

2072

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO		1934
S.H. NO. 51 HENRY			SEC. "O" (Pt.) COUNTY

STATE OF OHIO DEPARTMENT OF HIGHWAYS TOLEDO-NAPOLEON ROAD HENRY COUNTY WASHINGTON TWP.

S.H. NO. 51 SEC. O (PT.)

BUREAU OF CONSTRUCTION

NET LENGTH OF PROJECT 15800.00 LIN FT

The Standard Specifications of the State of Ohio, Department of Highways, in force on date of contract will govern this improvement.

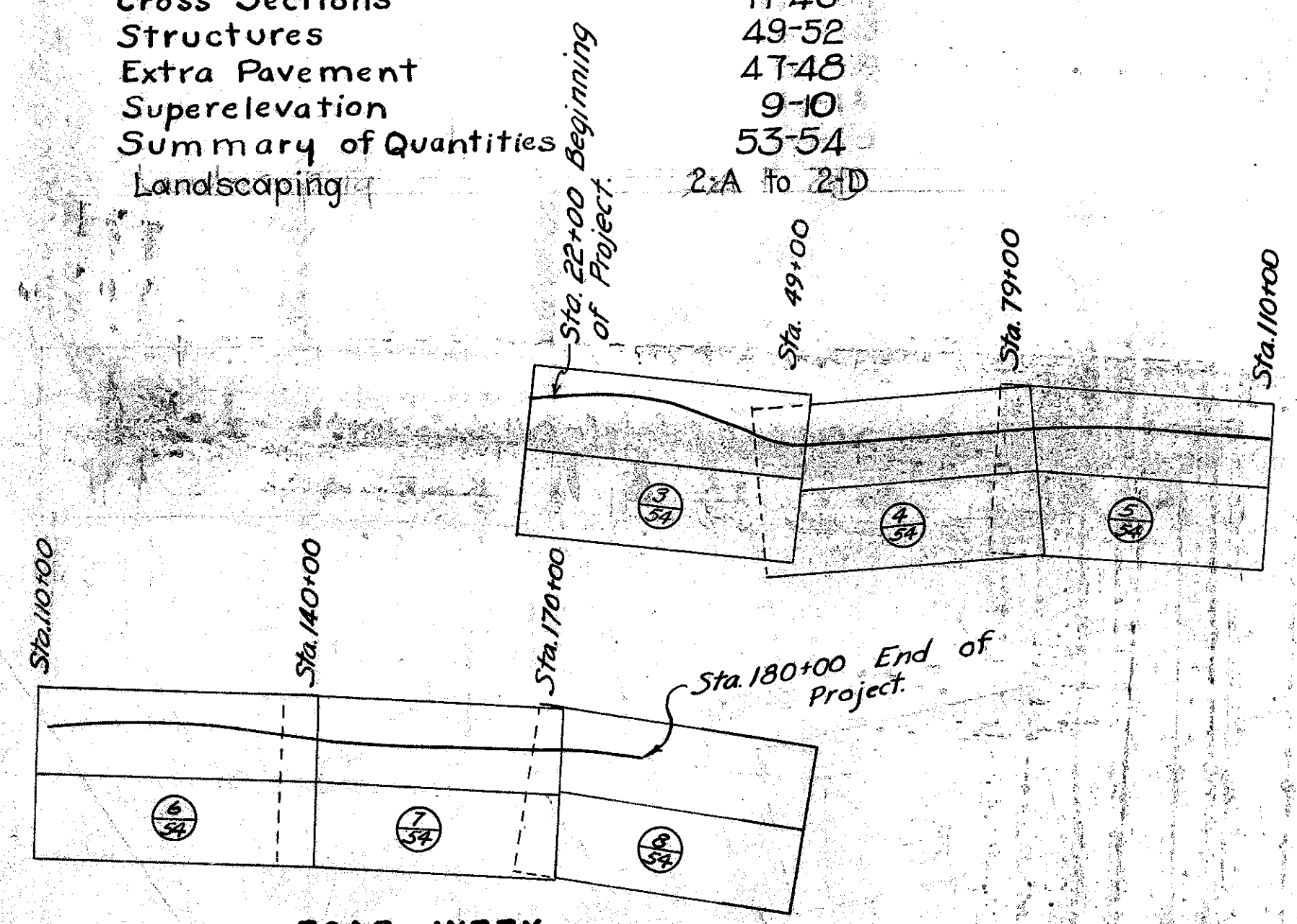
I hereby approve these plans and declare that the making of this improvement will require the closing of the highway to traffic and that a temporary road will be provided as shown on the plans and estimates.
Necessary R/W for this improvement has been provided.

CONVENTIONAL SIGNS

- State Line
- County Line
- Township Line
- Section Line
- Center Line
- Property Line
- City or Village Line
- Fence Line
- Pole Line
- Steam Railroad
- Electric Railroad
- Guard Rail
- Drain Pipe New
- Drain Pipe Old

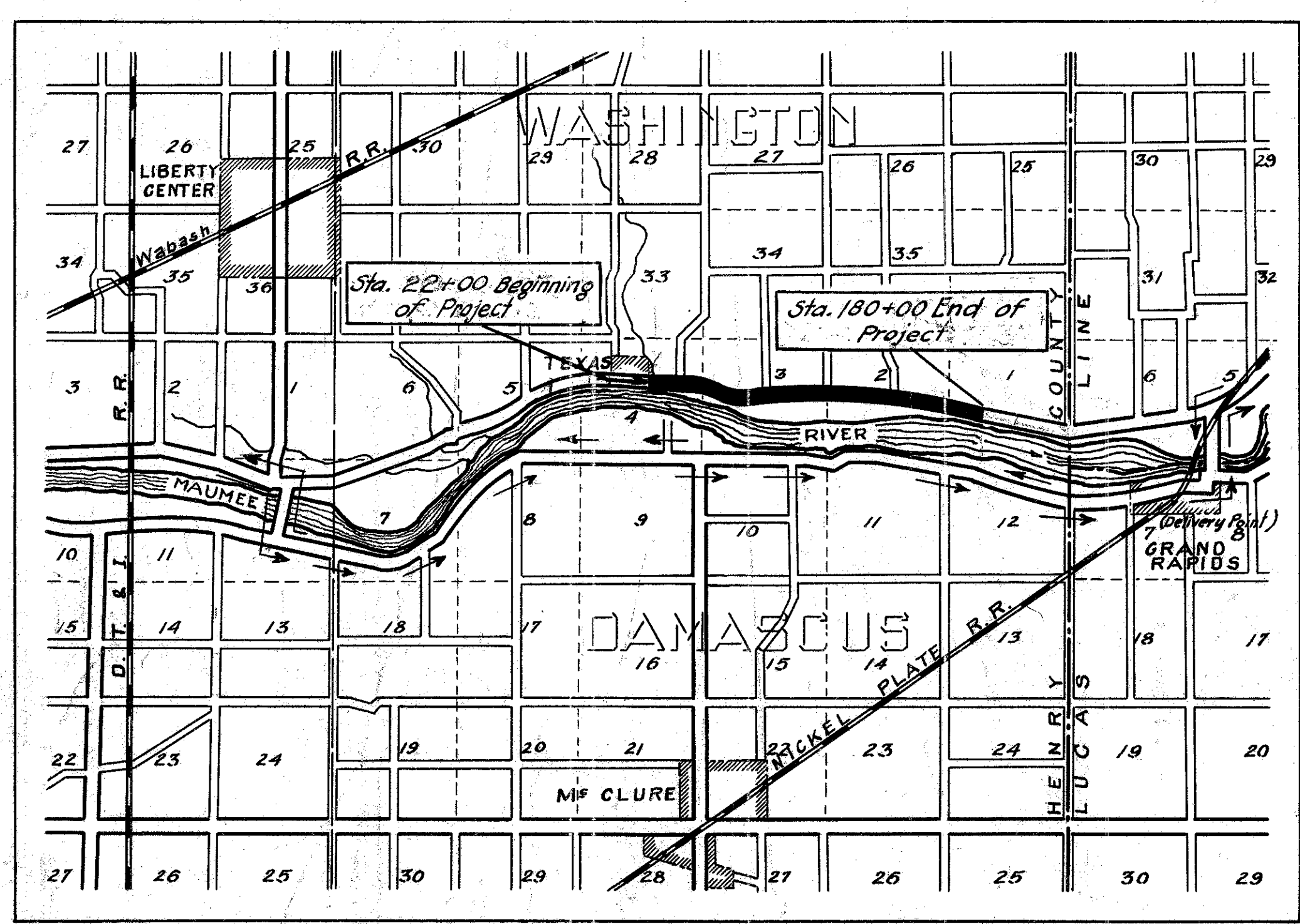
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ROAD INDEX BY SHEETS

FILE NO. HENRY 51 - O (Pt.)
DATE OF LETTING: 7-27-1934
CONTRACT NO. 6013



LOCATION PLAN

Scale of Miles
PORTION TO BE IMPROVED
DETOURS SHOWN THUS
STATE HIGHWAYS
COUNTY ROADS

SCALES

PLAN 2"=100' 1"=100'
PROFILE VERTICAL 1"=10'
PROFILE HORIZONTAL 1"=10'
CROSS SECTIONS 1"=5'

SUPPLEMENTAL PRINTS OF STANDARD DRAWINGS - SB-33, G-707, S-27PC.2, I-8C.B.1-2&2-2, I-8C.B.1-3&1-4, I-8C.B.2-3&2-4, I-8 I No. 1, S-27PC.3, I-1, 2, 3, 4, 5, 45-33

CONSTRUCTION BUREAU
JUN 23 1935
GROUND PHOTOLAB

Office	By	Date
Resident	McCall	2-9-34
Division	Boyer & Ferry	3-13-34
Central Const.	M.C.H.	7-6-34
Central Bridges		
Bureau of Public Roads		

RECEIVED
By M. Carrick
Clerk of Sales
Date 7-7-1934

- Approved Date Feb. 10-1934
Name *But Bucher*
Resident District Deputy Director
Professional Engineer Certificate Applied For Date: 2-10-1934
- Approved Date _____
Name *Richard Cuth*
Resident Division Deputy Director
Professional Engineer Certificate Applied For Date _____
- Approved Date 7-7-34
Name *Elmer Helty*
Chief Engr. Bureau of Construction
Professional Engineer Certificate Applied For Date _____
- Approved Date _____
Name _____
Chief Engr. Bureau of Maintenance
Professional Engineer Certificate Applied For Date _____
- Approved Date _____
Name _____
Chief Engr. Bureau of Bridges
Professional Engineer Certificate Applied For Date _____
- Approved Date 7-7-34
Name *H.P. Chapman*
First Asst. Director and Chief Engineer
Professional Engineer Certificate Applied For Date _____
- Approved Date 7-7-34
Name *W. M. Myerell*
Director of Highways
Professional Engineer Certificate Applied For Date _____

Recommended for Approval _____
Date _____ Dist. Engr. Bureau of Public Roads.

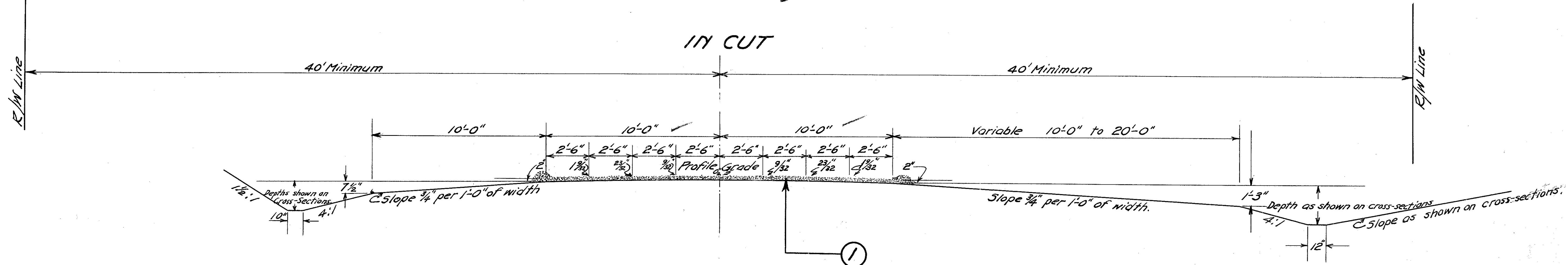
Recommended for Approval _____
Date _____ Chief Engr. Bureau of Public Roads.

Approved Date _____
Chief of Bureau

APPROVED
Name *W. M. Myerell*
Professional Engineer Certificate Applied For Date 3-16-34
Plan. Engr. Date 12-16-34
Grading, Stns. 8, 7, 10, 11
Surf. & Landscaping

TYPICAL SECTIONS.

OF SUBGRADE FOR TRAFFIC BOUND SURFACE COURSE. ITEM T-10

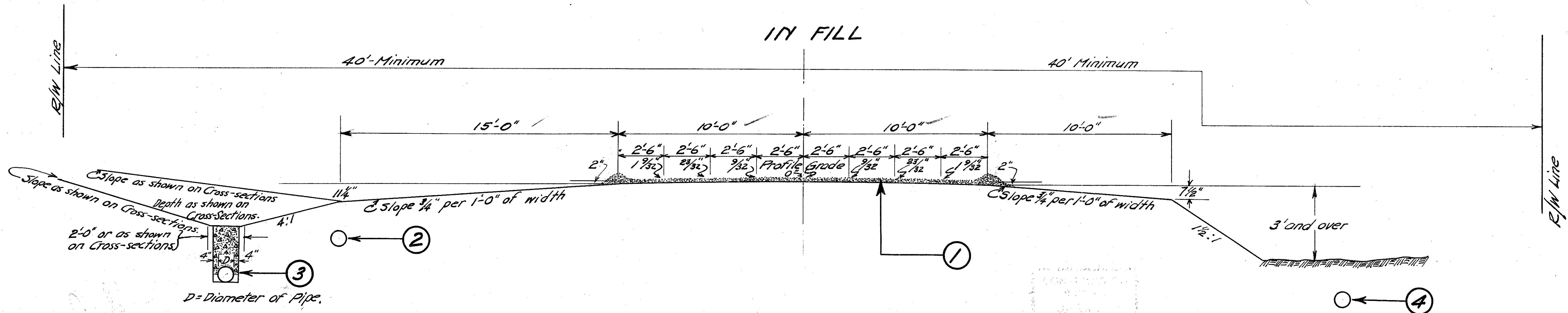


GRADE DIFFERENTIAL

Gross-sections have been calculated for a 2"x20' Bituminous Concrete Surface Course, with 2" crown, on a 9" x 21' Waterbound Macadam Base. To maintain the same yardage for a Traffic Bound Macadam Surface Course placed on the earth subgrade with 2" crown, the profile grade line shall be lowered .42 ft.

Typical Section sta. 22+00 to sta. 166+83.75 = 14483.75 lin. ft.
 and sta. 167+02.25 to sta. 180+00 = 1297.75 lin. ft.
 Total 15781.50 lin. ft.

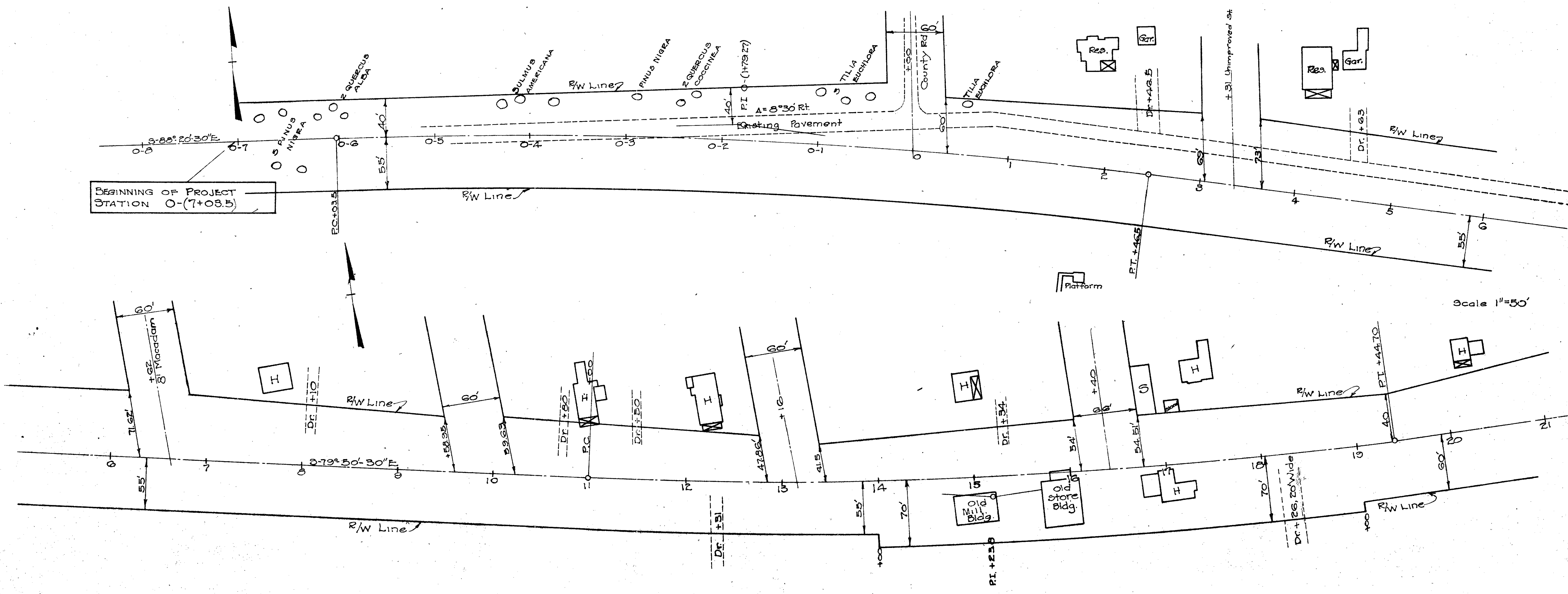
- ① 3" Traffic Bound Surface Course, Item T-10, No. 46 Aggregate.
- ② Storm Sewers, Item I-2
- ③ Roadway Drainage, Item I-3 (Porous Backfill full depth of trench.)
- ④ Roadway Drainage, Item I-3 (Earth Backfill.)



FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
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23
34

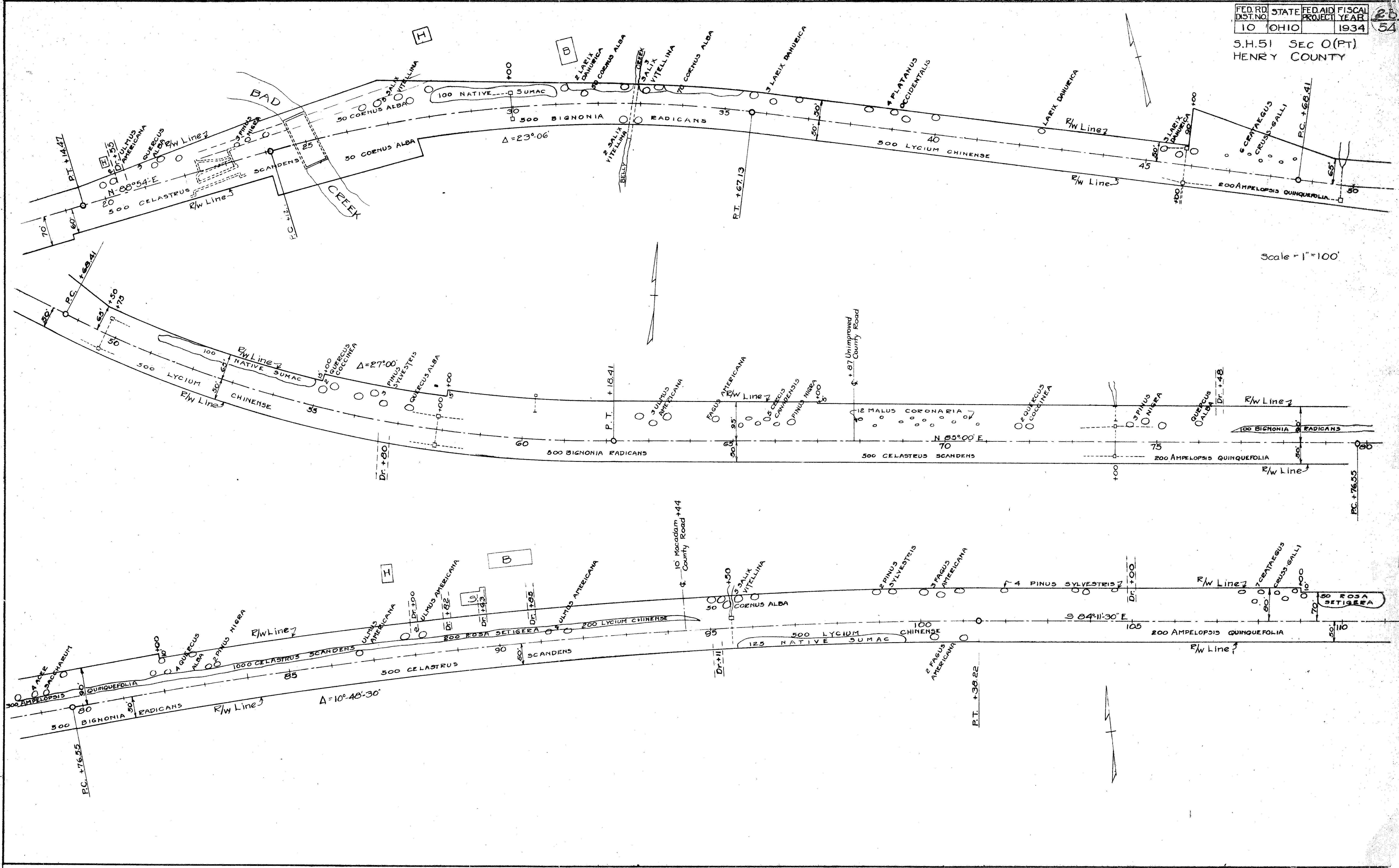
SH. 51 SEC. 0 (PT)
HENRY COUNTY



Scale 1"=50'

S.H. 51 SEC 0 (PT)
HENRY COUNTY

Scale = 1" = 100'



FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO		1934

21
54

S.H. 51 - SEC. "O(Pt.)"
HENRY COUNTY

EXCAVATION AND TOP SOIL:

(1) THE CONTRACTOR SHALL SALVAGE ALL AVAILABLE TOP SOIL BY STOCK PILING SAME. IF ADDITIONAL TOP SOIL IS REQUIRED, IT SHALL BE SUPPLIED BY THE CONTRACTOR IN SUFFICIENT QUANTITY TO COVER ROAD BERMS TO A MINIMUM DEPTH OF (4") FOUR INCHES.

(2) ALL DEBRIS, RUBBISH, AND DEAD TREES OR TREE STUMPS AND OTHER OBJECTIONABLE MATERIALS, SHALL BE REMOVED FROM THE RIGHT OF WAY AREA, OR OTHERWISE DISPOSED OF AS DIRECTED BY THE ENGINEER.

(3) ALL UNDESIRABLE EXCAVATED MATERIALS SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER, WITHIN THE LIMITS OF THIS PROJECT, EITHER BY:
WASTING AT THE TOE OF SLOPE, OR
LOADING AND HAULING TO A NEW LOCATION

PLANTING:

(1) ALL TREES ARE TO BE WELL-BRANCHED ACCORDING TO THEIR VARIETY, UNIFORM, STRAIGHT TRUNKED, AND WELL ROOTED, WITH UNDAMAGED ROOT SYSTEM.

PLANTING HOLES FOR THE TREES SHALL BE NOT LESS THAN 36" IN DIAMETER, AND SHALL BE DUG TO A DEPTH OF 50", FILLING IN 6" OF THIS WITH ROOTED COW MANURE, WHICH SHALL BE FIRMED DOWN TO 4" AND A THIN LAYER OF TOP SOIL (LOAM, BUT NOT A SO-CALLED BLACK, STICKY LOAM) SPREAD OVER, BEFORE SETTING TREE. BALANCE OF HOLE IS TO BE FILLED WITH TOP SOIL, CAREFULLY WORKED IN AND AROUND THE ROOTS, AND WELL FIRMED.

THESE TREES SHALL BE BRACED IN A TRIANGULAR MANNER AS SOON AS PLANTED, USING NEAT AND STURDY PINS, HEAVY GALVANIZED WIRES, AND WITH TREES PROTECTED FROM CUTTING BY THE WIRE WITH SHORT SECTIONS OF GARDEN HOSE. CUTWIRES SHALL BE KEPT SUFFICIENTLY TIGHT TO HOLD TREES RIGID BUT NOT SO TIGHT AS TO CUT INTO TREE BARK. TREE BRACINGS MUST BE SO PLACED AS NOT TO ENDANGER VEHICLE OR PEDESTRIAN TRAFFIC.

THE SMALL ORNAMENTAL TREES (MALUS, CRATAEGUS, ETC.) SHALL BE PLANTED IN HOLES NOT LESS THAN 24" IN DIAMETER AND 18" IN DEPTH, USING TOP SOIL IN PLANTING, BUT NO MANURE.

THESE SMALL TREES SHALL NOT BE SO-CALLED "WHIPS", BUT SHALL BE WELL-BRANCHED (NOT LESS THAN 5 TO 7 BRANCHES) UNIFORM SIZE AND OF CHARACTERISTIC SHAPE.

SHRUBS (BOTH DECIDUOUS AND EVERGREENS) SHALL BE FULL, WELL BRANCHED, AND HEALTHY.

EVERGREEN SHALL BE UNIFORM SIZE AS SPECIFIED AND NOT "LEGOOT" OR "STRINGY". WHERE PLANTS ARE MARKED "B & B", THIS WILL MEAN BALLED AND BURLAPPED WITH A SIZED BALL OF EARTH IN PROPER KEEPING WITH SIZE OF PLANT. PLANTING HOLES FOR ALL "B & B" NURSERY STOCK SHALL BE 12 INCHES LARGER ALL AROUND THAN THE SIZE OF THE BALL OF THE PLANT.

ALL SHRUBS AND EVERGREENS AND OTHER PLANTS SHALL BE PROPERLY SPACED IN THE PLANTING AREAS. THEY SHALL BE PROPERLY TAMPED (BY WORKERS FEET) SO AS TO BE WELL HELD IN THE SOIL. CARE MUST BE USED TO HAVE PLANTS AT PROPER DEPTH WHEN PLANTING IS FINISHED.

WHERE PLANTING AREAS SHOWN ON PLANS AS "BEDS", HOLES FOR THE INDIVIDUAL PLANTS SHALL BE DUG OUT, DISCARDING ALL BAD SOIL, AND REFILLING WITH TOP SOIL AS PLANT IS SET IN. EACH HOLE SHALL BE OF AMPLE DIAMETER AND DEPTH TO TAKE CARE OF THE PLANT ROOT SYSTEM, PLUS AT LEAST 8" FREE SPACE ON ALL SIDES OF THE ROOTS AND UNDERNEATH THE ROOTS.

THE GROUPS OF GROUND COVER PLANTS, YOUNG EVERGREENS, ETC., THAT ARE TO BE PLANTED ON THE SLOPES WILL BE HANDLED IN THE SAME MANNER AS THE PLANTING DESCRIBED IN THE PRECEDING PARAGRAPHS, EXCEPTING THAT THE AREAS BETWEEN PLANTS WILL NOT BE SPADED UP. EXTREME CARE IS TO BE EXERCISED TO KEEP UPRIGHT TYPES OF PLANT IN AN UPRIGHT POSITION AND TO TAMP ALL PLANTS IN CAREFULLY BUILDING UP THE LOWER SIDE OF THE FILLED HOLE TO CATCH WATER FOR THE BENEFIT OF THE PLANT. THESE PLANTS WILL BE ARRANGED TO GIVE THE MOST PLEASING EFFECT ON THE SLOPES.

IT SHALL BE UNDERSTOOD THAT THE PLANTS AS SPECIFIED IN THE LISTS SHALL BE NURSERY GROWN IN ALL CASES AND SHALL HAVE BEEN GROWN FOR A PERIOD OF AT LEAST ONE YEAR UNDER SAME CLIMATIC CONDITIONS AS LOCATION OF THIS PROJECT. THEY SHALL BE WELL ROOTED, AND WITH FULL OR "BUSHY" TOPS, TYPICAL TO INDIVIDUAL VARIETIES. IT SHALL BE UNDERSTOOD THAT ALL PLANTS TO BE FURNISHED IN ACCORDANCE WITH THESE SPECIFICATIONS SHALL BE GROWING UNDER EQUIVALENT CLIMATIC CONDITIONS AS FOUND AT THE LOCATION OF THIS PROJECT. THE CONTRACTOR SHALL STATE THE LOCATION OF THE GROWING MATERIAL TO BE FURNISHED FOR EACH OF THE ITEMS IN THE BID LIST SO THAT THEY MAY BE INSPECTED BY THE DIRECTOR OF HIGHWAYS AT HIS DISCRETION BEFORE AWARDS ARE MADE. FINAL ACCEPTANCE OF MATERIALS WILL BE MADE, HOWEVER, ONLY AFTER MATERIALS ARE DELIVERED TO THE PROJECT.

THE LARGER TREES SHALL BE PROPERLY PRUNED BEFORE PLACING IN THE HOLES.

THE SHRUBS, VINES AND EVERGREENS SHALL BE PROPERLY PRUNED AFTER PLANTING, AND BEFORE BEDS ARE FINALLY DRESSED OFF.

(2) SPECIFICATIONS FOR NURSERY STOCK SHALL INCLUDE THE FOLLOWING:
"ALL NURSERY STOCK FURNISHED BY SUCCESSFUL BIDDER OR CONTRACTOR SHALL BE SUBJECT TO INSPECTION BY THE DIVISION OF PLANT INDUSTRY, OHIO DEPARTMENT OF AGRICULTURE, WHO ENFORCES THE PLANT PEST LAW, WITHIN 24 HOURS AFTER DELIVERY OF SAID STOCK TO THE JOB; ANY STOCK NOT PASSED BY THE INSPECTOR WILL BE REMOVED BY THE CONTRACTOR OR SUCCESSFUL BIDDER AT ONCE, AND ADDITIONAL STOCK IN LIKE VARIETY, SIZE, ETC., SHALL BE FURNISHED, AT HIS EXPENSE, THIS STOCK ALSO SUBJECT TO INSPECTION AS ABOVE."

(3) ANY PLANT MATERIAL WITH SHRIVELED DRY ROOTS, OR WHICH IS NOT FOUND TO COMPLY WITH ALL SPECIFICATIONS, WILL BE REJECTED. ALL REJECTED PLANT MATERIAL SHALL BE IMMEDIATELY REMOVED BY CONTRACTOR, OR HIS AGENT, AND THE HIGHWAY DIRECTOR WILL NOT ASSUME ANY RESPONSIBILITY WHATSOEVER FOR SUCH REJECTED MATERIAL.

(4) THE QUANTITIES LISTED IN THE BID SCHEDULE ARE TO BE CONSIDERED AS APPROXIMATE. THE RIGHT IS RESERVED FOR THE DIRECTOR OF HIGHWAYS TO MAKE SUCH ALTERATIONS IN THE PLANS OR IN THE QUANTITY OF THE PLANTS AS MAY BE CONSIDERED NECESSARY OR DESIRABLE DURING THE PROGRESS OF THE WORK TO COMPLETE FULLY AND PERFECTLY THE PROPOSED PROJECT. SUCH ALTERATIONS SHALL NOT BE CONSIDERED AS A WAIVER OF ANY CONDITIONS OF THE CONTRACT, NOR INVALIDATE ANY OF THE PROVISIONS THEREOF. THE CONTRACTOR SHALL PERFORM THE WORK AS INCREASED OR DECREASED, AND NO ALLOWANCE WILL BE MADE FOR ANTICIPATED PROFITS. IN ALL QUESTIONS RELATED TO THE INTERPRETATION OF THESE SPECIFICATIONS, OR ANY PART OF THEM THE DECISION OF THE DIRECTOR OF HIGHWAYS SHALL BE FINAL.

(5) ALL STOCK FURNISHED MUST BE "TRUE TO NAME" AND LEGIBLY TAGGED WITH THE NAME AND SIZE OF THE MATERIAL ACCORDING TO GENERAL NURSERY STANDARDS OF PRACTICE AS RECOMMENDED BY THE AMERICAN ASSOCIATION OF NURSERMEN.

(6) THE PAYMENT FOR EACH ITEM LISTED UNDER KEY NUMBERS, WILL INCLUDE THE COST OF PLANT FURNISHED ON JOB, REMOVAL OF BAD SOIL, ADDITION OF TOP SOIL IN PLACE, PLANTING, BRACING, AND GUARANTEE AS INDICATED IN SPECIFICATIONS.

SEEDING OF BERMS:

GRASS SEED OF MINIMUM 90% PURITY AND 90% GERMINATION, CONTAINING 3 PARTS KENTUCKY BLUE GRASS, 1 PART RED TOP, 2 PARTS CHEWINGS FESCUE, SHALL BE SOWN AT THE RATE OF 4 POUNDS TO EACH 1000 SQUARE FEET, AND SOWN IN 2 DIRECTIONS TO INSURE EVEN SPREAD. SEED SHALL THEN BE LIGHTLY RAKED TO COVER, THEN ROLLED (WITH ROLLER NOT LESS THAN 500 LBS. AND NOT OVER 700 LBS.)

CONTRACTOR SHALL GUARANTEE A "STAND" OF GRASS (A SHOW OF GREEN) OVER ALL AREAS UP UNTIL THE TIME OF THE FIRST MOWING (WHEN GRASS IS 1 1/2 TO 1 3/4 INCHES LONG), THE CONTRACTOR GIVING THESE TURF AREAS THEIR FIRST MOWING.

EVERY REASONABLE EFFORT SHALL BE MADE TO COMPLETE THE SEEDING OPERATIONS BETWEEN SEPTEMBER 1ST AND SEPTEMBER 30TH, 1934. IN THE EVENT THAT THIS IS NOT PRACTICAL DUE TO PREVAILING CIRCUMSTANCES THE REMAINING AREAS SHALL

BE SEEDER AS SOON AS THE GROUND IS IN WORKABLE CONDITION IN THE SPRING OF 1935.

GENERAL:

(1) IT SHALL BE UNDERSTOOD AND AGREED THAT THE CONTRACTOR WILL KNOW, OR WILL EMPLOY AT HIS OWN EXPENSE, A COMPETENT LANDSCAPE MAN WHO WILL KNOW HOW TO PROPERLY JUDGE SIZES AND QUALITY OF STOCK SPECIFIED, AND HOW TO PROPERLY HANDLE AND PLANT SAME. HE SHALL HANDLE THE ENTIRE LANDSCAPE PROJECT IN THE PROPER AND EFFICIENT MANNER, AND SHALL BE ON THE PROJECT FROM THE START OF THE LANDSCAPE WORK TO ITS COMPLETION.

(2) IT SHALL BE UNDERSTOOD AND AGREED THAT THE DIRECTOR OF HIGHWAYS WILL HAVE FINAL JURISDICTION AS TO ANY QUESTION OF SPECIFICATIONS AND QUALITY, AND CONTRACTOR WILL ABIDE BY HIS DECISION.

(3) ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR THRU ONE GROWING SEASON, ANY PLANTS NOT BEING ALIVE AND NORMALLY HEALTHY AT THE END OF THIS PERIOD BEING REPLACED WITH PLANTS OF THE ORIGINAL SIZE AND QUALITY, AND AT THE ENTIRE EXPENSE OF THE CONTRACTOR. THE DIRECTOR OF HIGHWAYS SHALL BE FINAL AUTHORITY AS TO WHAT PLANTS SHOULD BE REPLACED.

(4) UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL REMOVE ALL FOREIGN MATTER FROM THE IMPROVED AREA, AND ALL PLANTING BEDS SHALL BE LEFT IN A CLEAN AND ORDERLY MANNER.

(5) ALL PHASES OF THE LANDSCAPE CONSTRUCTION AND PLANTING OPERATIONS MUST BE APPROVED BY ENGINEER IN CHARGE BEFORE SUBSEQUENT PHASES ARE ALLOWED TO PROCEED.

TOTAL AREA TO BE PREPARED AND SEEDER, APPROXIMATELY 55,985 SQUARE YARDS.

TOP SOIL REQUIRED, INCLUDING AMOUNT TO BE SALVAGED AND PLACED IN STOCK PILES, APPROXIMATELY 6,199 CUBIC YARDS.

ESTIMATED QUANTITIES	
91	SMALL TREE HOLES EXCAVATED, INCLUDING PLANTING OPERATIONS
106	LARGE TREE HOLES EXCAVATED, INCLUDING PLANTING OPERATIONS
12,600	EXCAVATING AND PLANTING OPERATIONS FOR VINES AND OTHER PLANTS
1,000	MACTEVE SEEDS TRANSPLANTED AND REPLACED
1,000	LSB. KENTUCKY BLUE GRASS SEED, INCLUDING PREPARATION OF SOIL AND PLANTING
670	LSB. CHEWINGS FESCUE SEED, INCLUDING PREPARATION OF SOIL AND PLANTING
855	LSB. RED TOP SEED, INCLUDING PREPARATION OF SOIL AND PLANTING
4	2 INCH CAL. AGER SACCHARUM
11	5 TO 6 FEET CERCIIS CANADENSIS
5	6 TO 8 FEET CRATAEGUS MOLLIS
20	5 TO 6 FEET CRATAEGUS CRUSS-GALLI
6	6 TO 8 FEET FAGUS AMERICANA
1	8 TO 10 FEET GLABRIS TRIACANTHOS INERMIS
14	5 TO 6 FEET LARIX DABURICA
12	5 TO 6 FEET MALUS CORNARUA
4	2 INCH CAL. PLATANUS OCCIDENTALIS
23	2 INCH CAL. QUERCUS ALBA
6	2 INCH CAL. QUERCUS COCCINEA
24	2 INCH CAL. SALIX VITELLINA
4	2 INCH CAL. TILIA EUCLORA
19	2 TO 2 1/2" CAL. ULMUS AMERICANA
32	5 TO 6 FEET PINUS MIRA
11	5 TO 6 FEET PINUS SILVESTRIIS
1,500	2 YEAR AMPHILOPSIS QUINGUVEPOLIO
3,100	2 YEAR BIGNONIA RADICANS
4,500	2 YEAR CELASTRUS SCANDENS
300	3 TO 4 FEET CORNUS ALBA
5,800	2 TO 3 FEET LYCUM CHINENSIS
400	2 TO 3 FEET ROSA SIFTIGERA

TRAFFIC BOUND SIDE APPROACHES "A"				
Ref. No.	Station	Rt. or Lt.	Aggregate Cu. Yds.	Remarks
1-A	20+55	Lt.	6	Aggregate for 1 mail box turnout to be placed as directed by Engr. 250 in. Finishing Slopes and Ditches. Included in Summary sheet 53 & 54.
Various			3	
2-A	19+50 to 22+00	Lt.	46	
			55	

Note - Removal of the existing Concrete Lock between Sta. 22+00 and Sta. 25+40 (Approx. 355 cu. yds.) is to be completed as a part of the work performed under Item E-1, Roadway Excavation. All broken concrete is to be disposed of as per Item E-1.05 or as may be directed by the Engineer in charge. Payment for removal, breaking up and disposal of the existing concrete is included in payment for Item E-1, Roadway Excavation.

Data on existing structure to remain in place. Sta. 25+00
 TYPE - Double Stone Masonry Arch Culvert
 SPAN 25' RDWY. 12'
 Condition - Good
 Waterway is sufficient for flood stage.
 Deduction in Pav't Length - None
 No work required.

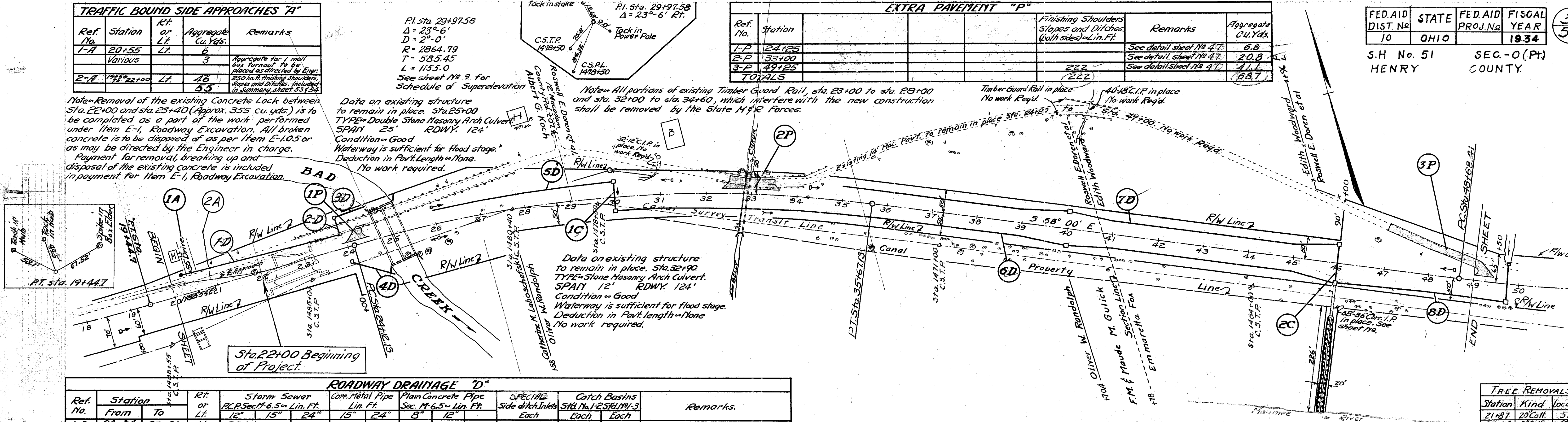
Note - All portions of existing Timber Guard Rail, Sta. 23+00 to Sta. 28+00 and Sta. 32+00 to Sta. 34+60, which interfere with the new construction shall be removed by the State Highway Forces.

Data on existing structure to remain in place. Sta. 32+90
 TYPE - Stone Masonry Arch Culvert
 SPAN 12' RDWY. 12'
 Condition - Good
 Waterway is sufficient for flood stage.
 Deduction in Pav't Length - None
 No work required.

EXTRA PAVEMENT "P"				
Ref. No.	Station	Finishing Shoulders Slopes and Ditches (both sides) in. Ft.	Remarks	Aggregate Cu. Yds.
1-P	24+25		See detail sheet No. 47	6.8
2-P	33+00		See detail sheet No. 47	20.8
3-P	49+25		See detail sheet No. 47	4.1
TOTALS		222		68.7

FED. AID DIST. NO. 10 STATE OHIO FED. AID PROJ. NO. SEC. - O (PT) HENRY COUNTY FISCAL YEAR 1934

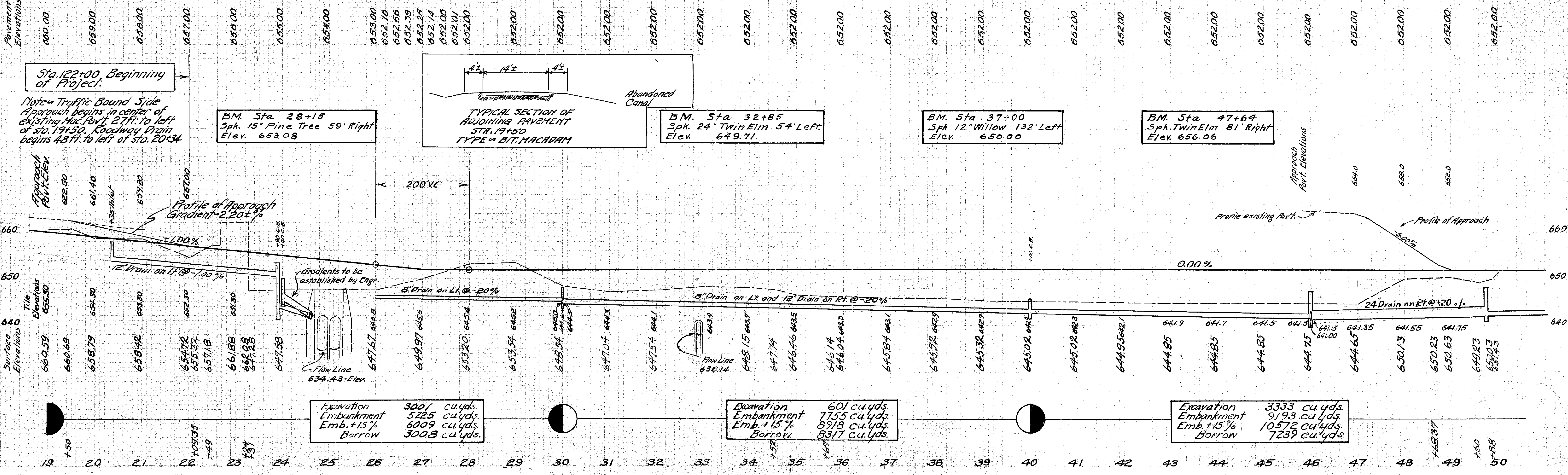
3/54



ROADWAY DRAINAGE "D"												
Ref. No.	Station From To	Rt. or Lt.	Storm Sewer R.C.P. Sec. M-6.5 Lin. Ft.			Corr. Metal Pipe Lin. Ft.		Plan Concrete Pipe Sec. M-6.5 Lin. Ft.		SPECIAL Side ditch Inlets Each	Catch Basins Std. No. 1-2, 5, 11, 11-3 Each	Remarks
			12"	15"	24"	15"	24"	8"	12"			
1-D	20+34 to 23+91	Lt.	581									Side Ditch Inlet Sta. 20+35; C.B. Sta. 23+90
2-D	20+34 to 20+91	North		45								C.B. 70' Lt. of 23+90
3-D	20+91 to 24+16	Lt.		50	20							Com. M. Pat. outlet end.
4-D	24+00 to 24+16	South East			57	20						C.B. 35' Rt. at 24+00
5-D	26+00 to 29+99	Lt.					399					C.B. 38' Rt. at 40+00
6-D	30+01 to 45+99	Rt.					1596					C.B. 38' Lt. at 40+00
7-D	35+00 to 45+99	Lt.					1097					
8-D	46+01 to 49+74	Rt.					373					
TOTALS			381	95	430	20	20	1496	1596		4	

STRUCTURES UNDER 20 FT. SPAN "C"										
Ref. No.	Station	Type	Size	Excavation		R.C.P. (6) Sec. M-6.6 Lin. Ft.		Catch Basins		Remarks
				Structure Cu. Yds.	Channel Cu. Yds.	12"	24"	Std. 1-2 Each	Std. 1-3	
1-C	30+00	Rdwy. Cul.	12"x60"	31		60	76			See details sheet No. 49
2-C	46+00	Rdwy. Cul.	24"x76"	45	64		76			See details sheet No. 49
TOTALS				76	64	60	76	2		

TREE REMOVALS		
Station	Kind	Location
21+87	20' Coff.	5 Lt.
27+04	8' Coff.	8 Lt.
27+50	8' Coff.	18 Lt.
33+90	8' Coff.	4 Rt.
34+26	8' Willow	E
Total 5 Trees		



Excavation 3001 cu. yds.
 Embankment 3225 cu. yds.
 Emb. +15% 6009 cu. yds.
 Borrow 3008 cu. yds.

Excavation 601 cu. yds.
 Embankment 7155 cu. yds.
 Emb. +15% 8918 cu. yds.
 Borrow 8317 cu. yds.

Excavation 3333 cu. yds.
 Embankment 9193 cu. yds.
 Emb. +15% 10572 cu. yds.
 Borrow 7239 cu. yds.

PIPE REMOVALS "R"

Ref. No.	Station	Pipe Removed and Stored Lin. Ft.	Remarks
1-R	49+49	12'	24"
2-R	55+92	38	36
TOTALS		38	36

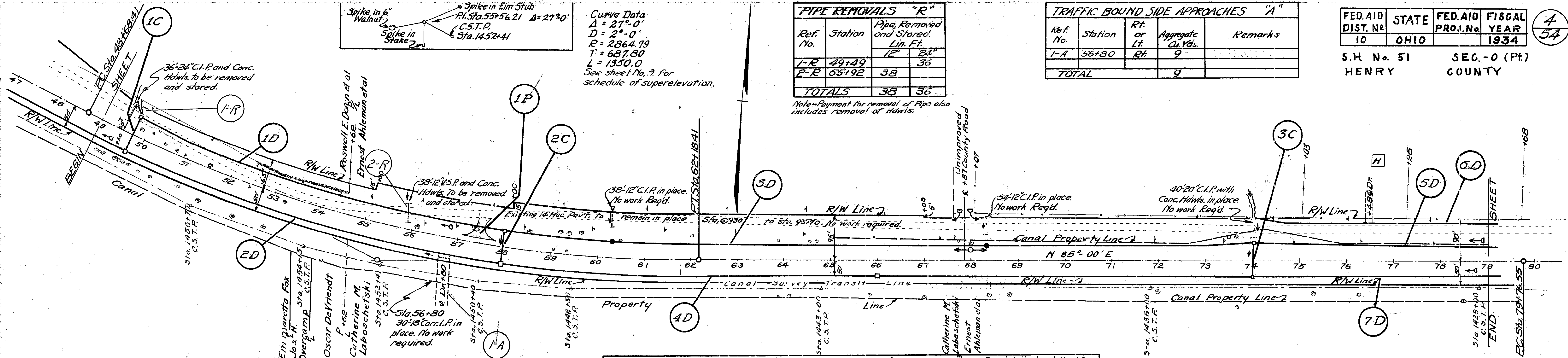
Note: Payment for removal of Pipe also includes removal of Hdls.

TRAFFIC BOUND SIDE APPROACHES "A"

Ref. No.	Station	Rt. or Lt.	Aggregate Cu. Yds.	Remarks
1-A	56+80	Rt.	9	
TOTAL			9	

Curve Data
 $\Delta = 27^{\circ}-0'$
 $D = 2^{\circ}-0'$
 $R = 2864.79$
 $T = 687.80$
 $L = 1350.0$
 See sheet No. 9 for schedule of super-elevation.

Spike in 6" Walnut
 Spike in Elm Stub
 P.I. Sta. 55+56.21 $\Delta = 27^{\circ}0'$
 C.S.T.P. Sta. 1452+41



ROADWAY DRAINAGE "D"

Ref. No.	Station		Rt. or Lt.	Drain Tpk. Sec. M-6.7 (H) including Porous backfill - Lin. Ft.	Plain Concrete Pipe, Sec. M-6.5 Lin. Ft.			SPECIAL Catch Basins Each	SPECIAL Sigsbee Inlets Each	Corr. Metal Pipe 10" Lin. Ft.	Remarks
	From	To			8"	10"	12"				
1-D	49+76	51+99	Lt.	823							
2-D	49+76	51+99	Rt.				823				
3-D	58+01	73+99	Lt.	1594				2			Build Inlets Sta. 58+34, 62+34, 66+34
4-D	58+01	73+99	Rt.				1596	1			
5-D	74+00	79+00	Lt.	499						20	Corr. Metal outlet
6-D	74+00	79+00	Rt.		480						
7-D	74+00	79+00	Lt.		499						
TOTALS				2916	480	499	2419	1	2	20	

EXTRA PAVEMENT "P"

Ref. No.	Station	Finishing Shoulders Slopes and Ditches (both sides) Lin. Ft.	Aggregate Cu. Yds.
1-P	57+50		10.0
TOTAL		31	10.0

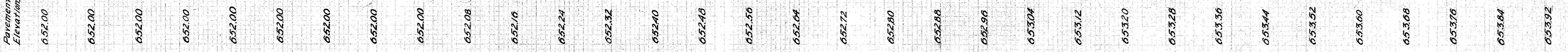
See detail, sheet No. 48

STRUCTURES UNDER 20 FT SPAN "C"

Ref. No.	Station	Type	Size	Excavation		R.C.P. (6) Sec. M-6.6 Lin. Ft.		Catch Basins			24" C.I.P. Relaid Lin. Ft.	Remarks
				Structure Cu. Yds.	Channel Cu. Yds.	12"	24"	Std. I-2	Std. I-3	Std. I-2,3		
1-C	49+75	Rdwy. Cul.	24'x76'	53	41	12'	24'	2	2	4		See detail sheet No. 49
2-C	58+00	Rdwy. Cul.	12'x69'	25		69		2				See detail sheet No. 49
3-C	74+00	Rdwy. Cul.	24'x76'	35			76		1	1		See detail sheet No. 50
TOTALS				118	41	69	148	2	3	1	4	

TREE REMOVALS

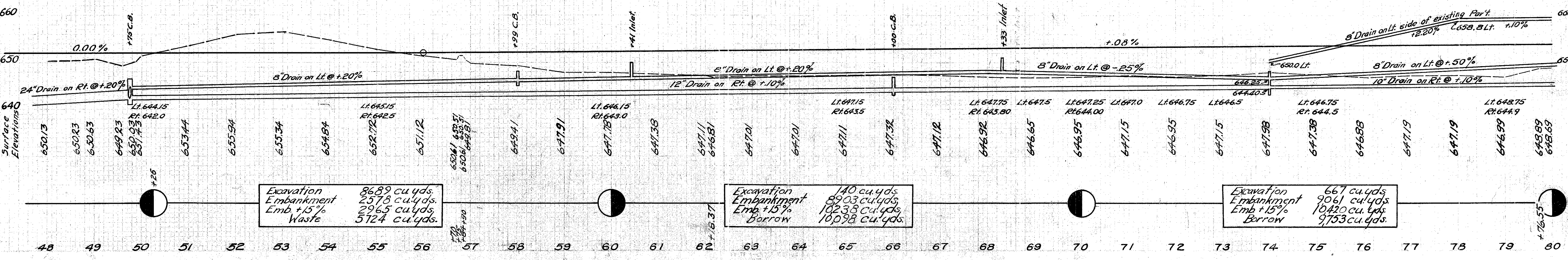
Station	Kind	Location
49+85	10 Oak	18' Lt.
50+26	8 Oak	20' Lt.
50+43	10 Apple	10' Lt.
50+72	10 Apple	8' Lt.
51+53	8 Apple	6' Lt.
53+23	10 Apple	16' Rt.
56+10	14 Elm	8' Lt.
59+02	8 Coff.	8' Lt.
59+33	12 Elm	3' Lt.
Total 9 Trees		



BM. Sta. 56+75
 Spk. 12" Elm 68' Left
 Elev. 653.23

BM. Sta. 64+10
 Spk. 10" Walnut 65' Right
 Elev. 652.89

BM. Sta. 72+04
 Spk. 10" Elm 54' Right
 Elev. 655.70



Excavation 8689 cu. yds.
 Embankment 2578 cu. yds.
 Emb +15% 2965 cu. yds.
 Waste 5724 cu. yds.

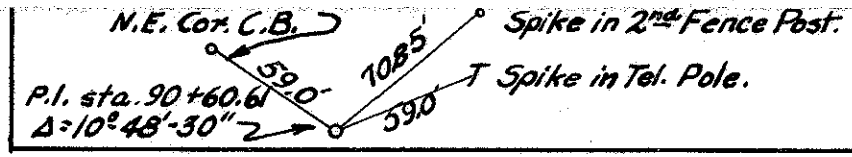
Excavation 140 cu. yds.
 Embankment 89.03 cu. yds.
 Emb +15% 102.38 cu. yds.
 Borrow 10,998 cu. yds.

Excavation 667 cu. yds.
 Embankment 906 cu. yds.
 Emb +15% 1042.0 cu. yds.
 Borrow 9753 cu. yds.

TRAFFIC BOUND SIDE APPROACHES "A"				
Ref. No.	Station	Rt. or Lt.	Aggregate Cu.Yds.	Remarks.
1-A	95+11	Rt.	6	
2-A	105+00	Lt.	10	
TOTAL			16	

PIPE REMOVALS "R"			
Ref. No.	Station	Pipe, Removed and Stored Lin. Ft.	
1-R	95+50	14"	42
2-R	101+62	36"	42
TOTAL		36	42

Curve Data
 $\Delta = 10^\circ 48' 30''$
 $D = 0^\circ 30'$
 $T = 1084.06$
 $R = 11459.16$
 $L = 2161.67$
 See sheet No. 10 for
 Schedule of superelevation.

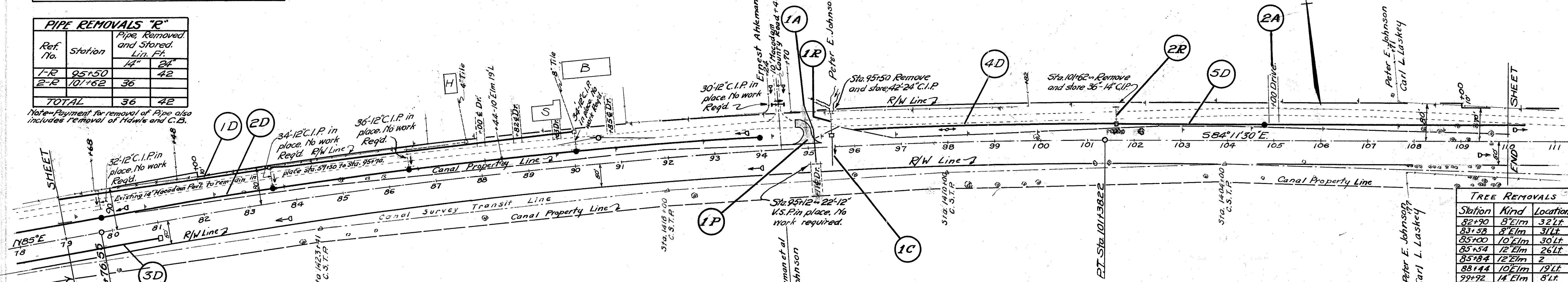


EXTRA PAVEMENT "P"			
Ref. No.	Station	Finishing Shoulders Slopes and Ditches (both sides) Lin. Ft.	Aggregate Cu.Yds.
1-P	95+00	48	12.7
TOTAL			48

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO		1934

S.H. No. 51
HENRY

SEC. 0. (Pt.)
COUNTY.



Ref. No.	Station		Rt. or Lt.	Drain Tile Sec. M-6.7(b) including Parous Backfill Lin. Ft.		Plain Concrete Pipe, Sec. M-6.5 Lin. Ft.		Std. No. 2-3 Catch Basin Each	SPECIAL Side Ditch Inlets Each	Remarks	
	From	To		6"	8"	8"	12"				
1-D	79+00	90+00	Lt.		1098					Build C.B. Sta. 83+58	
2-D	79+00	94+00	Lt.		1490					Build C.B. Sta. 79+80	
3-D	79+00	51+01	Rt.			199				Build C.B. Sta. 81+00	
4-D	96+00	101+63	Lt.		561					Build C.B. Sta. 101+62	
5-D	101+63	110+00	Lt.		835					Build Inlet Sta. 104+80	
TOTALS					561	3423		199	3	6	

STRUCTURES UNDER 20 FT. SPAN										
Ref. No.	Station	Type	Size	Excavation Structure Channel		R.C.P. (b) Sec. M-6.6(b) Lin. Ft.	24" C.I.P. Relaid Lin. Ft.	Std. No. 2-3 Catch Basin Each	Remarks	Concrete 1-5/2 Mix Cu.Yds.
				Cu.Yds.	Cu.Yds.					
1-C	95+50	Rdwy. Cul.	24"x72"	20	15	72	4	1	See detail sheet No. 50	1.07
TOTALS				20	15	72	4	1		1.07

TREE REMOVALS		
Station	Kind	Location
82+90	8' Elm	32 Lt.
83+38	8' Elm	31 Lt.
85+00	10' Elm	30 Lt.
85+54	12' Elm	26 Lt.
85+84	12' Elm	2
88+44	10' Elm	19 Lt.
99+92	14' Elm	8 Lt.
101+55	8' Elm	18 Lt.
101+60	8' Elm	17 Lt.
101+70	8' Elm	14 Lt.
101+71	8' Elm	16 Lt.
102+03	9' Elm	13 Lt.
102+14	14' Elm	17 Lt.
103+20	12' Elm	25 Lt.
103+52	14' Elm	24 Lt.
103+82	12' Elm	4 Lt.
103+92	12' Elm	3 Lt.
109+18	15' Elm	1 Lt.
109+31	15' Elm	33 Lt.
109+65	10' Elm	2 Rt.
109+67	24' Elm	17 Lt.
Total 21 Trees		



BM. Sta. 78+66
 Spk. 12" Walnut 71' Right
 Elev. 654.92

BM. Sta. 87+98
 Spk. 12" Elm 91' Right
 Elev. 654.50

BM. Sta. 94+70
 X South Edge Conc. Wall 78' Left
 Elev. 661.20

BM. Sta. 101+00
 Spk. 6" Syc. 67' Right
 Elev. 655.27

BM. Sta. 109+31
 Spk. 15" Elm 75' Right
 Elev. 655.55

Excavation 4319 cu. yds.
 Embankment 4911 cu. yds.
 Emb. +15% 5648 cu. yds.
 Borrow 1329 cu. yds.

Excavation 7210 cu. yds.
 Embankment 5077 cu. yds.
 Emb. +15% 5838 cu. yds.
 Waste 1372 cu. yds.

Excavation 10919 cu. yds.
 Embankment 6373 cu. yds.
 Emb. +15% 7329 cu. yds.
 Waste 3590 cu. yds.

TRAFFIC BOUND SIDE APPROACHES "A"

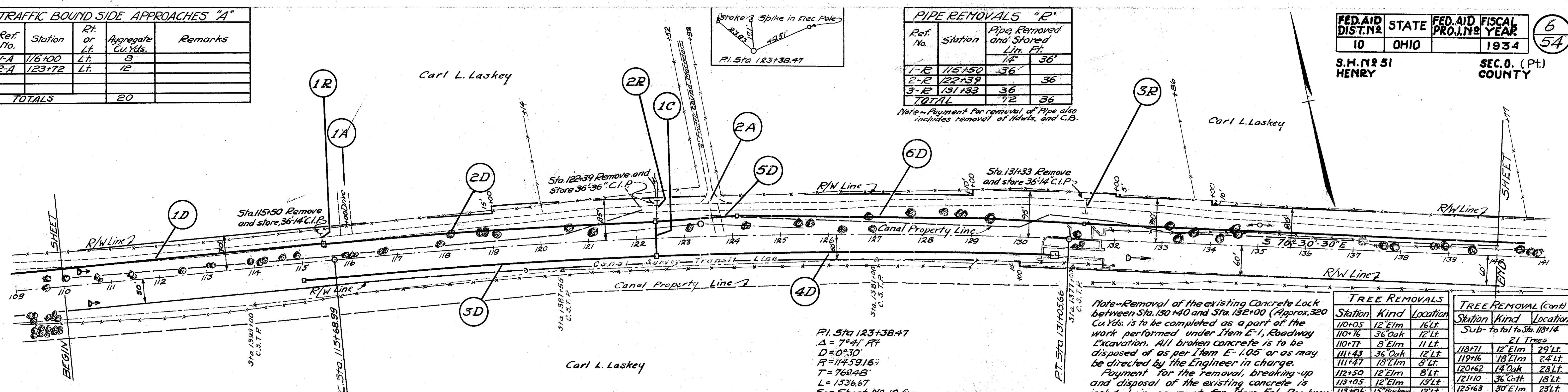
Ref. No.	Station	Rt. or Lt.	Aggregate Cu. Yds.	Remarks
1-A	116+00	Lt.	8	
2-A	123+72	Lt.	12	
TOTALS			20	

PIPE REMOVALS "R"

Ref. No.	Station	Pipe Removed and Stored Lin. Ft.
1-R	115+50	36'
2-R	122+39	36'
3-R	131+33	36'
TOTAL		72

FED. AID DIST. NO. 10	STATE OHIO	FED. AID PROJ. NO. 51	FISCAL YEAR 1934	6/54
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S.H. NO 51 HENRY SEC. 0. (Pt.) COUNTY



ROADWAY DRAINAGE "D"

Ref. No.	Station		Rt. or Lt.	Drain Tile Sec. M-6.7(b) including Porous Backfill Lin. Ft.		Plain Concrete Pipe, Sec. M-6.5 Lin. Ft.		Sd. No. 12 Catch Basin Each	Corr. M. Pipe Lin. Ft. 18"	Hand Laid Riprap Sp. Yds.	Remarks
	From	To		8"	10"	12"	15"				
1-D	110+00	115+51	Lt.	549				1			Build C.B. Sta. 115+50
2-D	115+51	122+38	Lt.		687						
3-D	114+99	122+38	Rt.			737					Build C.B. Sta. 115+00
4-D	122+42	130+75	Rt.				813		20	9	Build C.B. Sta. 124+10
5-D	122+42	124+11	Lt.			167					Build C.B. Sta. 124+10
6-D	124+11	140+00	Lt.								Build C.B. Sta. 131+30
TOTALS				2136	687	904	813	4	20	9	

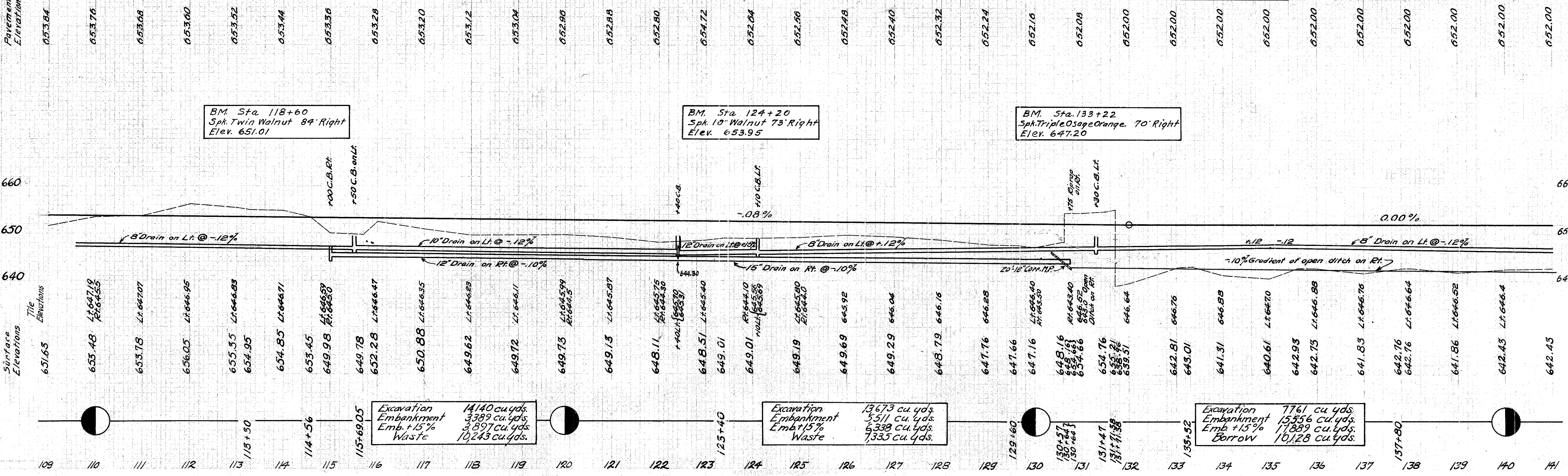
STRUCTURES UNDER 20 FT. SPAN

Ref. No.	Station	Type	Size	Excavation		R.C.P. (b) Sec. M-6.6 36" C.I.P. Lin. Ft.	Relaid Lin. Ft.	Catch Basins		Remarks
				Structure Cu. Yds.	Channel Cu. Yds.			Sd. No. 1-4	Sd. No. 2-4	
1-C	122+40	Rdwy. Cul.	36' x 68'	70	35	68	4	1	1	See detail sheet No 5D
TOTALS				70	35	68	4	1	1	

TREE REMOVALS

Station	Kind	Location	
110+05	12 Elm	16 Lt.	
110+76	36 Oak	12 Lt.	
110+77	8 Elm	11 Lt.	
111+43	36 Oak	12 Lt.	
111+47	18 Elm	8 Lt.	
112+50	12 Elm	8 Lt.	
113+05	12 Elm	13 Lt.	
113+06	15 Buckeye	15 Lt.	
113+95	16 Elm	8 Lt.	
114+13	12 Elm	8 Lt.	
114+20	18 Elm	9 Lt.	
114+61	12 Elm	17 Lt.	
114+91	20 Elm	17 Lt.	
115+96	10 Elm	5 Lt.	
116+04	8 Elm	6 Lt.	
116+14	18 Elm	4 Lt.	
116+71	14 Elm	10 Lt.	
116+71.5	8 Elm	10 Lt.	
116+72	12 Elm	12 Lt.	
117+96	12 Elm	18 Lt.	
118+14	24 Elm	32 Lt.	
Sub-total to Sta. 118+14			21 Trees

Station	Kind	Location	
118+71	12 Elm	29 Lt.	
119+16	18 Elm	24 Lt.	
120+62	14 Oak	28 Lt.	
121+10	36 Oak	18 Lt.	
125+63	30 Elm	23 Lt.	
126+86	24 Elm	36 Lt.	
126+88	15 Elm	10 Lt.	
127+76	15 Elm	42 Lt.	
128+41	10 Elm	45 Lt.	
128+73	30 Elm	42 Lt.	
128+78	12 Elm	43 Lt.	
129+41	18 Elm	36 Lt.	
131+14	8 Elm	16 Lt.	
131+18	8 Poplar	10 Lt.	
131+26	8 Elm	12 Lt.	
138+71	8 Elm	14 Lt.	
Sub-total to Sta. 118+14			37 Trees

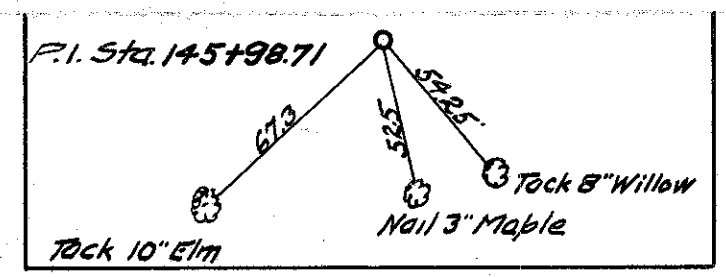


Excavation 14140 cu. yds.
Embankment 3389 cu. yds.
Emb. +15% 3897 cu. yds.
Waste 10,243 cu. yds.

Excavation 13673 cu. yds.
Embankment 3511 cu. yds.
Emb. +15% 6338 cu. yds.
Waste 7335 cu. yds.

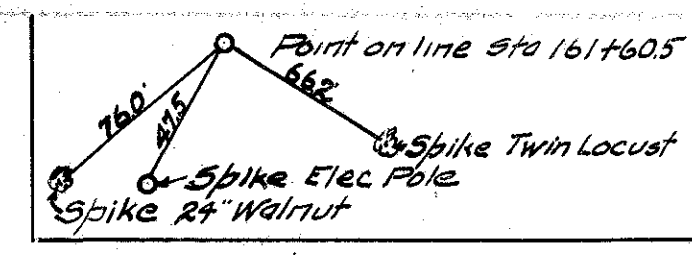
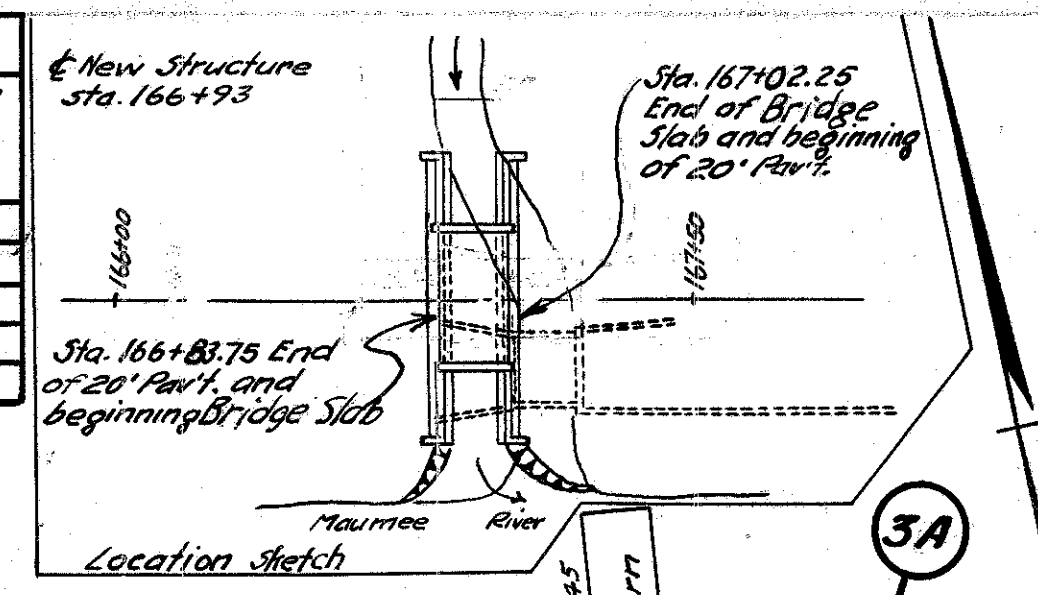
Excavation 7761 cu. yds.
Embankment 15556 cu. yds.
Emb. +15% 17889 cu. yds.
Borrow 10,228 cu. yds.

TRAFFIC BOUND SIDE APPROACHES "A"				
Ref. No.	Station	Rt. or Lt.	Aggregate Cu. Yds.	Remarks.
1-A	147+17	Lt.	8	
2-A	154+90	Rt.	30	
3-A	158+18	Lt.	10	
4-A	165+14	Lt.	5	
Various			6	2 Mail Box Turnouts
TOTAL			59	Aggregate to be placed as directed by Engr.



P.I. Sta. 145+98.71
 $\Delta = 40^\circ 24' Lt$
 $D = 0^\circ 30'$
 $R = 114.53$
 $T = 114.53$
 $L = 880.00$
 See sheet No. 10 for schedule of superelevation.

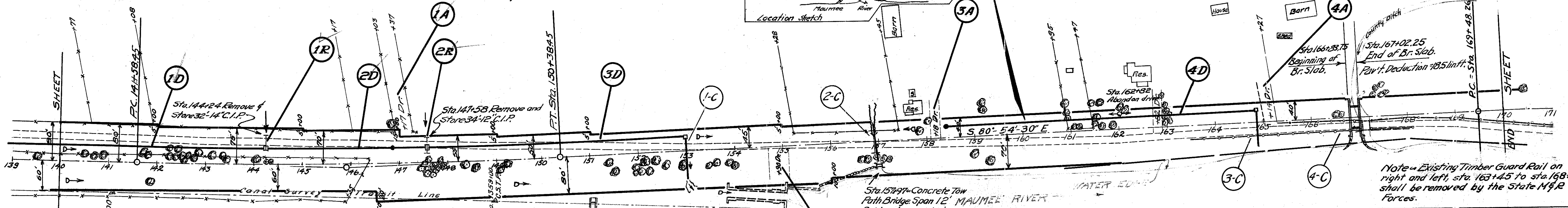
PIPE REMOVALS "R"			
Ref. No.	Station	Pipe Removed and Stored Lin. Ft.	
1-R	144+24	12"	32
2-R	147+58	34"	
TOTAL		34	32



FED. AID DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR.
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S.H. No. 51. HENRY

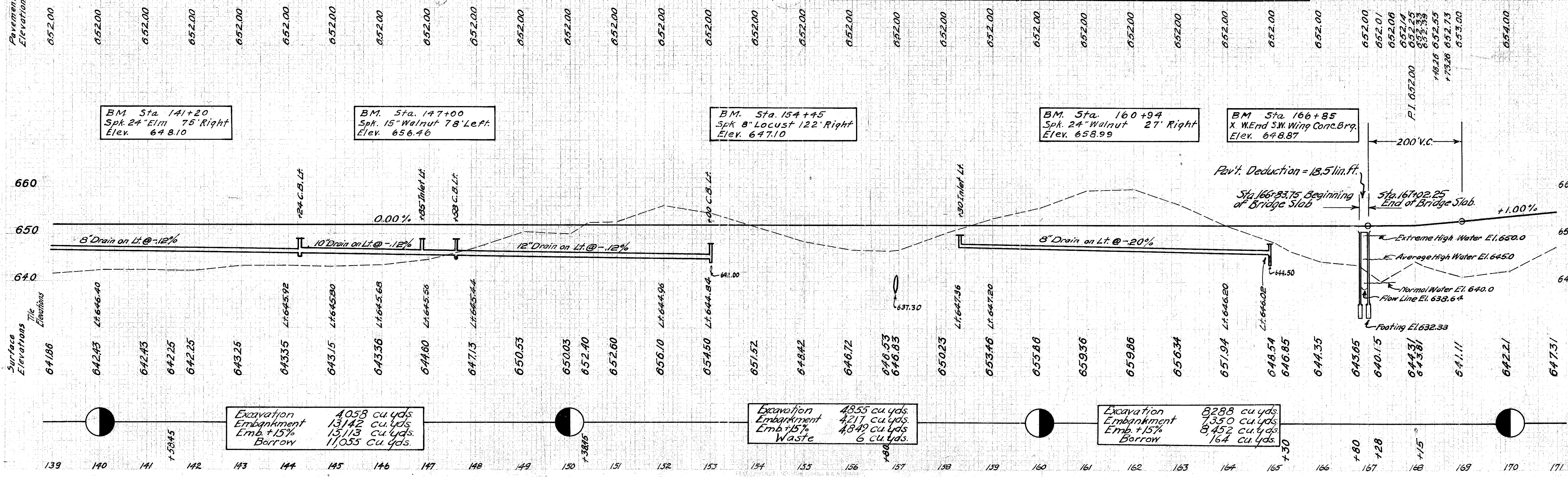
SEC. O. (Pt) COUNTY.



ROADWAY DRAINAGE "D"									
Ref. No.	Station		Rt. or Lt.	Drain Tile, Sec. M-6.7 including Porous Backfill Lin. Ft.		Plain Concrete Pipe, Sec. M-6.5 Lin. Ft.	Std. No. 12 Catch Basin Each	SPECIAL Side Ditch Inlets Each	Remarks.
	From	To		8"	10"				
1-D	140+00	144+25	Lt.	423			1		Build C.B. Sta. 144+24
2-D	144+25	147+57	Lt.	330			1		Build Inlet Sta. 146+85
3-D	147+57	152+99	Lt.			540	1		Build C.B. Sta. 147+58
4-D	158+29	164+89	Lt.	658			1		Build Inlet Sta. 158+30
TOTALS:				1081	330	540	2	2	

STRUCTURES UNDER 20 FT. SPAN											
Ref. No.	Station	Type	Size	Structure Excavation Cu. Yds.	R.C.P. (b) Sec. M-6.6 Lin. Ft.		18" Cor. Metal Pipe Lin. Ft.	Catch Basin Std. No. 12 Each	Removal of existing structures.	Remarks	Concrete 1-5/2 MIX Cu. Yds.
					12"	48"					
1-C	153+00	Rdwy. Cul.	12" x 72"	75	72	48	10	1	Lump	See sheet No. 50 for details.	
2-C	156+93.5	Rdwy. Cul.	48" x 80"	102		30			Lump	See sheet No. 51 for details.	5.02
3-C	164+90	Rdwy. Cul.	12" x 60"	33	60		10	1	Lump	See sheet No. 51 for details.	
4-C	166+93	Slab Bridge	16' Span						Lump	See sheet No. 52 for details & quantities.	
TOTALS:				210	132	30	20	2	Lump		5.02

TREE REMOVALS			TREE REMOVALS (cont.)		
Station	Kind	Location	Station	Kind	Location
141+84	8' Ash	161 ft.	149+04	12' Elm	12 ft.
142+20	8' Elm	15 ft.	149+28	8' Ash	5 ft.
142+30	8' Ash	15 ft.	152+17	8' Elm	19 ft.
142+52	8' Elm	13 ft.	161+11	20' Walnut	6 ft.
142+54	8' Ash	15 ft.	161+51	14' Locust	14 ft.
143+17	8' Elm	15 ft.	161+60	16' Walnut	7 ft.
143+38	8' Elm	17 ft.	161+82	12' Walnut	7 ft.
144+08	10' Ash	12 ft.	161+99	30' Locust	8 ft.
144+31	12' Ash	3 ft.	164+87	24' Poplar	11 ft.
147+45	8' Willow	14 ft.	166+34	12' Locust	2 ft.
147+50	10' Coff.	22 ft.	166+36	10' Locust	2 ft.
147+65	10' Coff.	22 ft.	166+58	10' Locust	2 ft.
147+69	8' Ash	4 ft.			
147+98	8' Ash	4 ft.			
148+42	8' Apple	1 ft.			
148+58	8' Ash	12 ft.			
Sub-total to Sta. 148+58			Sub-total to Sta. 148+58		
16 Trees			16 Trees		
			Total = 28 Trees		

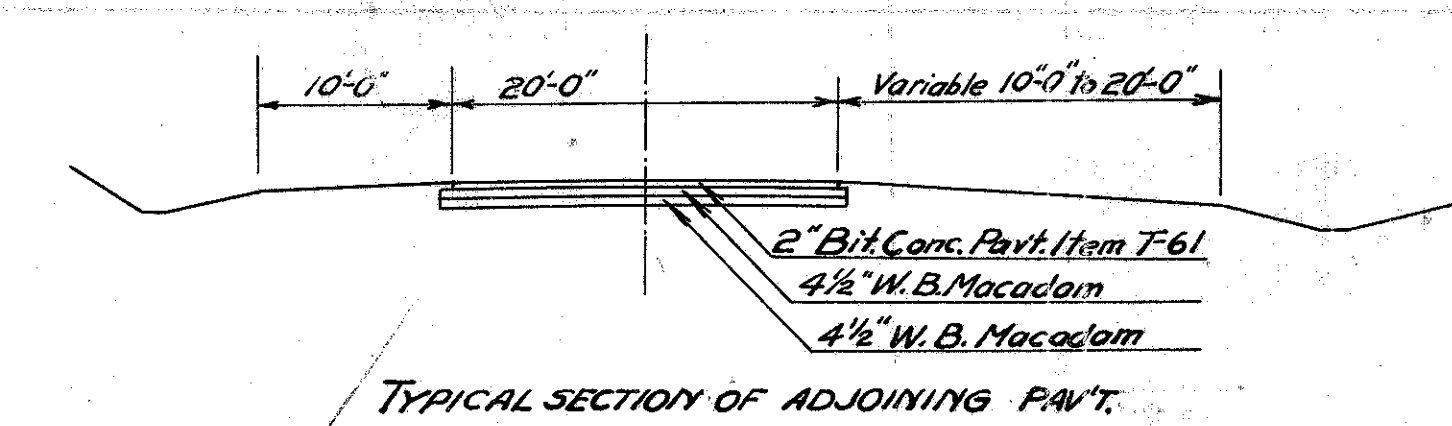
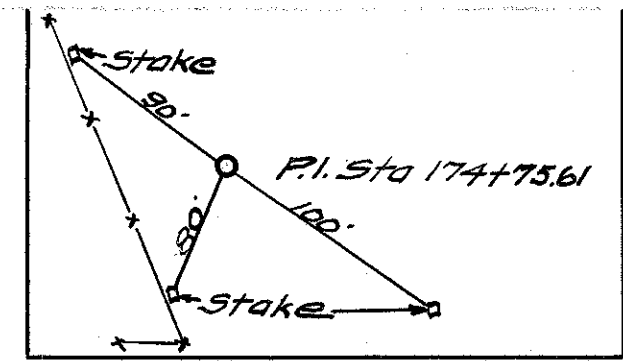


Excavation	4058 cu. yds.
Embankment	13142 cu. yds.
Emb. +15%	13113 cu. yds.
Borrow	11,055 cu. yds.

Excavation	4855 cu. yds.
Embankment	4217 cu. yds.
Emb. +15%	4849 cu. yds.
Waste	6 cu. yds.

Excavation	8288 cu. yds.
Embankment	1350 cu. yds.
Emb. +15%	8452 cu. yds.
Borrow	164 cu. yds.

TRAFFIC BOUND SIDE APPROACHES "A"				
Ref. No.	Station	Rt. or Lt.	Aggregate Cu. Yds.	Remarks
I-A	179+50	Lt.	4	
TOTAL			4	

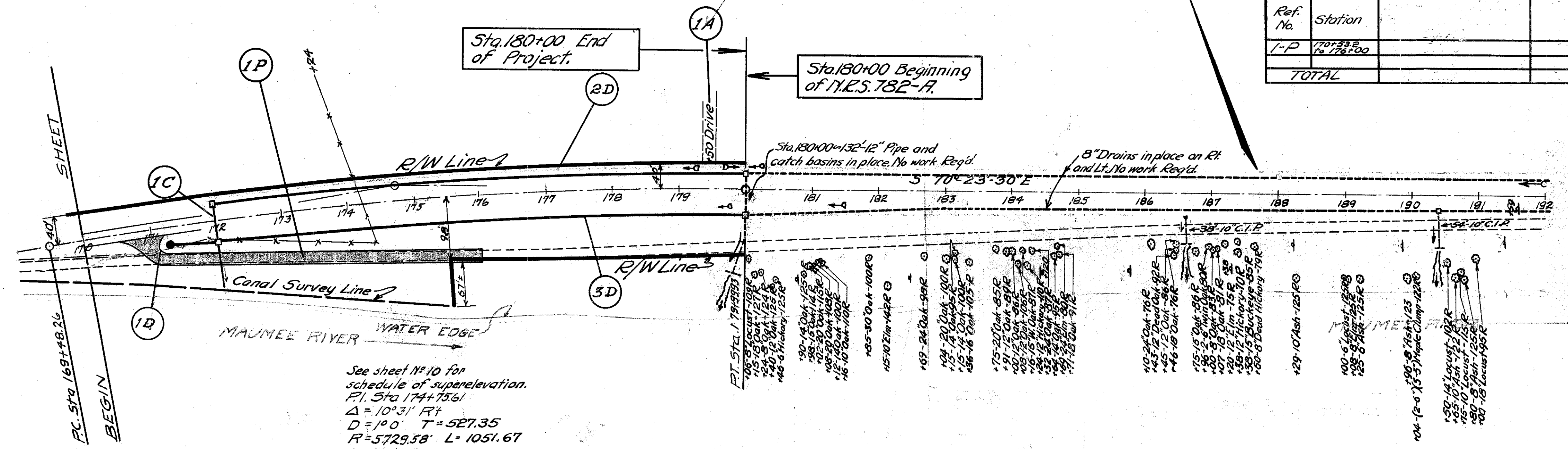


FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR.	8 54
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S. H. No 51
HENRY

SEC. O. (Pt.)
COUNTY

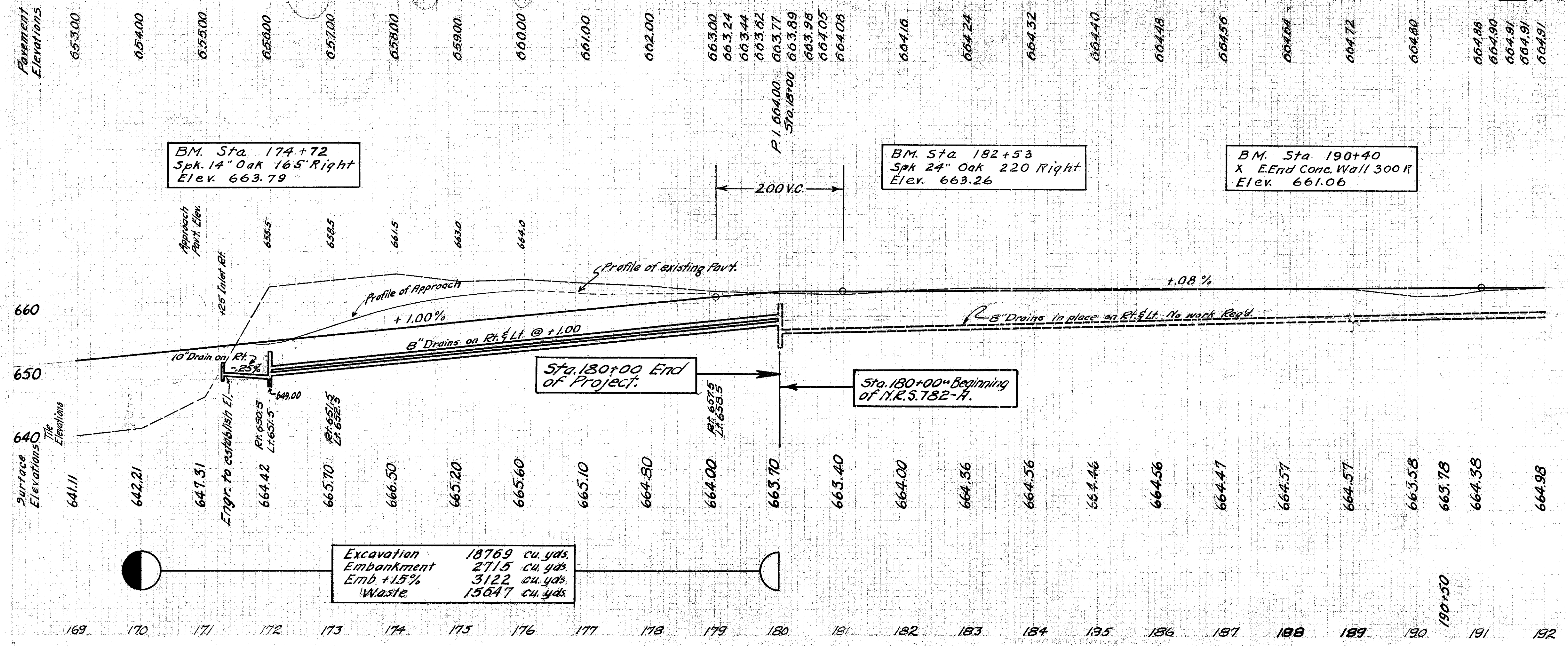
EXTRA PAVEMENT "P" See Sheet No 48 for details.				
Ref. No.	Station		Finishing Shoulders Slopes and Ditches (both sides) Lin. Ft.	Aggregate Cu. Yds.
I-P	179+50 to 179+00		501	84.7
TOTAL			501	84.7



See sheet No 10 for schedule of super-elevation.
 P.I. Sta 174+75.61
 $\Delta = 10^{\circ}31' \text{ Ft}$
 $D = 120'$ $T = 527.35$
 $R = 5729.58'$ $L = 1051.67$

ROADWAY DRAINAGE "D"							
Ref. No.	Station		Rt. or Lt.	Drain Tile, Sec. M-6.7	Plain Concrete	SPECIAL Side Ditch Inlets Each	Remarks.
	From	To		8"	10"		
I-D	171+24	171+99	Rt.		73	1	Build Inlet Sta 171+25
2-D	172+01	179+99	Lt.	79.8			
3-D	172+01	179+99	Rt.	79.8			
TOTALS				1596	73	1	

STRUCTURES UNDER 20 FT. SPAN								
Ref. No.	Station	Type	Size	Structure Excavation Cu. Yds.	RC.P.(W) Sec. M-6.6	18" Carr. Metal Pipe	Catch Basins 5'x1'x1'-2" Each	Remarks
					Lin. Ft.	Lin. Ft.		
I-C	172+00	Rdwy. Cul.	12'x11'	60	111	10	2	See sheet 179.51 for details.
TOTALS				60	111	10	2	



BM. Sta 174+72
 Spk. 14" Oak 16.5" Right
 Elev. 663.79

BM. Sta 182+53
 Spk. 24" Oak 220 Right
 Elev. 663.26

BM. Sta 190+40
 X E. End Conc. Wall 300 R
 Elev. 661.06

Excavation	18759 cu. yds.
Embankment	2715 cu. yds.
Emb +15%	3122 cu. yds.
Waste	15647 cu. yds.

P.C. 0-(6+03.5) P.T. 2+46.5
D = 1'00" R

LEFT				RIGHT			
Add to Edge Gr.	Edge of Pav't	Width	Station	Grade Elev.	Width	Edge of Pav't	Deduct from Gr. Elev.
0.00	665.51	10'	0-(7+03.5)	665.08		665.51	0.17
.06	665.59		0-(6+78.5)	665.70		665.51	
.12	665.67		0-(6+53.5)	665.72		665.51	
.18	665.75		0-(6+28.5)	665.74		665.51	
.24	665.83		0-(6+03.5)	665.76		665.51	
.30	665.91		0-(5+78.5)	665.78		665.01	
.36	665.99		0-(5+53.5)	665.80		665.63	
	665.99		0-(5+28.5)	665.80		665.63	
	666.01		0-(5+03.5)	665.82		665.63	
	666.03		0-(4+78.5)	665.84		665.63	
	666.05		0-(4+53.5)	665.86		665.63	
	666.07		0-(4+28.5)	665.88		665.63	
	666.09		0-(4+03.5)	665.90		665.73	
	666.11		0-(3+78.5)	665.92		665.73	
	666.13		0-(3+53.5)	665.94		665.75	
	666.13		0-(3+28.5)	665.94		665.75	
	666.12		0-(3+03.5)	665.93		665.76	
	666.10		0-(2+78.5)	665.91		665.74	
	666.07		0-(2+53.5)	665.88		665.71	
	666.04		0-(2+28.5)	665.85		665.68	
	665.99		0-(2+03.5)	665.80		665.63	
	665.94		0-(1+78.5)	665.75		665.58	
	665.89		0-(1+53.5)	665.70		665.53	
	665.84		0-(1+28.5)	665.65		665.48	
	665.79		0-(1+03.5)	665.60		665.43	
	665.74		0-(78.5)	665.55		665.38	
	665.69		0-(53.5)	665.50		665.33	
	665.64		0-(28.5)	665.45		665.28	
	665.59		0+00	665.40		665.23	
	665.54		0+25	665.35		665.18	
	665.49		0+50	665.30		665.13	
	665.44		0+75	665.25		665.08	
	665.39		1+00	665.20		665.03	
	665.34		1+25	665.15		664.98	
	665.29		1+50	665.10		664.93	
	665.24		1+75	665.05		664.88	
.36	665.20		1+98.5	665.01		664.84	
.30	665.09		2+21.5	664.96		664.79	
.24	664.98		2+46.5	664.91		664.74	
.18	664.87		2+71.5	664.86		664.69	
.12	664.76		2+96.5	664.81		664.64	
.06	664.65		3+21.5	664.76		664.59	
0.00	664.54	10'	3+46.5	664.71	10'	664.54	0.17

P.C. 11+00.3 P.I. 19+44.7
D = 1'20" L

LEFT				RIGHT			
Deduct from Gr. Elev.	Edge of Pav't	Width	Station	Grade Elev.	Width	Edge of Pav't	Add to L. Edge Gr.
0.17	663.23	10'	11+00.33	663.40	10'	663.23	0.00
	663.18		+25.33	663.35		663.25	.07
	663.13		+50.33	663.30		663.27	.14
	663.08		+75.33	663.25		663.29	.21
	663.03		11+00.33	663.20		663.31	.28
	662.98		+25.33	663.15		663.33	.35
	662.93		+50.33	663.10		663.35	.42
	662.88		+75.00	663.05		663.30	
	662.83		12+00	663.00		663.25	
	662.78		+25	662.95		663.20	
	662.73		+50	662.90		663.15	
	662.68		+75	662.85		663.10	
	662.63		13+00	662.80		663.05	
	662.58		+25	662.75		663.00	
	662.53		+50	662.70		662.95	
	662.48		+75	662.65		662.90	
	662.43		14+00	662.60		662.85	
	662.38		+25	662.55		662.80	
	662.33		+50	662.50		662.75	
	662.28		+75	662.45		662.70	
	662.23			662.40		662.65	
	662.18		+25	662.35		662.60	
	662.13		+50	662.30		662.55	
	662.08		+75	662.25		662.50	
	662.03		16+00	662.20		662.45	
	661.97		+25	662.14		662.38	
	661.88		+50	662.05		662.30	
	661.77		+75	661.94		662.19	
	661.63		+10	661.80		662.05	
	661.47		+25	661.64		661.89	
	661.38			661.55		661.80	
	661.07		+75	661.24		661.49	
	660.83		18+00	661.00		661.25	
	660.68		+25	660.75		661.00	
	660.33		+50	660.50		660.75	
	660.08		+75	660.25		660.50	
	659.88		19+44.7	660.05		660.30	.42
	659.63		19+19.7	659.80		659.98	.35
	659.38		19+44.7	659.55		659.66	.28
	659.13		19+69.7	659.30		659.34	.21
	658.88		19+94.7	659.05		659.02	.14
	658.63		20+19.7	658.80		658.70	.07
0.17	658.38	10'	20+44.7	658.55	10'	658.38	0.00

P.C. 24+12.13 P.T. 35+67.13
D = 2'00"

LEFT				RIGHT			
Add to R. Edge Gr.	Edge of Pav't	Width	Station	Grade Elev.	Width	Edge of Pav't	Deduct from Gr. Elev.
0.00	655.71	10'	23+12.13	655.88	10'	655.71	0.17
.09	655.55		23+37.13	655.63		655.48	
.18	655.39		23+62.13	655.38		655.21	
.27	655.23		23+87.13	655.13		654.96	
.36	655.07		24+12.13	654.88		654.71	
.45	654.91		24+37.13	654.63		654.46	
.54	654.75		24+62.13	654.38		654.21	
	654.62		24+75	654.25		654.08	
	654.37		25+00	654.00		653.83	
	654.12		+25	653.75		653.58	
	653.87		+50	653.50		653.33	
	653.62		+75	653.25		653.08	
	653.37		26+00	653.00		652.83	
	653.13		+25	652.76		652.59	
	652.93		+50	652.56		652.39	
	652.76		+75	652.39		652.22	
	652.62		27+00	652.25		652.08	
	652.51		+25	652.14		651.97	
	652.43		+50	652.06		651.89	
	652.38		+75	652.01		651.84	
	652.37		28+00	652.00		651.83	
			+25				
			+50				
			+75				
			29+00				
			+25				
			+50				
			+75				
			30+00				
			+25				
			+50				
			+75				
			31+00				
			+25				
			+50				
			+75				
			32+00				
			+25				
			+50				
			+75				
			33+00				
			+25				
			+50				
			+75				
			34+00				
			+25				
			+50				
			+75				
			35+00				
.54	652.37		+17.13				
.45	652.28		+42.13				
.36	652.19		+67.13				
.27	652.10		+92.13				
.18	652.01		36+17.13				
.09	651.92		+42.13				
0.00	651.83	10'	36+17.13	652.00	10'	651.83	0.17

P.C. 48+68.41 P.T. 62+41
D = 2'00"

LEFT				RIGHT			
Deduct from Gr. Elev.	Edge of Pav't	Width	Station	Grade Elev.	Width	Edge of Pav't	Add to L. Edge Gr.
.17	651.83	10'	47+68.41	652.00	10'	651.83	0.00
			47+93.41			651.92	.09
			48+18.41			652.01	.18
			48+43.41			652.10	.27
			48+68.41			652.19	.36
			48+93.41			652.28	.45
			49+18.41			652.37	.54
			+25				
			+50				
			+75				
			50+00				
			+25				
			+50				
			+75				
			51+00				
			+25				
			+50				
			+75				
			52+00				
			+25				
			+50				
			+75				
			53+00				
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			55+00				
			+25				
			+50				
			+75				
			56+00				
			+25				
			+50				
			+75				
			57+00				
			+25				
			+50				
			+75				
			58+00				
			+25				
			+50				
			+75				
			59+00				
			+25				
			+50				
			+75				
			60+00				
			+25				
			+50				
			+75				
			61+00				
			+25				
			+50				
			+75				
			62+00				
			+25				
			+50				
			+75				
			62+41				
			+25				
			+50				
			+75				

S.H.N. 51 HENRY COUNTY SEC. 0 (PH)

P.C. 79+76.55 D = 0° 30' P.T. 101+38.22

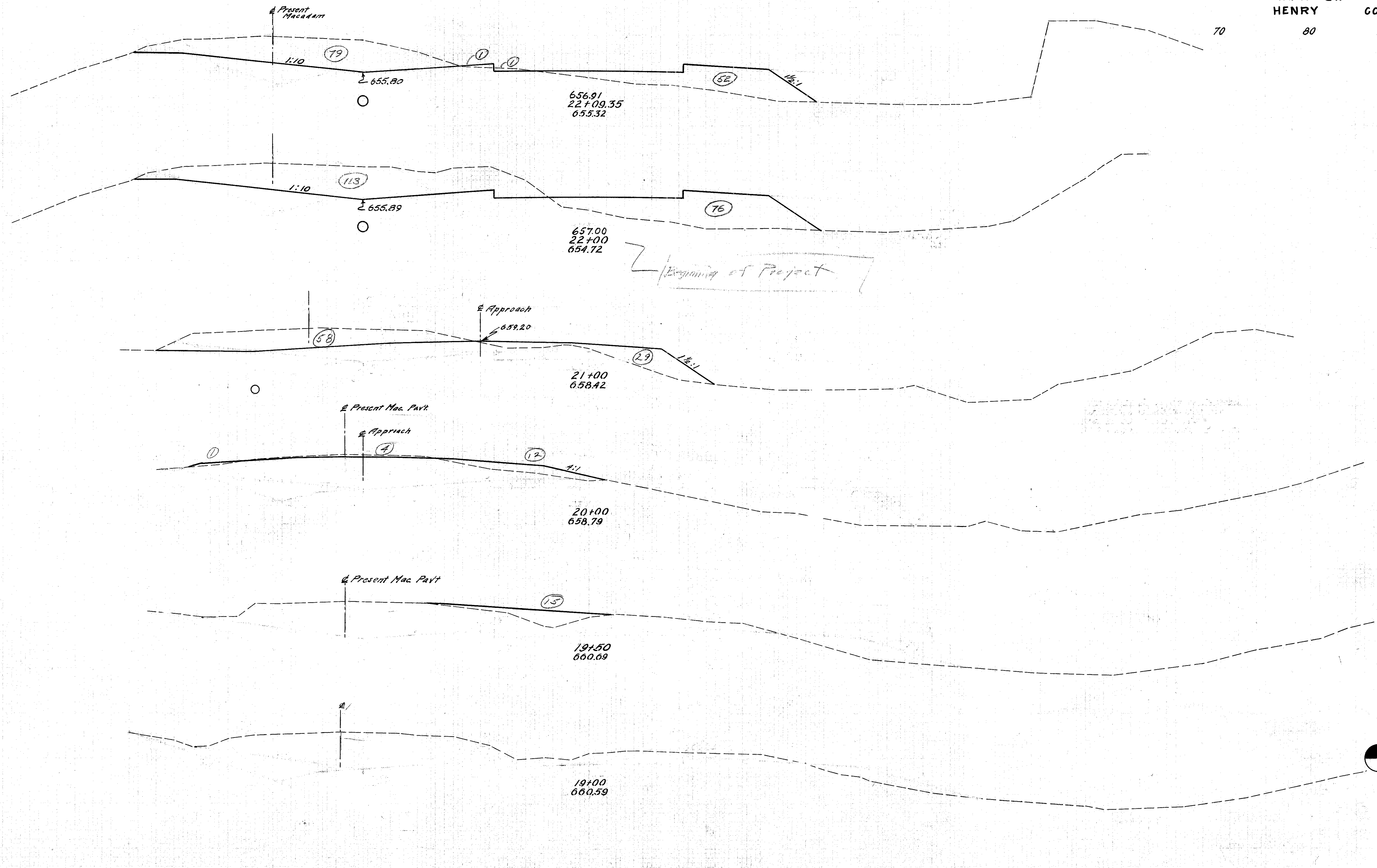
LEFT				RIGHT			
Add to R. Edge of Pav't	Edge of Pav't	Width	Station	Grade Elev.	Width	Edge of Pav't	Deduct from Gr. Elev.
0.00	653.65	10'	78+76.55	653.82	10'	653.65	.17
.03	653.70		79+01.55	653.84		653.67	
.06	653.75		+26.55	653.86		653.69	
.09	653.80		+51.55	653.88		653.71	
.12	653.85		79+176.55	653.90		653.73	
.15	653.90		80+01.55	653.92		653.75	
.18	653.95		80+26.55	653.94		653.77	
	+50			653.96		653.79	
	+75			653.98		653.81	
	+100			654.00		653.83	
	+125			654.02		653.85	
	+150			654.04		653.87	
	+175			654.06		653.89	
	+200			654.08		653.91	
	+225			654.10		653.93	
	+250			654.12		653.95	
	+275			654.14		653.97	
	+300			654.16		653.99	
	+325			654.18		654.01	
	+350			654.20		654.03	
	+375			654.22		654.05	
	+400			654.24		654.07	
	+425			654.26		654.09	
	+450			654.28		654.11	
	+475			654.30		654.13	
	+500			654.32		654.15	
	+525			654.34		654.17	
	+550			654.36		654.19	
	+575			654.38		654.21	
	+600			654.40		654.23	
	+625			654.42		654.25	
	+650			654.44		654.27	
	+675			654.46		654.29	
	+700			654.48		654.31	
	+725			654.50		654.33	
	+750			654.52		654.35	
	+775			654.54		654.37	
	+800			654.56		654.39	
	+825			654.58		654.41	
	+850			654.60		654.43	
	+875			654.62		654.45	
	+900			654.64		654.47	
	+925			654.66		654.49	
	+950			654.68		654.51	
	+975			654.70		654.53	
	+1000			654.72		654.55	
	+1025			654.74		654.57	
	+1050			654.76		654.59	
	+1075			654.78		654.61	
	+1100			654.80		654.63	
	+1125			654.82		654.65	
	+1150			654.84		654.67	
	+1175			654.86		654.69	
	+1200			654.88		654.71	
	+1225			654.90		654.73	
	+1250			654.92		654.75	
	+1275			654.94		654.77	
	+1300			654.96		654.79	
	+1325			654.98		654.81	
	+1350			655.00		654.83	
	+1375			655.02		654.85	
	+1400			655.04		654.87	
	+1425			655.06		654.89	
	+1450			655.08		654.91	
	+1475			655.10		654.93	
	+1500			655.12		654.95	
	+1525			655.14		654.97	
	+1550			655.16		654.99	
	+1575			655.18		655.01	
	+1600			655.20		655.03	
	+1625			655.22		655.05	
	+1650			655.24		655.07	
	+1675			655.26		655.09	
	+1700			655.28		655.11	
	+1725			655.30		655.13	
	+1750			655.32		655.15	
	+1775			655.34		655.17	
	+1800			655.36		655.19	
	+1825			655.38		655.21	
	+1850			655.40		655.23	
	+1875			655.42		655.25	
	+1900			655.44		655.27	
	+1925			655.46		655.29	
	+1950			655.48		655.31	
	+1975			655.50		655.33	
	+2000			655.52		655.35	
	+2025			655.54		655.37	
	+2050			655.56		655.39	
	+2075			655.58		655.41	
	+2100			655.60		655.43	
	+2125			655.62		655.45	
	+2150			655.64		655.47	
	+2175			655.66		655.49	
	+2200			655.68		655.51	
	+2225			655.70		655.53	
	+2250			655.72		655.55	
	+2275			655.74		655.57	
	+2300			655.76		655.59	
	+2325			655.78		655.61	
	+2350			655.80		655.63	
	+2375			655.82		655.65	
	+2400			655.84		655.67	
	+2425			655.86		655.69	
	+2450			655.88		655.71	
	+2475			655.90		655.73	
	+2500			655.92		655.75	
	+2525			655.94		655.77	
	+2550			655.96		655.79	
	+2575			655.98		655.81	
	+2600			656.00		655.83	
	+2625			656.02		655.85	
	+2650			656.04		655.87	
	+2675			656.06		655.89	
	+2700			656.08		655.91	
	+2725			656.10		655.93	
	+2750			656.12		655.95	
	+2775			656.14		655.97	
	+2800			656.16		655.99	
	+2825			656.18		656.01	
	+2850			656.20		656.03	
	+2875			656.22		656.05	
	+2900			656.24		656.07	
	+2925			656.26		656.09	
	+2950			656.28		656.11	
	+2975			656.30		656.13	
	+3000			656.32		656.15	
	+3025			656.34		656.17	
	+3050			656.36		656.19	
	+3075			656.38		656.21	
	+3100			656.40		656.23	
	+3125			656.42		656.25	
	+3150			656.44		656.27	
	+3175			656.46		656.29	
	+3200			656.48		656.31	
	+3225			656.50		656.33	
	+3250			656.52		656.35	
	+3275			656.54		656.37	
	+3300			656.56		656.39	
	+3325			656.58		656.41	
	+3350			656.60		656.43	
	+3375			656.62		656.45	
	+3400			656.64		656.47	
	+3425			656.66		656.49	
	+3450			656.68		656.51	
	+3475			656.70		656.53	
	+3500			656.72		656.55	
	+3525			656.74		656.57	
	+3550			656.76		656.59	
	+3575			656.78		656.61	
	+3600			656.80		656.63	
	+3625			656.82		656.65	
	+3650			656.84		656.67	
	+3675			656.86		656.69	
	+3700			656.88		656.71	
	+3725			656.90		656.73	
	+3750			656.92		656.75	
	+3775			656.94		656.77	
	+3800			656.96		656.79	
	+3825			656.98		656.81	
	+3850			657.00		656.83	
	+3875			657.02		656.85	
	+3900			657.04		656.87	
	+3925			657.06		656.89	
	+3950			657.08		656.91	
	+3975			657.10		656.93	
	+4000			657.12		656.95	
	+4025			657.14		656.97	
	+4050			657.16		656.99	
	+4075			657.18		657.01	
	+4100			657.20		657.03	
	+4125			657.22		657.05	
	+4150			657.24		657.07	
	+4175			657.26		657.09	
	+4200			657.28		657.11	
	+4225			657.30		657.13	
	+4250			657.32		657.15	
	+4275			657.34		657.17	
	+4300			657.36		657.19	
	+4325			657.38		657.21	
	+4350			657.40		657.23	
	+4375			657.42		657.25	
	+4400			657.44		657.27	
	+4425			657.46		657.29	
	+4450			657.48		657.31	
	+4475			657.50		657.33	
	+4500			657.52		657.35	
	+4525			657.54		657.37	
	+4550			657.56		657.39	
	+4575			657.58		657.41	
	+4600			657.60		657.43	
	+4625			657.62		657.45	
	+4650			657.64		657.47	
	+4675			657.66		657.49	
	+4700			657.68		657.51	
	+4725			657.70		657.53	
	+4750			657.72		657.55	
	+4775			657.74		657.57	
	+4800			657.76		657.59	
	+4825			657.78		657.61	
	+4850			657.80		657.63	
	+4875			657.82		657.65	
	+4900			657.84		657.67	
	+4925			657.86		657.69	
	+4950			657.88		657.71	
	+4975			657.90		657.73	
	+5000			657.92		657.75	
	+5025			657.94		657.77	
	+5050			657.96		657.79	
	+5075			657.98		657.81	
	+5100			658.00		657.83	
	+5125			658.02		657.85	
	+5150			658.04		657.87	
	+5175			658.06			

60 50 40 30 20 10 E 10 20 30 40 50 60

FED. AID DIST. No	STATE	FED. AID PROJ. No	FISCAL YEAR
10	OHIO		1934

11
54

S.H. No 51. SEC.-0 (Pt.)
HENRY COUNTY



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
80	53		
		33	22
113	76		
		317	194
58	29		
		115	78
4	13		
		4	26
0	15		
		0	14
0	0		

Sta. 19+00 to 22+09.35

60 50 40 30 20 10 E 10 20 30 40 50 60 70 80

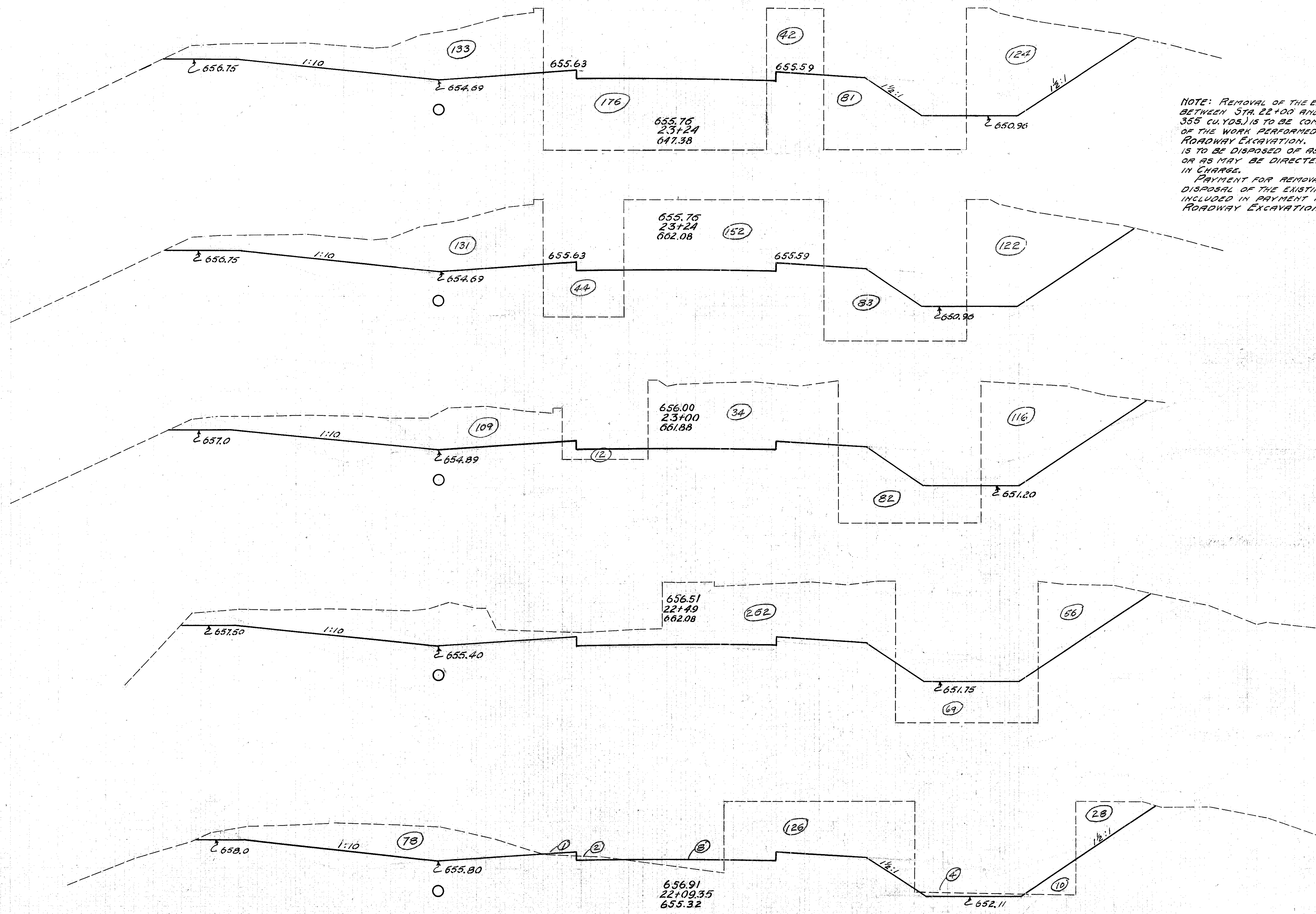
70 60 50 40 30 20 10 ± 10 20 30 40 50 60

FED. AID DIST. NO. 10	STATE OHIO	FED. AID PROJ. NO. 1934	FISCAL YEAR 1934
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12
54

S.H. No 51 HENRY
SEC.-O (Pt) COUNTY

70 80



NOTE: REMOVAL OF THE EXISTING CONCRETE LOCK BETWEEN STA. 22+00 AND STA. 23+40 (APPROX. 355 CU. YDS.) IS TO BE COMPLETED AS A PART OF THE WORK PERFORMED UNDER ITEM E-1, ROADWAY EXCAVATION. ALL BROKEN CONCRETE IS TO BE DISPOSED OF AS PER ITEM E-1.05 OR AS MAY BE DIRECTED BY THE ENGINEER IN CHARGE. PAYMENT FOR REMOVAL, BREAKING UP AND DISPOSAL OF THE EXISTING CONCRETE IS INCLUDED IN PAYMENT FOR ITEM E-1, ROADWAY EXCAVATION.

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
299	257		
405	127		
		340	98
359	94		
		639	154
318	69		
		408	65
238	19		

70 60 50 40 30 20 10 ± 10 20 30 40 50 60

Sta. 22+09.35 to 23+24
80

70 60 50 40 30 20 10 £ 10 20 30 40 50 60

FED. AID DIST. No	STATE	FED. AID PROJ. No	FISCAL YEAR
10	OHIO		1934

13
54

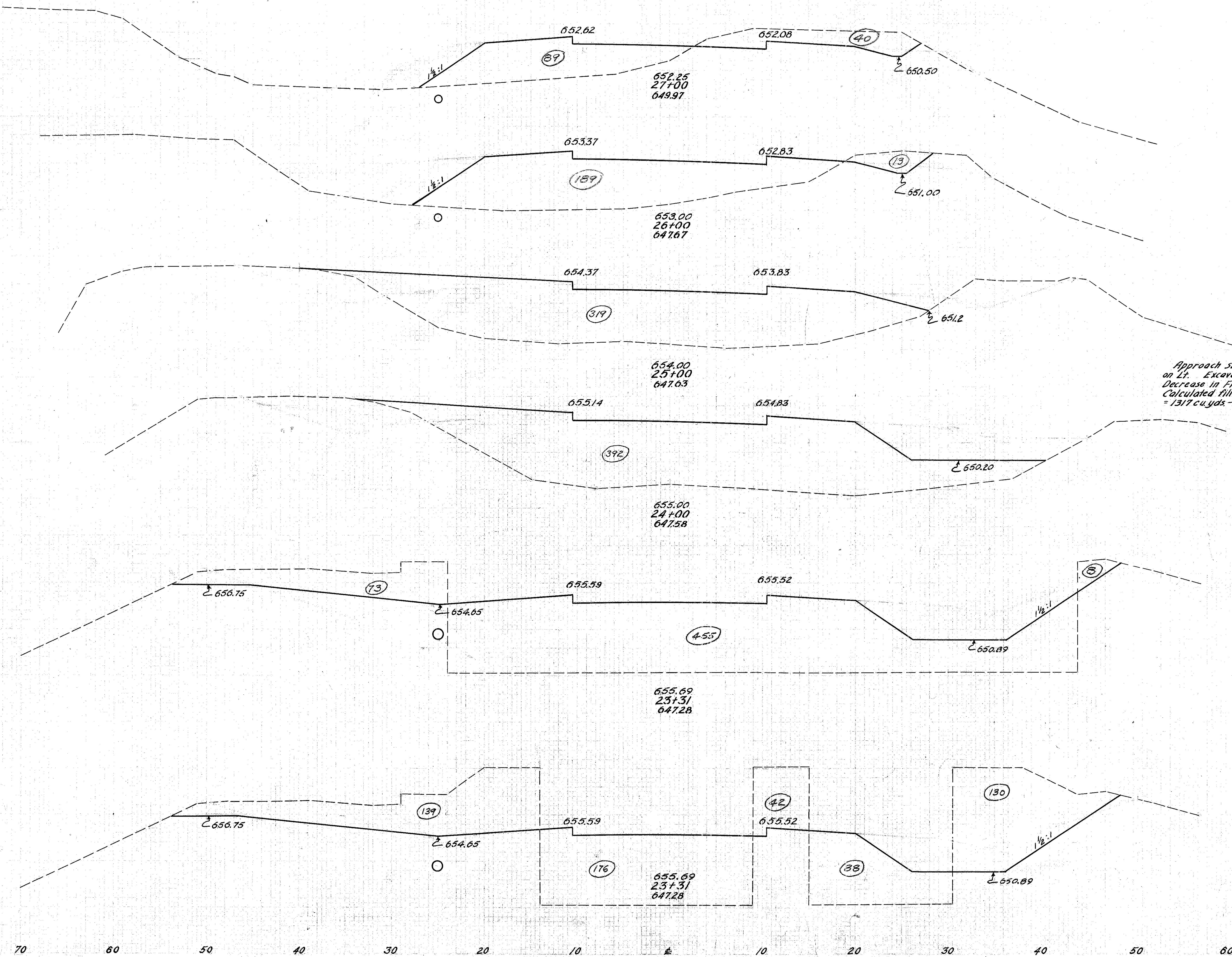
S. H. No 51
HENRY COUNTY

Sta.	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
40	89			
13	189		98	515
0	319		24	941
14	1282			
0	392			
104	1082			
81	455			
311	264			
79	68			

Approach Sta. 24+00 to Sta 24+50
on Lt. Excavation 14 cu. yds.
Decrease in Fill 35 cu. yds.
Calculated fill Sta 24+00 to Sta 25+00
= 1317 cu. yds. - 35 cu. yds. = 1282 cu. yds.

Sta. 19+00 to Sta 30+00

Exca	3101 cu. yds
Emb	5225 cu. yds
Emb @ 15%	6009 cu. yds
Borrow	3008 cu. yds



70 60 50 40 30 20 10 £ 10 20 30 40 50 60

Sta. 23+31 to 27+00

FED. AID DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR
10	OHIO		1934

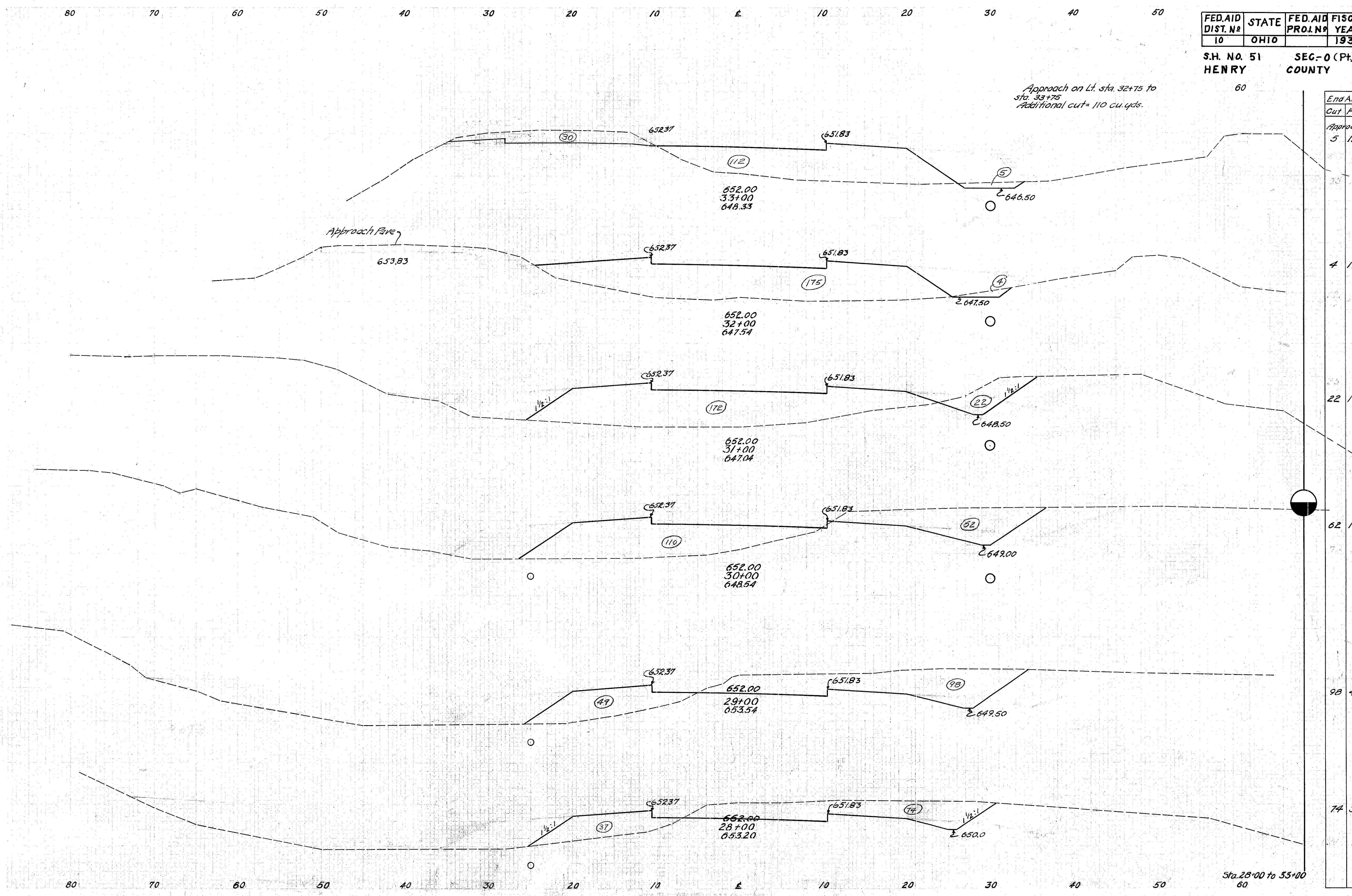
14
54

S.H. No. 51
HENRY COUNTY

SEG-0 (Pt)
COUNTY

60

Approach on Lt. sta. 32+75 to
sta. 33+75
Additional cut = 110 cu. yds.



End Area	Cu. Yds.	
	Cut	Fill
Approach	110	
5	112	
		17 532
4	175	
		48 643
22	172	
		156 522
62	110	
		296 294
98	49	
		319 159
74	37	
		211 233

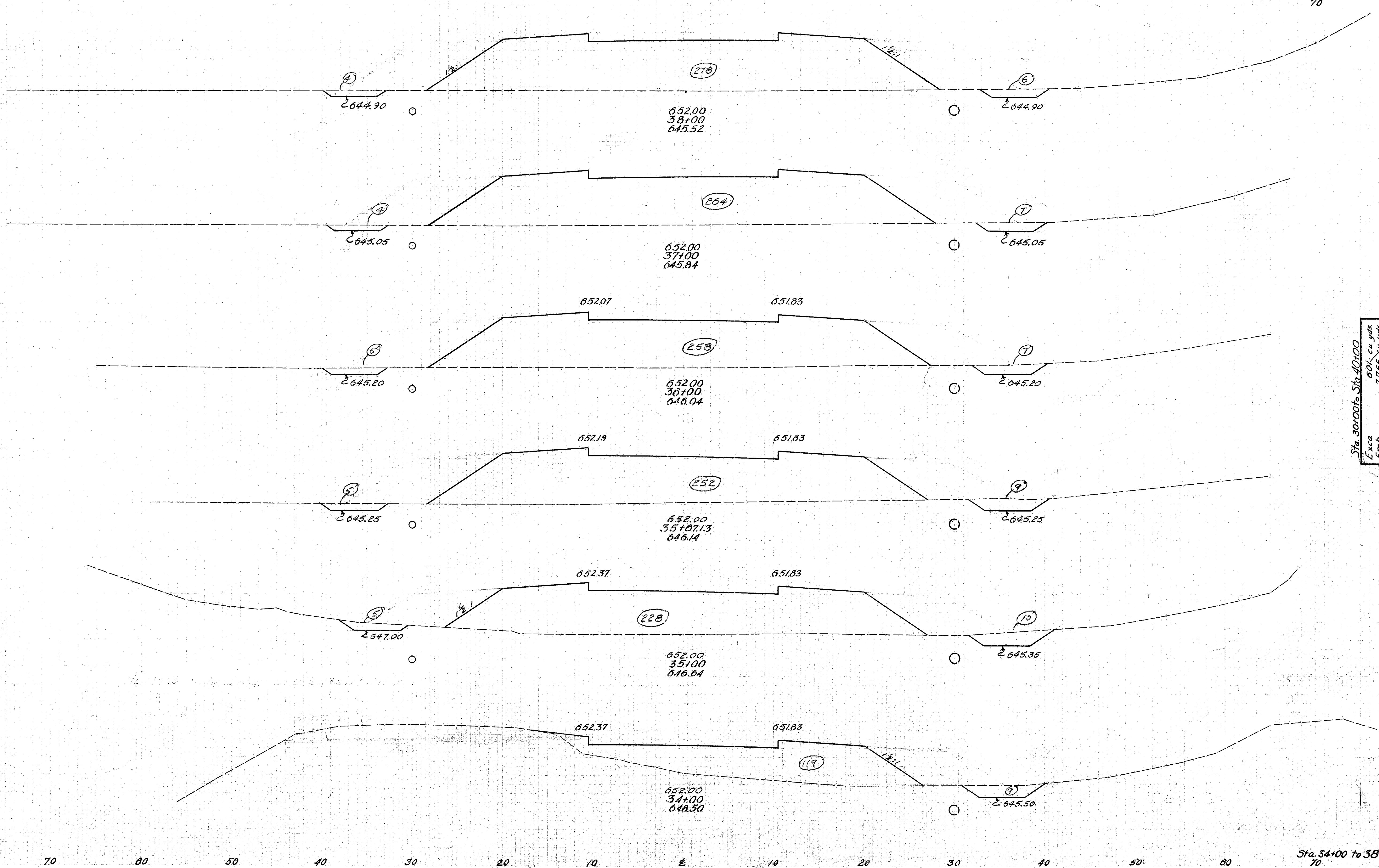
Sta. 28+00 to 35+00
60

70 60 50 40 30 20 10 ± 10 20 30 40 50 60

FED.AID DIST. No 10	STATE OHIO	FED.AID PROJ. No 1934	FISCAL YEAR 1934
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54

S.H. NO. 51 HENRY COUNTY
SEC. 0 (Pt) COUNTY



Sta.	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
10	278			
11	264		39	1004
12	258		43	967
14	252		16	310
15	228		36	597
9	119		144	639
26	428			

Sta. 30+00 to Sta. 40+00
 Exca 60k cu yds
 Emb +15% 7755 cu yds
 Borrow 8918 cu yds
 8317 cu yds

70 60 50 40 30 20 10 ± 10 20 30 40 50 60

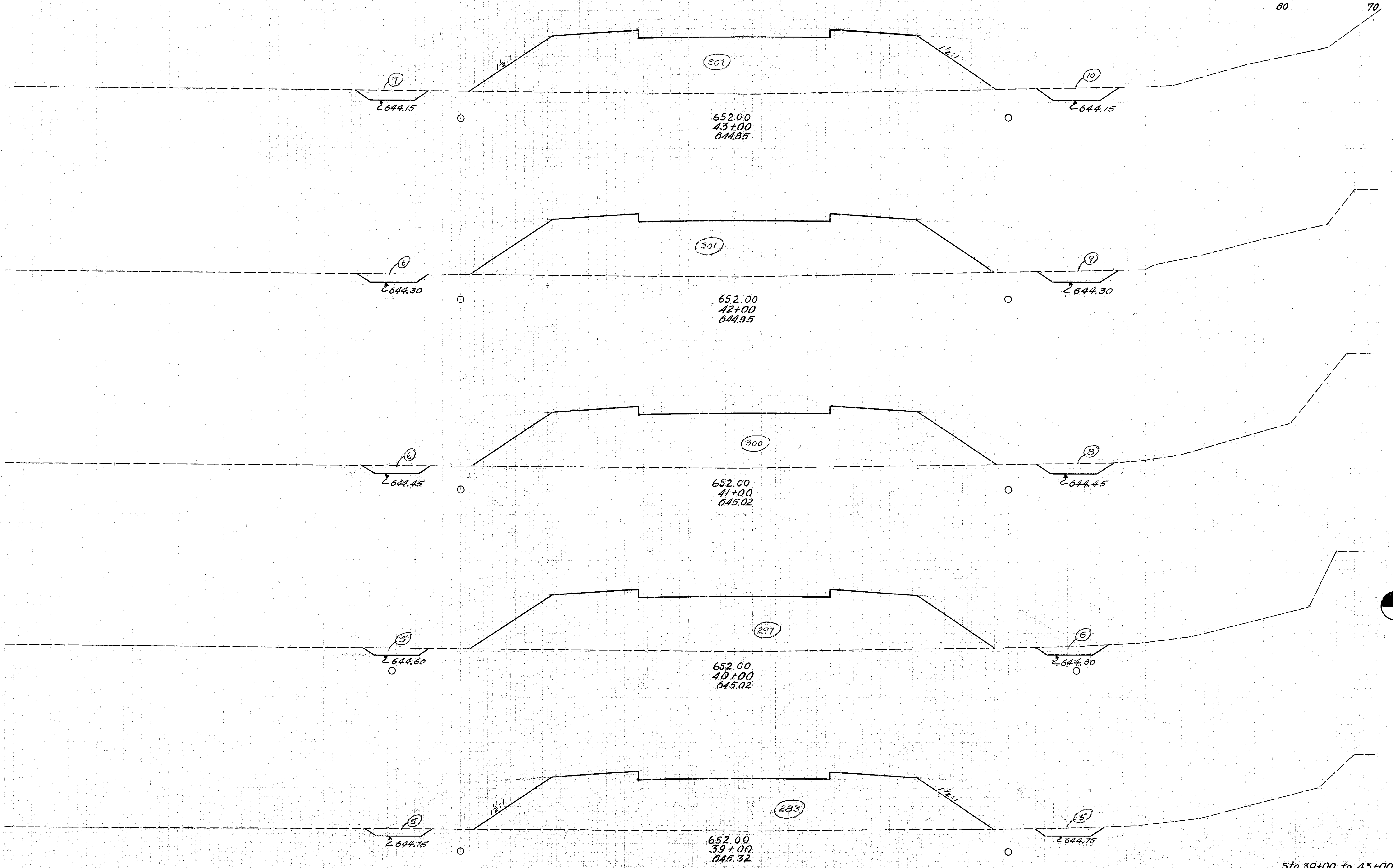
Sta. 34+00 to 38+00

80 70 60 50 40 30 20 10 0 10 20 30 40 50

FED. AID DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR
10	OHIO		1934

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S.H. No 51 HENRY COUNTY
SEC. 0 (Pt) COUNTY



Sta.	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
17	307			59 1126
15	301			54 1113
14	300			46 1106
11	297			39 1074
10	283			37 1039

Sta. 39+00 to 45+00
60 70

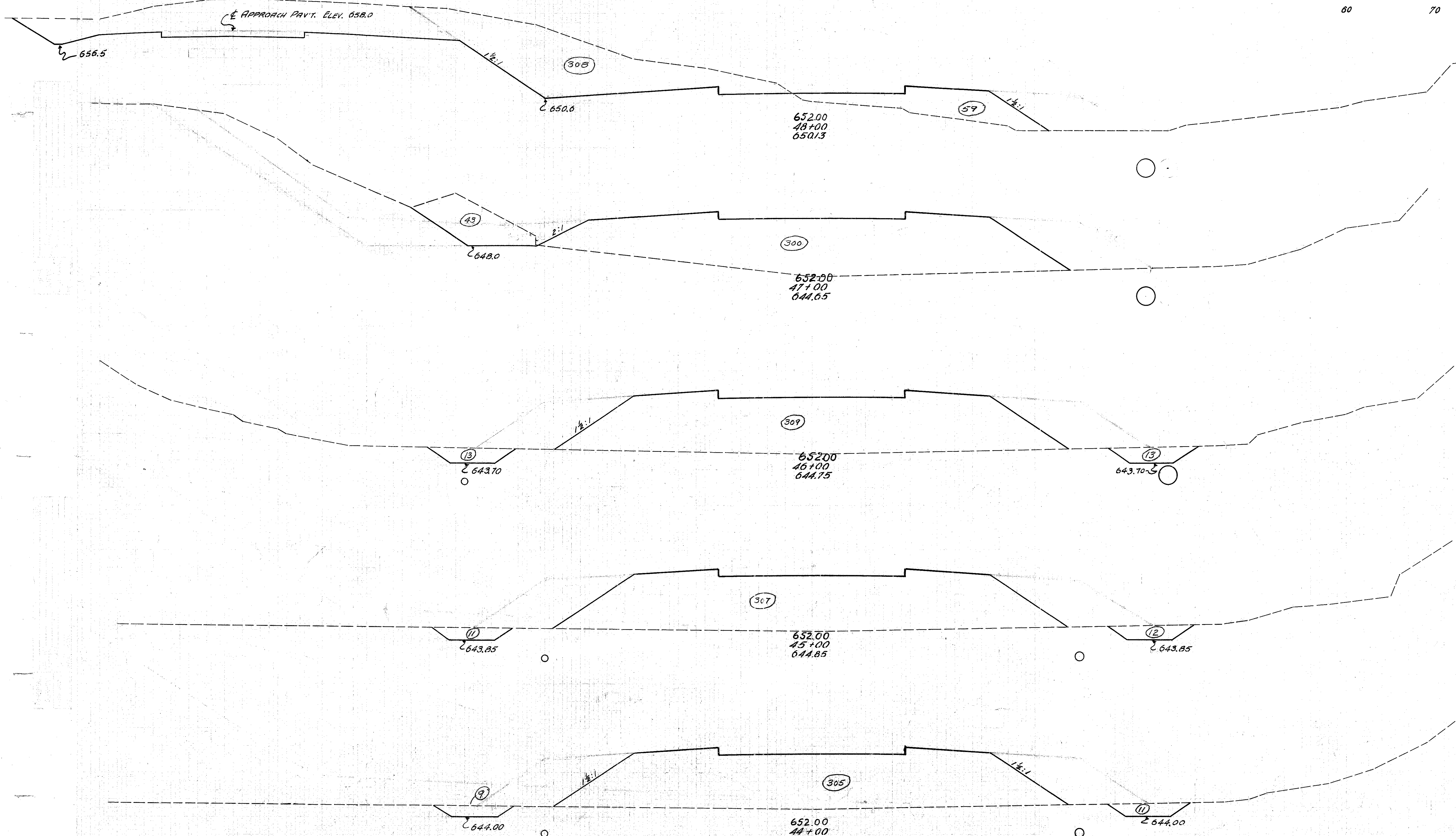
80 70 60 50 40 30 20 10 0 10 20 30 40 50

80 70 60 50 40 30 20 10 0 10 20 30 40 50

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO		1934

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S. H. No 51 HENRY COUNTY
SEC. 0 (Pt)



Sta.	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
60				
70	308	59	650	665
43	300			
35		128	128	
26	309			
91		1141		
23	307			
80		1133		
20	305			
68		1133		

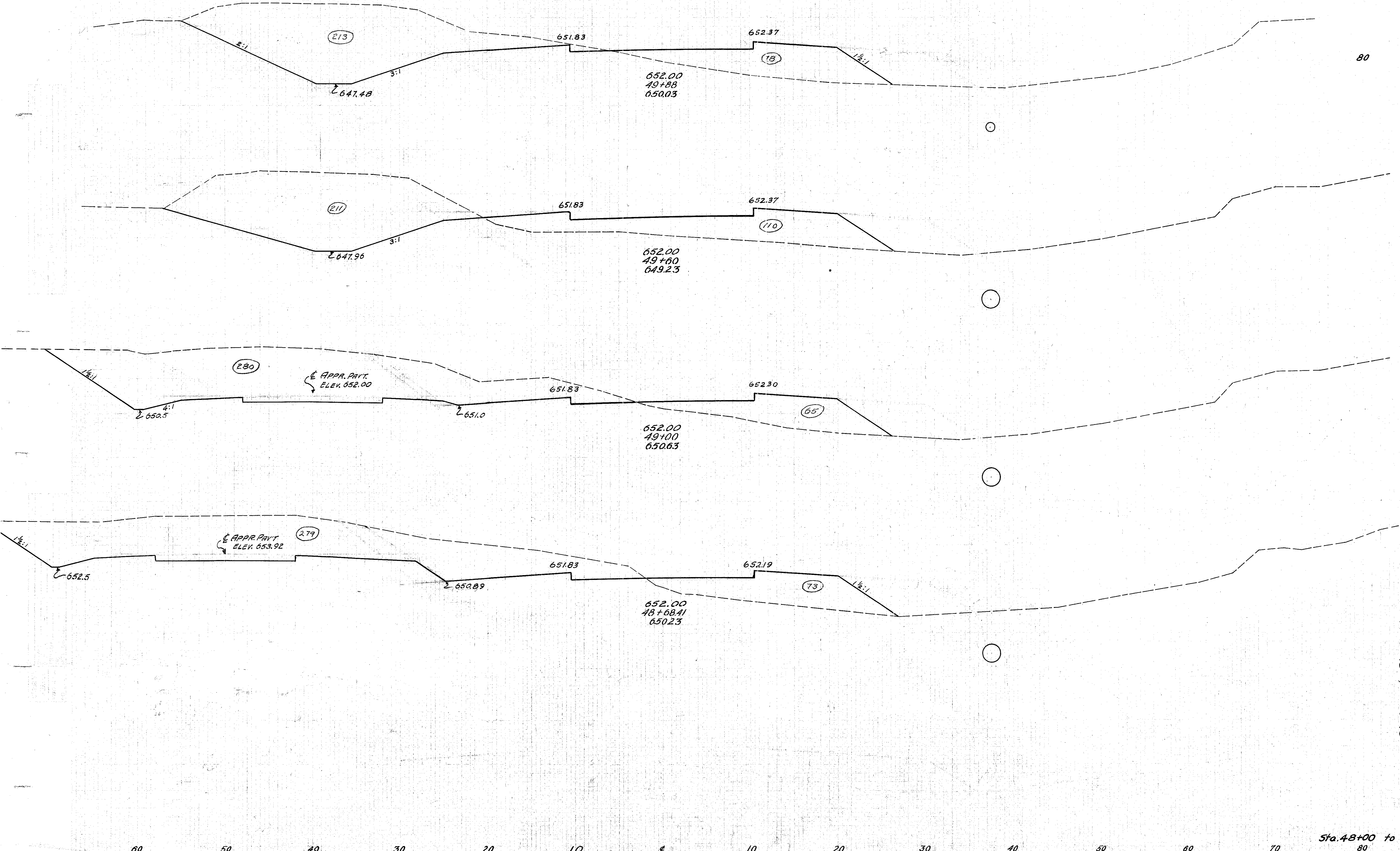
80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 Sta. 44+00 to 43+00

60 50 40 30 20 10 0 10 20 30 40 50 60 70

FED.AID DIST. No 10	STATE OHIO	FED.AID PROJ. No 1934	FISCAL YEAR 1954
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S.H. No 51 HENRY COUNTY
SEC. 0 (Pt) COUNTY



Elev	Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
213	78			220 97
211	110			545 194
280	65			327 81
279	73			743 167

Sta. 40+00 to Sta. 50+26
 Exc. 3333 cu. yds.
 Emb. 9193 cu. yds.
 Emb + 15% 10572 cu. yds.
 Borrow 7239 cu. yds.

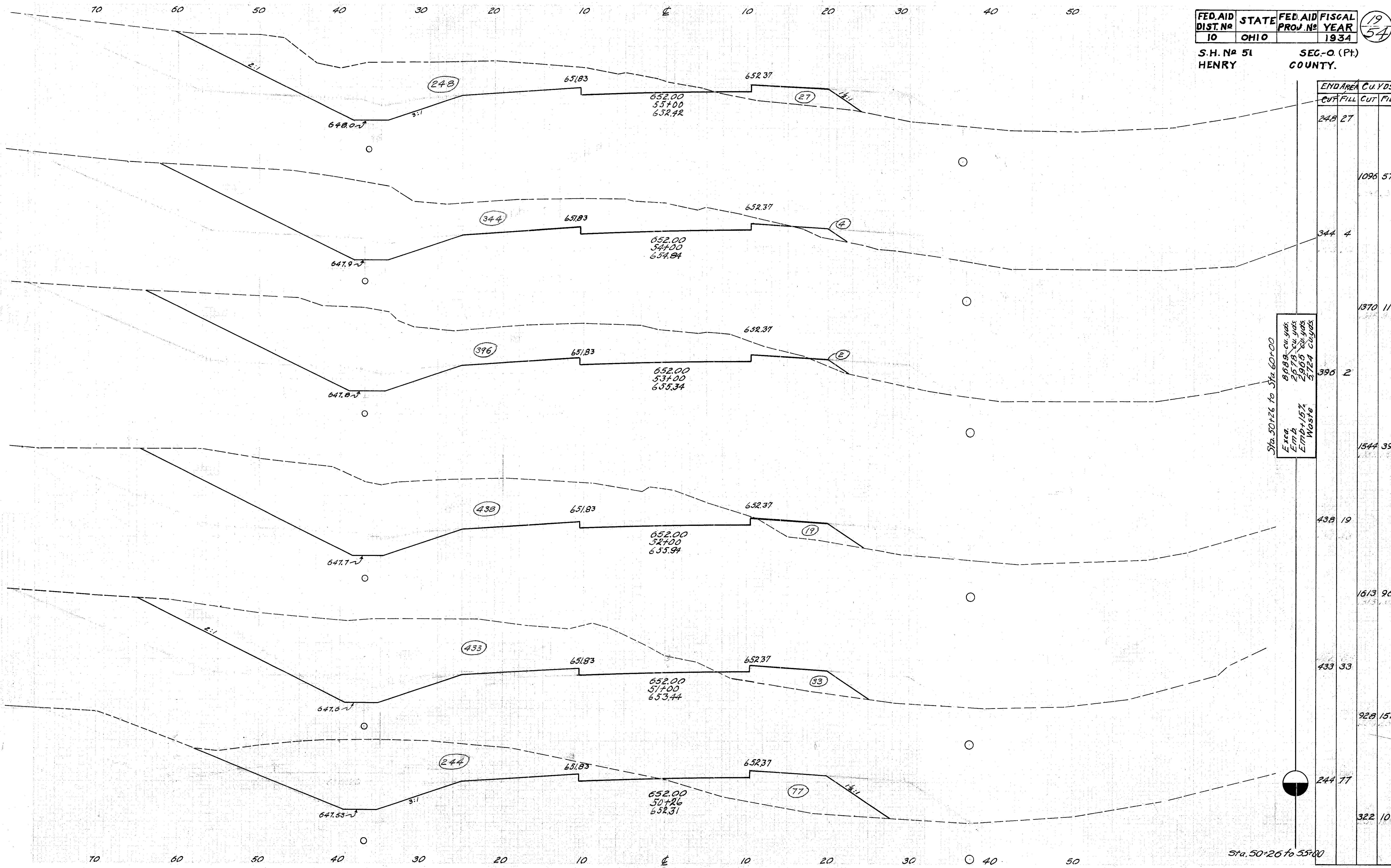
Sta. 48+00 to 49+88

60 50 40 30 20 10 0 10 20 30 40 50 60 70

FED. AID DIST. No	STATE	FED. AID PROJ. No	FISCAL YEAR
10	OHIO		1934

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S.H. No 51 HENRY
SEG.-O. (Pt) COUNTY.



END AREA	Cu. Yds.	
	CUT	FILL
248	27	
344	4	
396	2	
438	19	
433	33	
244	77	
		1096
		1370
		1544
		1613
		928
		322
		109

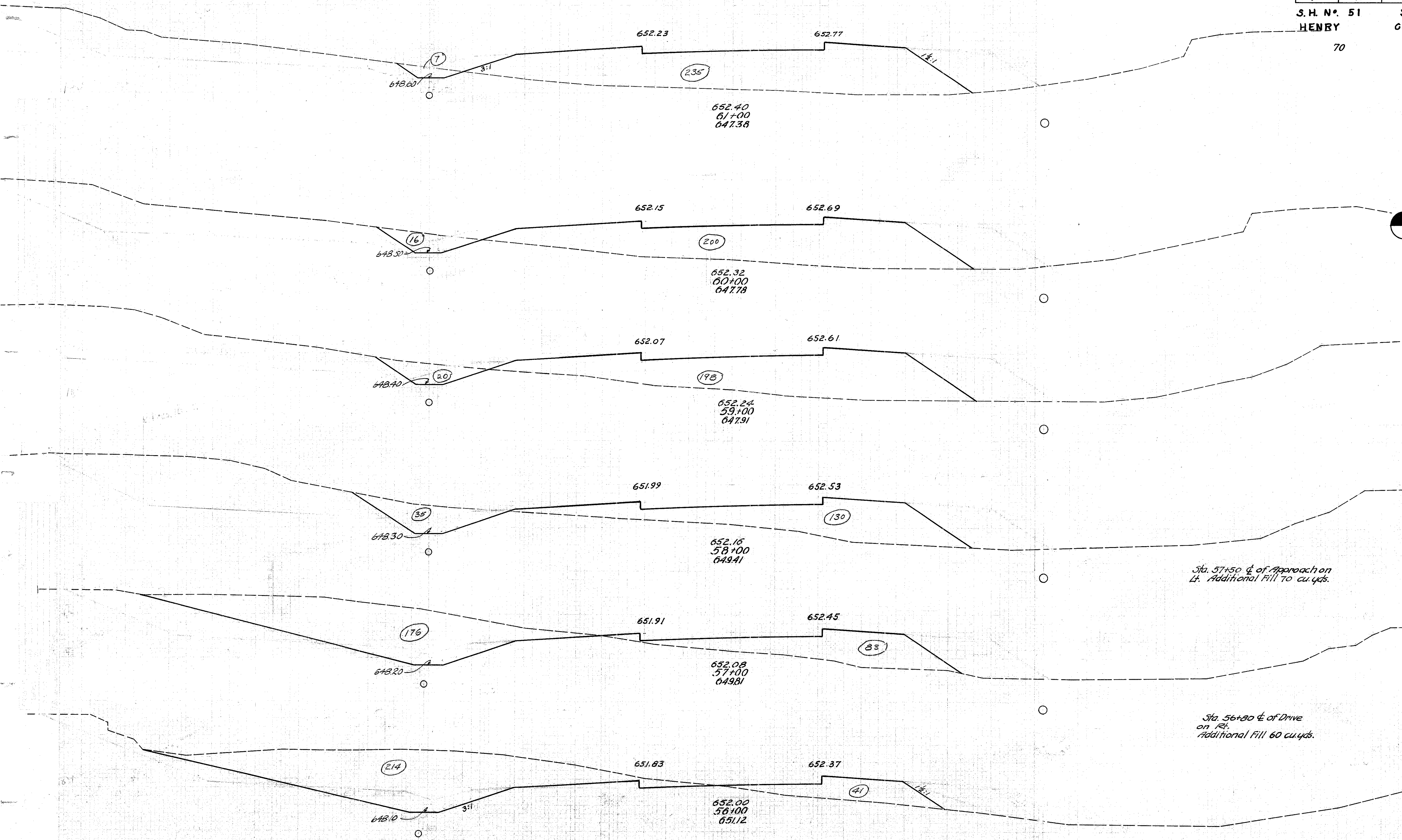
Sta. 50+26 to Sta. 60+00
 Excav. 8689 cu. yds.
 Emb. 2578 cu. yds.
 Emb. + 15% Waste 2965 cu. yds.
 5724 cu. yds.

Sta. 50+26 to 55+00

FED. AID DIST. N°	STATE	FED. AID PROJ. N°	FISCAL YEAR
10	OHIO		1934

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S. H. N° 51 HENRY COUNTY
SEG.-0 (Pt.) COUNTY



End Area	Cu. Yds.	
	Cut	Fill
7	235	
		43 806
16	200	
		67 737
20	198	
		102 607
35	130	
		70
		391 394
176	83	
		722 230
		60
214	41	
		856 125

Sta. 57+50 $\frac{1}{2}$ of Approach on Lt. Additional Fill 70 cu. yds.

Sta. 56+80 $\frac{1}{2}$ of Drive on Rt. Additional Fill 60 cu. yds.

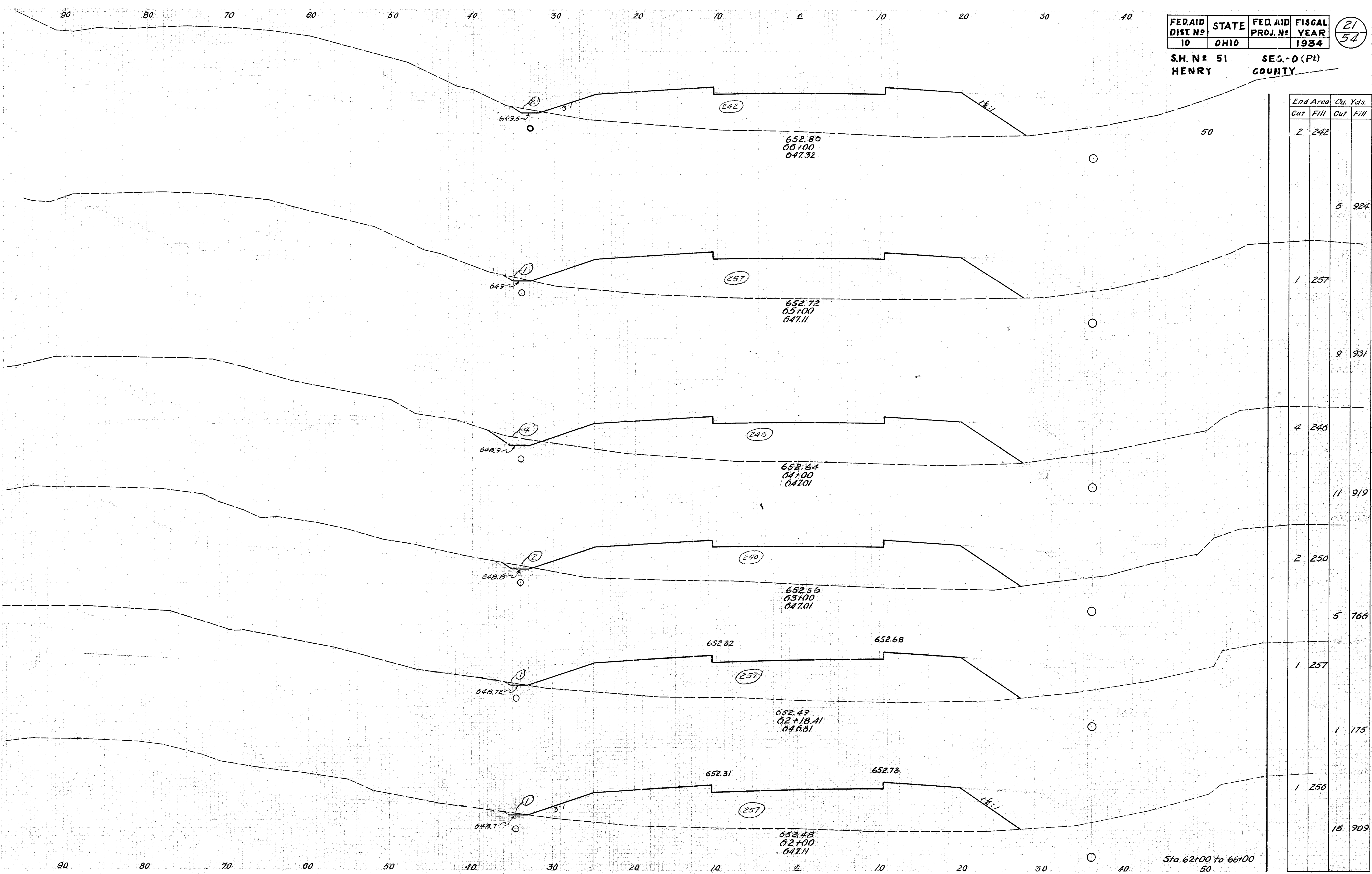
Sta. 56+00 to 61+00
70

FED.AID DIST. No 10	STATE OHIO	FED.AID PROJ. No	FISCAL YEAR 1934
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54)

S.H. No 51
HENRY COUNTY

SEG.-0 (Pt)
COUNTY



End Area	Cu. Yds.	
	Cut	Fill
2	242	
		6 924
1	257	
		9 931
4	246	
		11 919
2	250	
		5 766
1	257	
		1 175
1	256	
		15 909

Sta. 62+00 to 66+00
50

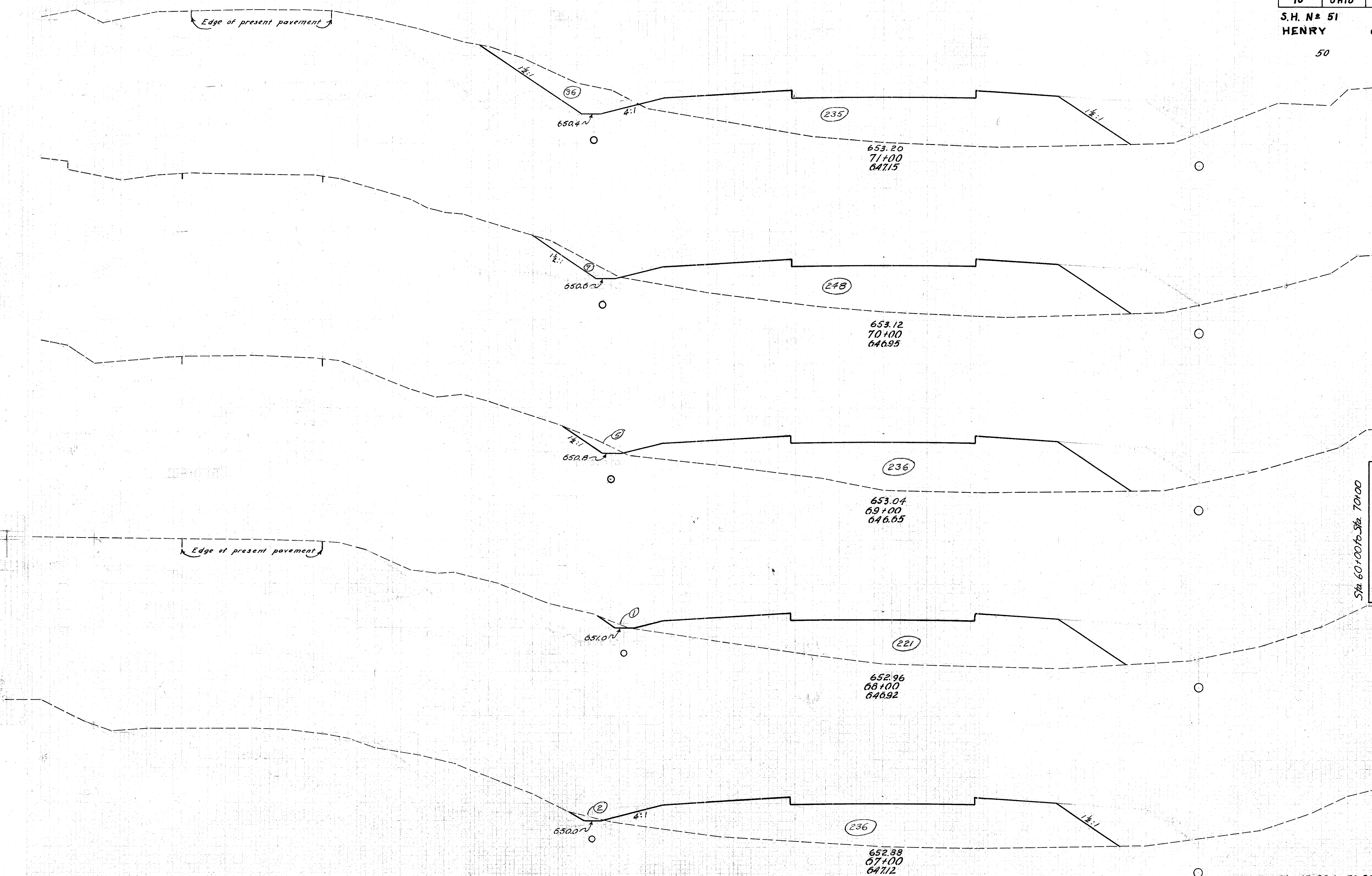
90 80 70 60 50 40 30 20 10 0 10 20 30 40

FED. AID DIST. N ^o	STATE	FED. AID PROJ. N ^o	FISCAL YEAR
10	OHIO		1934

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S.H. N^o 51 HENRY COUNTY SEC.-0 (Pt) COUNTY

50



Sta.	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
36	235			
83		894		
9	248			
26		896		
5	236			
11		846		
1	221			
6		846		
2	236			
7		885		

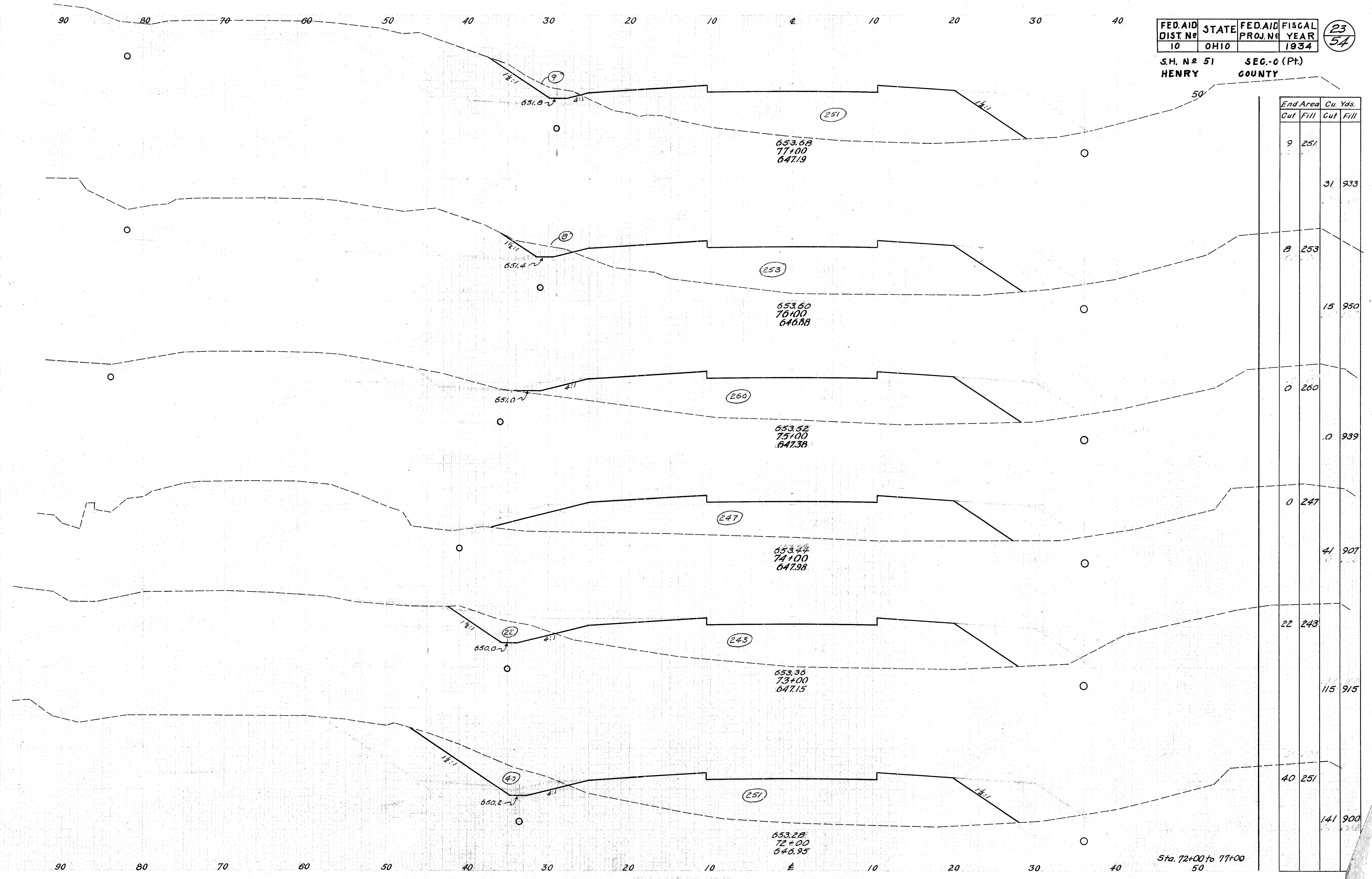
Sta. 60+00 to Sta. 70+00
Excav 140 cu. yds.
Emb. 8903 cu. yds.
Emb+15% 10,238 cu. yds.
Borrow 10,098 cu. yds.

90 80 70 60 50 40 30 20 10 0 10 20 30 40 Sta. 67+00 to 71+00 50

FED. AID DIST. No	STATE	FED. AID PROJ. No	FISCAL YEAR
10	OHIO		1934

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S.H. No 51 HENRY COUNTY SEC. 0 (Pt)



End Area	Cu. Yds.	
	Cut	Fill
9	251	
		31 933
8	253	
		15 950
0	260	
		0 939
0	247	
		41 907
22	243	
		115 915
40	251	
		141 900

Sta. 72+00 to 77+00

FED. AID DIST. No	STATE	FED. AID PROJ. No	FISCAL YEAR
10	OHIO		1934

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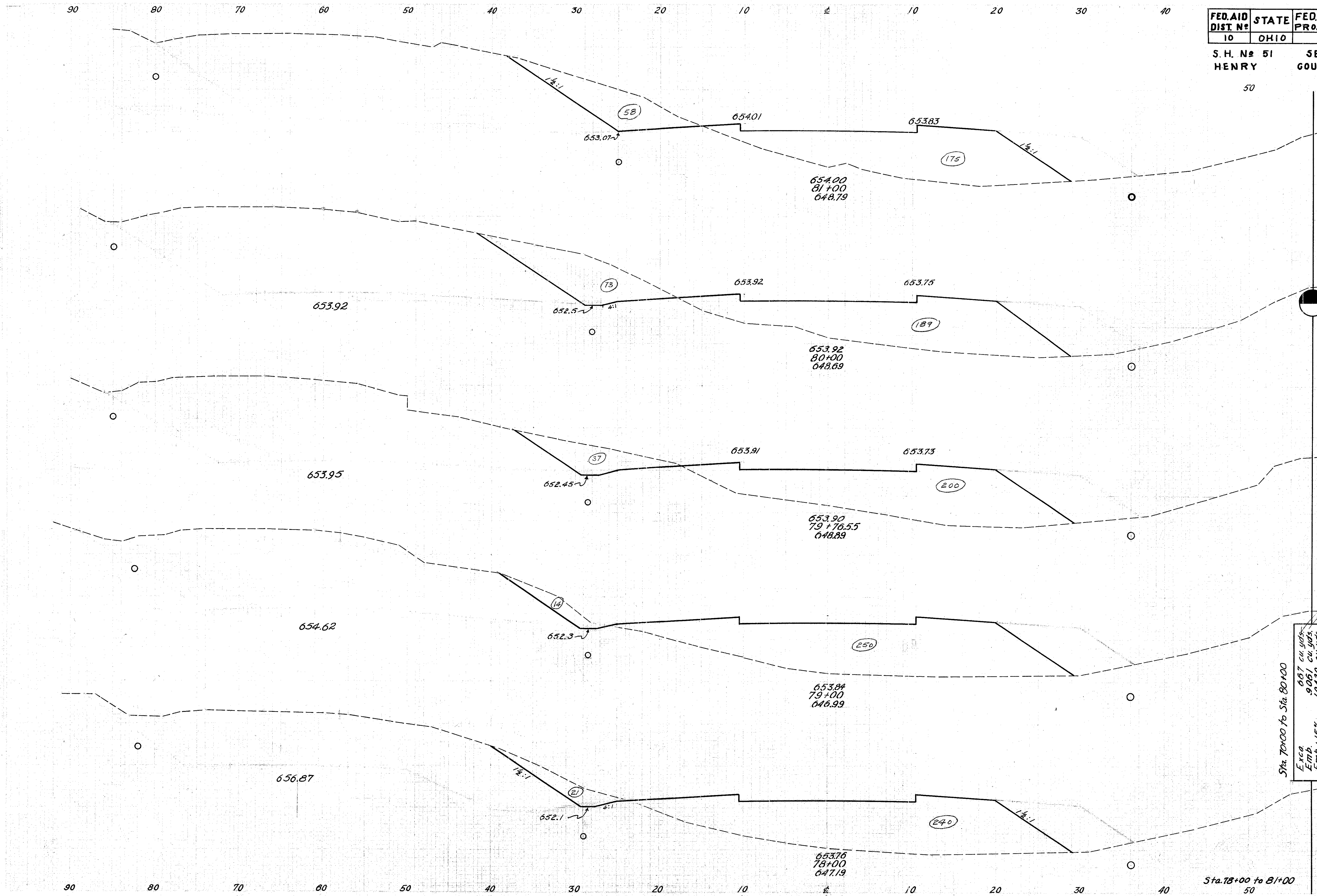
S. H. No 51 HENRY COUNTY
SEG.-O (Pt) COUNTY

50

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
58	175		
		243	674
73	189		
		48	169
37	200		
		72	638
14	250		
		65	907
21	240		
		56	909

Sta. 70+00 to Sta. 80+00
Exc. 667 cu. yds.
Emb. 9061 cu. yds.
Emb + 15% 10420 cu. yds.
Borrow 9753 cu. yds.

Sta. 78+00 to 81+00
50



653.07

654.01

653.83

654.00
81+00
648.79

652.5

653.92

653.75

653.92
80+00
648.69

652.45

653.91

653.73

653.90
79+76.55
648.89

652.3

653.84
79+00
646.99

652.1

653.76
78+00
647.19

653.92

653.95

654.62

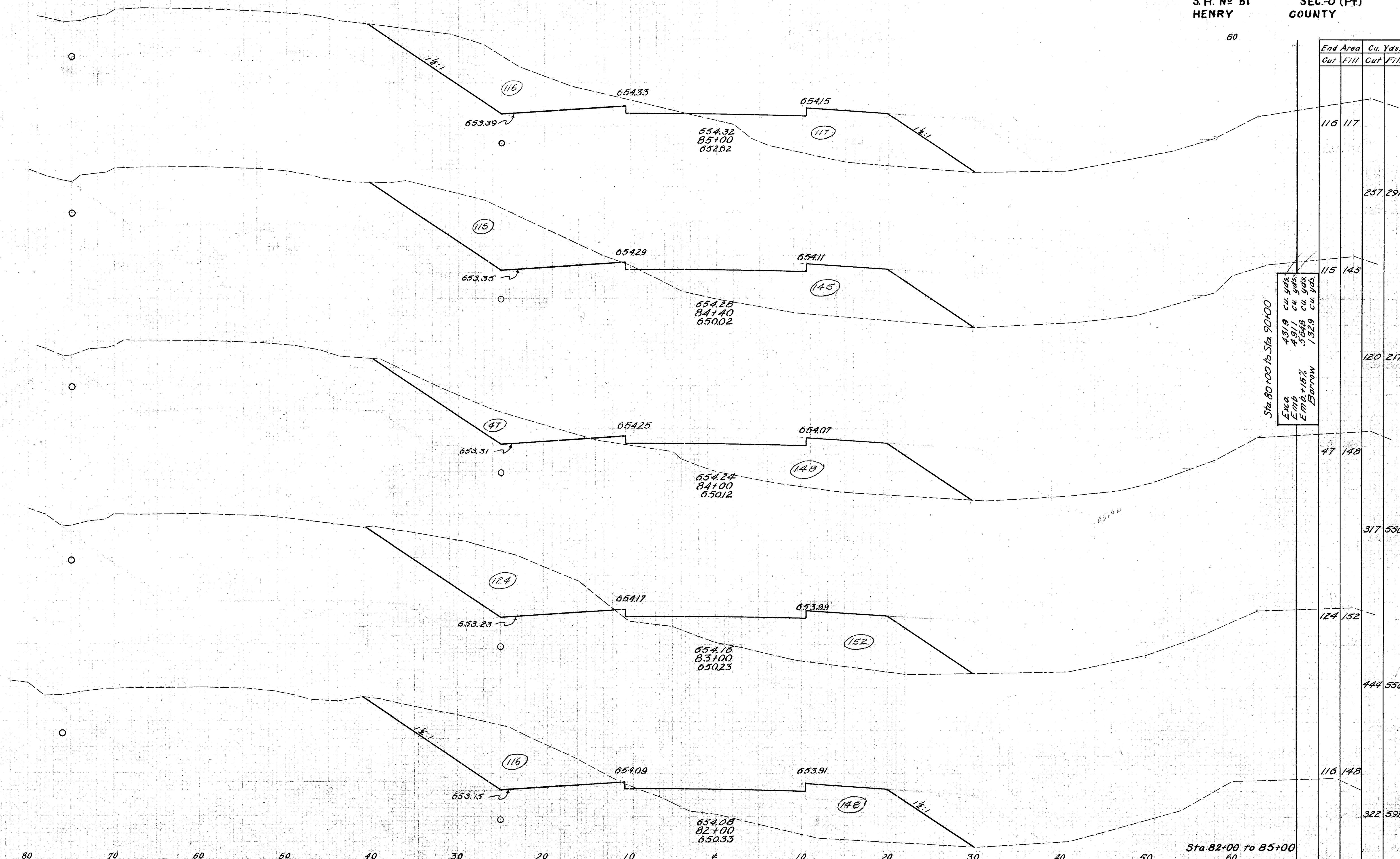
656.87

FED. AID DIST. No	STATE	FED. AID PROJ. No	FISCAL YEAR
10	OHIO		1934

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54

S. H. No 51 HENRY COUNTY SEC.-O (Pt) COUNTY

60



End Area	Cu. Yds.	
	Cut	Fill
116	117	
	257	291
115	145	
	120	217
47	148	
	317	558
124	152	
	444	558
116	148	
	322	598

Sta. 80+00 to Sta. 90+00
 Exca 4319 cu. yds.
 Emb 4971 cu. yds.
 Emb. +15% 5048 cu. yds.
 Borrow 1329 cu. yds.

Sta. 82+00 to 85+00

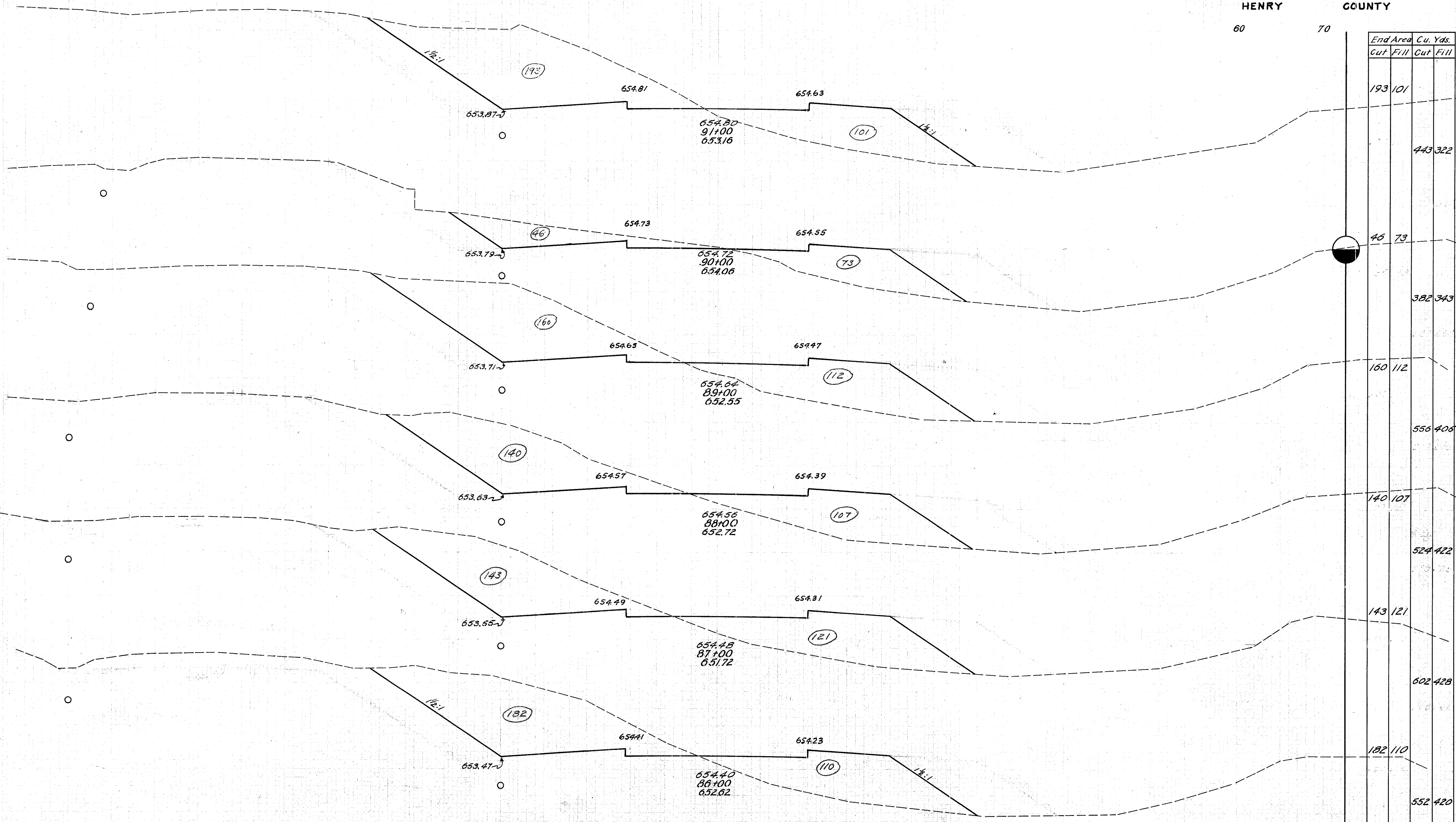
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FED. AID DIST. No	STATE	FED. AID PROJ. No	FISCAL YEAR
10	OHIO		1934

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S. H. No 51
HENRY COUNTY

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill



193	101			443	322
46	73			382	343
160	112			556	406
140	107			524	422
143	121			602	428
182	110			552	420

Sta. 86+00 to 91+00
60 70

80 70 60 50 40 30 20 10 0 10 20 30 40 50

80 70 60 50 40 30 20 10 0 10 20 30 40 50

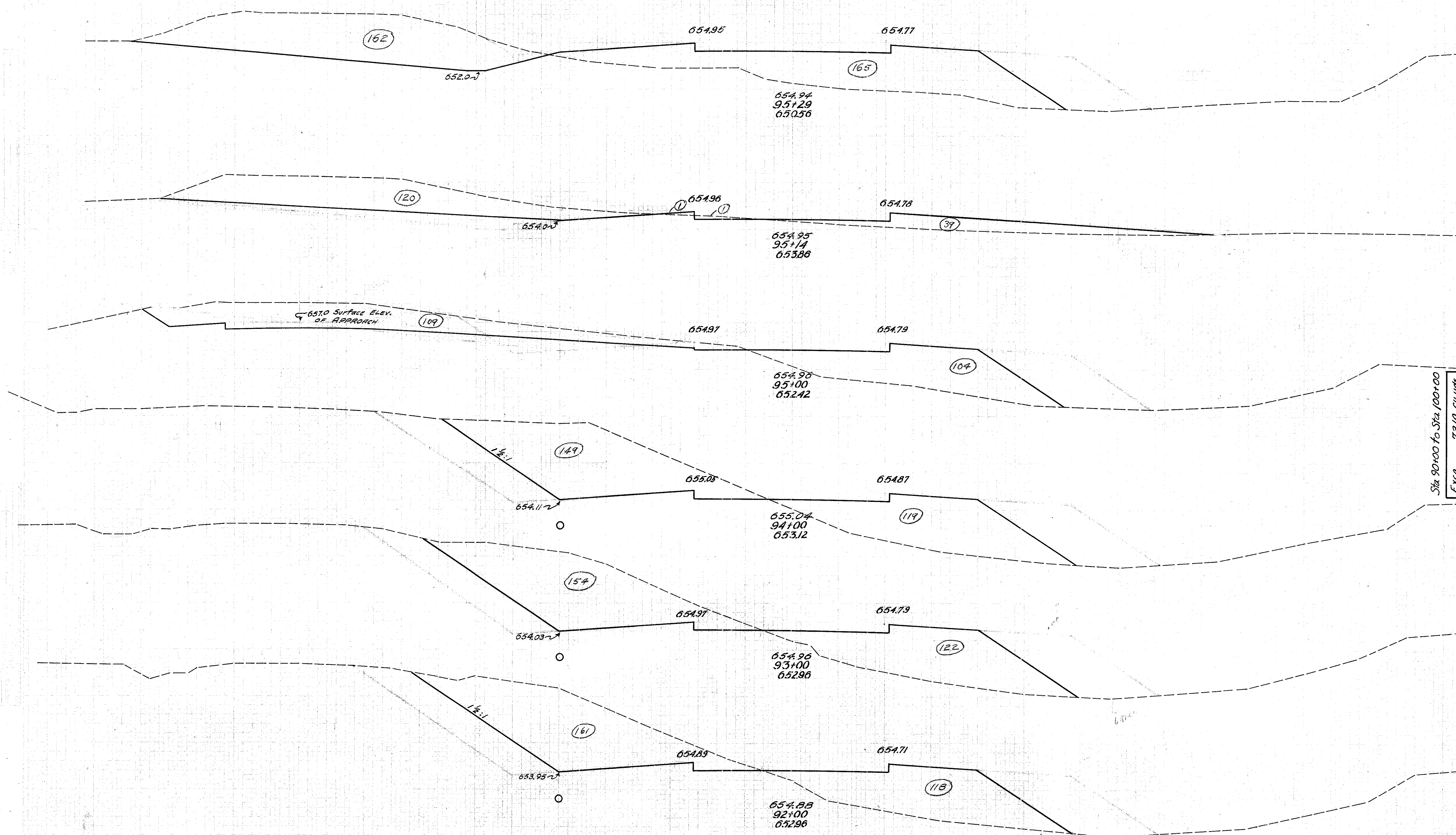
FED. AID DIST. N ^o	STATE	FED. AID PROJ. N ^o	FISCAL YEAR
10	OHIO		1934

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S. H. N^o 51
HENRY COUNTY

Sta. 90+00 To Sta. 100+00	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	162	165	78	57
	121	40		
	109	104	59	37
	149	119	478	413
	154	122	561	446
	161	118	583	444
	161	118		
	161	118	656	406

Sta. 90+00 To Sta. 100+00
 Exca 7310 cu yds
 Emb 5077 cu yds
 Emb+5% 5835 cu yds
 Waste 1572 cu yds



80 70 60 50 40 30 20 10 0 10 20 30 40 50

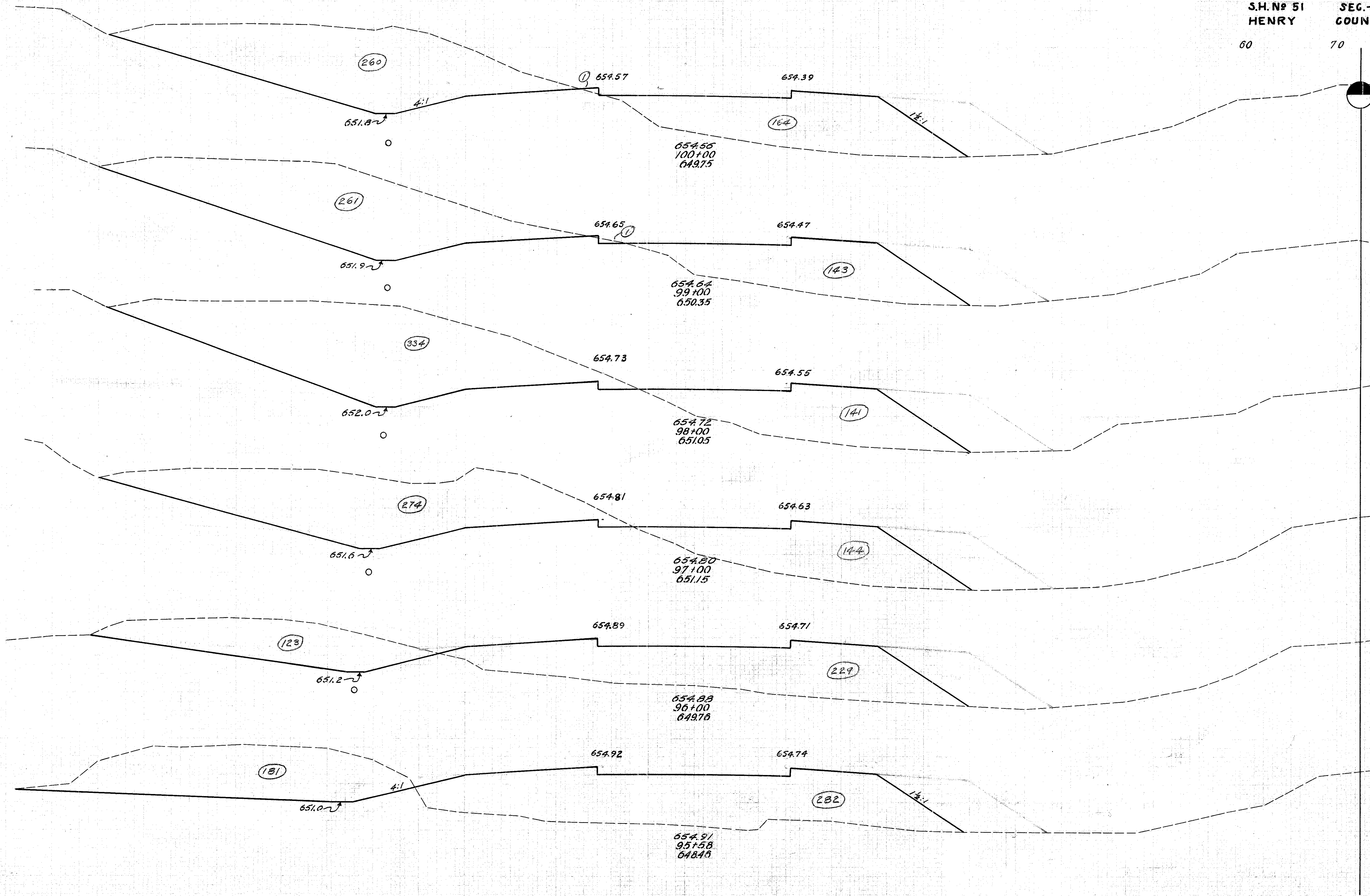
Sta. 92+00 to 95+29
60 70

80 70 60 50 40 30 20 10 0 10 20 30 40 50

FED. AID DIST. N ^o 10	STATE OHIO	FED. AID PROJ. N ^o 10	FISCAL YEAR 1934	(28) 54
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S.H. N^o 51 HENRY
SEG.-O (Pt.) COUNTY

60 70



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
250	165		
		967	570
262	143		
		1104	526
334	141		
		1126	528
274	144		
		735	691
123	229		
		236	397
181	282		
		184	240

80 70 60 50 40 30 20 10 0 10 20 30 40 50

Sta. 95+58 to 100+00
60 70

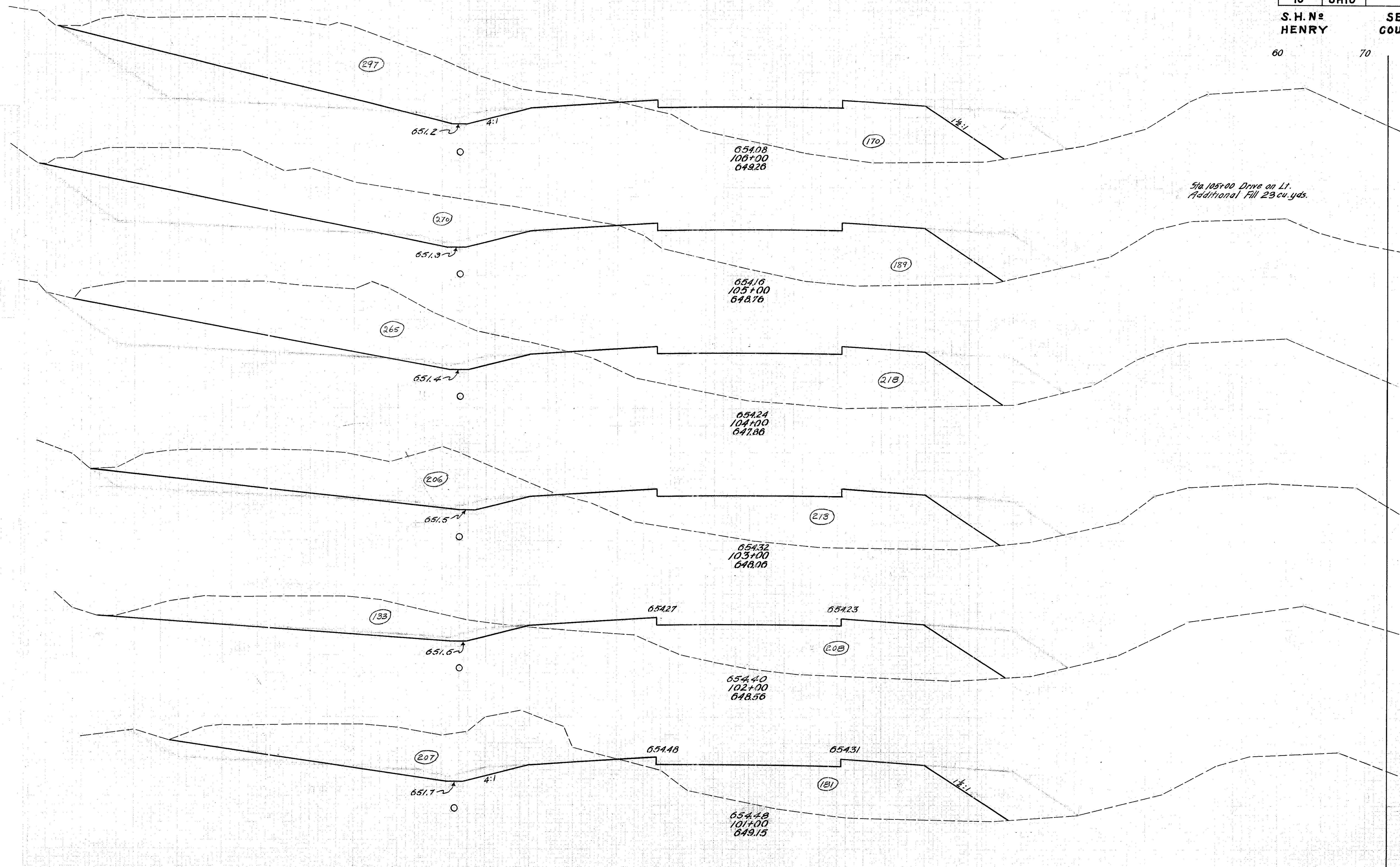
80 70 60 50 40 30 20 10 0 10 20 30 40 50

FED. AID DIST. N ^o	STATE	FED. AID PROJ. N ^o	FISCAL YEAR
10	OHIO		1934

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S. H. N^o HENRY
SEC.-0 (Pt) COUNTY

60 70



Sta 105+00 Drive on Lt.
Additional Fill 23 cu. yds.

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
297	170		
			23
		1050	665
270	189		
		991	754
265	218		
		872	798
206	213		
		628	780
133	208		
		630	720
207	181		
		865	641

80 70 60 50 40 30 20 10 0 10 20 30 40 50

Sta. 101+00 to 106+00
60 70

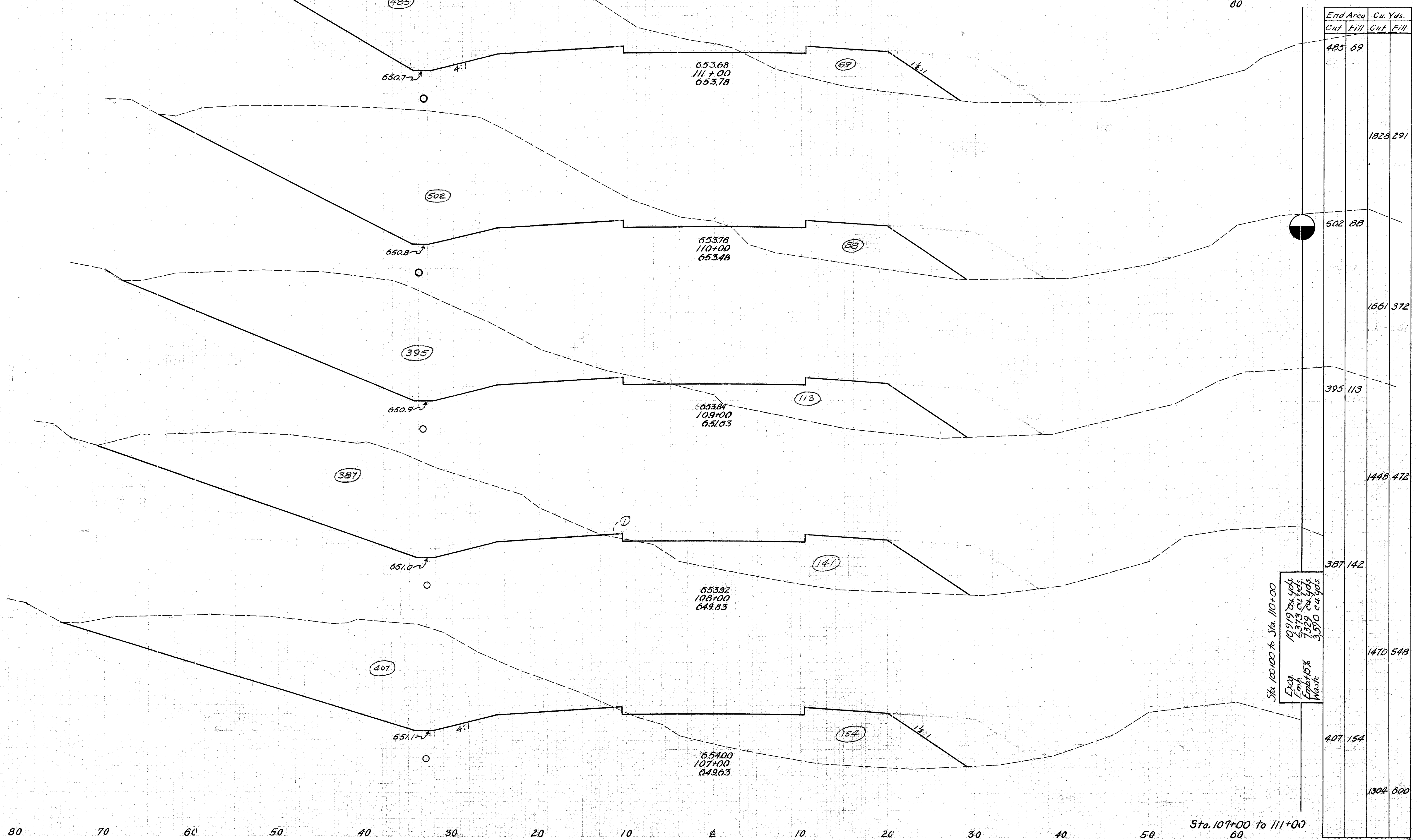
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FED. AID DIST. No	STATE	FED. AID PROJ. No	FISCAL YEAR
10	OHIO		1934

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S.H. No 51 HENRY COUNTY SEC.-0 (Pt.) COUNTY

60



End Area	Cu. Yds.	
	Cut	Fill
485	69	
502	88	
395	113	
387	142	
407	154	
1828	291	
1661	372	
1448	472	
1470	548	
1304	600	

Sta. 100+00 to Sta. 110+00
 10919 cu. yds.
 6373 cu. yds.
 7229 cu. yds.
 3350 cu. yds.
 Emb.
 14.5%
 Waste

Sta. 107+00 to 111+00
60

80 70 60 50 40 30 20 10 0 10 20 30 40 50

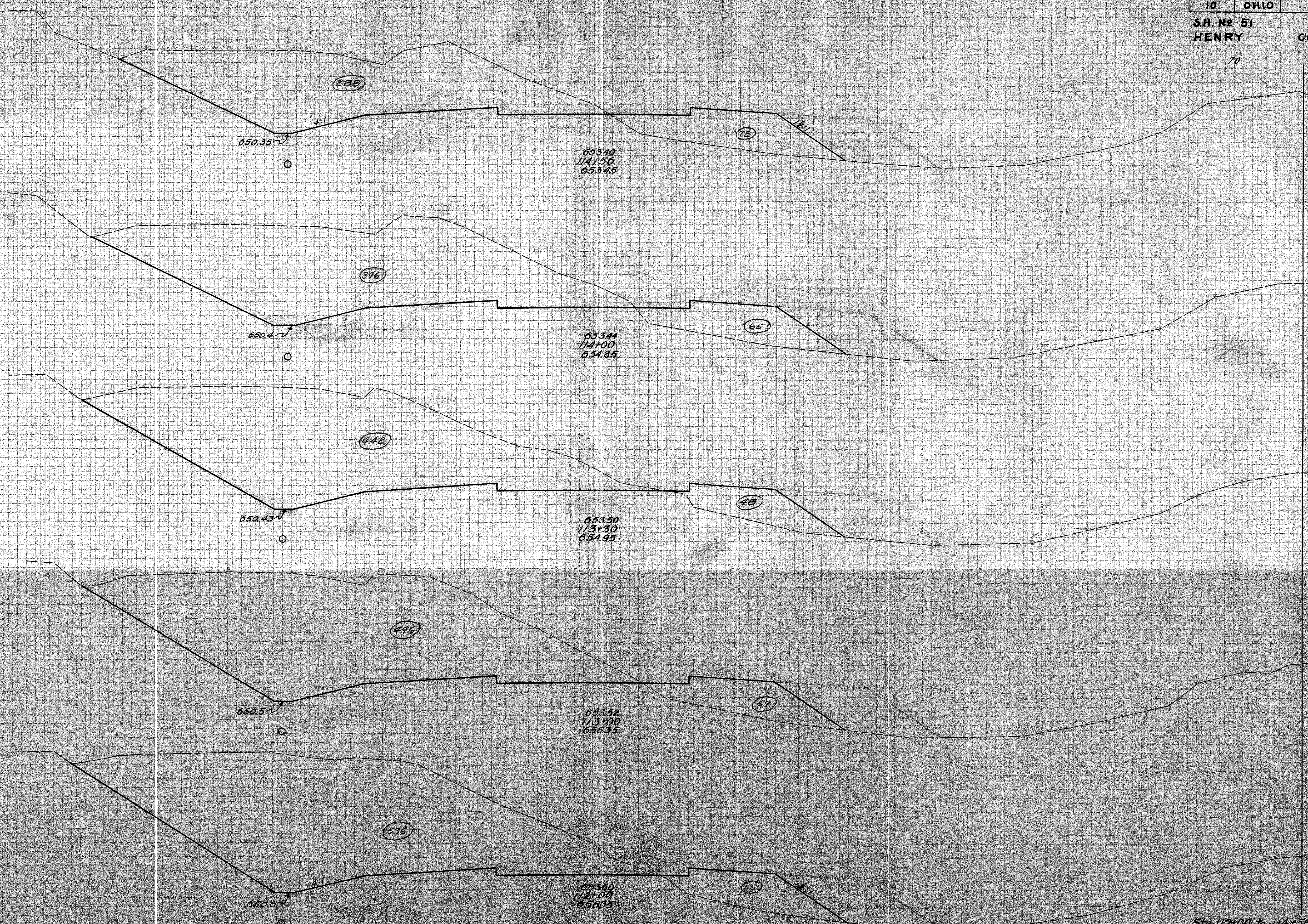
70 60 50 40 30 20 10 0 10 20 30 40 50 60

FED. AID DIST. N ^o 10	STATE OHIO	FED. AID PROJ. N ^o	FISCAL YEAR 1934	(31) 54
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S.H. N^o 51
HENRY

SEC. 0 (Pt.)
COUNTY

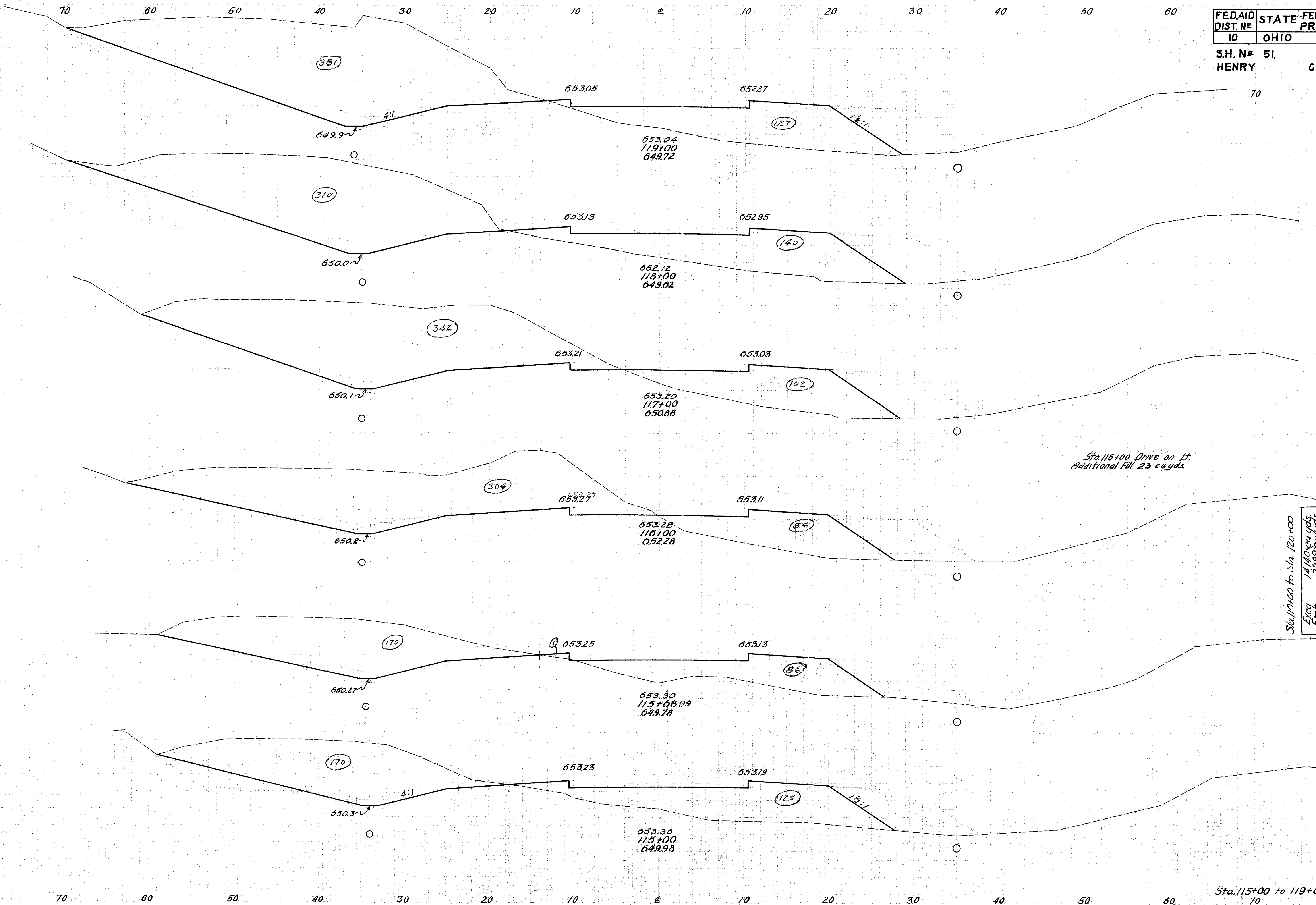
70



End Area	Cu. Yds.	
	Cut	Fill
288.72		
		708.142
396.65		
		1088.147
442.48		
		521.59
496.59		
		1911.211
536.55		
		1981.230

Sta. 112+00 to 114+56

70 60 50 40 30 20 10 0 10 20 30 40 50 60



End Area	Cu. Yds.	
	Cut	Fill
381	127	
310	140	1280 494
342	102	1207 448
304	84	1196 344 23
170	87	272 98
170	125	434 271
170	125	373 161

Sta. 116+00 Drive on Lt.
Additional Fill 23 cu. yds.

Sta. 110+00 to Sta. 120+00
Exc. 14140 cu. yds.
Emp. 3389 cu. yds.
Emp. 15% 3671 cu. yds.
Waste 10243 cu. yds.

Sta. 115+00 to 119+00
70

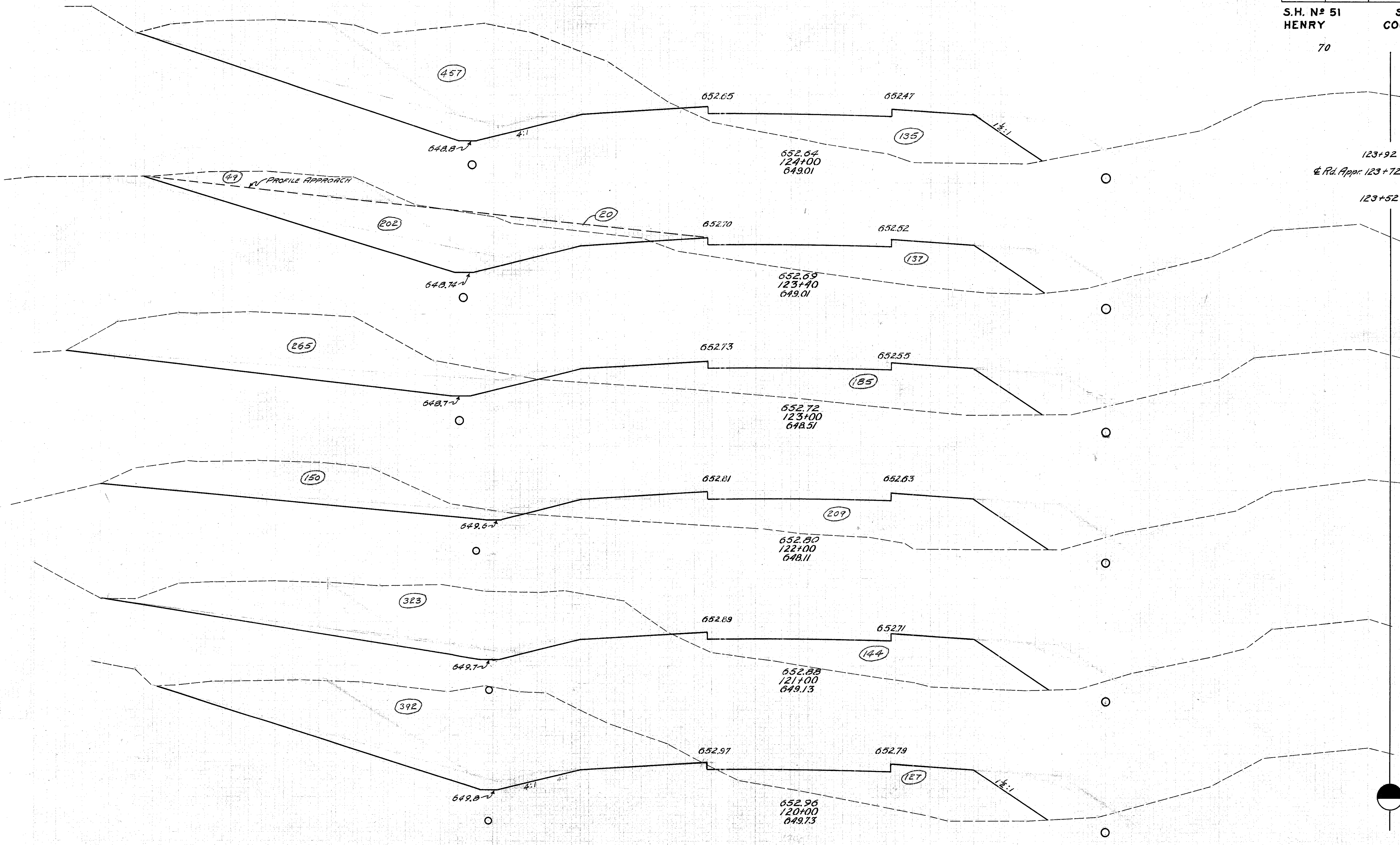
80 70 60 50 40 30 20 10 0 10 20 30 40 50

FED. AID DIST. NO. 10	STATE OHIO	FED. AID PROJ. NO. 10	FISCAL YEAR 1934
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S.H. No 51 HENRY COUNTY
SEC. 0 (Pt) COUNTY

70



End Area	Cu. Yds.	
	Cut	Fill
457	135	40
457	136	231
49	156	73
49	156	136
251	137	112
251	137	61
265	185	382
265	185	239
150	209	769
150	209	730
323	144	876
323	144	654
392	127	1324
392	127	502
		1432
		470

123+92
± Rd. Appr. 123+72

123+52

Sta. 120+00 to 124+00
60

80 70 60 50 40 30 20 10 ± 10 20 30 40 50

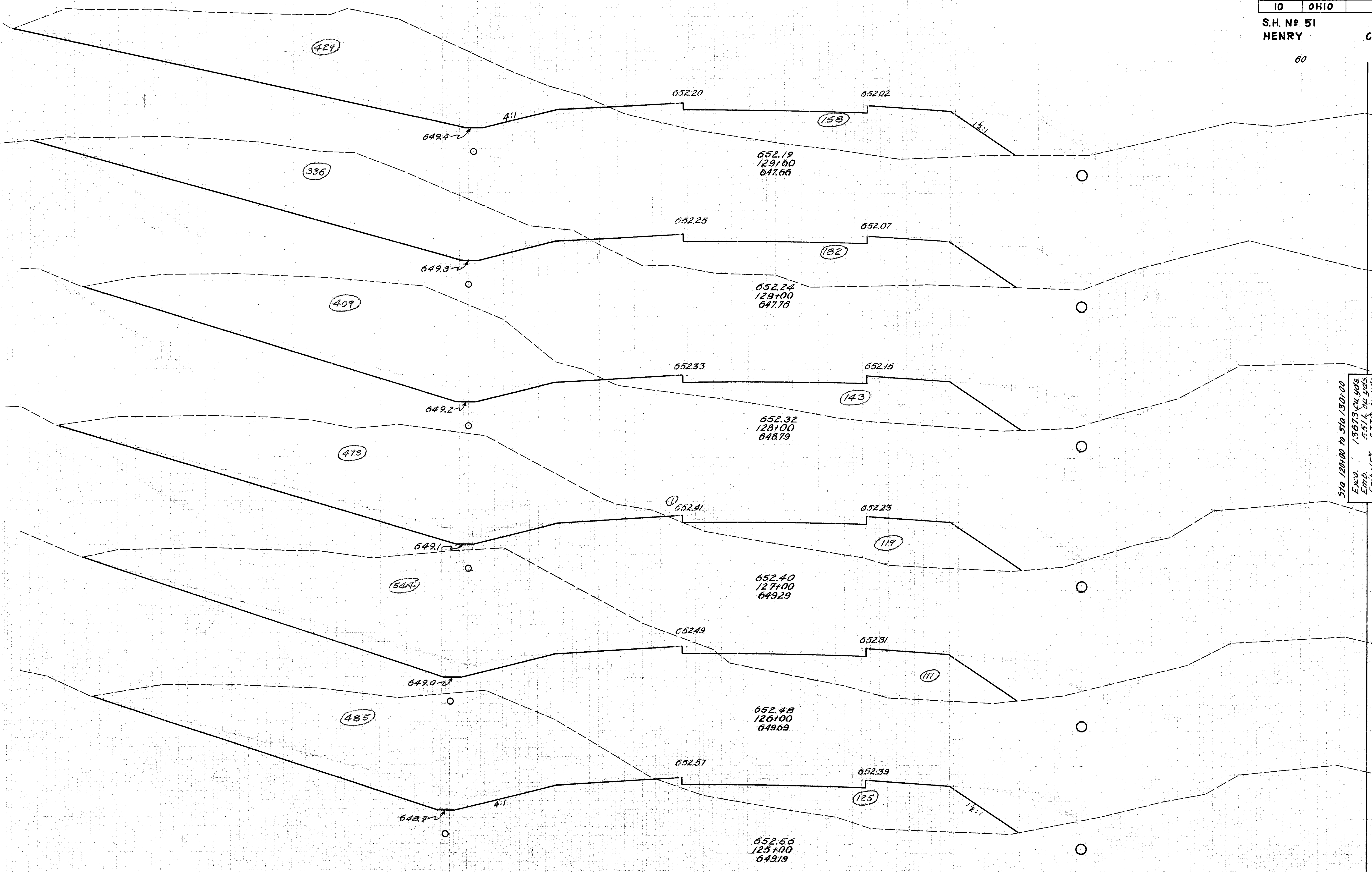
FED. AID DIST. No	STATE	FED. AID PROJ. No	FISCAL YEAR
10	OHIO		1934

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S.H. No 51 HENRY COUNTY

SEG.-0 (Pt.) COUNTY

60



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
429	158		
		850	378
336	182		
		1380	602
409	143		
		633	487
473	120		
		1883	428
544	111		
		1906	437
485	125		
		1744	482

Sta. 120+00 to Sta. 130+00
 Emb. 13673 cu yds
 Emb. 5511 cu yds
 Emb.+15% 6338 cu yds
 Waste 7335 cu yds

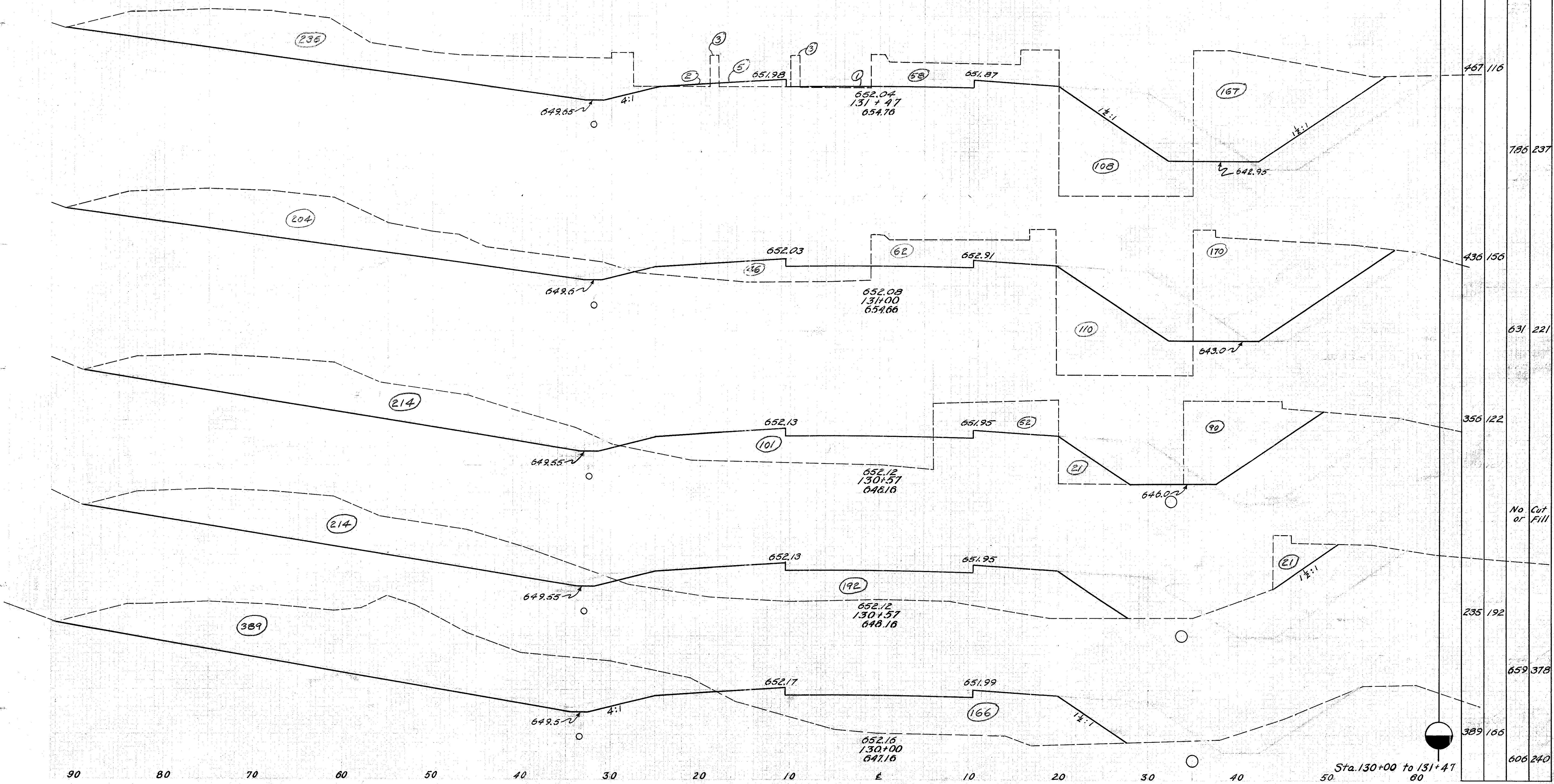
80 70 60 50 40 30 20 10 ± 10 20 30 40 50 Sta. 125+00 To 129+60 60

FED. AID DIST. No 10	STATE OHIO	FED. AID PROJ. No	FISCAL YEAR 1934	(35) 54
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S. H. No 51
HENRY COUNTY

50 60

NOTE: REMOVAL OF THE EXISTING CONCRETE LOCK BETWEEN STA. 130+40 AND STA. 132+00 (APPROX. 320 CU. YDS.) IS TO BE COMPLETED AS A PART OF THE WORK PERFORMED UNDER ITEM E-1, ROADWAY EXCAVATION. ALL BROKEN CONCRETE IS TO BE DISPOSED OF AS PER ITEM E-1.05 OR AS MAY BE DIRECTED BY THE ENGINEER IN CHARGE. PAYMENT FOR THE REMOVAL, BREAKING-UP AND DISPOSAL OF THE EXISTING CONCRETE IS INCLUDED IN PAYMENT FOR ITEM E-1, ROADWAY EXCAVATION.



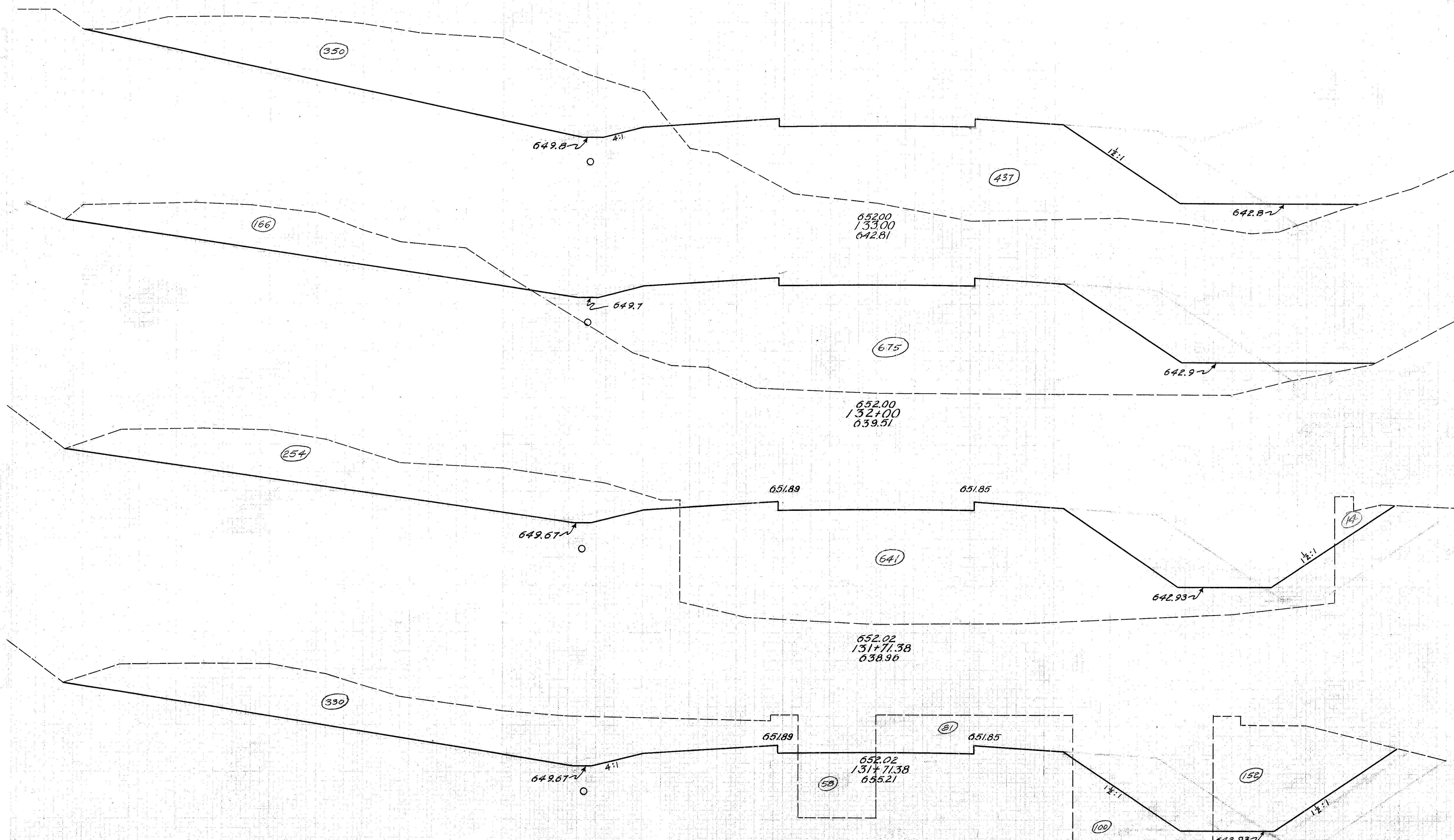
90 80 70 60 50 40 30 20 10 0 10 20 30 40

FED. AID DIST. N ^o	STATE	FED. AID PROJ. N ^o	FISCAL YEAR
10	OHIO		1934

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S.H. N^o 51 HENRY COUNTY
SEG.-0 (Pt.) COUNTY

50 60



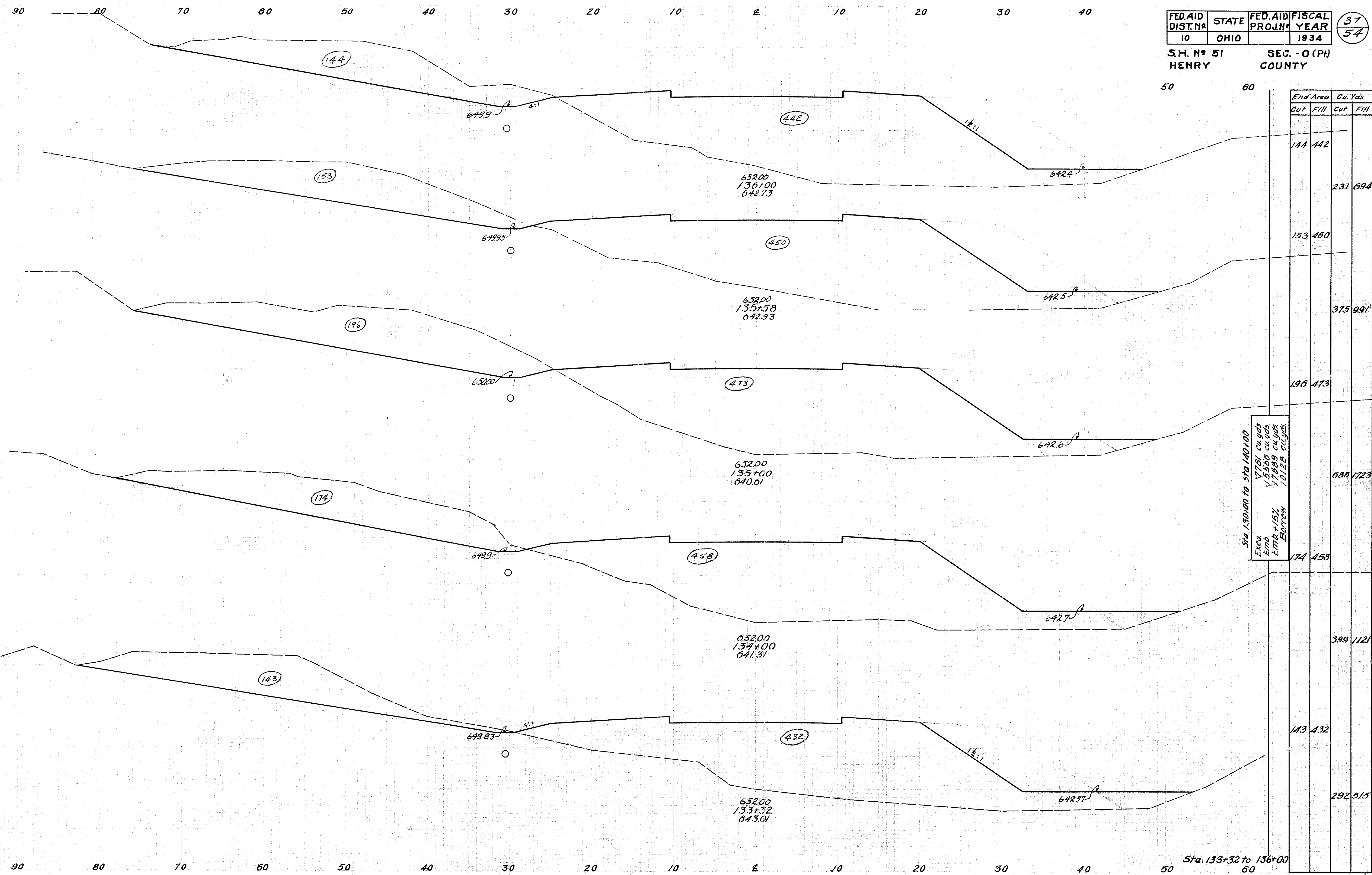
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
350	437		
		956	2059
166	675		
		230	697
254	641		
		No Cut	or Fill
330	58		
		563	124

90 80 70 60 50 40 30 20 10 0 10 20 30 40 Sta. 131+71.38 to 133+00 50 60

FED. AID DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR
10	OHIO		1934

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S.H. No 51 HENRY
SEC. - O (PH) COUNTY



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
144	442		
		231	694
153	450		
		375	991
196	473		
		685	1723
174	458		
		399	1121
143	432		
		292	515

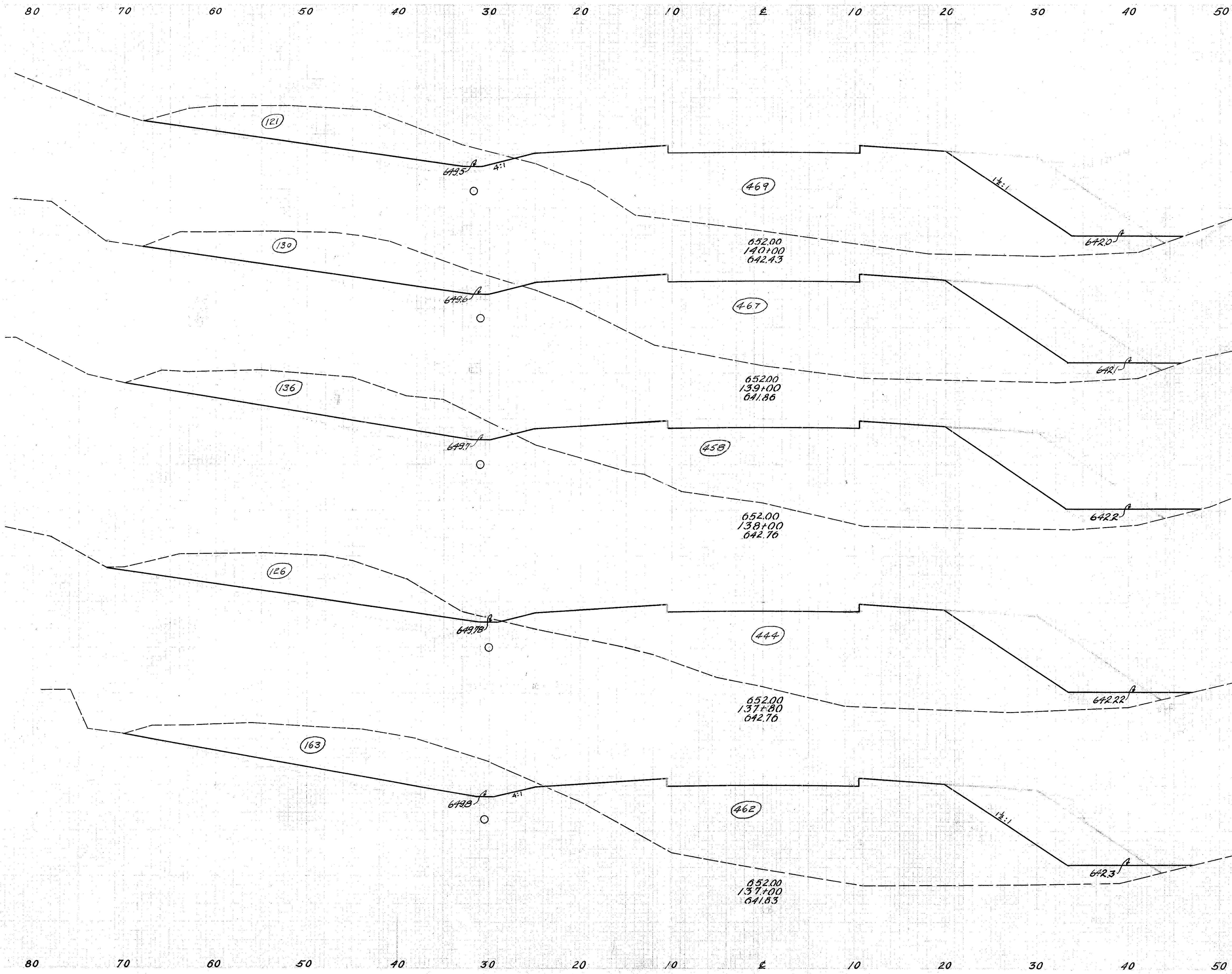
Sta. 130+00 to Sta. 140+00
 Exca 7761 cu yds
 Emb 5556 cu yds
 Emb + 15% Borrow 7889 cu yds
 Borrow 10128 cu yds

Sta. 133+32 to 136+00

S.H. No 51
HENRY

SEC. 0. (Pt)
COUNTY

60



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
121	469		
		465	1733
130	467		
		493	1713
136	458		
		97	334
126	444		
		428	1342
163	462		
		569	1674

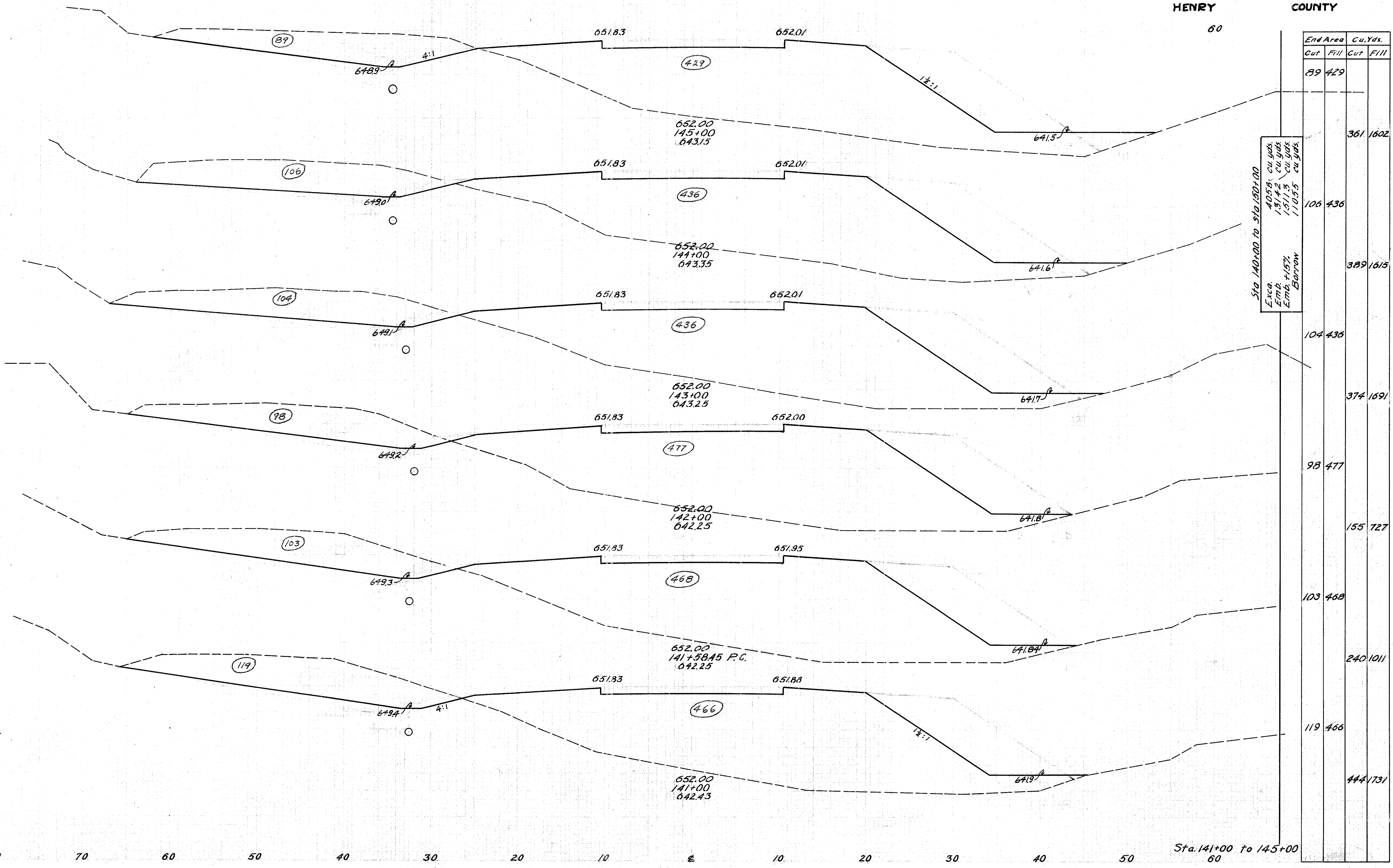
Sta. 137+00 to 140+00
60

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO		1934

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S.H. No. 51 HENRY COUNTY
SEC. O. (Pt.) COUNTY

60



End Area	Cu. Yds.	
	Cut	Fill
89	429	
106	436	361
104	436	389
98	477	374
103	468	155
119	466	240
466	466	1731

Sta. 140+00 to Sta. 150+00
 Exca. 405.91 cu. yds.
 Emb. 1314.2 cu. yds.
 Emb. +15% 1511.3 cu. yds.
 Borrow 110.55 cu. yds.

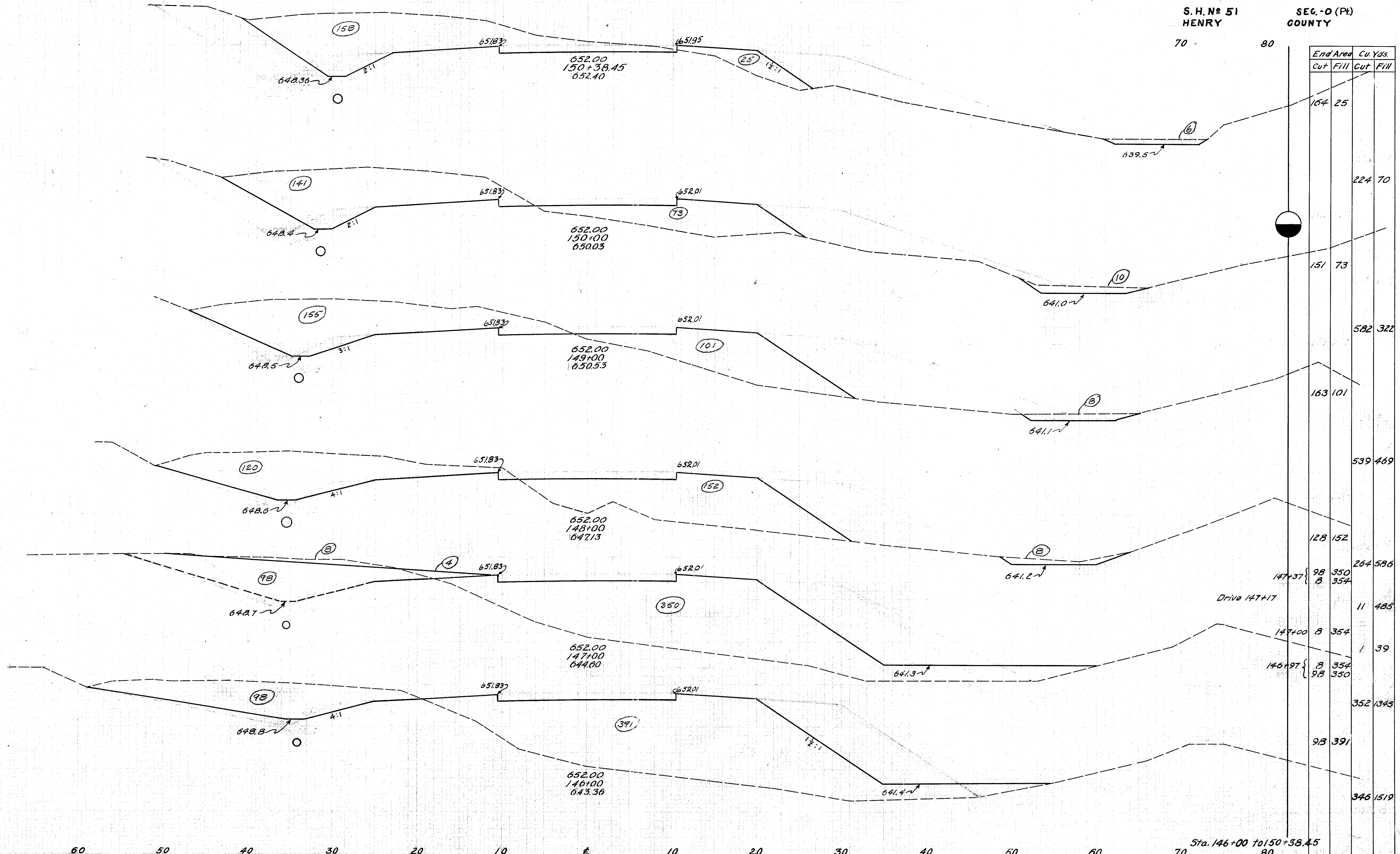
Sta. 141+00 to 145+00
60

FED. AID DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR
10	OHIO		1934

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S. H. No 51 HENRY
SEG. - O (Pt.) COUNTY

70 80



End Area	Cut Yds.		Fill Yds.	
	Cut	Fill	Cut	Fill
164	25			
		224	70	
151	73			
		582	322	
163	101			
		539	469	
128	152			
147+37	98	350		264
	8	354		586
			11	485
147+00	8	354		
			1	39
146+97	8	354		
	98	350		
			352	1345
98	391			
			346	1519

Sta. 146+00 to 150+38.45

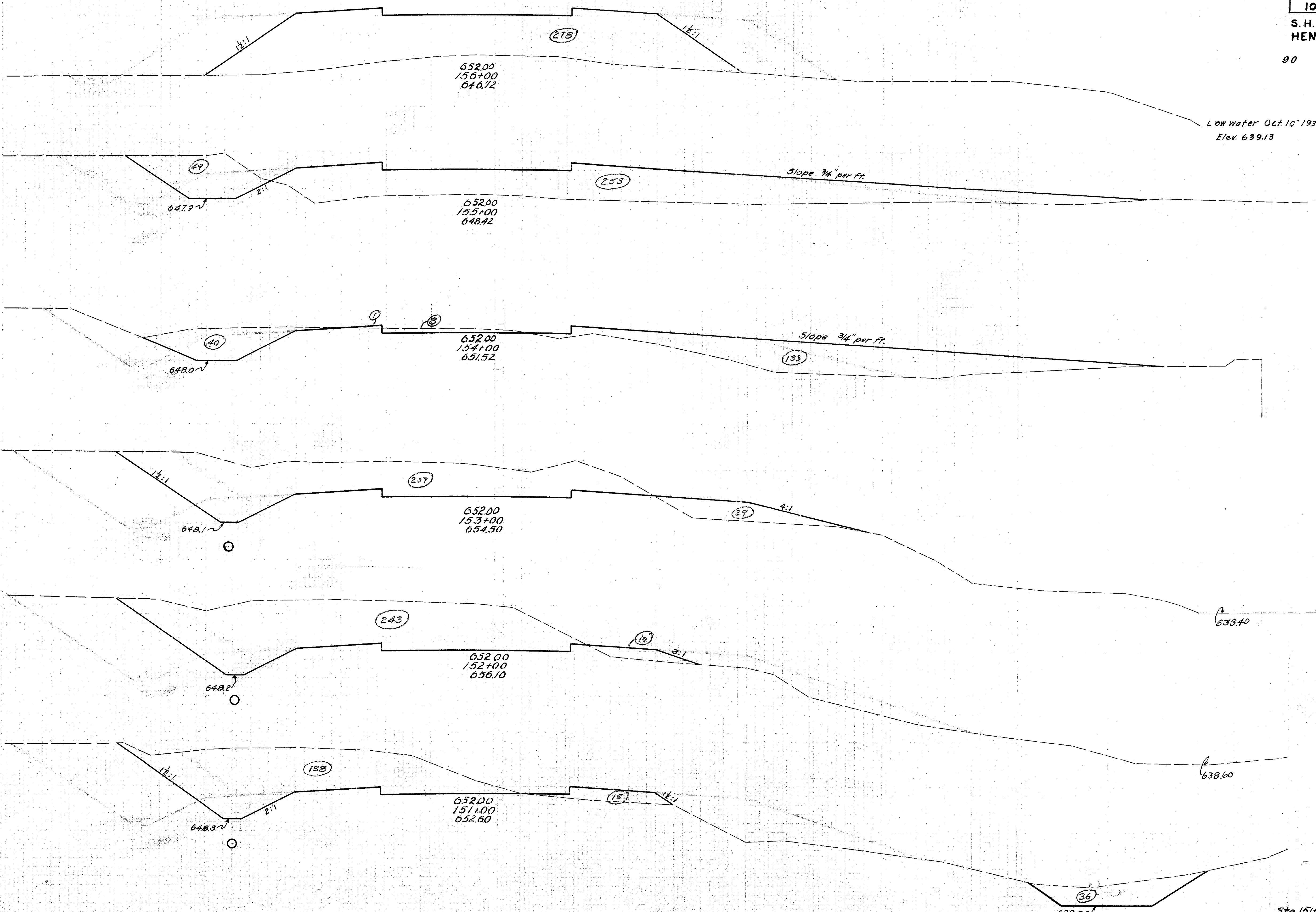
50 40 30 20 10 0 10 20 30 40 50 60 70 80

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO		1934

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S. H. No 51 HENRY COUNTY
SEG. 0 (Pt.)

90 100



Sta. 150+00 to Sta. 160+00
 Exca. 485.5 cu yds
 Emb. 421.7 cu yds
 Emb. + 15% Waste 484.9 cu yds
 Waste 6 cu yds

End Area	Cu. Yds.	
	Cut	Fill
0	278	
49	243	91 965
		180 698
48	134	
		472 302
207	29	
		833 72
243	10	
		772 46
174	15	
		385 46

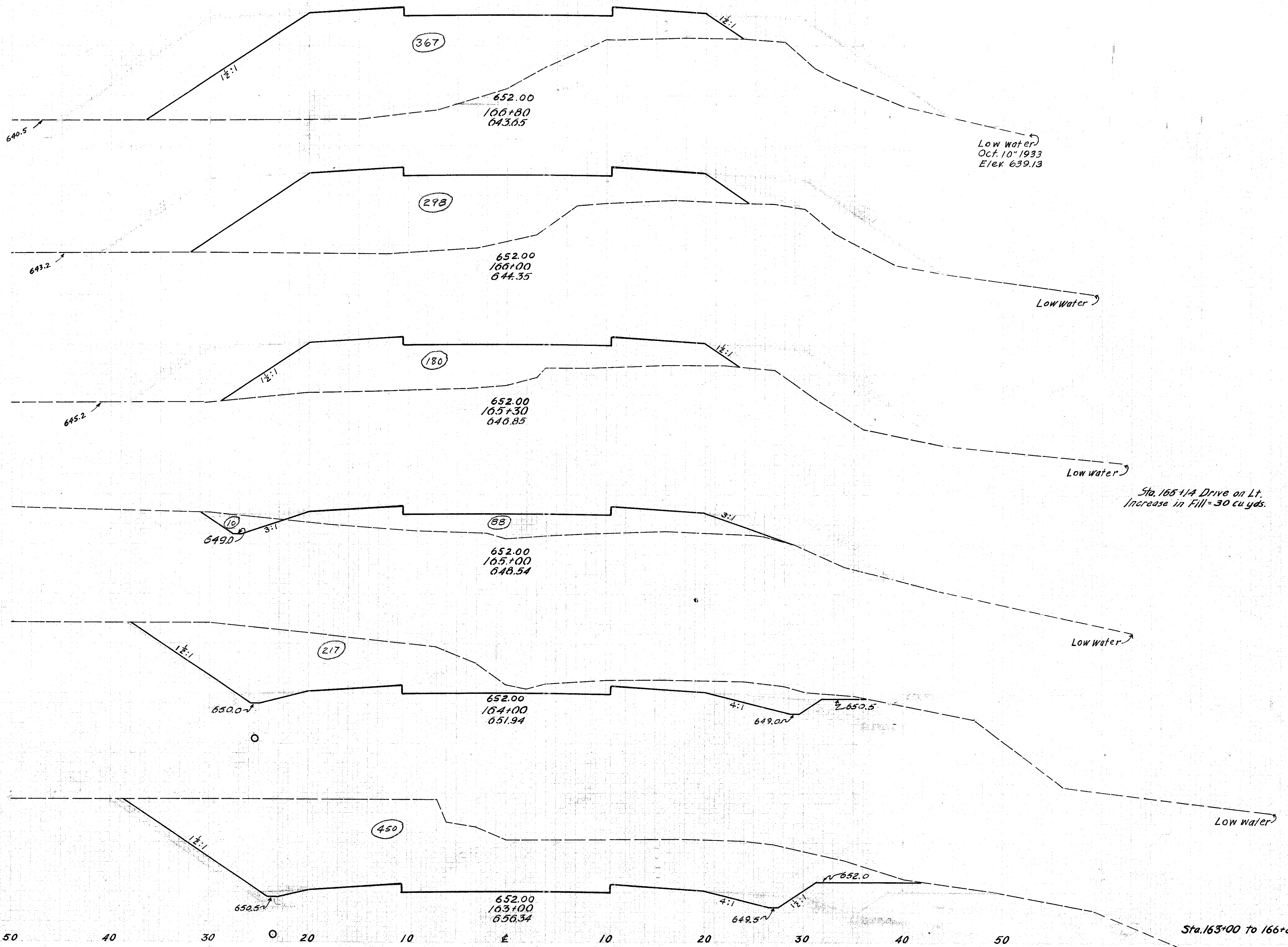
50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100

Sta. 151+00 to 156+00

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO		1934

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54

S.H. No 51 HENRY
SEC. 0 (Pt.) COUNTY



Sta.	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
367	0	367	0	367
298	0	298	0	298
180	0	180	0	180
88	10	88	6	149
217	217	0	420	163
450	450	0	2100	0

Sta. 160+00 to sta. 170+00	Excav	82.88 cu. yds.
	Emb.	73.50 cu. yds.
	Emb. + 15% Borrow	84.52 cu. yds.
	Borrow	104 cu. yds.

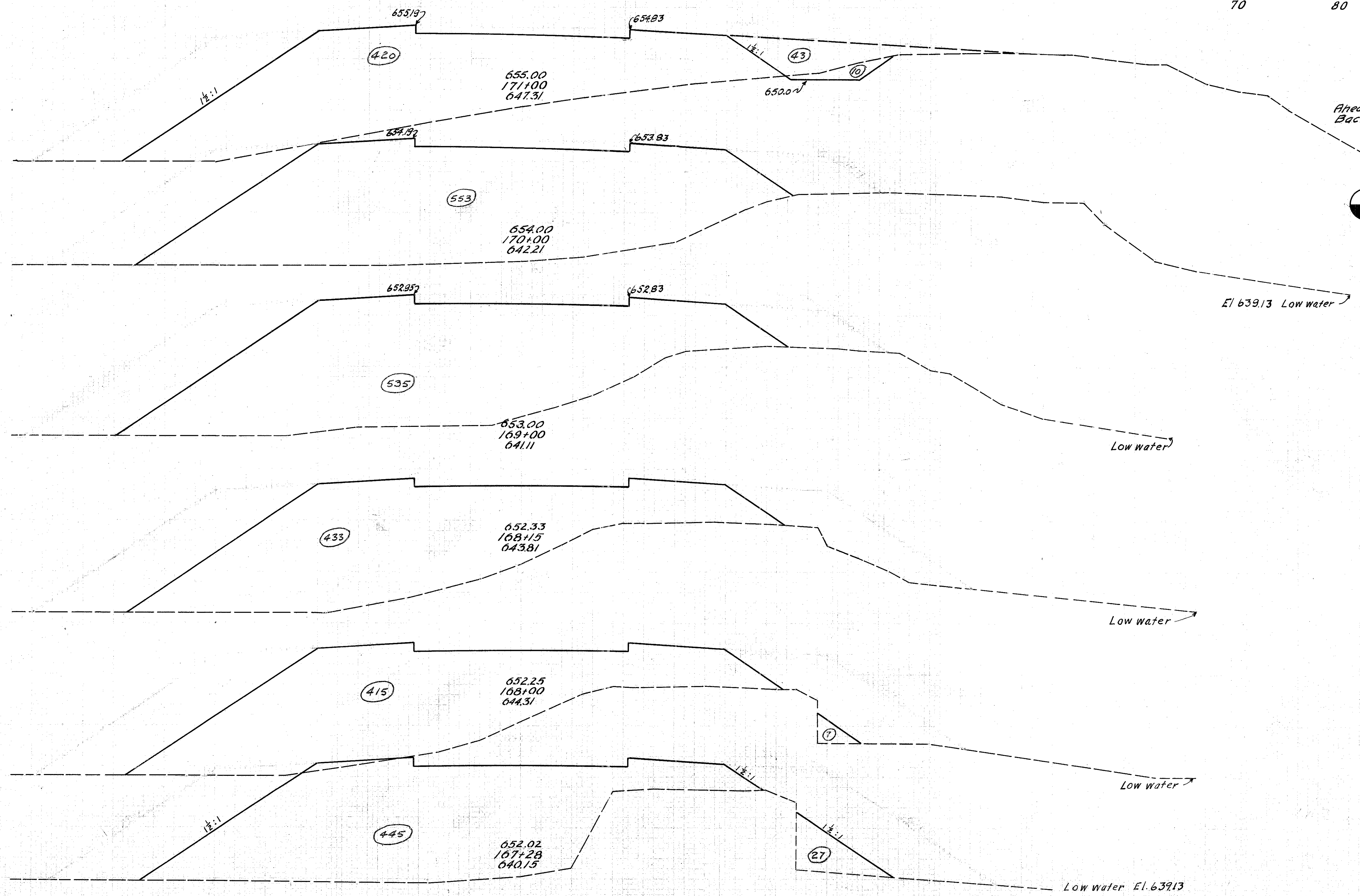
Sta. 163+00 To 166+80

50 40 30 20 10 0 10 20 30 40 50 60

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO		1934

44
54

S. H. No. HENRY
SEC. 0 (Pt.) COUNTY



End Area	Cu. Yds.	
	Cut	Fill
0	463	
10	420	
18	1802	
0	553	
0	2015	
0	535	
0	1524	
0	433	
0	237	
0	422	
0	1192	
0	472	
0	435	

Sta 166+83 to 167+03
Deduct 20' from Earth work
for Bridge = 311 Cu yds
of Embankment
Total Emb 166+80 to 167+28 = 746 cu yds. - 311 cu yds. = 435 cu yds.
Sta. 167+28 to 171+00
70 80

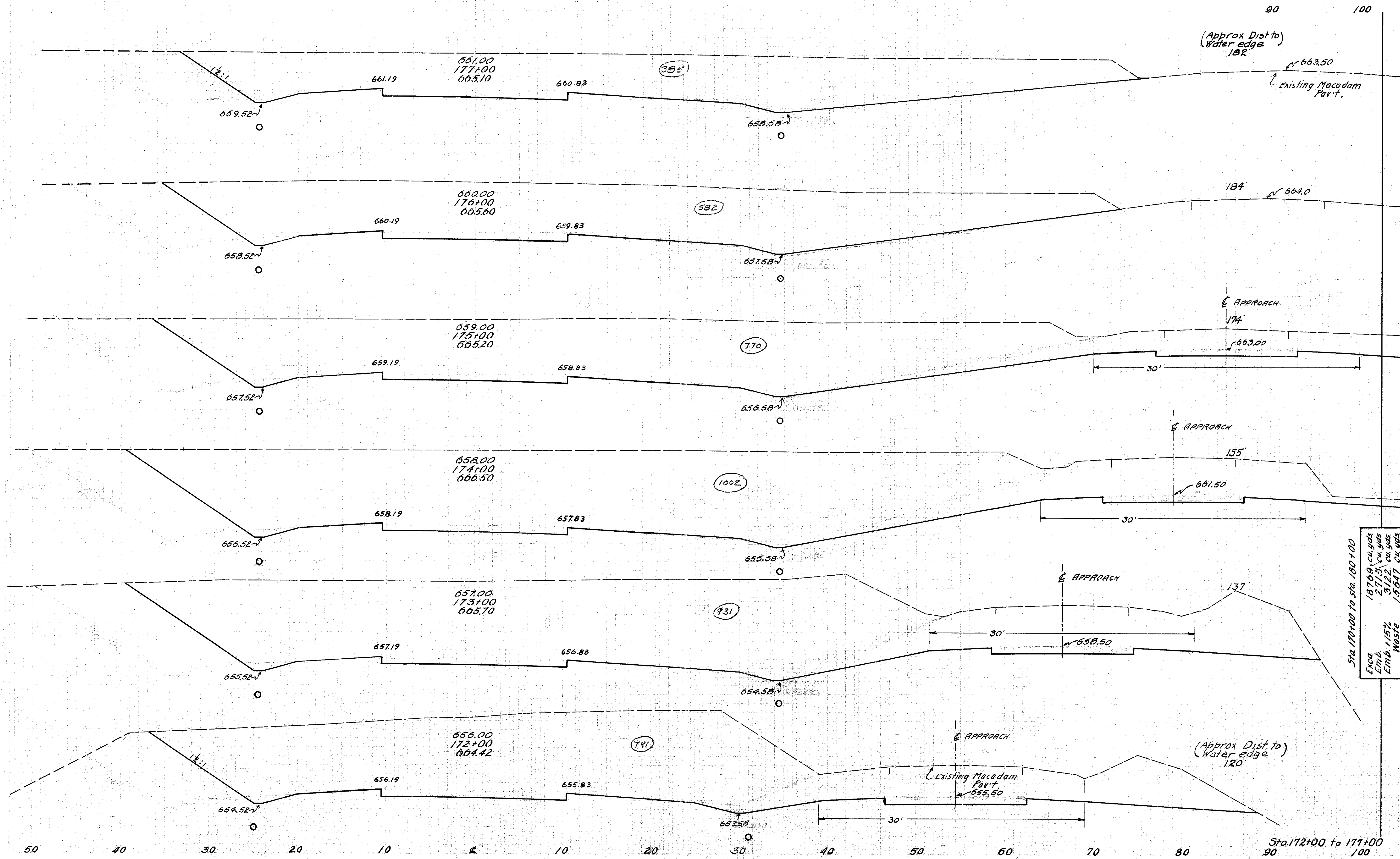
50 40 30 20 10 0 10 20 30 40 50 60

50 40 30 20 10 0 10 20 30 40 50 60 70 80

FED. AID DIST. NO. 10	STATE OHIO	FED. AID PROJ. NO.	FISCAL YEAR 1934
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45
54

S.H. No 51 HENRY COUNTY
SEC-0 (Pt) COUNTY



Sta. 172+00 to 173+00	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
172+00 to 173+00	385	0	1791	0
173+00 to 174+00	582	0	2504	0
174+00 to 175+00	770	0	3282	0
175+00 to 176+00	1002	0	3580	0
176+00 to 177+00	931	0	3189	0
177+00 to 178+00	791	0	1485	857

Sta. 170+00 to Sta. 180+00
 Exca. 18769 cu. yds.
 Emb. 2715 cu. yds.
 Emb. + 15% Waste 3122 cu. yds.
 Waste 15647 cu. yds.

(Approx Dist to Water edge 182)

Existing Macadam Pav't.

APPROACH

APPROACH

APPROACH

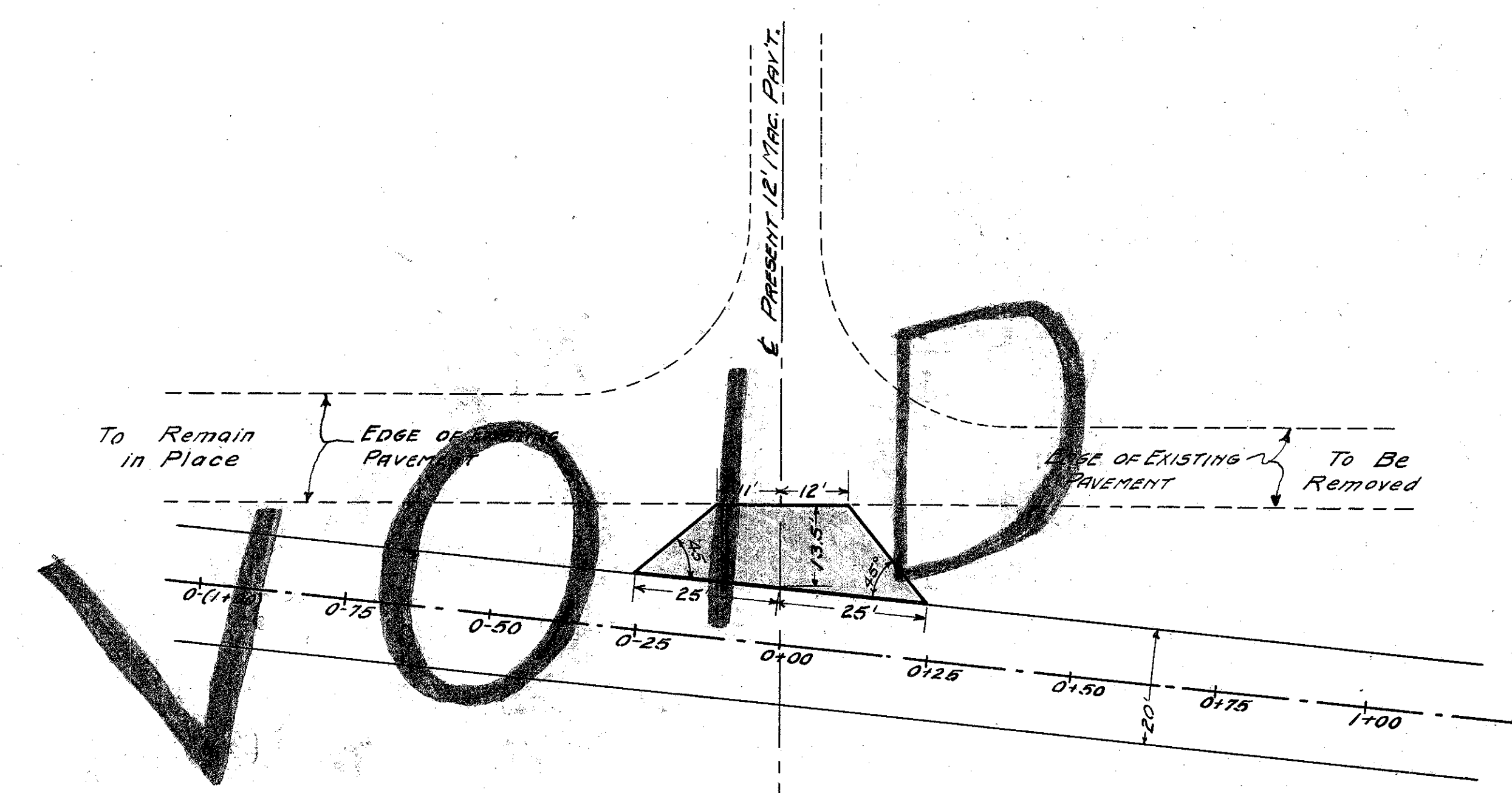
APPROACH

(Approx Dist to Water edge 120)

Existing Macadam Pav't.

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO		1934

S.H. No 51 HENRY COUNTY
 SEC.-O (Pt.) COUNTY

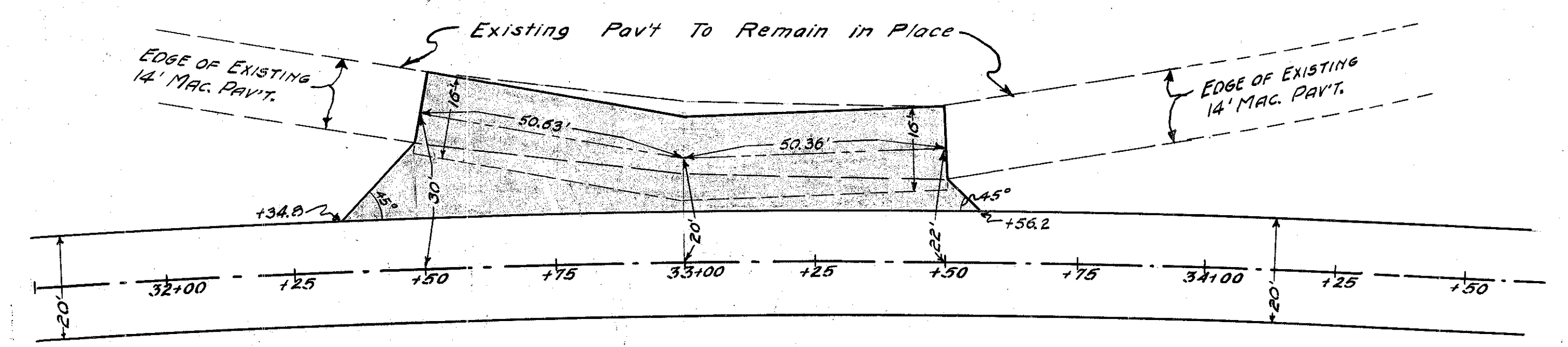


DETAIL OF APPROACH
 STA. 0+00 (LT.)

ESTIMATED QUANTITIES
 2" CO. MIXED COLLOID TAR CONCRETE SURFACE COURSE
 5" WATER BOUND FLEADRY BASE COURSE
 BITUMINOUS PRIME COAT

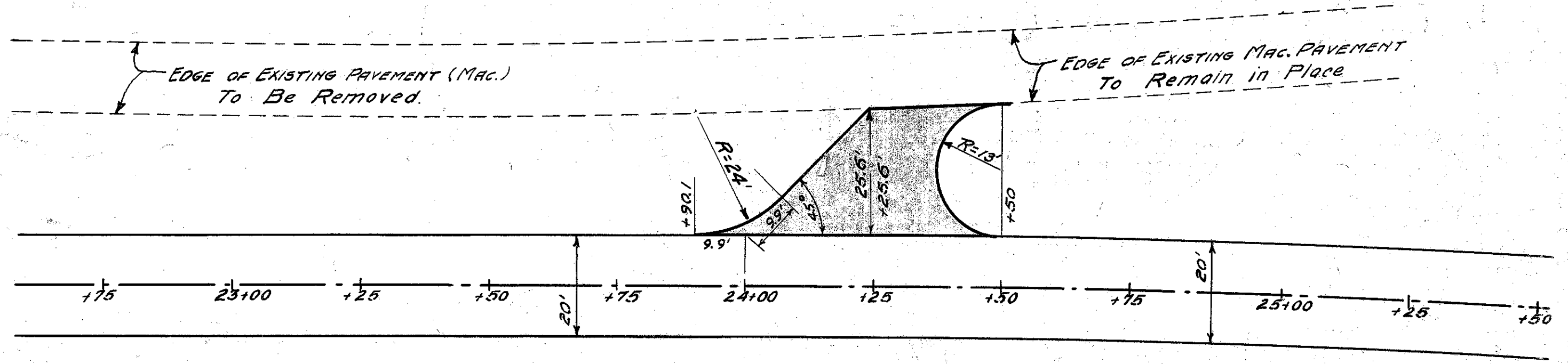
VOID

DETAIL OF APPROACH
 STA. 33+00 (LT.)



ESTIMATED QUANTITIES
 Area of Approach 249.3 Sq. Yds.

Aggregate for 3" Traffic Bound Surface Course 20.8 Cu. Yds.

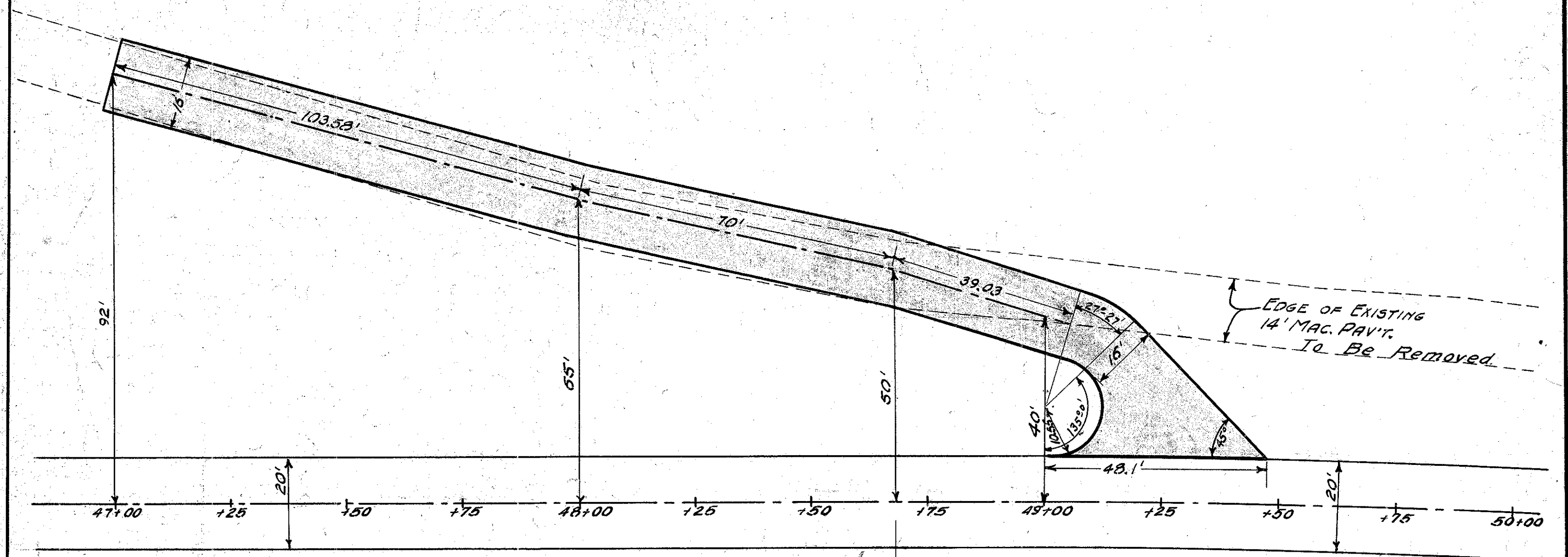


DETAIL OF APPROACH
 STA. 24+25 (LT.)

ESTIMATED QUANTITIES
 Area of Approach 81.4 Sq. Yds.

Aggregate for 3" Traffic Bound Surface Course 6.8 Cu. Yds.

DETAIL OF APPROACH
 STA. 49+25 (LT.)

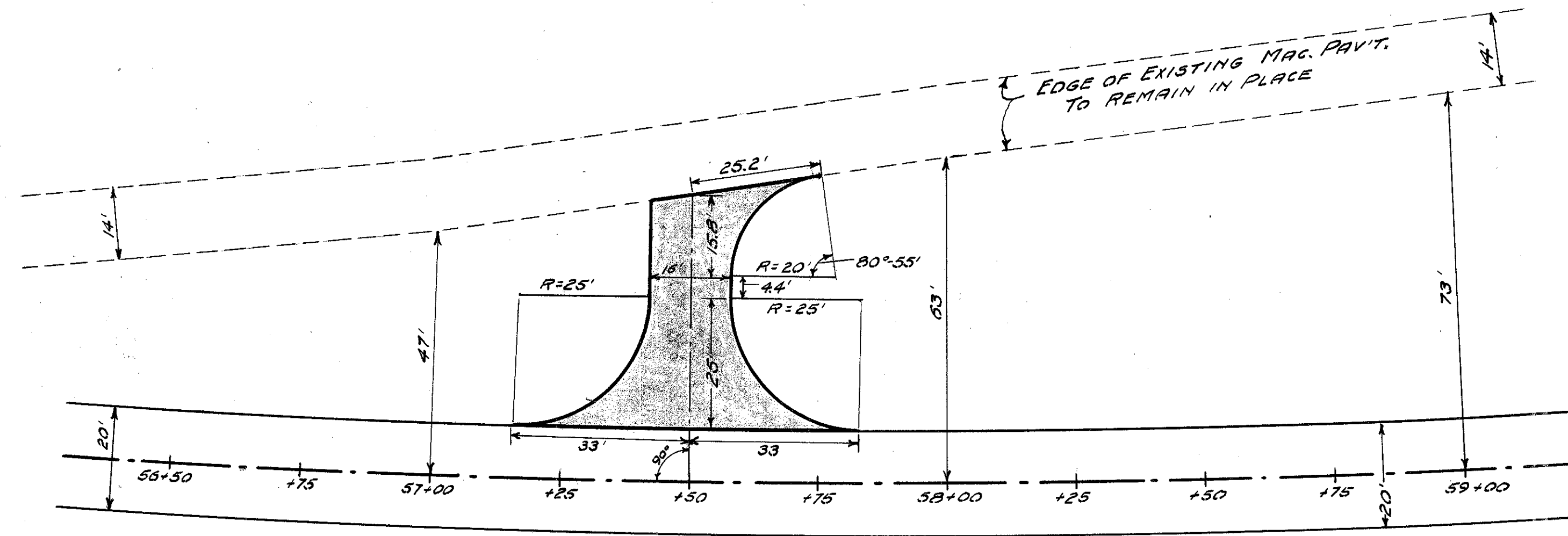


ESTIMATED QUANTITIES
 Area of Approach 493.5 Sq. Yds.
 FINISHING SHOULDERS, SLOPES AND DITCHES 222 LIN. FT.

Aggregate for 3" Traffic Bound Surface Course 41.1 Cu. Yds.

NOTE: THE NEW SHOULDER LENGTH TO BE FINISHED IS CALCULATED ON E. OF R.P.P. PAV'T. FROM A POINT 92.0' LEFT OF STA. 47+00 TO A POINT 24.7' LEFT OF STA. 49+13.1

DETAIL OF APPROACH
STA. 57+50 (LT.)

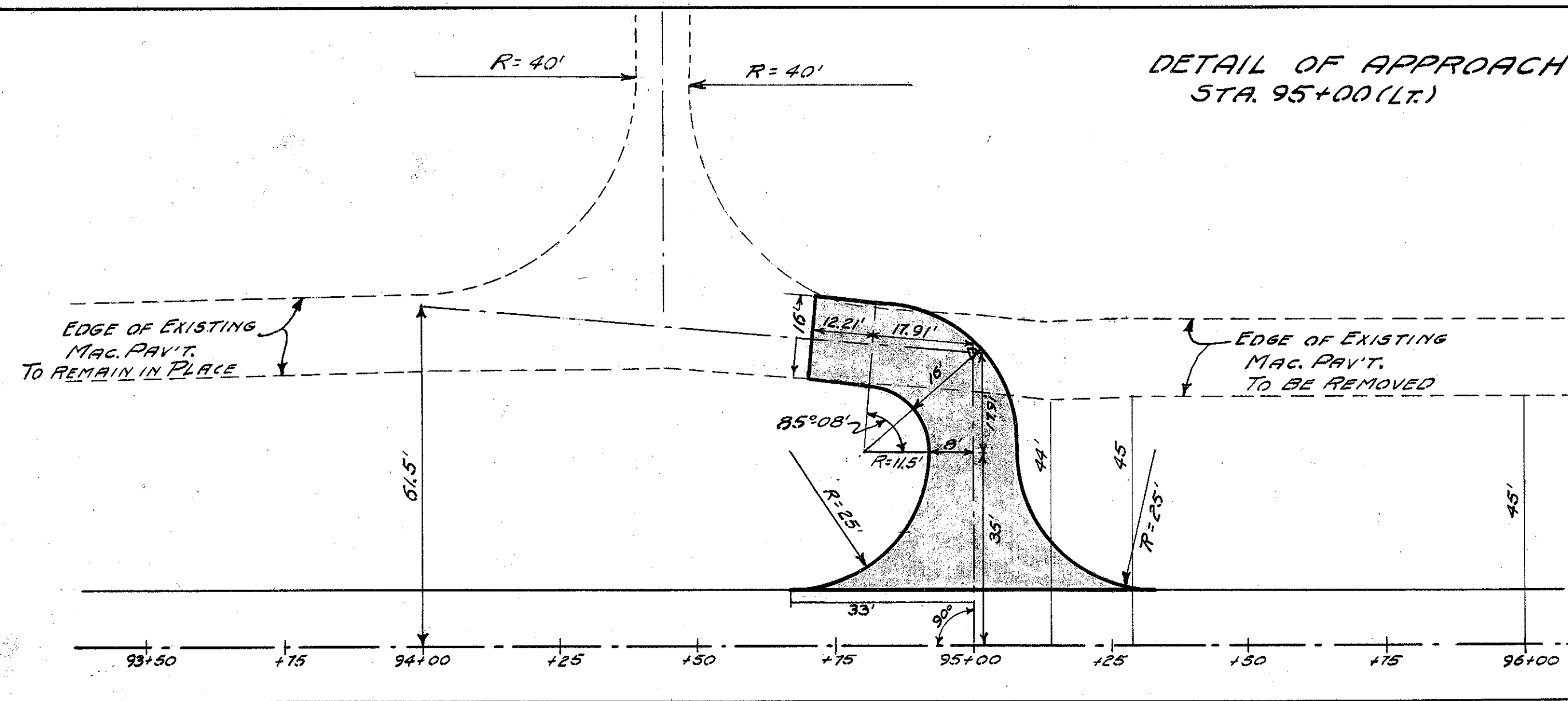


ESTIMATED QUANTITIES

Area of Approach
FINISHING SHOULDERS, SLOPES AND DITCHES 119.8 Sq. Yds.
31 LIN. FT.

Aggregate for 3" Traffic Bound Surface Course 10.0 Cu. Yds.

DETAIL OF APPROACH
STA. 95+00 (LT.)

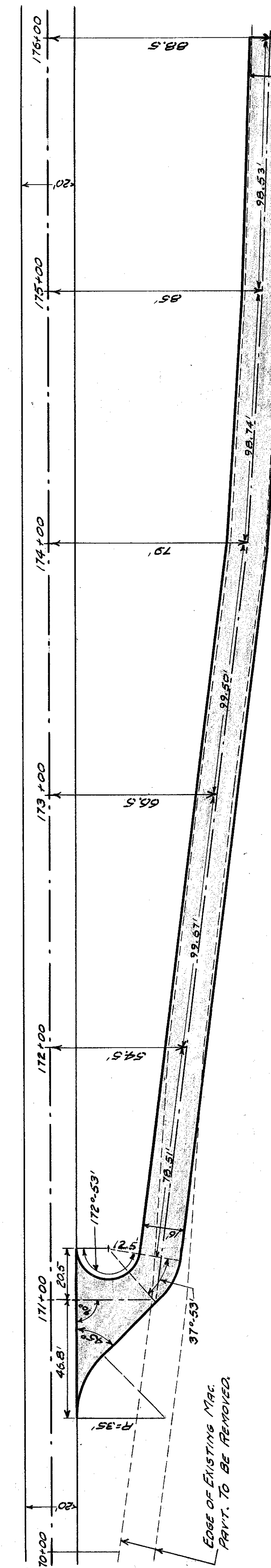


ESTIMATED QUANTITIES

Area of Approach
FINISHING SHOULDERS, SLOPES AND DITCHES 152.8 Sq. Yds.
48 LIN. FT.

Aggregate for 3" Traffic Bound Surface Course 12.7 Cu. Yds.

DETAIL OF APPROACH
STA. 170+53.2 TO STA. 175+00 (RT.)



ESTIMATED QUANTITIES

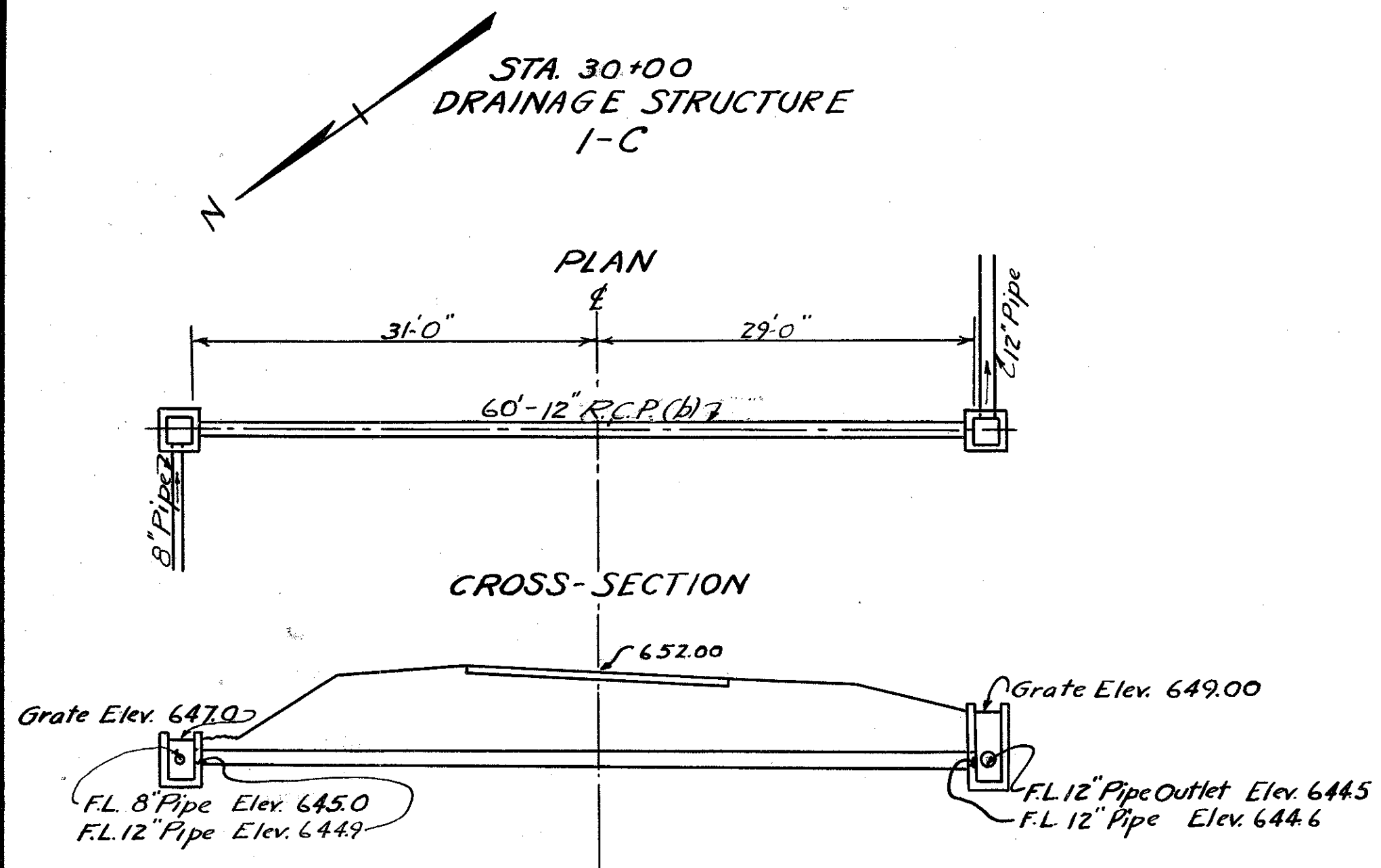
Area of Approach
FINISHING SHOULDERS, SLOPES AND DITCHES 1016.9 Sq. Yds.
501 LIN. FT.

Aggregate for Traffic Bound Surface Course 84.7 Cu. Yds.

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	48 54
10	OHIO		1934	

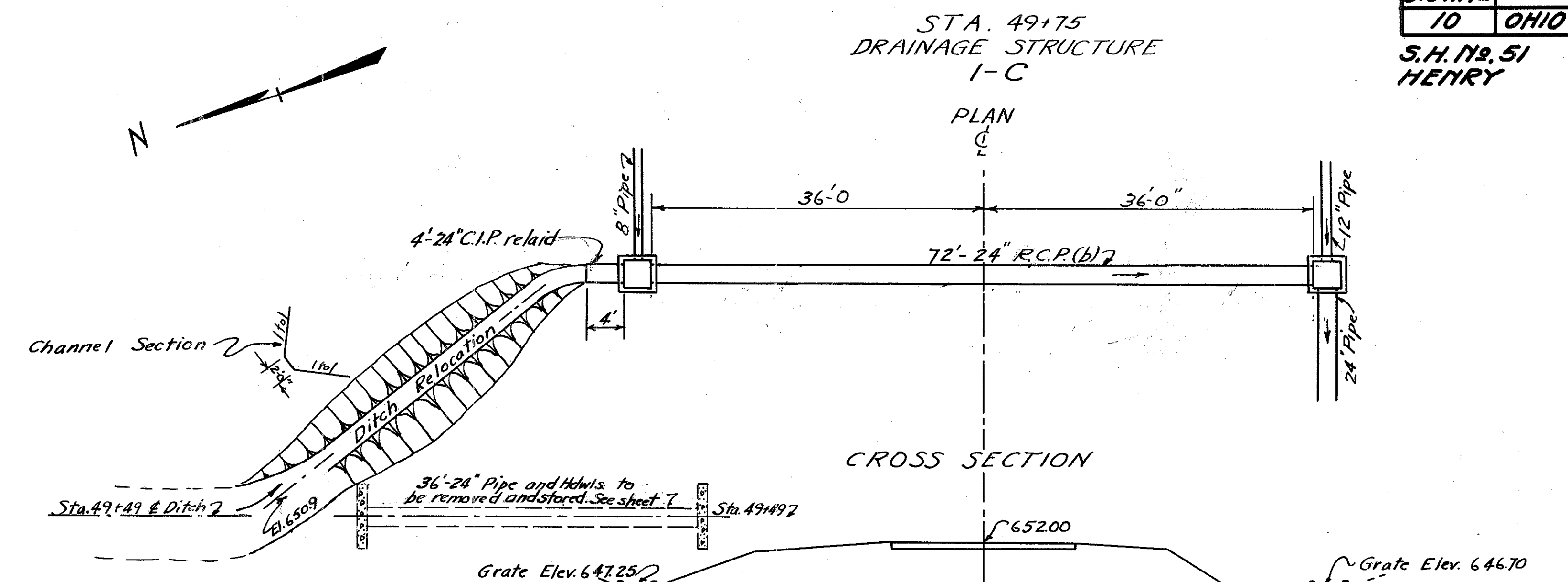
S.H. No 51
HENRY

SEC. 0 (PT)
COUNTY



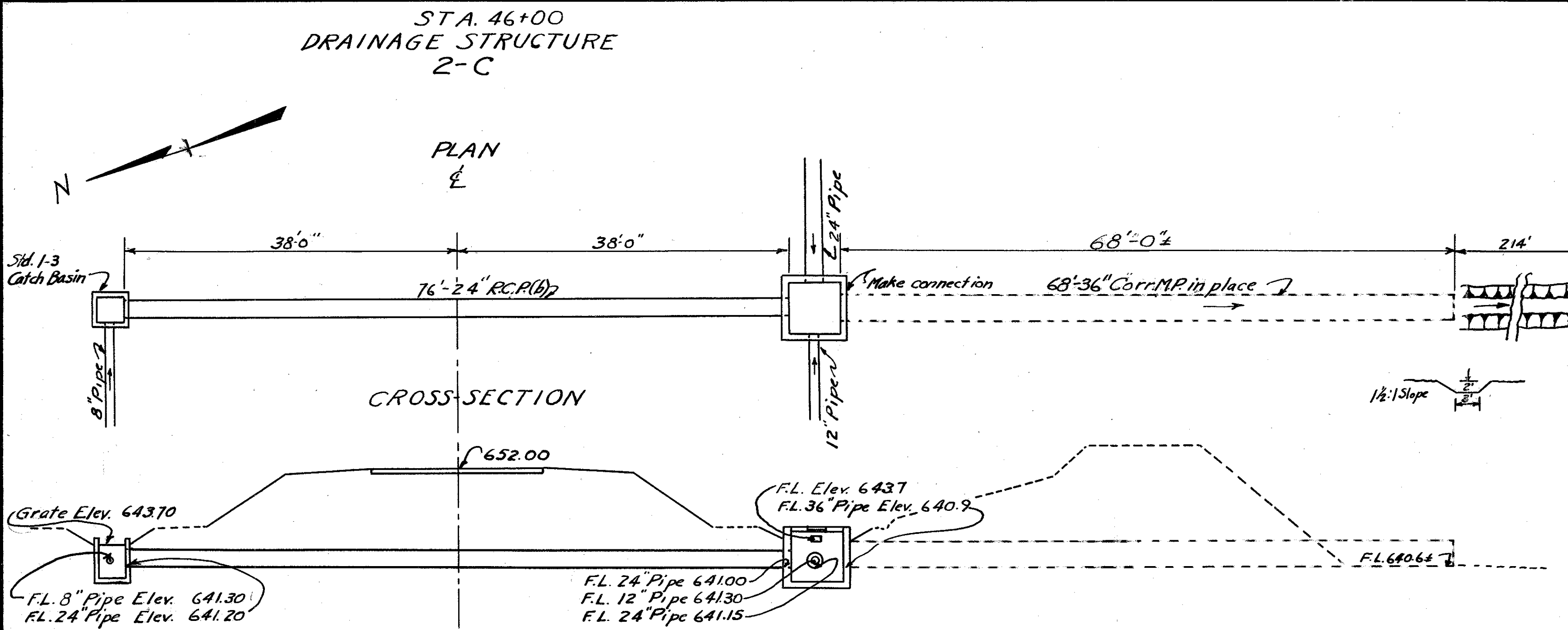
CULVERT DATA
 Type ~ Std. Roadway Culvert
 Const. Dwg. S-27 RC-3
 Size ~ 12"x60'
 Work Req. ~ Build Std. 12x60' Roadway Culvert. Build 2 Std. No. 1-2 Catch Basins and make all connections.

ESTIMATED QUANTITIES
 Excavation 31 Cu. Yds.
 12" R.C.P. (b) Sec. M-6.6 60 Lin. Ft.
 Std. No. 1-2 Catch Basin 2



CULVERT DATA
 Type ~ Roadway Culvert - Std.
 Const. Dwg. S-27 RC-3
 Size ~ 24"x76'
 Work Req. ~ Dig new open channel as indicated on above plan. Build Std. 24"x72' Roadway Culvert. Build 2 Std. No. 1-3 Catch Basins. Relay 4'-24" C.I.P. and make all connections.

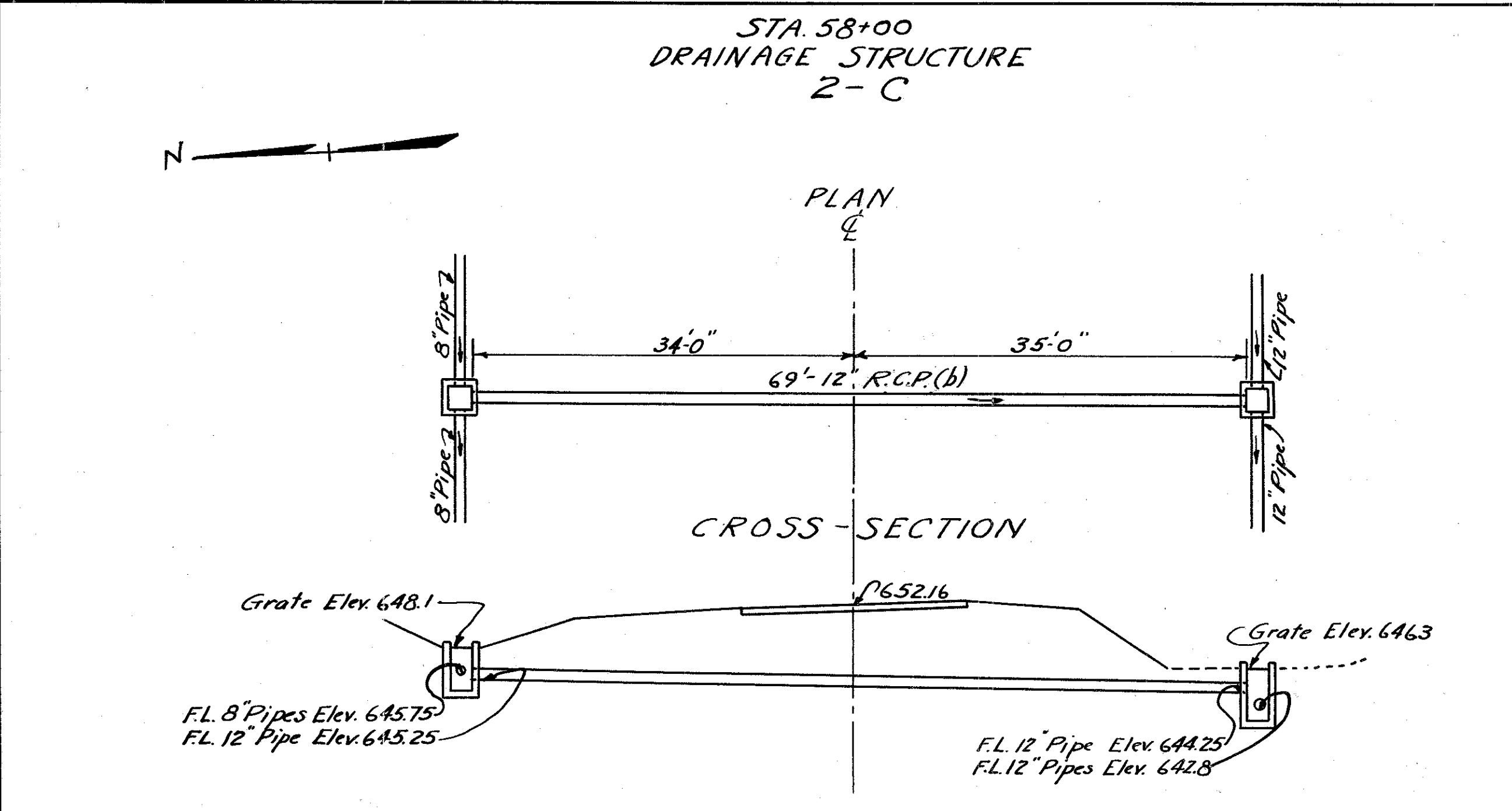
ESTIMATED QUANTITIES
 Channel Excavation 41 Cu. Yds.
 Structure Excavation 58 Cu. Yds.
 24" C.I.P. Relaid 4 Lin. Ft.
 24" R.C.P. (b) Sec. M-6.6 72 Lin. Ft.
 Std. No. 1-3 Catch Basin 2



CULVERT DATA
 Type ~ Std. Roadway Culvert
 Const. Dwg. S-27 RC-3
 Size ~ 24"x76'
 Work Req. ~ Build Std. 24x76' Roadway Culvert. Build 1 Std. No. 1-3 & 1 Std. No. 2-4 Catch Basin with special side inlets. Make all connections. Dig new open channel as indicated on above plan.

ESTIMATED QUANTITIES
 Structure Excavation 45 Cu. Yds.
 24" R.C.P. (b) Sec. M-6.6 76 Lin. Ft.
 Channel Excavation 64 Cu. Yds.
 Std. No. 1-3 Catch Basin 1
 Std. No. 2-4 Catch Basin 1

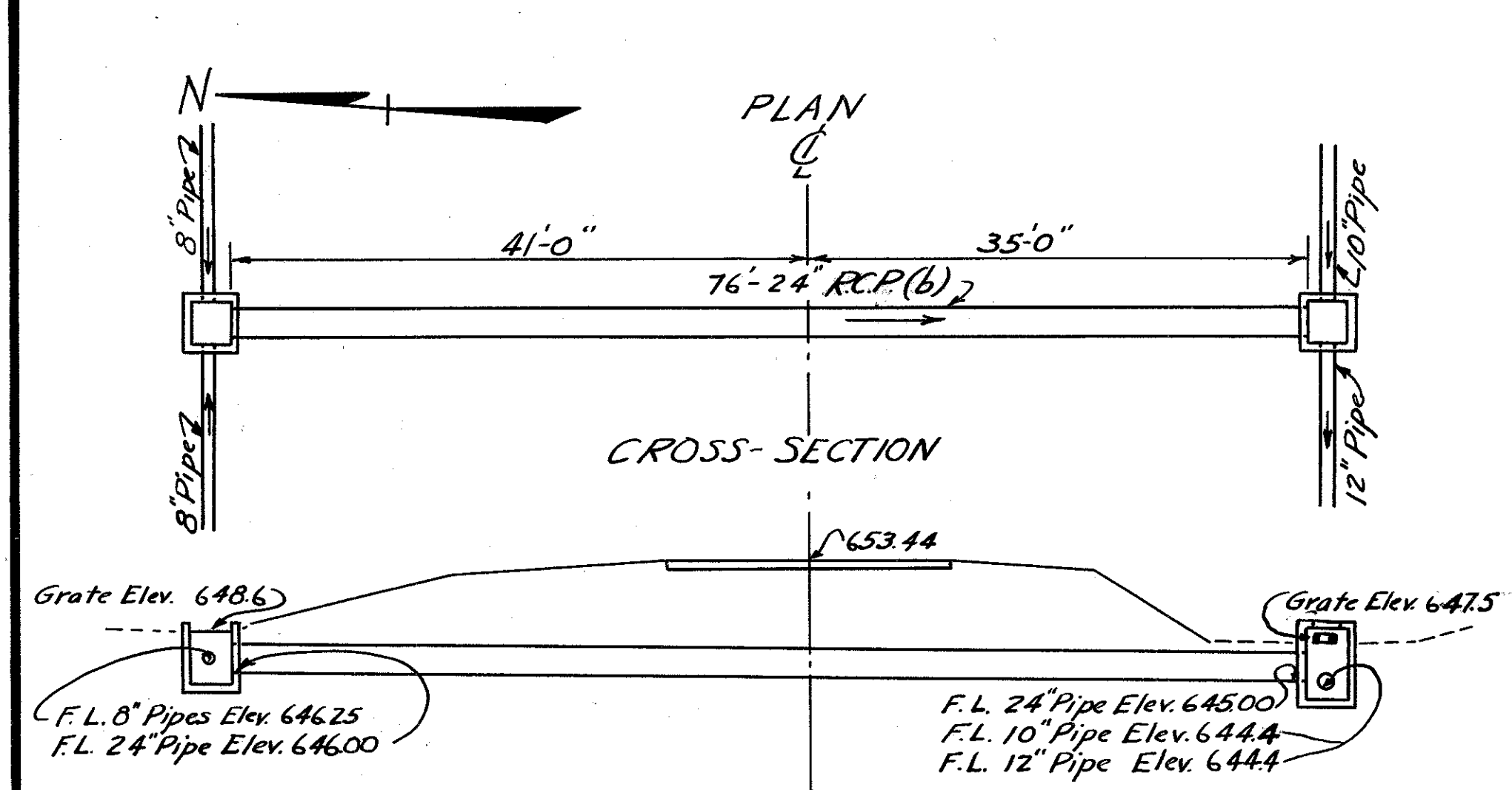
Note: Std. No. 2-4 Catch Basin to be constructed with special side inlets 2'-0"x9"



CULVERT DATA
 Type ~ Roadway Culvert - Std.
 Const. Dwg. S-27 RC-3
 Size ~ 12"x69'
 Work Req. ~ Build Std. 12"x69' Roadway Culvert. Build 2 Std. 1-2 Catch Basins and make all connections.

ESTIMATED QUANTITIES
 Excavation 25 Cu. Yds.
 12" R.C.P. (b) Sec. M-6.6 69 Lin. Ft.
 Std. 1-2 Catch Basin 2

STA. 74+00
DRAINAGE STRUCTURE
3-C

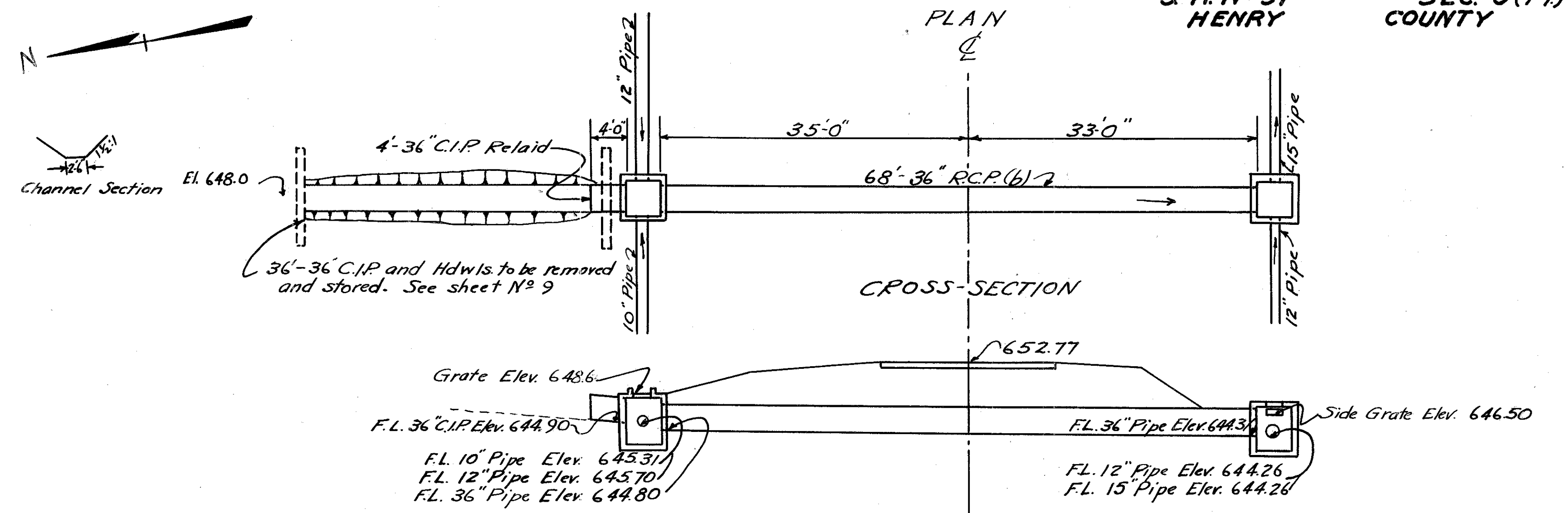


CULVERT DATA
Type ~ Std. Roadway Culvert
Const. Dwg S-27 PC.3
Size: 24" x 76"
Work Reg'd ~ Build Std. 24" x 76" Roadway Culvert. Build 1 Std. 1-3 Catch Basin and 1 Std. 2-3 Catch Basin and make all connections.

ESTIMATED QUANTITIES
Excavation 35 Cu. Yds.
24" R.C.P. (b) Sec. M-6.6 76 Lin. Ft.
Std. No. 1-3 Catch Basin 1
Std. No. 2-3 Catch Basin 1

Note: The Std. N^o 2-3 Catch Basin is to be constructed with special side inlets 2'-0" x 9"

STA. 122+40
DRAINAGE STRUCTURE
1-C

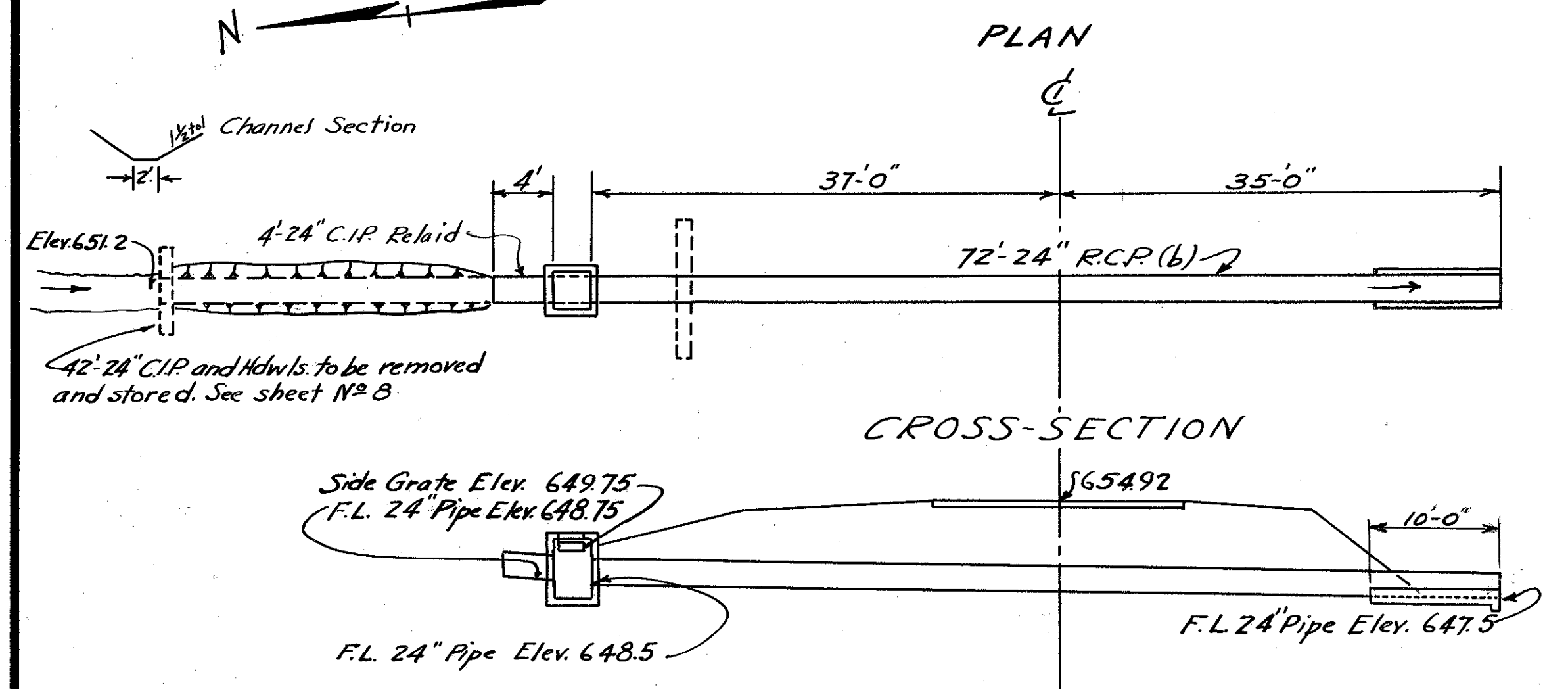


CULVERT DATA
Type ~ Roadway Culvert
Const. Dwg S-27 PC.3
Size ~ 36" x 68"
Work Reg'd ~ Build Std. 36" x 68" Roadway Culvert. Build 1 Std. 1-4 Catch Basin. Build 1 Std. 2-4 Catch Basin with special side inlets. Relay 4'-36" Sectional C.I.P. and make all connections.

ESTIMATED QUANTITIES
Structure Excavation 70 Cu. Yds.
Channel Excavation 35 Cu. Yds.
36" R.C.P. (b) Sec. M-6.6 68 Lin. Ft.
Std. N^o 1-4 Catch Basin 1
Std. N^o 2-4 Catch Basin 1
36" C.I.P. Relaid 4 Lin. Ft.

Note: The Std. N^o 2-4 Catch Basin is to be constructed with special side inlets 3'-0" x 1'-0"

STA. 95+50
DRAINAGE STRUCTURE
1-C

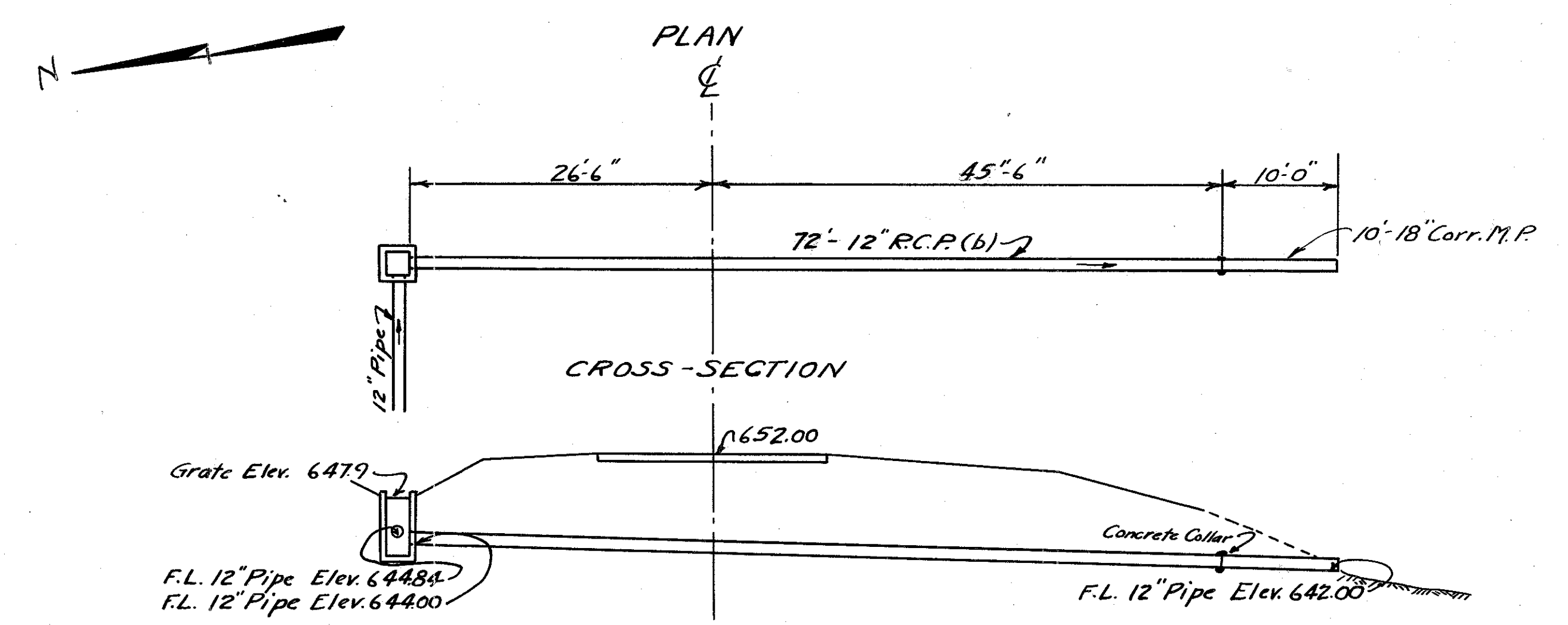


CULVERT DATA
Type ~ Roadway Culvert
Std. Const. Dwg. S-27 PC.2 & 3
Size - 24" x 72"
Work Reg'd - Dig new open channel as indicated on above plan. Build Std. 24" x 72" Roadway Culvert. Build 1 Std. N^o 2-3 Catch Basin with special side inlets. Relay 4'-24" C.I.P. and make all connections.

ESTIMATED QUANTITIES
Structure Excavation 20 Cu. Yds.
Channel Excavation 15 Cu. Yds.
24" R.C.P. (b) Sec. M-6.6 72 Lin. Ft.
Std. No. 2-3 Catch Basin 1
24" C.I.P. Relaid 4 Lin. Ft.
Concrete (1-5/2 Mix) 1.07 Cu. Yds.

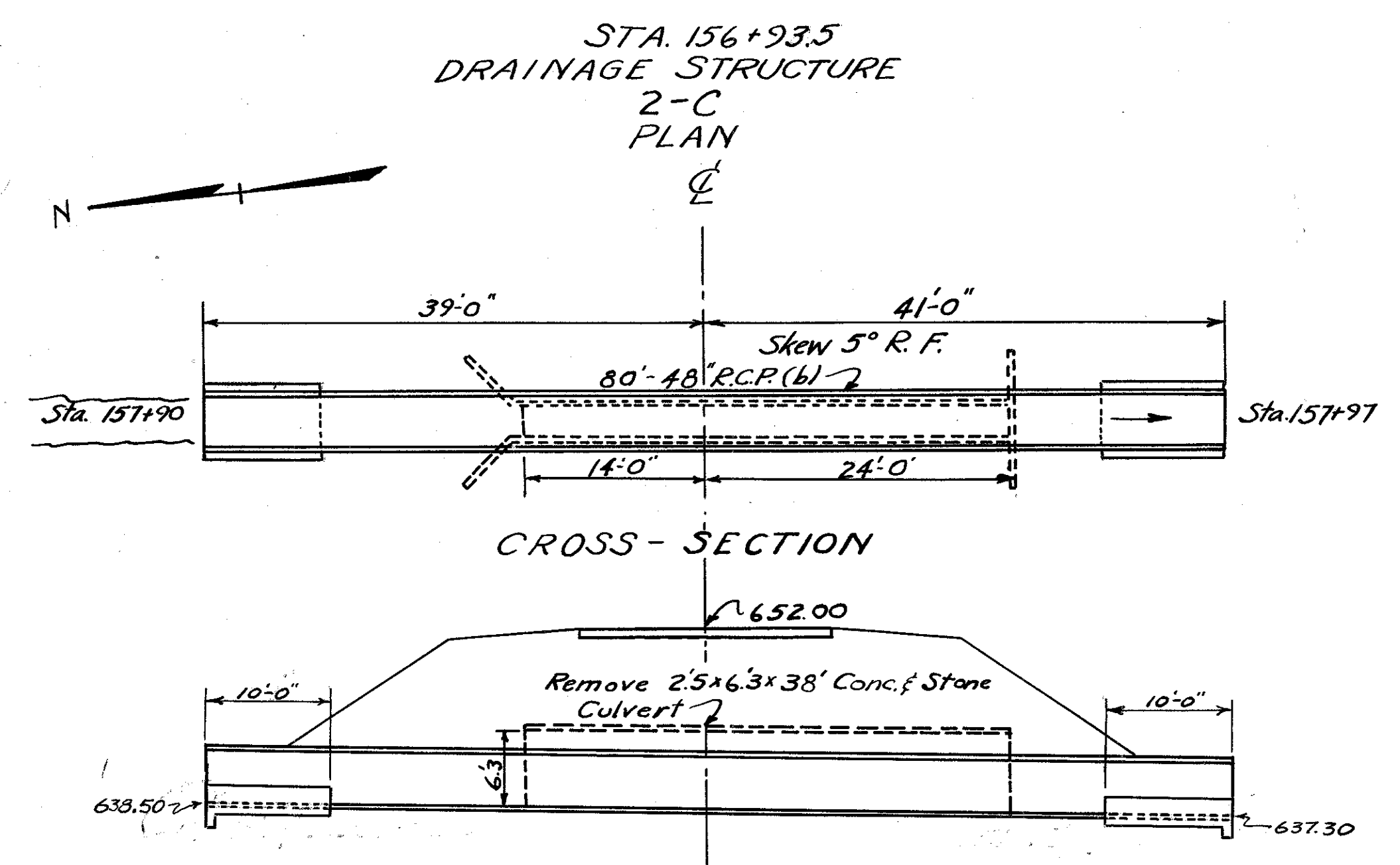
Note ~ The Std. N^o 2-3 Catch Basin is to be constructed with special side inlets 2'-0" x 9"

STA. 153+00
DRAINAGE STRUCTURE
1-C



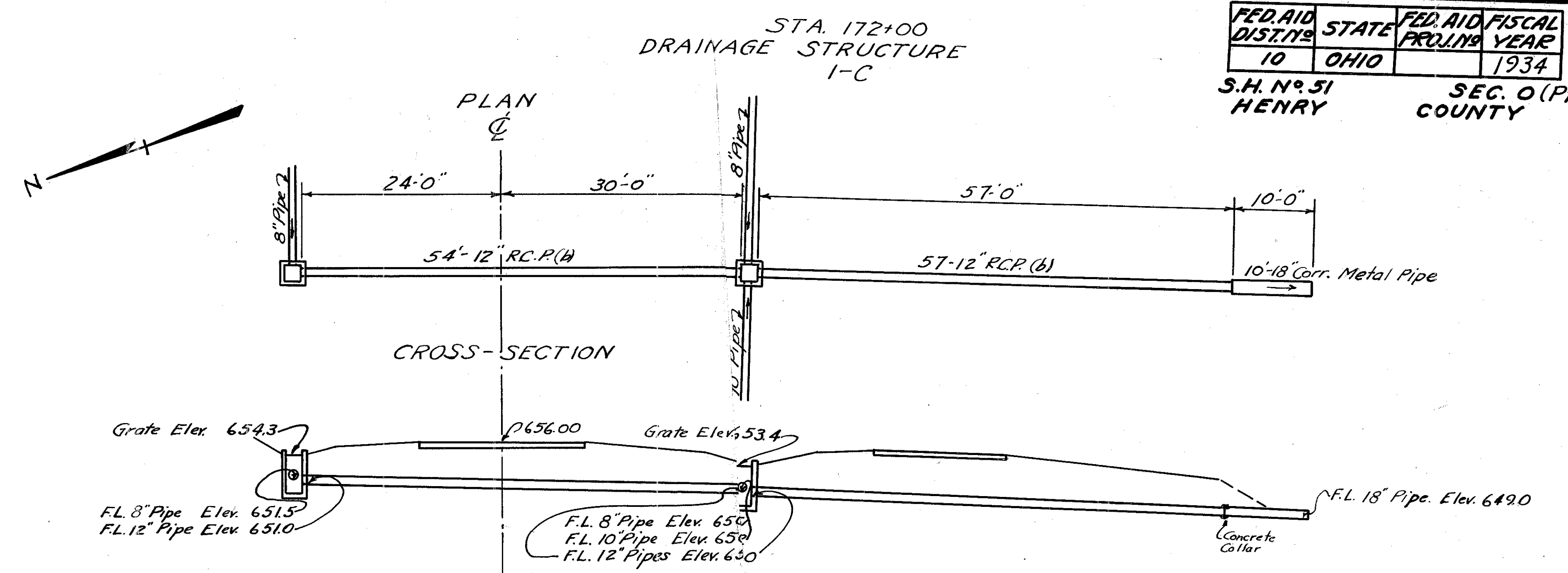
CULVERT DATA
Type ~ Std. Roadway Culvert
Const. Dwg. S-27 PC.3
Size ~ 12" x 72"
Work Reg'd ~ Build Std. 12" x 72" Roadway Culvert. Build 1 Std. No. 1-2 Catch Basin. Place 10'-18" Corr. M.P. at outlet end and make all connections.

ESTIMATED QUANTITIES
Excavation 75 Cu. Yds.
12" R.C.P. (b) Sec. M-6.6 72 Lin. Ft.
Std. No. 1-2 Catch Basin 1
18" Corr. Metal Pipe 10 Lin. Ft.



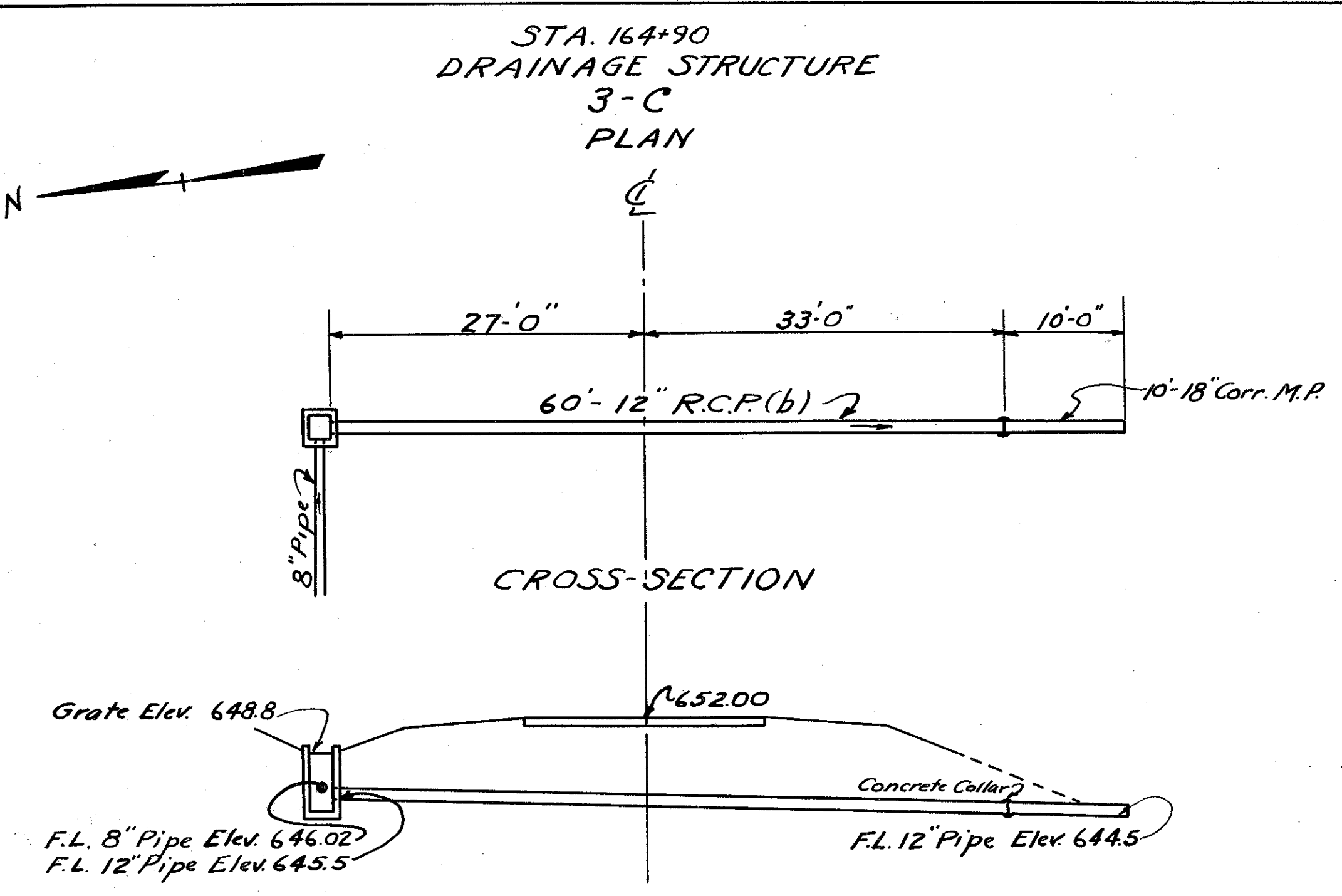
CULVERT DATA
 Type ~ Std. Roadway Culvert
 Const. Dwg. S-27 P.C. 2 & 3
 Size. 48" x 80"
 Work Req'd. Remove existing 2.5x6.3x38' concrete & stone roadway culvert. Build 48x80' Std. Roadway Culvert.

ESTIMATED QUANTITIES
 Excavation 102 Cu. Yds.
 Removal existing conc. & stone culvert. Lump
 48" R.C.P. (b) Sec. M. 6-6 80 Lin. Ft.
 Concrete (1-5/2 mix) 5.02 Cu. Yds.



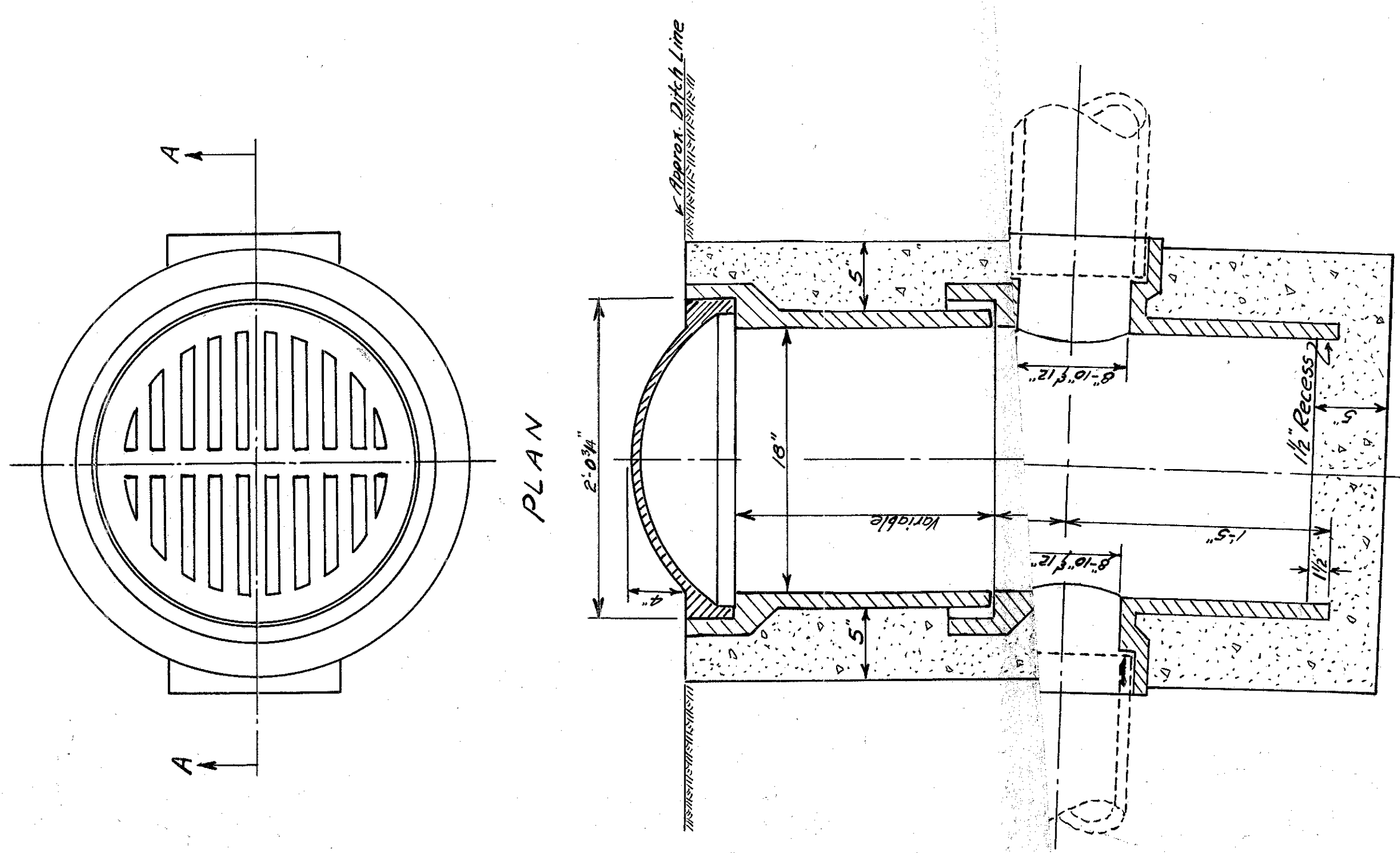
CULVERT DATA
 Type ~ Std. Roadway Culvert
 Const. Dwg. S-27 P.C. 3
 Size: 12" x 111"
 Work Req'd. Build 12"x111' Std. Roadway Culvert. Place 10'-18" Corr. Metal Pipe at outlet end. Build 2 Std. 1-2 Catch Basins and make all connections.

ESTIMATED QUANTITIES
 Excavation 60 Cu. Yds.
 12" R.C.P. (b) Sec. M. 6 111 Lin. Ft.
 18" Corr. Metal Pipe 10 Lin. Ft.
 Std. No. 1-2 Catch Bas. 2



CULVERT DATA
 Type. ~ Std. Roadway Culvert
 Const. Dwg. S-27 P.C. 3
 Size ~ 12" x 60"
 Work Req'd. Build 12x60' Std. Roadway Culvert. Build 1 Std. No. 1-2 Catch Basin. Place 10'-18" Corr. M. P. and make all connections.

ESTIMATED QUANTITIES
 Excavation 33 Cu. Yds.
 12" R.C.P. (b) Sec. M. 6-6 60 Lin. Ft.
 Std. 1-2 Catch Basin 1
 18" Corr. Metal Pipe 10 Lin. Ft.



This Inlet shall be composed of 2' Std. 18" V.S.P. or R.C.P. double "T" with 8"-10" or 12" connections and the remaining portion varying as to the depth and grade of ditch. The top shall be a Special Municipal Crown Top Sewer Grate. (as shown on equivalent)

Cone shall be taken by the field Engineer in the placing of this type inlet. Special note shall be given to the grade elevation of drain tile and when finished the inlet should stand in a true vertical position and exactly to ditch grade.

For V.S.P. Inlet a 5" concrete encasement of 1-5/2 mix shall be used. No encasement will be necessary for R.C.P. (b) Inlet but all joints shall be cemented and a 5" bottom of 1-8 concrete poured to extend 5" beyond outside of Pipe.

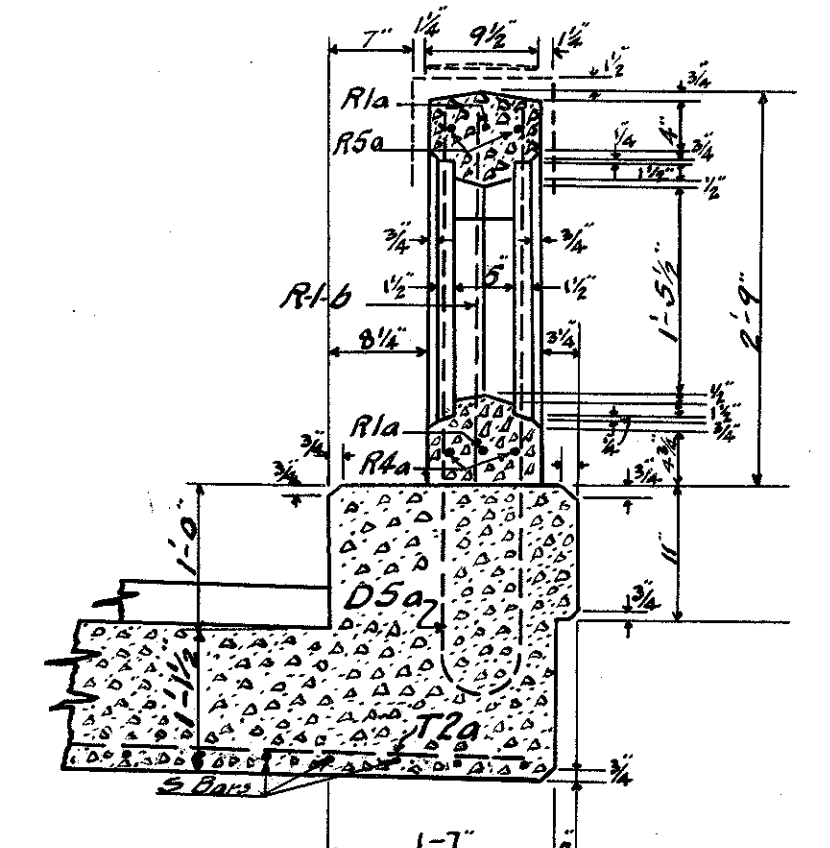
S.H. 51 SEC. "O" (Pt.) HENRY COUNTY

MARK	SIZE	NO.	LENGTH	WEIGHT	SHAPE	SPACE	
A4A	5/8"	10	4'-0"	42	BENT	1'-6"	
A4B	5/8"	48	2'-0"	100	STAR	1'-6"	
A4C	5/8"	24	4'-0"	100	STAR	SHOW	
A4D	5/8"	52	14'-3"	773	STAR	2'-0"	
A4E	5/8"	4	12'-0"	50	STAR	2'-0"	
A4F	5/8"	4	10'-6"	44	STAR	2'-0"	
A4G	5/8"	4	9'-6"	40	STAR	2'-0"	
A4H	5/8"	4	8'-0"	39	STAR	2'-0"	
A4I	5/8"	8	27'-6"	229	STAR	2'-0"	
A4J	5/8"	8	28'-6"	238	STAR	2'-0"	
A4K	5/8"	8	32'-0"	267	STAR	2'-0"	
A4L	5/8"	32	37'-6"	1252	BENT	2'-0"	
A4M	3/4"	52	14'-3"	1113	STAR	2'-0"	
A4N	3/4"	4	12'-0"	72	STAR	2'-0"	
A4O	3/4"	4	10'-6"	69	STAR	2'-0"	
A4P	3/4"	4	9'-6"	67	STAR	2'-0"	
A4Q	3/4"	4	8'-0"	64	STAR	2'-0"	
A4R	3/4"	16	7'-0"	117	STAR	SHOW	
A4S	3/4"	32	8'-6"	284	BENT	1'-0"	
A4T	3/4"	244	6'-0"	1527	BENT	0'-7"	
A4U	3/4"	24	6'-0"	216	STAR	1'-0"	
A4V	1/2"	178	20'-0"	7277	BENT	0'-5"	
A4W	1/2"	15	36'-9"	368	STAR	SHOW	
A4X	3/8"	8	7'-2"	117	INCLUDED WITH RAILING	STAR	SHOW
A4Y	3/8"	8	2'-6"	32	RAILING FOR PARAPET	STAR	SHOW
A4Z	3/8"	8	9'-6"	91	RAILING	STAR	SHOW
D4A	5/8"	12	8'-6"	106	BENT	SHOW	
D4B	3/4"	8	8'-3"	99	BENT	SHOW	
D4C	3/4"	2	3'-6"	3	STAR	SHOW	
D4D	1/2"	2	4'-0"	5	STAR	STAR	
D4E	3/4"	2	4'-6"	9	STAR	STAR	
D4F	3/4"	2	5'-0"	15	STAR	STAR	
D4G	7/8"	2	5'-6"	23	STAR	STAR	
TOTAL						14570	

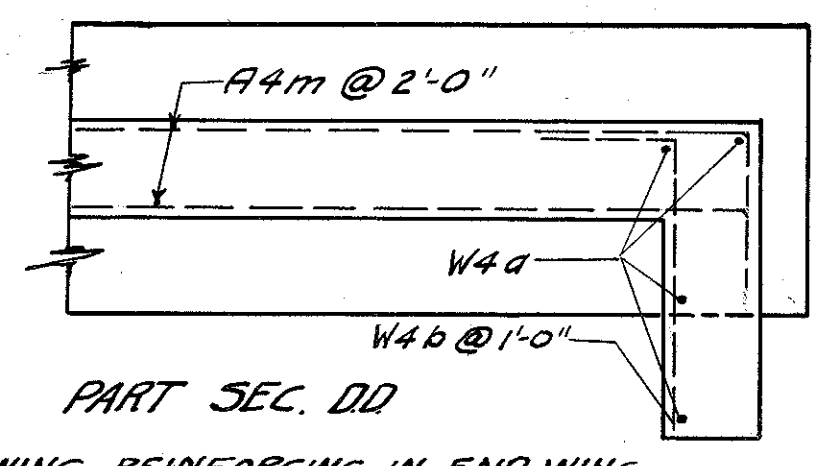
NOTE: SEE STD. DWS. 5A-33 FOR COMPLETE RAILING DETAILS.

POROUS BACKFILL shall be composed of gravel, stone or slag, as specified under item E-2.05 of the Construction Specifications.

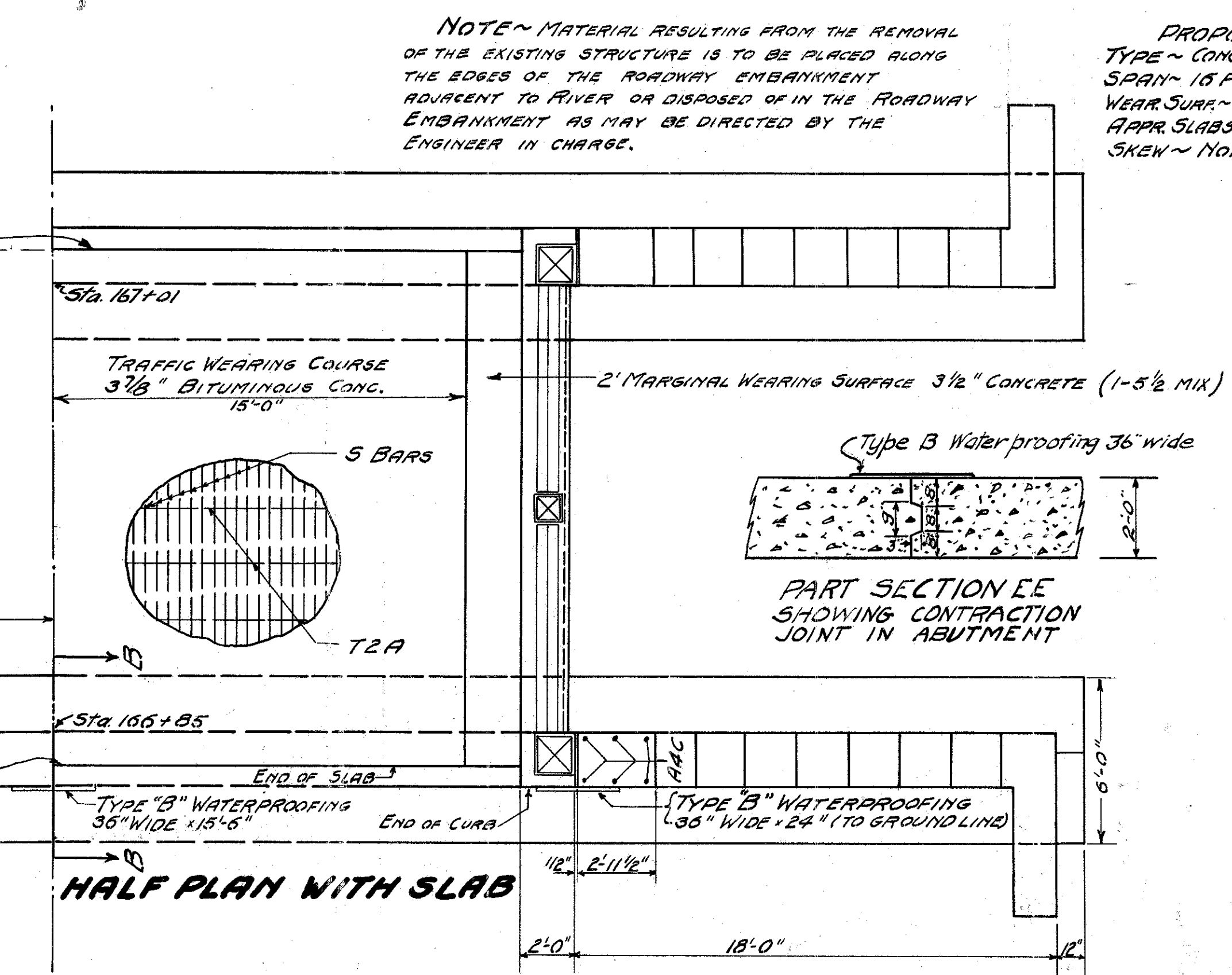
POROUS BACKFILL will be paid for as a separate lump sum item instead of as set forth in Item E-2. Estimated material required for Porous Backfill equals 85 Cu. Yds.



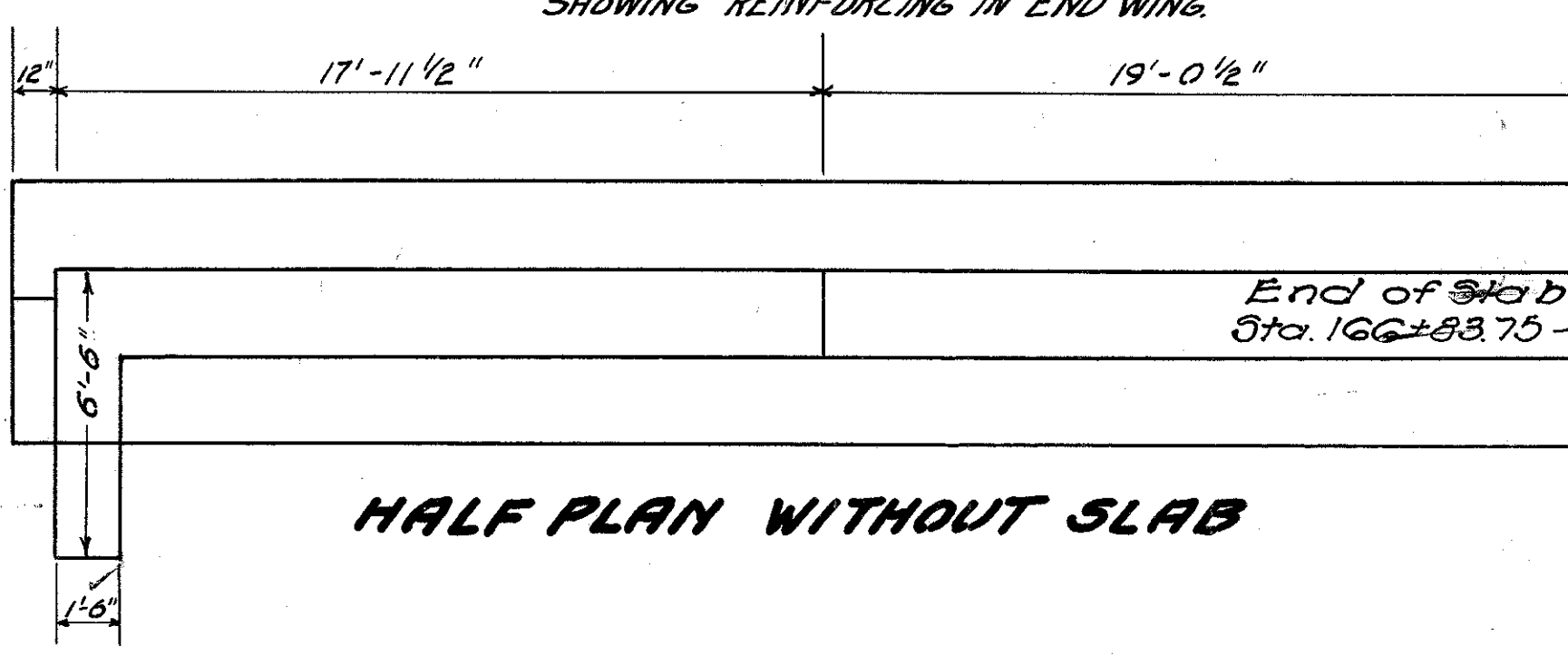
PART SECTION AA SHOWING CURB AND RAIL



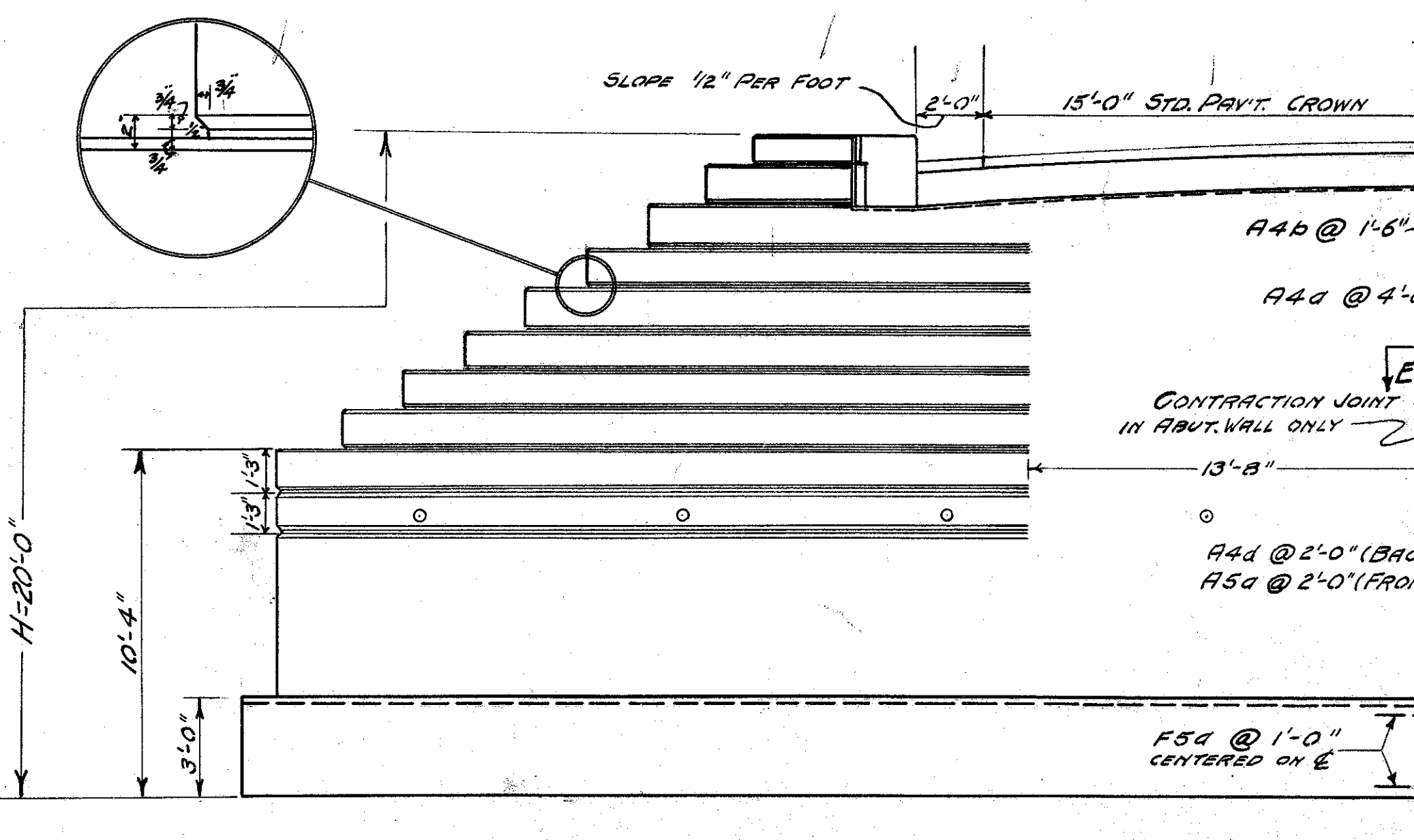
PART SEC. DD SHOWING REINFORCING IN END WING



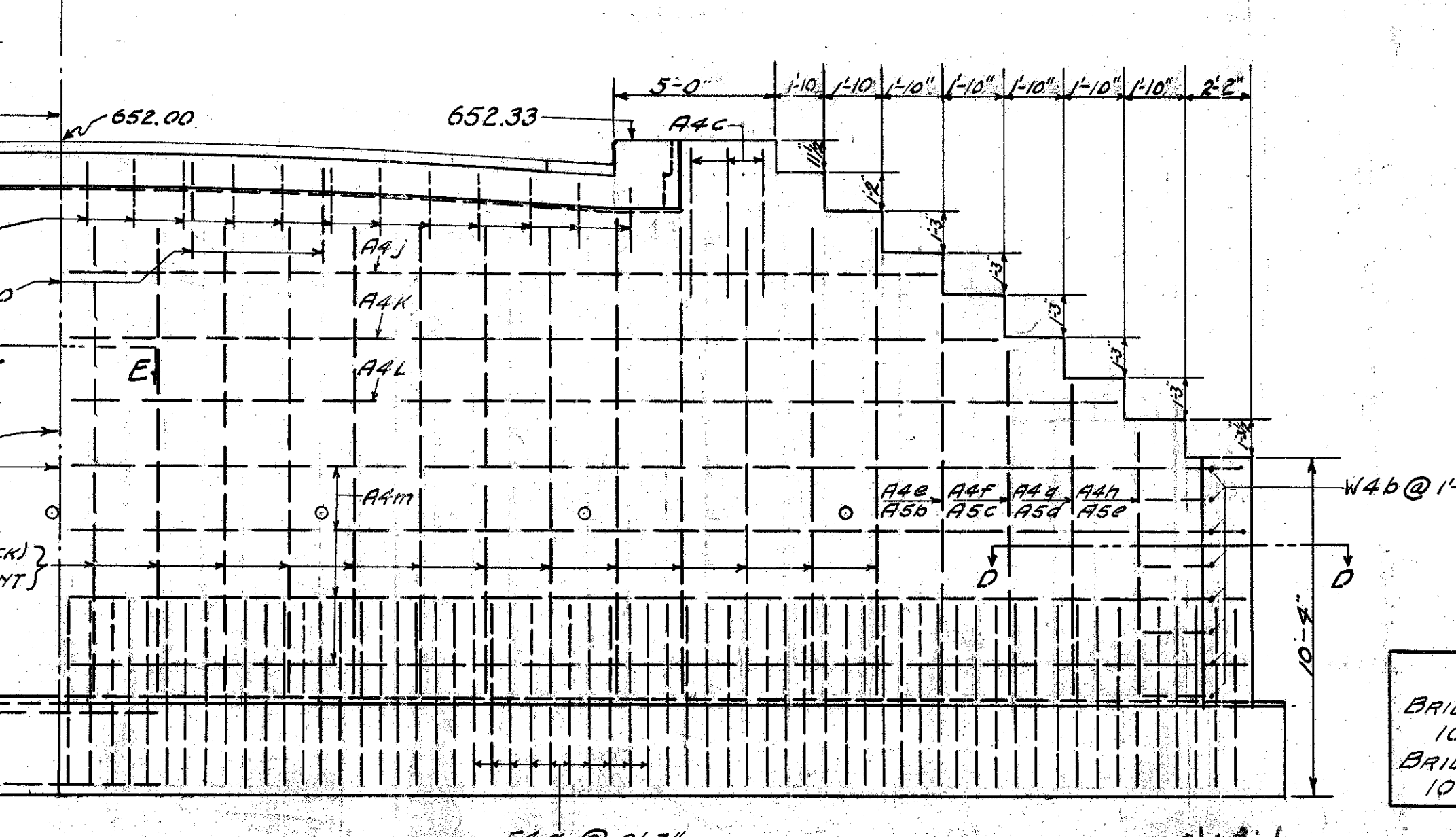
HALF PLAN WITH SLAB



HALF PLAN WITHOUT SLAB



HALF FRONT ELEVATION OF ABUTMENT



HALF REAR ELEVATION

TEST HOLE DATA

Test Hole #2	Test Hole #1
640.05	639.80
637.00	637.00
636.00	636.00
633.00	633.00
631.00	631.00
630.00	630.00

SOUNDING METHOD 6' AUGER

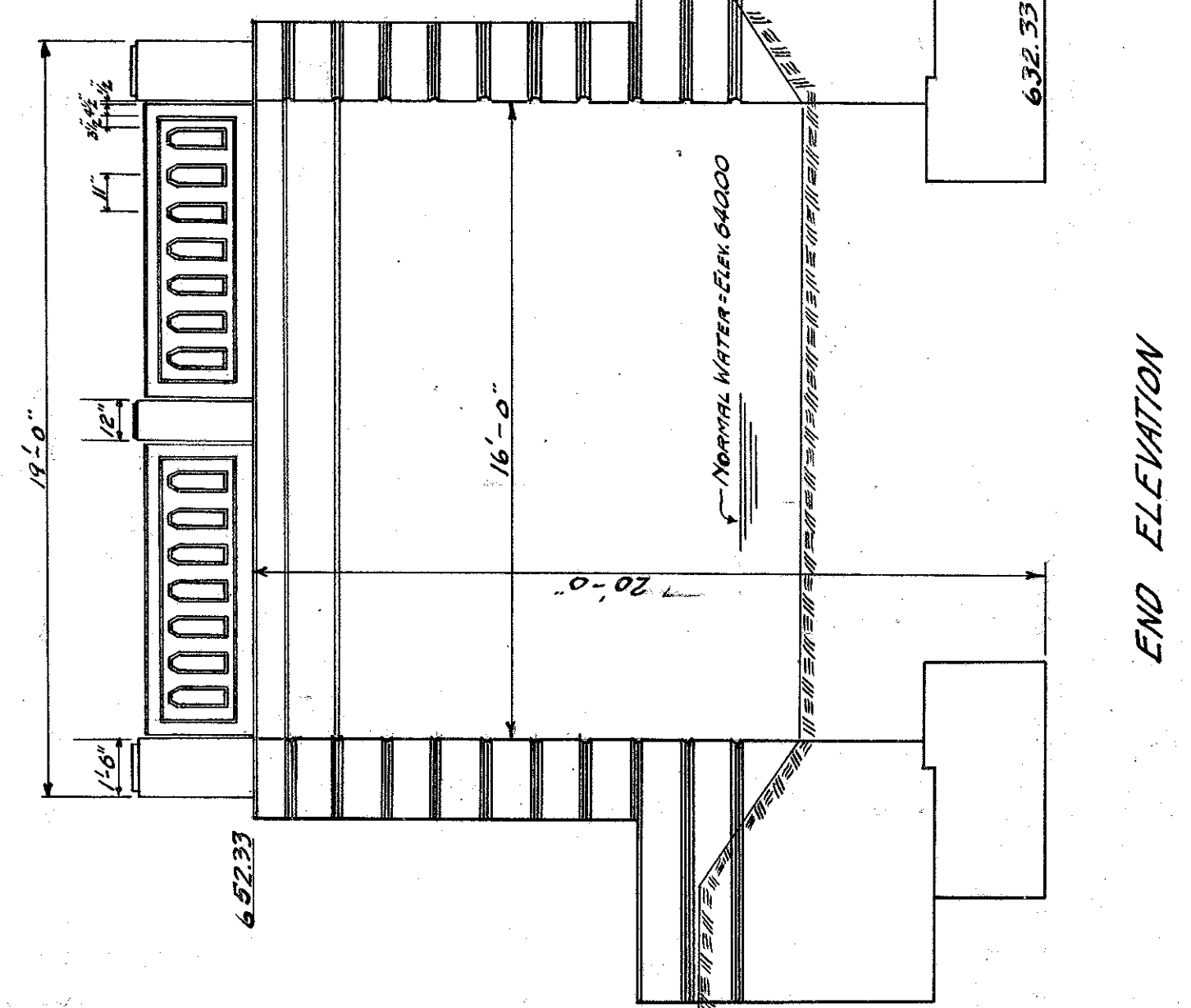
Impossible to force 3/4" Pipe Lower than El. 630.00 in Test Hole No. 1.

Note: Test Hole Data was obtained by diligent effort and is believed to correctly represent the character and location of the Sub-stratification material, but the State of Ohio does not guarantee their accuracy.

NOTE: MATERIAL RESULTING FROM THE REMOVAL OF THE EXISTING STRUCTURE IS TO BE PLACED ALONG THE EDGES OF THE ROADWAY EMBANKMENT ADJACENT TO RIVER OR DISPOSED OF IN THE ROADWAY EMBANKMENT AS MAY BE DIRECTED BY THE ENGINEER IN CHARGE.

PROPOSED STRUCTURE TYPE - CONCRETE SLAB BRIDGE SPAN - 16 FT ROWAY - 34 FT WEAR SURF - BIT CONC. T-61 APPR SLABS - None Required SKEW - None

PRESENT STRUCTURE TO BE REMOVED BRIDGE HE-110-129 TYPE - CONC SLAB BR. SPAN - 16 FT - ROWAY 18 FT SUBSTR. - CONCRETE & STONE MASONRY.



END ELEVATION

ESTIMATED QUANTITIES

DRY EXCAVATION (INCLUDING POROUS BACKFILL)	153	Cu. Yds.
FOUNDATION EXCAVATION, WET, INCLUDING NECESSARY COFFERDAMS, SHEETING AND PUMPING	310	Cu. Yds.
CHANNEL EXCAVATION	140	Cu. Yds.
CONCRETE FOR FOOTINGS (1-5/2 MIX)	967	Cu. Yds.
CONCRETE FOR WALLS (1-5/2 MIX)	1602	Cu. Yds.
CONCRETE FOR SUPERSTRUCTURE (1-5/2 MIX)	31.9	Cu. Yds.
WATERPROOFING (TYPE B)	25.4	Sq. Yds.
REINFORCING STEEL	14570	Lbs.
BRIDGE RAILING (TYPE RR-12)	38	Lin. Ft.
14" BIT. PREM. EXP. JT. FILLER	34	Sq. Ft.
POROUS BACKFILL	LUMP SUM	
FIRST TEST PILE (TO ESTABLISH UNIT PRICE FOR ANY QUANTITY FROM 0 LIN. FT. TO 1000 LIN. FT.)	1	Lin. Ft.
TIMBER PILING (REMOVAL OF EXISTING BRIDGE)	LUMP SUM	
3 1/8" COLD-MIXED, COLD LAID TAR CONCRETE SURFACE COURSE, 2 1/8" BINDER AND 1" WEARING COURSE	6.17	Sq. Yds.
3/2" CONCRETE WEARING SURFACE	8.22	Sq. Yds.

DRAINAGE AREA 7 SQ. MI.

DATA ON ADJACENT BRIDGES
BRIDGE 1/2 MILE UP STREAM EAST BRANCH 10' SPAN; 10' HEIGHT; 100 SQ. FT. WATERWAY
BRIDGE 1/4 MILES UP STREAM WEST BRANCH 10' SPAN; 6' HEIGHT; 60 SQ. FT. WATERWAY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

STRUCTURE DETAILS
BRIDGE NO. HE-110-129

S.H. 51 SEC. O
STA. 166+93 HENRY COUNTY

SUMMARY OF QUANTITIES

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO		1934

S.M. No. 51
HENRY COUNTY

SEC. "D" PT.

STRUCTURES UNDER 20' SPAN

SHEET NO.	EXCAVATION		R.C.P. (h) SEC. M-8.6 LIN. FT.				CORR. METAL PIPE RELAY - LIN. FT.		STD. CATCH BASINS				DRY EXCAV. CUYD.	NET ELEV. INCL. EXISTING STRUCTURE SURFACE TO TOP OF STRUCTURE CUYD.	CONCRETE		TYPE "B" WATER-PROOFING SQ. YDS.	REIN. STEEL LBS.	GANG RAILING TYPE AND LIN. FT.	1/4" PHOS. EXIST. FILLER 50 FT.	POVIOUS BACKFILL LUMP SUM	FIRST TEST PILE LUMP	TIMBER PILING TO EXISTING STRUCTURE FOR BRIDGE APPROACH FROM O.L.P. FROM 1400 LIN. FT.	REMOVAL OF EXISTING STRUCTURES LUMP	3% CONC. WEARING SURFACE 50 YDS.	1-5/8" MIX CONCRETE FOR GRADIES 50 YDS.						
	STRUCTURE CUYD.	CHANNEL CUYD.	12"	24"	36"	48"	18"	24"	36"	NO. 1-2	NO. 1-3	NO. 1-4			NO. 2-4	1-5/8" MIX SUPER. STRUCTURE CUYD.											1-5/8" MIX FOOTINGS CUYD.					
C-12-C	76	64	50	76																												
C-13-C	118	41	89	148																												
I-C	20	15	72																													
I-C	70	35			68																							107				
C-14-C	210	140	132			40			20					103	312	319	160.2	96.7	25.4	14570	38	34	Lump	Lump	1	Lump	61.7	8.22	5.02			
I-C	50		111						10																							
T-5	554	295	372	296	68	80		30		8	4	8	4	2	1	2	163	310	319	160.2	96.7	25.4	14570	38	34	Lump	Lump	1	Lump	61.7	8.22	6.09

ROADWAY DRAINAGE "D"

SHEET NO.	STORM SEWER PLAIN CONC. PIPE 24" & 36" - LIN. FT.			DRAIN TILE SEC. M-8.7 INCLUDING POROUS BACKFILL LIN. FT.			PLAIN CONC. PIPE SEC. M-8.5 LIN. FT.				CORR. METAL PIPE LIN. FT.				STD. CATCH BASINS		SPECIAL SIDE DITCH INLETS EACH	HAND LAID RIP RAP 30 YDS.	NO. 1 STONE UNDERDRAIN (FRENCH DRAIN) LIN. FT.
	12"	18"	24"	6"	8"	10"	8"	10"	12"	15"	10"	15"	18"	24"	NO. 1-2	NO. 1-3			
A-2	381	95	430				1496		1596			20	20	20	4	1	1		
T-2				2916			480	499	2419		20				1		2		
I-2				561	3423				199						3		6		
A-3							8136	687		904	813		20		4		9		
I-3							1081	330		540					2		2		
A-4							1596		73						1		1		
I-4							1800		1800						1		1		
T-4							1800		1800						1		1		
T-5	381	95	430	2361	11132	1917	1976	77	5432	813	20	20	20	20	14	1	12	9	200

TRAFFIC BOUND SIDE APPROACHES "A"

SHEET NO.	REF. NO.	AGGREGATE CUYD.	REMARKS	FINISHING SHOULDERS SLOPES AND DITCHES (both sides) - LIN. FT.
3	1-A TO 2-A	55	INCLUDES 1 MAIL BOX TURNOUT	250
4	1-A	9		
5	1-A TO 2-A	16		
6	1-A TO 2-A	20		
7	1-A TO 2-A	58	INCLUDES 2 MAIL BOX TURNOUTS	
8	1-A	4		
TOTAL		163		250

PIPE REMOVALS "R"

SHEET NO.	REF. NO.	PIPE REMOVED AND STORED LIN. FT.			
		8"	10"	12"	24"
4	1-A TO 2-A			38	36
5	1-A TO 2-A			36	42
6	1-A TO 2-A			72	36
7	1-A TO 2-A			34	32
TOTALS				72	140

TREE REMOVALS

SHEET NO.	TREES TO BE REMOVED NUMBER
3	5
4	9
5	21
6	37
7	28
TOTALS	100

TRAFFIC BOUND SIDE APPROACHES "P"

SHEET NO.	AGGREGATE CUYD.	FINISHING SHOULDERS SLOPES AND DITCHES (both sides) - LIN. FT.
1	66.7	252
2	10.0	37
3	12.7	48
4	34.7	501
TOTALS	124.1	802

SUMMARY OF QUANTITIES

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	54
10	OHIO		1934	54

S.H. No. 51
HENRY

SEC. 0
COUNTY.

SUMMARY OF EXCAVATION AND EMBANKMENT.

Station		Cut	Fill	Fill +15%	Waste	Borrow
From	To					
19+00	30+00	3001	5225	6009		3008
30+00	40+00	601	7755	8918		8317
40+00	50+26	5333	9193	10572		7239
50+26	60+00	18689	2578	2965	5724	
60+00	70+00	7140	8903	10238		10098
70+00	80+00	667	9061	10420		9753
80+00	90+00	4319	4911	5648		1329
90+00	100+00	7210	5077	5838	1372	
100+00	110+00	10919	6373	7329	3590	
110+00	120+00	14140	3389	3897	10243	
120+00	130+00	13673	5511	6338	7335	
130+00	140+00	7761	15556	17889		10128
140+00	150+00	4058	13142	15113		11055
150+00	160+00	4855	4217	4849	6	
160+00	170+00	8288	7350	8452		164
170+00	180+00	18769	2715	3122	15647	
TOTALS		110,423	110,956	127,597	43,917	61,091

Note - Waste to be used to supply borrow.
Net Borrow = 127,597 - 110,423 = 17,174 Cu. Yds.

Item No.	GENERAL SUMMARY	Quantity	Unit
Roadway.			
E-1	Roadway excavation (unclassified)	110423	cu. yds.
E-4	Borrow (Contractor to furnish)	17174	cu. yds.
E-5	Finishing shoulders, slopes and ditches (both sides)	16834	lin. ft.
E-9	Trees Removed and Disposed of	100	each
I-2	12" P.C.P. Sec. M-6.5 Storm Sewers	381	lin. ft.
I-2	15" P.C.P. Sec. M-6.5 Storm Sewers	95	lin. ft.
I-2	24" P.C.P. Sec. M-6.5 Storm Sewers	430	lin. ft.
I-3	6" Drain Tile, Sec. M-6.7 Roadway Drainage including Porous Backfill	2361	lin. ft.
I-3	8" Drain Tile, Sec. M-6.7 Roadway Drainage including Porous Backfill	1152	lin. ft.
I-3	10" Drain Tile, Sec. M-6.7 Roadway Drainage including Porous Backfill	1017	lin. ft.
I-3	8" P.C.P. Sec. M-6.5 Roadway Drainage	1976	lin. ft.
I-3	10" P.C.P. Sec. M-6.5 Roadway Drainage	771	lin. ft.
I-3	12" P.C.P. Sec. M-6.5 Roadway Drainage	5459	lin. ft.
I-3	15" P.C.P. Sec. M-6.5 Roadway Drainage	813	lin. ft.
I-3	10" Carr. Metal Pipe, Sec. M-6.4 Roadway Drainage	20	lin. ft.
I-3	15" Carr. Metal Pipe, Sec. M-6.4 Roadway Drainage	20	lin. ft.
I-3	18" Carr. Metal Pipe, Sec. M-6.4 Roadway Drainage	20	lin. ft.
I-3	24" Carr. Metal Pipe, Sec. M-6.4 Roadway Drainage	20	lin. ft.
I-6	12" Pipe removed and stored	72	lin. ft.
I-6	14" Pipe removed and stored	140	lin. ft.
I-6	24" Pipe removed and stored	78	lin. ft.
I-6	36" Pipe removed and stored	36	lin. ft.
I-8	Std. No. 1-2 Catch Basins, complete	14	each
I-8	Std. No. 1-3 Catch Basins, complete	1	each
I-8	SPECIAL Side Ditch inlets, complete	12	each
I-9	Stone Underdrain (French Drain) No. 1	200	lin. ft.
I-10	Hand-Laid Riprap	9	sq. yds.
I-17	Aggregate for Traffic Bound Side Approachs	163	cu. yds.
Pavement			
T-10	Aggregate for Traffic Bound Surface Course	3098.6	cu. yds.
Structures under 20ft. span.			
E-2	Excavation for structures (Unclassified)	554	cu. yds.
E-2	Excavation for structure, wet, including necessary cofferdams, sheeting and pumping	310	cu. yds.
E-2	Excavation for structure, dry	163	cu. yds.
E-3	Channel excavation	295	cu. yds.
S-1	Concrete for superstructure (1-5 1/2 mix)	31.9	cu. yds.
S-1	Concrete for walls and wings (1-6 1/2 mix)	160.2	cu. yds.
S-1	Concrete for footings (1-6 1/2 mix)	96.7	cu. yds.
S-3	Waterproofing (type "B")	254	sq. yds.
S-4	Reinforcing steel	14570	lbs.
S-5	Bridge Railing, concrete (type RR-12)	38	lin. ft.
S-9	Structural Expansion Joint (1/4 Prem. Material)	34	sq. ft.
S-16	First Test Pile (Timber)	Lump Sum	
S-17	Timber Piling (to establish unit price applying for any quantity from 0 lin. ft. to 1400 lin. ft.)	1	lin. ft.
S-24	Removal of existing structures. (sta. 156+93 and sta. 167+12)	Lump Sum	
Spec.	Porous Backfill	Lump Sum	
T-61	3 1/8 Cold-Mixed, Cold-Laid Bituminous Concrete Wearing Surface	61.7	sq. yds.
T-70	3 1/2" Concrete Wearing Surface	8.22	sq. yds.
S-27	12" R.C.P. (6) Sec. M-6.6 for Roadway Culverts	372	lin. ft.
S-27	24" R.C.P. (6) Sec. M-6.6 for Roadway Culverts	296	lin. ft.
S-27	36" R.C.P. (6) Sec. M-6.6 for Roadway Culverts	68	lin. ft.
S-27	48" R.C.P. (6) Sec. M-6.6 for Roadway Culverts	80	lin. ft.
S-27	18" Carr. Metal Pipe, Sec. M-6.4 for Roadway Culverts	30	lin. ft.
I-8	Std. No. 1-2 Catch Basins, complete	8	each
I-8	Std. No. 1-3 Catch Basins, complete	4	each
I-8	Std. No. 2-3 Catch Basins, complete	2	each
I-8	Std. No. 1-4 Catch Basins, complete	1	each
I-8	Std. No. 2-4 Catch Basins, complete	2	each
I-6	24" Cast Iron Pipe Relaid	8	lin. ft.
I-6	36" Cast Iron Pipe Relaid	4	lin. ft.
S-1	Concrete for cradles (1-5 1/2 Mix)	6.09	cu. yds.

PAVEMENT CALCULATION	
Beginning of Project, sta. 22+00	
End of Project, sta. 180+00	
Gross length of Project	15800.00 lin. ft.
Additions - none	
Deductions - none	
Net length of Project	15800.00 lin. ft. or 2.9924 miles.
Pavement	
Net length of Project	15800.00 lin. ft.
Deductions, sta. 166+83.75 to sta. 167+02.25 (bridge under 20ft. span)	18.5 lin. ft.
Net length of Pavement	15781.5 lin. ft.
Volume of Aggregate for 3" Traffic Bound Surface Course, Item T-10 = $\frac{15781.5 \times 20 \times 3/2}{27}$	
	= 2922.5 cu. yds.
Volume of Aggregate for 3" Traffic Bound Surface Course, Item T-10, on Approaches (From Summary of Extra Pavement)	
	= 176.1
Total Aggregate for 3" Traffic Bound Surface Course, Item T-10 (Size No. 46)	= 3098.6 cu. yds.
Finishing Shoulders, Slopes and Ditches	
Net length of Project	15800.00 lin. ft.
Deductions - Bridge No. 16-110-129, sta. 166+83.75 to sta. 167+02.25	18.50 lin. ft.
	= 15781.50 lin. ft.
Additions - From Summary of Extra Pavement	802.00 lin. ft.
Approach, sta. 19+50 to sta. 22+00	250.00 lin. ft.
Net length of finishing Shoulders, Slopes and Ditches (both sides)	16833.50 lin. ft.
Use	16834 lin. ft.

P.A. 51