HYDROLOGY G16/D15 ONE PLAN

G16/D15

1 PLAN

DEC 28 1978

# DRAINAGE REPORT

## LOT 25, TRACT 1, BLOCK "B"
## INDIAN ACRES SUBDIVISION

PREPARED FOR:

BILL CONNORS D/B/A INVESTORS DEVELOPMENT CO.

DECEMBER, 1978

PREPARED BY:

FRED DENNEY & ASSOCIATES, INC.
CONSULTING ENGINEERS - PLANNERS
ALBUQUERQUE, NEW MEXICO

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ALBUQUERQUE, NEW MEXICO

I, Louis W. Gross, hereby certify that the enclosed documents and drawings were prepared under my supervision and are true and correct to the best of my knowledge and belief.

Louis W. Gross

New Mexico Registered Professional
Engineer and Land Surveyor No. 4100

LOUIS W. GROSS
SEAL
NEW MEXICO
4100
AND LAND SURVEYOR
REGISTERED PROFESSIONAL ENGINEER

# DRAINAGE REPORT

## LOT 25, TRACT 1, BLOCK "B"

## INDIAN ACRES SUBDIVISION

## I. GENERAL

The Tract under study is described as Lot 25, Tract 1, Block "B" of Indian Acres Subdivision, which contains 33,781.25 square feet. The Tract is located on Aztec N.E. near the intersection with Carlisle N.E. as shown on the Location Map (G-16).

The Tract is not located in a 100 year flood plain and storm waters do not enter the Tract from adjacent properties. The 100 year - 6 hour rainfall for this location is 2.3 inches.

## II. CALCULATIONS

### A. Volumes:

Area 1 Before Development

$V_b$ = 143.75 x 46.5 x 2.3/12 x 0.4 = 513 cf

Area 1 After Development

$V_a$ = 143.75 x 46.5 x 2.3/12 x 0.9 = 1153 cf

Storage Required Area 1 = 1153 - 513 = 640 cf

Area 2 Before Development

$V_b$ = 6017 sf x 2.3/12 x 0.4 = 461 cf

Area 2 After Development

$V_a$ = 6017 sf x 2.3/12 x 0.9 = 1038 cf

Storage Required Area 2 = 1038 - 461 = 577 cf

Area 3 Before Development

$V_b$ = 16,342.25 sf x 2.3/12 x 0.4 = 1,253 cf

Area 3 After Development

$V_a$ = 16,342.25 sf x 2.3/12 x 0.9 = 2,819 cf

Storage Required Area 3 = 2,819 - 1,253 = 1,566 cf

Area 4 Before Development

$V_b$ = 4,737.5 x 2.3/12 x 0.4 = 363 cf

Area 4 After Development

$V_a$ = 4737.5 x 2.3/12 x 0.9 = 817 cf

Storage Required Area 4 = 817 - 363 = 454 cf

B. Storage Areas:

Area 1

1. $V_1$ = 11 $ft^2$ x 47 ft = 517 cf

Required Storage = 640 cf

640 - 517 = 123 cf released to Area 3

Area 2

2. $V_2$ = 2.67 $ft^2$ x 93 ft = 248 cf

Required Storage = 577 cf

577 - 248 = 329 cf released to Pond 5

Area 3

3. $V_3 = \frac{52 \times 15 + 44 \times 7}{2} \times 2$ = 1088 cf

4. $V_5$ = (20.92 x 62)+(2.67 x 16) = 1297+43 = 1340 cf

5. $V_{5A}$ = 1/2 x 22 x 22 x (2) x 1/3 = 161 cf

6. $V_{5B}$ = 1/2 x 17 x 22 x (2) x 1/3 = 125 cf

Total = 2714 cf

Required Storage = 1566 cf

2714 - 1566 = 1148 cf to contain runoff not contained in Areas 1, 2, & 4.

Area 4

7. $V_4$ = 1/2 x 14 x 18 x (2) x 1/3 = 84 cf

Required Storage = 454 cf

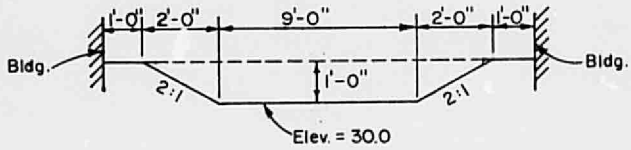
454 - 84 = 370 cf released to Pond 5

822 cf runoff from Areas 1, 2, & 4 must be contained by ponds in Area 3. Ponds in Area 3 have 1148 cf extra ponding volume and are located such that they can contain the required runoff from Areas 1, 2, & 4.

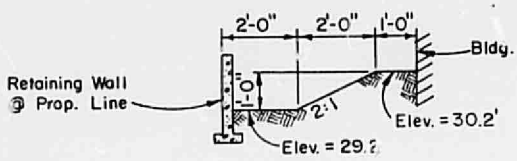
The drainage scheme for this tract will contain the storm runoff in order that no more runoff will discharge out of the area after development then would have otherwise been created assuming no development.

CROSS-SECTIONS OF PONDING AREAS

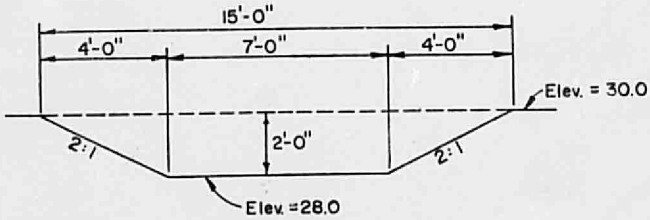
($V_1$)



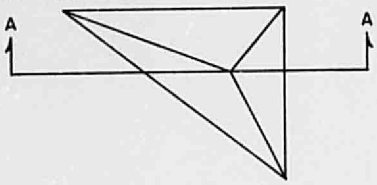

($V_2$)

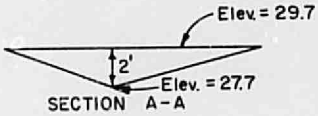


($V_3$)

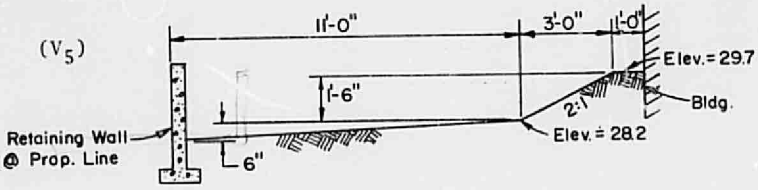



($V_4$, $V_{5A}$, $V_{5B}$)



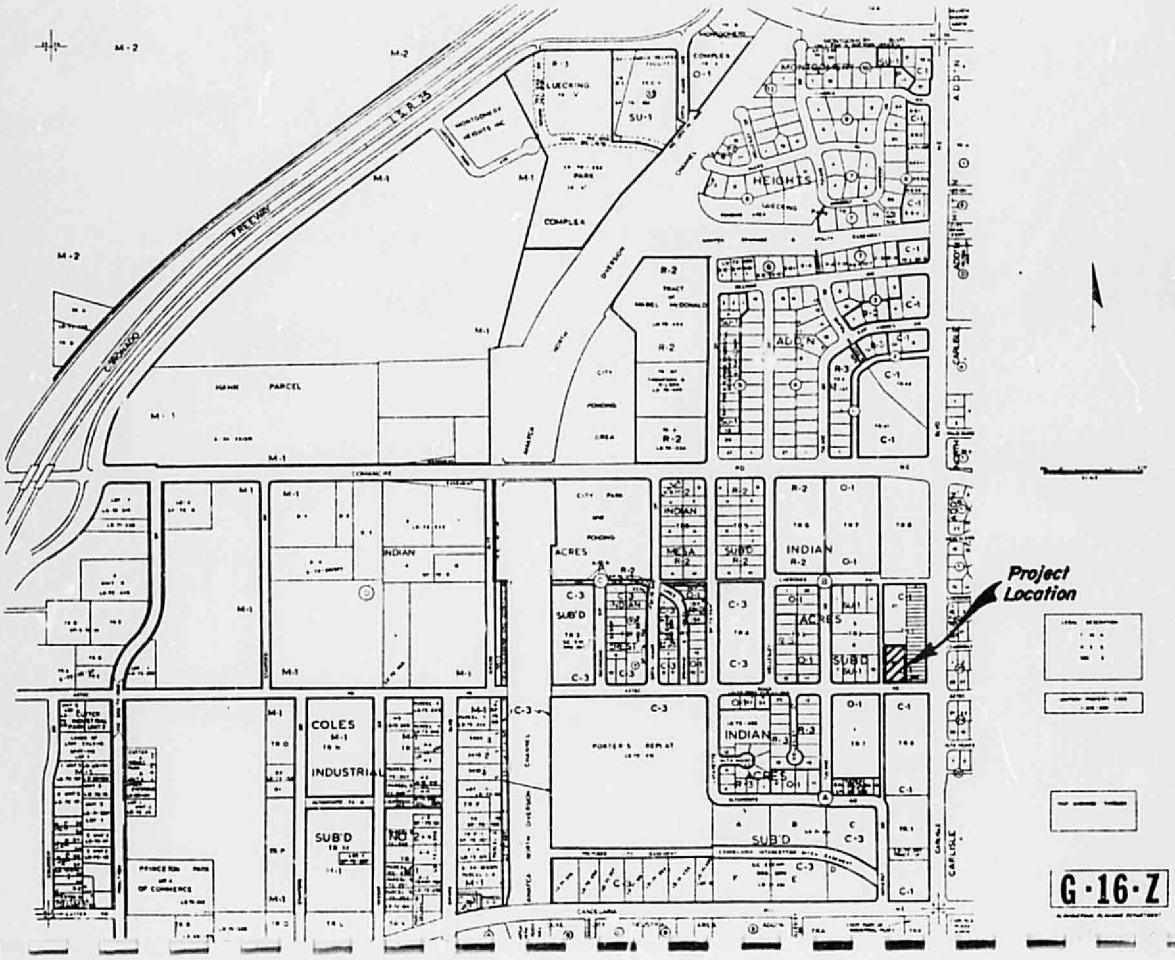

($V_5$)



## III. CONCLUSIONS AND RECOMMENDATIONS

1. That the Tract be developed in accordance with the attached grading plan.

2. Since this plan conforms with City Standards we recommend it be approved by the City of Albuquerque Drainage Engineer.


Project Location
G-16-Z
M-2
M-1
R-2
R-3
C-1
C-3
O-1
SU-1
HEIGHTS
ALDEN
INDIAN
ACRES
SUB'D
COLES
INDUSTRIAL
PARCEL
COMPLEX
PARK
CARLISLE

**City of Albuquerque**
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

**MAYOR**
*David Rusk*

April 27, 1979

Mr. John E. Segotta
Fred Denney & Assoc.
5643 Paradise Blvd. N.W.
Albuquerque, N.M. 87114

Re: Lot 25, Tract 1, Block D, Indian Acres Subdiv.

Dear Mr. Segotta:

Revised site plan dated April 23, 1979 is approved.

Please submit two copies to this office of the revised site plan for our records.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

FA/BC/fs

cc - Mr. Heller, City Engineer
Richard Leonard, AMAFCA
Drainage File

**City of Albuquerque**
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

**MAYOR**
*David Rusk*

April 27, 1979

Mr. John E. Segotta
Fred Denney & Assoc.
5643 Paradise Blvd. N.W.
Albuquerque, N.M. 87114

G16-D15

Re: Lot 25, Tract 1, Block D, Indian Acres Subdiv.

Dear Mr. Segotta:

Revised site plan dated April 23, 1979 is approved.

Please submit two copies to this office of the revised site plan for our records.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

FA/BC/fs

cc - Mr. Heller, City Engineer
Richard Leonard, AMAFCA
Drainage File
Reading file

FRED DENNEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
5643 PARADISE BLVD., N.W.
ALBUQUERQUE, NEW MEXICO 87114
(505) 898-2457

December 14, 1978

RECEIVED
DEC 14 1978
CITY ENGINEERS

Mr. Bruno Conegliano
City Drainage Engineer
City of Albuquerque
P.O. Box 1293
Albuquerque, N.M. 87103

Re: Drainage Report
Lot 25, Tract 1. Block"B"
Indian Acres Subdivision
F.D. Job No. 349.12

Dear Mr. Conegliano:

Transmitted herewith are two copies of subject Drainage Report for your review.

If you have any questions, please do not hesitate to give us a call.

Very truly yours,

John A. Segotta

John A. Segotta

JAS/rs
Enclosures

FRED DENNEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
5643 PARADISE BLVD., N.W.
ALBUQUERQUE, NEW MEXICO 87114
(505) 898-2457

May 1, 1979

Mr. Bruno Conegliano
Drainage Engineer
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

Re: Drainage Report for
Lot 25, Tract 1, Block "B"
Indian Acres Subdivision
F.D. Job No. 349.12

Dear Mr. Conegliano:

Transmitted herewith are two (2) copies of the approved Grading Plan for subject project as per your request.

If you require further information or have any questions, please do not hesitate to call us.

Very truly yours,

John A. Segotta

John A. Segotta

JAS/lm

RECEIVED
MAY 03 1979
CITY ENGINEERS

**City of Albuquerque**
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 7, 1978

Mr. Lou Gross
Fred Denney & Assoc.
5643 Paradise Blvd. N.W.
Albuquerque, New Mexico 87114

RE: LOT 25, TRACT 1, BLOCK "B", INDIAN ACRES SUBDIVISION

Dear Mr. Gross:

I have reviewed the above-referenced drainage report and have the following comments:

Pond #2 - Overflow el. 31.0, nat. gr. el. 27.8/27.9. Retaining wall required.

Pond #4 - T.P. 30.5 nat. gr. el. 28.5-Retaining wall required.

Pond #1 and #3 - Section indicates d=1.0 ft. Plan indicates bottom of pond at 30.0.F.F. el. of building to east at 31.0. May overflow enter building?

Pond #3 - Bottom el. at 30.0. nat. gr. el. at N.E. property line at 34.2. Undercutting of foundation of adjacent CMU wall?

Pond #5 - Bottom of pond at 30.0. Nat gr. el. 33.8, same concern.

Ponds #7 and 13 - Same concern.
Dashed lines South of northernmost buildings show T.P. elevations at 31.5. Drainage occurring on an uphill pavement from Pond #1?

Pond #8 - What flow drains to this pond?

Please revise site grading plan. Quantify drainage areas draining to each pond and indicate balance between D.A. [illegible] ond volumes. Indicate meaning of dashed lines shown on grading plan.

Very Truly Yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/tl
cc: Mr. Heller, City Engineer
Mr. Leonard, AMAFCA
Drainage File

FRED DENNEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
5643 PARADISE BLVD., N.W.
ALBUQUERQUE, NEW MEXICO 87114
(505) 898-2457

April 17, 1979

RECEIVED
APR 25 1979
CITY ENGINEERS

Mr. Fred Aguirre
Assistant Hydrology Engineer
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

Re: Lot 25, Tract 1, Block D
Indian Acres Subdivision
F.D. Job No. 349.12

Dear Mr. Aguirre:

Transmitted herewith is the revised grading plan for subject project in accordance with suggestions made by your office. Please note that we have changed the location and increased the volume of pond number two (storage capacity = 296 cu.ft.).

You will find that this change combined with the change made in our memorandum to you of March 30, 1979, will increase ponding volume for this tract in such a manner that total ponding volume is more than adequate to contain the required amount of runoff created by the development.

We therefore request your expeditious review and approval of subject project. If you have further questions or comments please give us a call.

Very truly yours,

John A. Segotta

John A. Segotta

JAS/lm

Enclosure

cc: Bill Connors D/B/A,
Investors Development Co.

FRED DENNEY & ASSOCIATES, INC.
CONSULTING ENGINEERS

# MEMORANDUM

Date March 30, 1979

To Mr. Fred Aquirre, Assistant Hydrology Engineer, City Of Albuquerque

From Fred Denney

Subject Lot 25, Tract 1, Block D, Indian Acres Subdivision

Attached herewith is the revised grading plan for subject project in accordance with our telephone conversation. Please note that I have changed the invert elevation of Ponding Area No. 3, from elevation 28 to elevation 27.5. After talking with you, I recomputed the storage volume necessary to compensate for the lost volume in Ponding Area No. 1. The half foot increase in depth in Area No. 3 produces the required capacity.

ENGINEERING

John R. Cejka, P.E.
1919-31 Alvarado N.E.
Albuquerque, N. M. 87110
Tel. (505) 255-4644

Mr. William Connors
Investors' Development Co.

Dear Mr. Connors:

Re: Damage to footings and structures at 3421 thru 3437 Aztec N.E., due to water run off.

Recently, city personnel questioned the possibility of settlement and footing damage to three, 4plex structures due to water run off. I have field inspected the three buildings in questiton located at the above address. From my inspection, it appears that if the following procedures are followed no hazards are probable:

a. Installation of appropriate retaining wall along the west property line to eliminate drainage onto adjacent properties.

b. Final grading with drainage slope away from buildings.

c. Splash pads should be installed to eliminate washing of soil.

d. Fill dirt should be compacted or natural earth left undisturbed.

With the above steps taken, there appears to be a limited possibility that run off water will undermine or damage the footings of the building in question.

Sincerely,

John R. Cejka, P.E.

FRED DENNEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
5643 PARADISE BLVD., N.W.
ALBUQUERQUE, NEW MEXICO 87114
(505) 898-2457

December 28, 1978

Mr. Fred Aguirre
Assist. Hydrology Engineer
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

Re: Drainage Report
Lot 25, Tract 1, Block "B"
Indian Acres Subdivision
F.D. Job No. 349.12

Dear Mr. Aguirre:

Transmitted herewith are two copies of subject drainage report for your review. We believe that we have satisfied all your requirements as per your previous review and would appreciate your immediate attention to this matter.

If you have any questions, please do not hesitate to give us a call.

Very truly yours,

John A. Segotta

John A. Segotta

JAS/lm

Enclosure