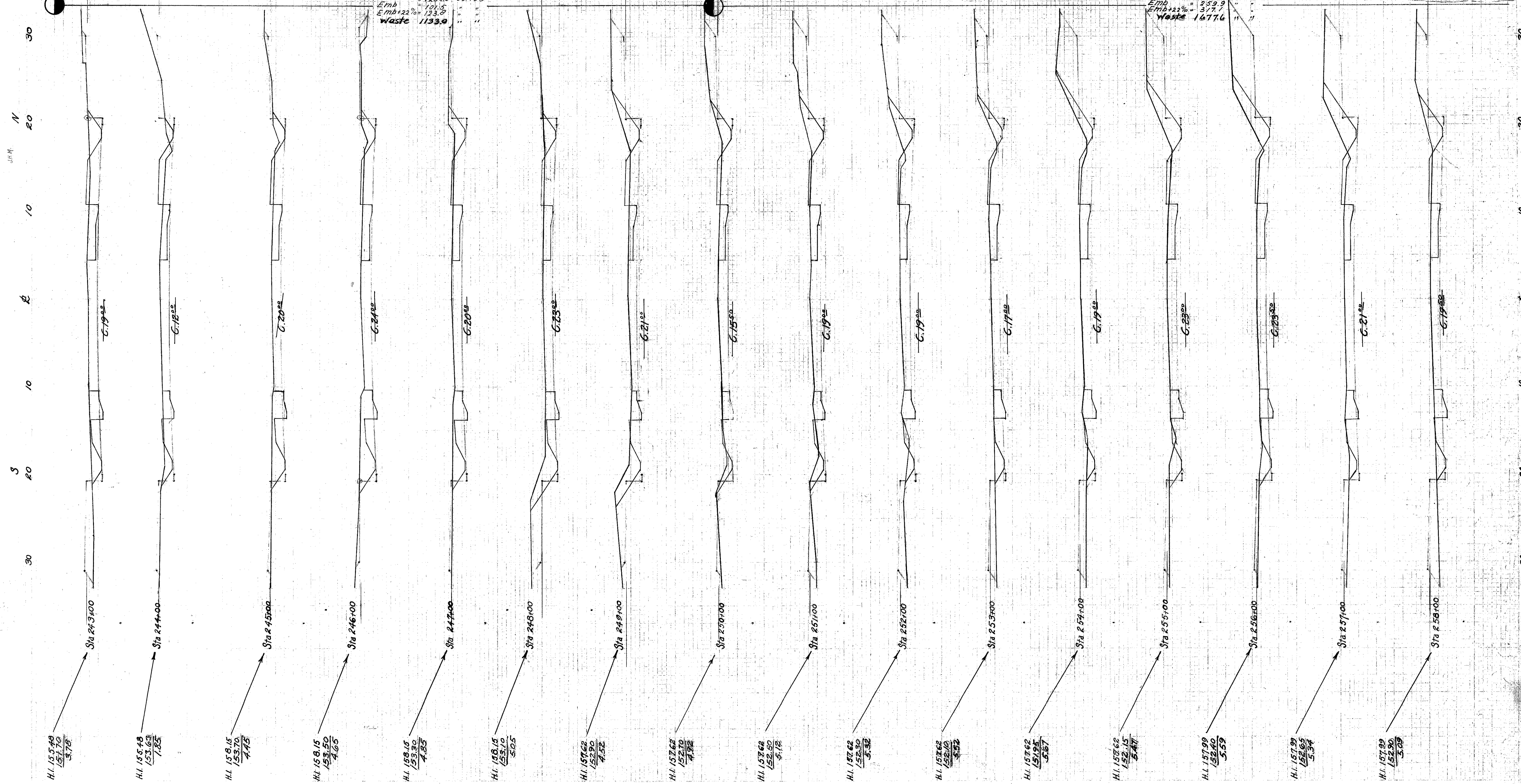
CLEVELAND-ELYRIA ROAD
 S.H. (I.C.H.) NO. 31 SECS C-1 & C-2
 CUYAHOGA COUNTY

Exc. 27566 Cu. Yds.
 Emb. 6793 Cu. Yds.
 Waste 755.5 " "
 2001.1 " "

END AREA	CUT	FILL	CUT	FILL	CUT	FILL
393	2.3	155.5	16.9	1557	177	
448	7.3	161.3	25.5	1747	18.1	
425	6.5	171.4	8.9	1987	3.5	
320	3.3	438	1.5	635	0.4	
222	1.3	565	0.3	2126	0.7	
383	0.1	3829	-	2902	0.2	
138	-	3163	-	3829	-	
570	-	1687	168.5	1687	168.5	
338	91.0	1444	222.3	1444	222.3	
442	61.5	1624	116.7	1624	116.7	
435	1.5	1829	5.6	1829	5.6	
380	1.5	1238	131.5	1238	131.5	
480	9.6					



END AREA CUT	CU YDS FILL	CUT	FILL	CU YDS TOTAL
437	8.5	53.4	11.5	
37.8	7.2	150.9	23.0	
40.5	4.7	145.0	22.0	
46.5	2.5	16.1	13.4	
		166.7	12.4	
		43.5	4.2	
		176.5	8.3	
		51.8	0.3	
		207.1	0.6	
60.0	-			
43.2	2.3	191.1	4.3	
		178.6	12.6	
		53.3	4.5	
		195.0	21.3	
		52.0	7.3	
		53.8	6.0	
		55.3	6.3	
		202.1	22.3	
		60.2	4.8	
		225.0	16.3	
		61.3	4.0	
		230.2	17.1	
		63.0	5.2	
		208.9	29.4	
		50.3	10.7	



Exc
Emb
Emb+22%
Waste
12066
101.3
123.9
1133.9
Cu Yds

Exc
Emb
Emb+22%
Waste
19047
259.9
317.7
1677.6
Cu Yds

30
20
10
0
10
20
30

30
20
10
0
10
20
30

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

CLEVELAND-ELYRIA ROAD
 (C.H.) NO. 31 SEC'S C-1 & C-2
 CUYAHOGA COUNTY

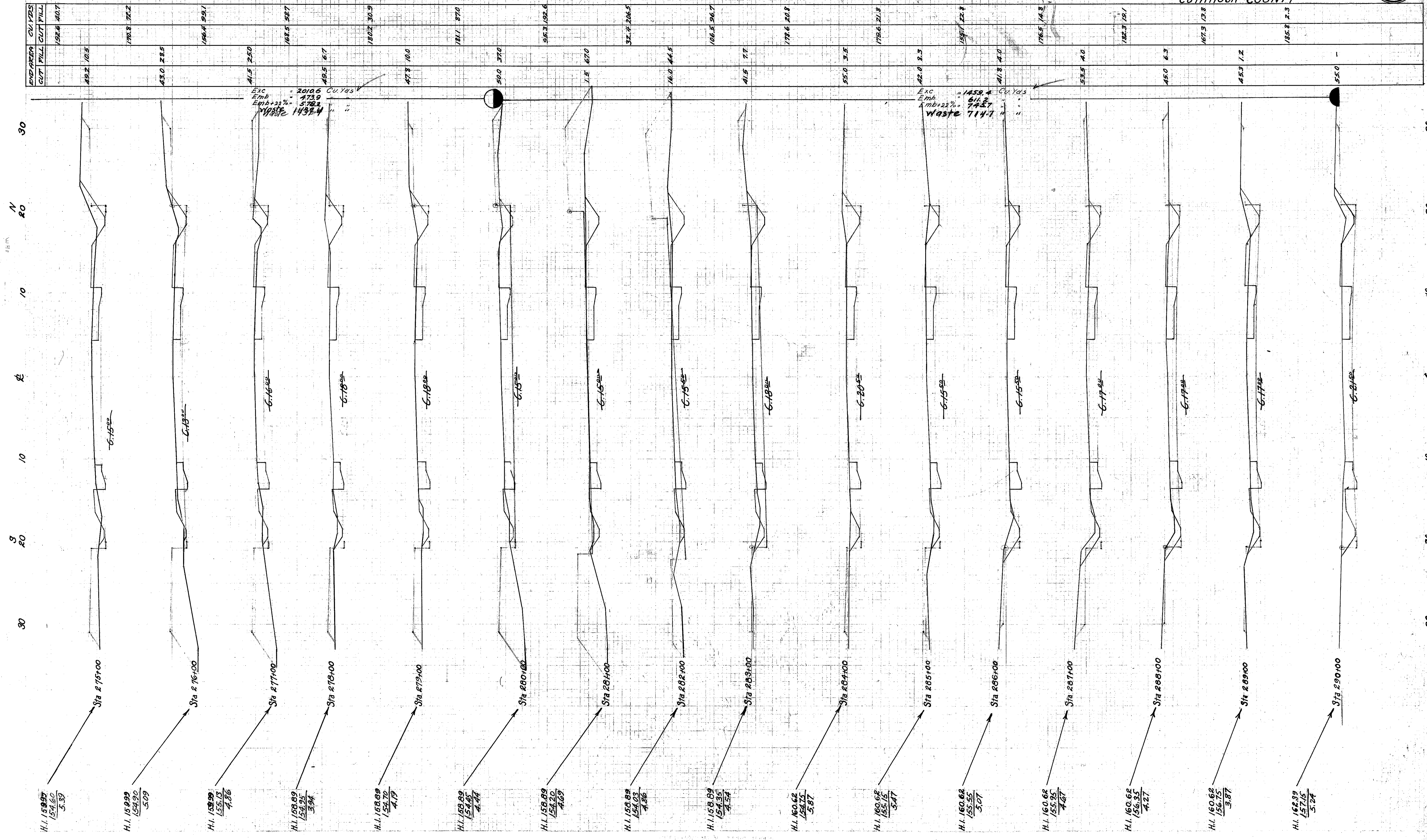
END AREA CUT	END AREA FILL	CU YDS CUT	CU YDS FILL
48.3	11.0	182.5	40.1
35.0	18.5	161.7	54.5
34.5	20.5	136.1	78.2
11.5	58.0	85.2	145.3
3.5	56.5	27.8	212.1
53.3	7.5	105.2	118.5
73.5	1.2	294.8	16.1
56.5	-	240.7	2.3
122.5	44.0	182.5	44.0
42.3	23.3	171.0	58.9
50.0	8.0	196.3	28.6
56.0	8.0	220.8	23.1
63.2	4.5	246.7	11.5
70.0	1.7	253.3	13.0
66.8	5.3	241.6	24.7
63.7	8.0	219.4	36.1
54.3	11.5		



FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

CLEVELAND-ELYRIA ROAD
 S.H.
 (C.H.) NO 31 SEC'S C-1 & C-2
 CUYAHOGA COUNTY

29
38



FED. RD. DIST. No.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

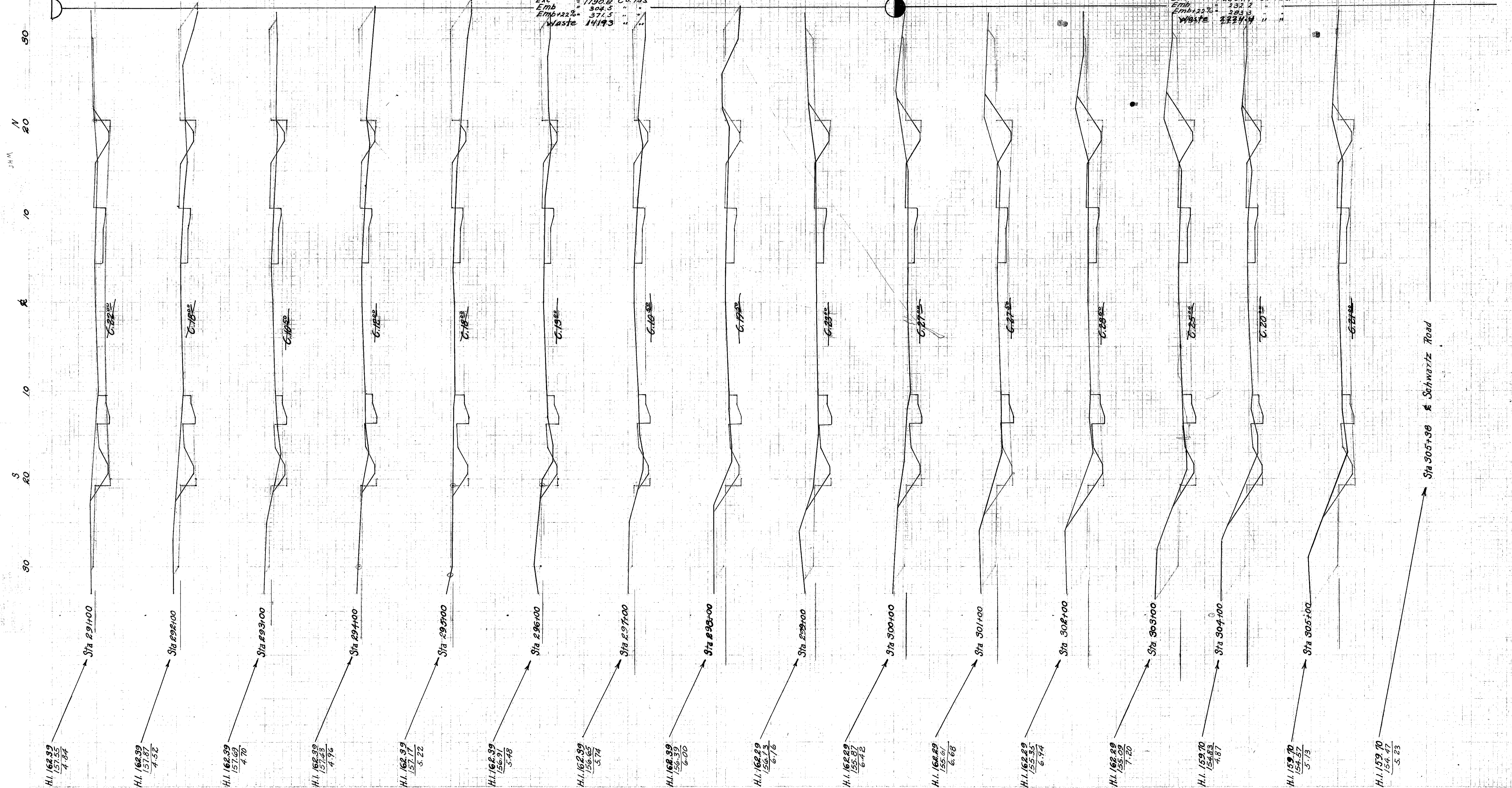
CLEVELAND-ELYRIA ROAD
 S.H. (I.C.H.) NO. 31 SEC'S C-1 & C-2
 CUYAHOGA COUNTY

30
38

END AREA CUT FILL	CU YDS. CUT FILL
56.5	2065
51.8	2006
34.8	1603
400	1543
45.3	1687
370	1426
400	1747
54.3	2213
65.2	2434
68.3	2539
70.8	2643
79.5	2766
75.3	2843
62.0	2443
75.8	2551
75.8	2651

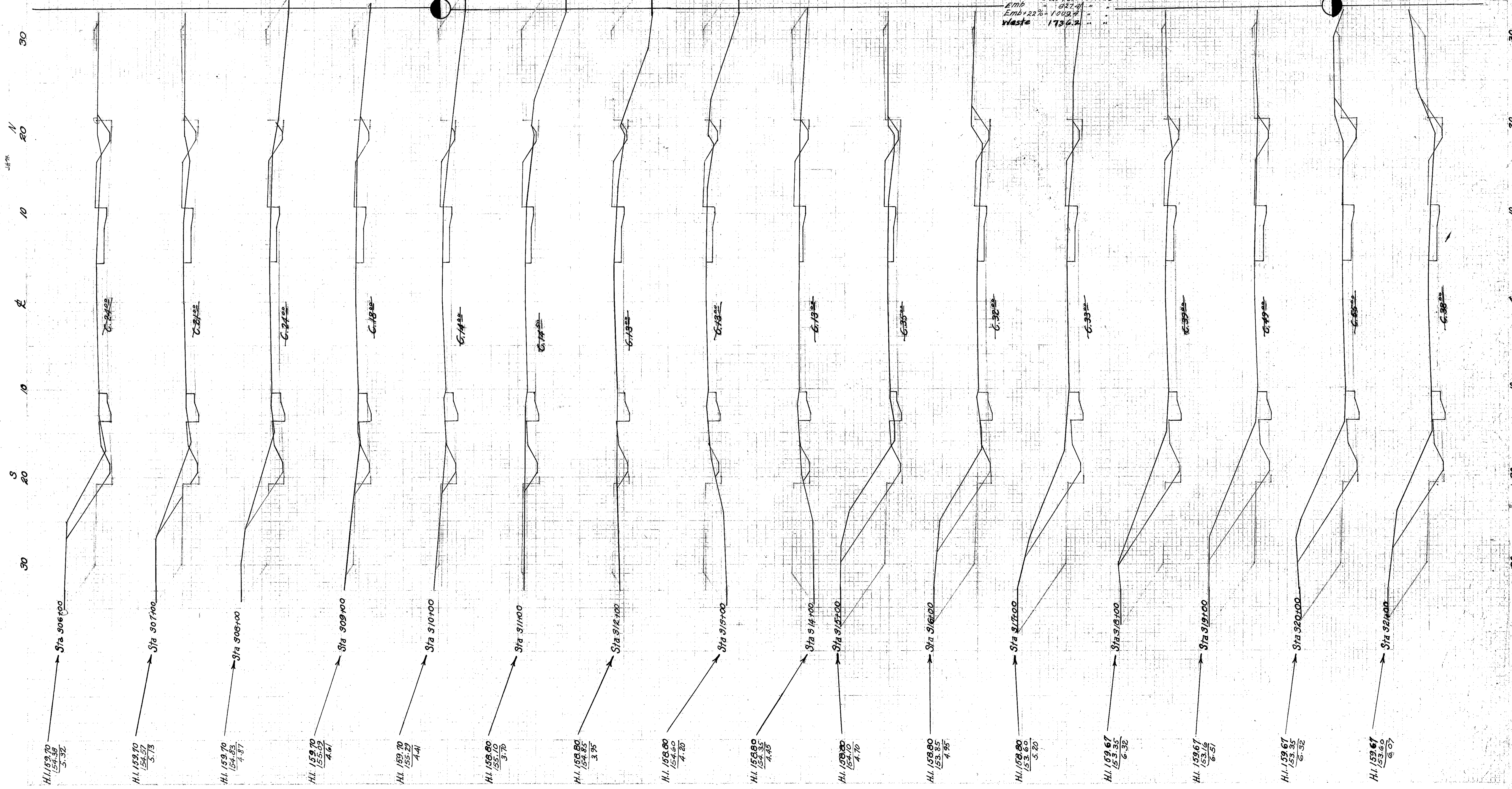
Exc = 1790.8 Cu. Yds
 Emb = 304.5 " "
 Emb+22% = 371.5 " "
 Waste = 1414.3 " "

Exc = 2507.7 Cu. Yds
 Emb = 232.2 " "
 Emb+22% = 283.3 " "
 Waste = 2224.4 " "



Sta 305+30 & Schwartz Road

END AREA CUT	AREA FILL	CU YDS CUT	CU YDS FILL
2448	97		
78.0	5.0		280.2
			18.5
73.3	5.0		263.2
			49.0
68.8	21.5		210.3
			70.4
44.8	16.5		140.9
			76.8
31.3	25.0		135.8
			129.2
42.0	44.8		145.9
			173.7
56.8	49.0		143.2
			185.3
40.5	51.3		135.2
			165.4
32.5	38.0		243.4
			76.4
59.0	4.3		563.7
			8.5
91.0	0.3		368.1
			26.1
108.3	13.8		320.2
			34.2
97.0	4.7		400.6
			17.4
119.3	4.7		438.5
			8.7
114.5	-		406.3
			-
103.0	-		-



FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

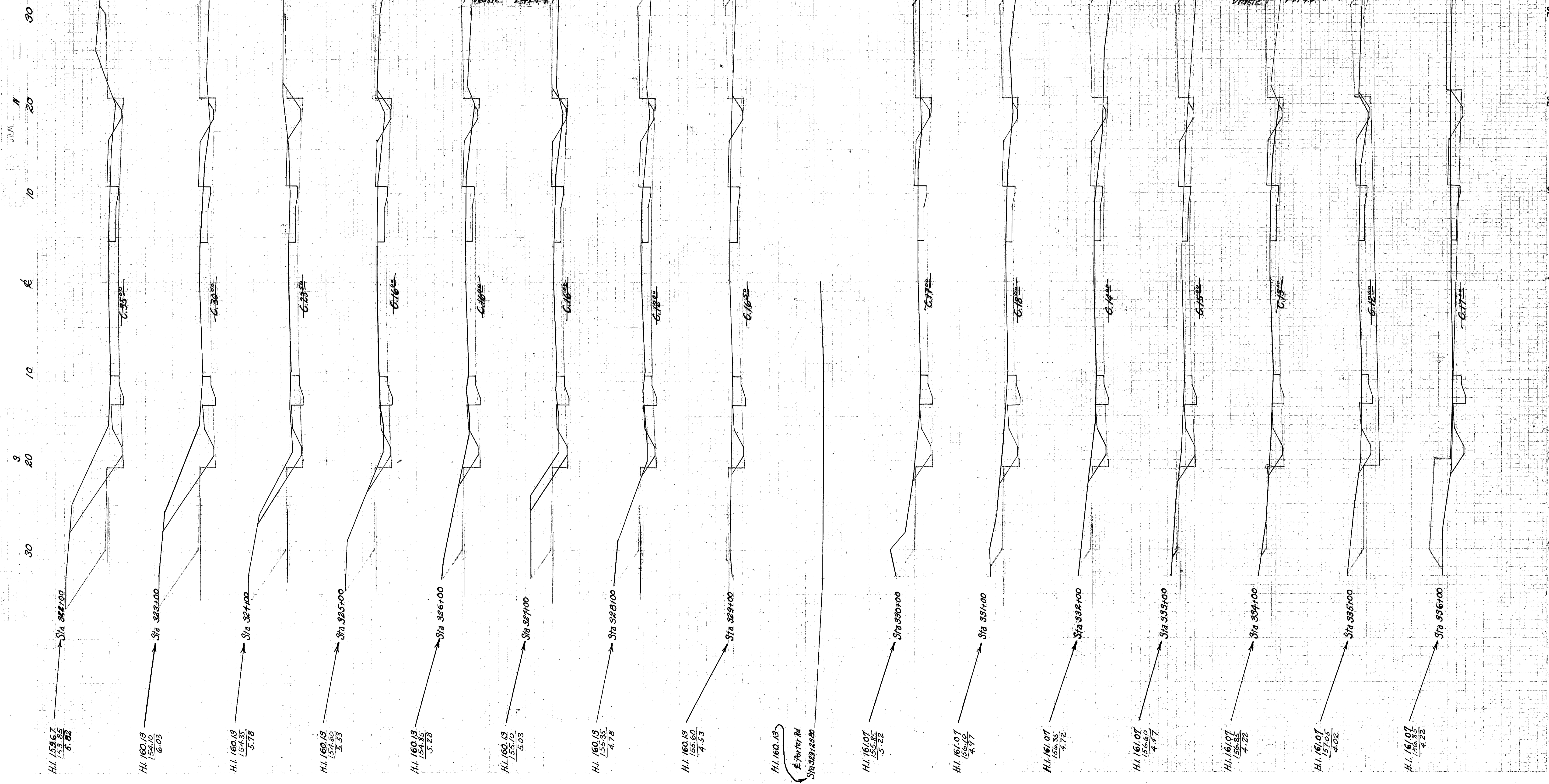
CLEVELAND-ELYRIA ROAD
 (C.H.) NO. 31 SEC'S C-1 & C-2
 CUYAHOGA COUNTY

38

END AREA	CUT	FILL	CUT	FILL
3685	7.5			
3681	0.8			
3481	21.8			
3259	11.0			
3259	20.4			
2684	10.1			
2157	5.5			
2157	25.9			
55.0	8.5			
210.1	30.2			
52.5	7.8			
203.4	36.6			
31.3	12.0			
178.4	46.3			
450	13.0			
182.3	37.0			
177.4	32.5			
42.3	13.8			
161.7	62.6			
250	20.0			
154.1	75.1			
144.4	57.4			
39.8	11.5			
244.4	39.5			
160	8.5			
250	22.5			

EXC = 2710.1 Cu. Yds
 Emb = 229.8
 Emb + 22% = 280.4
 Waste = 222.7

EXC = 1777.2 Cu. Yds
 Emb = 461.6
 Emb + 22% = 563.2
 Waste = 1814.8



30
20
10
0
10
20
30

30
20
10
0
10
20
30

END AREA CUT	END AREA FILL	CUT	FILL	CUT	FILL
1157	750				
395.780					
2071	933				
72.3					
2302	939				
392.0	5.3				
1789	136				
500	20				
1778	117				
460	4.3				
1750	187				
418.5	6.0				
1893	327				
375	11.3				
1861	409				
468	10.8				
1654	473				
42.3	14.8				
706	111.3				
0.5	45.3				
36.3	170				
375	175				
400	18.5				
418	200				
1527	718				
403	188				
1487	157				
400	21.8				

Exc 1412.8 Cu. Yds
 Emb 579.7 " "
 Emb + 23% 707.2 " "
 Waste 705.6 " "



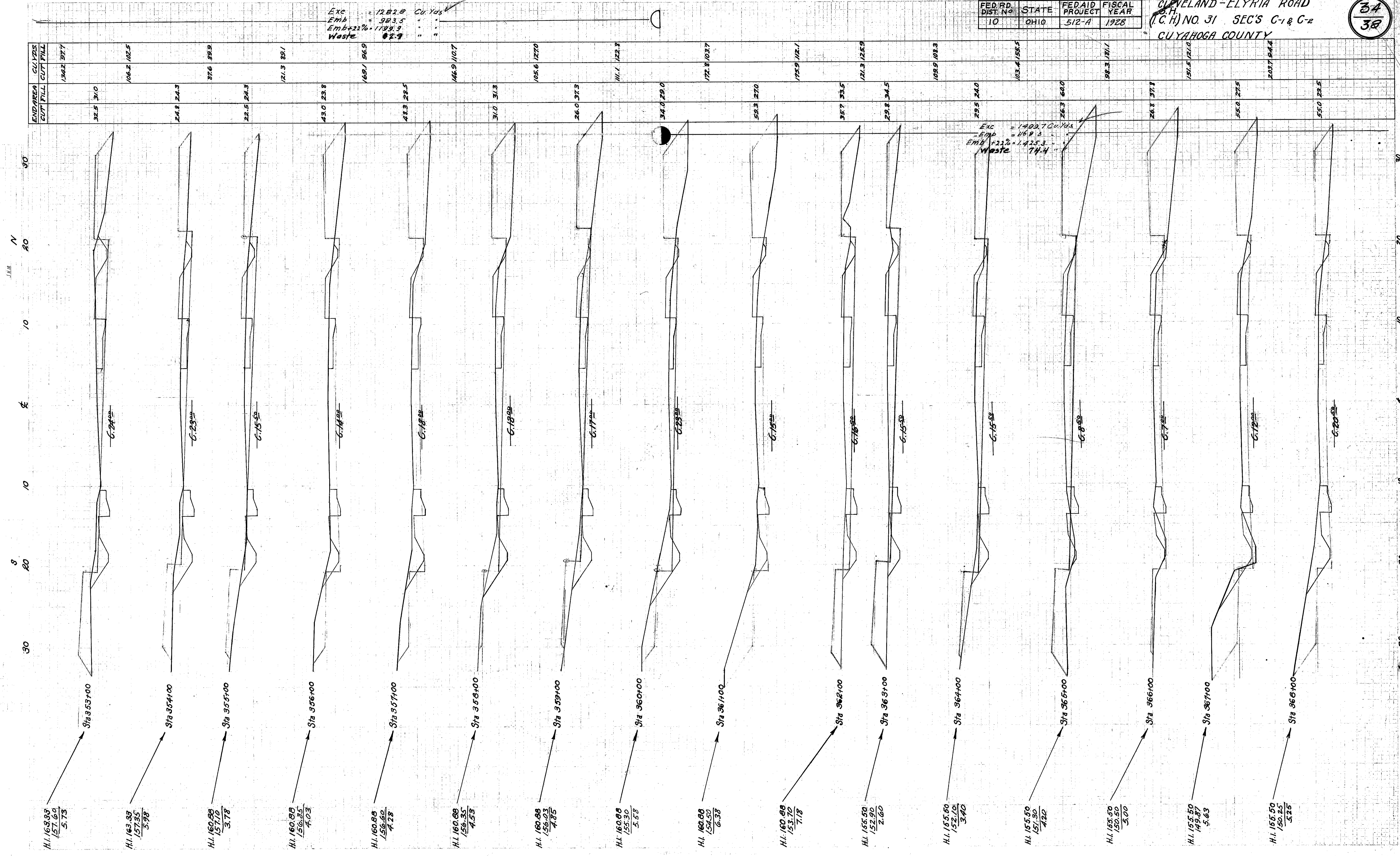
FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

CLEVELAND-ELYRIA ROAD
 (C.H.) NO. 31 SEC'S C-1 & C-2
 CUYAHOGA COUNTY

34
38

Exc = 1282.8 Cu. Yds
 Emb = 983.5
 Emb + 21% = 1190.9
 Waste = 82.9

Exc = 1409.7 Cu. Yds
 Emb = 469.3
 Emb + 21% = 1,425.3
 Waste = 74.4



STATION	END AREA CUT/FILL	CU. YDS CUT/FILL
353+00	32.5	310
354+00	24.1	243
355+00	22.5	243
356+00	43.0	233
357+00	41.3	285
358+00	31.0	313
359+00	26.0	373
360+00	34.0	290
361+00	59.3	270
362+00	35.7	335
363+00	29.8	345
364+00	29.5	240
365+00	26.3	600
366+00	26.8	373
367+00	55.0	275
368+00	55.0	285

H.I. 163.33
 157.69
 5.73
 Sta 353+00
 C-24⁰⁰

H.I. 163.33
 157.35
 5.98
 Sta 354+00
 C-23⁰⁰

H.I. 160.88
 157.10
 3.78
 Sta 355+00
 C-15⁰⁰

H.I. 160.88
 156.60
 4.28
 Sta 356+00
 C-14⁰⁰

H.I. 160.88
 156.35
 4.53
 Sta 357+00
 C-18⁰⁰

H.I. 160.88
 156.03
 4.85
 Sta 358+00
 C-18⁰⁰

H.I. 160.88
 155.30
 5.58
 Sta 359+00
 C-17⁰⁰

H.I. 160.88
 154.50
 6.38
 Sta 360+00
 C-15⁰⁰

H.I. 160.88
 153.70
 7.18
 Sta 362+00
 C-18⁰⁰

H.I. 155.50
 152.90
 2.60
 Sta 363+00
 C-15⁰⁰

H.I. 155.50
 152.10
 3.40
 Sta 364+00
 C-15⁰⁰

H.I. 155.50
 151.30
 4.20
 Sta 365+00
 C-8⁰⁰

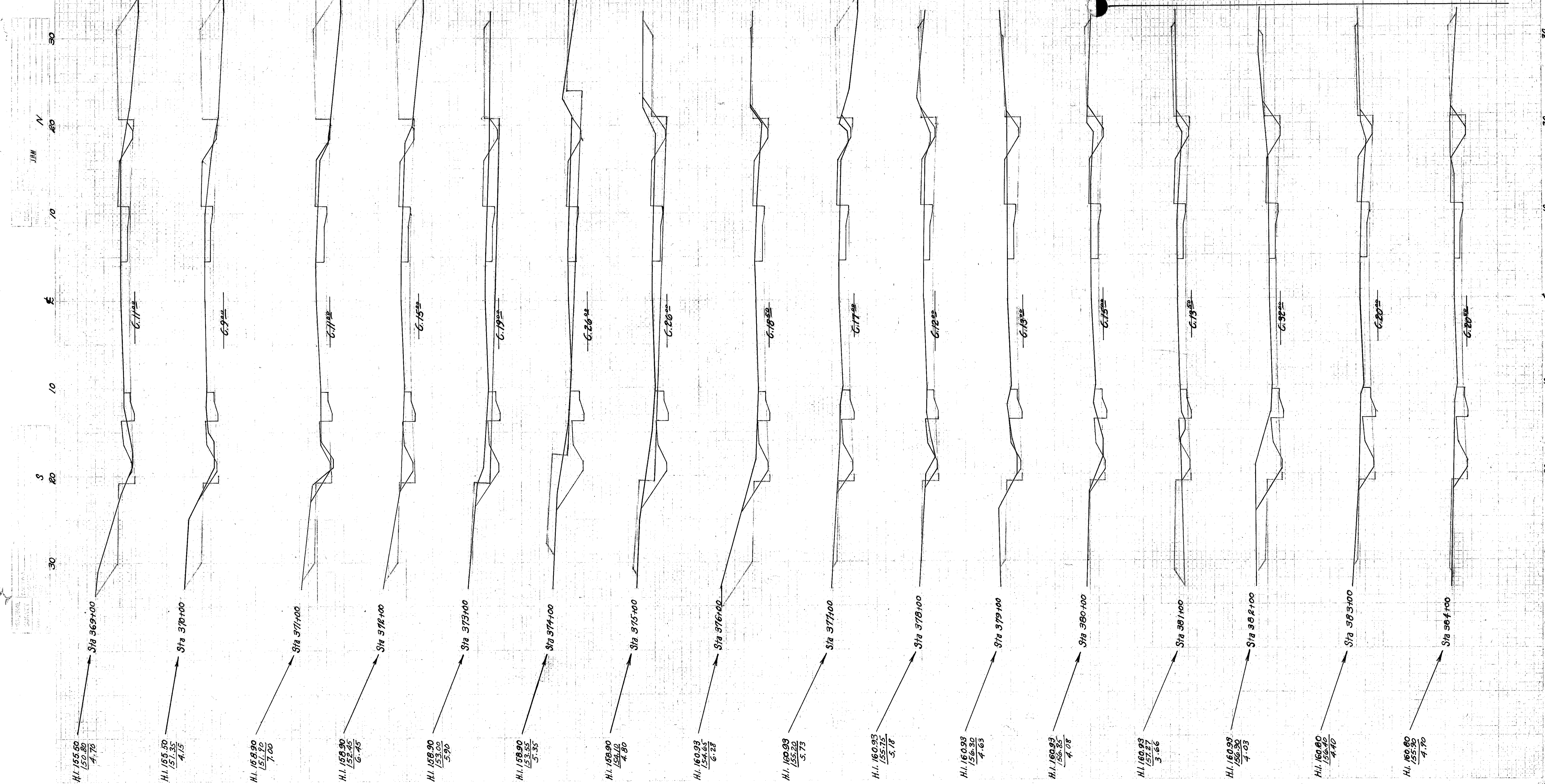
H.I. 155.50
 150.50
 5.00
 Sta 366+00
 C-7⁰⁰

H.I. 155.50
 149.87
 5.63
 Sta 367+00
 C-12⁰⁰

H.I. 155.50
 150.25
 5.25
 Sta 368+00
 C-20⁰⁰

Exc = 15431 Cu. Yds
 Emb = 474.8
 Emb + 22% = 579.3
 Waste = 963.8

END AREA	CUT	FILL	CUT	FILL
186.1	31.5			
485.5	20.5			
176.8	8.8			
200	2.5			
166.7	102.1			
152.6	110.7			
400	29.8			
42.5	90.0			
141.3	76.2			
33.3	11.5			
118.0	47.1			
278	18.0			
128.4	33.9			
41.5	4.3			
61.3	1.0			
208.3	34.2			
48.0	17.5			
162.6	40.5			
38.8	4.3			
41.0	1.2			
185.2	9.7			
32.0	4.0			
119.4	35.8			
32.5	15.3			
59.3	-			
40.0	4.0			
184.8	7.4			
1044.0	24.7			
31.8	9.3			



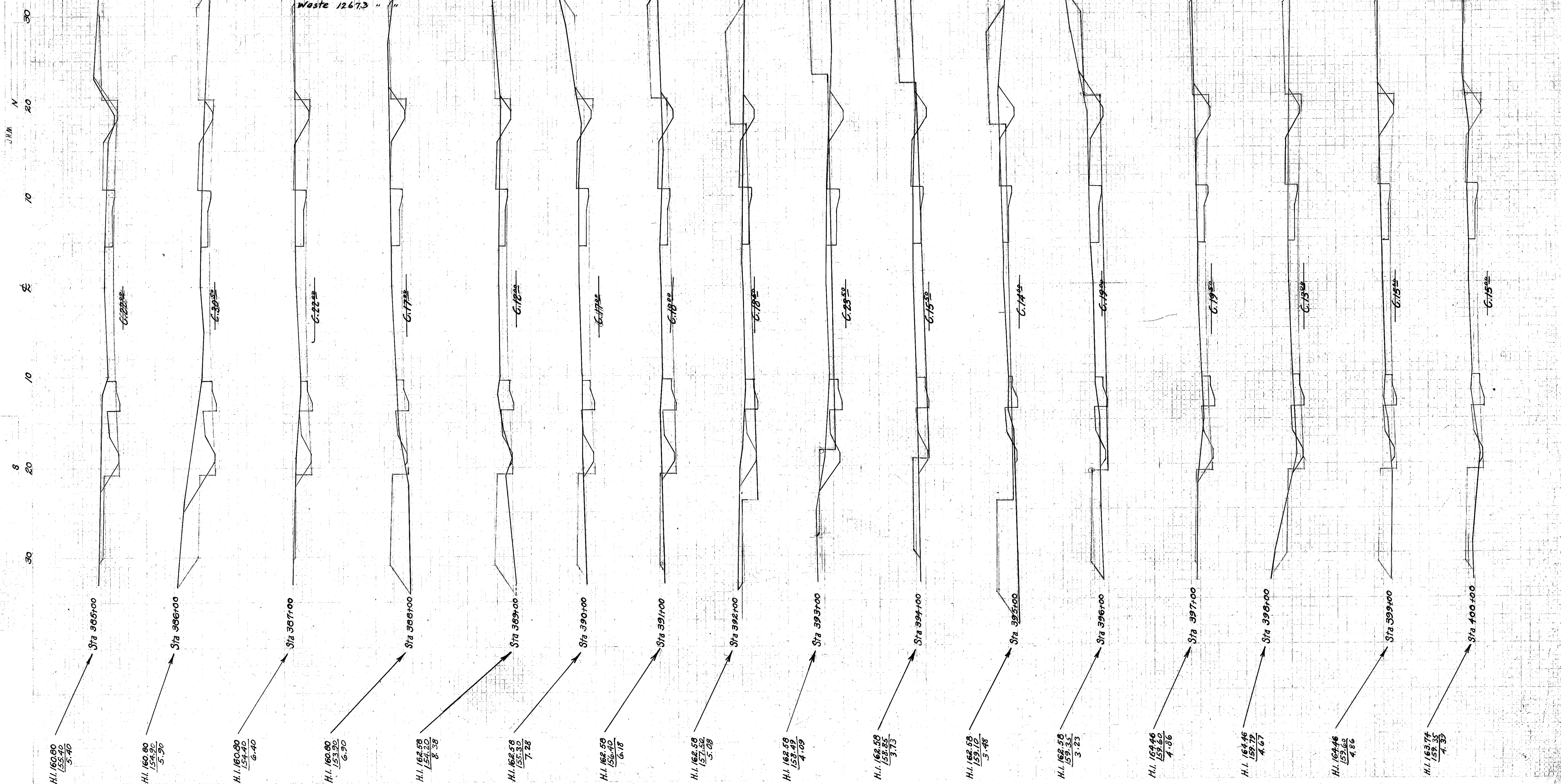
FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

CLEVELAND-ELYRIA ROAD
 (C.H.) NO. 31 SEC'S C-1 & C-2
 CUYAHOGA COUNTY

END AREA	CUT	FILL	CUT	FILL
180.2	17.5			
59.5	0.2			
218.1	19.4			
58.3	10.3			
194.6	22.1			
46.8	3.3			
160.7	13.2			
40.0	20.0			
130.2	72.2			
30.3	19.0			
158.0	49.0			
55.0	7.5			
177.2	40.7			
40.7	14.5			
181.9	53.3			
41.3	17.0			
118.1	76.8			
22.5	24.5			
106.7	38.5			
34.8	23.3			
95.0	120.6			
16.5	41.8			
148.7	95.0			
63.8	9.5			
125.4	26.9			
36.3	5.0			
124.0	20.8			
41.5	6.2			
140.7	39.3			
34.5	15.0			
129.2	43.2			
35.3	8.3			

Exc = 1641.0 Cu. Yds
 Emb = 322.7
 Emb+22% = 393.7
 Waste = 126.3

Exc = 1396.4 Cu. Yds
 Emb = 619.1
 Emb+22% = 744.3
 Waste = 651.9



FED. RD DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

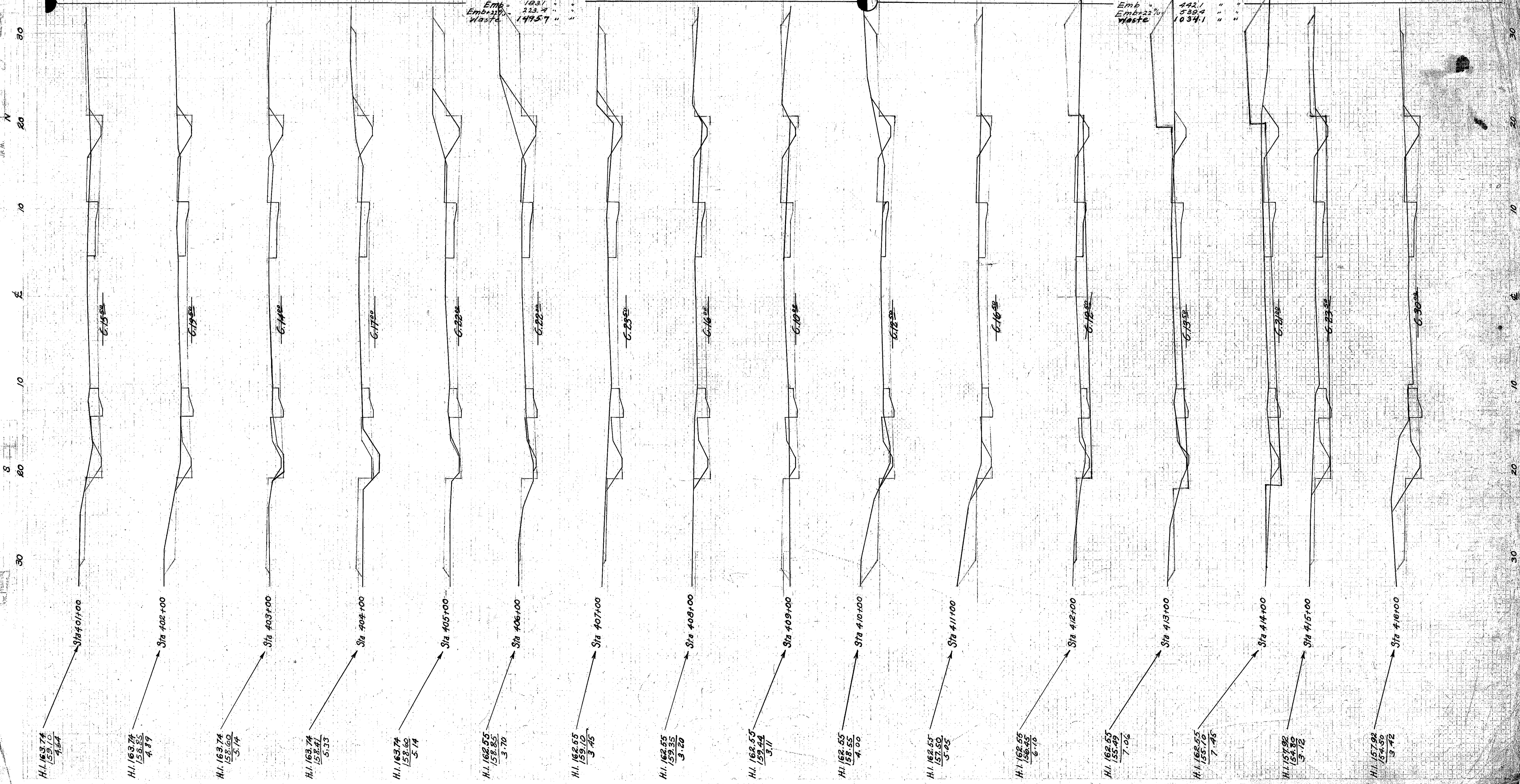
CLEVELAND-ELYRIA ROAD
 S.W. (C.H.) NO. 31 SEC'S C-1 & C-2.
 CUYAHOGA COUNTY

37
38

END AREA CUT/FILL	CU. YDS. CUT/FILL
425 3.2	1440 21.3
445 -	1671 6.0
370 5.8	1509 10.7
385 9.5	1297 28.4
563 7.3	1955 31.1
687 3.0	2302 19.1
500 -	2185 5.6
453 2.5	1765 4.6
315 13.8	1351 30.2
520 0.3	1676 26.1
375 8.3	1657 15.9
330 20.2	1205 52.3
250 26.3	1074 86.1
315 26.3	948 98.3
60.3 6.3	1700 61.3
59.5 -	2218 11.7

Exc
Emb
Emb+2%
Waste
17191 Cu.Yds
1931 " "
233.4 " "
1495.7 " "

Exc
Emb
Emb+2%
Waste
1573.5 Cu.Yds
442.1 " "
532.9 " "
1034.1 " "



CWY - USR 20 - 0.00 N 6.07

38
CLEVELAND
S.H. (I.C.H) NO 31
CUYAHOGA

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	512-A	1928

END AREA	CUT	FILL	CU YDS.	CUT	FILL
49.3	12.5		201.5	23.1	
		153.9	44.0		
33.8	11.3		136.6	32.4	
40.0	6.2		191.3	16.5	
63.3	2.7		172.8	73.1	
30.0	36.8		120.0	146.9	
34.8	142.5		132.9	108.3	
37.0	16.0		174.7	27.1	
37.0	10.8				

Exc = 500.4
Emb = 355.4
Emb + 22% = 433.6
Waste = 66.8

CU Yds.
" "
" "

