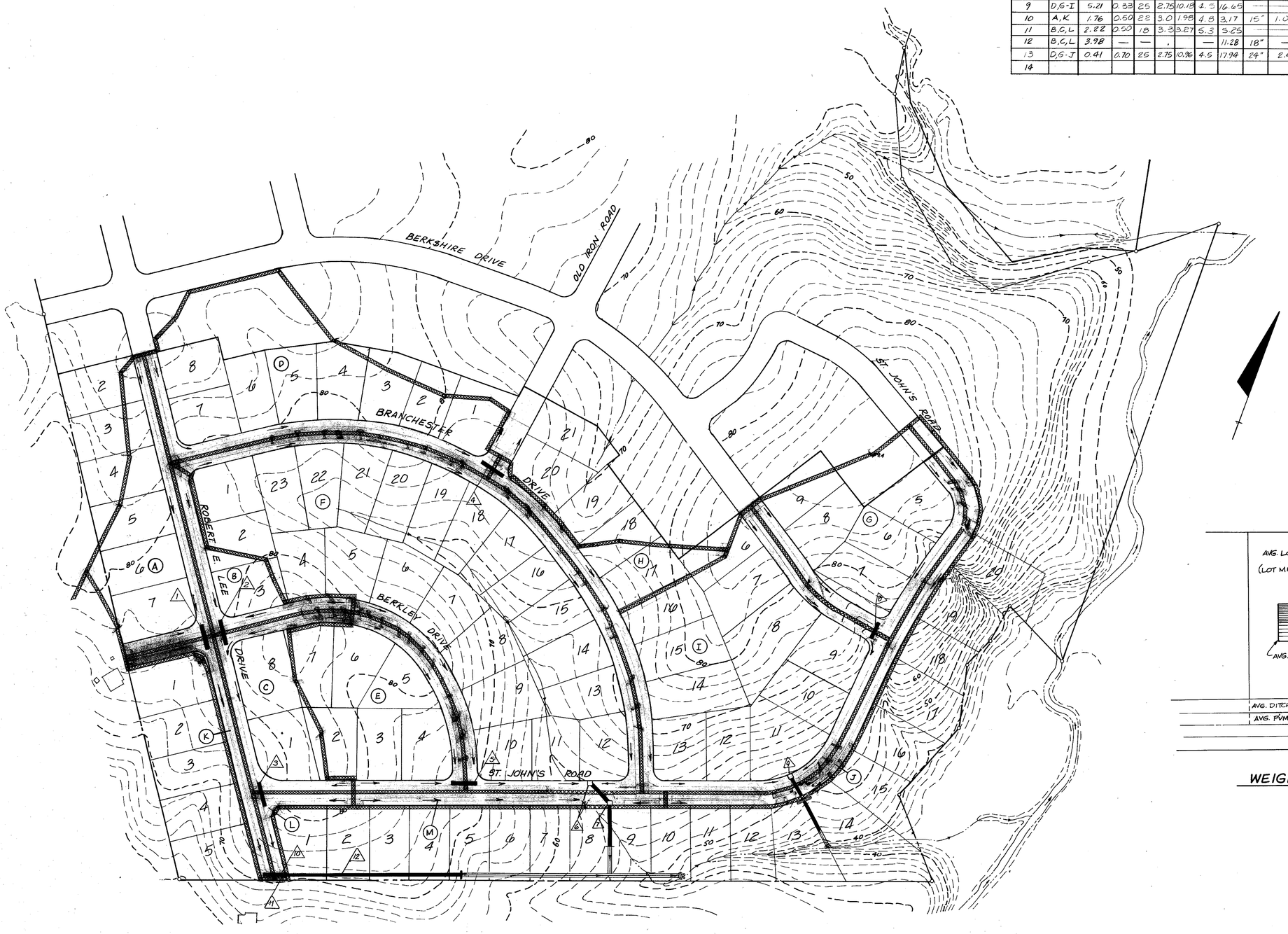
DRAINAGE CALCULATIONS

HYDROLOGY									CULVERTS											CHANNELS			REMARKS
									INLET		OUTLET								OUT				
STRUCT.	AREA	ACRES	"C"	Tc	I2	Q2	I10	Q10	SIZE	HW	Ke	Tw	$\frac{dc+D}{2}$	ho	H	LSo	HW	CONTROL HW	VEL	"N"	V2	DIO	
1	A	1.31	0.33	17	3.4	1.46	5.4	2.32	15"	0.86	0.2	–	0.92	0.92	0.4	0.45	0.87	0.87	6.4				
2	B	.70	0.33	14	3.7	0.85	5.8	1.33	15"	0.65	0.2	–	0.85	0.85	0.4	0.45	0.80	0.80	3.7				
3	B,C	2.04	0.38	16	3.5	3.15	5.5	4.95	15"	1.40	0.2	–	1.02	1.02	0.65	0.51	1.16	1.40	5.4				
4	D	3.60	0.33	20	3.2	3.81	4.3	5.12	15"	1.41	0.2	–	1.02	1.02	0.45	0.29	1.38	1.41	4.1				
5	E	2.19	0.33	12.5	3.4	2.45	5.4	3.89	15"	1.18	0.2	–	1.00	1.00	0.42	1.80	0	1.18	8.0				
6	E,F	15.39	0.37	19	3.3	2.44	5.2	19.6	—	—	—	STORM SEWER						—	—				
7	E,F,M	2.60	0.70	19	3.3	3.2	5.2	20.8	—	—	—	STORM SEWER						—	—				
8	G	5.99	0.33	17	3.4	2.92	5.4	4.64	15"	1.31	0.2	–	1.02	1.02	0.55		0	1.31	10.5				
9	D,G-I	5.21	0.33	25	2.75	10.18	4.5	16.65	—	—	—	STORM SEWER						—	—				
10	A,K	1.76	0.50	22	3.0	1.98	4.8	3.17	15"	1.04	0.2	–	1.00	1.00	0.40	1.62	0	1.04	8.3				
11	B,C,L	2.22	0.50	18	3.3	3.27	5.3	5.25	—	—	—	STORM SEWER						—	—				
12	B,C,L	3.98	—	—	.		—	11.28	18"	—								—	10.5				EW-1, EC-1A
13	D,G-J	0.41	0.70	25	2.75	10.96	4.5	17.94	24"	2.4	0.2	–	1.8	1.8	0.85	5.4	0	2.4'	17.0				
14																							



AVG. LOT AREA = 12,000 S.F.
(LOT MINUS HOUSE = 10,896 ϕ)

AVG. HOUSE AREA = 1104 S.F.

AVG. DITCH AREA = 1170 S.F.
AVG. PUMT. AREA = 1080 S.F.

∴ TOTAL AVG. AREA = 14,250 ϕ'

10,896 ϕ' x 0.2 = 2179.2
1,104 ϕ' x 0.9 = 993.6
1,170 ϕ' x 0.5 = 585.0
1,080 ϕ x 0.9 = 972.0
4729.8

C_W = 4729.8/14250 = 0.33

A = 1.31 ACS.
B = 0.70 ACS.
C = 1.34 ACS.
D = 3.60 ACS.
E = 2.19 ACS.
F = 7.99 ACS.
G = 2.60 ACS.
H = 1.61 ACS.
I = 3.39 ACS.
J = 0.41 ACS.
K = 0.45 ACS.
L = 0.18 ACS.
M = 0.33 ACS.

WEIGHTED "C" VALUE CALCULATION

COMMONWEALTH OF VIRGINIA
ROBERT L. LEGAT
CERTIFICATE No. 725
SEC 54-17(3)(b) 77
CERTIFIED LAND SURVEYOR

L-E
Legat, Elrod & Associates, Inc.
Consulting Engineers/Surveyors
Hopewell, Virginia

Date: 2 FEB. 1979
Scale: 1" = 100'
Drawn: BWM & DEH
Checked: MLE

Revisions

STRATFORD WOODS
SECTION 6
PRINCE GEORGE COUNTY, VIRGINIA

Proj. No. 7705-22

HYDRAULIC ANALYSIS

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