

PREDEVELOPED FLOWS: $I_{100} = 3.83$ $I_{100} = 7.37$

N.W. Corner: D.A. = 54.1 acres
 $C = 0.38$
 $Q_2 = 78.7$ cfs
 $Q_{100} = 151.5$ cfs

S.W. Corner: D.A. = 54.6 acres
 $C = 0.38$
 $Q_2 = 79.5$ cfs
 $Q_{100} = 153.0$ cfs

N.E. Corner: D.A. = 24.8 acres
 $C = 0.38$
 $Q_2 = 36.1$ cfs
 $Q_{100} = 69.4$ cfs

S.E. Corner: D.A. = 20.0 acres
 $C = 0.38$
 $Q_2 = 29.1$ cfs
 $Q_{100} = 56.0$ cfs

Notes:

Pre-developed Q_{100} for N.W. Corner draining through RR tracks is 151.5 cfs and post-developed $Q = 160.0$ cfs. Due to the size of the drainage basin becoming smaller through street drainage to the East, the pre- and post-developed flows are approximately the same.

Drainage to the North shall be controlled by the amount of flow that can pass in the drainage ditch in the 30' Drainage Basement to the North of the property.

Drainage along Lark Lane shall be in an enclosed system installed with the street fixture to service Lark Ln. and Lark 2nd Addition along with the Exception in the North east corner of the preliminary plat.

Flow	Area (sq. ft.)	Area (acres)
130	40374	18179 = 58.553
131	43690	20927 = 64.677
132	47142	23997 = 71.139
133	50733	27198 = 77.931
134	54472	30606 = 85.078
135	58386	34272 = 92.660
136	101055	
137	109712	
138	118471	
139	127332	
140	148339	
141	163789	
142	183749	

Spillway @ 141.5

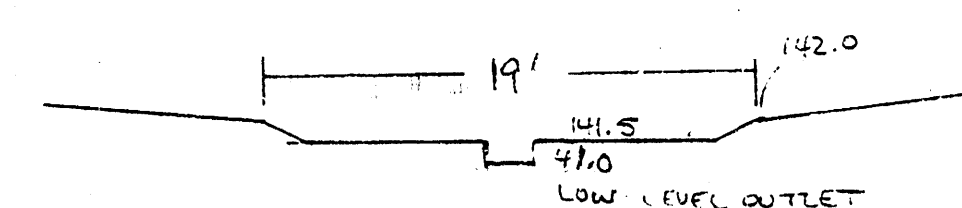
$Q_{100} = 140$ cfs

$Q_{100} = 60$ cfs

RR Box - 6x2'
 Rock Bottom: JDS $n = 0.023$
 Slope = 0.5%

7.4 ac ft = $\frac{322,344 \text{ cu ft}}{160,000 \text{ cu ft}} = 2.0 \text{ ft. rise}$

STATIC POOL @ 140.0
 WEIR ELEV. = 141.5
 MAX. STORAGE = 7.4 ac ft.
 WEIR: 15' BOTTOM
 4:1 SIDESLOPES
 BOTTOM SLOPE OF 1.5%



Project: LARK ADDITION State: KS
 County: SEDGWICK Checked: JDS Date: 09-14-94
 Subtitle: DETENTION POND DESIGN

Drainage Area: 55 Acres Rainfall Frequency: 100 years
 Rainfall-Type II
 24-Hour Rainfall: 7.37 inches Runoff Curve Number: 82
 Peak Inflow: 140 cfs
 Peak Outflow: 60 cfs
 Runoff Volume: 5.3 inches
 Detention Basin Storage Volume: 1.62 inches or 7.4 acre feet

Trapezoidal Channel Analysis & Design
 Open Channel - Uniform flow

Worksheet Name:

Comment: WEIR FOR LARK DETENTION POND

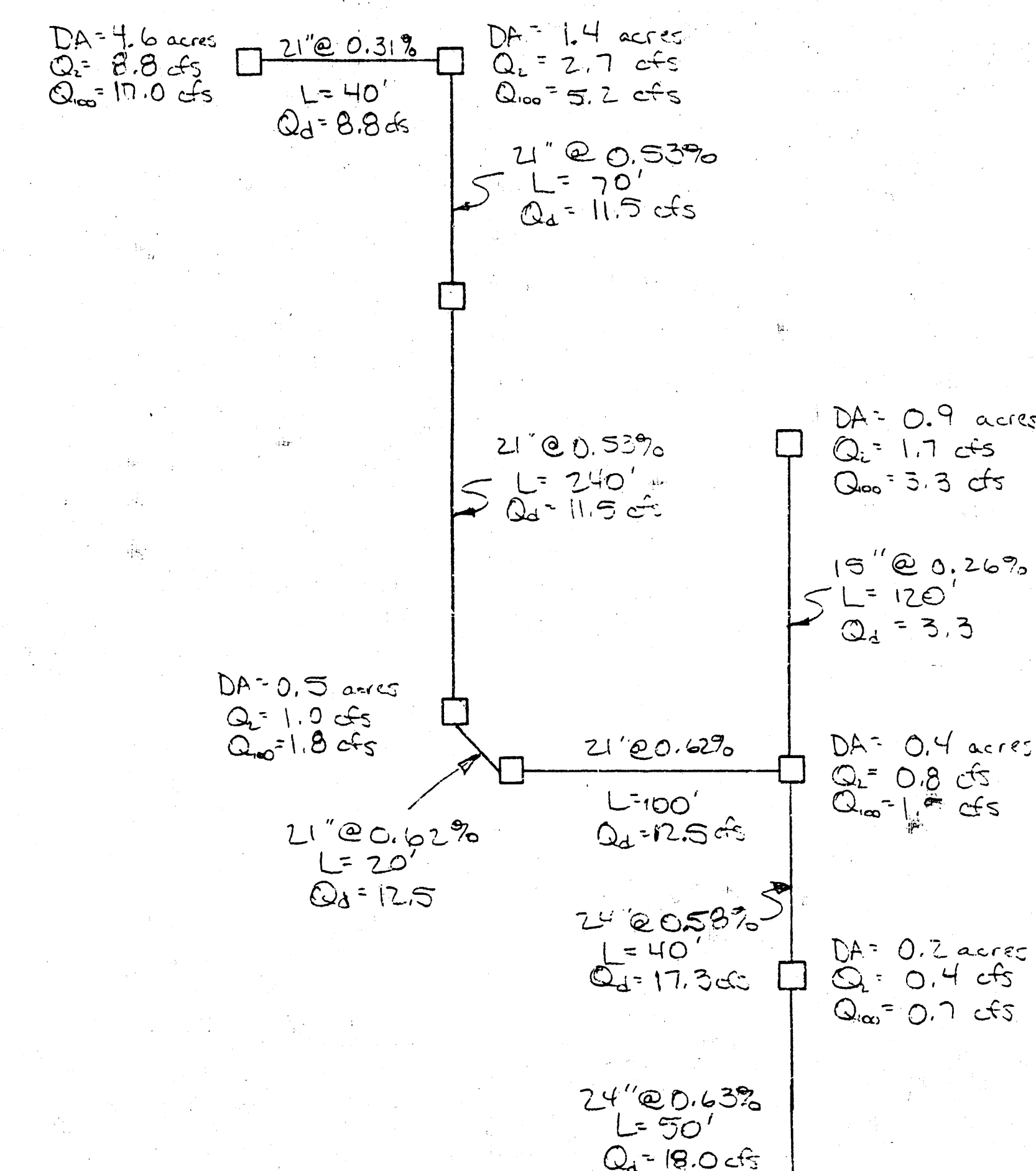
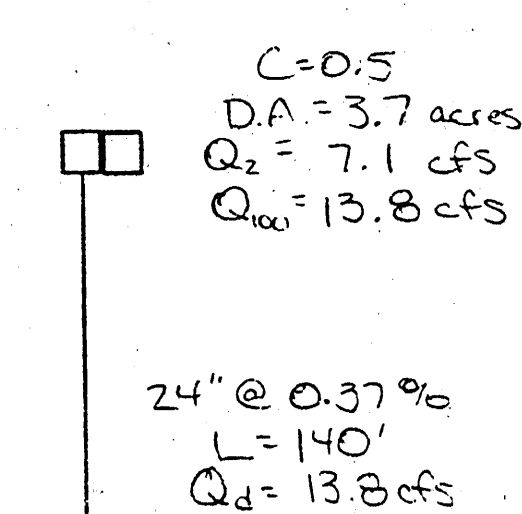
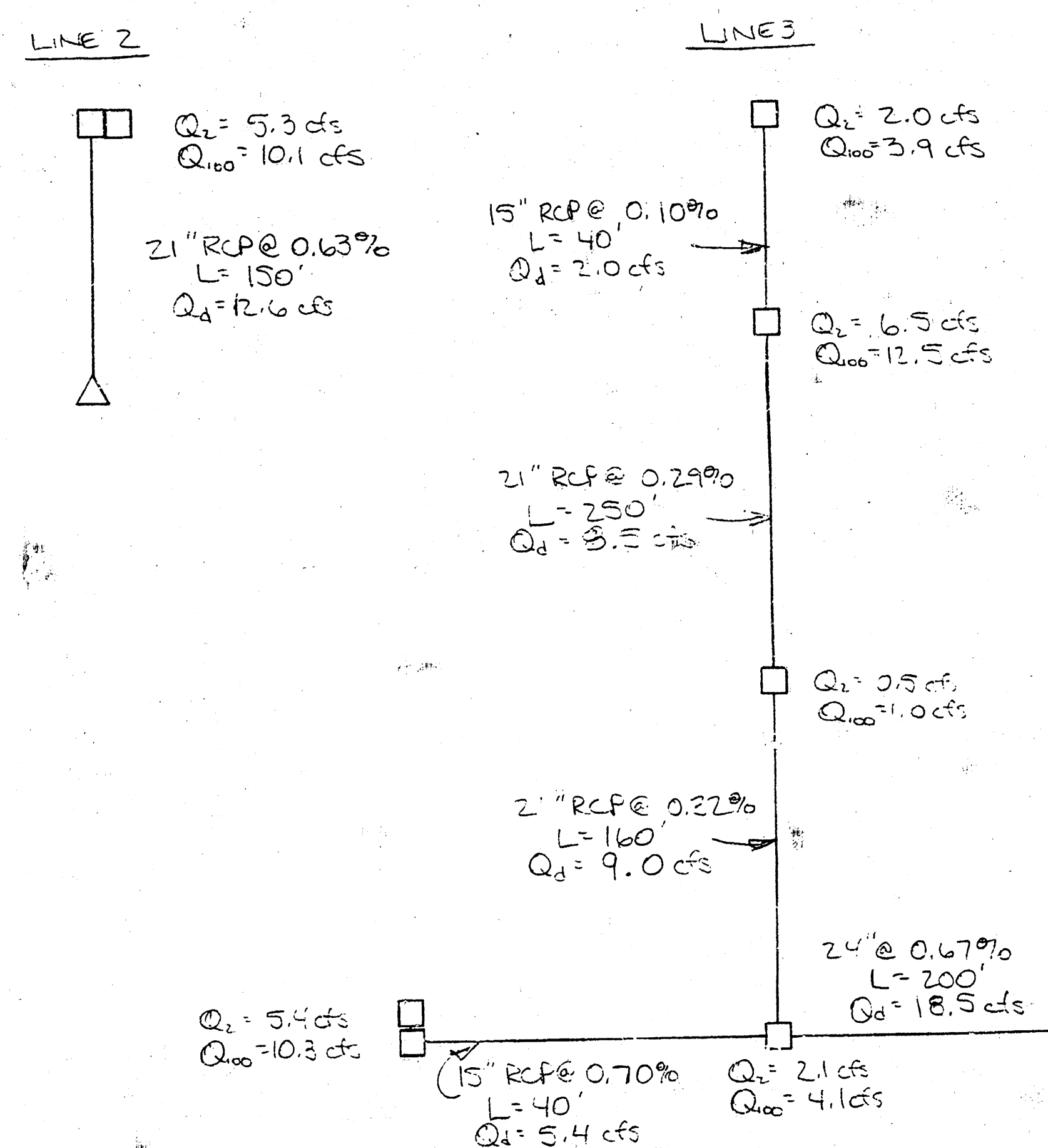
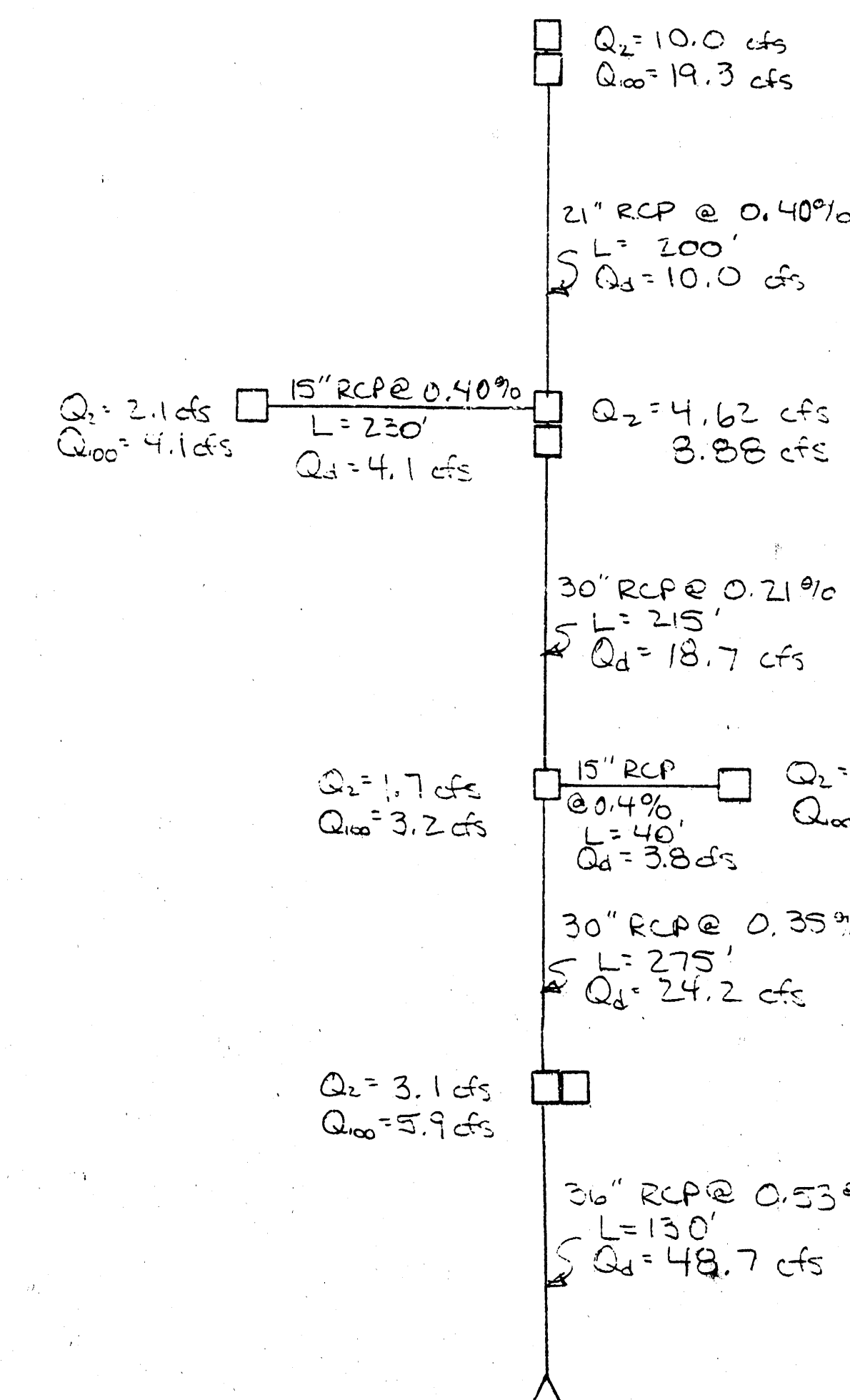
Solve For Channel Slope

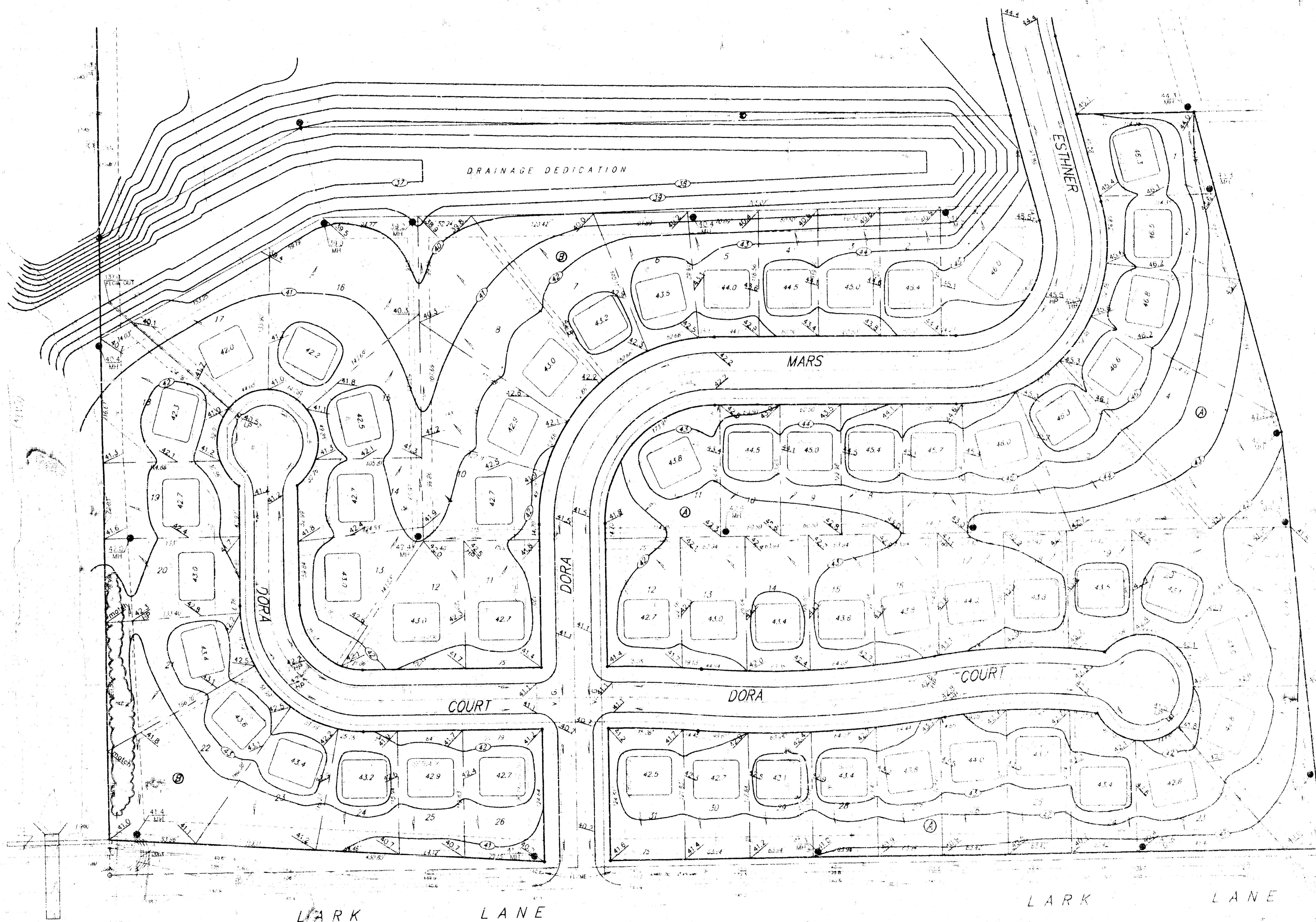
Given Input Data:

Bottom Width: 15.00 ft
 Left Side Slope: 4.00:1 (H:V)
 Right Side Slope: 4.00:1 (H:V)
 Manning's n: 0.015
 Depth: 0.50 ft
 Discharge: 60.00 cfs

Computed Results:

Channel Slope: 0.0150 ft/ft
 Velocity: 7.06 fps
 Flow Area: 8.50 sf
 Flow Top Width: 19.00 ft
 Wetted Perimeter: 19.12 ft
 Critical Depth: 0.74 ft
 Critical Slope: 0.0039 ft/ft
 Froude Number: 1.96 (flow is supercritical)



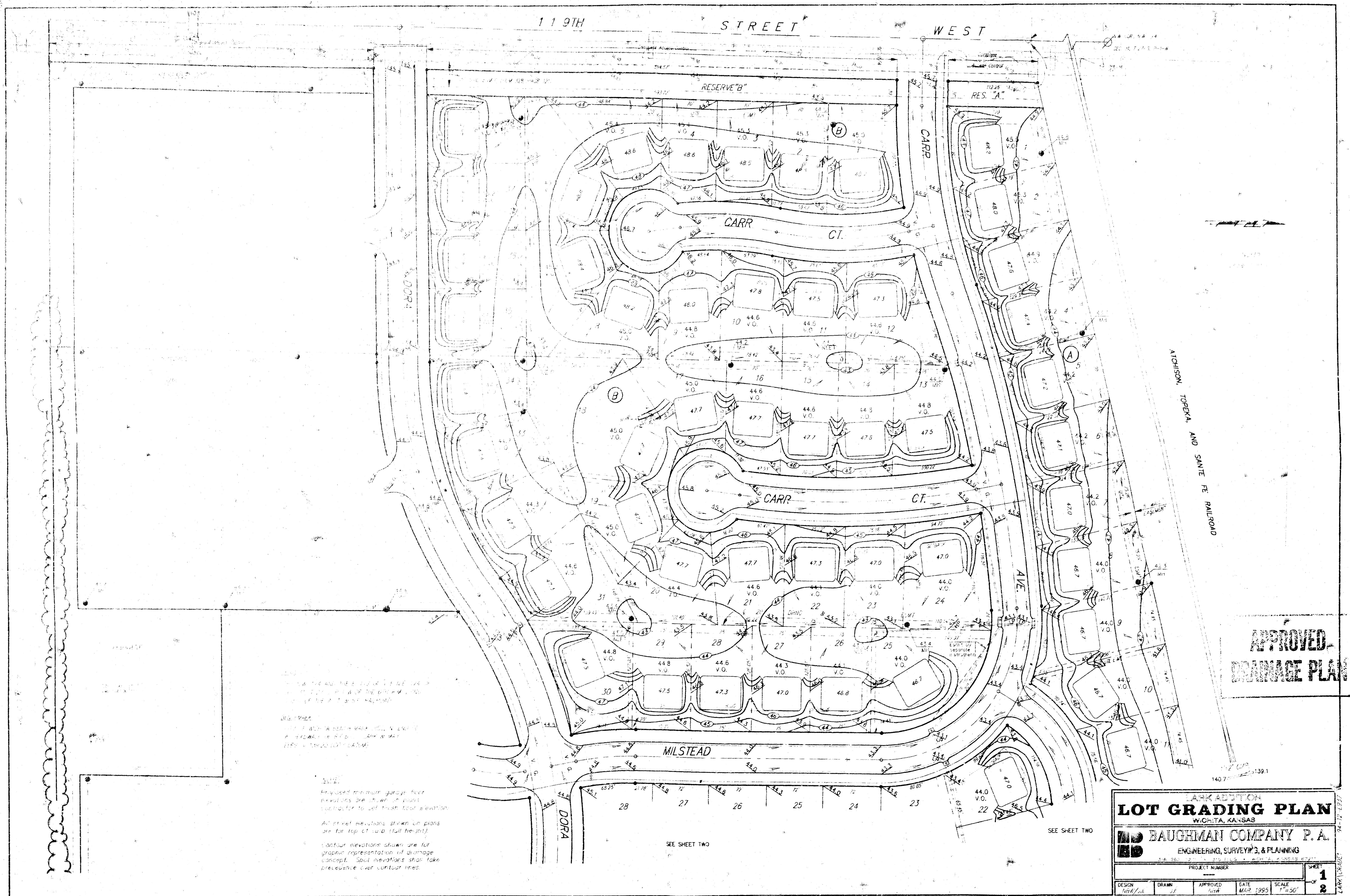


APPROVED
DRAINAGE PLAN

LOT GRADING PLAN

BAUTZMAN COMPANY, P.A.
SURVEYING & PLANNING

DATE	BY	CHECKED	APPROVED



1. ALL ELEVATIONS ARE IN FEET AND DECIMALS THEREOF.
2. ELEVATIONS ARE SHOWN AT THE CORNERS OF THE LOTS AND AT THE INTERSECTIONS OF THE LOTS WITH THE STREETS AND ALLEYS.
3. ELEVATIONS ARE SHOWN AT THE CENTERS OF THE LOTS AND AT THE INTERSECTIONS OF THE LOTS WITH THE STREETS AND ALLEYS.
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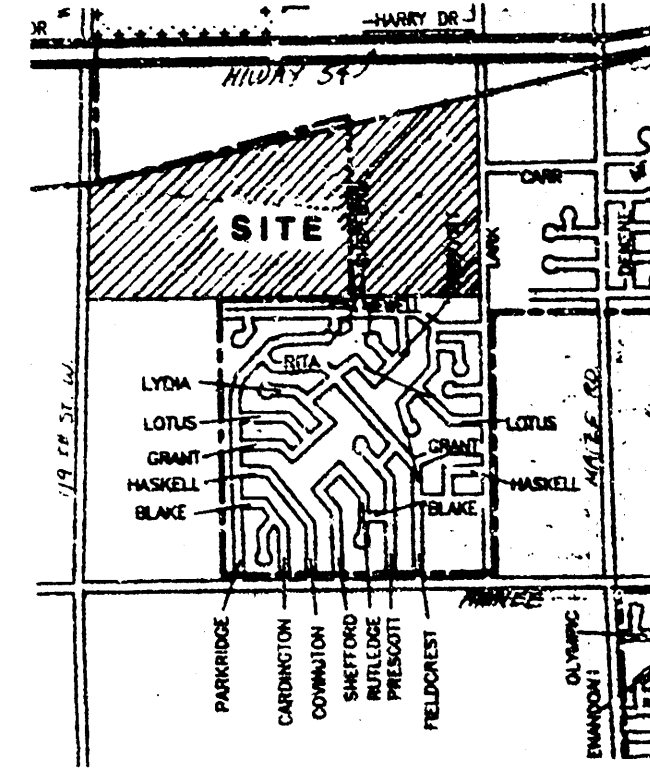
LOT GRADING PLAN				
WICHITA, KANSAS				
BAUGHMAN COMPANY P.A.				
ENGINEERING, SURVEYING, & PLANNING				
PROJECT NUMBER				
DESIGN	DRAWN	APPROVED	DATE	SCALE
			1995	1"=30'



DRAINAGE PLAN

**PRELIMINARY PLAT
LARK ADDITION
WICHITA, SEDGWICK COUNTY, KANSAS**

U. S. H W Y 5 4



VICINITY MAP

