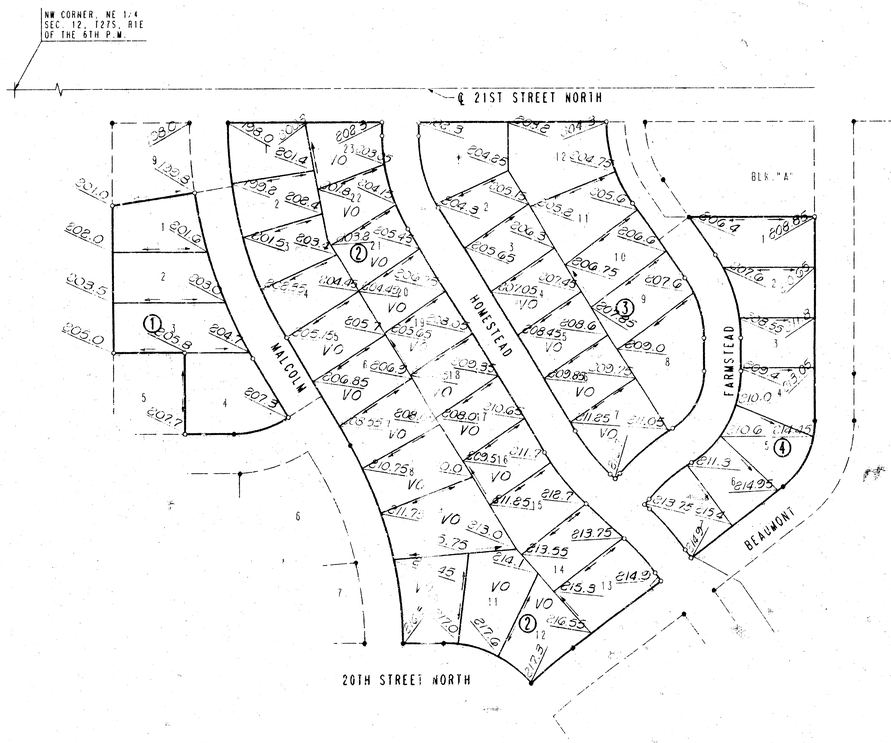
FOURTH ADDITION TO CRESTVIEW HEIGHTS

TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1"=100'

○ = 3/4" IRON SET
● = IRON FOUND

BSL = BUILDING SETBACK LINE

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

APPROVED
DRAINAGE PLAN

DETAILED DRAINAGE PLAN

LEGEND
Drainage Basin Boundary
Drainage Direction Major Storm
Drainage Direction Minor Storm
Prop. Storm Water Sewer & Manhole
2.16% Street Grade
(A) Basin Designation
(00) Storm Sewer Node No.
Exist Storm Water Sewer & Manhole
V.G Valley Gutter
x 202.0 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

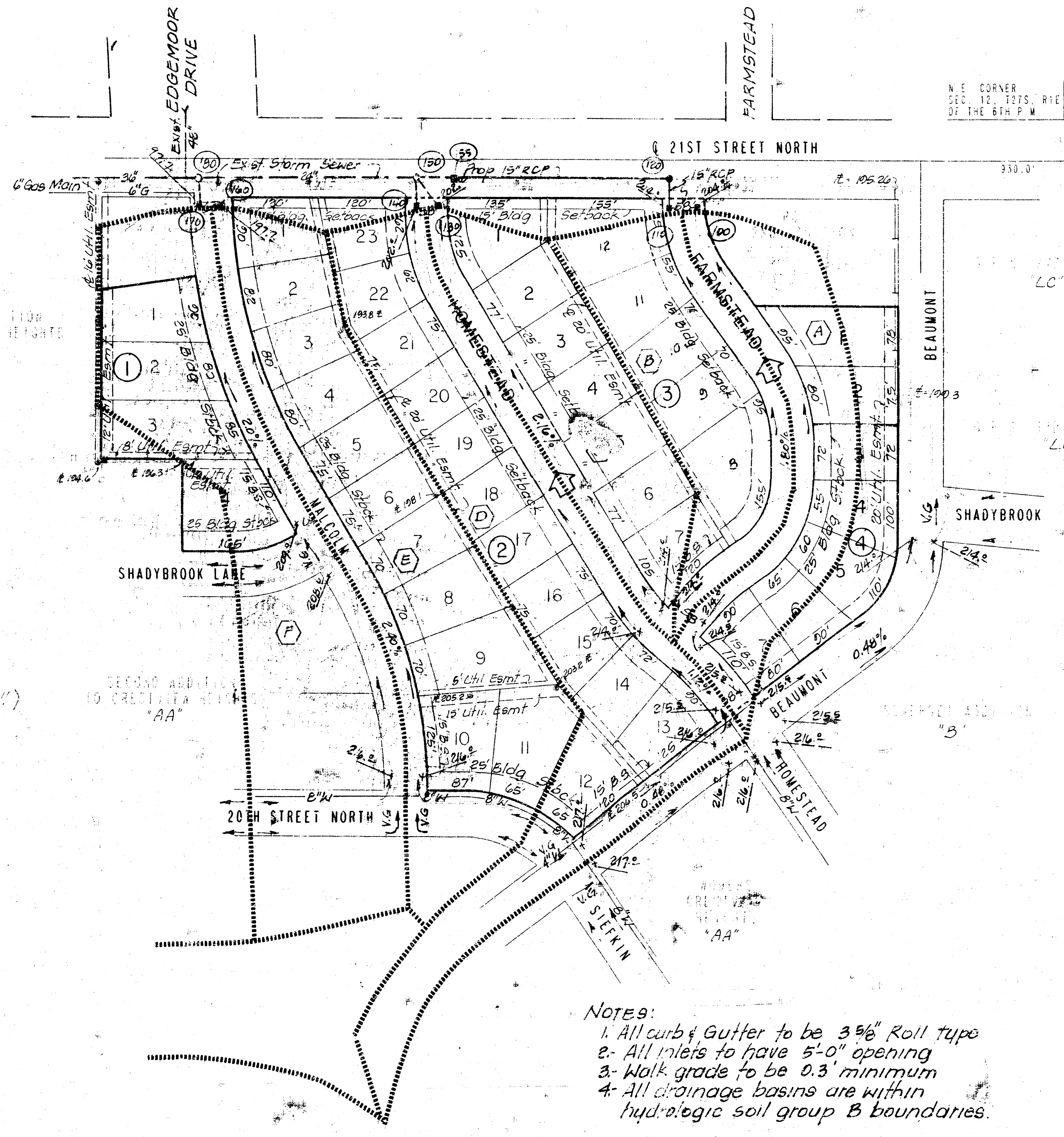
City B.M. Disc at N.E. Cor. retaining wall of S.W. Cor. of Woodlawn & 21st Street No. Elev. = 203.65 City Datum.

SCALE: 1"=100'
Feb. 1993

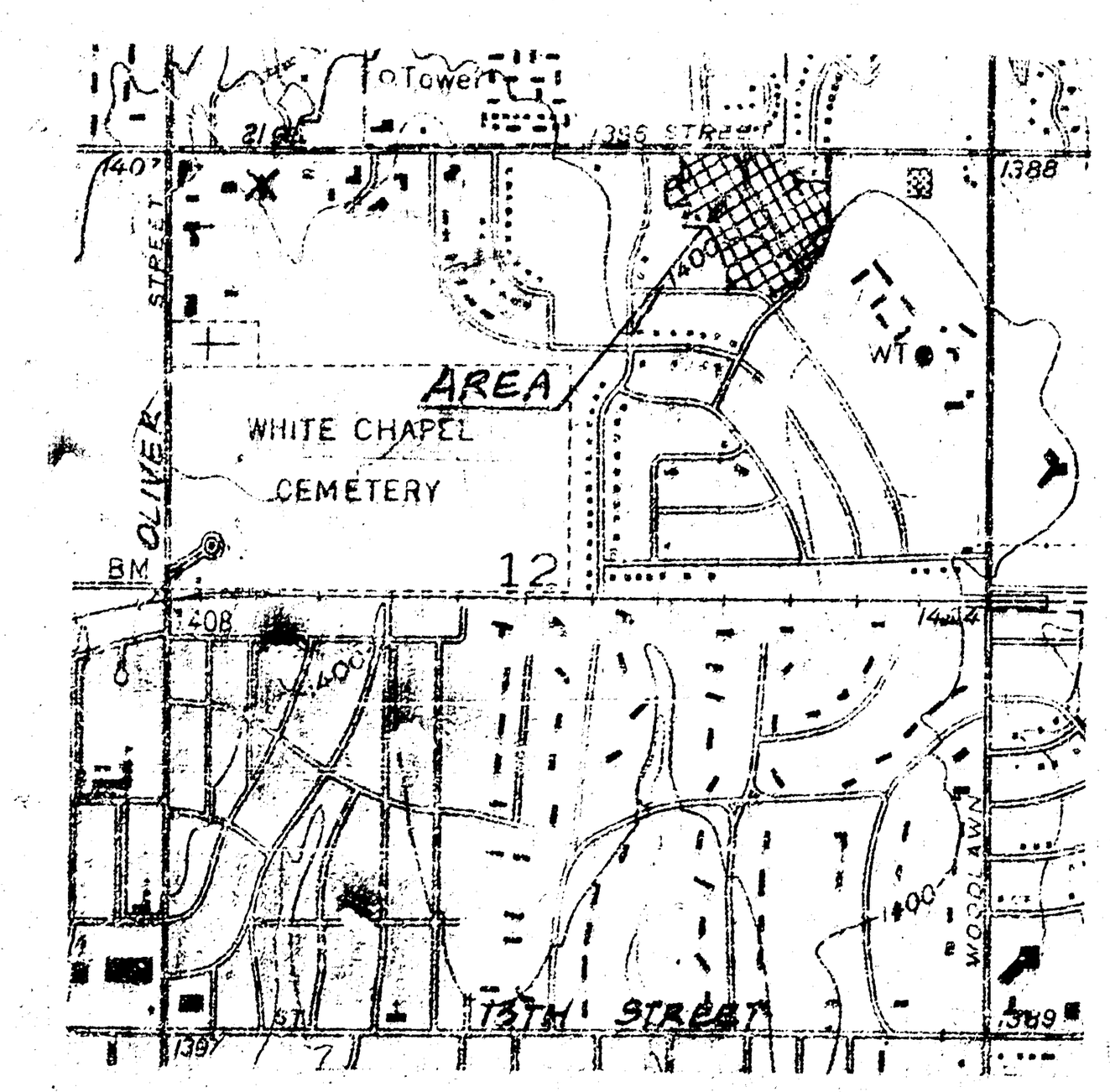
B.M. - R.R. SPIKE IN S.W. FACE POWER POLE AT S.W. CORNER 21ST AND FARMSTEAD, APPROX. 190' WEST OF BEAUMONT. ELEV.=204.64 CITY DATUM

Topo:- Feb. 1993

Notes:
1.- 12 KV 3φ, 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.)



Notes:
1. All curb & Gutter to be 3 5/8" 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.



AREA MAP

HYDROLOGY

RI = 2 RAINFALL INTENSITY

a = 57.46 m 0.82 b = 12.2 HYDRO-35 IDF FORMULA
SOIL GROUP NO. B

NO.	AREA (ACRES)	LEN	Y	%IMP	%HLM	CN	CN ADJ	S	LAG	Fi	Fh	Tc	i	RI	C	Q
A	1.67	700	[illegible]	38	100	75	75	3.33	0.21	0.79	0.46	15	3.83	2	0.33	[illegible]
B	1.83	620	[illegible]	38	100	75	75	3.33	0.19	0.79	0.46	15	3.83	2	0.33	2.3
C	1.79	615	[illegible]	38	100	75	75	3.33	0.17	0.79	0.46	15	3.83	2	0.33	2.3
D	3.94	1450	[illegible]	38	100	75	75	3.33	0.34	0.79	0.46	15	3.83	2	0.33	5.0
E	3.75	970	2.20	38	100	75	75	3.33	0.24	0.79	0.46	15	3.83	2	0.33	4.8
F	3.87	1005	[illegible]	38	100	75	75	3.33	0.25	0.79	0.46	15	3.83	2	0.33	5.0

RI = 100 RAINFALL INTENSITY

a = 61.66 m 0.66 b = 10 HYDRO-35 IDF FORMULA
SOIL GROUP NO. B

NO.	AREA (ACRES)	LEN	Y	%IMP	%HLM	CN	CN ADJ	S	LAG	Fi	Fh	Tc	i	RI	C	Q
A	1.67	700	1.80	38	100	75	75	3.33	0.21	0.79	0.46	15	7.37	100	0.49	6.0
B	1.83	620	[illegible]	38	100	75	75	3.33	0.19	0.79	0.46	15	7.37	100	0.49	6.5
C	1.79	615	2.16	38	100	75	75	3.33	0.17	0.79	0.46	15	7.37	100	0.49	6.4
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	[illegible]	38	100	75	75	3.33	0.24	0.79	0.46	15	7.37	100	0.49	13.5
F	3.87	1005	2.20	38	100	75	75	3.33	0.25	0.79	0.46	15	7.37	100	0.49	13.9

FLOODED PAVEMENT [illegible] USING ROLL TYPE (3 [illegible] '') COMBINED CURB & GUTTER

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

EQUATION : ALLOWABLE Q = 0.56(Z/n)S^(1/2)d^(8/3)

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

NODE	FLOW AMOUNT FROM	2-YEAR Q (cfs)	100-YEAR Q (cfs)	Z	n	S	ALLOWABLE 2-YEAR Q (cfs)	ALLOWABLE 100-YEAR Q (cfs)
100	100% S	[illegible]	6.0	32	0.016	0.0180	6.1	38.5
110	100% S	2.3	6.5	32	0.016	0.0180	6.1	38.5
130	100% S	[illegible]	6.4	32	0.016	0.0216	6.6	42.2
140	100% S	5.0	14.2	32	0.016	0.0216	6.6	42.2
160	100% S	4.8	13.5	32	0.016	0.0200	6.4	40.6
170	100% 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 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