

LEGEND

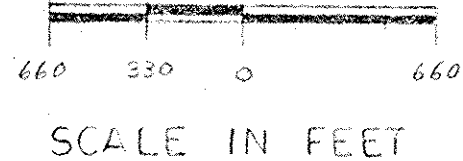
PROPOSED IMPROVEMENT	
HIGHWAYS	
PROPERTY LINE	
SECTION CENTER	
WATER SHED	
SECTION CONER	
ACRES OWNED	OO A.
ACRES BENEFITED	COA →
RIVERS	
DITCHES	
PIPE LINE	

BENCH MARK DESCRIPTIONS

BM #1	TOP OF N. END OF 15" C.M.P. N. SIDE OF WALBRIDGE EAST RD.	STA. 0+00	M.S.L. ELEV. 607.40
BM #2	TOP OF SPIKE IN W. SIDE OF BRACE POLE E. SIDE OF DITCH.	STA. 9+03	M.S.L. ELEV. 606.85
BM #3	TOP OF 8" STEEL CASING W. SIDE OF DITCH.	STA. 20+04	M.S.L. ELEV. 602.02
BM #4	TOP OF 6" STEEL CASING W. SIDE OF DITCH.	STA. 26+29	M.S.L. ELEV. 600.90
BM #5	TOP OF SW CORNER OF CATCH BASIN S. SIDE OF ST. RT. 579 & WILDACRE RD.	STA. 54+30	M.S.L. ELEV. 598.37
BM #6	TOP OF CHISELED X ON N.E. CORNER OF BRIDGE ABUTMENT OF BRIDGE OVER CRANE CREEK WILDACRE RD.	STA. 63+00	M.S.L. ELEV. 597.16

SUPPORTING DATA

DRAINAGE AREA	9 C.F.S.	75 ACRES
LAND USE	GENERAL & SPECIAL CROPS	
SOIL TYPE	HOYTVILLE SILTY CLAY	
LAND SLOPE	0-2%	
DESIGN COEFFICIENT	G _c CURVE	
TYPE DRAINAGE	3 C.F.S.	SURFACE & TILE
TILE DRAINAGE	167 ACRES	



HYDRAULIC CALCULATION

CHANNEL FLOW			HEADLOSS IN CULVERT		
MAXIMUM VELOCITY	S.F.P.S. $V = \frac{1.485}{N} R^{2/3} S^{1/2}$		$H = \frac{V^2}{2g} (1 + K_E + K_{PL})$		
REACH	STA. 0+39 TO STA. 27+00	27+00 TO STA. 51+94	51+94 TO STA. 52+34	52+34 TO STA. 53+86	53+86 TO STA. 55+26
DRAINAGE AREA	56	75	75	75	75
Q _c FLOW	743 = 10	9+3 = 12	9+3 = 12	9+3 = 12	9+3 = 12
N	.04	.04	.04	.04	.04
SLOPE	FT. FT. .0021	.0010	.0010	.0010	.0010
Q/S ^{1/2} = KD	218	380	380	380	380
KD VALUE USED	245	401	401	401	401
SIDE SLOPE	1 1/2:1	1 1/2:1	1 1/2:1	1 1/2:1	1 1/2:1
BOTTOM WIDTH	3'	3'	3'	3'	3'
DEPTH	1.4	1.8	1.8	1.8	1.8
AREA	SQ. FT. 7.14	10.26	10.26	10.26	10.26
VELOCITY	C.F.S. 1.4	1.2	1.2	1.2	1.2

CONSTRUCTION DATA

STATION	% GRADE	BOTTOM WIDTH	SIDE SLOPES	CUBIC YARDS	AVERAGE DEPTH
27+00	.21	3'	1 1/2:1	19.09	5'
53+86	.10	3'	1 1/2:1	976	4.5
				2,885	

LOCATION & OWNERSHIP MAP SPECIFICATIONS

- I. EXCAVATION
 - A. Bottom Width: The bottom width shall be THREE (3) feet between sta. 0+35 and sta. 53+86.
 - B. Bank Slopes: The ditch bank slopes are to be constructed to at least 1 1/2 foot horizontal to 1 foot vertical.
 - C. Alignment: The centerline of the improvement shall be approximately the centerline of the existing ditch unless otherwise indicated on plan.
 - D. Total Excavation: The total excavation consists of 2,885 cubic yards of earth over 5,386 lineal feet of ditch. (the plan).
 - E. Excess Yardage: No extra compensation will be paid for such excavation in excess of yardage herein estimated. This estimate was made from cross-sections of the proposed ditch. The contractor should view the proposed work to his own satisfaction.
- II. CLEARING

All trees and/or brush which would interfere with the excavation operation must be cleared from the ditch right-of-way ahead of the construction operations. Stumps on the berm should be removed or cut as low as cutting tools permit. Cleared debris should be disposed of by burning or removed from the right-of-way.
- III. BERM WIDTHS

Unless otherwise noted the berms will have the following minimum widths: four (4) feet wide for ditches up to four (4) feet depth; six (6) feet wide for four to six foot depth; and ten (10) foot wide for ditches over six feet in depth.
- IV. SPOIL BANKS

Excavated material should be deposited and spread along the field side of the ditch, as determined, except where used for levees, and in overflow areas with timber or brush cover. Slope of the spoil after spreading should be at least 3:1 on the channel side and at least 4:1 on the field side. The height of the spoil should not exceed one foot above average ground level. Openings shall be provided for surface water to enter the ditch.
- V. TILE OUTLETS

Landowners shall protect their tile outlets with a section of continuous rigid pipe and flap-gates or grid to exclude rodents. For details of construction see your Soil Conservation Technician.
- VI. SURFACE WATER OUTLETS

Wherever a lateral or a surface ditch enters the main ditch at a higher elevation protection from erosion should be provided by: drop structures, pipe drops, other suitable structure or grassed waterway. For assistance on outlets see your Soil Conservation Technician.
- VII. DITCH BANK SEEDING

The ditch banks will be seeded, immediately after each day's work, to tall fescue (Kentucky 31 or Alta) at the rate of 25 lbs. per acre. A minimum of 500 lbs. of 10-10-10 fertilizer or equivalent will be applied. 1.5 Acres of ditch bank seeding will be required.
- VIII. CULVERTS

Existing culverts will be cleaned and the inverts (flow line) lowered to correspond to the proposed ditch grade as indicated on the plan.

Station <u>0+00</u>	Station <u>51+94</u>	Station <u>52+34</u>	Station <u>53+86</u>
TO BE REPLACED BY COUNTY WITH 18" R/C	CLEANED	TO BE LOWERED TO GRADE BY GAS COMPANY	OKAY

* 167 ACRES TILE WATER = 3 C.F.S.

THIS DITCH PLAN HAS BEEN APPROVED BY
John G. Pappas
 OTTAWA COUNTY ENGINEER 1/2/69 DATE

LOCATION - EAST 1/2 OF WEST 1/2 OF SECTION 4, T7N R13E ALLEN TOWNSHIP, OTTAWA COUNTY, OHIO.

SURVEYED - 10-9-68 D. OFFER
 E. CAMPBELL
 D. SOMMER

NOTICE TO LANDOWNERS OR CONTRACTORS

PRIOR TO START OF CONSTRUCTION THE OWNER OF THE PIPELINE OR OTHER TRANSMISSION LINE MUST BE NOTIFIED OF THE PENDING CONSTRUCTION, GIVING THE DATE AND TIME SUCH CONSTRUCTION IS SCHEDULED TO BEGIN. THE PROPERTY OWNER OR THE CONTRACTOR IS RESPONSIBLE FOR GIVING THIS NOTICE.

REFERENCE - FIELD NOTES ON FILE IN OTTAWA SOIL & WATER CONSERVATION OFFICE 149 CHURCH STREET CAK HARBOR, OHIO.
 JOB CLASS II GROUP #42

INDEX TO SMALL PARCELS

SECTION	PARCEL	PROPERTY OWNERS	ACRES
4	A	JACK POGGMEYER	1
4	B	GENE FANGMAN	1
4	C	WAYNE BURDGE	1
4-9	D	TOLEDO EDISON	5
4-9	E	OTTAWA COUNTY	3

DITCH IMPROVEMENT SANDROCK DITCH ALLEN TOWNSHIP OTTAWA COUNTY, OHIO.

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

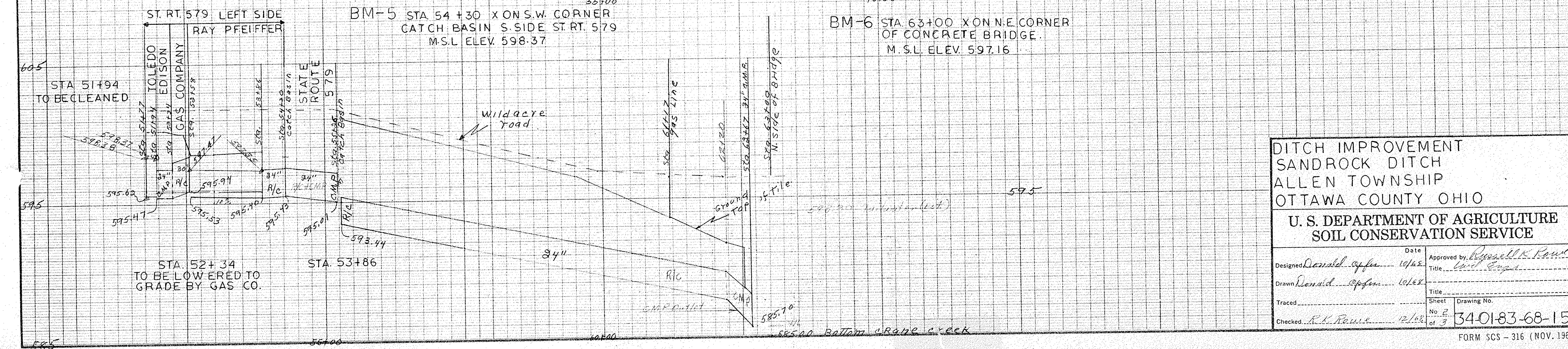
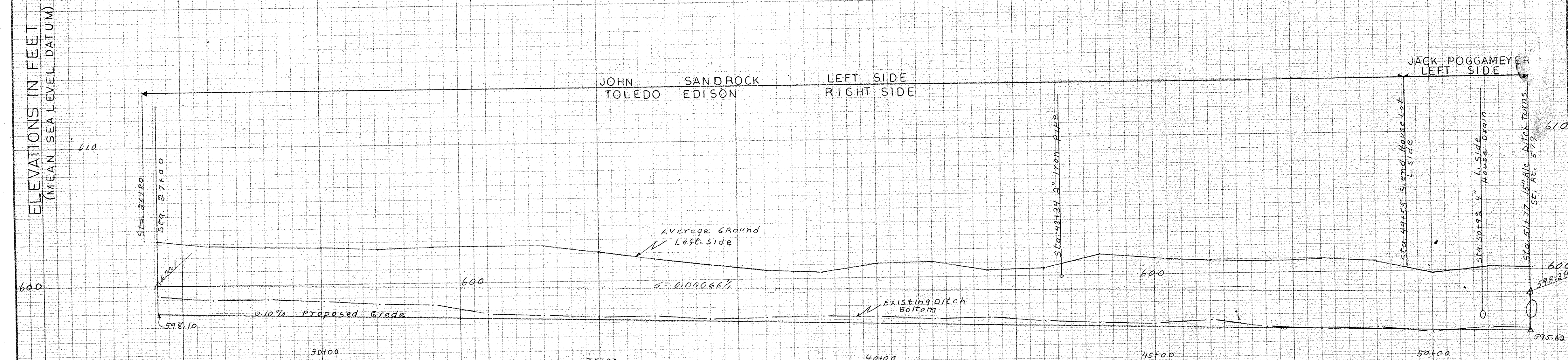
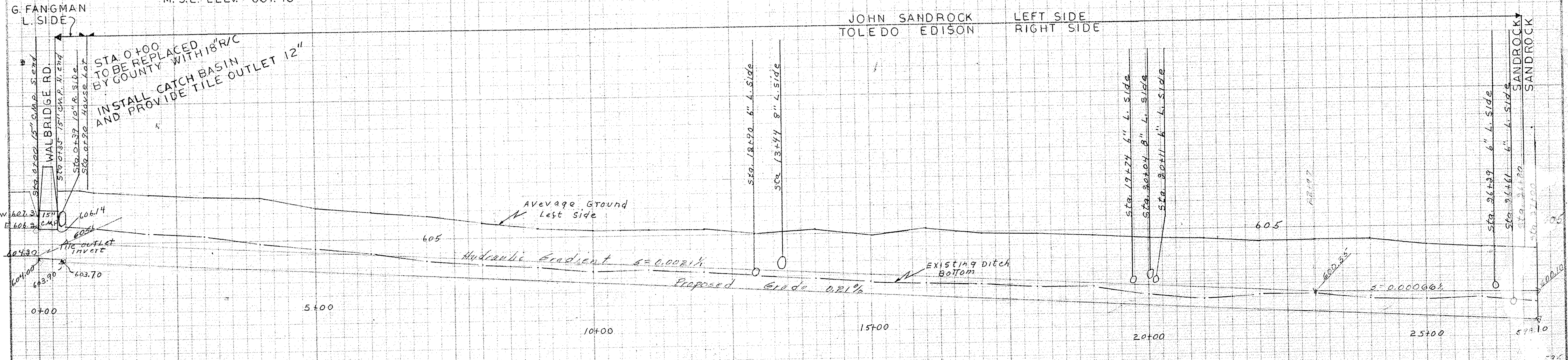
Designed <i>Donald S. Pappas</i>	Date <i>1/2/69</i>	Approved by <i>Russell L. Rowe</i>	Title <i>Local Eng.</i>
Drawn <i>Donald S. Pappas</i>	Date <i>1/2/69</i>	Title	
Traced	Sheet	No. <i>1</i>	Drawing No.
Checked <i>R. L. Rowe</i>	Date <i>1/2/69</i>	of <i>3</i>	34-0183-68-15

BM-1 STA. 0+35 N. END 15' CMP
N. SIDE WALBRIDGE E. RD.
M.S.L. ELEV. 607.40

BM-2 STA. 9+03 SPIKE W. SIDE
OF POLE E. SIDE DITCH
M.S.L. ELEV. 606.85

BM-3 STA. 20+04 TOP 8" CASING
W. SIDE DITCH
M.S.L. ELEV. 602.02

BM-4 STA. 26+296 SILL
CASING W. SIDE DITCH
M.S.L. ELEV. 600.90

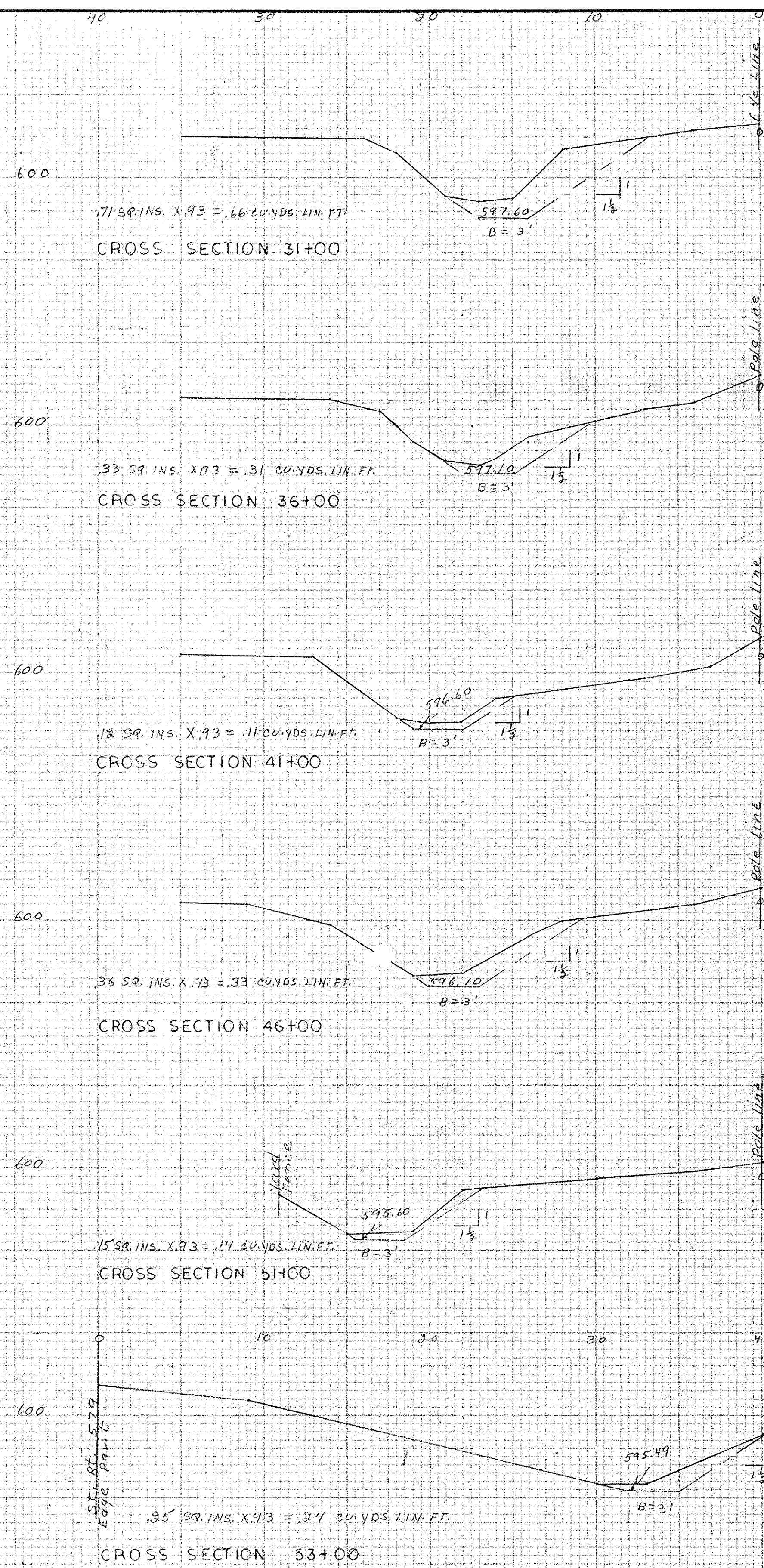
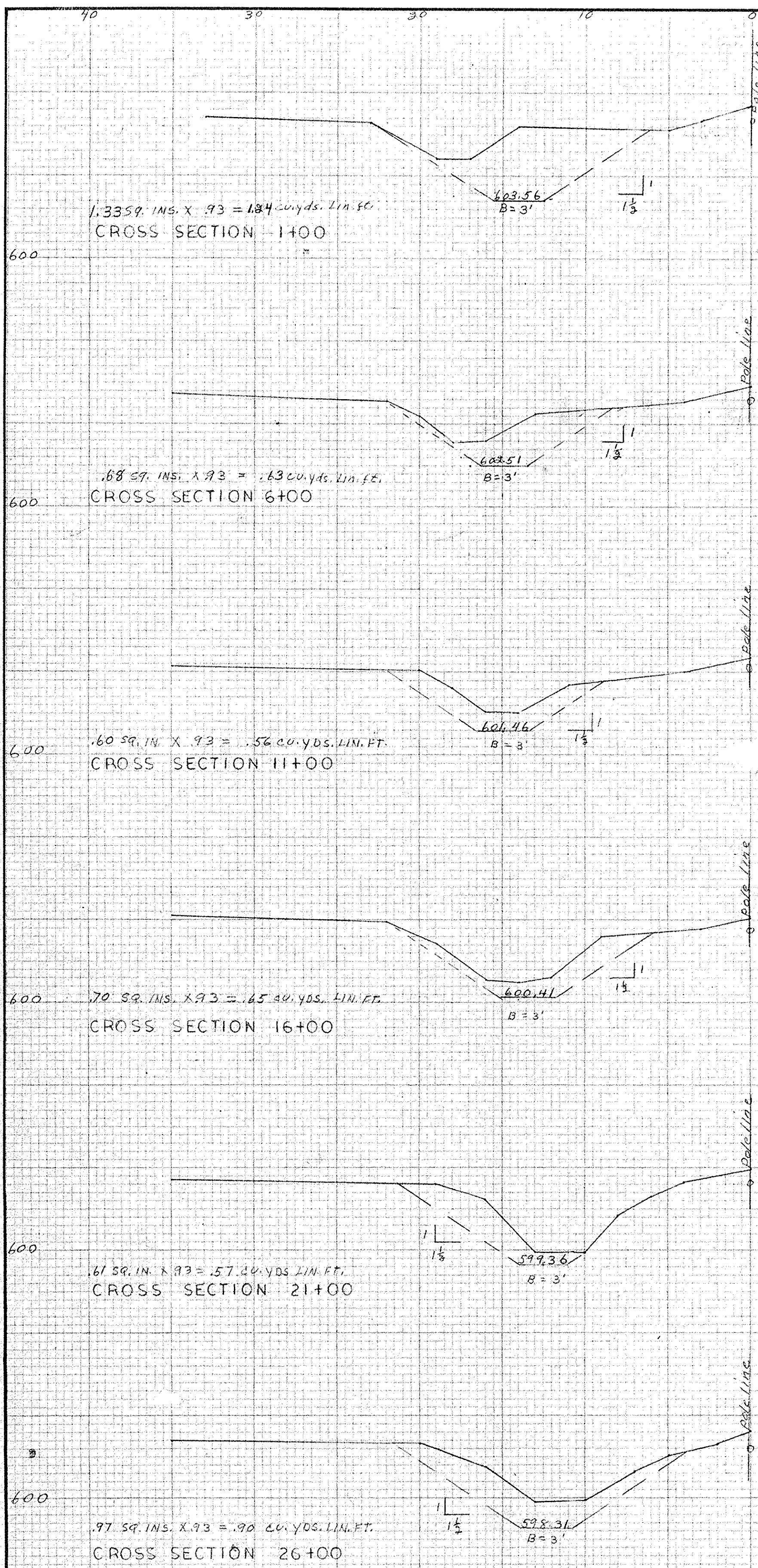


**DITCH IMPROVEMENT
SANDROCK DITCH
ALLEN TOWNSHIP
OTTAWA COUNTY OHIO**

**U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE**

Designed <i>Donald E. Pfen</i>	Date 10/65	Approved by <i>Russell K. Paul</i>
Drawn <i>Donald E. Pfen</i>	10/65	Title <i>Dist. Eng.</i>
Traced		Title
Checked <i>R. K. Paul</i>	12/65	No. 2 of 3

Drawing No. **34-0183-68-15**



YARDAGE					
STATION	SQ. INS.	CU. YDS. LIN. FT.	AVERAGE	DISTANCE	TOTAL
0+35					
1+00	1.33	1.24	1.24	65	81
6+00	.68	.63	.94	500	470
11+00	.60	.56	.60	500	300
16+00	.70	.65	.61	500	305
21+00	.61	.57	.61	500	305
26+00	.97	.90	.74	500	370
31+00	.71	.66	.78	500	390
36+00	.33	.31	.49	500	245
41+00	.12	.11	.21	500	105
46+00	.36	.33	.22	500	110
51+00	.15	.14	.29	500	145
53+00	.25	.24	.19	200	38
53+86	.25	.24	.24	86	21
TOTAL YARDS					2,885

DITC
 SAN
 ALL
 OTT
 U.
 Designed
 Drawn
 Traced
 Checked