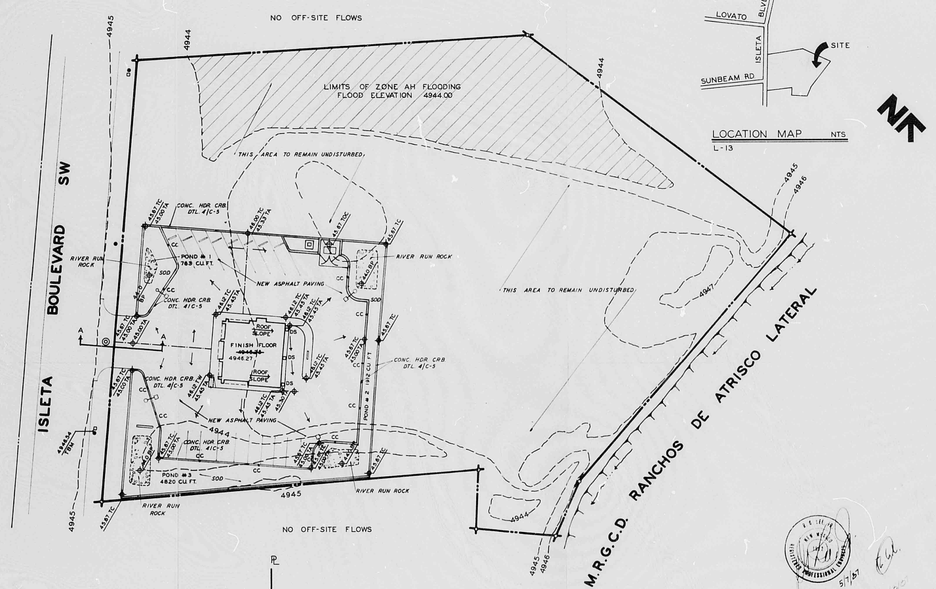
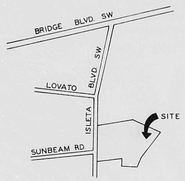
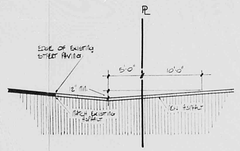
PUBLIC WORKS/HYDROLOGY

L13/D6





LOCATION MAP NTS
L-13



SECTION A-A
NTS

TOTAL POND VOLUME	
POND # 1 =	763 CU.FT.
POND # 2 =	1912 CU.FT.
POND # 3 =	4820 CU.FT.
TOTAL	7495 CU.FT.

I HEREBY CERTIFY THAT I AM A LICENSED ENGINEER, # 1872, AND HAVE CHECKED THE FINISH FLOOR ELEVATION AND FOUND IT TO BE IN SUBSTANTIAL COMPLIANCE AS SHOWN HEREON.

5/1/87

GRADING & DRAINAGE PLAN

1" = 30'-0" 0 15 30 60 90

LEGAL DESCRIPTION:
PORTION OF TRACT 92
A.L.L. OF TRACT 249-B
M.R.G.C.D. MAP # 41

NOTE
UPON COMPLETION OF CONSTRUCTION, CERTIFICATION BY THE ENGINEER IS REQUIRED

DRAINAGE CALCULATIONS

I. REFERENCES:
- A. City of Albuquerque Development Process Manual (DPM) Vol. 2, Design Criteria, Chapter 22: Drainage, Flood Control, and Erosion Control.
- B. Soil Survey of Bernalillo County and parts of Sandoval and Valencia Counties, New Mexico, United States Department of Agriculture, Soil Conservation Service.
- C. Floodway, Flood Boundary and Floodway map, City of Albuquerque, New Mexico, Panel 34 of 50.
- D. Zone Atlas page L-13-Z.

II. GENERAL INFORMATION:
- A. Soil Type (Ref. B, Page 30) Soil type is Gila (GB). Hydrologic Soil Group "B".
- B. Imperviousness:

Type of Surface	Existing Sq. Ft.	Existing Acres	Proposed Sq. Ft.	Proposed Acres
Building Roof	-0-	-0-	2027	0.047
Concrete Surfaces	-0-	-0-	1410	0.032
Asphalt Surfaces	-0-	-0-	20385	0.468
Landscaping	-0-	-0-	7378	0.169
Undeveloped Surface	118353	2.717	87703	2.002
Site Total	118353	2.717	118353	2.717

- C. "C" Factor (See Amendment to the DPM Jan.19,1986)

1. Proposed impervious surfaces

	"C" Factor	Area	C x A
Building (Roof area)	0.90	0.047	0.041
Concrete surface	0.90	0.032	0.029
Asphalt surface	0.95	0.468	0.445
Landscaped surface	0.25	0.169	0.042
Undeveloped surface	0.40	2.002	0.801

Developed weighted "C" Factor = 0.50 (for total area)
"C" factor of developed portion only 0.54/0.741 = 0.71

2. Existing impervious surfaces

	"C" Factor	Area	C x A
Undeveloped area	0.40	2.717	1.087

Existing weighted "C" Factor = 0.40

- D. Rainfall, 100-year, 6-hour, P(6); (See Fur. A, Plate 22.2 D-1); P(6) = 2.25 inches.
- E. Time of Concentration, Tc: Tc 10 minutes; use 10 minutes (minimum value) for calculations.
- F. Rainfall intensity, I; (See Ref. A, Plate 22.2 D-2)
  - $I(6) \times 6.84 \times Ie \exp[-0.55]$
  - $2.25 \times 6.84 \times 10 \exp[-0.55]$
  - 4.76 in/hr

III. PEAK DISCHARGE: For developed area only.
- A. Existing Conditions, (Use Rational Equation)
  - $Q(100) = 0.40 \times 4.76 \times 0.74 = 1.41$ cfs
  - $Q(10) = 0.65 \times 1.41 = 0.93$ (Ref. A, Plate 22.2 D-1)
- B. Developed Conditions,
  - $Q(100) = 0.71 \times 4.76 \times 0.74 = 2.50$ cfs
  - $Q(10) = 0.65 \times 2.50 = 1.64$ cfs

IV. RAINFALL VOLUME: determined by SCS method
Direct Runoff (Ref. A Plate 22.2 C-4)
- $Qe = [P-200/CN-2]\exp 2 / [P+800/CN-8]$
- $P = 96 \times 0.75$
- $CN = 92$ (See Fr. C, A Plate 22.2 C-2)

Direct Runoff Qe = 1.46 inches
NOTE: Transmission losses are negated
Total volume [Qe] area(43560)ft (developed portion only)
- = 1.46 x 0.74 x 43560/12
- = 3922 cu. ft.

V. CONCLUSIONS:
1. There is no out fall to this site, thus all generated runoff shall be retained onsite by means of retention ponds as shown hereon.
2. There are no off-site flows onto this site.
3. A 100 year flood zone encroches onto the lower portion of the site. New development does not lie within this flood zone per reference C.

VI. CONSTRUCTION NOTES:
1. Two (2) working days prior to any excavation, contractor must contact line locating service at 765-1234 for location of existing utilities.
2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer up that the conflict can be resolved with a minimum amount of delay.
3. All work on this project shall be performed in accordance with applicable federal, state and local laws, rules, and regulations concerning construction safety and health.
4. All construction within City right-of-way shall be performed in accordance with applicable City of Alouquerque standards and proceedures.

SYMBOL LEGEND

7	Existing contour
4	Proposed spot elevation
	Direction of flow
	Edge of pond
CC	Cut in curb
TA	Top of asphalt
TC	Top of curb
TOC	Top of concrete
BP	Bottom of pond
DS	Downspout

Benchmark Information: All elevations are referenced to City Benchmark J-L13, bears elevation 4946.79 (MSL)
TBM on the temporary benchmark as shown on the plan being a 60 penny nail set on the north side of power pole, bearn elevation 4946.54

GRADING & DRAINAGE PLAN

B L A K E'S LOTABURGER
324 ISLETA BOULEVARD SW
ALBUQUERQUE, NEW MEXICO

RECEIVED DEC 07 1987 HYDROLOGY SECTION

C-2

R1 27 DATE 3-29-02 OP EOP

CITY OF ALBUQUERQUE

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DIRECTOR

CITY OF ALBUQUERQUE
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Roberta Duran
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STATE OF NEW MEXICO
My Commission Expires 6/18/02

PLANS/PLATS ON FILE

FILE DESC: L13/D6

PLANS/PLATS 1

E 30 D 24 C 20 B 16 A 12 CITY OF ALBUQERQUE C D F