

DRAINAGE PLAN 9-96

DILLON 12TH ADDITION

TO SEDGWICK COUNTY, KANSAS

OWNER: HARRY B. BROWN JR.
800 DUBLIN
WICHITA, KANSAS 67206

ENGINEERS: PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
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WICHITA, KANSAS 67202

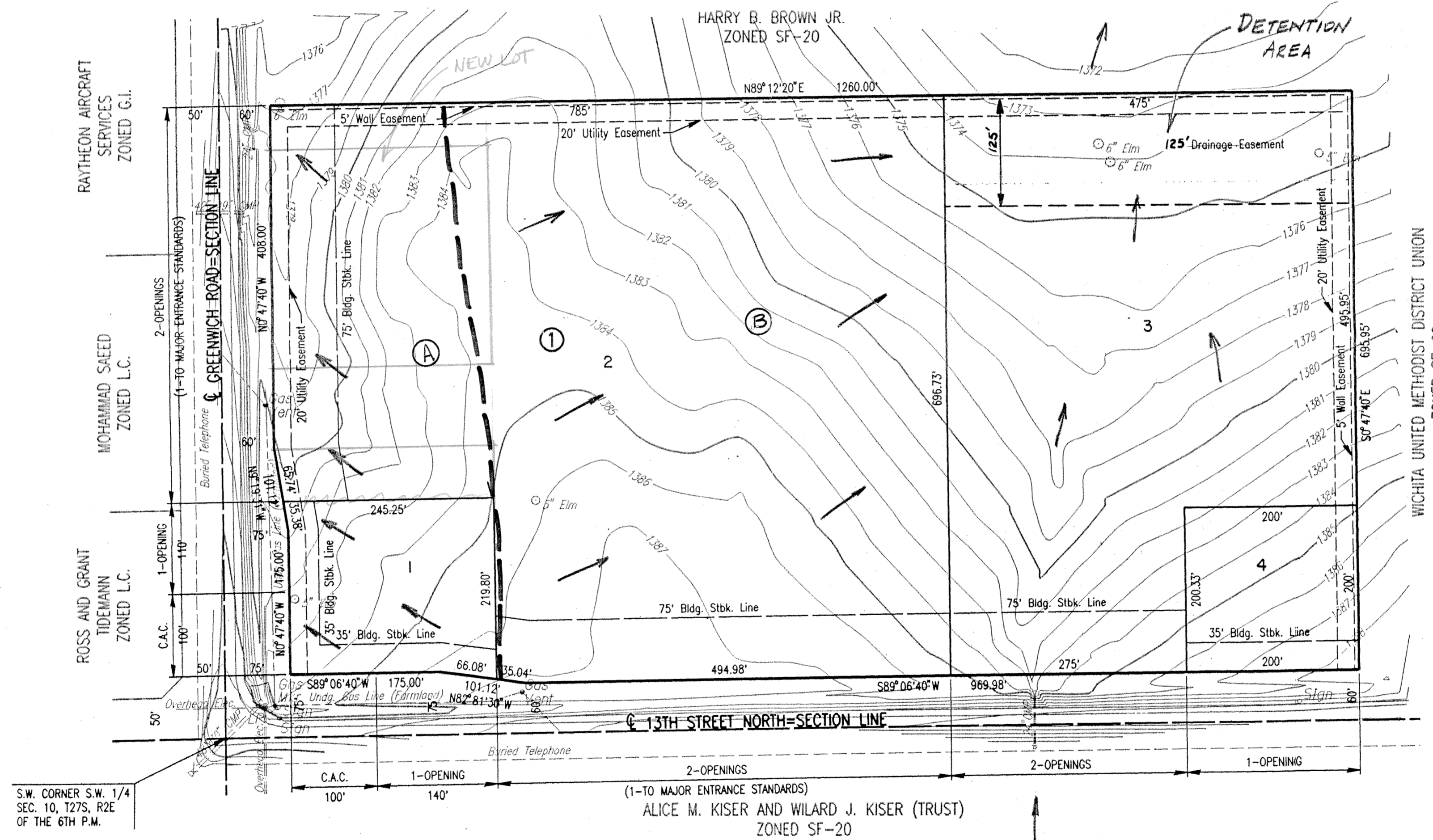
DEVELOPER: DILLON COMPANIES, INC.
c/o LEE KELLY
BOX 1608
HUTCHINSON, KANSAS 67504-1618

Sheet 1

BASIN	AREA (ac.)	C _s	C ₁₀₀	i _s	i ₁₀₀	Q _s	Q ₁₀₀
A	3.5	0.85	0.93	4.61	7.36	13.7	24.0
B	16.5	0.85	0.93	4.61	7.36	64.7	112.9

Detention Pond Design

Detention pond must be sized to detain the difference between the pre- and post-developed site conditions storm runoff for the 100-year rainfall. Using Figure 9, the pond must provide a total of 2.08 acre-feet of storage. The drainage easement along the North of Lot 3 will achieve the required storage at approximately 2.6 feet of depth.

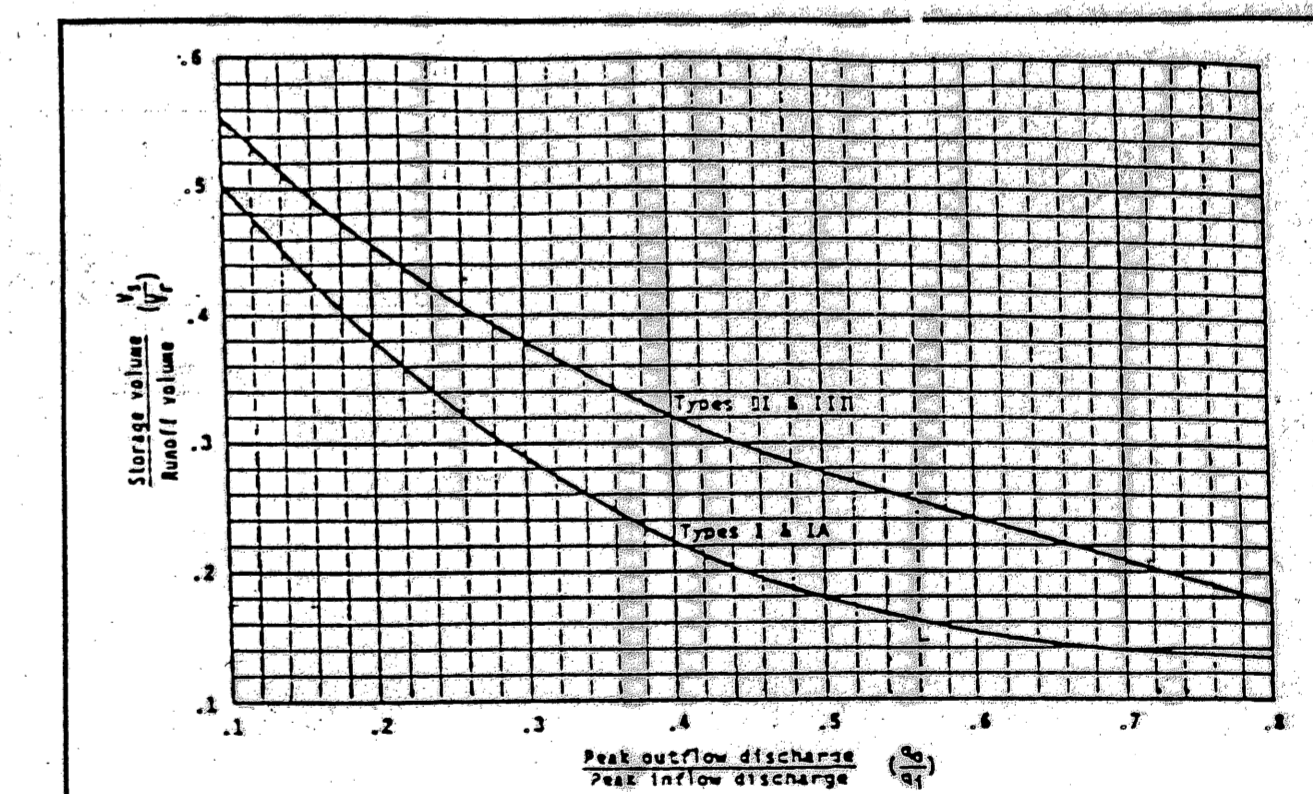


S.W. CORNER S.W. 1/4 SEC. 10, T27S, R2E OF THE 6TH P.M.

NOTE: WATER AND SEWER AVAILABLE TO SITE ON GREENWICH ROAD 1/2 MILE SOUTH OF 13TH STREET NORTH.

NOTE: Storm runoff from the South which may enter this site on Lot 3 via an existing 24" CMP under 13th Street North is assumed to be routed across, under, or around this site without detention. This drainage will be routed such that any drainage system constructed on this site will have sufficient capacity to carry the pre-developed 100-year storm runoff from the drainage basin to the South. If significant development of the basin to the South occurs, the difference in runoff between pre- and post-developed conditions of that basin will have to be detained on the property to the South.

SCALE: 1"=100'
DATE: AUGUST, 1996
B.S.L. = BUILDING SETBACK LINE
C.A.C. = COMPLETE ACCESS CONTROL
SEE C.U.P. DP-224 FOR ADDITIONAL SETBACKS



EQUATIONS
 $S = (1000/CN) - 10.0$ where: Q_i = Peak CFS inflow to detention
 CN = SCS Curve Number from Table A
 $Q = (P - 0.25)^2 / (P + 8.5)$ where: * Rational Method
 Q = Runoff in inches * Hydrograph routing
 P = 24 hour rainfall in inches Q_r = Peak CFS disch. from detention
 Table B Criteria Max. (CFS/Trib. Acre)
 $VR = (Q/12) * A * 43,560$ where: * 1.2 CFS - 2 year
 VR = Cu. Ft. Inflow to detention * 1.5 CFS - 10 year
 A = Acres tributary to detention * 2.0 CFS - 100 year

EXAMPLE FOR 10 YEAR STORAGE
 A = 8.0 Acres Q_i = (0.65 * 8.0 * 5.21) = 27 CFS
 CN = 90 (C-65) S = (1000/90) - 10 = 1.11
 Q_r = 8 * 1.5 = 12 CFS Q = 3.92" (24 hour runoff)
 T_c = 15.0 min. (1 - 5.21) VR = (3.92/12) * 8 * 43560 =
 P = 5.04" = 113,716 Cu.Ft.
 Q_r/Q_i = (12/27) = 0.44
 FROM GRAPH, TYPE II STORM: V_s/V_r = 0.3
 V_s Required = 0.3 * 113,716 = 34,114 cu. ft. = 0.78 acre ft.

FIGURE 9

ust/ustn/dgn: 1-1995/9591/prelimdgn deliver: to Sanchez

242 "A"