HYDROLOGY

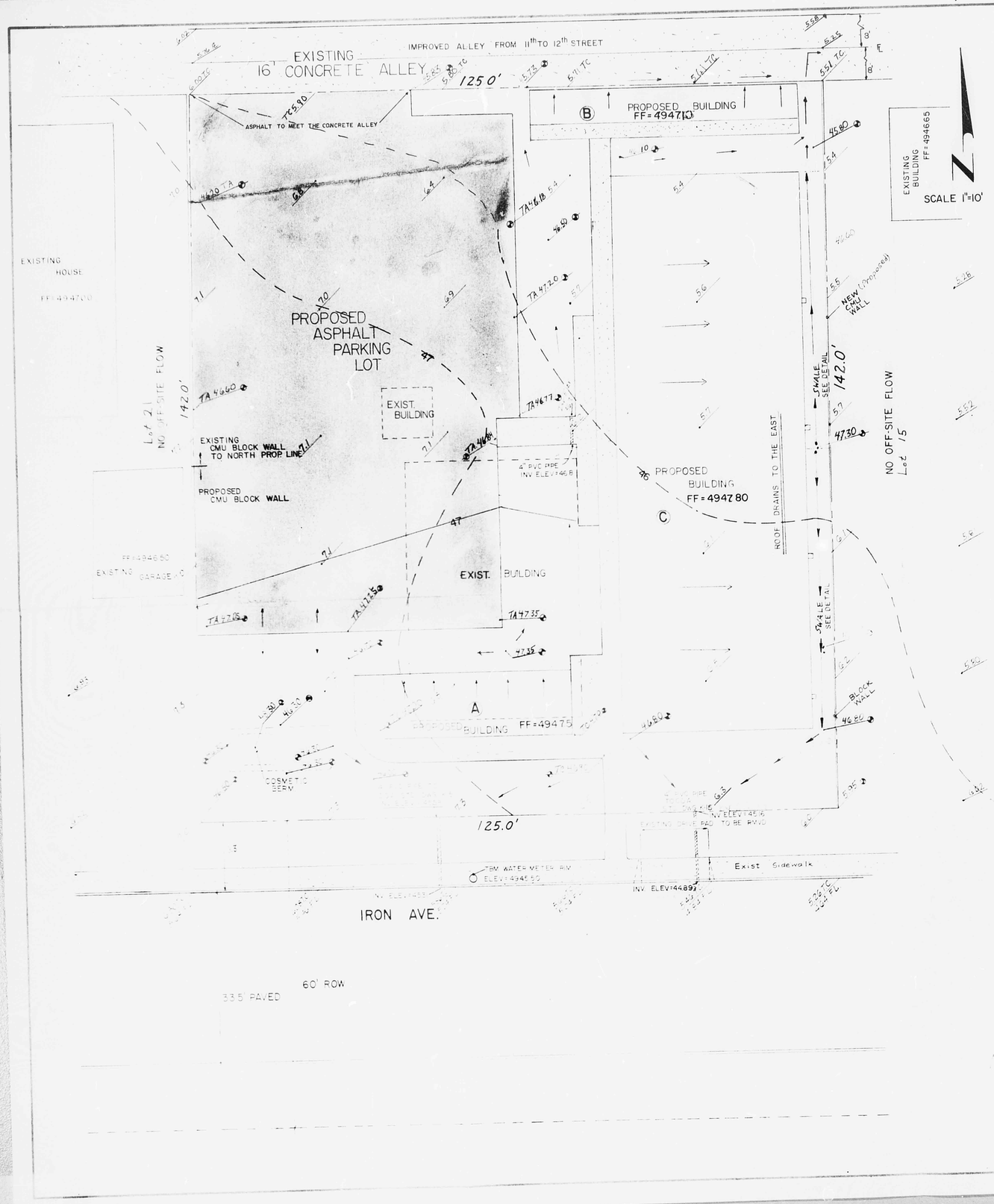
K13/D17

K13/D17

APARTMENTS

1105 IRON S.W.

1 PLAN



GRADING AND DRAINAGE PLAN

For

Lots 16 thru 20 of Block 42 Raynolds Addition

DRAINAGE INFORMATION

I. References

A. City of Albuquerque, Development Process Manual (DPM), Volume 2, Design Criteria
B. Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico, U.S. Soil Conservation Service, Sheet
C. Flood Insurance Rate Map, City of Albuquerque, New Mexico Panel

II. General Information

A. Site Location and Elevation Data
1. Legal Description: Lots 16, 17, 18, 19 of Raynolds Addition, Block 42
2. Total Site Area: 17,750 Sq.ft or .4075 acres
3. City Address: 1105 Iron S.W.
4. City Bench Mark: 3-K13
5. County Zone Atlas: K-13

B. Soil Type (Reference B) Rt, Brazito Complex, Sheet 30
Hydrologic Soils Group A

C. 6-hour, 100-year rain, P_6 = 2.2inches Reference , Plate 22.2 D-1

D. Runoff Coefficient ("C" Factor) Reference , Plate
Undeveloped "C" Factor, Curve is
Developed "C" Factor, assume the following values:
Buildings and concrete surfaces
Asphalt concrete paving
Landscaping, same as natural soil

Weighted "C" Factor:

Type of Surface	"C"	Area (SF)	C x A
Concrete	1.0	960	960
Asphalt	.98	6195	6071
Roof	1.0	4000	4000
Sod	.35	5595	1958
Total		17750	14,989

Weighted "C" Factor = $\frac{\Sigma\ (\text{"C"} \times A)}{\Sigma\ A}$ = 14,989/17750

E. Time of Concentration - Developed Area
Watershed length L = 190'
Watershed change in elevation h = 1.6'
Watershed slope S = h/L = .0084
by Kirpich equation $T = .0078\ (L^{0.77}/S^{0.385})$ < 10 minutes
T = 10 minutes minimum

F. Intensity Reference , Plate
$I = P_6 \times 0.84 \times T_c^{-0.51}$
= 6.65 in/hr

G. Peak Discharge - Rational Method: Q = CIA
Q = .98 x 6.65 x .4075
= 2.92 cfs

III. Existing Conditions (Undeveloped)

A. "C" Factor = .57 Plate 22.2 C-2

B. Time of Concentration
Watershed length L = 190'
Watershed change in elevation h = 1.6'
Watershed slope S = h/L = .0084
by Kirpich equation $T = 0.0078\ (L^{0.77}/S^{0.385})$ < 10 minutes
T = 10 minutes minimum T = 3 min. Use 10 min

C. Intensity Reference , Plate
$I = (P_6 \times 0.84)/T_c^{0.51}$
= 4.65 in/hr

D. Peak Discharge - Rational Method: Q = CIA
Q = CIA
= .57 x 4.65 x .4075
= 1.08 cfs

IV. Pond Calculations
Volume created due to development
V =
ΔV_{100} = 1.52 - 1.08 = .44 cfs
ΔV_{10} = .29 cfs

LEGEND

EXISTING CONTOURS — — — 46 — — —
PROPOSED CONTOURS 46
EXISTING SPOT ELEVATION 46.20
PROPOSED SPOT ELEVATION
DIRECTION OF FLOW
ROOF DRAIN

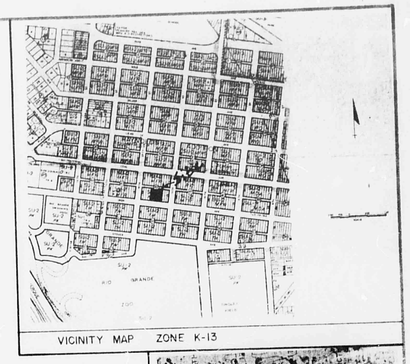
NOTE

NO BEARINGS WERE ESTABLISHED ON RECORDED PLAT

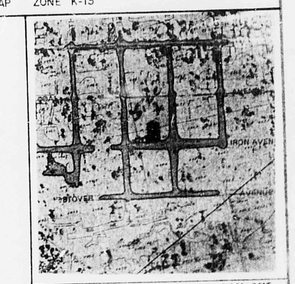
FLOOD HAZARD INFORMATION

Since the site is encroached by a 100 year flood zone the finish floor elevation must be 1' above the top of the flood level. Since the flood description is S_0 for 1', the finish floor must be 2' above the flow line.

Building	Flowline	Min. Finish Floor	Proposed Finish Floor
A	45.35	4 .35	47.50
B	45.05	4 .05	47.10
C	45.00	4 .00	47.80



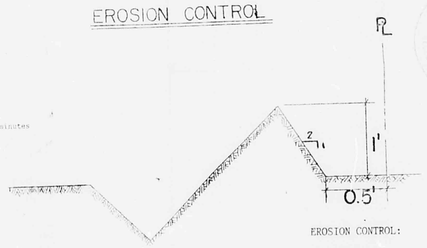
VICINITY MAP ZONE K-13



SITE NOT IN A 100yr FLOOD ZONE
FLOODWAY MAP # 28

SWALE DETAIL
Swale Capacity 16 cfs
Capacity needed .25 cfs

EROSION CONTROL



BERM DETAIL

Richard Hall
Aug 13, 1985

EROSION CONTROL:

The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.

A 1' berm shall be placed along the east property line and also along the west property line where the existing CMU block does not exist.

BENCH MARK

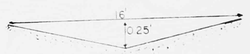
BENCH MARK 3-K13, A SQUARE ☑ , CHISELED ON TOP OF CONCRETE CURB AT THE WSW CURB RETURN, LOCATED AT THE INTERSECTION OF 12th AND STOVER IN THE S.W. QUADERANT OF THE INTERSECTION. 3-K13 ELEV.=4945.

RECEIVED
AUG 19 1985
HYDROLOGY SECTION

TEMPORARY BENCH MARK

TEMPORARY BENCH MARK IS AT THE WATER METER RIM FOR 1105 IRON ST S.W. AT THE NORTHERN MOST POINT OF THE RIM. ELEV.= 4945.90.

ALLEY CAPACITY



ALLEY X-SECTION

K13/D17