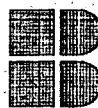


DRAINAGE PLAN
Hidden Glen
AN ADDITION TO WICHITA,
SEDGWICK COUNTY, KANSAS

Prepared By



BAUGHMAN COMPANY, P.A.

ENGINEERING, SURVEYING & PLANNING

316/262-7271 FAX 316/262-0149 WICHITA, KANSAS 67211

July 17, 2003

DRAINAGE PLAN
Hidden Glen
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NARRATIVE

This report provides information and supporting documentation to support the "Drainage Plan" for the property located in the Southeast Quarter of Section 16, T-28-S, R-1-E in Sedgwick County, Kansas.

The "Drainage Plan" being submitted herein is intended to serve as a guide for the design of streets and storm water sewer improvements to the proposed development. Modifications to structures, pipes, etc. may be made as necessary during the final design in order to obtain the most economical design and construction possible.

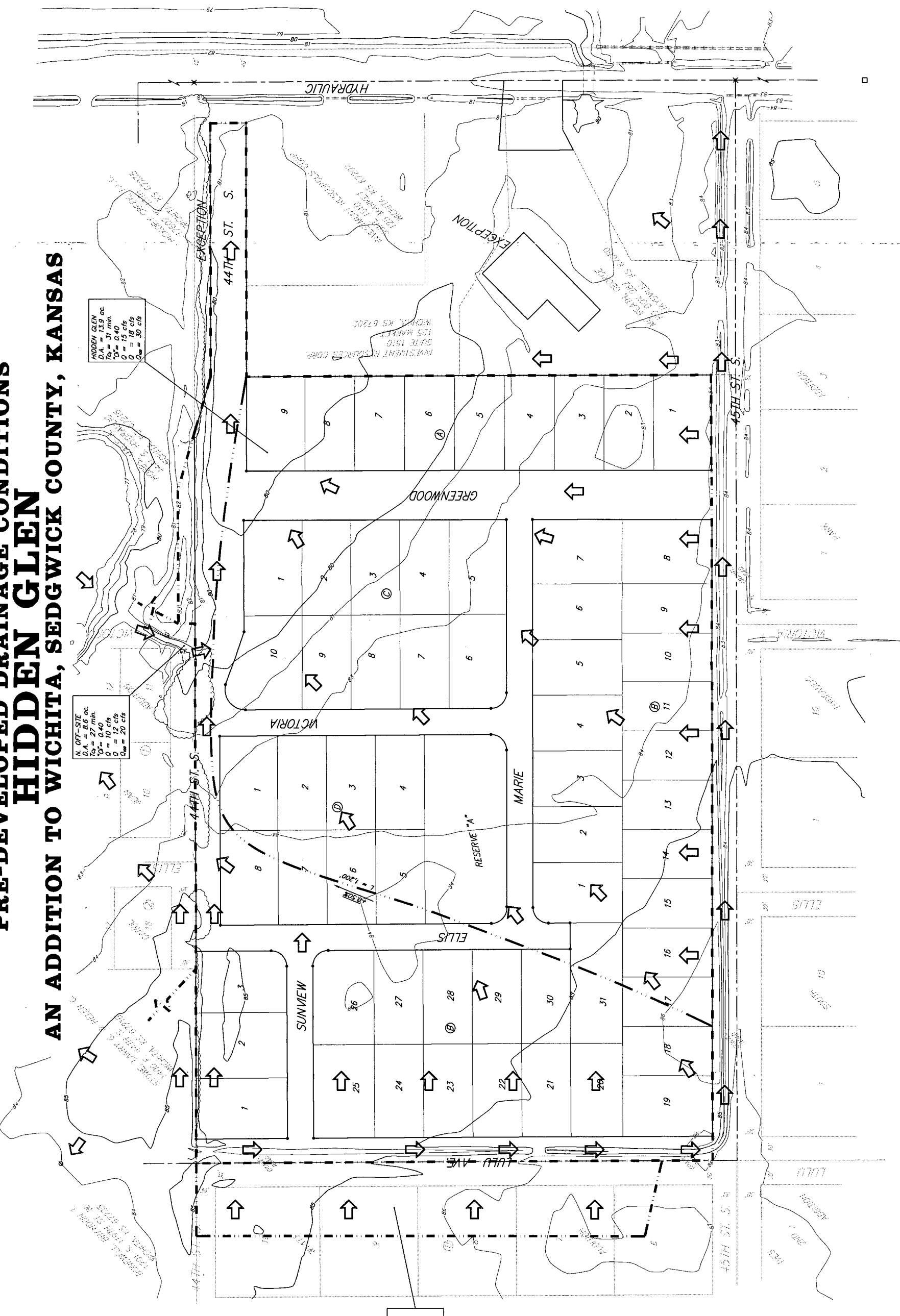
Storm water sewer systems within this proposed development have been designed to convey the 2-yr rainfall event. Calculations have also been performed to check the design during the 100-yr event. A sub-division grading plan has been prepared in conjunction with the storm water sewer design. This grading plan allows for emergency outflow points during major rainfall events.

A detention facility has been provided off-site to restrict discharge of the development.

SITE AERIAL MAP

**PRE-DEVELOPED DRAINAGE CONDITIONS
HIDDEN GLEN
AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS**

1" = 120'

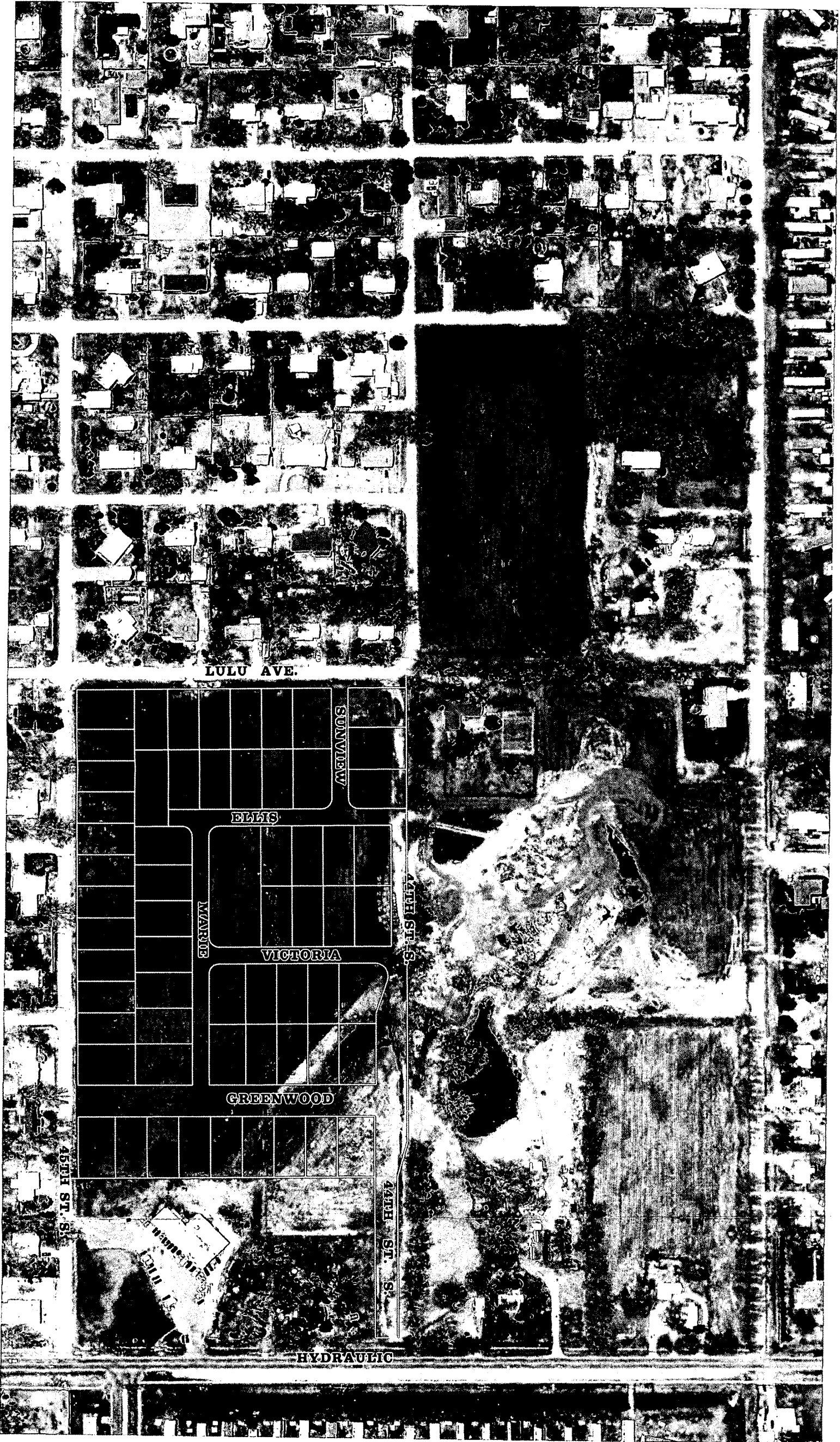


K. OFF-SITE
D.A. = 15.9 ac.
S = 0.40
G = 18.6 cfs
Q_{max} = 30 cfs

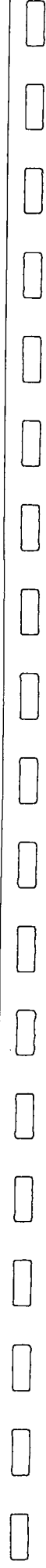
K. OFF-SITE
D.A. = 27.0 ac.
S = 0.40
G = 12.0 cfs
Q_{max} = 20 cfs

C. OFF-SITE
D.A. = 1.2 ac.
S = 0.40
G = 2.8 cfs
Q_{max} = 4.6 cfs

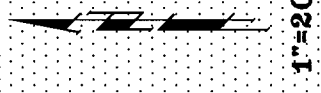
**HIDDEN GLEN
WICHITA, SEDGWICK COUNTY, KANSAS**



BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING & PLANNING
3142 WEST 22ND ST. - WICHITA, KANSAS 67211

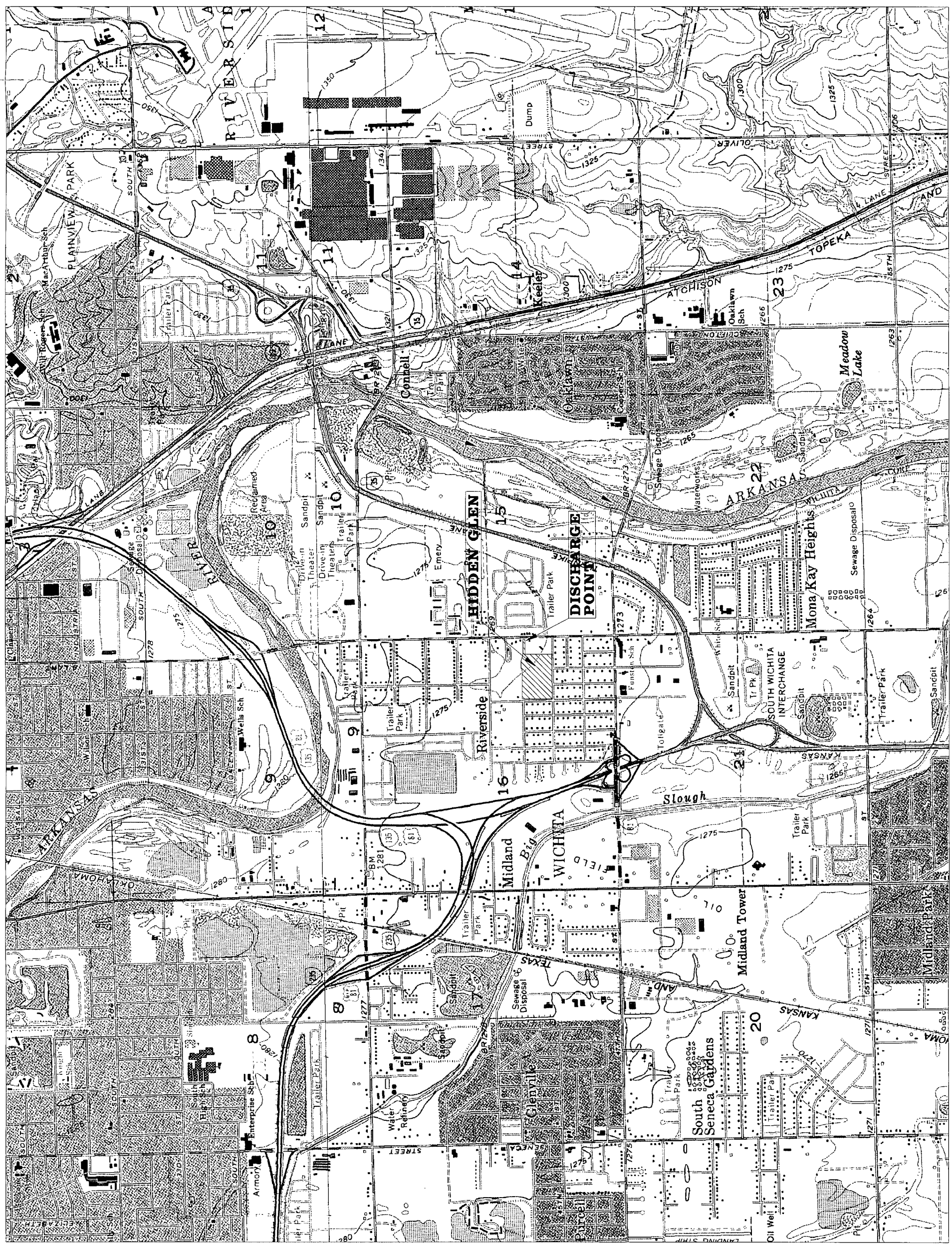


USGS QUADRANGLE MAP



HIDDEN GLEN

LOCATION:
WICHITA, SEDGWICK COUNTY, KANSAS



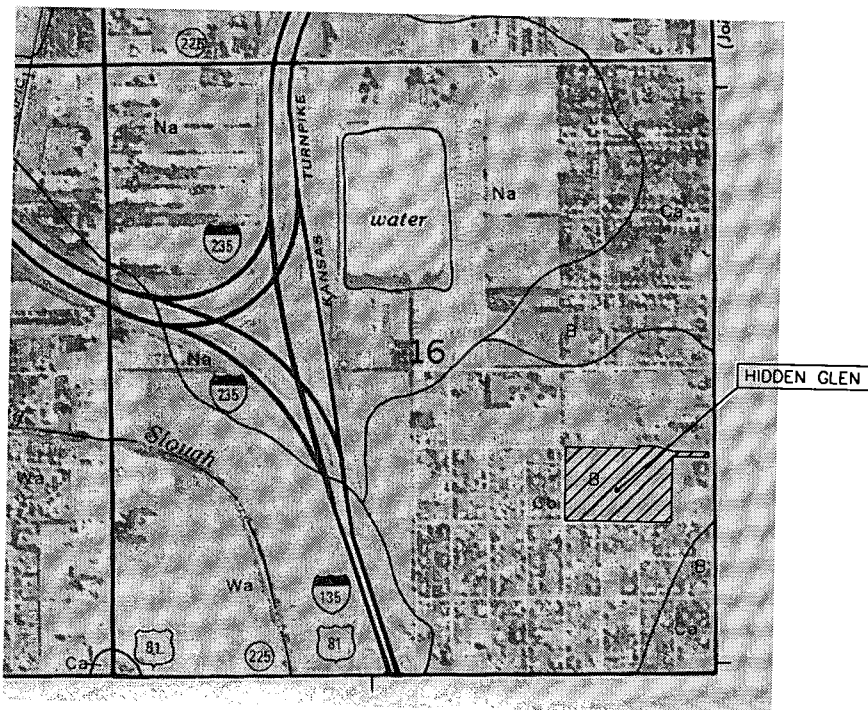
EAST WICHITA & BAYNEVILLE QUADRANGLES

SCS AERIAL PHOTOGRAPH

SEDGWICK COUNTY SOIL SURVEY FOR HIDDEN GLEN

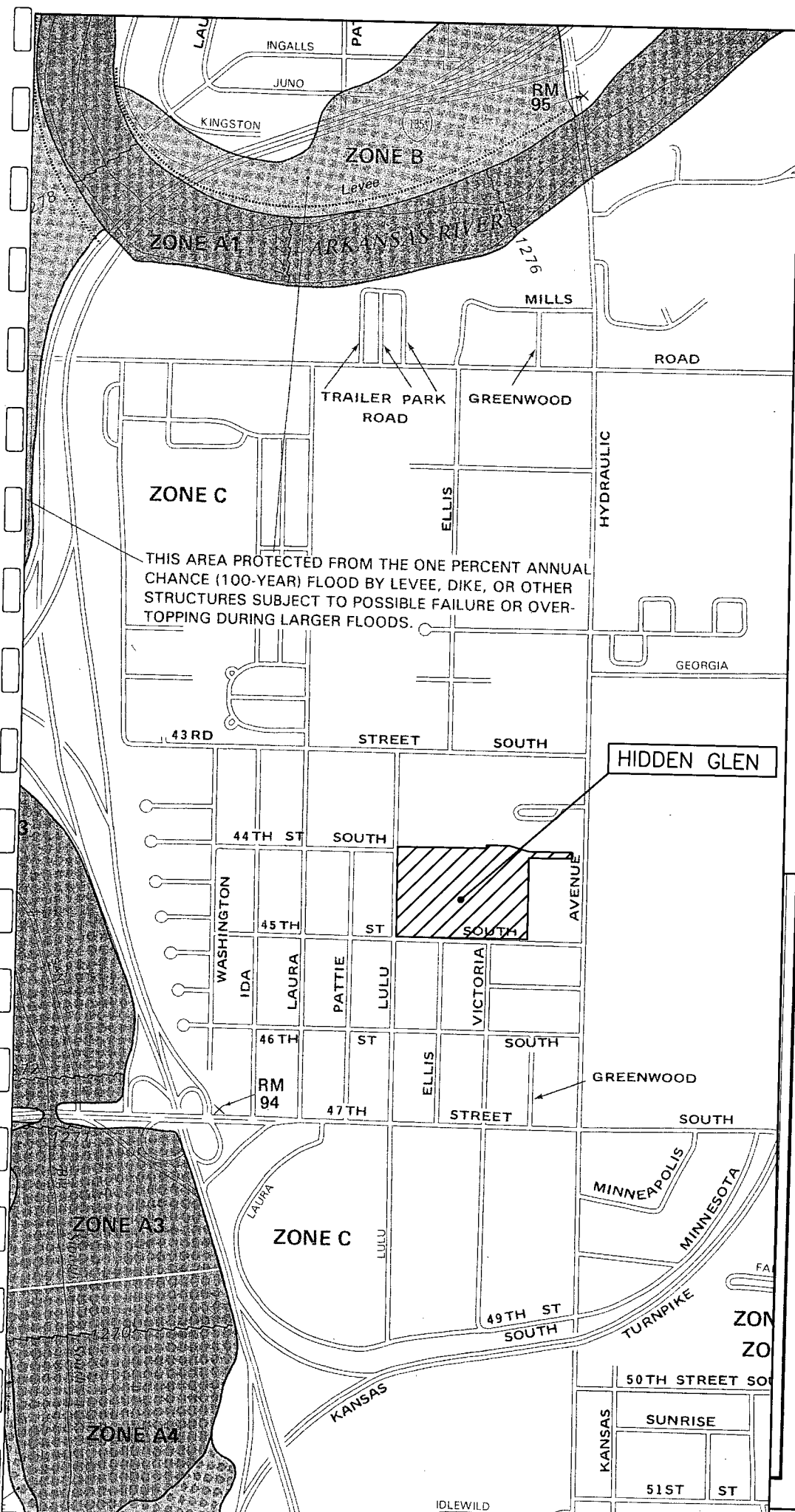


Scale - 1:20000



Cb : Canadian - Waldeck Fine Sandy Loam - Hydrologic Group B (1000% of Drainage Basin)

F.E.M.A. LOCATION MAP



THIS AREA PROTECTED FROM THE ONE PERCENT ANNUAL CHANCE (100-YEAR) FLOOD BY LEVEE, DIKE, OR OTHER STRUCTURES SUBJECT TO POSSIBLE FAILURE OR OVERTOPPING DURING LARGER FLOODS.

HIDDEN GLEN

NATIONAL FLOOD INSURANCE PROGRAM


FIRM
FLOOD INSURANCE RATE MAP

CITY OF WICHITA,
KANSAS
SEDGWICK COUNTY

PANEL 35 OF 40
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
200328 0035 B

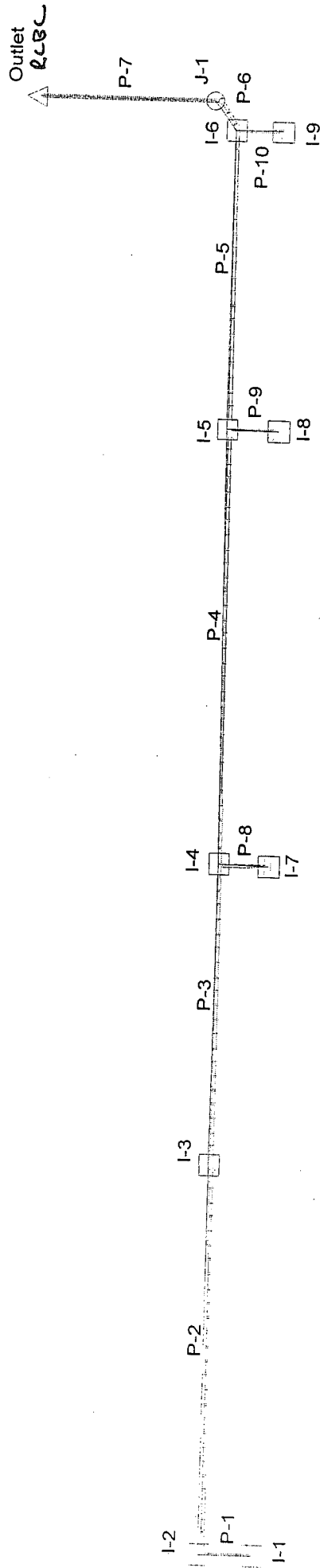
EFFECTIVE DATE:
MAY 15, 1986

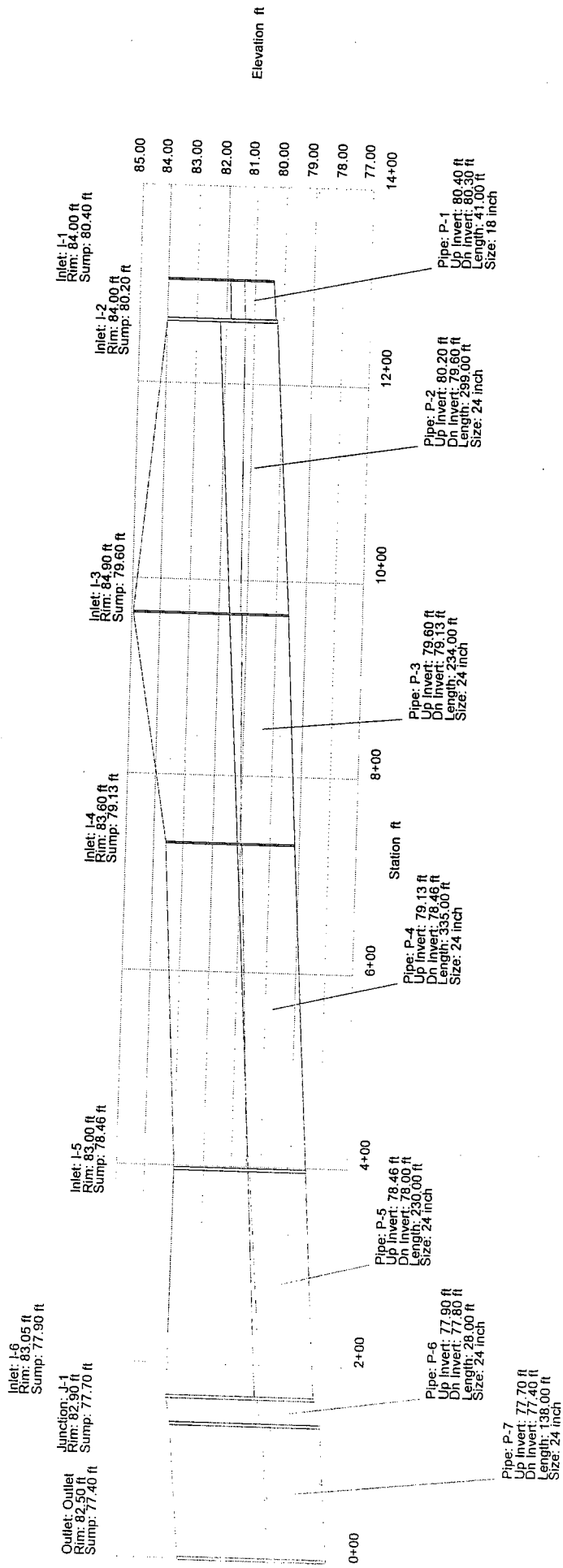


Federal Emergency Management Agency

StormCad Hydraulic Calculations

SWS LINE #1

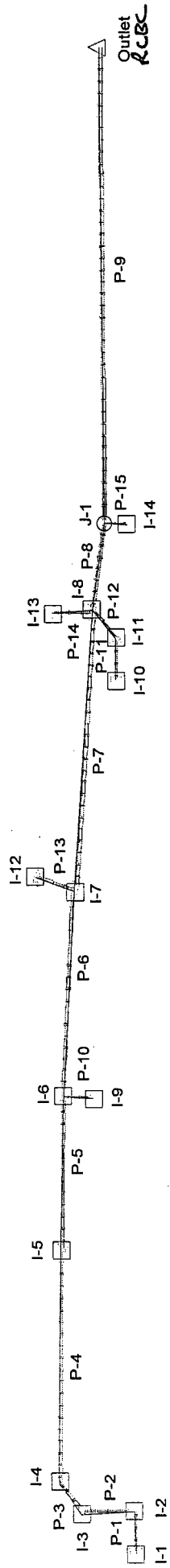


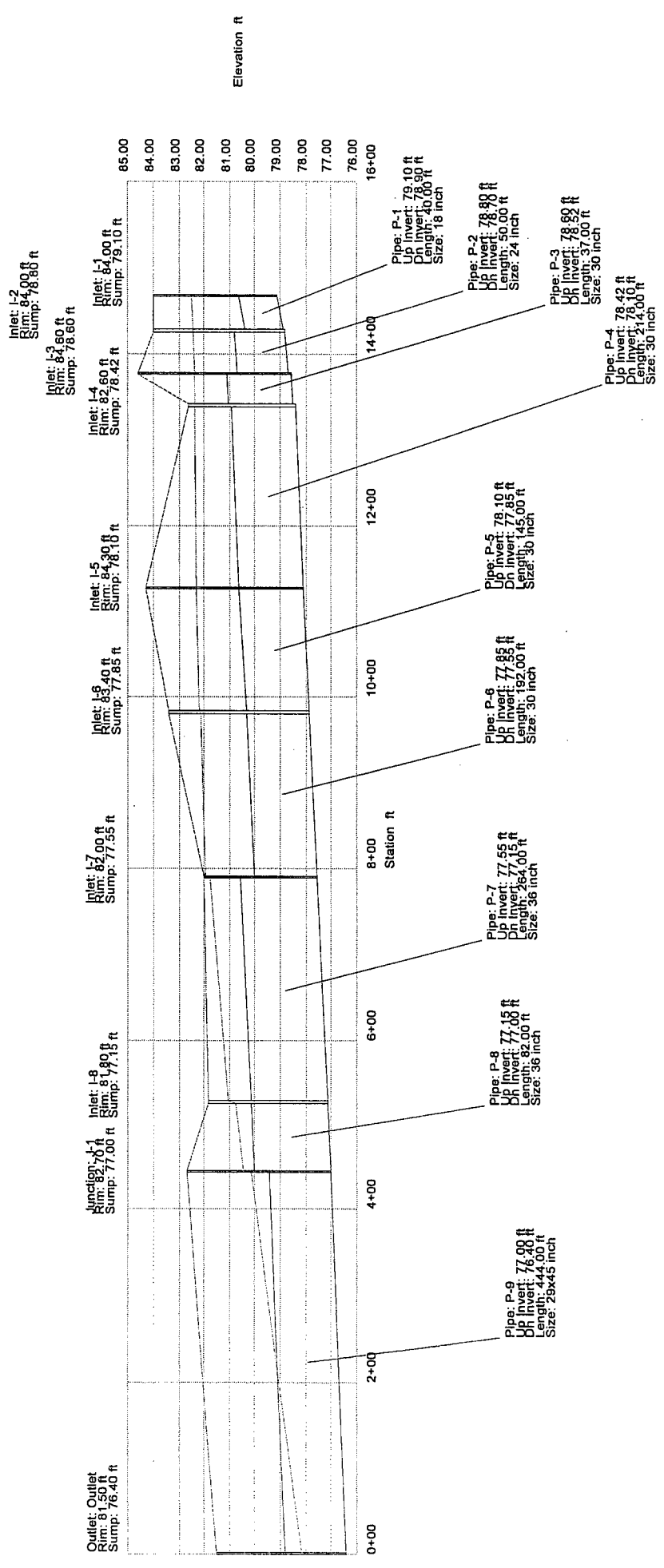


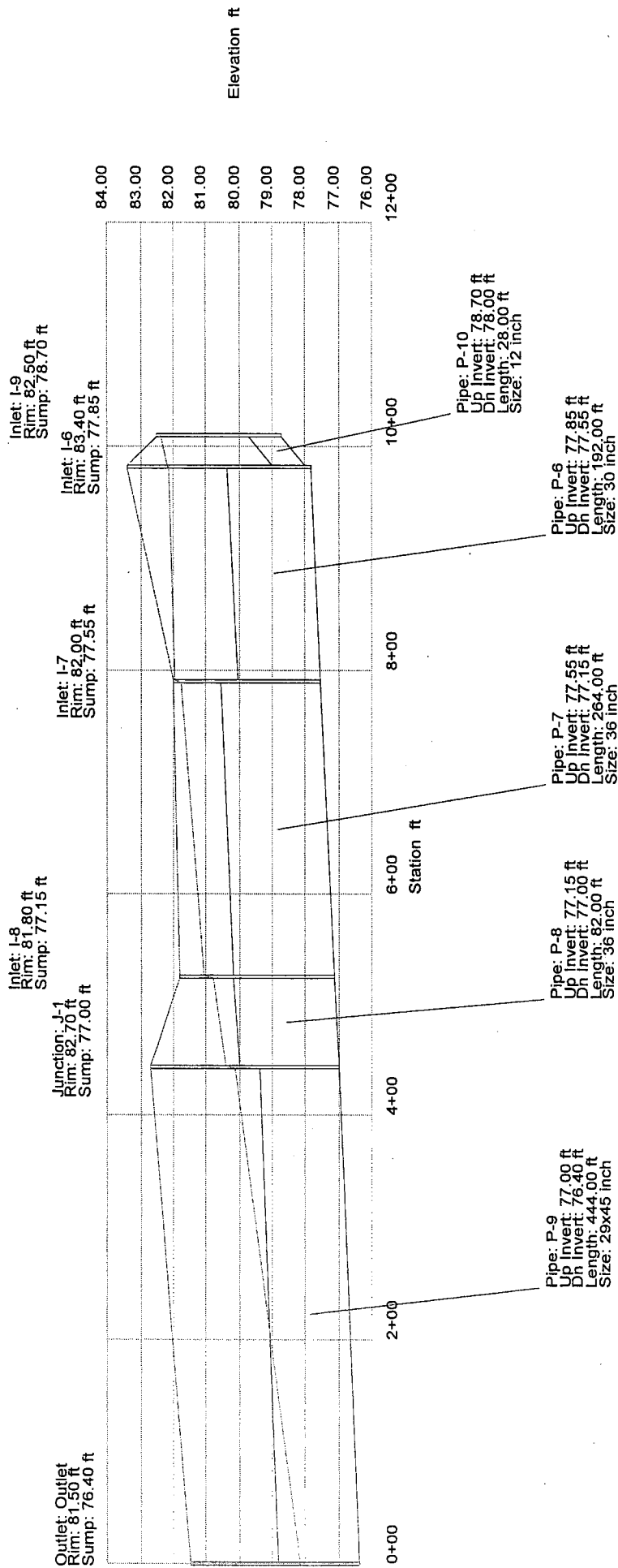
Combined Pipe & Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet TC (min)	Weighted Roughness Coefficient	Discharge (cfs)	Section Size	Roughness	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Upstream Rim Elevation (ft)	Downstream Rim Elevation (ft)	Upstream HGL (ft)	Downstream HGL (ft)
P-10	I-9	I-6	36.00	0.21	15.00	0.52	0.40	24 inch	0.013	79.00	78.65	0.009722	83.05	83.05	79.79	79.79
P-9	I-8	I-5	40.00	0.67	15.00	0.52	1.60	15 inch	0.013	79.50	79.20	0.007500	83.00	83.00	80.52	80.50
P-8	I-7	I-4	39.00	0.62	15.00	0.52	1.20	15 inch	0.013	79.50	79.30	0.005128	83.60	83.60	81.06	81.05
P-1	I-1	I-2	41.00	0.43	15.00	0.52	1.10	18 inch	0.013	80.40	80.30	0.002439	84.00	84.00	81.37	81.37
P-2	I-2	I-3	299.00	1.47	15.00	0.52	4.00	24 inch	0.013	80.20	79.60	0.002007	84.00	84.90	81.33	81.21
P-3	I-3	I-4	234.00	0.92	15.00	0.52	5.90	24 inch	0.013	79.60	79.13	0.002009	84.90	83.60	81.18	81.05
P-4	I-4	I-5	335.00	0.90	15.00	0.52	8.90	24 inch	0.013	78.13	78.46	0.002000	83.00	83.00	80.98	80.50
P-5	I-5	I-6	230.00	0.63	15.00	0.52	12.10	24 inch	0.013	78.46	78.00	0.002000	83.00	83.05	80.38	79.79
P-6	I-6	J-1	28.00	0.08	15.00	0.52	12.70	24 inch	0.013	77.90	77.80	0.003571	83.05	82.90	79.64	79.57
P-7	J-1	Outlet	138.00	N/A	N/A	N/A	12.70	24 inch	0.013	77.70	77.40	0.002174	82.90	82.50	79.41	78.68

SWS LINE #2







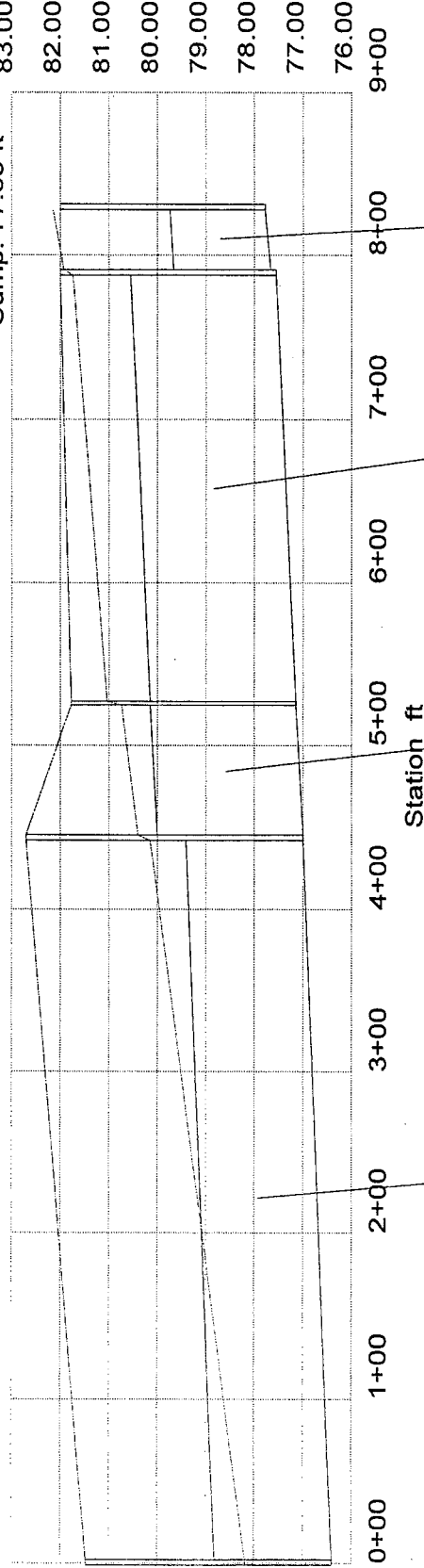
Inlet: I-12
Rim: 82.00 ft
Sump: 77.75 ft

Inlet: I-7
Rim: 82.00 ft
Sump: 77.55 ft

Inlet: I-8
Rim: 81.80 ft
Sump: 77.15 ft

Junction: J-1
Rim: 82.70 ft
Sump: 77.00 ft

Outlet: Outlet
Rim: 81.50 ft
Sump: 76.40 ft



Pipe: P-13
Up Invert: 77.75 ft
Dn Invert: 77.65 ft
Length: 40.00 ft
Size: 24 inch

Pipe: P-7
Up Invert: 77.55 ft
Dn Invert: 77.15 ft
Length: 264.00 ft
Size: 36 inch

Pipe: P-8
Up Invert: 77.15 ft
Dn Invert: 77.00 ft
Length: 82.00 ft
Size: 36 inch

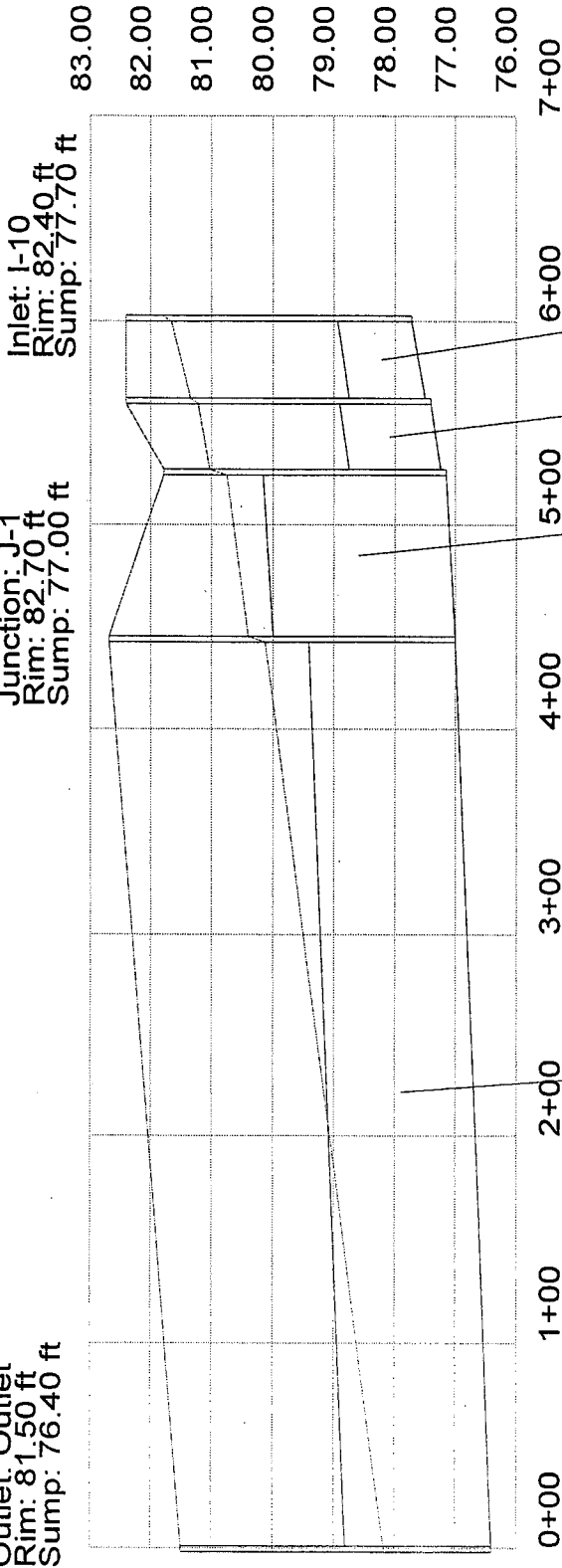
Pipe: P-9
Up Invert: 77.00 ft
Dn Invert: 76.40 ft
Length: 444.00 ft
Size: 29x45 inch

Inlet: I-11
 Rim: 82.40 ft
 Sump: 77.40 ft

Inlet: I-8
 Rim: 81.80 ft
 Sump: 77.15 ft

Junction: J-1
 Rim: 82.70 ft
 Sump: 77.00 ft

Outlet: Outlet
 Rim: 81.50 ft
 Sump: 76.40 ft



Elevation ft

Station ft

Pipe: P-11
 Up Invert: 77.70 ft
 Dn Invert: 77.50 ft
 Length: 40.00 ft
 Size: 15 inch

Pipe: P-12
 Up Invert: 77.40 ft
 Dn Invert: 77.25 ft
 Length: 35.00 ft
 Size: 18 inch

Pipe: P-8
 Up Invert: 77.15 ft
 Dn Invert: 77.00 ft
 Length: 82.00 ft
 Size: 36 inch

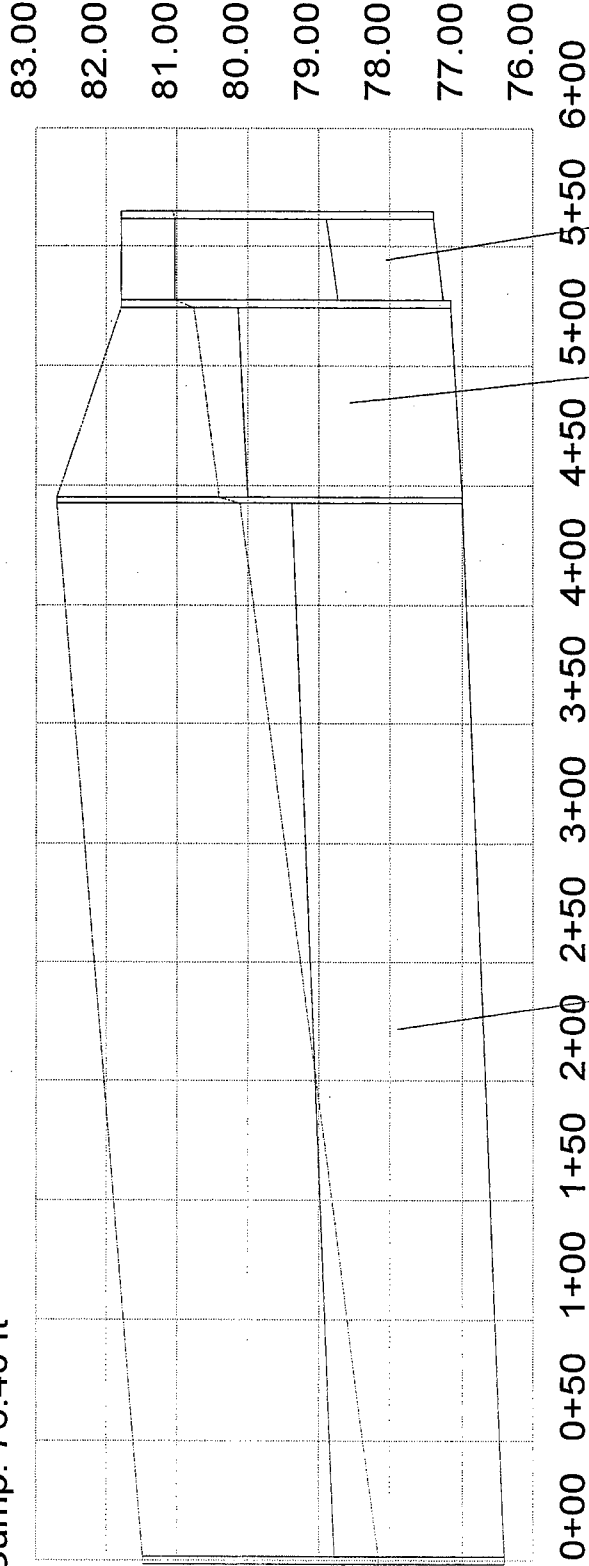
Pipe: P-9
 Up Invert: 77.00 ft
 Dn Invert: 76.40 ft
 Length: 444.00 ft
 Size: 29x45 inch

Inlet: I-13
 Rim: 81.80 ft
 Sump: 77.40 ft

Inlet: I-8
 Rim: 81.80 ft
 Sump: 77.15 ft

Junction: J-1
 Rim: 82.70 ft
 Sump: 77.00 ft

Outlet: Outlet
 Rim: 81.50 ft
 Sump: 76.40 ft



Station ft

Elevation ft

Pipe: P-14
 Up Invert: 77.40 ft
 Dn Invert: 77.25 ft
 Length: 37.00 ft
 Size: 18 inch

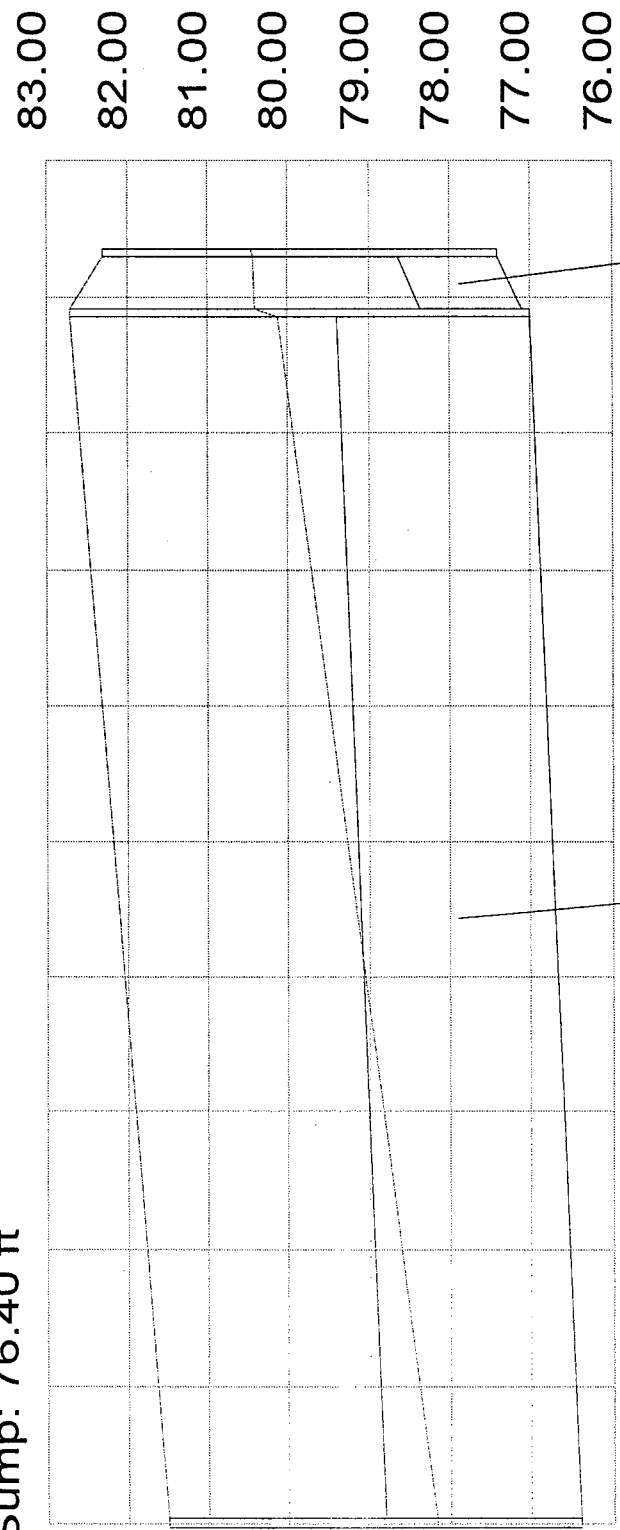
Pipe: P-9
 Up Invert: 77.00 ft
 Dn Invert: 76.40 ft
 Length: 444.00 ft
 Size: 29x45 inch

Pipe: P-8
 Up Invert: 77.15 ft
 Dn Invert: 77.00 ft
 Length: 82.00 ft
 Size: 36 inch

Inlet: I-14
 Rim: 82.30 ft
 Sump: 77.40 ft

Junction: J-1
 Rim: 82.70 ft
 Sump: 77.00 ft

Outlet: Outlet
 Rim: 81.50 ft
 Sump: 76.40 ft



Elevation ft

0+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50 5+00

Station ft

Pipe: P-15
 Up Invert: 77.40 ft
 Dn Invert: 77.10 ft
 Length: 22.00 ft
 Size: 15 inch

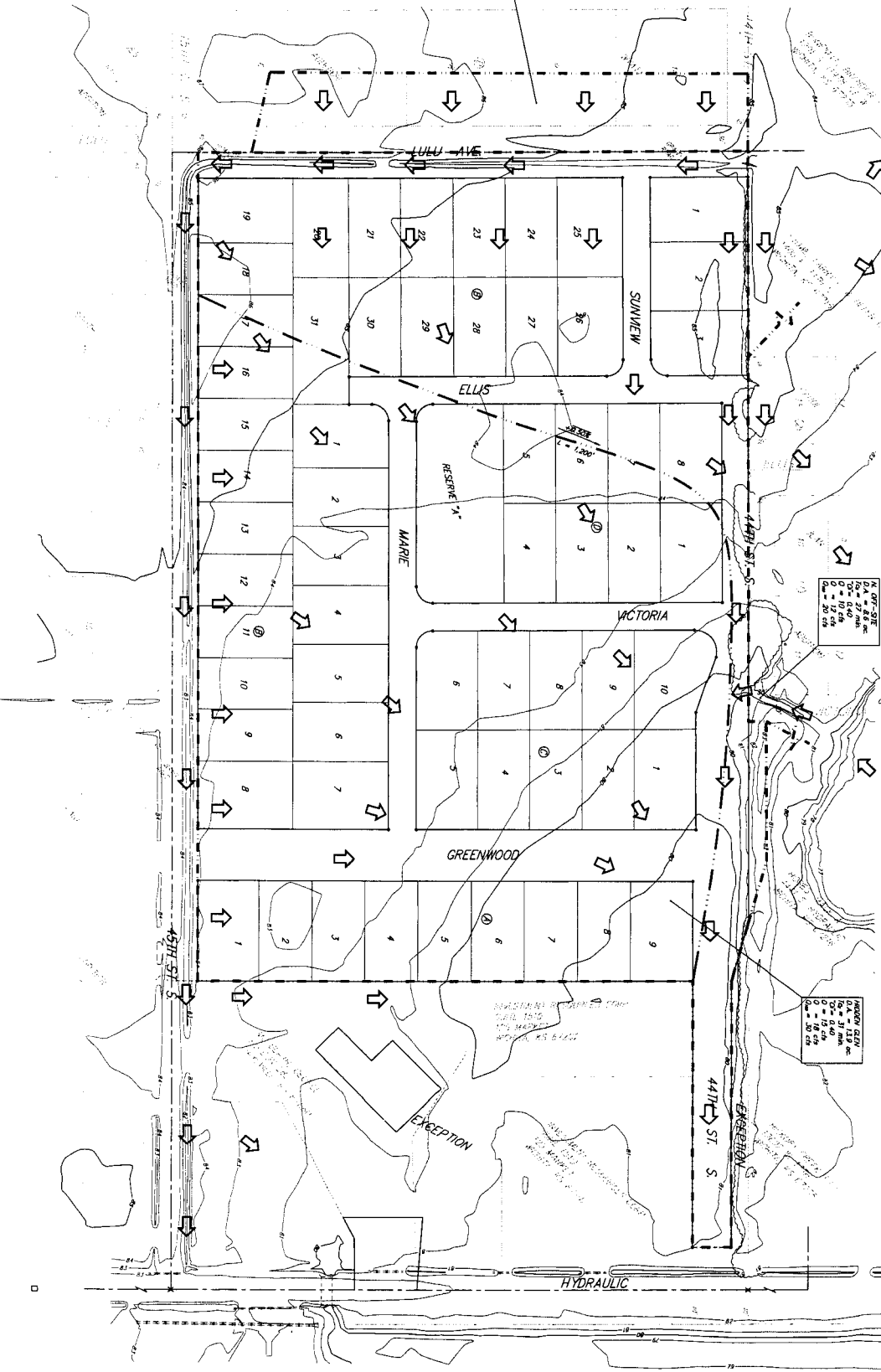
Pipe: P-9
 Up Invert: 77.00 ft
 Dn Invert: 76.40 ft
 Length: 44.00 ft
 Size: 29x45 inch

Combined Pipe & Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet TIC (min)	Weighted Roughness Coefficient	Discharge (cfs)	Section Size	Roughness	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Upstream Rim Elevation (ft)	Downstream Rim Elevation (ft)	Upstream HGL (ft)	Downstream HGL (ft)
P-15	I-14	J-1	22.00	0.89	15.00	0.52	1.80	15 inch	0.013	77.40	77.10	0.013636	82.30	82.70	80.43	80.42
P-14	I-13	I-8	37.00	0.18	15.00	0.52	0.40	18 inch	0.013	77.40	77.25	0.004054	81.80	81.80	81.05	81.05
P-11	I-10	I-11	40.00	2.80	15.00	0.52	5.60	15 inch	0.013	77.70	77.50	0.005000	82.40	82.40	81.66	81.36
P-12	I-11	I-8	35.00	0.74	15.00	0.52	7.40	18 inch	0.013	77.40	77.25	0.004286	82.40	81.80	81.22	81.05
P-13	I-12	I-7	40.00	8.94	15.00	0.52	16.80	24 inch	0.013	77.75	77.65	0.002500	82.00	82.00	82.16	81.94
P-10	I-9	I-6	28.00	1.07	15.00	0.52	2.60	12 inch	0.013	78.70	78.00	0.025000	82.50	83.40	82.35	82.20
P-1	I-1	I-2	40.00	0.86	15.00	0.52	2.10	18 inch	0.013	79.10	78.90	0.005000	84.00	84.00	82.46	82.44
P-2	I-2	I-3	50.00	1.46	15.00	0.52	5.70	24 inch	0.013	78.80	78.70	0.002000	84.00	84.60	82.42	82.39
P-3	I-3	I-4	37.00	0.00	15.00	0.52	5.70	30 inch	0.013	78.60	78.52	0.002162	84.60	82.60	82.38	82.37
P-4	I-4	I-5	214.00	0.18	15.00	0.52	6.10	30 inch	0.013	78.42	78.10	0.001495	82.60	84.30	82.36	82.31
P-5	I-5	I-6	145.00	1.38	15.00	0.52	9.50	30 inch	0.013	78.10	77.95	0.001724	84.30	83.40	82.28	82.20
P-6	I-6	I-7	192.00	0.49	15.00	0.52	13.30	30 inch	0.013	77.85	77.55	0.001562	83.40	82.00	82.15	81.94
P-7	I-7	I-8	264.00	1.82	15.00	0.52	34.60	36 inch	0.013	77.55	77.15	0.001515	82.00	81.80	81.76	81.05
P-8	I-8	J-1	82.00	0.30	15.00	0.52	43.10	36 inch	0.013	77.15	77.00	0.001829	81.80	82.70	80.76	80.42
P-9	J-1	Outlet	444.00	N/A	N/A	N/A	44.90	29x45 inc	0.013	77.00	76.40	0.001351	82.70	81.50	80.13	78.17

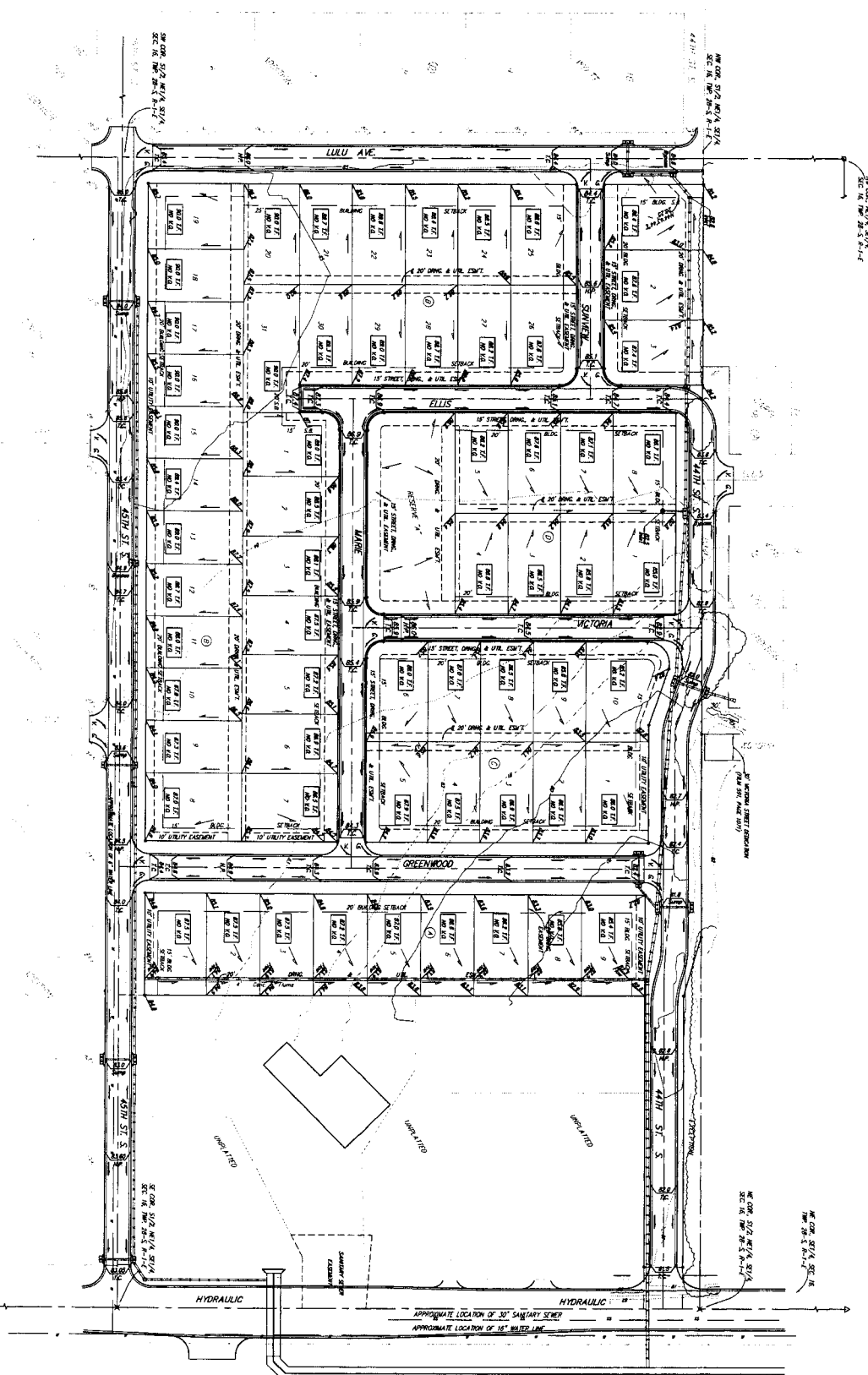
DRAINAGE PLAN

**PRE-DEVELOPED DRAINAGE CONDITIONS
HIDDEN GLEN
AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS**



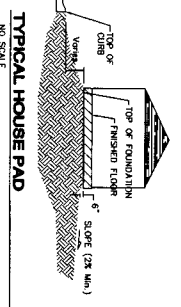
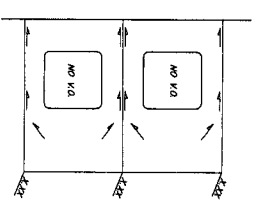
NOTES:
 1. SEE PLAN FOR LOCATION OF PROPERTY.
 2. SEE PLAN FOR LOCATION OF PROPERTY.
 3. SEE PLAN FOR LOCATION OF PROPERTY.
 4. SEE PLAN FOR LOCATION OF PROPERTY.
 5. SEE PLAN FOR LOCATION OF PROPERTY.

1" = 120'



SCALE: 1" = 60'
 • = IRON

TYPICAL LOT DRAINAGE FOR LOTS REQUIRING FLOW TO FRONT OF LOT



TYPICAL HOUSE PAD

NOTES:

- A master grading plan for drainage has been developed for this subdivision. Construction of residential structures must follow the master site grading plan which are higher than the minimum pad requirements.
- All drainage easements, rights-of-way, or easements must be shown on the final subdivision plat with the approval of the City Engineer of the City of Wichita, Kansas. No obstructions which impede the flow of this drainage system shall be allowed.
- Proposed top of foundation elevations are shown on plans. Contractor to set finished floor elevations.
- All easements shown on plans are City of Wichita Easements.

This subdivision is designed for lots of grade building construction. The top of foundation of existing lots two feet above the top of curb. The lowest floor elevation shall not be constructed below a 810 City Datum.

This grading plan was developed prior to the plat being received with the county. Call Baughman Company for the final grading plan.

HIDDEN GLEN
GRADING PLAN
 PROJECT NUMBER: 2011-001

BAUGHMAN COMPANY P.A.
 ENGINEERING, SURVEYING & PLANNING
 1111 N. W. 11th St., Suite 100, Wichita, Kansas 67202
 PHONE: 316-261-2221 FAX: 316-261-2222

DATE	BY	APP'D	SCALE
07-17-20	J.S.	J.S.	1" = 60'
1	1	1	1