HYDROLOGY H16/D5 1 PLAN

H16/D5

1 PLAN

Z-1592 (Rev 2)

DRAINAGE STUDY FOR LONE STAR DEVELOPMENT CORPORATION

The area has been divided into three separate watersheds because of the proposed City street grades on Indian Plaza Drive and the alignment of the existing surface drainage easements. Flow is as shown on the accompanying drawings.

Discharge is computed from the formula Q = A c i

Where i is taken from U.S. Department of Commerce Study for 100-year, 6-hour precipitation for the Albuquerque area, June 1967.

Watershed 1

Total area = 2.7 acres
Ratio open land to impervious surface after construction = 34%
Average slope = 2.6%

Overland flow time - existing surface = 20 min.
Overland flow time - paved surface = 8 min.

$Q = 2.7 \times .4 \times 2.4 = 2.6$ cfs

$Q' = 2.7 \times .662 \times 2.4 = 4.3$ cfs

Where $c' = 34\% \times .2 = .068$
$66\% \times .9 = .594$
$.662$

Increase in discharge = Q'-Q = 1.7 cfs

Impounding area for 1 hour retention for increased discharge =

$$\frac{20-8}{9} \times 1.7 \times 60 \times 60 = 9200 \text{ cf}$$

Ponding area for watershed 1 =
5000 sf x 2' ave. depth = 10000 cf

Watershed 2

Total area = 2.3 acres
Ratio of open land to impervious surface after construction = 27%
Average slope = 2.4%

Overland flow time - existing surface = 15 min.
Overland flow time - paved surface = 8 min.

$Q = 2.3 \times .4 \times 2.4 = 2.2$ cfs

$Q' = 2.3 \times .711 \times 2.4 = 3.9$ cfs

Where c' = 27% x .2 = .054
73% x .9 = .657
.711

Increase in discharge = Q' - Q = 1.7 cfs

Impounding area for 1 hour retention for increased discharge =

$$\frac{15-8}{8} \times 1.7 \times 60 \times 60 = 5350 \text{ cf}$$

Ponding area for watershed 2 =
5400 sf x 1.0' ave. depth = 5400 cf

Watershed 3

Total area = 3.2 acres
Ratio of open land to impervious surface after construction = 38%
Average slope = 1.7%

Overland flow time - existing surface = 24 min.
Overland flow time - paved surface = 12 min.

$Q = 3.2 \times .4 \times 2.4 = 3.1$ cfs

$Q' = 3.2 \times .634 \times 2.4 = 4.9$ cfs

Where c' = 38% x .2 = .076
62% x .9 = .558
.634

Increase in discharge = Q' - Q = 1.8 cfs

Impounding area for 1 hour retention for increased discharge =

$$\frac{24-12}{12} \times 1.8 \times 60 \times 60 = 6480 \text{ cfs}$$

Ponding area for watershed 3 =
5500 sf x 1.5' ave. depth = 8250 cf

MAX FLATOW
Registered Professional Engineer No. 2961
Max Flatow

REGISTERED PROFESSIONAL ENGINEER
STATE OF
2961
NEW MEXICO
MAX FLATOW

Reading File

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 31, 1979

H16-D5

Mr. John A. Andrews, P. E.
Andrews, Asbury & Robert, Inc.
401 San Pedro, N. E.
Albuquerque, New Mexico 87108

REFERENCE: DRAINAGE REPORT - CLAYTON HEIGHTS BUSINESS ADDITION
TRACT 2 - GOODY'S RESTAURANT NO. 4

Dear Mr. Andrews:

The modifications to the drainage report for the referenced development are in agreement with the requirements conveyed to you by Mr. Heller. I will, therefore, sign the plat when submitted.

Very truly yours,

Bruno Conegliano
Asst. City Engineer - Hydrology

BC/bm

cc - Richard Leonard, AMAFCA w/attachment
Richard Heller
Drainage File

To Bill Mueller:
Please set up a sub-project under Blk-Blk-Drainage (#28?) for this "Lunada Channel" and indicate the $26,000± to be rec'd from this developer. Thanks, Dwayne 9/13/78

(This is one I discussed w/you earlier today)

SEP 7 1976

architectural systems co.

September 6, 1978

Mr. H. R. Orr, Jr.
Acting Director of Public Works
City of Albuquerque
Albuquerque, New Mexico

Re: Channel Work Related to
Lunada Subdivision

Dear Sir:

This letter will clarify our original letter of acceptance to participate in the improvement of channel work related to the Lunada Subdivision.

Our participation will be tendered at the final acceptance of the paving, by the City, for the Lunada Subdivision.

We will expect work, by the City, on the channel to commence within 6 to 9 months from date of this letter.

We also understand that the City will delete the channel improvement work from the Turnkey Agreement as presented by Bahannan-Huston, Inc.

Very truly yours,

Earl A. Boule

Earl A. Boule
Tambien, Inc.

EAB/cm

3609 Palo Duro N.E., Albuquerque, New Mexico 87110
P.O. Box 3624, Albuquerque, New Mexico 87110, 505-881-1494

ARCHITECTS 15 April 1976

City of Albuquerque
City Engineer
Drainage Engineer
400 Marquette, NW
Albuquerque, New Mexico 87103

Attn: Kleston Laws

Subj: Indian Plaza Apartments
3400 Block, Indian School Road, NE

Dear Mr Laws:

This is to assure you that the bank of the existing arroyo, adjacent to the westerly boundary of this site, will be stabilized where outfall of surface drainage occurs, in accordance with all applicable city requirements.

Sincerely yours,

Alan Rex

Alan Rex
REX/NORTON ARCHITECTS

cc: Crown Mining Corp.

Received 13 May 1976
Mr. Rex and I checked file and owner told City Commission in public meeting they would stabilize bank. Mr. Rex agreed such plans would be included prior to building permit approval

8200 1/2 menaul n.e., suite 6 albuquerque, new mexico 87110 505/294-7200