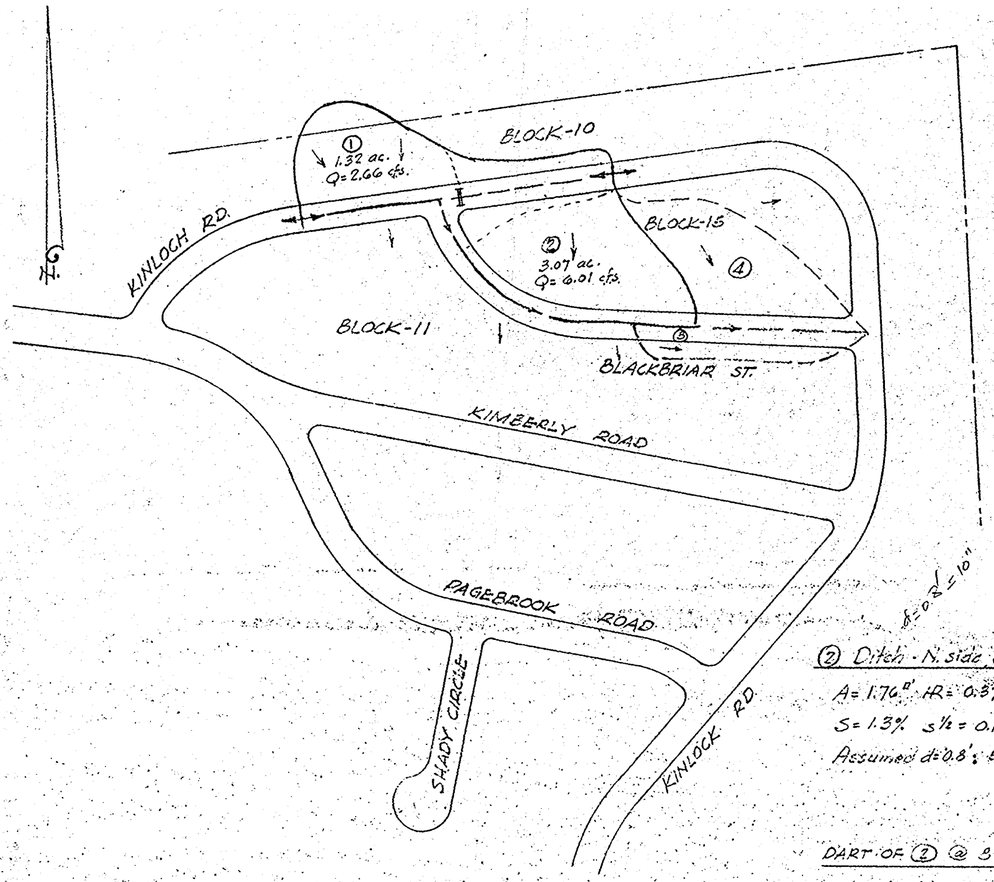


AREAS (Constant = 0.919)

Description	0	1	2	3	Avg.	Acres
① N. side Kinlock @ Blackbriar	2.84	4.31	5.71	7.15	1.44	1.32
PART OF ① " " " "	7.15	8.21	9.28	10.36	1.07	0.98
② N. side Blackbriar to end 1.3% grade	1.02	2.91	4.82	6.71	1.90	1.75
③ S. side " from 4+50± to Kinloch	4.14	4.64	5.15	5.69	0.52	0.48
④ N. " " " 1.3% grade " "	1.23	2.58	3.88	5.19	1.32	1.21
PART OF ② - N. side Blackbriar - 8% gr.	3.34	3.74	4.14	4.53	0.40	0.37

① Pipe under Kinlock @ Blackbriar T.C.=10' R=0.35

$1.32(5.75)0.35 = AIR = Q = 2.66$ cfs.

Req's 15" @ 0.4+ (C.M.P. coated & paved)

PART OF ① (for critical section of ditch - N. side Kinloch)

max. S = 6.5% $S^{1/2} = 0.255$ $0.98(5.75)(0.35) = AIR = Q = 1.97$ cfs.

Assume d = 0.40 ft. and n = 0.025 for sodded ditch

A = 0.44□' HR = 0.1856

SODDED DITCH O.K.

$59.5(0.326)0.255 = \frac{1.486}{.025}(0.1856)^{2/3}(0.255) = \frac{1.486}{n}R^{2/3}S^{1/2} = v = 4.95$ fps. < 7 fps.

$(0.44)(4.95) = av = Q$ (@ d=0.40) = 2.18 > 1.97 cfs.

② Ditch - N. side Blackbriar to end 1.3% grade

A = 1.76□' HR = 0.371' T.C. = 10 + 500/6 = 11'-23"

S = 1.3% $S^{1/2} = 0.114$ $3.07(5.6)(0.35) = AIR = Q = 6.01$ cfs

Assumed d = 0.8': $59.5(0.516)0.114 = \frac{1.486}{0.025}(0.371)^{2/3}0.114 = v = 3.5$ fps < 7 fps.

$1.76(3.5) = av = Q = 6.16$ cfs > 6.01 cfs

Sod O.K.

③ Ditch - S. side Blackbriar to Kinloch

T.C. = 10' S = 9% $0.48(5.75)35 = AIR = Q = 0.97$ cfs.

(d = 0.3' Assumed) A = 0.248□' HR = 0.1391

$59.5(0.269)0.3 = \frac{1.486}{0.025}(0.1391)^{2/3}0.3 = v = 4.81 < 7$ fps.

$0.248(4.81) = av = Q = 1.19$ cfs > 0.97 cfs.

Sod O.K.

PART OF ② @ 8% grade - Blackbriar ($S^{1/2} = 0.283$)

A = 0.633□' HR = 0.223' T.C. = 10' $1.72(5.75)(0.35) = Q = 3.46$ cfs

Assume d = 0.48' $59.5(0.268)0.283 = 59.5(0.223)^{2/3}0.283 = v = 6.20$ fps < 7 fps

$.633(6.2) = av = Q = 3.92$ cfs > 3.46 cfs

O.K. for sod

DITCH SECTION
$A = 2.75d^2$
$HR = 0.464d$

ENGINEERS CERTIFICATE

I hereby certify that this drainage study and plan are correct, to the best of my knowledge, and fully meet the requirements of the Road Construction Code for Montgomery County.

6/12/56
Date
6/22/56
AS REVISED

SEYBOLT & GEORGE
By V. D. George

DRAINAGE STUDY —
KINLOCH ROAD & BLACKBRIAR ST.
HILLANDALE
MONTGOMERY COUNTY, MD.
SCALE: 1" = 200'
JUNE 1956

SD FILE NO. 416

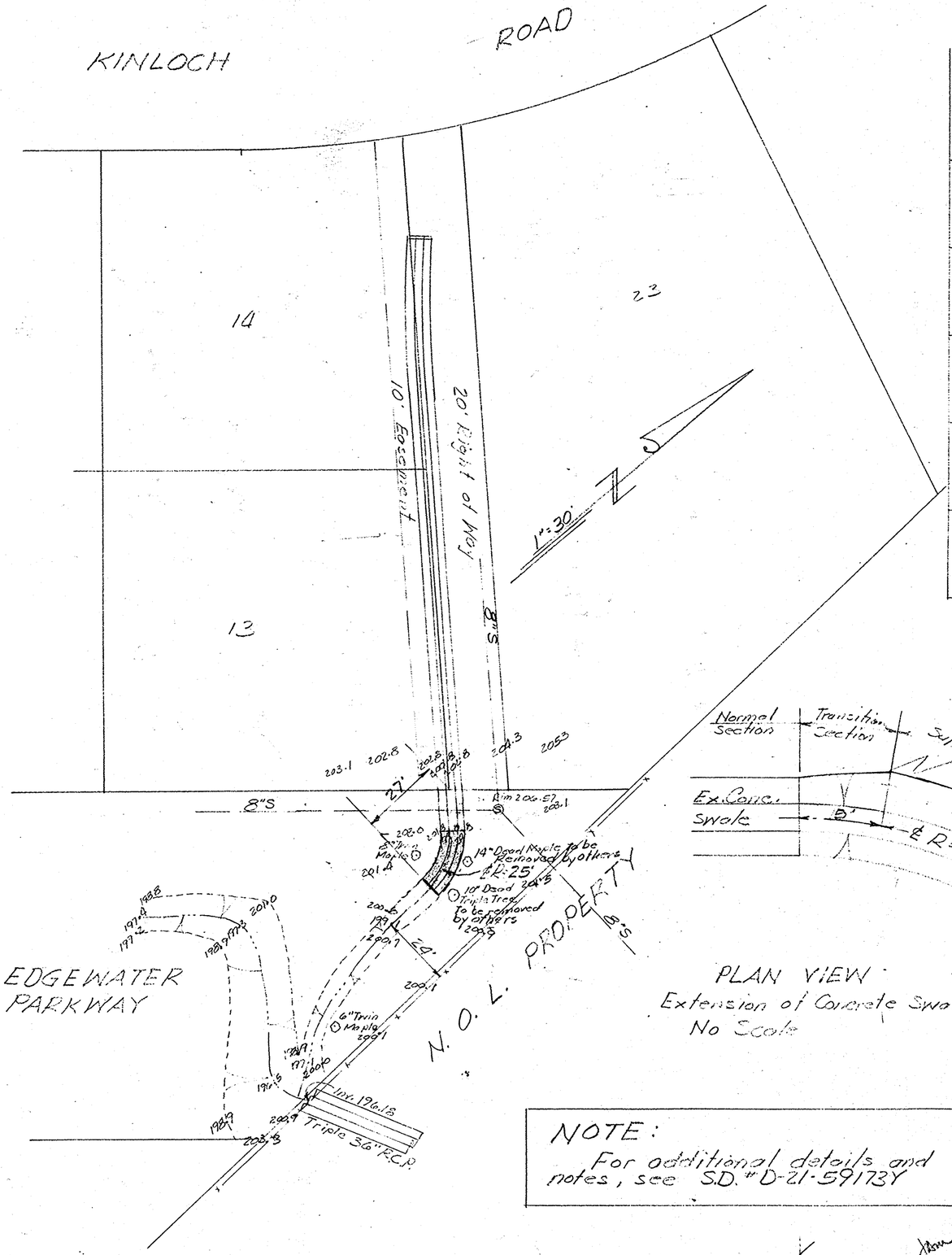
SEYBOLT & GEORGE, INC.
8404 RAMSEY AVE.
SILVER SPRING, MD.

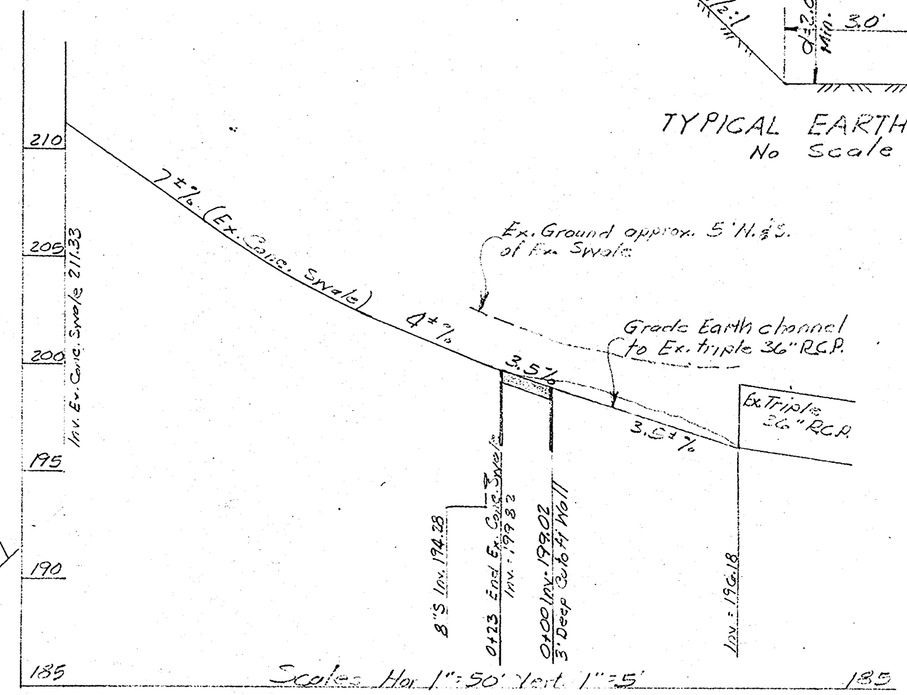
CE487-411-1

SEYBOLT & GEORGE, INC.
FILE NO. 116-314

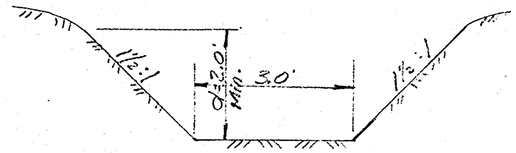
213 NE 2

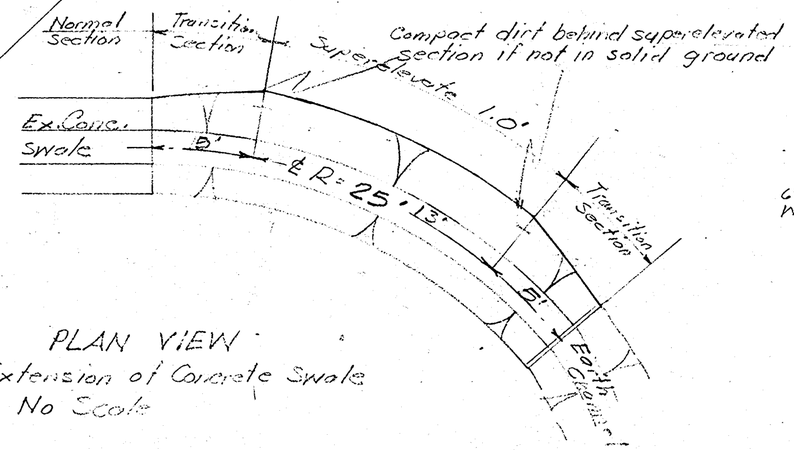
Maryland State Archives



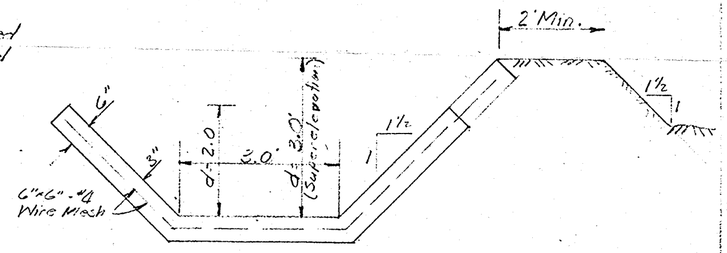


TYPICAL EARTH CHANNEL
No Scale





PLAN VIEW
Extension of Concrete Swale
No Scale



TYPICAL PAVED SWALE
W.S.S.C. Std. Conc. Paving - Class "A" Conc.
No Scale

NOTE:
For additional details and notes, see S.D. # D-21-59173Y

S.D. # D-21, 59173-Y

WASHINGTON SUBURBAN SANITARY COMMISSION
APPROVED Dec. 2, 1960
FOR CONSTRUCTION ONLY
Robert J. McLeod
CHIEF ENGINEER

EXTENSION CONCRETE SWALE
HILLANDALE

MONTGOMERY COUNTY, MD.
SCALE 1"=30' NOV. 3, 1960
See S.D. # D-21 59173-Y,

SEYBOLT, CORE & NEWQUIST, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8404 RAMSEY AVENUE
SILVER SPRING, MD.

SD FILE NO. 416

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