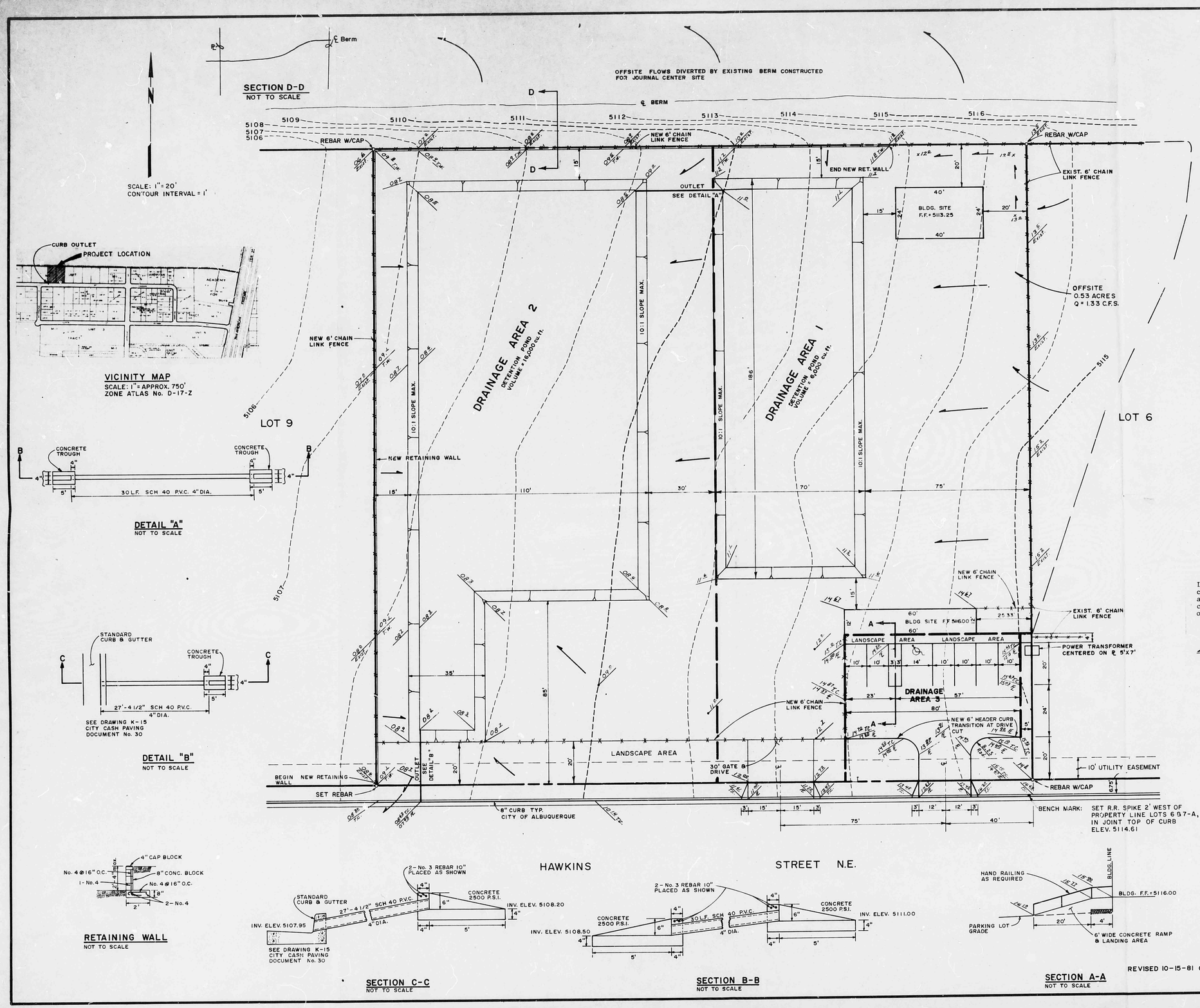
HYDROLOGY

D17/D8
1 PLAN

D17/D8

1 Plan



REVISED 10-15-81 G.G.

DRAINAGE CALCULATIONS

OFFSITE DRAINAGE AREA = 0.53 AC.
ONSITE DRAINAGE AREA = 2.04 AC.
TIME OF CONCENTRATION = LESS THAN 5 MIN.
COEFFICIENT OF RUNOFF (C)
$C_{(UNDEVELOPED)} = 0.40$
$C_{(DEVELOPED)} = 0.90$
RAINFALL INTENSITY = 6.30 IN./HR.

RECEIVED
OCT 16 1981
ENGINEERING

AREA 1 = 1.4011 AC.

$Q_{(UNDEVELOPED)} = 0.40 \times 6.30 \times 1.4011 = 3.53$ CFS.

$Q_{(DEVELOPED)} = 0.9 \times 6.30 \times 0.8711 \times 0.40 \times 6.30 \times 0.53 = 6.27$ C.F.S.

$RUNOFF_{(UNDEVELOPED)} = 0.40 \times 2.22 \times 1.4011 \times \frac{43560}{12} = 4516$ C.F.

$RUNOFF_{(DEVELOPED)} = 0.9 \times 2.22 \times 0.8711 \times \frac{43560}{12} = 6317$ C.F.

$RUNOFF_{(OFFSITE)} = 0.40 \times 2.22 \times 0.53 \times 3630 = 1708$ C.F.

TOTAL DETENTION IN POND 1 = 6000 C.F.

TOTAL FLOW FROM POND 1 TO POND 2 = 2025 C.F.

AREA 2 = 1.1227 AC.

$Q_{(UNDEVELOPED)} = 0.40 \times 6.30 \times 1.1227 = 2.83$ CFS.

$Q_{(DEVELOPED)} = 0.9 \times 6.30 \times 1.1227 = 6.37$ CFS.

$RUNOFF_{(UNDEVELOPED)} = 0.40 \times 2.22 \times 1.1227 \times \frac{43560}{12} = 3619$ C.F.

$RUNOFF_{(DEVELOPED)} = 0.9 \times 2.22 \times 1.1227 \times \frac{43560}{12} = 8143$ C.F.

TOTAL DETENTION IN POND 2 = 8143 + 2025 = 10,168 C.F.

AREA 3 = 0.1010 AC. C = 0.95

$Q_{(DEVELOPED)} = 0.95 \times 6.30 \times 0.1010 = 0.60$ CFS.

$RUNOFF_{(DEVELOPED)} = 0.95 \times 2.22 \times 0.1010 \times \frac{43560}{12} = 773$ C.F.

TOTAL RUNOFF FROM SITE = 773 C.F.

$Q_{5\ YEAR} = 0.40 \times 2.04 \times 2.1 = 1.71$ C.F.S.

PEAK RATE OF FLOW THROUGH 4 IN. OUTLET PIPE

$Q = KA\,2gh^{1/2}$ $K = 0.60$ $A = 0.087$ FT.^{2} $h = 0.25$

$Q = 0.6 \times 0.087 \times [64.4 \times 0.25]^{1/2} = 0.210$ CFS. PEAK RATE AT CONTROLLED OUTLET

TOTAL DISCHARGE = 0.210 + 0.60 = 0.81 C.F.S.
LESS THAN 1.71 C.F.S.

I, GILBERT D. GARDNER, New Mexico P.E.L.S. 5653 do hereby certify that the topographic survey, drainage computations and grading plan were prepared under my supervision and conform to the City of Albuquerque Regulations to the best of my knowledge.

Gilbert D. Gardner — Gilbert D. Gardner

Sept 10, 1981 — Date

APPROVED FOR DRAINAGE

10/16/81 — DATE

CE/H&S — TITLE

CONTINGENCIES

NOTES:

1. STORAGE AREA
   MINIMUM OF 4" ROLLED SLAG OR EQUAL WITH WEED KILLER OVER NATIVE SOIL.
2. PAVED VEHICLE PARKING AREA
   ASPHALT AREA SHALL BE 4" ROLLED BASE WITH 2" ASPHALT WITH WEED KILLER OVER NATIVE SOIL. PARKING SPACES SHALL BE STRIPED IN ACCORDANCE WITH LOCAL CODES.

BENCH MARK: A.C.S. 8-D17A BRASS TABLET IN CONCRETE POST 0.2' ABOVE EXISTING GROUND. ELEVATION 5145.55 LOCATED 300'(±) SOUTH ℄ OF ELLISON ST. N.E. AND 45.0' WEST ℄ OF JEFFERSON ST. N.E.

GRADING & DRAINAGE PLAN
LOT 7-A
INTERSTATE INDUSTRIAL TRACT
UNIT IV

GARDNER, MASON & ASSOC., INC.
ALBUQUERQUE, NEW MEXICO

SHEET 1 OF 1

PROJECT Nº	DRAWN:	CHECKED:	DATE:
81-0330	RLB	T.N.B.	8/28/81
	TRACED:	APPROVED:	SCALE: 1"=20'