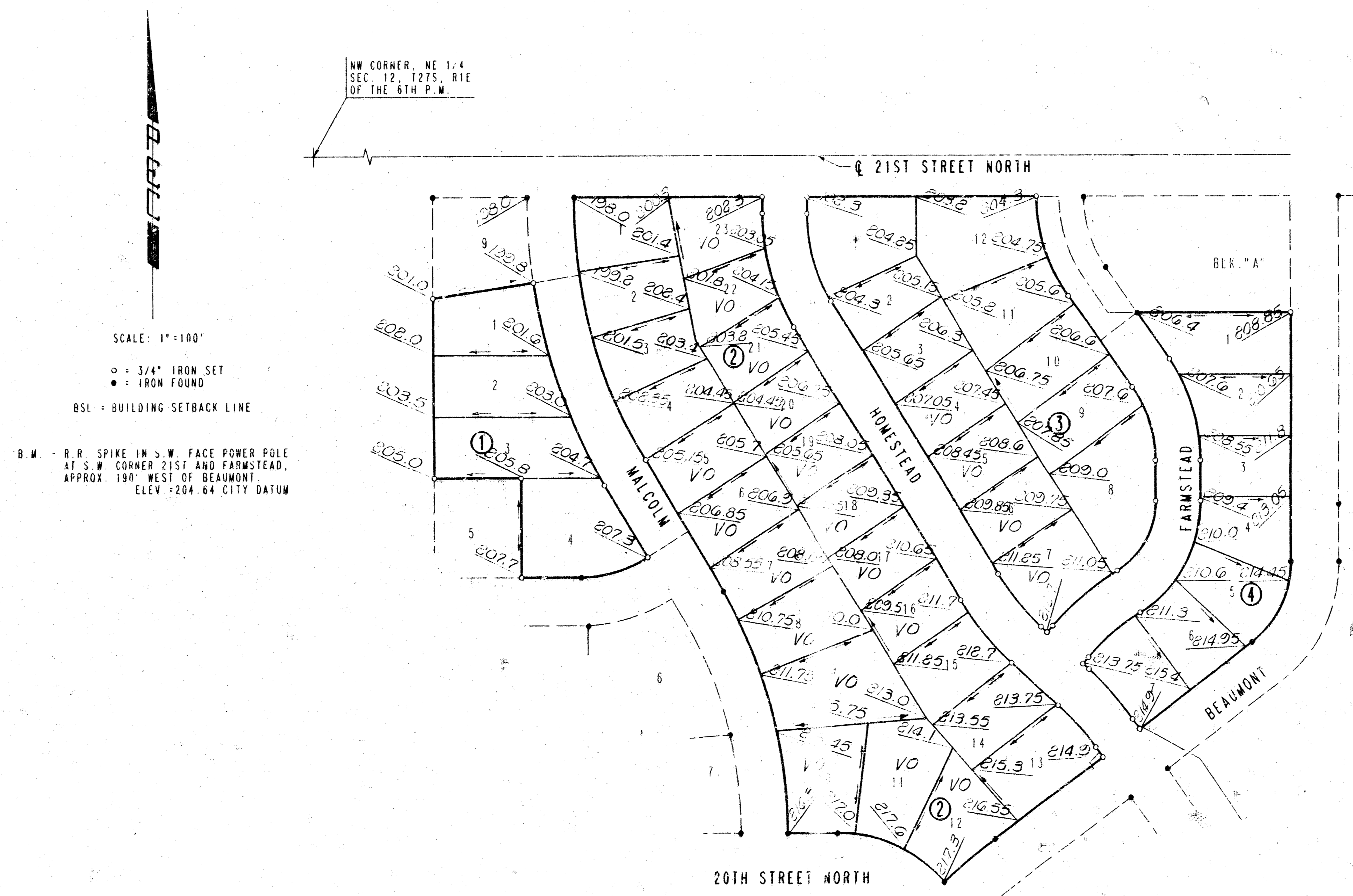


FOURTH ADDITION TO CRESTVIEW HEIGHTS TO WICHITA, SEDGWICK COUNTY, KANSAS



**APPROVED
ENGINEER PLAN**

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.

DRAINAGE PLAN 3-15-93

FOURTH ADDITION TO CRESTVIEW HEIGHTS

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

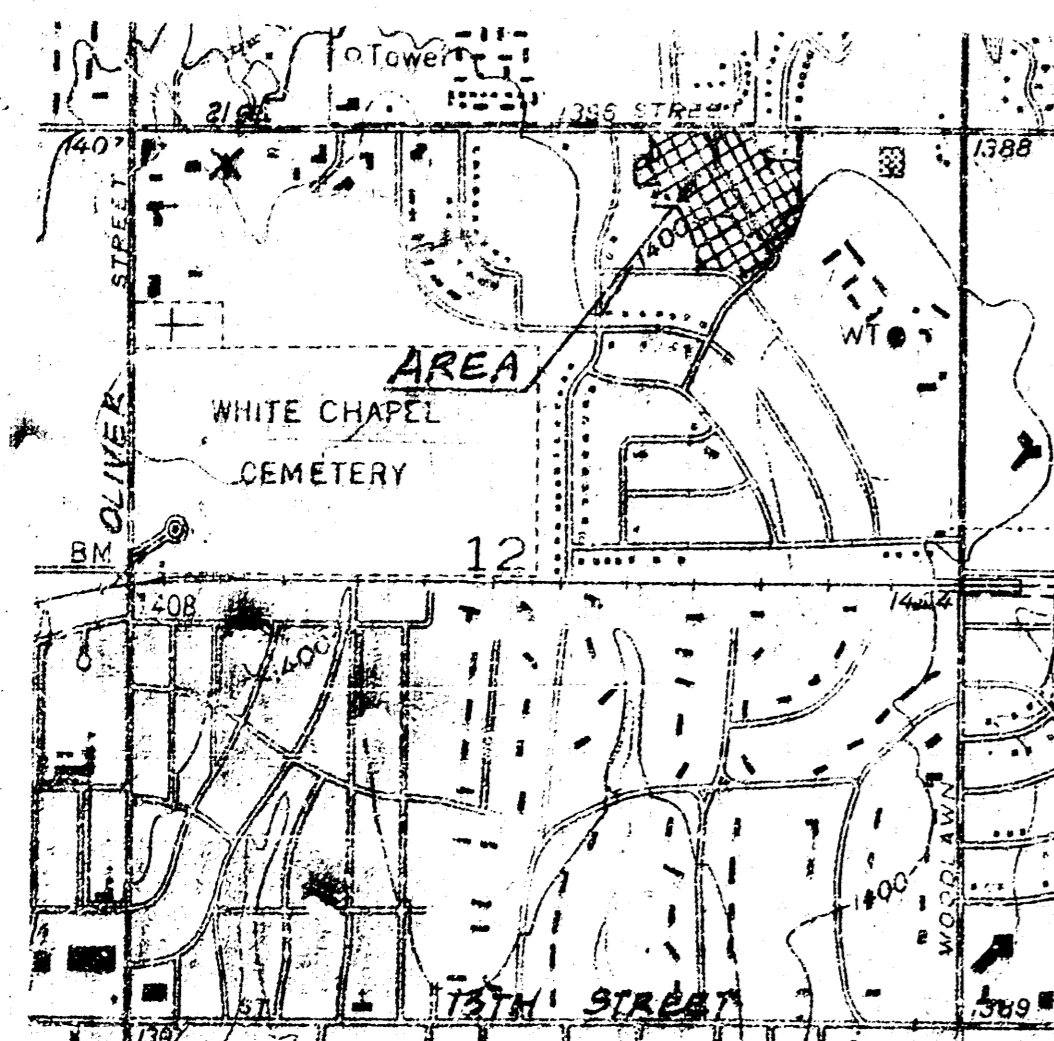
ENGINEER: PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 303 S. TOPEKA
 WICHITA, KANSAS 67202

City B.M. Disc at N.E. Cor. retaining wall
 at S.W. Cor. of Woodlawn & 21st Street No.
 Elev. = 203.25 City Datum.

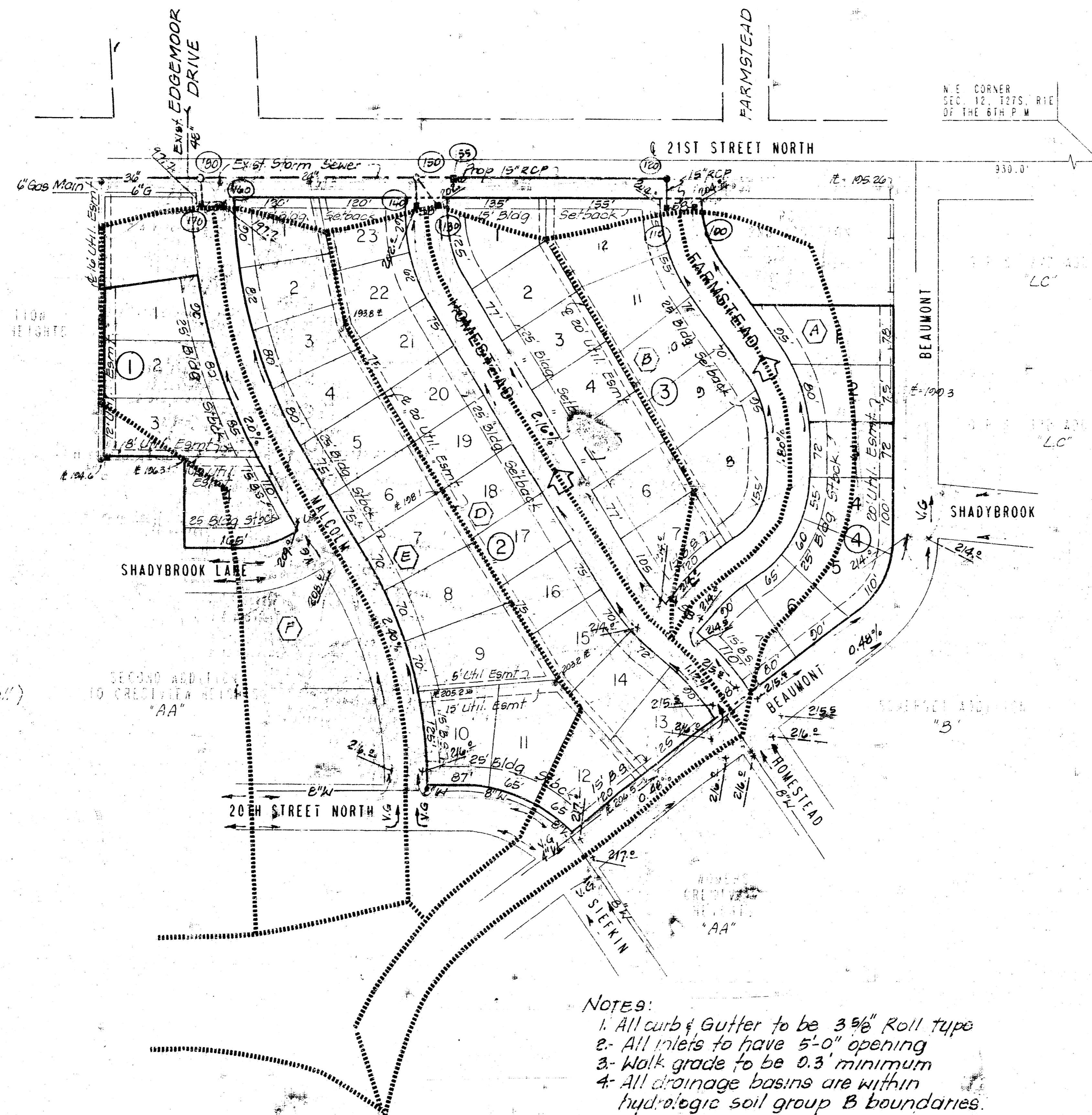
SCALE: 1"=100'
 Feb. 1993

B.M. - 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 34, 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 = 57.46 b = 0.82 b = 12.2 HYDRO-35 IDF FORMULA

NO.	AREA (ACRES)	LEN	WIMP	WMLM	C	CN	ADJ	S	LAG	F1	Fh	Tc	i	RI	C	Q
A	1.67	700	1.40	38	100	75	75	3.33	0.21	0.79	0.46	15	3.83	2	0.33	2.1
B	1.83	820	1.40	38	100	75	75	3.33	0.19	0.79	0.46	15	3.83	2	0.33	2.3
C	1.79	815	1.40	38	100	75	75	3.33	0.17	0.79	0.46	15	3.83	2	0.33	2.0
D	3.94	1450	2.16	38	100	75	75	3.33	0.34	0.79	0.46	15	3.83	2	0.33	5.0
E	3.75	970	2.16	38	100	75	75	3.33	0.24	0.79	0.46	15	3.83	2	0.33	4.8
F	3.87	1005	2.16	38	100	75	75	3.33	0.25	0.79	0.46	15	3.83	2	0.33	5.0

HYDROLOGY

RI = 100 RAINFALL INTENSITY

a = 51.66 b = 0.66 b = 10 HYDRO-35 IDF FORMULA

NO.	AREA (ACRES)	LEN	WIMP	WMLM	C	CN	ADJ	S	LAG	F1	Fh	Tc	i	RI	C	Q
A	1.67	700	1.40	38	100	75	75	3.33	0.21	0.79	0.46	14	7.37	100	0.49	6.0
B	1.83	820	1.40	38	100	75	75	3.33	0.19	0.79	0.46	15	7.37	100	0.49	6.5
C	1.79	815	1.40	38	100	75	75	3.33	0.17	0.79	0.46	15	7.37	100	0.49	4.4
D	3.94	1450	2.16	38	100	75	75	3.33	0.34	0.79	0.46	15	7.37	100	0.49	14.2
E	3.75	970	2.16	38	100	75	75	3.33	0.24	0.79	0.46	15	7.37	100	0.49	13.5
F	3.87	1005	2.16	38	100	75	75	3.33	0.25	0.79	0.46	15	7.37	100	0.49	13.9

FLOODED INLETMANHOLE USING ROLL TYPE (3") COMBINED CURB & GUTTER

2-YEAR STORM - 5" TYPE I/A INLET - Q MAX. = 8.9 cfs
 100-YEAR STORM - 10" TYPE I/A INLET - Q MAX. = 18.0 cfs

EQUATION: ALLOWABLE Q = 0.56(2/n)^2 (1/2)d^3/18/3

NODE	TIGH AMOUNT FROM	2-YEAR Q (cfs)	100-YEAR Q (cfs)	Z	n	S	ALLOWABLE Q (cfs)	ALLOWABLE 100-YEAR Q (cfs)
100	10" S	4.1	6.0	32	0.016	0.0180	6.1	38.5
110	10" S	2.3	6.5	32	0.016	0.0180	6.1	38.5
130	10" S	4.3	6.4	32	0.016	0.0216	6.6	42.2
140	10" S	5.0	14.2	32	0.016	0.0216	6.6	42.2
160	10" S	4.8	13.5	32	0.016	0.0200	6.4	40.6
170	10" S	5.0	13.9	32	0.016	0.0200	6.4	40.6

REQUIRED INLET LENGTHS FOR THE 2-YEAR STORM

2-YEAR STORM : 5" TYPE I/A INLET - Q MAX. = 8.9 cfs
 : 10" TYPE I/A INLET - Q MAX. = 18.0 cfs

INLET 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