

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

PER-13-22.12

CLAYTON TOWNSHIP PERRY COUNTY

FHWA REGION	STATE	PROJECT	CALC. DATE
5	OHIO	BRF-34(38)	CHKD. DATE

PERRY COUNTY
PER-13-22.12

BRF-34(38)

DESIGN DESIGNATION

Current A.D.T. (1989) = 2910
 Design Year A.D.T. (2009) = 3500
 D.H.V. = 525
 D. = 60%
 T. = 11%
 V.-Legal Speed = 55 MPH
 V.-Design = 55 MPH
 Functional Classification = Minor Arterial

CONVENTIONAL SIGNS

County Line _____	Limited Access (only) _____ LA _____
Township Line _____	Right of Way (only) _____ RW _____
Section Line _____	Limited Access & Right of Way _____ LA&RW _____
Corporation Line _____ or _____	Existing Right of Way _____
Fence Line (existing) _____ (proposed) _____	Property Line _____ (in exist. fence) _____
Center Line _____ 252 _____ 253 _____	Railroad _____ or _____
Trees Stump (to be removed)	Guardrail (existing) _____ (proposed) _____
Utility Poles: Telephone Power Light	

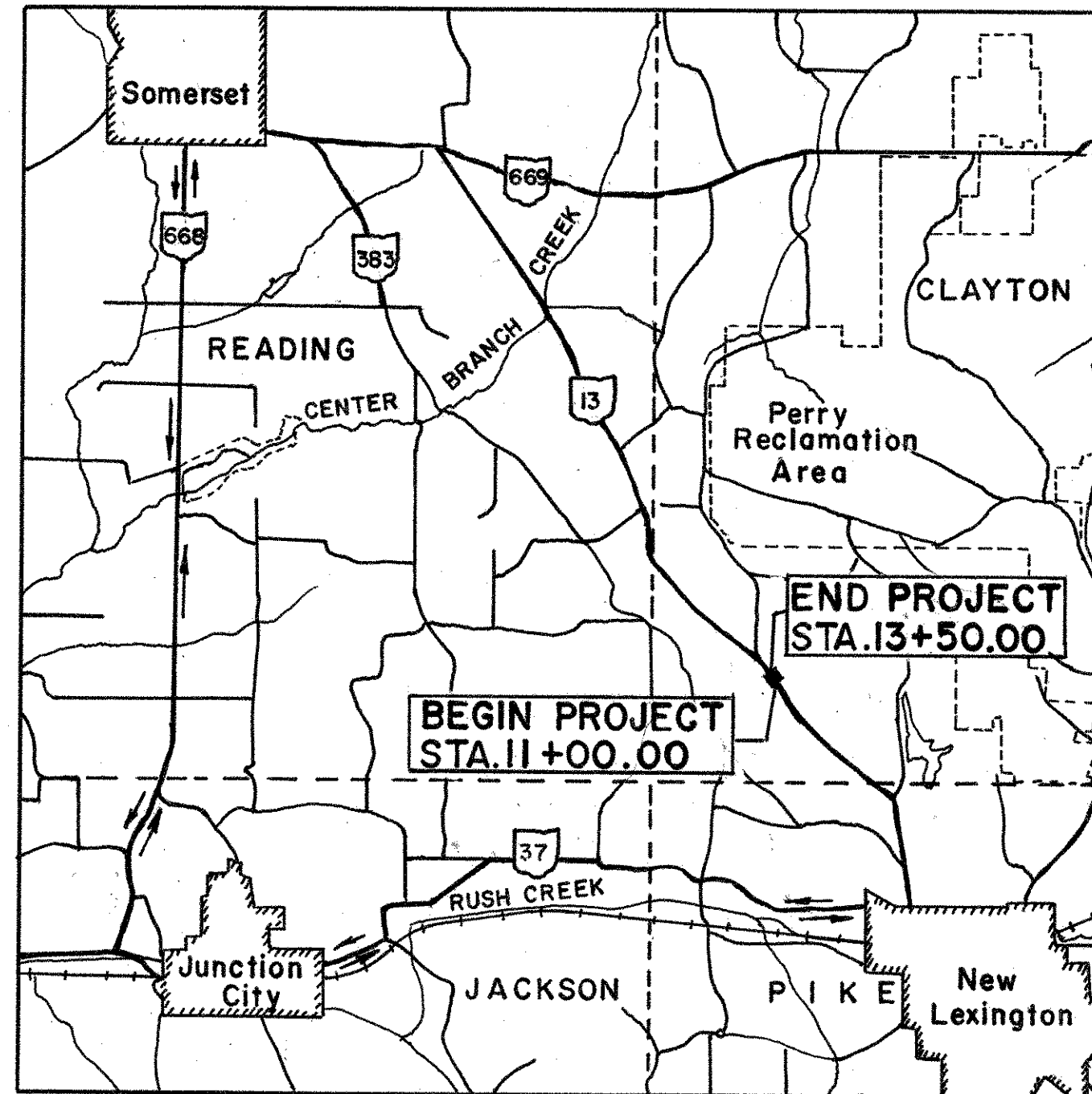
1989 SPECIFICATIONS

The Standard Specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal, shall govern this improvement.

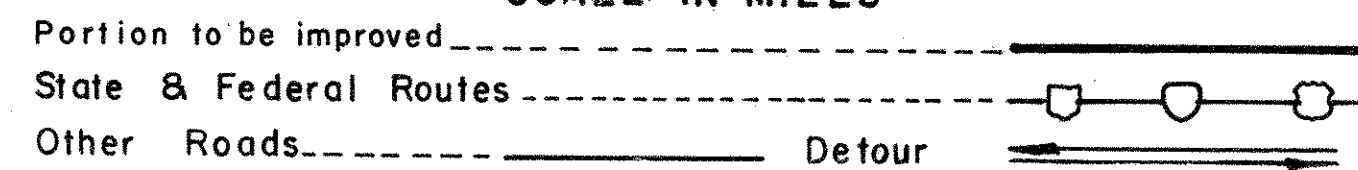
I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway and that detours will be provided as indicated on the plans.

INDEX OF SHEETS

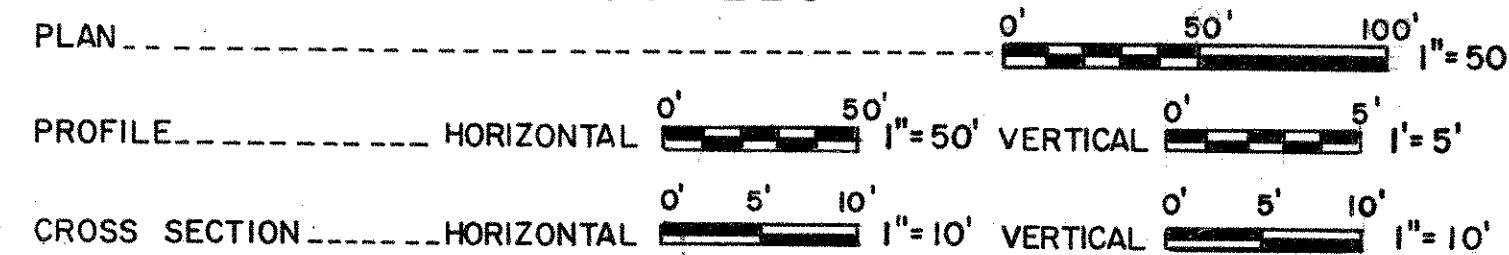
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LOCATION AND DETOUR MAP



SCALES



LINE DATA

BEGIN PROJECT STA. 11+00.00
 END PROJECT STA. 13+50.00
 PROJECT LENGTH 250.00 lin. ft. or 0.047 mile
 ADD FOR APPROACHES
 SOUTH APPROACH 100.00 lin. ft.
 NORTH APPROACH 150.00 lin. ft.
 WORK LENGTH 500.00 lin. ft. or 0.095 mile

Approved David W. Heber
 Date 7/6/89 District Deputy Director of Transportation

Approved B.D. Hamulinski
 Date 7/28/89 Engineer, Bureau of Bridges and Structural Design

Approved Charles J. Still
 Date 4/23/90 Chief Engineer, Planning and Design

Approved Samuel P. Hurst
 Date 4/23/90 Director, Department of Transportation

M-22

STANDARD		CONSTRUCTION		DRAWINGS		SUPPLEMENTAL		SPECIFICATIONS	
HW - 4A	4-1-80	MT-99.10	11-14-86			814	1-21-88		
HW - 4B	4-1-80					847	10-17-83		
MC - 4	7-26-76					947	10-17-83		
MC - 10	5-1-76					915	1-21-88		
MC - 11	8-1-78					841	5-16-84		
BP - 5	10-1-87					843	7-29-88		
BP - 6	10-1-87								

PLANS PREPARED BY
 DODSON-LINDBLOM ASSOCIATES, INC.
 CONSULTING ENGINEERS
 COLUMBUS, OHIO

Allen L. Stinger 32723 5/14/89
 REGISTERED ENGINEER NO. DATE

2 WORKING DAYS
 BEFORE YOU DIG
 CALL TOLL FREE 800-362-2764
 OHIO UTILITIES PROTECTION SERVICE

**DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION**

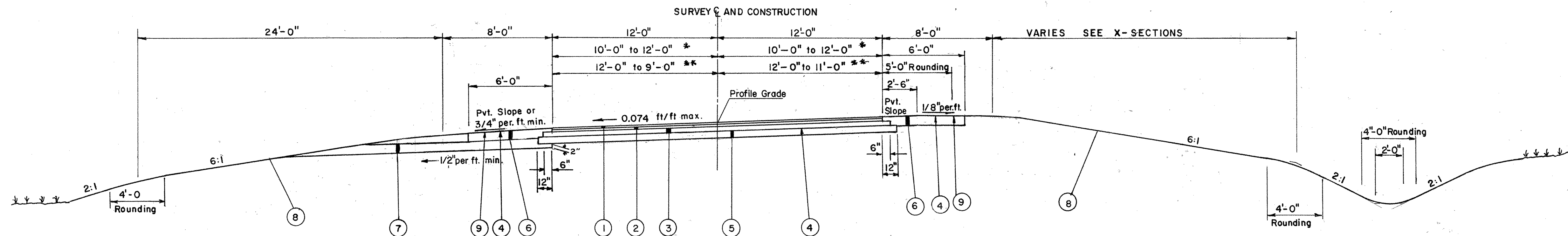
APPROVED

DIVISION ADMINISTRATOR _____ DATE _____

Project: _____
 Date of Letting _____ 19__ Contract No. _____

TYPICAL SECTION

TYPE 404 ON 301

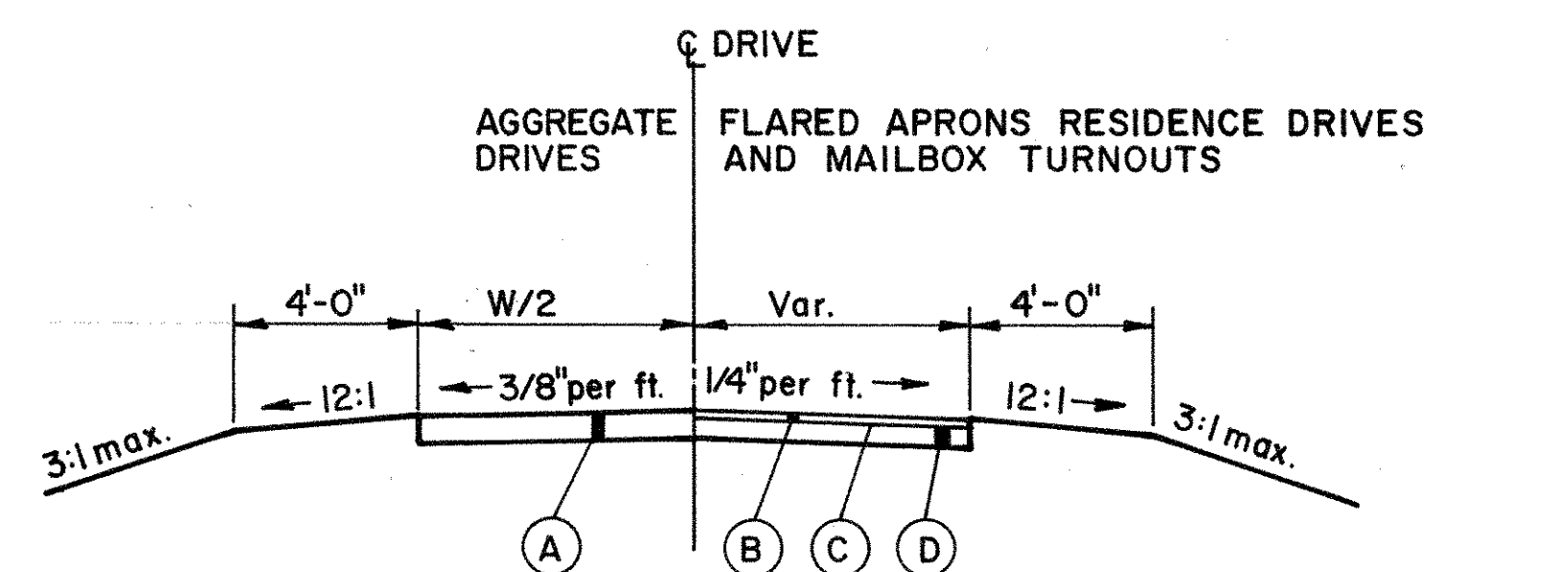


SUPERELEVATED SECTION LIMITING STATIONS

STA. 11+00.00 TO STA. 13+50.00
 * STA. 10+00.00 TO STA. 11+00.00
 ** STA. 13+50.00 TO STA. 15+00.00

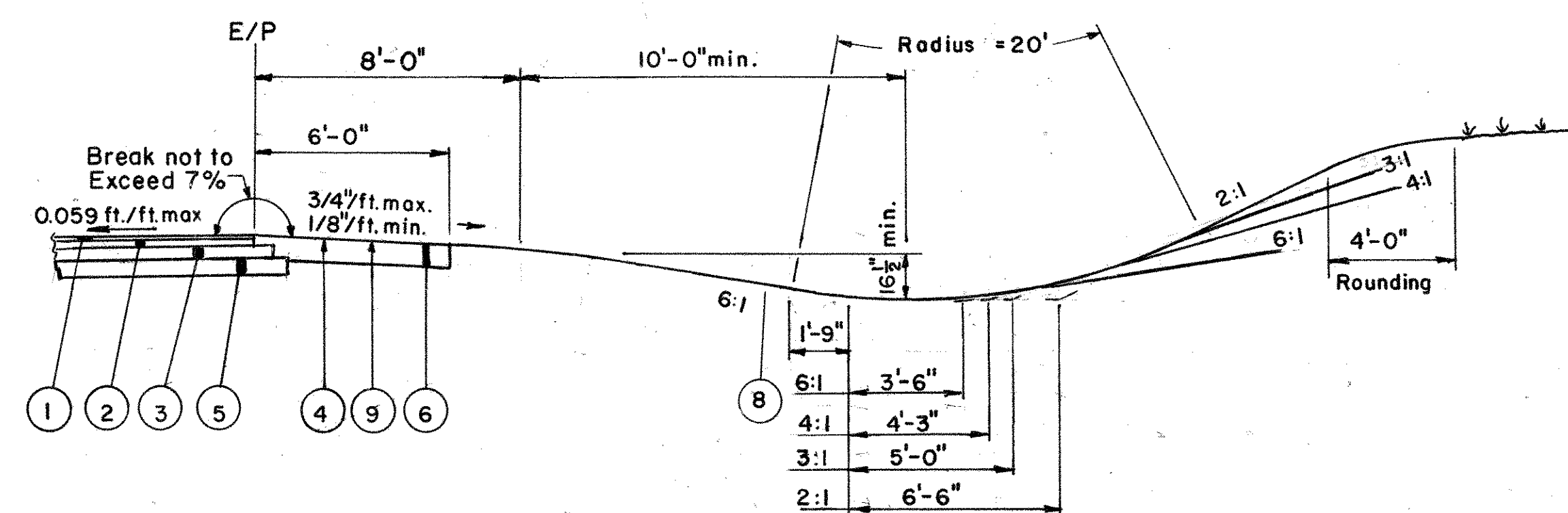
LEGEND

- | | | |
|--|--|--|
| ① ITEM 404 - 1-1/4" Asphalt Concrete, AC-20 | ④ ITEM 408 - Bituminous Prime Coat at 0.40 gal. per sq.yd. | ⑦ ITEM 605 - Aggregate Drains |
| ② ITEM 402 - 1-3/4" Asphalt Concrete, AC-20 | ⑤ ITEM 304 - 6" Aggregate Base | ⑧ ITEM 659 - Seeding and Mulching |
| ③ ITEM 301 - 4" Bituminous Aggregate Base, AC-20 | ⑥ ITEM 304 - 8" Aggregate Base | ⑨ ITEM 409 - Seal Coat using 0.3gal Bituminous Material per sq.yd. and 0.008 c.y. No. 8 Cover Aggregate per sq.yd. |



- ① ITEM 304 Aggregate Base, t=8" Res. Dr., t=6" Field Dr.
- ② ITEM 404 2" Asphalt Concrete, AC-20
- ③ ITEM 408 Bituminous Prime Coat, Applied at Rate of 0.4 Gal. per Sq. Yd.
- ④ ITEM 304 6" Aggregate Base

DRIVE TYPICAL SECTION



SUPERELEVATION LESS THAN 0.059 ft./ft. SHOWING DITCH TREATMENT IN CUT OR LOW FILL

GENERAL NOTES

FIELD OFFICE The Contractor shall provide a suitable field office having a minimum of 150 sq.ft. of floor space which shall be in accordance with 619.01 and 619.02. Payment shall be at the lump sum price bid for Item 619, Field Office.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS The rounded corners shown on the typical sections, apply to all cross sections even though otherwise shown on these plans.

SEEDING Quantities for seeding are calculated for the soil areas between ten (10) feet outside the work limits, as shown on the cross sections, or to the right-of-way line, if such line is less than ten (10) feet from the work limits.

ITEM 605 AGGREGATE DRAINS Aggregate drains shall be placed at fifty (50) foot intervals on each side of normal crowned sections and at twenty-five (25) foot intervals on the low side only of superelevated sections.

An aggregate drain shall be placed at the low point of each sag vertical curve.

EROSION CONTROL Items 601 and 670 are provided in the plans for erosion control. Rock of a stable nature will not be removed in order to place any of these items, and turf of a stable nature will not be removed in order to place 670. The Engineer shall check and non-perform quantities or adjust locations and quantities for these items where indicated by field conditions during construction.

UNDERGROUND UTILITIES The location of the underground utilities shown on the plans are as obtained from the owners of the utility as required by Section 153.64 ORC.

CONDUIT END TREATMENT Immediately after placement of any conduit, the contractor shall construct the end treatments required by the plans at both the outlet and inlet ends. This shall include headwalls, concrete riprap, rock channel protection, sodding, etc.

REMOVAL OF TREES OR STUMPS All trees and stumps specifically marked for removal within the construction limits of this project shall be removed under the lump sum price bid for Item 201, Clearing and Grubbing, except that those trees for which protection and preservation work is indicated elsewhere in these plans shall not be removed.

The following is an approximate estimate of the number of trees to be removed:

SIZES	No. TREES
18"	13

The above estimate is approximate and the State of Ohio reserves the right to order the removal of additional trees or stumps outside of the limits of construction but within the right-of-way and/or easement lines. Payment for the removal of these additional trees or stumps shall be included in the lump sum price bid for Item 201 Clearing and Grubbing.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

The following estimated quantities are to be used as directed by the Engineer, for temporary erosion and sediment control measures:

207 Straw or Hay Bales	50 Each
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DETOUR LIMITATION Two-way traffic shall be maintained at all times, except that for a period not to exceed 120 consecutive calendar days, through traffic may be detoured as shown on Sheet 1.

CONTINGENCY QUANTITIES The contractor shall not order materials or perform work listed in the General Summary for items designated by plan note to be used "as directed by the Engineer" unless authorized by the Engineer. The actual work locations and quantities used at the Engineer's discretion shall be made a matter of record by incorporation into the final change order governing completion of this project.

DATUM All elevations are based on U.S.G.S. DATUM.

WATERING PERMANENT SEEDED AREAS The following estimated quantities are to be used as directed by the Engineer to promote growth and to care for the permanent seeded areas, as per 659.09:

659 Water	5 M Gal
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UTILITIES OWNERSHIP The following utilities and owners are located within work limits of this project:

ELECTRIC: Ohio Power Co
113 N. Fifth St.
Zanesville, Ohio 43701
(614) 452-5461

TELEPHONE: Ohio Bell Telephone Co.
150 E. Gay Street
Columbus, Ohio 43215
(614) 223-5123

WATER: Village of New Lexington
125 S. Main Street
New Lexington, Ohio
(614) 342-2552

ITEM 621 PAVEMENT MARKINGS Pavement Markings shall be furnished and applied in accordance with Item 621 at the following locations:

- A. 4" Centerlines
 1. Sta. 10+00 S.R. 13 to Sta. 15+00 S.R. 13
- B. 4" Edge Lines (White)
 1. Sta. 10+00 Lt. S.R. 13 to Sta. 15+00 Lt. S.R. 13
 2. Sta. 10+00 Rt. S.R. 13 to Sta. 15+00 Rt. S.R. 13

The following estimated quantities have been carried to the General Summary for Item 621 Pavement Marking:

- A. 621 Centerlines 0.09 Miles
- B. 621 Edge Lines 0.19 Miles

ITEM SPECIAL, MAILBOX SUPPORT The Contractor shall furnish and install in accordance with current United States Postal Service regulations a 4"x4"x6'-0" min. mailbox post at the location indicated on the plans. The post shall meet the requirements of Sec. 711.26 and shall be treated in accordance with Sec. 712.06. The post shall have an embedment of 3'-0" min. Payment shall be made at the contract unit price per each "Item Special, Mailbox Support", which price and payment shall be full compensation for the labor, tools, materials and incidentals necessary to complete this item.

ITEM 614 TEMPORARY PAVEMENT MARKINGS

A quantity of 0.09 miles of Temporary Center Lines, Class II is carried to the General Summary to be used as directed by the Engineer.

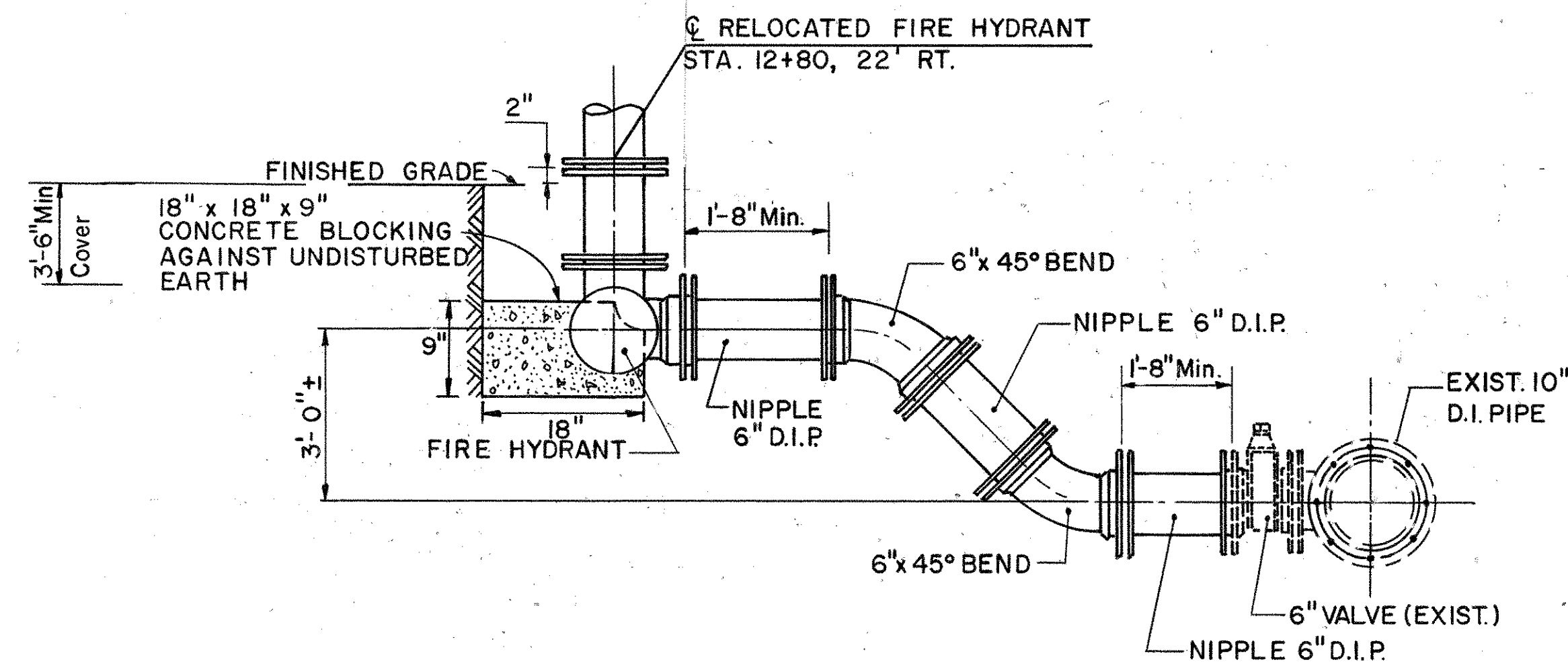
The road shall not be opened to traffic without either the permanent or temporary pavement markings in place.

MAINTENANCE OF TRAFFIC

The Contractor shall maintain traffic at all times in accordance with the requirements of item 614 "MAINTAINING TRAFFIC" AND THE FOLLOWING: Detour will be erected AND Maintained by the District. The sign supports, barricades and lights for the above signs shall be as detailed in the Ohio manual of uniform traffic control devices. Payment for providing, erecting, maintaining and removing lights, signs, sign supports and barricades shall be included in the lump sum Price bid for item 614, "Maintaining Traffic." Payment for any additional signs and/or barricades required to provide clarity to the traffic control schemes set forth in the plans or the Ohio manual of uniform traffic control devices or payment for any signs and/or barricades which require relocation to provide clarity as directed by the Engineer shall be included in the lump sum price bid for item 614, "Maintaining Traffic."

The following estimated quantities have been included in the General Summary to be used as directed by the Engineer for Maintenance of Traffic.

Item 616 Calcium Chloride	1 Ton
Item 616 Water	1 M.Gal.



PROFILE

FIRE HYDRANT EXTENDED AND ADJUSTED TO GRADE

Item 814, Fire Hydrant Removed and Reset. The existing Fire Hydrant right of Sta. 12+80± shall be removed and reset according to the detail above and Supplemental Specification 814.

Upon completion of the resetting of the fire hydrant, the valve shall be opened until water flow expels all air and dirt. Sterilization of the reset branch will not be required.

PERRY COUNTY
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*100% Village of New Lexington Cost

ITEM 404 ASPHALT CONCRETE, AC-20
 STA. 10+00 TO STA. 11+00 - $100 \times (\frac{20+24}{2})$ 2200 S.F.
 STA. 11+00 TO STA. 13+50 - 250×24 6000 S.F.
 STA. 13+50 TO STA. 15+00 - $150 \times (\frac{24+20}{2})$ 3300 S.F.
 TOTAL AREA 11500 S.F.
 ((11500 x 1.25) ÷ (12 x 27)) = 44.4 C.Y.
 TO GENERAL SUMMARY 45 CU.YD.

ITEM 402 ASPHALT CONCRETE, AC-20
 404 AREA - ((11500 x 1.75) ÷ (12 x 27)) 62.1 C.Y.
 TO GENERAL SUMMARY 62 CU.YD.

ITEM 301 BITUMINOUS AGGREGATE BASE, AC-20
 404 AREA - ((11500 x 4) ÷ (12 x 27)) 141.98 C.Y.
 EDGE COURSES - ((500 x 1 x 4) ÷ (12 x 27)) 6.17 C.Y.
 TOTAL 148.15 C.Y.
 TO GENERAL SUMMARY 148 CU.YD.

ITEM 304 AGGREGATE BASE
 PAVEMENT AND EDGE COURSE AREA - 12500 x 0.5 6250.00 C.F.
 SHOULDER AREA -
 STA. 10+00 TO STA. 10+50 - $2 \times 50 \times 2.416$ 241.60 C.F.
 STA. 10+50 TO STA. 14+50 - $2 \times 400 \times 3.75$ 3000.00 C.F.
 STA. 14+50 TO STA. 15+00 - $2 \times 50 \times 2.416$ 241.60 C.F.
 DEDUCT FOR DRIVES AND MAILBOX TURNOUTS
 159 x 3.75 -596.25 C.F.
 TOTAL 9136.95 C.F.
 OR 338.4 C.Y.
 TO GENERAL SUMMARY 338 CU.YD.

ITEM 408 BITUMINOUS PRIME COAT
 SHOULDER AREA -
 STA. 10+00 TO STA. 10+50 - $2 \times 50 \times \frac{2+6}{2}$ 400 S.F.
 STA. 10+50 TO STA. 14+50 - $2 \times 400 \times 6$ 4800 S.F.
 STA. 14+50 TO STA. 15+00 - $2 \times 50 \times \frac{6+2}{2}$ 400 S.F.
 PAVEMENT AND EDGE COURSE AREA 12500 S.F.
 DEDUCT FOR DRIVES AND MAILBOX TURNOUTS -948.0 S.F.
 NET AREA 17152 S.F.
 ((17152 ÷ 9) x 0.4) = 762.3 GAL.
 TO GENERAL SUMMARY 762 GAL.

ITEM 409 SEALCOAT BITUMINOUS MATERIAL
 SHOULDER AREA - ((4652 ÷ 9) x 0.3) 155.1 GAL.
 TO GENERAL SUMMARY 155 GAL.

ITEM 409 SEALCOAT NO.8 COVER AGGREGATE
 SHOULDER AREA - ((4652 ÷ 9) x 0.008) 4.1 C.Y.
 TO GENERAL SUMMARY 4 CU.YD.

ITEM 203 SUBGRADE COMPACTION
 PVT. AREA - 11500 ÷ 9 1277.8 S.Y.
 TO GENERAL SUMMARY 1278 SQ.YD.

EARTHWORK AND SEEDING SUMMARY	203 EXCAVATION NOT INCL. EMB. CONST. CU.YD.	203 EMBANKMNT. CU.YD.	203 SEEDING AND MULCHING SQ.YD.
STA. 10+00 TO STA. 12+75 STA. 12+75 TO STA. 15+00	593 528	1357 989	2346 1601
TO GENERAL SUMMARY	1121	2346	3947

SEEDING AND MULCHING - 3947 - 99 (DEP) = 3848 SQ.YD.

ITEM 659 COMMERCIAL FERTILIZER
 TOTAL AREA SEEDED AND PROTECTED
 ((3947 x 9 x 20) ÷ (1000 x 2000)) = 0.36 TON
 TO GENERAL SUMMARY 0.36 TON

ITEM 659 AGRICULTURAL LIMING
 ((3947 x 9 x 100) ÷ (1000 x 2000)) = 1.78 TON
 TO GENERAL SUMMARY 1.78 TON

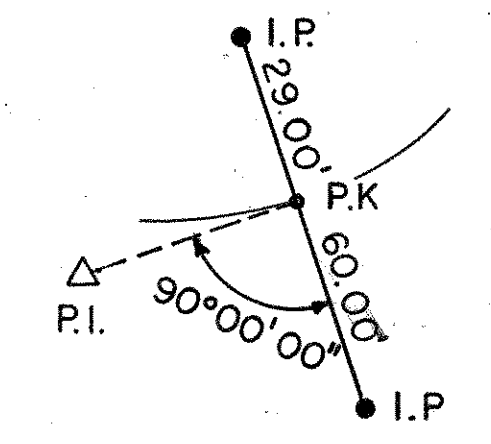
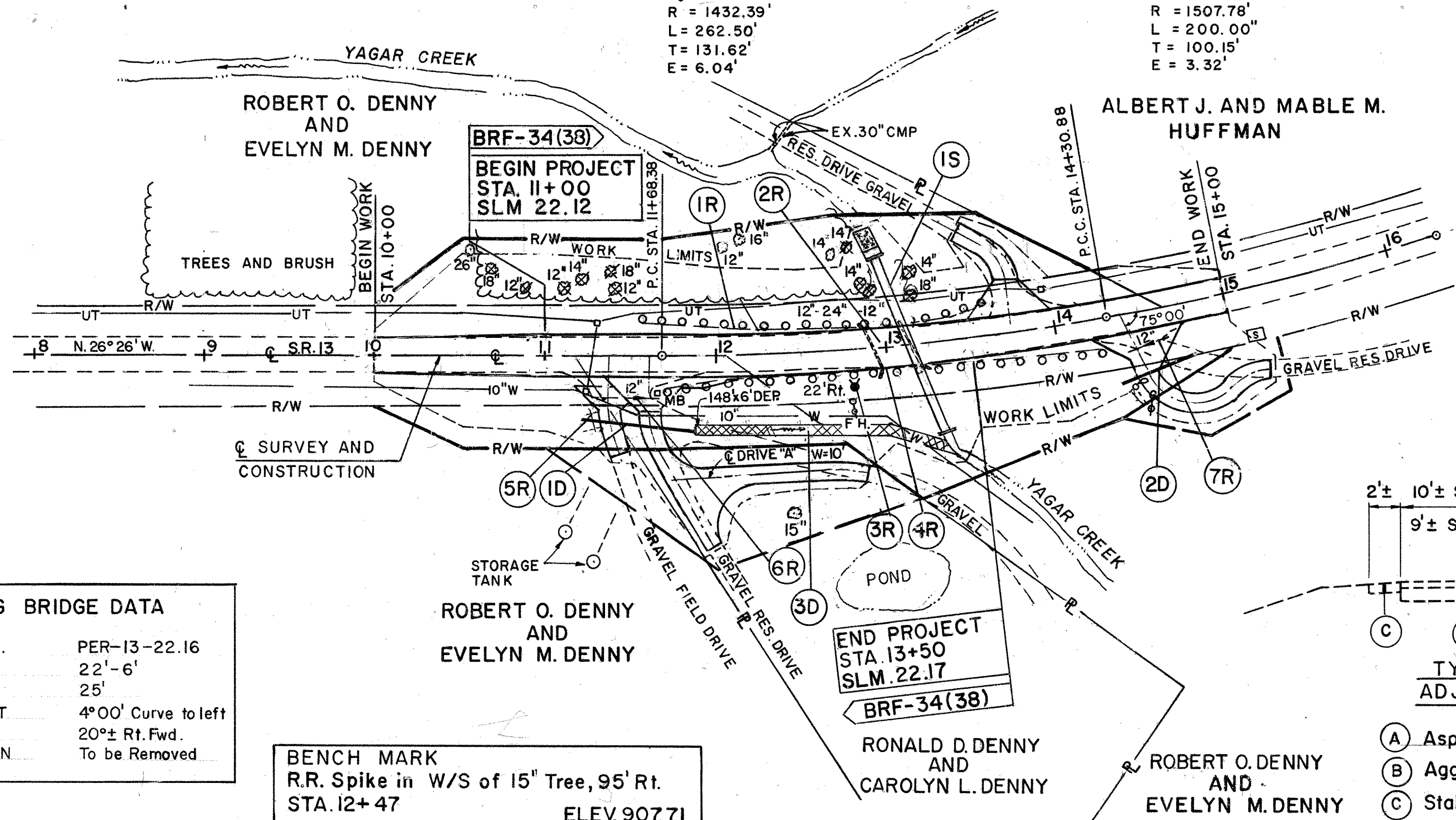
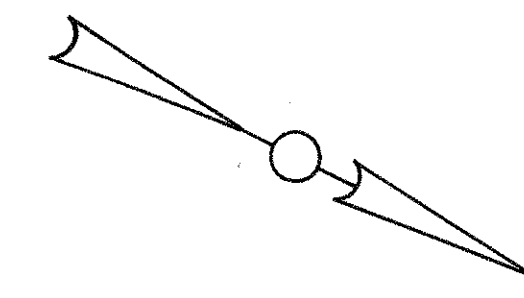
ITEM 605 AGGREGATE DRAINS
 WORK LENGTH - ((500 ÷ 25) + 1) = 21 DRAINS
 21 x 14 = 294 LIN.FT.
 TO GENERAL SUMMARY 294 LIN.FT.

SHEET NUMBERS					GENERAL SUMMARY			DESCRIPTION
3	6	4	ITEM EXT.	5	ITEM	QUANT.	UNIT	ROADWAY
Lump			11000		201	Lump		Clearing and Grubbing
			11000	Lump	202	Lump		Structures Removed
			38000	450	202	450	Lin.Ft.	Guardrail Removed
			35100	86	202	86	Lin.Ft.	Pipe Removed, 24" and under
			1121		203	1121	Cu.Yd.	Excavation Not Including Embankment Construction
			2346		203	2346	Cu.Yd.	Embankment
			1278		203	1278	Sq.Yd.	Subgrade Compaction
0.09			21400		614	0.09	Mile	Temporary Center Lines, Class II
0.09			20100		621	0.09	Mile	Centerlines
0.19			00100		621	0.19	Mile	Edge Lines
			10501	1	814	1	Each	* Fire Hydrant Extended And Adjusted to Grade
			10800	1	814	1	Each	* Valve Box Adjusted to Grade
	1		50000		Special	1	Each	Mailbox Support
								EROSION CONTROL
50			70000		207	50	Each	Straw or Hay Bales
			32100	18	601	18	Cu.Yd.	Rock Channel Protection, Type B with Filter
			11000	7	601	7	Sq.Yd.	Rip Rap using 6" Reinforced Concrete Slab
			3848	10000	659	3848	Sq.Yd.	Seeding and Mulching
			0.36	20000	659	0.36	Ton	Commercial Fertilizer
			1.78	30000	659	1.78	Ton	Agricultural Liming
5			35000		659	5	M Gal.	Water
			40000	99	670	99	Sq.Yd.	Ditch Erosion Protection
								DRAINAGE
			20000	41	602	41	Cu.Yd.	Concrete Masonry
			04900	112	603	112	Lin.Ft.	12" Conduit, Type D
			22200	112	603	112	Lin.Ft.	Conduit, Type A, 54" 706.02 or 66" 707.02 (.109"), 707.07 (.079"), or 707.09 (1")
			294	31100	605	294	Lin.Ft.	Aggregate Drains
								PAVEMENT
			148	10002	301	148	Cu.Yd.	Bituminous Aggregate Base, AC-20
154			338	20000	304	492	Cu.Yd.	Aggregate Base
			62	20000	402	62	Cu.Yd.	Asphalt Concrete, AC-20
			45	20000	404	45	Cu.Yd.	Asphalt Concrete, AC-20
14				25000	404	14	Cu.Yd.	Asphalt Concrete, AC-20 (Driveways)
95			762	10000	408	857	Gal.	Bituminous Prime Coat
			155	20000	409	155	Gal.	Sealcoat Bituminous Material
			4	12000	409	4	Cu.Yd.	Sealcoat Cover Aggregate, No. 8
			11000		614	Lump		Maintaining Traffic
			10000		619	Lump		Field Office
			10000		623	Lump		Construction Layout Stakes
			10000		624	Lump		Mobilization

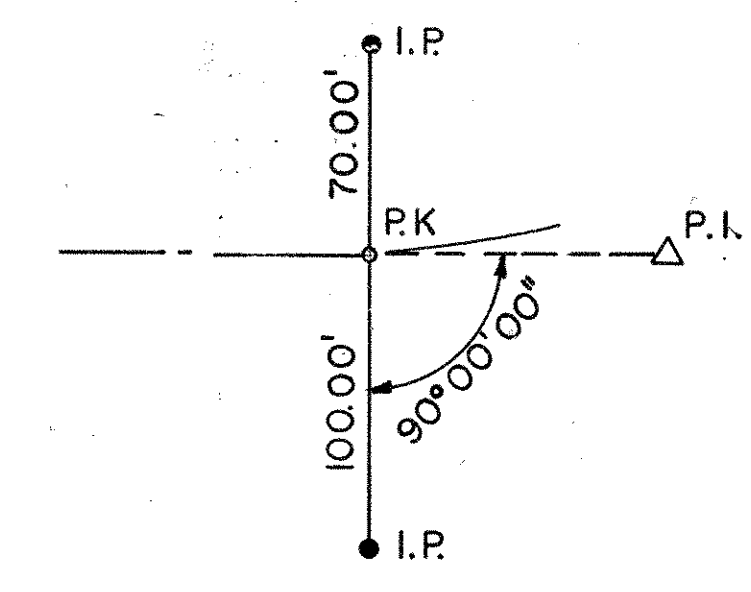
PERRY COUNTY
PER-13-22.12

CURVE DATA
P.I. STA. 13+00
 $\Delta = 10^\circ 30' \text{ LT.}$
 $D_c = 4^\circ 00'$
 $R = 1432.39'$
 $L = 262.50'$
 $T = 131.62'$
 $E = 6.04'$

CURVE DATA
P.I. STA. 15+31.03
 $\Delta = 7^\circ 36' \text{ LT.}$
 $D_c = 3^\circ 48'$
 $R = 1507.78'$
 $L = 200.00'$
 $T = 100.15'$
 $E = 3.32'$



REFERENCE POINT
P.C.C. STA. 14+30.88



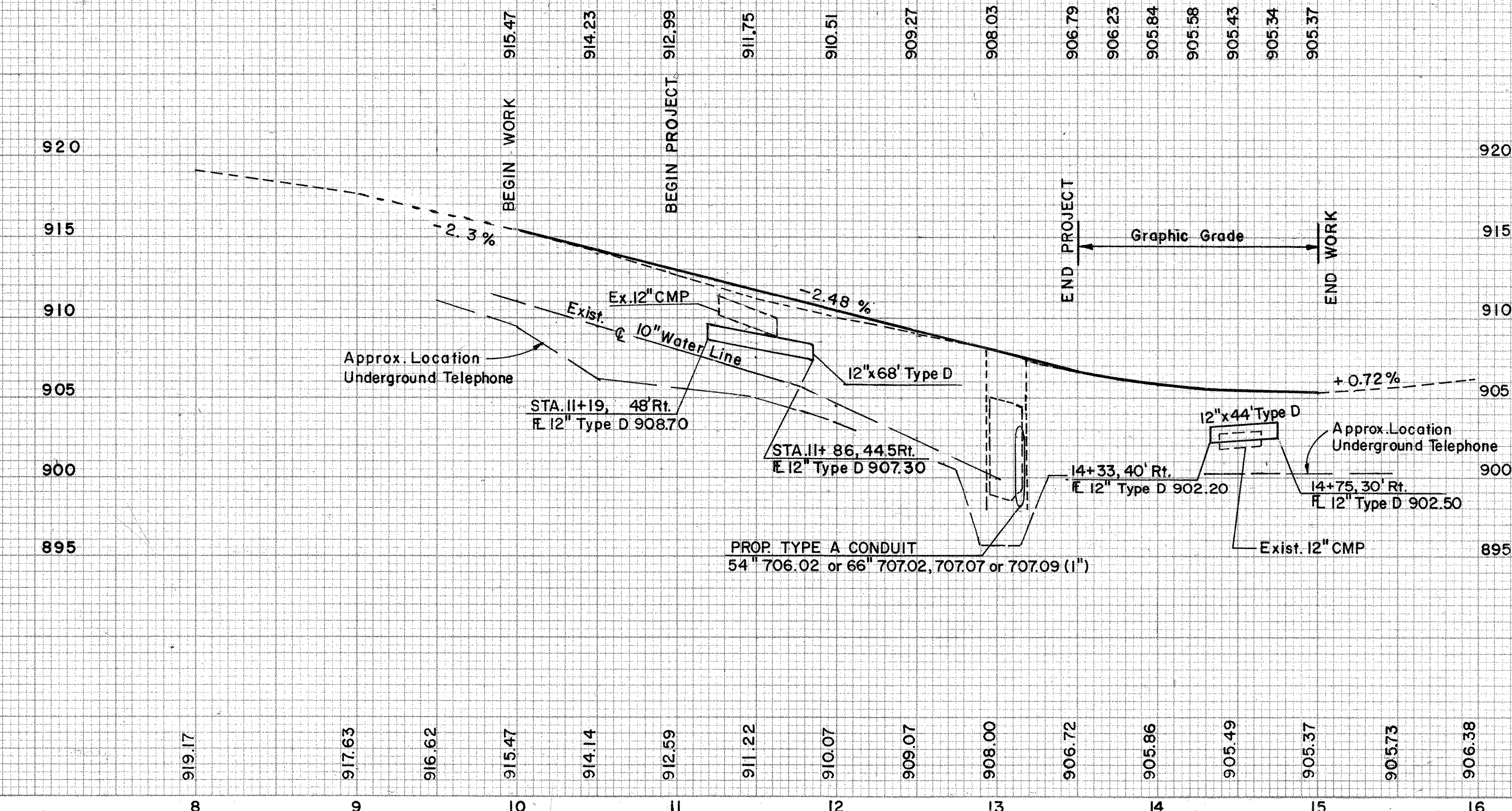
REFERENCE POINT
P.C. STA. 11+68.38

EXISTING BRIDGE DATA

BRIDGE NO.	PER-13-22.16
SPAN	22'-6"
WIDTH	25'
ALIGNMENT	4°00' Curve to left
SKEW	20± Rt. Fwd.
DISPOSITION	To be Removed

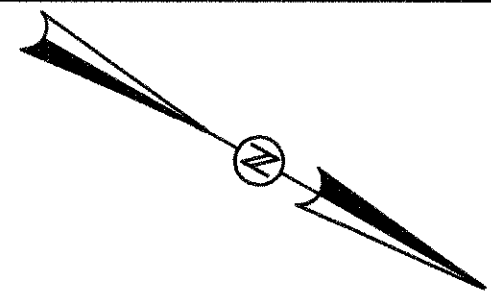
BENCH MARK
R.R. Spike in W/S of 15" Tree, 95' Rt.
STA. 12+47
ELEV. 907.71

- (A) Asphalt Concrete Pavement
 - (B) Aggregate Base
 - (C) Stabilized Aggregate Shoulders
- For (S) Details See Sheet No. 9
For Drive Profiles See Sheets 7 & 8
For Pavement, Shoulder and Drive Details See Sheet 6

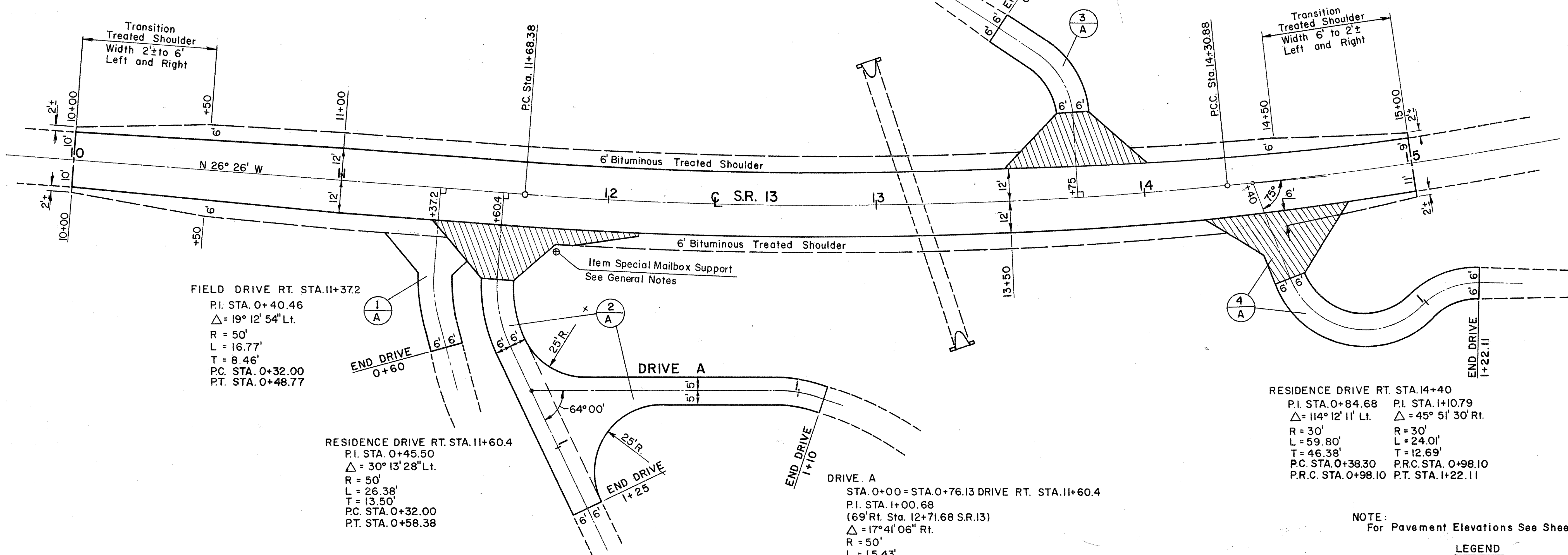


ESTIMATED QUANTITIES

Ref. No.	Station To Station	Side	814 Valve Box Adj. to Grade Ea.	814 Fire Hydr. Removed & Reset Ea.	202 Guardrail Removed Lin. Ft.	202 Structure Removed Lump	200 Pipe Removed 24" Under Lin. Ft.	SUPERELEVATION TABLES					
								STATION	LEFT LANE E/P Elev.	PROFILE W	RIGHT LANE GRADE W	E/P Elev.	
IR	11+55 to 13+55	Lt			200			10+00	915.03	10.0	915.47	10.0	915.40
2R	12+92 to 13+15	℄				Lump		+25	914.53	10.5	914.85	10.5	914.81
3R	12+80	Rt	1	1				+50	914.02	11.0	914.23	11.0	914.22
4R	11+75 to 14+25	Rt.			250			+55.88	913.91	11.12	914.08	11.12	914.08
								+75	913.43	11.5	913.61	11.5	913.67
5R	11+37.2						20	11+00	912.80	12.0	912.99	12.0	913.10
6R	11+60.4						40	+25	912.18	12.0	912.37	12.0	912.54
7R	14+40						26	+30.88	912.02	12.0	912.22	12.0	912.41
								+50	911.47	12.0	911.75	12.0	912.03
								+75	910.73	12.0	911.13	12.0	911.55
Totals								12+00	909.99	12.0	910.51	12.0	911.03
								+25	909.15	12.0	909.89	12.0	910.53
								+50	908.53	12.0	909.27	12.0	910.01
								+75	907.79	12.0	908.65	12.0	909.51
								+80.88	907.61	12.0	908.50	12.0	909.37
1D	11+19 to 11+86	Rt.					68	13+00	907.14	12.0	908.03	12.0	908.92
2D	14+33 to 14+75	Rt.					44	+25	906.52	12.0	907.41	12.0	908.30
3D	11+86 to 13+25	Rt.						+50	905.90	12.0	906.79	12.0	907.68
								+75	905.49	11.5	906.23	11.83	907.02
IS	13+14.5	℄	18	7	4.1		112	14+00	905.24	11.0	905.84	11.67	906.49
								+25	905.11	10.5	905.58	11.5	906.13
								+50	905.07	10.0	905.43	11.33	905.86
								+75	905.08	9.5	905.34	11.17	905.66
								15+00	905.22	9.0	905.37	11.0	905.59
Totals													
			18	7	4.1	112	112	99					



RESIDENCE DRIVE LT. STA. 13+75
P.I. STA. 0+45.60
 $\Delta = 53^\circ 43' 36''$ Lt.
R = 26'
L = 24.38'
T = 13.17'
P.C. STA. 0+32.43
P.T. STA. 0+56.81



FIELD DRIVE RT. STA. 11+37.2
P.I. STA. 0+40.46
 $\Delta = 19^\circ 12' 54''$ Lt.
R = 50'
L = 16.77'
T = 8.46'
P.C. STA. 0+32.00
P.T. STA. 0+48.77

RESIDENCE DRIVE RT. STA. 11+60.4
P.I. STA. 0+45.50
 $\Delta = 30^\circ 13' 28''$ Lt.
R = 50'
L = 26.38'
T = 13.50'
P.C. STA. 0+32.00
P.T. STA. 0+58.38

DRIVE A
STA. 0+00 = STA. 0+76.13 DRIVE RT. STA. 11+60.4
P.I. STA. 1+00.68
(69' Rt. Sta. 12+71.68 S.R.13)
 $\Delta = 17^\circ 41' 06''$ Rt.
R = 50'
L = 15.43'
T = 7.78'
P.C. STA. 0+92.80
P.T. STA. 1+08.3

RESIDENCE DRIVE RT. STA. 14+40
P.I. STA. 0+84.68 P.I. STA. 1+10.79
 $\Delta = 114^\circ 12' 11''$ Lt. $\Delta = 45^\circ 51' 30''$ Rt.
R = 30' R = 30'
L = 59.80' L = 24.01'
T = 46.38' T = 12.69'
P.C. STA. 0+38.30 P.R.C. STA. 0+98.10
P.R.C. STA. 0+98.10 P.T. STA. 1+22.11

NOTE:
For Pavement Elevations See Sheet 5

LEGEND

Item 404- Asphalt Concrete AC-20 (Driveways)

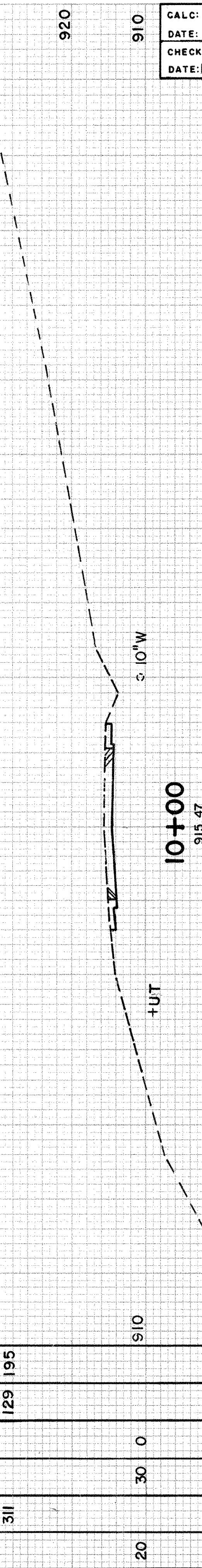
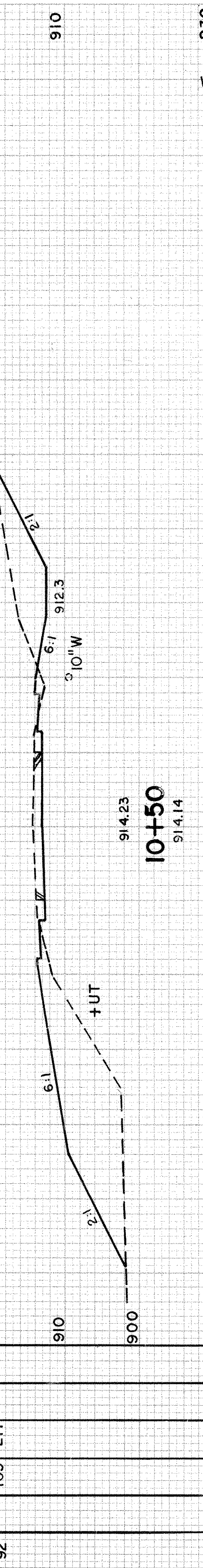
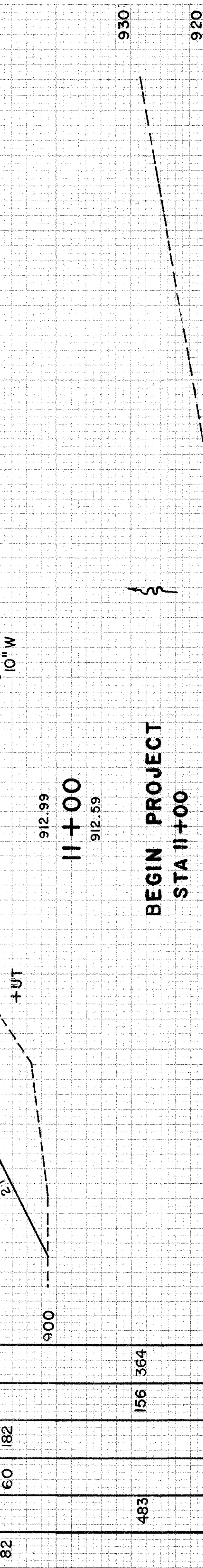
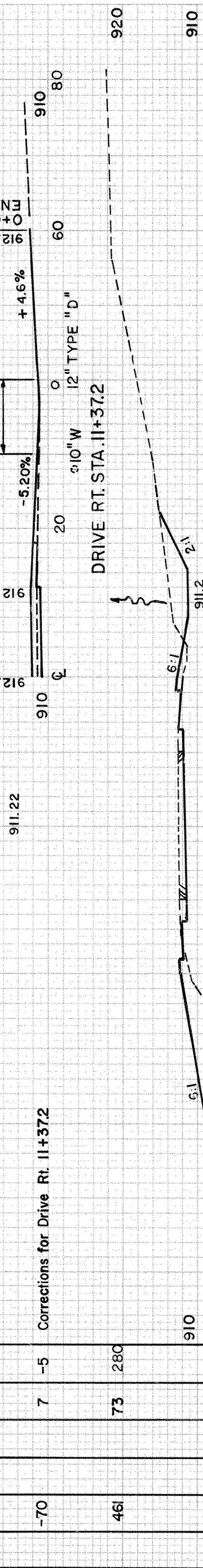
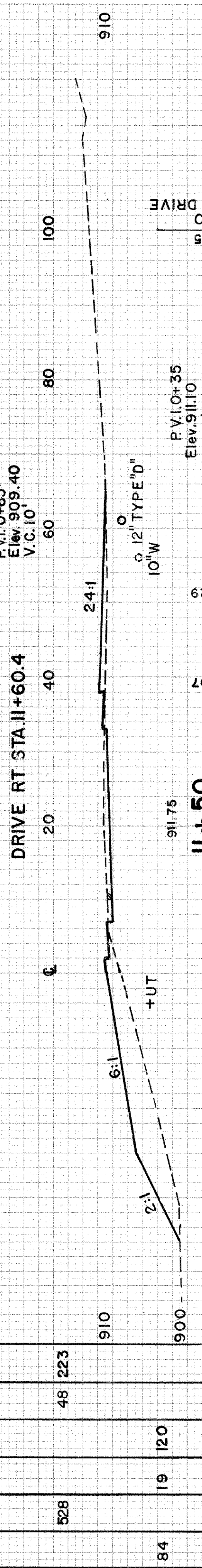
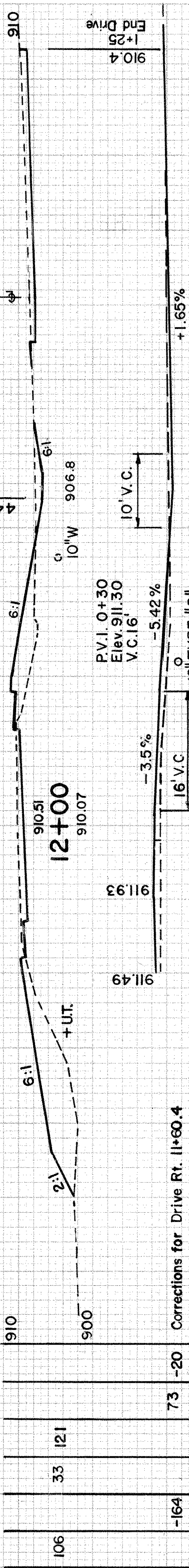
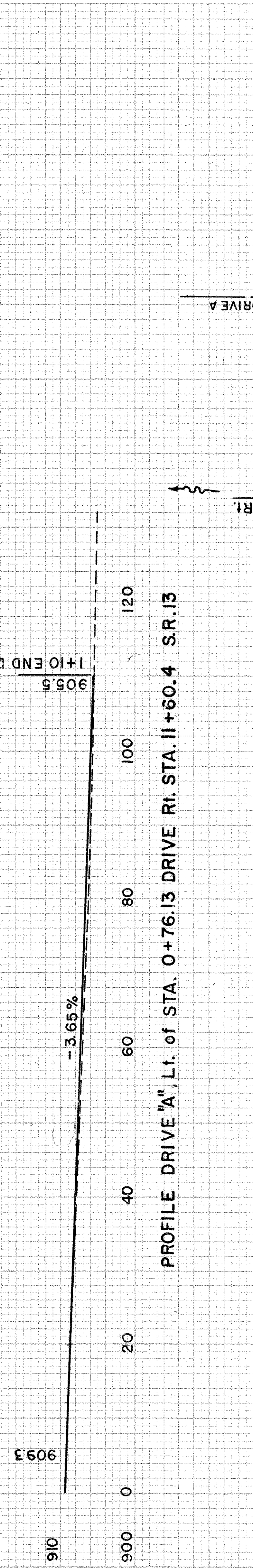
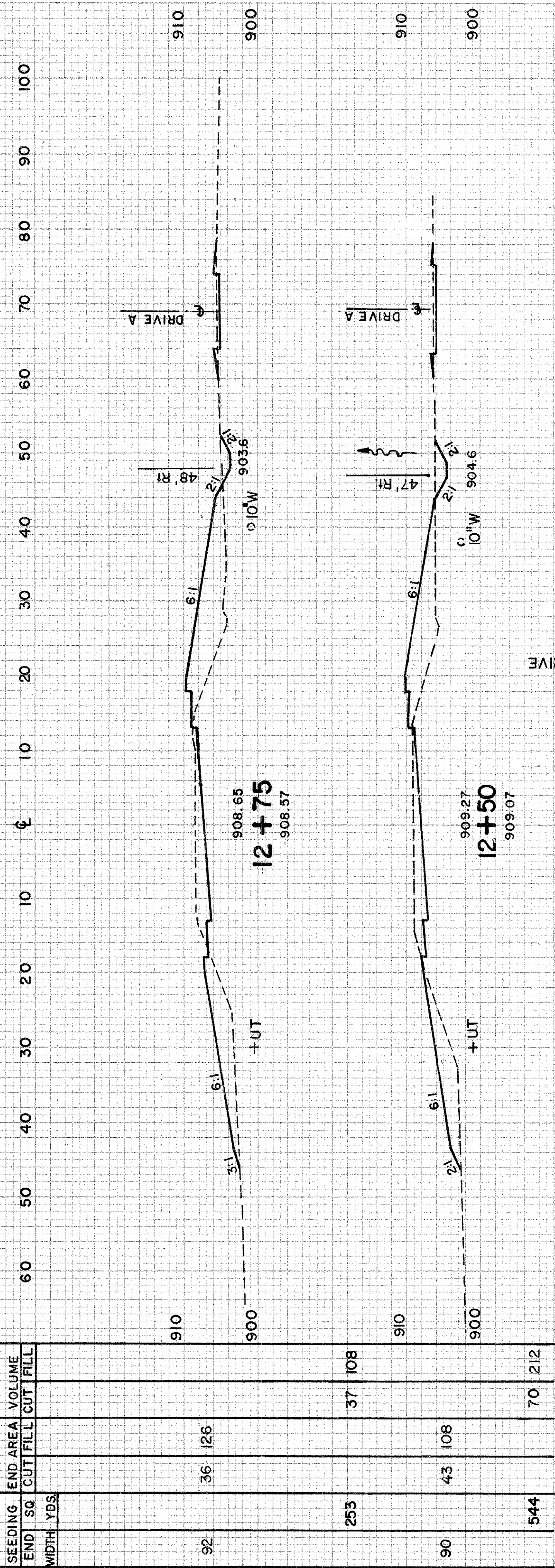
CALCULATION

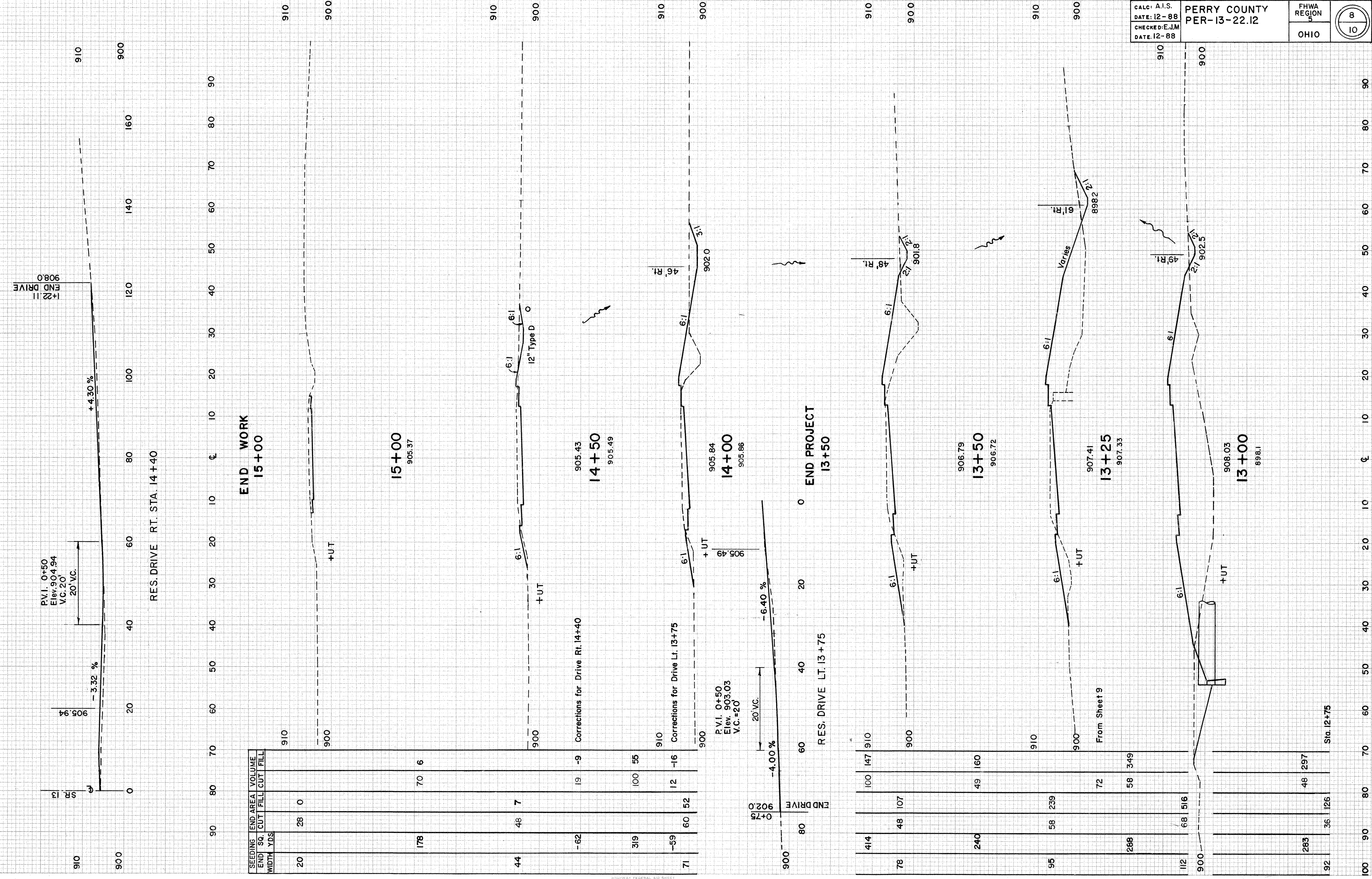
1/A	STA. 11+37.2 Rt. Area of Apron (Plan.) 12" Wide Drive - 28x12	= 292 s.f.
	TOTAL AREA	= 628 s.f.
	Item 304 Aggr. Base (628x0.5)÷27	= 12 c.y.
2/A	STA. 11+60.4 Rt. Area of Apron and MB Turnout STA. 0+32 to STA. 1+25 - 93x12	= 769 s.f.
	Drive A STA. 0+06.68 to Sta. 1+10 - 103.32x10	= 1033.20 s.f.
	25' R Fillets	= 409 s.f.
	TOTAL AREA DRIVE A	= 1442 s.f.
	Item 304 Aggr. Base [(769x0.5)+(1116+1442)x0.67]÷27	= 78 c.y.
	Item 404 Asp. Conc. (Driveways) (769x2)÷(12x27)	= 5 c.y.
	Item 408 Bit. Prime Coat (769÷9)x0.4	= 34 gal.

3/A	STA. 13+75 Lt. Area of Apron STA. 0+32 to STA. 0+75 - 43x12	= 640 s.f.
	Item 404 Asp. Conc. (Driveways) (640x2)÷(12x27)	= 516 s.f.
	Item 408 Bit. Prime Coat (640÷9)x0.4	= 4 c.y.
	Item 304 Aggr. Base [(640x0.5)+(516x0.67)]÷27	= 28 gal.
4/A	STA. 14+40 Rt. Area of Apron STA. 0+38.30 to STA. 1+22.11 - 12x83.81	= 744 s.f.
	Item 404 Asp. Conc. (Driveways) (744x2)÷(12x27)	= 1006 s.f.
	Item 408 Bit. Prime Coat (744÷9)x0.4	= 5 c.y.
	Item 304 Aggr. Base [(744x0.5)+(1006x0.6)]÷27	= 33 gal.
		= 39 c.y.

ESTIMATED QUANTITIES

Ref. No.	Station to Station	Side	304 Aggr. Base Cu. Yd.	404 Asp. Conc. Driveways Cu. Yd.	408 Prime Coat Gal.	Special Mailbox Support Each
1A	11+37.2	Rt.	12			
2A	11+60.4	Rt.	78	5	34	1
3A	13+75	Lt.	25	4	28	
4A	14+40	Lt.	39	5	33	
TOTALS			154	14	95	1





SEEDING WIDTH YDS	END AREA END SQ.	VOLUME CUT	VOLUME FILL	VOLUME CUT	VOLUME FILL
20	28	0	178	70	6
44	48	7	44	60	52
-62	19	-9	319	100	55
71	59	-16	71	60	52

STRUCTURE PER-13-2216
STA. 13+14.5

FHWA REGION	STATE	PROJECT	CALC. E. J. M. DATE: 2-89
5	OHIO		CHKD. A. I. S. DATE: 2-89

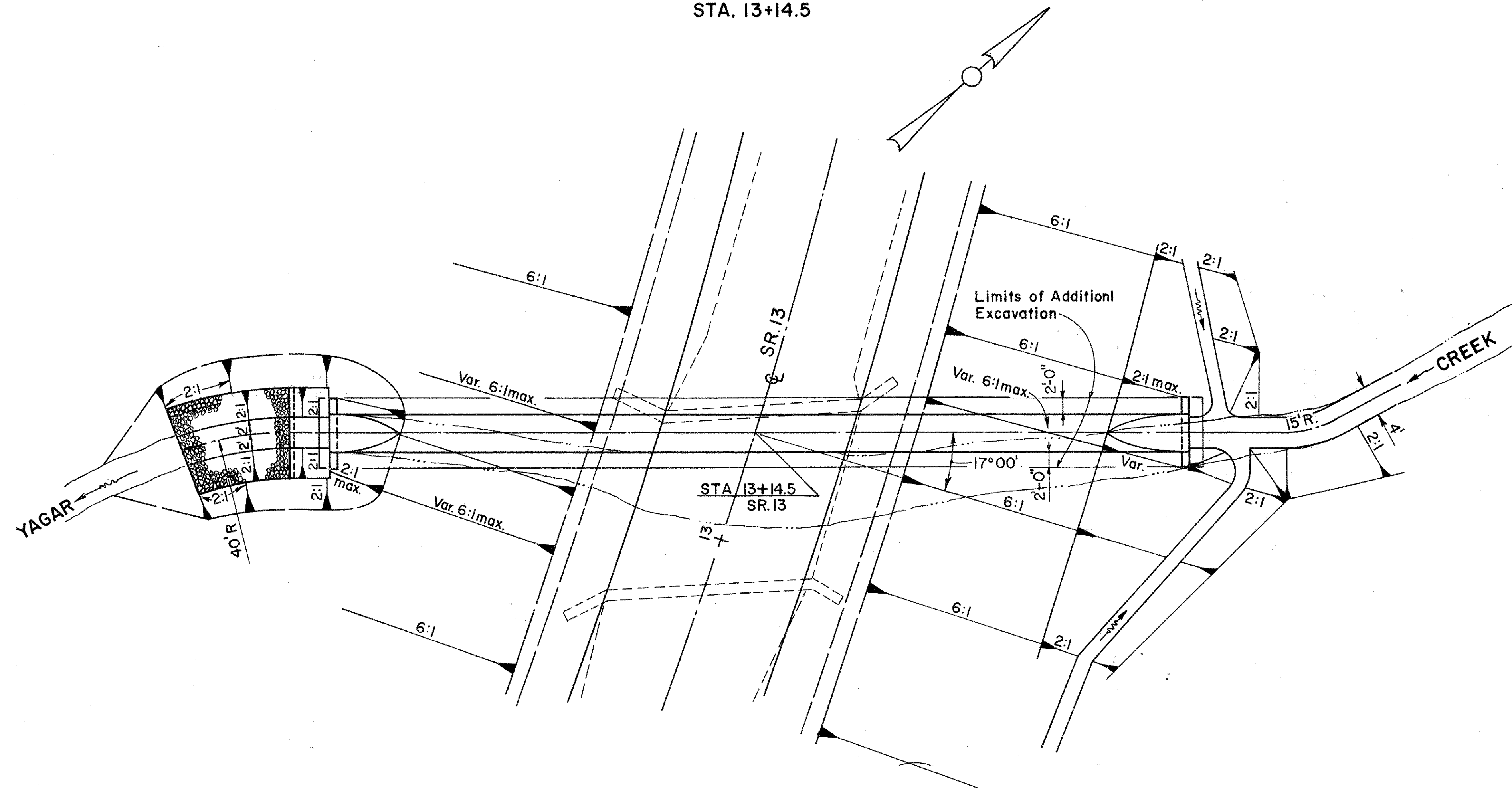
PERRY COUNTY
PER-13-22.12

EXCAVATION FOR STRUCTURE

The trench for the proposed conduit shall be excavated to the top of the weathered shale at the site (approx. Elev. 896.0) for the full length of the conduit and for the width required in accordance with Sec. 603.03. The trench shall then be replaced with granular material in accordance with Sec. 603.03.

Payment for the additional excavation shall be made at the contract unit price per cubic yard of "Item 203, Excavation not including embankment construction." Payment for the furnishing and placement of the granular material shall be included in the contract unit price per lineal foot for Item 603 conduit of the Type and size specified.

Item 203 Excavation, not inc. Embank. Constr.
(9.5 x 1.8 av. depth x 113.8) ÷ 27 = 72 c.y. Quantity Carried to Sheet 8

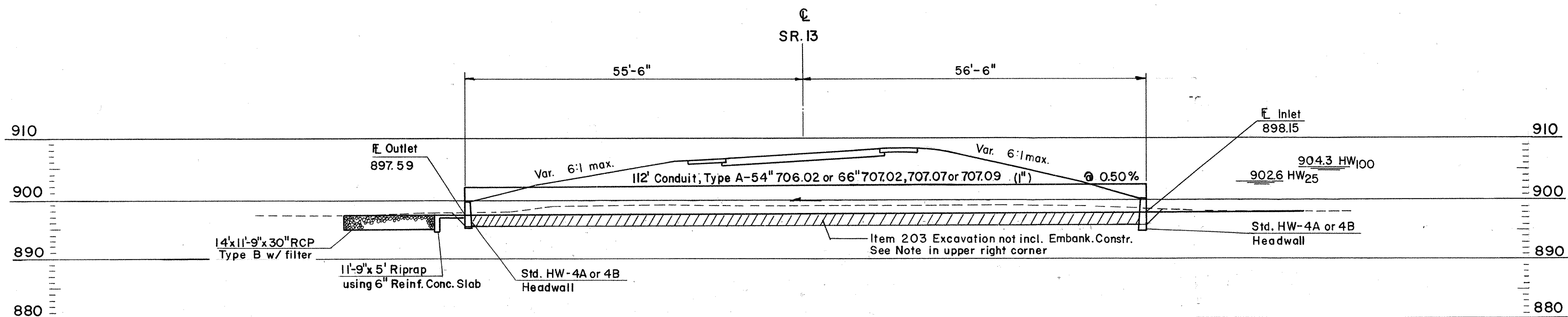


Drainage Area	900 Acres
Q ₂₅ = 100 cfs	Q ₁₀₀ = 150 cfs
HW ₂₅ = 902.6	HW ₁₀₀ = 904.3

ESTIMATED QUANTITIES

601	Rock Channel Protection, Type B with Filter	18 Cu. Yd.
602	Riprap using 6" Reinforced Concrete Slab	7 Sq. Yd.
602	Concrete Masonry	4.1 Cu. Yd.
603	Conduit, Type A, 54" 706.02 or 66" 707.02 (109"), 707.07 (079") or 707.09	112 Lin. Ft.

Quantities Carried to Sheet 5



FHWA REGION	STATE	PROJECT	CALC. DATE
5	OHIO	BRF-34(38)	
			CHKD. DATE

10
10
1
1

PERRY COUNTY
CLAYTON TOWNSHIP
SEC. 31, T16N, R15W

PERRY COUNTY
PER-13-22.12
STATE PROJECT 05865(0)

UTILITIES

ELECTRIC:
OHIO POWER COMPANY
113 NORTH FIFTH STREET
ZANESVILLE, OHIO 43701
614-452-5461

TELEPHONE:
OHIO BELL TELEPHONE CO.
150 EAST GAY STREET
COLUMBUS, OHIO 43215
614-223-5123

WATER:
VILLAGE OF NEW LEXINGTON
WATER DEPARTMENT
125 SOUTH MAIN STREET
NEW LEXINGTON, OHIO 43764
614-342-2552

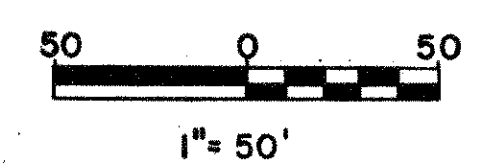
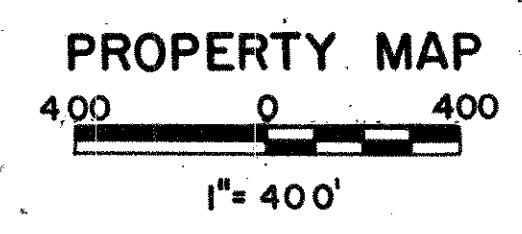
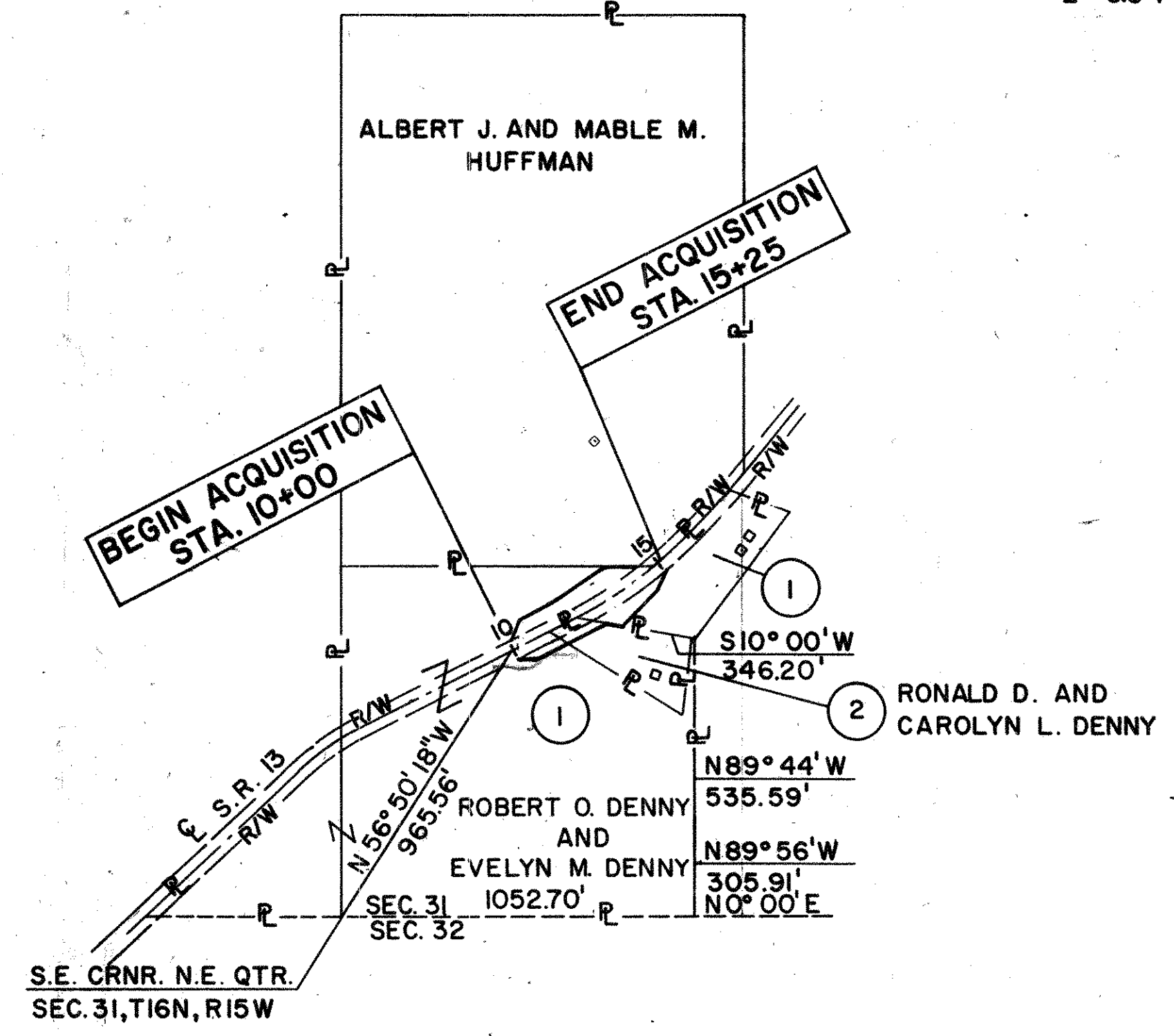
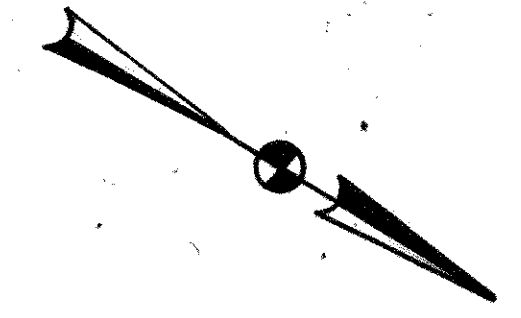
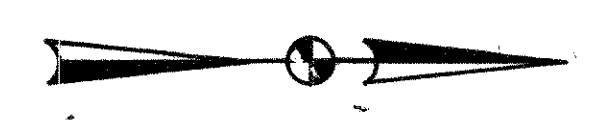
UTILITY NOTIFICATION

The location of underground utilities shown on the plans are as obtained from the owners of the utility as required by Sec. 153.64 ORC.

COURSE	BEARING	DIST.	REMARKS
AB	S63° 34' 00" W	30.00'	
BC	N65° 05' 35" W	64.03'	
CD	N26° 26' 00" W	118.38'	
DE	N34° 12' 56" W	101.51'	
EF	N28° 42' 51" W	78.65'	
FK	N 0° 00' 00" W	127.15'	
HI	N27° 14' 32" W	40.13'	ARC = 40.13' R=1432.39'
IJ	N32° 29' 05" W	222.15'	ARC = 222.37' R=1432.39'
HJ	N31° 41' 00" W	262.13'	ARC = 262.50' R=1432.39'
JK	N37° 33' 32" W	32.59'	ARC = 32.59' R=1507.78'
JL	N38° 14' 47" W	69.11'	ARC = 69.12' R=1507.78'
AM	N63° 34' 00" E	30.00'	
MN	N 0° 07' 54" E	55.90'	
NP	N26° 26' 00" W	107.59'	
PQ	N28° 21' 52" W	120.75'	
RS	N48° 02' 16" W	128.56'	
ST	N 61° 05' 45" W	77.24'	
TL	S50° 26' 25" W	3000'	
GP	N 31° 35' 00" E	64.84'	
IQ	N 10° 00' 00" E	86.71'	
IR	N 10° 00' 00" E	139.61'	

CURVE DATA
P.I. STA. 13+00
Δ=10° 30' LT.
Dc=4° 00'
R=1432.39'
L=262.50'
T=131.62'
E=6.04'

CURVE DATA
P.I. STA. 15+31.03
7° 36' LT.
Dc=3° 48'
R=1507.78'
L=200.00'
T=100.15'
E=3.32'



NOTE: BEARINGS BASED ON BEARINGS OF DEED OF RONALD D. AND CAROLYN L. DENNY AS RECORDED IN DEED BOOK 230, PAGE 164, PERRY COUNTY RECORDERS OFFICE.

STATE PROJECT 05865(0)

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

PARCEL NO.	OWNER	TOTAL NO. OWNERS - 2			NO. TOTAL TAKES - 0			TOTAL OWNERS WITH STRUCTURES INVOLVED - 0						REMARKS	TYPE FUNDS
		VOLUME	PAGE	DATE	RECORD AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. IN TAKE	NET TAKE	NET RES. LT.	NET RES. RT.	SHEET NO.			
1	ROBERT O. DENNY AND EVELYN M. DENNY	149	504	APR. 24, 1948	28.446 AC.	2.22	0.664 AC.	0.304 AC.	0.360 AC.	4.603	20.996	1		STATE	
1-1		220	210	AUG. 14, 1974			0.163 AC.	0.091 AC.	0.072 AC.			1		STATE	
1-2		232	253	FEB. 16, 1977			0.385 AC.	0.190 AC.	0.195 AC.			1		STATE	
1-WA							0.046 AC.	-	0.046 AC.			1	TO CONSTRUCT FIELD DRIVE	STATE	
1-WA1							0.068 AC.	-	0.068 AC.			1	TO CONSTRUCT RESIDENCE DRIVE	STATE	
2	RONALD D. DENNY AND CAROLYN L. DENNY	230	164	OCT. 8, 1976	1.83 AC*	0.065 AC.	0.128 AC.	0.065 AC.	0.063 AC.	-	1.066 AC.	1	* 1.194 AC. CALC. DEED AREA	STATE	
2-WA							0.162 AC.	-	0.162 AC.			1	TO CONSTRUCT RESIDENCE DRIVE	STATE	

2-89	COMPLETION DATE
REV	DATE DESCRIPTION

R/W PLAN

GENERAL INFORMATION

INTRODUCTION

SURFACE AND SUBSURFACE INFORMATION PRESENTED BY THESE PLAN SHEETS ARE IN REFERENCE TO THE PROPOSED REPLACEMENT OF A DRAINAGE STRUCTURE CARRYING OHIO DEPARTMENT OF TRANSPORTATION SECTION OF HIGHWAY DESIGNATED AS PER - 13 - 22.16 OVER A SMALL TRIBUTARY STREAM IN CLAYTON TOWNSHIP, PERRY COUNTY, OHIO.

GEOLOGY

THE SITE LIES APPROXIMATELY 1 MILE SOUTHEAST OF THE APPROXIMATED BOUNDARY OF THE ILLINOIAN DRIFT. STREAM MODIFICATIONS ARE THE ONLY DIRECT EFFECTS OF GLACIATION WITHIN THE IMMEDIATE VICINITY OF THE SITE. BEDROCK BENEATH THE SITE OF THE PROPOSED IMPROVEMENT IS SHOWN BY THE GEOLOGIC MAP OF PERRY COUNTY AS BEING THE POTTSVILLE SERIES OF THE PENNSYLVANIAN SYSTEM.

FIELD SAMPLING AND LABORATORY TESTING

TRUCK-MOUNTED ROTARY DRILLING EQUIPMENT WAS USED IN THE DRILLING AND SAMPLING OF THE BORINGS. TWO BORINGS WERE PROCURED OCTOBER 2, 1985. SOIL MATERIALS WERE SAMPLED BY MEANS OF STANDARD PENETRATION TEST PROCEDURES. ROCK WAS CORED BY MEANS OF A DOUBLE-TUBE DCDMA SIZE AND SERIES N X M CORE BARREL WITH DIAMOND BIT WITH WATER CIRCULATION TO THE BIT.

LABORATORY EVALUATION OF THE SAMPLES INCLUDED: EXAMINATION AND VISUAL CLASSIFICATION OF ALL SAMPLES; DETERMINATION OF THE MOISTURE CONTENT OF ALL SOIL SAMPLES; AND THE DETERMINATION OF THE PARTICLE SIZE GRADATION AND PLASTICITY OF SAMPLES OF VARIOUS SOILS PENETRATED BY THE BORINGS.



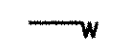






INVESTIGATIONAL FINDINGS

THE ROADWAY GRADE TRAVERSES ELEVATED GROUND IN APPROACHING THE PROPOSED STRUCTURE LOCATION FROM THE SOUTHEAST WITH A THIN VENEER OF RESIDUAL SOIL OVER BEDROCK. THE STRUCTURE SITE IS AT THE EASTERLY EDGE OF THE FLOODPLAIN OF A SMALL TRIBUTARY STREAM WITHIN 200 FEET OF ITS JUNCTURE WITH A LARGER STREAM FLOWING FROM THE NORTHWEST. FROM THE STRUCTURE SITE THE HIGHWAY FOLLOWS TO THE NORTHWEST THE NORTHEASTERLY EDGE OF THE FLOODPLAIN OF THE LARGER STREAM.






TWO BORINGS WERE PROCURED AT THE STRUCTURE SITE AND WITHIN THE LIMITS OF THE FLOODPLAIN OF THE SMALL TRIBUTARY STREAM. BORING 1 PENETRATED APPROXIMATELY 8.0 FEET OF ALLUVIAL A-4a, A-4b, AND A-6a SOILS OVER ROCK. BORING 2 PENETRATED APPROXIMATELY 6.0 FEET OF ALLUVIAL A-4a, A-4b, AND A-2-4 SOILS OVER ROCK. AT THE SURFACE ROCK IS CARBONACEOUS SHALE, BUT CHANGES WITH DEPTH TO CLAYSTONE, IMPURE FINE GRAINED SANDSTONE, SILICEOUS SHALE, AND CLAY SHALE.

A TRACE OF WATER SEEPAGE WAS DETECTED TO ENTER THE BORINGS. SEASONALLY WATER ENTERING AN EXCAVATION MAY BE MORE SEVERE THAN DISCLOSED AT THE TIME OF DRILLING AND SAMPLING. VERY LITTLE WATER FLOWED IN THE STREAM AT THE TIME OF DRILLING AND SAMPLING.

LEGEND

-  DRIVE SAMPLE AND/OR CORE BORING - PLAN VIEW
-  DRIVE SAMPLE AND/OR CORE BORING PLOTTED TO VERTICAL SCALE ONLY - PROFILE
-  FREE WATER OR WATER SEEPAGE
-  DRILLING WATER LEVEL AT COMPLETION OF BORING
-  TOP OF ROCK
-  NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST
-  X = NUMBER OF BLOWS FOR SEATING, IN CASES WHERE THE SAMPLER ENCOUNTERED RESISTANCE TO PENETRATION OF 6 INCHES OF LESS, FROM 50 BLOWS OF THE DROP HAMMER.
-  Y = NUMBER OF BLOWS FOR FIRST 6 INCHES OF "STANDARD PENETRATION"
-  Z = NUMBER OF BLOWS FOR SECOND 6 INCHES OF "STANDARD PENETRATION"

SYMBOLS OF ROCK TYPE

-  CARBONACEOUS SHALE
-  CLAYSTONE
-  SANDSTONE
-  CLAY SHALE
-  SILICEOUS SHALE

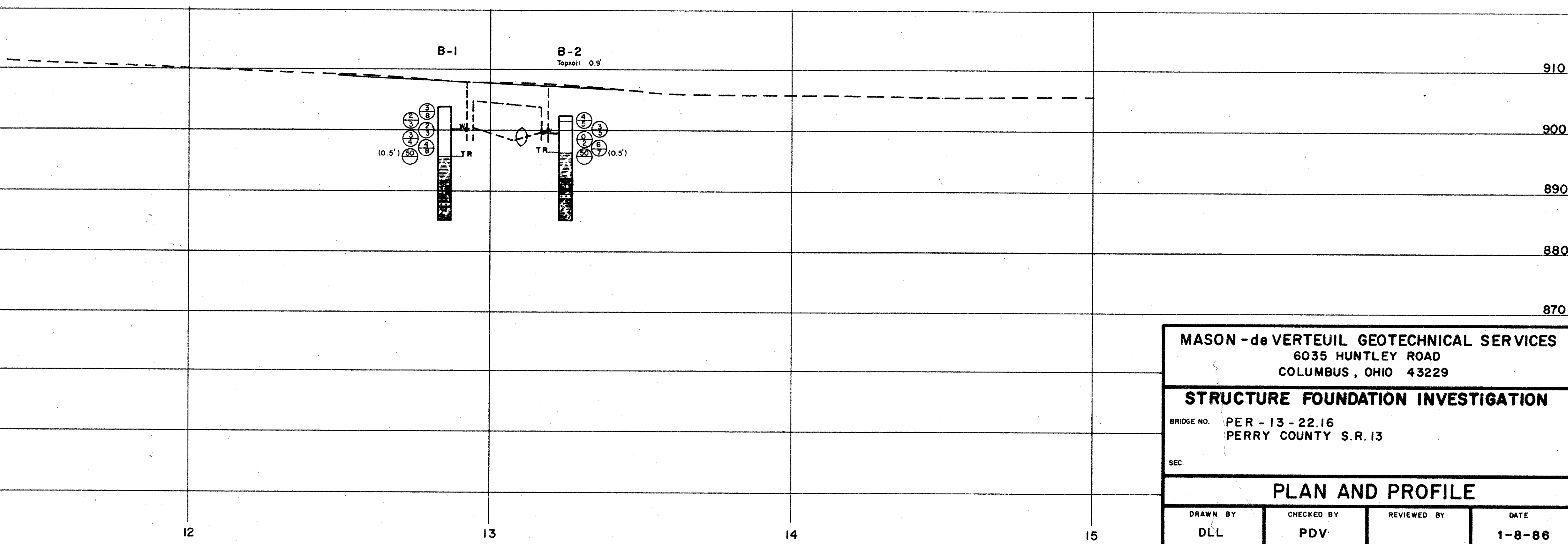
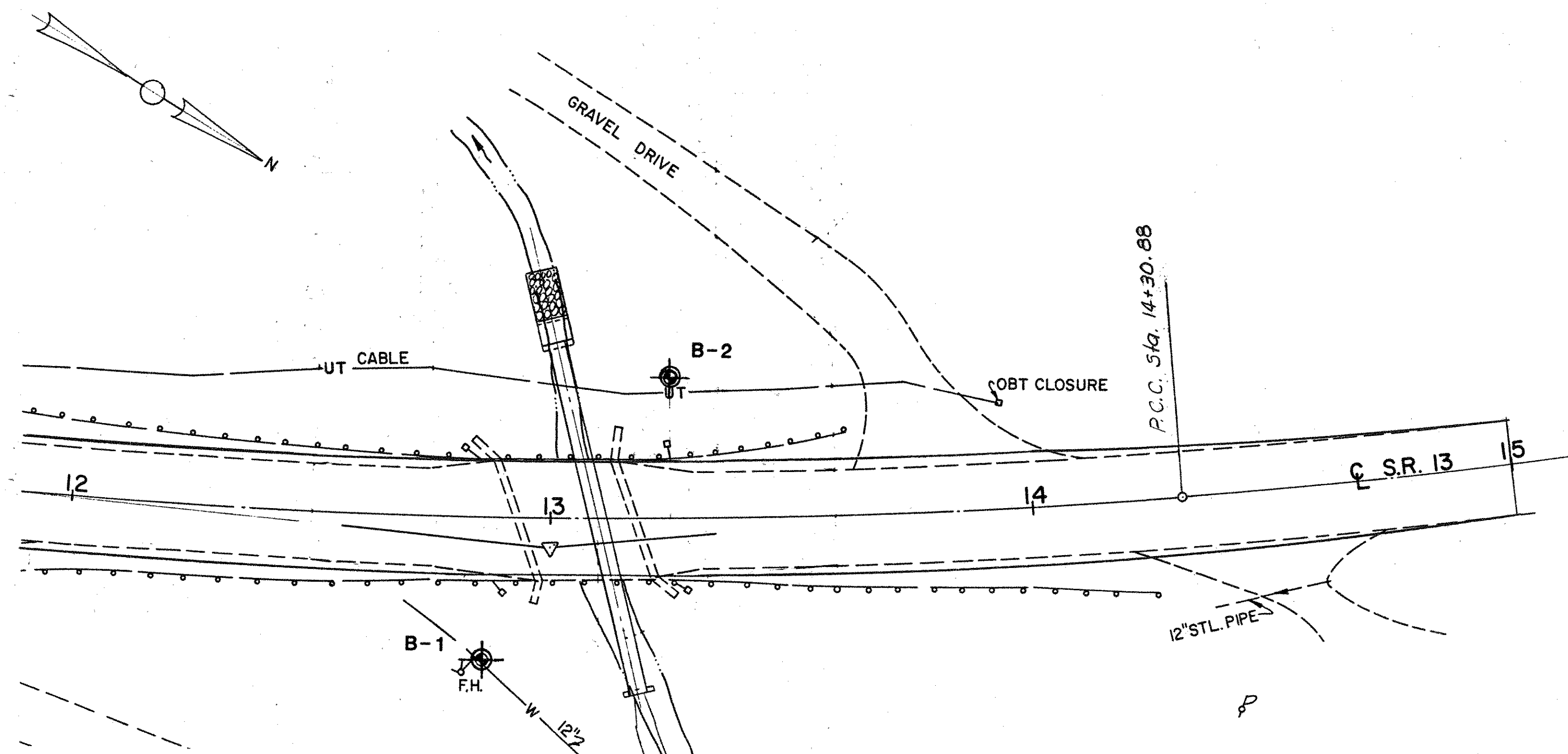
PARTICLE SIZE DEFINITIONS

BOULDERS	12"	COBBLES	3"	GRAVEL	2.0mm	COARSE SAND	0.42mm	FINE SAND	0.074mm	SILT	0.005mm	CLAY
					No.10 sieve		No.40 sieve		No.200 sieve			

NOTE: INFORMATION SHOWN BY THIS SUBSURFACE INVESTIGATION WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLAN GOVERNING CONSTRUCTION OF THIS PROJECT.

NOTE: ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

MASON - de VERTEUIL GEOTECHNICAL SERVICES			
6035 HUNTLEY ROAD COLUMBUS, OHIO 43229			
STRUCTURE FOUNDATION INVESTIGATION			
BRIDGE NO. PER - 13 - 22.16 PERRY COUNTY S.R.13			
SEC.			
TITLE PAGE			
DRAWN BY DLL	CHECKED BY PDV	REVIEWED BY	DATE 1-8-86



MASON - de VERTEUIL GEOTECHNICAL SERVICES 6035 HUNTLEY ROAD COLUMBUS, OHIO 43229			
STRUCTURE FOUNDATION INVESTIGATION			
BRIDGE NO. PER - 13 - 22.16 PERRY COUNTY S.R. 13			
SEC.			
PLAN AND PROFILE			
DRAWN BY DLL	CHECKED BY PDV	REVIEWED BY	DATE 1-8-86

