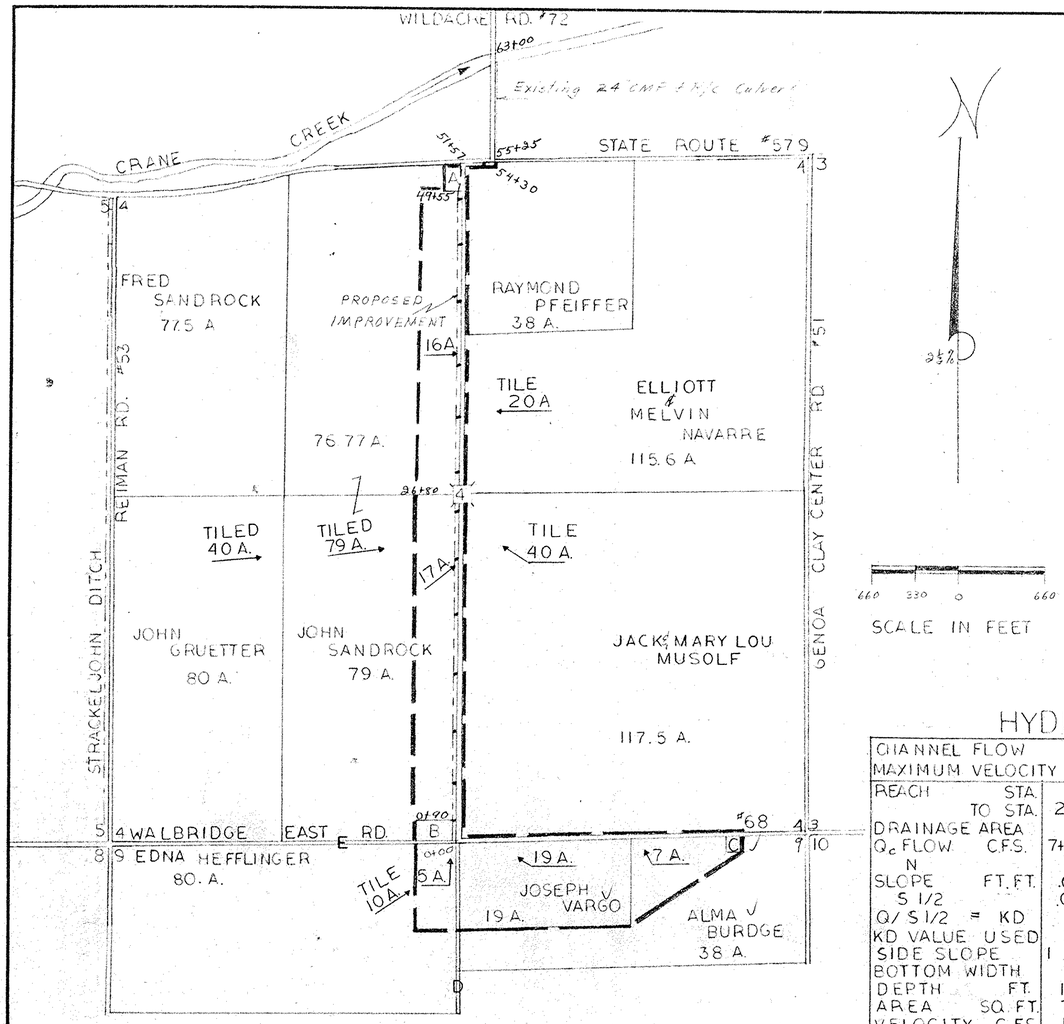
SANDROCK DITCH #13



660 330 0 660

SCALE IN FEET

LEGEND

PROPOSED IMPROVEMENT	
HIGHWAYS	
PROPERTY LINE	
SECTION CENTER	
WATER SHED	
SECTION CONER	
ACRES OWNED	00 A.
ACRES BENEFITED	CO A.
RIVERS	
DITCHES	
PIPE LINE	

SUPPORTING DATA

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

BENCH MARK DESCRIPTIONS

NOT DONE

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 S.W. 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

CONSTRUCTION DATA

STATION	% GRADE	BOTTOM WIDTH	SIDE SLOPES	CUBIC YARDS	AVERAGE DEPTH
27+00	.21	3'	1 1/2 : 1	1,909	5'
53+86	.10	3'	1 1/2 : 1	976	4.5
				2,885	

HYDRAULIC CALCULATION

CHANNEL FLOW MAXIMUM VELOCITY 5 F.P.S. $V = \frac{1.486}{N} R^{2/3} S^{1/2}$

REACH STA.	TO STA.	0+39	27+00	27+00	51+94	52+68	53+86
DRAINAGE AREA		56		75		75	
Q_c FLOW C.F.S.		7+3 = 10		9+3 = 12		9+3=12	
N		.04		.04		.04	
SLOPE FT. FT.		.0021		.0010		.0010	
S 1/2		.0458		.0316		.0316	
Q/S 1/2 = KD		218		380		380	
KD VALUE USED		245		401		401	
SIDE SLOPE		1 1/2 : 1		1 1/2 : 1		1 1/2 : 1	
BOTTOM WIDTH		3'		3'		3'	
DEPTH FT.		1.4		1.8		1.8	
AREA SQ. FT.		7.14		10.26		10.26	
VELOCITY C.F.S.		1.4		1.2		1.2	

HEADLOSS IN CULVERT $H = \frac{V^2}{2g}(1+KE+KPL)$

STATION	0+00	51+94	52+34	53+86	55+26
DRAINAGE AREA	35	* 75	* 75	* 75	* 75
Q_c FLOW C.F.S.	4.5	12	12	12	12
DIAMETER IN.	18"	24"	30"	24"	24
TYPE "N"	R/C .013	C.M.P. .025	R/C .013	R/C MP .013	R/C MP 013
LENGTH FT.	40	40	24'	140'	741
X SECTION AREA	1.77	3.14	4.91	3.14	3.14
KP	.018	.046	.0092	.012	.012
KPL	.72	1.84	.22	1.68	
KE	.50	.50	.50	.50	
VELOCITY F.P.S.	2.5	3.8	2.4	3.8	
HEADLOSS FT.	.22	.75	.15	.71	

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

THIS DITCH PLAN HAS BEEN APPROVED BY

John H. Pogue 1/2/69

OTTAWA COUNTY ENGINEER DATE

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
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 shown 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 0+00 TO BE REPLACED BY COUNTY WITH 18" R/C AND CATCH BASIN AND 12" TILE OUTLET
Station 51+94 CLEANED
Station 52+34 TO BE LOWERED TO GRADE BY GAS COMPANY
Station 53+86 OKAY

NOTICE TO LANDOWNERS OR CONTRACTORS

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

INDEX TO SMALL PARCELS

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

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

SURVEYED - 10-9-68 D. OPFER, E. CAMPBELL, D. SOMMER

REFERENCE - FIELD NOTES ON FILE IN OTTAWA SOIL & WATER CONSERVATION OFFICE 149 CHURCH STREET OAK HARBOR, OHIO.

JOB CLASS IV GROUP #42

DITCH IMPROVEMENT
SANDROCK DITCH
ALLEN TOWNSHIP
OTTAWA COUNTY, OHIO.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

	Date		
Designed Donald Opfer	10/68	Approved by Russell K. Rowe	
Drawn Donald Opfer	10/68	Title Land Treatment	
Traced		Title	
Checked R. K. Rowe	11/68	Sheet No. 1 of 3	Drawing No. 34-0183-68-15

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