

SOIL TYPE: B FROM SEDGWICK COUNTY SOIL SURVEY

FOR 1200' YARDS:
C₂ = .52
C₁₀₀ = .67

FOR BAKE YARDS:
C₂ = .25
C₁₀₀ = .41

I_e

Area A

76' OVERLAND LAWN FLOW @ .28 ft/s → 4.52 min
300' SHALLOW GUTTER FLOW @ .77 ft/s → 6.49 min
512' FULL GUTTER FLOW @ 1.5 ft/s → 3.72 min
14.48 min
USE 15 min

Area B

62' OVERLAND LAWN FLOW @ .28 ft/s → 3.69 min
300' SHALLOW GUTTER FLOW @ .77 ft/s → 6.49 min
1038' FULL GUTTER FLOW @ 1.5 ft/s → 11.53 min
21.72 min
USE 21 min

Area C

300' OVERLAND LAWN FLOW @ .28 ft/s = 17.86 min
507' GRASSSED WATERWAY @ 1.12 ft/s = 7.54 min
25.40 min
USE 25 min

Area D

300' OVERLAND LAWN FLOW @ .28 ft/s = 17.86 min
110' GRASSSED WATERWAY @ 1.12 ft/s = 1.64 min
300' SHALLOW GUTTER FLOW @ .77 ft/s = 6.49 min
152' FULL GUTTER FLOW @ 1.5 ft/s = 1.47 min
27.46 min
USE 27 min

Area E T_c = 15 by inspection

Area F

76' OVERLAND LAWN FLOW @ .28 ft/s = 4.46 min
300' SHALLOW GUTTER FLOW @ .77 ft/s = 6.49 min
245' FULL GUTTER FLOW @ 1.5 ft/s = 3.72 min
13.67 min
USE 15 min

Area G

300' OVERLAND LAWN FLOW @ .28 ft/s = 17.86 min
140' GRASSSED WATERWAY @ 1.12 ft/s = 2.08 min
19.94 min
USE 19 min

Area H

300' OVERLAND LAWN FLOW @ .28 ft/s = 17.86 min
128' GRASSSED WATERWAY @ 1.12 ft/s = 1.90 min
19.76 min
USE 19 min

Area I

62' OVERLAND LAWN FLOW @ .28 ft/s = 3.69 min
300' SHALLOW GUTTER FLOW @ .77 ft/s = 6.49 min
200' FULL GUTTER FLOW @ 1.5 ft/s = 2.24 min
12.4 min
USE 15 min

INLET ROUTING

Area A Q₂ = 3.43 cfs Q₁₀₀ = 3.50 cfs

INLET ① L = 10' INLET SUMP @ 20 cfs

Area B Q₂ = 15.38 cfs Q₁₀₀ = 33.90

INLETS ② ③ ④
2 L = 10' INLETS @ 5 cfs ea. = 10 cfs

Area C Q₂ = 2.19 cfs Q₁₀₀ = 7.14 cfs

INLET ⑤ DROP INLET CAP = 13.49 cfs

Area D Q₂ = 8.00 cfs Q₁₀₀ = 20.60 cfs

INLET ⑥ L = 10' S = 35%
Q_A = 8.00 cfs Q_A = 20.60 cfs
Q_B = 2.00 cfs Q_B = 3.6 cfs
Q_C = 6.00 cfs Q_C = 17.00 cfs

Area E Q₂ = 1.05 cfs Q₁₀₀ = 3.32 cfs

INLET ⑦ L = 10' S = 35%
Q_A = 7.05 cfs Q_A = 44.28 cfs
Q_B = 1.82 cfs Q_B = 5.02 cfs
Q_C = 5.23 cfs Q_C = 31.20 cfs

Area F Q₂ = 1.81 cfs Q₁₀₀ = 5.71

INLET ⑧ L = 5' INLET @ 13 cfs = 13 cfs

Area G Q₂ = 2.90 cfs Q₁₀₀ = 7.29 cfs

INLET ⑨ DROP INLET CAP = 13.5 cfs

Area H Q₂ = 2.86 cfs Q₁₀₀ = 7.21 cfs

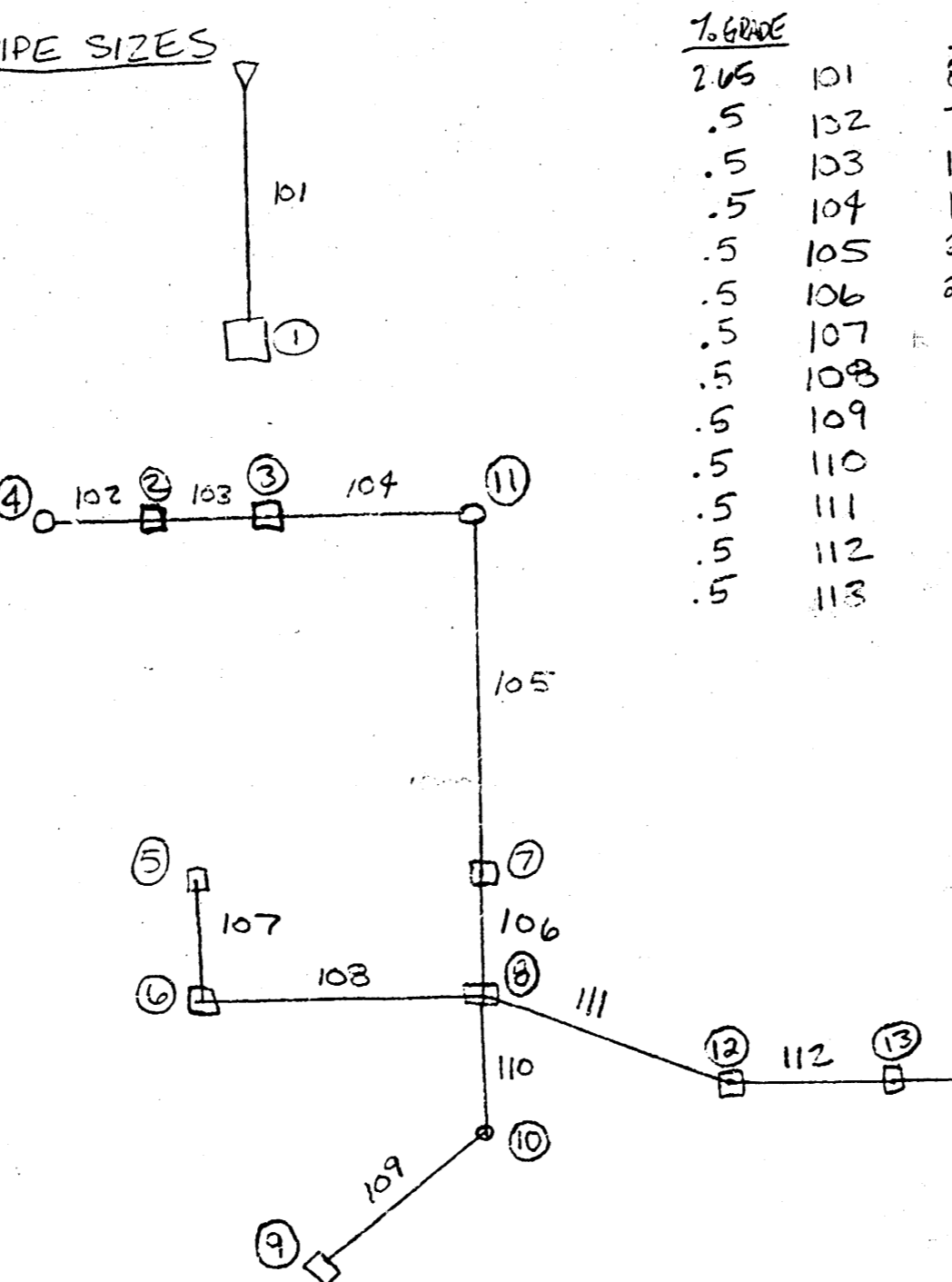
INLET ⑩ DROP INLET CAP = 13.5 cfs = 13.5 cfs

Area I Q₂ = 5.97 cfs Q₁₀₀ = 14.79 cfs

INLET ⑪ ⑫ ⑬ 2 L = 10' INLET @ 12 cfs ea. = 24 cfs
Q₁ = 11.20 cfs Q₂ = 24 cfs Q₁₀₀ (EAST) = 30.05 cfs

PIPE SIZES

LENGTH	Q	SIZE
245	101	8.5 cfs 15"
.5	102	7.10 cfs 18"
.5	103	12.10 cfs 24"
.5	104	17.10 cfs 30"
.5	105	24.37 cfs 30"
.5	106	26.88 cfs 30"
.5	107	1.3 cfs 15"
.5	108	3.0 cfs 15"
.5	109	5.71 cfs 18"
.5	110	13.00 cfs 24"
.5	111	45.99 cfs 36"
.5	112	57.91 cfs 42"
.5	113	67.99 cfs 42"



Sheet

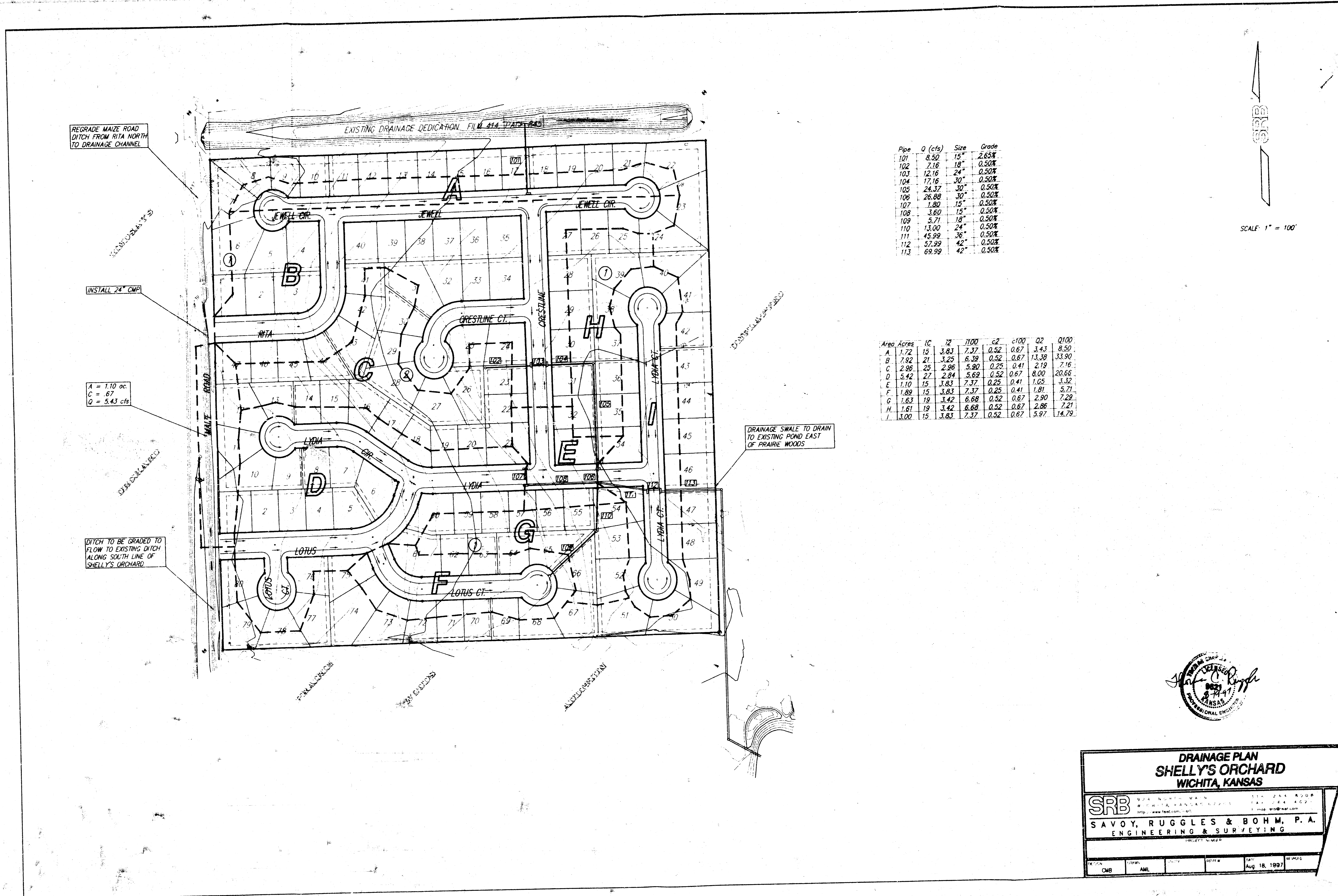
SHELLY'S ORCHARD 8/17/97
SOIL TYPE: B

2-year Design Storm

Area (ac)	T _c	i	c	Q
A	1.720421	15	3.83	3.43
B	7.918596	21	3.25	13.38
C	2.957866	25	2.96	2.19
D	5.419037	27	2.84	8.00
E	1.097773	15	3.83	1.05
F	1.889933	15	3.83	1.81
G	1.627943	19	3.42	2.86
H	1.610331	19	3.42	2.86
I	2.995718	15	3.83	5.97

100-year Design Storm

Area (ac)	T _c	i	c	Q
A	1.720421	15	7.37	8.50
B	7.918596	21	6.39	33.90
C	2.957866	25	5.90	7.16
D	5.419037	27	5.69	20.66
E	1.097773	15	7.37	3.32
F	1.889933	15	7.37	5.71
G	1.627943	19	6.68	7.29
H	1.610331	19	6.68	7.21
I	2.995718	15	7.37	14.79

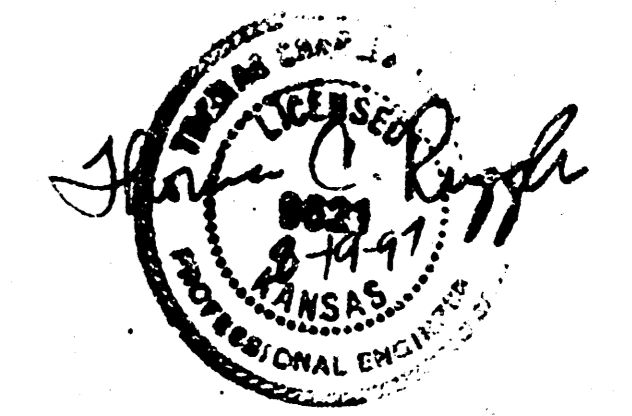


Pipe	Q (cfs)	Size	Grade
101	8.50	15"	2.65%
102	7.16	18"	0.50%
103	12.16	24"	0.50%
104	17.16	30"	0.50%
105	24.37	30"	0.50%
106	26.68	30"	0.50%
107	1.80	15"	0.50%
108	3.60	15"	0.50%
109	5.71	18"	0.50%
110	13.00	24"	0.50%
111	45.99	36"	0.50%
112	57.99	42"	0.50%
113	69.99	42"	0.50%

Area	Acres	10	12	1100	c2	c100	Q2	Q100
A	1.72	15	3.83	7.37	0.52	0.67	3.43	8.50
B	7.92	21	3.29	6.39	0.52	0.67	13.38	33.90
C	2.96	25	2.96	5.90	0.25	0.41	2.19	7.16
D	5.42	27	2.84	5.69	0.52	0.67	8.00	20.66
E	1.10	15	3.83	7.37	0.25	0.41	1.05	3.32
F	1.89	15	3.83	7.37	0.25	0.41	1.91	5.71
G	1.63	19	3.42	6.68	0.52	0.67	2.90	7.29
H	1.61	19	3.42	6.68	0.52	0.67	2.86	7.21
I	3.00	15	3.83	7.37	0.52	0.67	5.97	14.79

SRB

SCALE: 1" = 100'

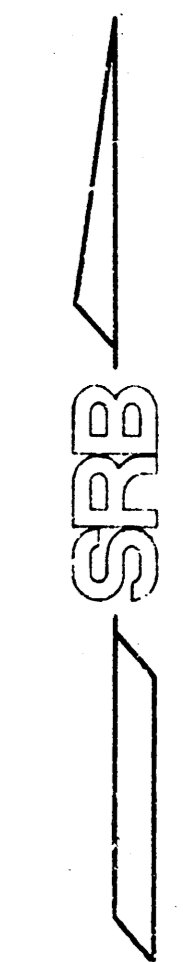
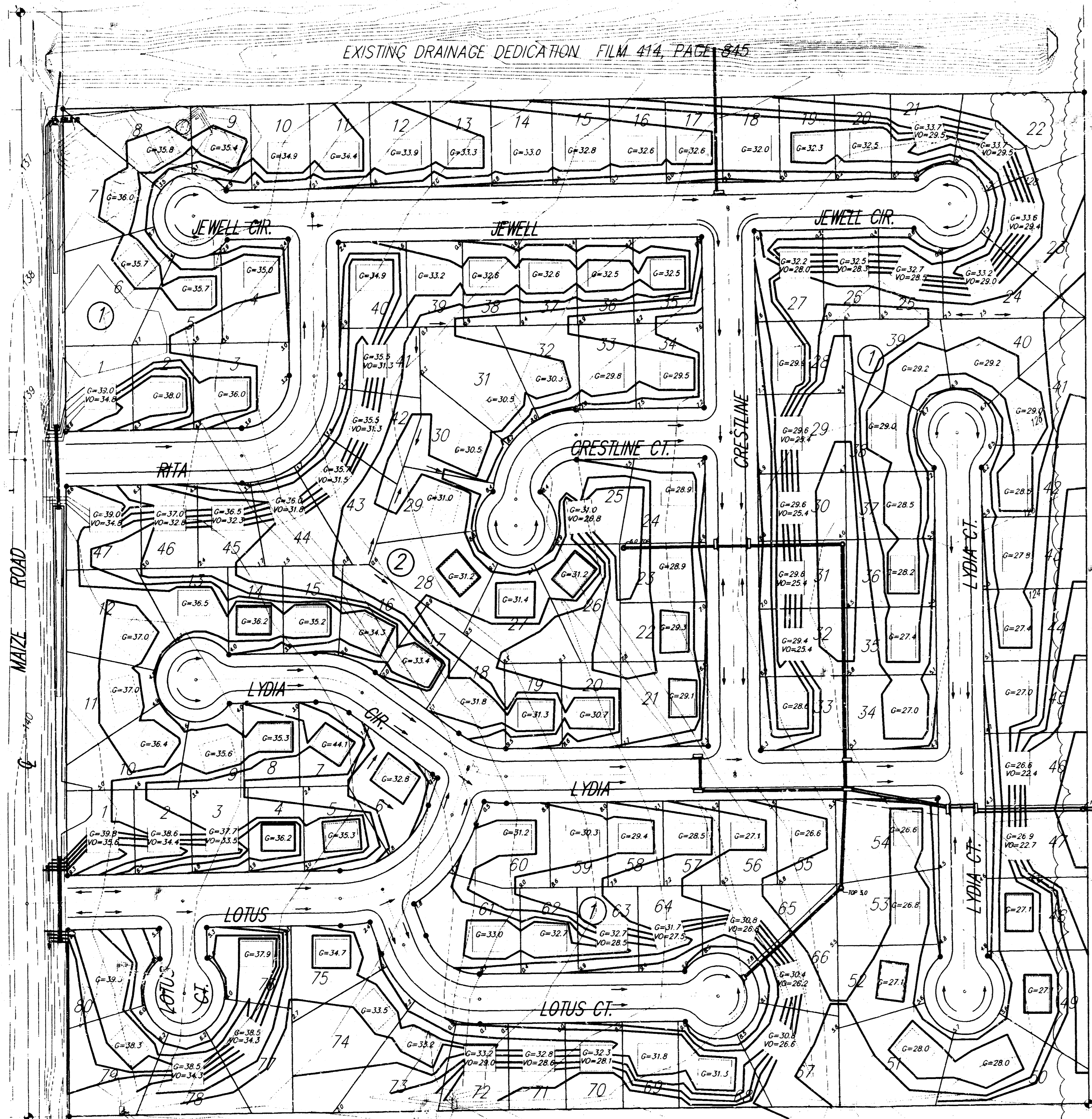


DRAINAGE PLAN
SHELLY'S ORCHARD
WICHITA, KANSAS

SRB SAVOY, RUGGLES & BOHM, P.A.
ENGINEERING & SURVEYING

DATE: Aug 18, 1997

EXISTING DRAINAGE DEDICATION. FILM 414, PAGE 845



SCALE: 1" = 80'

APPROVED
 ENGINEER

LOT GRADING PLAN SHELLY'S ORCHARD WICHITA, KANSAS				
SRB	924 NORTH MAIN	316-264-8008		
	WICHITA, KANSAS 67203	FAX 264-4621		
SAVOY, RUGGLES & BOHM, P.A.		ENGINEERING & SURVEYING		
PROJECT NUMBER				
DESIGN	DRAWN	UTILITY	REVIEW	DATE
CMB	AML			Jan. 13, 1998
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