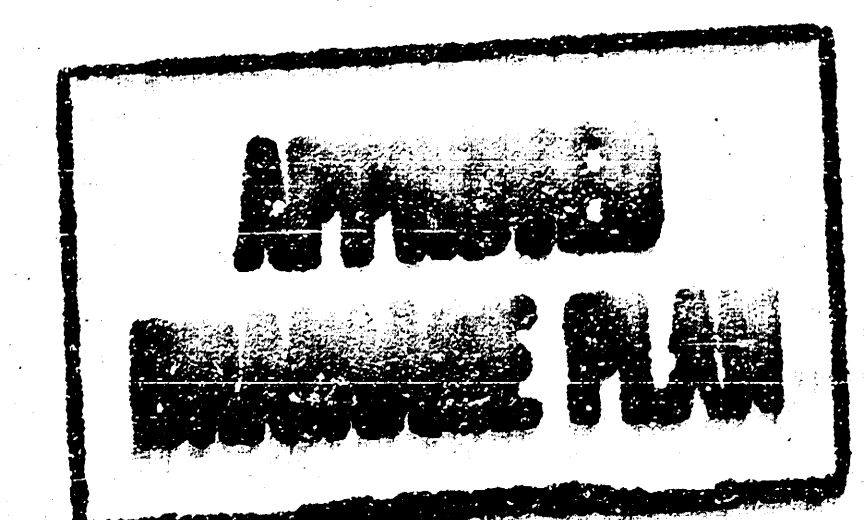
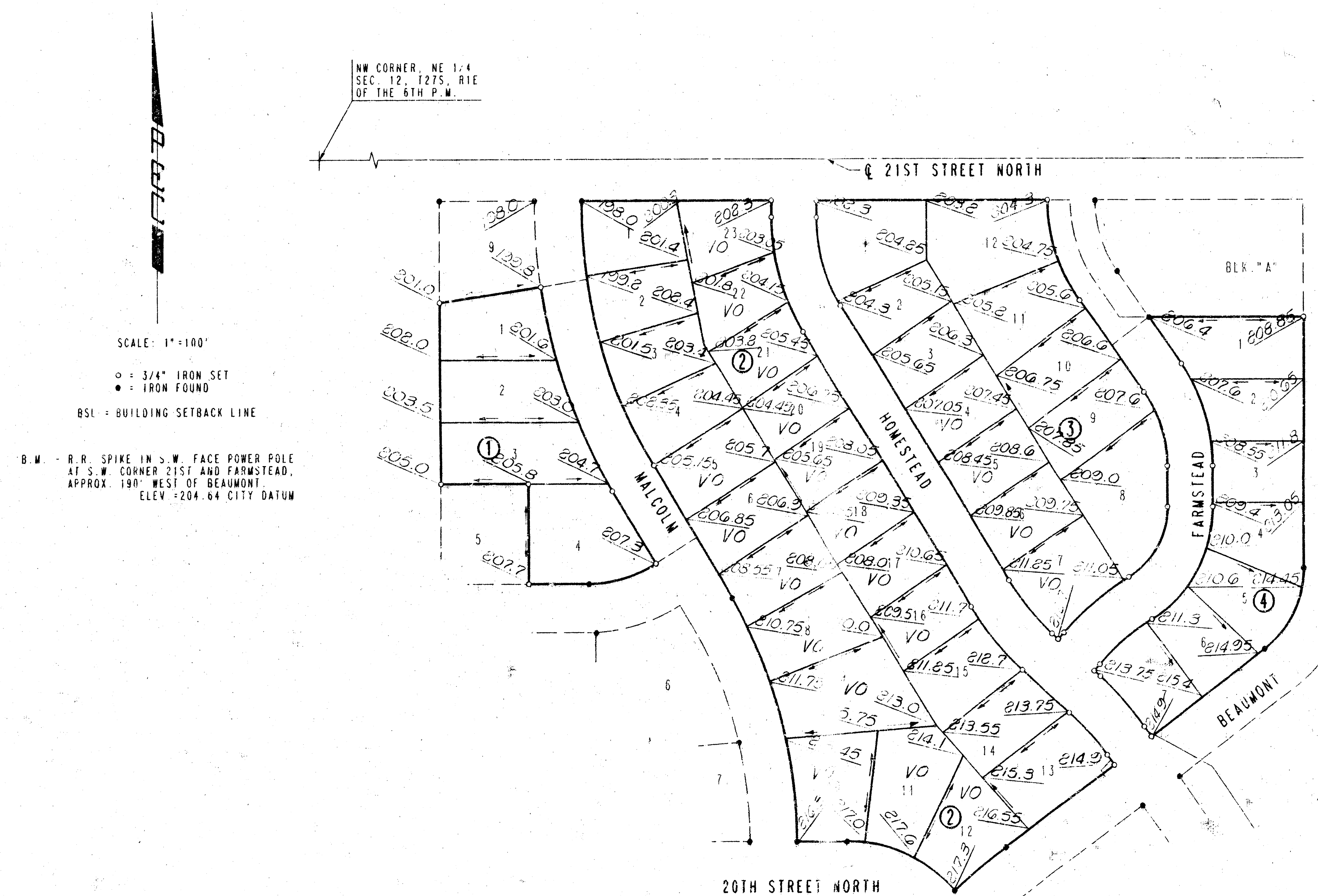


FOURTH ADDITION TO CRESTVIEW HEIGHTS TO WICHITA, SEDGWICK COUNTY, KANSAS



DETAILED DRAINAGE PLAN

OWNER : SOCORA VILLAGE COMPANY
% LARRY A. CHAMBERS, PRESIDENT
104 S. BROADWAY, SUITE 200
WICHITA, KANSAS 67202-4165

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- LEGEND**
-  Drainage Basin Boundary
-  Drainage Direction Major Storm
-  Drainage Direction Minor Storm
-  Prop. Storm Water Sewer & Manhole
-  Street Grade
-  Basin Designation
-  Storm Sewer Node No.
-  Exist. Storm Water Sewer & Manhole
-  Valley Gutter
-  Prop. Elev.

City B.M. Disc at N.E. Cor. retaining wall
at S.W. Cor. of Woodlawn & 21st Street No.
Elev. = 203.65 City Datum.

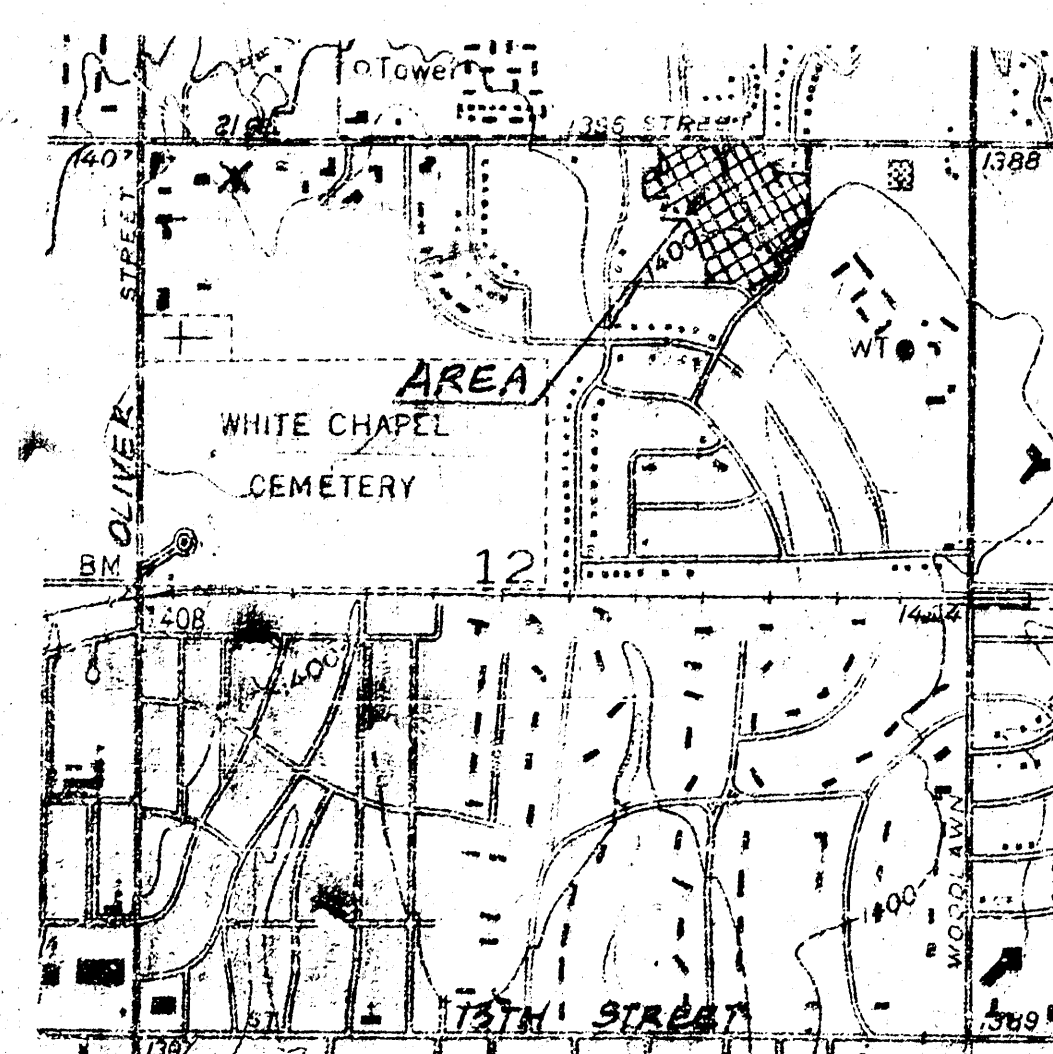
SCALE: 1" = 100'
FEB. 1993

B.W. - R.R. SPIKE IN S.W. FACE POWER POLE
AT S.W. CORNER 21ST AND FARMSTEAD.
APPROX. 190' WEST OF BEAUMONT.
ELEV. = 204.64 CITY DATUM

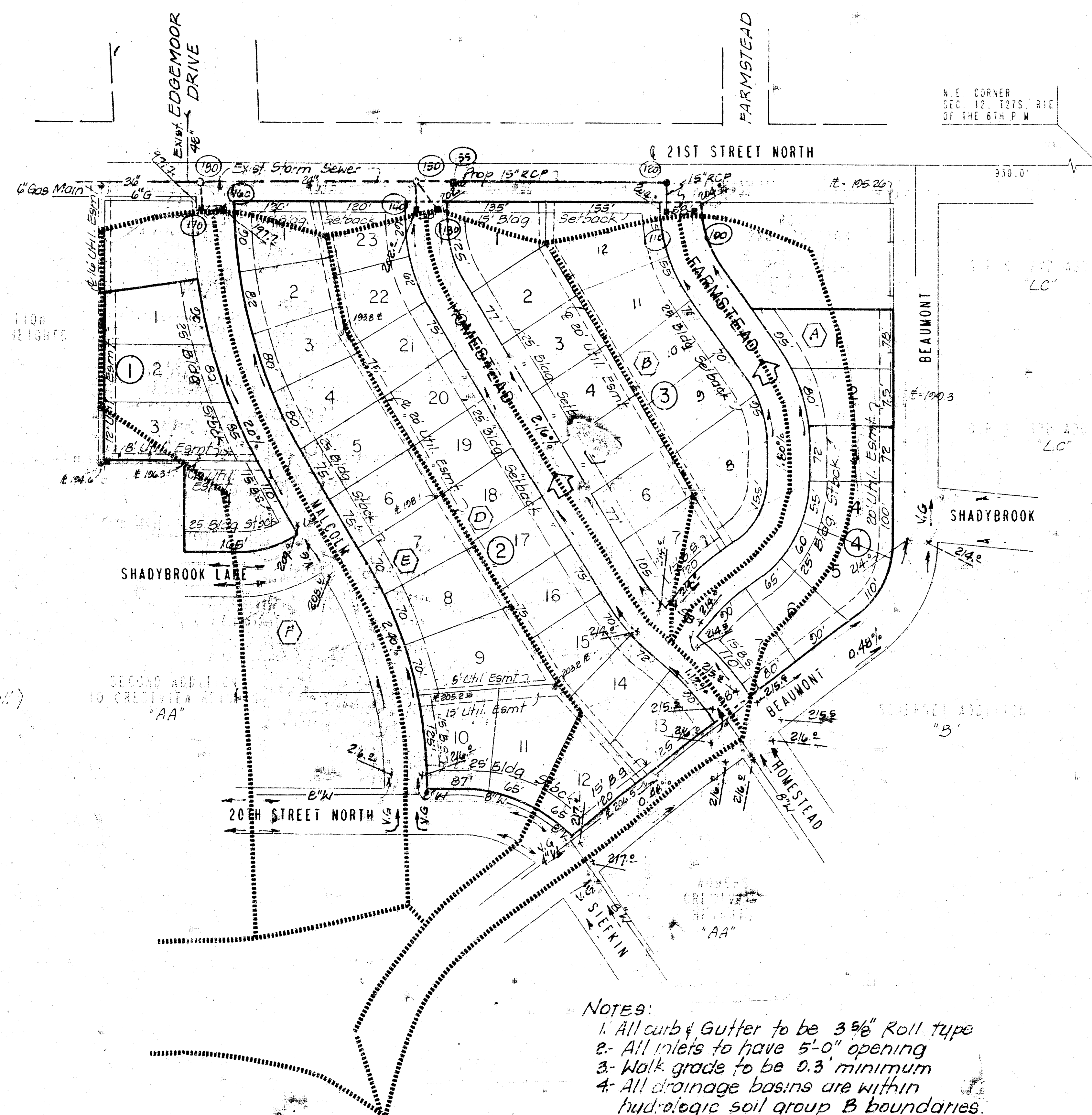
Topo. - Feb. 1993

Notes:

- 1- 12KV 3 ϕ , 4wire aerial Power Line
East-West on South side 21st Street (K.G.E.)
- 2- Underground East-West Telephone
Line on South side 21st Street (S.Western Bell)
- 3- 12" H.P. Gas Main East-West on
South side 21st. St. (Gas Service.)



AREA MAP



Notes:

1. All curb & Gutter to be 3 1/2" Roll type
2. All inlets to have 5'-0" opening
3. Walk grade to be 0.3' minimum
4. All drainage basins are within hydrologic soil group B boundaries

HYDROLOGY

RI = 2

RAINFALL INTENSITY

a = 1.485 in. 0.52 b = 12.2

HYDRO-35 10F FORMULA

NO.	AREA (ACRES)	LEN	INCP		SOIL GROUP NO.		B		LAG		Pi		Pn		Te		RI		C	Q
			in/ft	in/LN	C	CM	AD	AS	LAG	Pi	Pn	Te	RI	C						
A	1.67	700	1.38	38	100	75	3.33	0.21	0.79	0.46	15	3.83	2	0.33	2.1					
E	1.83	626	1.38	38	100	75	3.33	0.19	0.79	0.46	15	3.83	2	0.33	2.3					
F	1.79	612	1.38	38	100	75	3.33	0.17	0.79	0.46	15	3.83	2	0.33	2.3					
P	3.94	1452	1.38	38	100	75	3.33	0.34	0.79	0.46	15	3.83	2	0.33	5.0					
E	3.75	972	2.14	38	100	75	3.33	0.24	0.79	0.46	15	3.83	2	0.33	4.8					
F	3.87	1005	2.14	38	100	75	3.33	0.25	0.79	0.46	15	3.83	2	0.33	5.0					

RI = 100		RAINFALL INTENSITY														
a = 0.16		DIFF. NO.		C.66 = 10		HYDRO-35 IDF FORMULA										
AREA (ACRES)		SOIL GROUP NO. B														
NO.	LEN	Y	RIMP	WLM	CN	CN ADJ	S	LAG	F1	Fr	Fr	Tc	I	RI	C	Q
A	1.67	703	1.40	38	100	75	75	3.33	0.21	0.79	0.46	15.7	3.37	100	0.49	6.4
B	1.83	620	1.17	38	100	75	75	3.33	0.19	0.79	0.46	15.7	3.37	100	0.49	5.5
C	1.79	615	2.24	38	100	75	75	3.33	0.17	0.79	0.46	15.7	3.37	100	0.49	6.4
D	3.54	1450	2.51	38	100	75	75	3.33	0.24	0.79	0.46	15.7	3.37	100	0.49	14.2
E	3.75	970	2.70	38	100	75	75	3.33	0.25	0.79	0.46	15.7	3.37	100	0.49	13.5
F	3.87	1005	2.60	38	100	75	75	3.33	0.25	0.79	0.46	15.7	3.37	100	0.49	13.9

FLOODED INVERTS AND USING ROLL TYPE (3' x 11") COMBINED CURB & GUTTER

2-YEAR STORM : MAX ABOVE CURB ON LOCAL STREETS - MAX. DEPTH d = 0.30 ft.
100-YEAR STORM : MAX ABOVE R.O.W. ON ALL STREETS - MAX. DEPTH d = 0.60 ft.

EQUATION : ALLOWABLE Q = 0.56(2/a)S^(1/2)G^(8/3)

Z = Reciprocal of pavement cross-slope
n = Roughness coefficient
S = Longitudinal pavement slope (ft./ft.)
d = Maximum allowable depth (above)

NODE	TIER AMOUNT FROM	100-YEAR				ALLOWABLE 2-YEAR Q (cfs)	ALLOWABLE 100-YEAR Q (cfs)
		Q (cfs)	Q (cfs)	Z	Q		
100	100% S	4.3	6.0	32	0.016	0.0180	38.5
110	100% S	4.3	6.5	32	0.016	0.0180	38.5
130	100% S	4.3	6.4	32	0.016	0.0216	42.2
140	100% S	5.0	14.2	32	0.016	0.0216	42.2
160	100% S	4.8	13.5	32	0.016	0.0200	40.6
170	100% S	5.0	13.9	32	0.016	0.0200	40.6

REQUIRED INLET LENGTHS FOR THE 2-YEAR STORM

2-YEAR STORM : 5' TYPE IA INLET - Q MAX. = 8.9 cfs
: 10' TYPE IA INLET - Q MAX. = 18.0 cfs

INLET NODE NUMBER	INLET CONDITION	Q INTERCEPTED (cfs)	LENGTH REQUIRED (ft.)
100	SUMP	2.1	5
110	SUMP	2.3	5
130	SUMP	2.3	5
140	SUMP	5.0	5
160	SUMP	4.8	5
170	SUMP	5.0	5