NOTES:

The proposed improvements include an 1,800 SF office building, an asphalt parking area for 10 cars and associated walks and landscaped areas. A 6'-high concrete block wall will be constructed along the north, south, and west property lines. In particular, the west wall will be constructed 11' inside the west property line to provide access to neighbors now using an unplatted area as an alley. A trash enclosure will be built at the southwest corner of the site to be accessed from the alley.

The present site is undeveloped land sloping at approximately 1.5% from Monroe Street (east side of property) to the alley on the west side of the property. Undeveloped land lies north of the site, with an existing developed business adjacent to the south side.

The intent of this plan is to show:

a) Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.

b) The extent of proposed site improvements, including buildings, walks and pavement.

c) The flow rate/volume of rainfall runoff across or around these improvements and methods of handling these flows to meet City requirements for drainage management.

d) The relationship of onsite improvements with existing neighboring property to insure an orderly transition between proposed and surrounding grades.

DRAINAGE PLAN CONCEPT:

In a predesign meeting with COA Hydrology, it was determined that free discharge of all developed flows from the site is acceptable. In order to avoid impacting established historical flows in the unplatted and unpaved alley, the roof and pavement runoff will be routed across the parking area to drain through a sidewalk culvert into Monroe Street N.E. The only runoff into the alley will be nuisance flows from the vicinity of the west property line and the trash enclosure.

GENERAL NOTES:

LEGAL: Lot 22-A, Block 4, New Year Addition, Albuquerque, NM.

SURVEYOR: Ronald A. Forstbauer Surveying Co., Rio Rancho, NM, May, 1988.

B.M.: C.O.A. Benchmark I-517, a square chiseled on the top of curb at the westnorthwest curb return at the intersection of Monroe Street and Lomas Boulevard N.E. Elevation = 5,225.22'.

T.B.M.: An 'x' chiseled into the top of curbing at the southwest corner of the site. Elevation = 5,224.00'.

SOILS: SCS Soil Survey for Bernalillo County (Sheet 31) includes the soil is Etc (Embudo-Tijeras Complex), a gravelly fine sandy loam classified as Hydrologic Soil Type 'B'.

FLOOD HAZARD: FEMA Flood Hazard Map (Panel 29) indicates the site does not lie within a flood hazard zone.

OFF-SITE DRAINAGE: No offsite flows will affect the site. Historical runoff in the unplatted alley at the west end of the property will not be altered, interrupted or increased.

CALCULATIONS: Calculations are based on the City of Albuquerque D.P.M. Manual, Vol. II for the 100-year, 6-hour storm, using the Rational Formula to compare the existing and proposed runoff rates.

RATIONAL METHOD — Q = CIA

Area of site: 8,610 SF = 0.1977 AC

Run-off Coefficient:

Existing site:
Undeveloped Area = 8,610 SF

Developed Site:
Roof Area = 1,795 SF
Landscaped Area = 1,816 SF
Paved Area = 4,954 SF

$$C_u = \frac{(8610)(0.40)}{8610} = 0.40$$

$$C_r = \frac{(1795)(0.90)}{8610} = 0.19$$

$$C_l = \frac{(1861)(0.25)}{8610} = 0.05$$

$$C_p = \frac{(4954)(0.95)}{8610} = 0.55$$

Composite C = 0.40

Composite C = 0.79

Rainfall Intensity:

$$I = P_6 (6.84) T_c^{-0.51} = 4.86 \text{ per hour}$$

where $P_6 = 2.5$ (DPM 22.2 D-1)
$T_c = 10$ minutes

Existing Condition:

$$Q_{100} = (0.40)(4.86)(0.1977) = 0.4 \text{ cfs}$$

$$V_{100} = (0.40)(P_6)(8610)/12 = 660 \text{ CF}$$

Developed Condition:

$$Q_{100} = (0.79)(4.86)(0.1977) = 0.8 \text{ cfs}$$

$$V_{100} = (0.79)(2.3)(8610)/12 = 1,305 \text{ CF}$$

SUMMARY:
$$Q_{100} = (0.8)-(0.4) = 0.4 \text{ cfs (increase)}$$
$$V_{100} = (1,305)-(545) = 445 \text{ CF (increase)}$$

CAPACITY OF SIDEWALK CULVERT:

Manning's Equation (1' wide, 6" deep channel, n=0.012, S=1.5%)

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2} = 2.7 \text{ cfs at } d = 0.5' \text{ (full)}$$

Q Required = 0.8 cfs ∴ SUFFICIENT

Title Block

WEISS-HINES ENGINEERING INC.
1100 ALVARADO N.E. SUITE B
ALBUQUERQUE, NEW MEXICO 87110
(505) 266-6444

ACUPUNCTURE CLINIC
DRAINAGE/GRADING PLAN

WH
ENGINEERING

HYDROLOGY SECTION
SEP 01 1988

Drawing labels

BLOCK 4
N 1"=10'
STREET N.E.
MONROE
FF=5,227.40'
NOTE: ALL ROOF DRAINAGE DISCHARGES TO N.E. CORNER
BLDG. OVERHANG
135.00'
124.00'
EXISTING 2-STORY BUILDING
EXISTING 1-STORY BUILDING
CONSTRUCT SMALL 2% SWALES, THESE AREAS
REMOVE EXISTING DRIVE AND CONSTRUCT 4'-WIDE WALK
CONSTRUCT 6' CMU WALL
CONSTRUCT 2'-WIDE CONCRETE DRIVE PER C.O.A. DWG. 2425
CONSTRUCT 4'-WIDE SIDEWALK CULVERT PER C.O.A. DWG. 2236
INSTALL 1'-WIDE CONCRETE CHANNEL TO DRAIN DOWNSPOUT

LEGEND

SECTION
CONCRETE CHANNEL
SECTION
THROUGH SIDEWALK

VICINITY MAP J-17

FLOOD HAZARD MAP

N
1"=10'

MONROE STREET N.E.

135.00'
50.00'
65.00'
124.00'

CONSTRUCT SHALLOW SWALES, THESE AREAS, S=0.5%

CONSTRUCT SHALLOW SWALE IN THIS AREA, S=0.5%

RETAINING WALLS SHOWN THUS

PROVIDE CURB CUT

CONSTRUCT 6"-HIGH ASPHALT CURB ON FL.

LOW PT.=25.3

SECTION

SECTION

LEGEND

VICINITY MAP U-17

FLOOD HAZARD MAP

SITE

SCOPE:

The proposed improvements include an 1,800 SF office building, an asphalt parking area for 10 cars and associated walks and landscaped areas. A 6'-high concrete block wall will be constructed along the north, south, and west property lines. In particular, the west wall will be constructed 11' inside the west property line to provide access to neighbors now using an unplatted area as an alley. A trash enclosure will be built at the southwest corner of the site to be accessed from the alley.

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GENERAL NOTES:

LEGAL: Lot 22-A, Block 4, New Year Addition, Albuquerque, NM.

SURVEYOR: Ronald A. Furnikaer Surveying Co., Rio Rancho, NM, May, 1988.

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$$C_r = \frac{(1795)(0.40)}{8610} = 0.19$$

$$C_l = \frac{(1816)(0.25)}{8610} = 0.05$$

$$C_p = \frac{(4954)(0.95)}{8610} = 0.55$$

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Composite C = 0.79

Rainfall Intensity:

$I = P_6 (6.84) T^{-0.51} = 4.86$ per hour
where $P_6 = 2.3$" (DPM 22.3 D-1)
$T = 10$ minutes

Existing Condition:

$Q_{100} = (0.40)(4.86)(0.1977) = 0.4$ cfs

$V_{100} = (0.40)(P_6)(8610)/12 = 660$ CF

Developed Condition:

$Q_{100} = (0.79)(4.86)(0.1977) = 0.8$ cfs

$V_{100} = (0.79)(2.3)(8610)/12 = 1,305$ CF

SUMMARY:

$Q_{100} = (0.8)-(0.4) = 0.4$ cfs (increase)
$V_{100} = (1305)-(660) = 645$ CF (increase)

CAPACITY OF SIDEWALK CULVERT:

ACUPUNCTURE CLINIC
DRAINAGE/GRADING PLAN

WH ENGINEERING

Bk. 21   DATE 3452 OF 62

CITY OF ALBUQUERQUE