Terilynne Terr

Goldberg · Mann & Associates
Engineers·Planners
911 Pennsylvania St. Albuquerque, New Mexico 87110 (505) 265-3521

March 5, 1979 8-84

Mr. Bruno Conegliano
Assistant City Engineer/
Hydrology
Division of Engineering
P.O. Box 1293
Albuquerque, New Mexico 87103

Re: Terilynne Terrace Drainage Report

Dear Bruno:

I received your letter dated February 27, 1979 concerning the drainage report for Terilynne Terrace. You indicated that a flow of 600 cfs could be expected in Candelaria Boulevard. My calculations indicate that a flow of 600 cfs would exceed the curb by approximately eight inches. This level would be below our pads and finished floors.

The property to the east of our project is already developed. All the asphalt is sloped to flow into Candelaria. Our project will not cut off any flows that could not go onto Candelaria.

With rear yards as some as these, water has to be ponded against the walls and foundations. Therefore, a note has been added to our drawings requiring the walls and foundations to be water proofed. Pond volumes have been increased to exceed a 100 percent retention.

Attached are two (2) copies of the revised Conclusions, Calculations and Grading Plan.

If you have any questions, do not hesitate to call.

Yours truly,

GOLDBERG-MANN & ASSOCIATES

Thomas T. Mann, Jr., P.E.
President

TTM:jj
Att.

CONCLUSIONS

The following conclusions and recommendations are made for the development of Terilynne Terrace.

1. Construct backyard ponds for all lots.
2. Drain all roofs to the rear yard.
3. The average pond volume shall be greater than 504 cubic feet.
4. Drain front yards and proposed frontage street along the pathways of historic drainage.

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

MAYOR
David Rusk

pending file

February 27, 1979

H22-D13

Mr. Tom Mann, President
Goldberg-Mann & Assoc.
911 Pennsylvania St. N.E.
Albuquerque, New Mexico 87110

Re: Drainage Report for Terilynne Subdivision

Dear Mr. Mann:

The drainage report for the captioned report has been reviewed and my comments are as follows:

During the storm of August 10, 1963, excessive flooding is reported to have occurred in Candelaria Road. Even though protective facilities have been built since that date, and the residential pads proposed are elevated above the street level, an estimate of the 100 year water surface on Candelaria needs to be supplied with the drainage report. Regarding the internal provisions for drainage, I note that the elevations for the proposed retaining wall at the east property line are not given. Will the retaining wall prevent the natural runoff from the east to continue flowing through this property?

The grading plan also indicates that the runoff from the roof will accumulate against the garden wall to the south. What provisions will be made to prevent damages to the foundation and to the wall? The drainage report shows a detail of how the back yard ponding is supposed to be constructed. The same detail should be shown on the grading plan. I note also the ponding volume for the back yard ponds is computed using the procedure that makes allowance for the undeveloped runoff to exit the property. Since there is no way for the excess water to leave the property, the volume of the ponds must be adequate to handle 100% of the roof runoff.

It is my recommendation that a gravel trench be constructed in the ponding areas to supply the additional volume required and to remove from the back yards the runoff from the more frequent storms.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/fs
cc - Dick Heller, Rich Leonard, Drainage File

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

February 27, 1979

H22-013

Mr. Tom Mann, President
Goldberg-Mann & Assoc.
511 Pennsylvania St. N.E.
Albuquerque, New Mexico 87110

Re: Drainage Report for Terilynne Subdivision

Dear Mr. Mann:

The drainage report for the captioned report has been reviewed and my comments are as follows:

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Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/fs
cc - Dick Heller, Rich Leonard, Drainage File

RICHARD E. LEONARD
EXECUTIVE ENGINEER

S. H. SWINEBURNE, CHAIRMAN
WILLIAM V. HEREFORD, VICE-CHAIRMAN
FRANCES McCOY, SECRETARY-TREASURER
VERNON DOAK, DIRECTOR
KLEETON LAWS, DIRECTOR

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority

2600 PROSPECT AVE. N.E.
P. O. BOX 25851 - ALBUQUERQUE, N. M. 87125
TELEPHONE 344-3516

February 23, 1979

Memo For: Board of Directors
Technical Standards Committee
Task Force

From: Rich Leonard, AMAFCA REL

Attached is a Memorandum of Agreement designed to streamline the processing of drainage reports. We hope that it will be helpful to all.

Thank you for your contributions which led to this agreement.

MEMORANDUM OF AGREEMENT

THIS AGREEMENT, made and entered into this 22 day of January, 1979, by and between THE CITY OF ALBUQUERQUE, hereinafter called "City", and the ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY, hereinafter called the "Authority",

W I T N E S S E T H:

WHEREAS, the City and Authority are desirous of streamlining the administration of the agreement entered into between the parties on March 13, 1975, providing for the designation of a City employee to act for the Executive Engineer in the administration of the Drainage Regulation of the Authority; and

WHEREAS, authority to enter into an agreement of this nature is conferred by Section 72-16-22, N.M.S.A., 1978 Comp.

NOW, THEREFORE, IN CONSIDERATION OF THE MUTUAL COVENANTS AND PROMISES HEREINAFTER CONTAINED, BE IT AGREED BETWEEN THE PARTIES:

1. The Executive Engineer and the Designee shall cooperate in encouraging innovative or aesthetically desirable approaches to storm drainage management. When Drainage Regulation requirements conflict with aesthetic or health or safety or other objectives, a reasonable compromise should be adopted. Some sacrifice of drainage requirements is acceptable to further other community goals. Significant departures should be coordinated with the Executive Engineer.

2. The Executive Engineer or the Designee may permit the development of storm drainage systems in stages within a given subdivision, provided that no dwellings or other buildings may be constructed in any portion of such subdivision which would be without required protection from storm runoff.

3. Formal drainage reports required in Section 6 of the Drainage Regulation may be waived for individual tracts containing less than 1 acre.

4. The City and the Authority shall share in the cost of preparing a manual to be used by the Executive Engineer, Designee, and the engineering profession in the preparation and review of drainage reports. The developmental and engineering communities shall be invited to comment on the draft of the manual.

5. The Drainage Regulation permits discharge into a storm drainage facility, provided downstream capacity is adequate. Unless there is convincing evidence to the contrary, those arroyos with substantial downstream improvements -- notably channels paved with concrete by public authority -- will be considered as having adequate capacity.

6. The City pledges to eliminate the backlog of drainage reports by March 1, 1979.

7. When a drainage report is disapproved, the reason for nonacceptance will be clearly specified in writing. Upon resubmittal, review will be limited to those matters earlier specified as deficient and to changes from the original submission.

8. Appeal procedures are outlined in the Drainage Regulation.

9. It is not the intent of the Drainage Regulation to dictate a total solution at any cost. Rather, the intent is to require an economically reasonable degree of compliance. The Executive Engineer should be consulted on questionable cases.

10. For major developments, the developer and his engineer shall, at their request, be granted a pre-design conference to discuss drainage concepts.

11. For the purpose of demonstrating noncomplying or unsatisfactory drainage reports, the Executive Engineer may comment on and forward such reports to the Albuquerque Homebuilders Association, the New Mexico Society of Professional Engineers, and other professional organizations.

IN WITNESS WHEREOF, The City of Albuquerque, by the Honorable David Rusk, Mayor of the City, and the Albuquerque Metropolitan Arroyo Flood Control Authority, by B. H. Swinburne, President and Chairman of its Board of Directors, have caused this Agreement to be signed on the year and date first above mentioned.

CITY OF ALBUQUERQUE

By _____
MAYOR

(SEAL)

ATTEST:

_____
City Clerk

ALBUQUERQUE METROPOLITAN ARROYO
FLOOD CONTROL AUTHORITY

By _____
B. H. Swinburne

(SEAL)

ATTEST:

_____
Secretary-Treasurer

RICHARD E. LEONARD
EXECUTIVE ENGINEER

B. H. SWINEBURNE, CHAIRMAN
WILLIAM V. HEREFORD, VICE-CHAIRMAN
FRANCES McCOY, SECRETARY-TREASURER
VERNON OOAK, DIRECTOR
KLESTON LAWS, DIRECTOR

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority

2600 PROSPECT A/E. N.E
P. O. BOX 25851 - ALBUQUERQUE, N. M. 87125
TELEPHONE 344-3516

February 13, 1979

Mr. Gerald Davenport
Director of Municipal Development
City of Albuquerque

Dear Mr. Davenport:

Reference our discussion this morning.

This will affirm AMAFCA's willingness to share reasonable costs of professional services for processing drainage reports. We feel an obligation to help you eliminate the backlog and comply with the 7-day response time established by Drainage Resolution 1972-2.

Be assured that AMAFCA supports your efforts to respond positively to legitimate complaints from the development community.

Sincerely,

Richard E Leonard

Richard E. Leonard
Executive Engineer

REL:ic
cc: H. Orr
R. Heller
B. Conegliano

Goldberg · Mann & Associates
Engineers·Planners
911 Pennsylvania St. Albuquerque, New Mexico 87110 (505) 265-3521

February 2, 1979

8-84

RECEIVED
FEB 02 1979
CITY ENGINEER

Mr. Bruno Conegliano
Assistant City Engineer/
Hydrology
Department of Public Works
P.O. Box 1293
Albuquerque, New Mexico 87103

Re: Terilynne Terrace Drainage Report

Dear Bruno:

Transmitted herwith for your approval are two (2) copies of the Terilynne Terrace Drainage Report. The construction drawings have also been submitted for review.

If you have any questions, do not hesitate to call.

Yours truly,

GOLDBERG-MANN & ASSOCIATES

Thomas T. Mann, Jr., P.E.
President

TTM:jj
Enc. 2

Teri lynne Terrace

Following question need to be considered in Dr Report and not

~~What is the~~ necessarily sound .b.s Ok

Water surface el. in Candelaria?

Retaining wall @ East P.L. Preventing flow from adjacent

property? - Elevation of proposed wall not indicated

Proposed accumulation of Garden wall on South Garden wall

Existing. Water proofing of wall and foundation necessary

to prevent damages.

Inadequate ponding volume provided because ~~all the roof~~ rear yard don't accommodate 100 % of the runoff ~~drainage is conveyed to back ponding area~~ It is recommended

that a gravel trench be provided in the back yard

to accommodate additional ponding volume and reduce

the minor storm runoff.

Area 1 - Total Area to Drain to Street

Area = (362) (56) = 20,272 s.f. = 0.47 acres

Q = (.76) (5.4) (.47) = 2.0 c.f.s.

TOTAL DEVELOPED RUNOFF = 2.0 c.f.s.

TOTAL UNDEVELOPED RUNOFF = 2.2 c.f.s.

SIZE OF POND

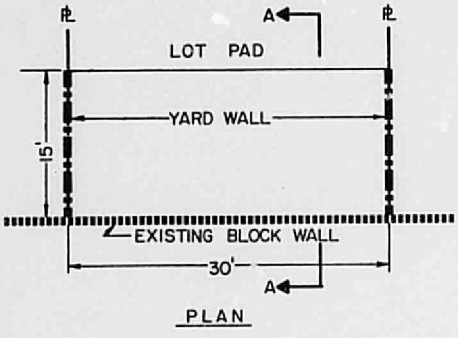
Volume Required per Lot = (30) (84) (0.2) = 504 cu. ft.

Average Pond Area = 15 x 30 = 450 sq. ft.

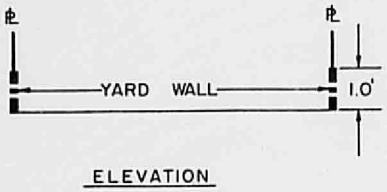
Average Depth of Pond = 1.15 ft.

Pond Volume per Lot = 517.5 cu. ft.

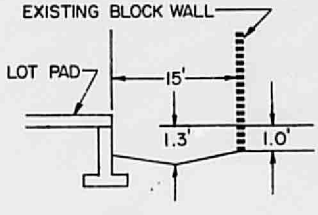
POND CONFIGURATION DETAIL



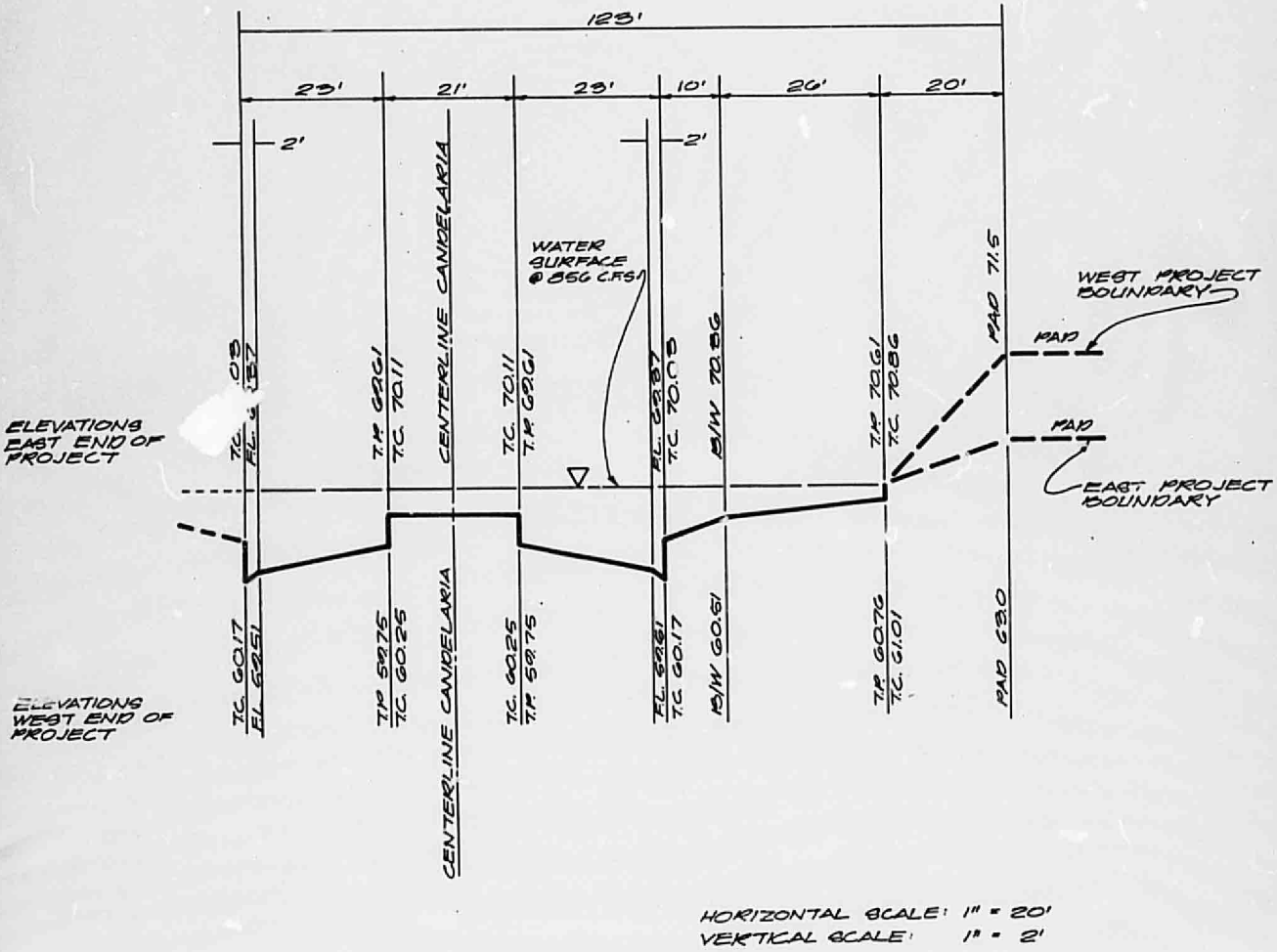
PLAN



ELEVATION



SECTION A-A



HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

DRAINAGE REPORT for the TERILYNNE SUBDIVISION

Goldberg · Mann & Associates
Engineers-Planners
911 Pennsylvania N.E. Albuquerque, New Mexico 87110

Goldberg · Mann & Associates
Engineers·Planners
911 Pennsylvania St. Albuquerque, New Mexico 87110 (505) 265-3521

February 2, 1979 8-84

Mr. Charles Bacheller
Tipton and Associates
Suite 437 E
6400 Uptown Boulevard N.E.
Albuquerque, New Mexico 87110

Re: Terilynne Terrace Drainage Report

Dear Mr. Bacheller:

We are herewith transmitting three (3) copies of the drainage report for the Terilynne Subdivision.

The drainage plan is in accordance with the requirements of the City of Albuquerque and the Albuquerque Metropolitan Arroyo Flood Control Authority.

We have enjoyed working with you on this project and look forward to future opportunities to assist you.

Sincerely yours,

GOLDBERG-MANN AND ASSOCIATES, INC.

Thomas T. Mann, Jr., P.E.
President

jj
Enc.

TABLE OF CONTENTS

LIST OF FIGURES

PURPOSE AND SCOPE

The purpose of this drainage plan is to establish the criteria for controlling surface runoff from a particular development in a manner that is acceptable to the City of Albuquerque and to the Albuquerque Metropolitan Arroyo Flood Control Authority.

This plan will determine the runoff resulting from a 100 year frequency storm falling on the site under existing and developed conditions.

The scope of this plan is to ensure that the proposed project will be protected from storm runoff and that the construction of this project will not increase the flooding potential of the adjacent properties.

LOCATION AND DESCRIPTION OF PROJECT SITE

The Terilynne Terrace Subdivision is located within the corporate limits of the City of Albuquerque in the northeast quadrant. The parcel is located on the south side of Candelaria N.E. between Tahiti and Lucerne. The site is bounded on three sides by residentially developed land, with the fourth side bounding Candelaria N.E.

The parcel is approximately 1.16 acres and will be developed as a duplex residential subdivision with twelve (12) lots. The vegatation is sparse, and the soils are of decomposed granite.

FIGURE 1.
LOCATION MAP

DATE
RECEIVED_____

APPLICANT

NAME: Charles Bacheller
ADDRESS: 6400 Uptown Blvd. N.E.
Albuquerque, N.M. 8711
PHONE: (505) 883-6600
SIGNATURE:_____

LOCATION OF PARCEL

LOT NO: 27-31 BLOCK NO: 102
SUBDIVISION: Replat-Brentwood Hills
STREET ADDRESS: Candelaria Road N.E.
Albuquerque, N.M.
CURRENT ZONING: R-2

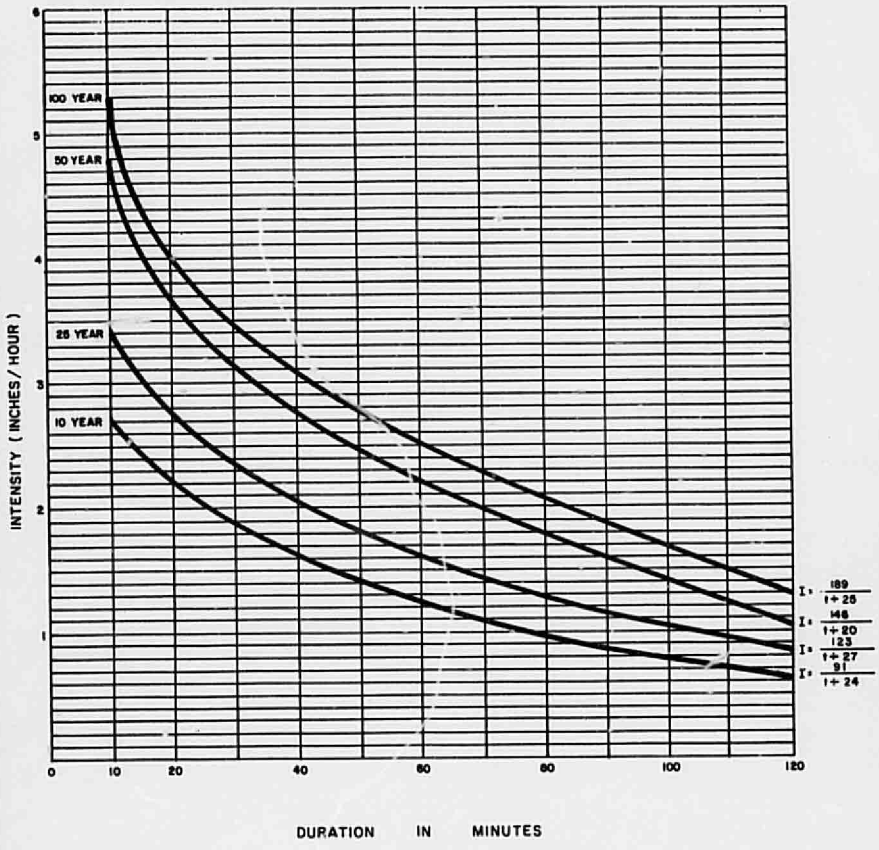
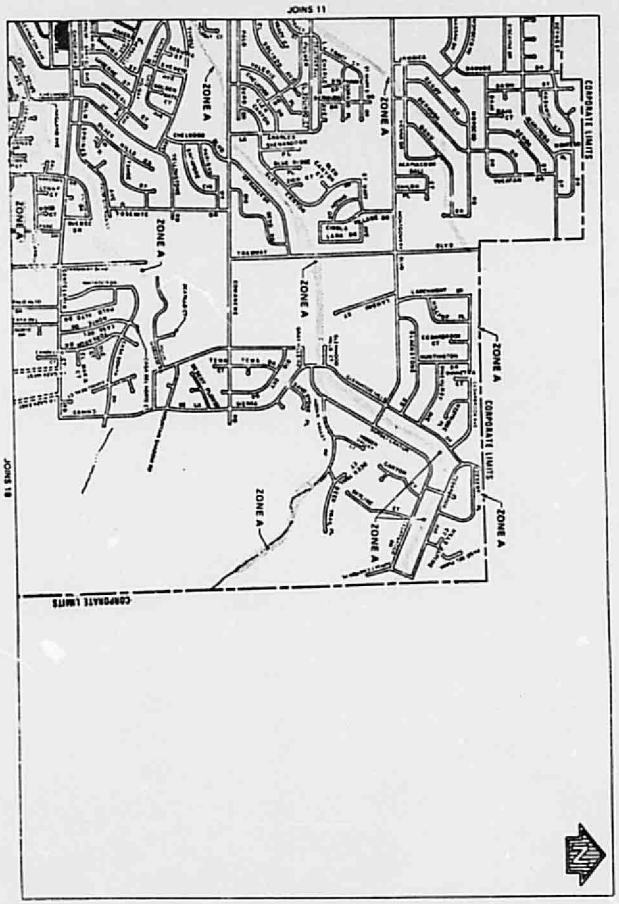


FIGURE 2

INTENSITY DURATION FREQUENCY CURVES



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Federal Insurance Administration CITY OF ALBUQUERQUE, NM (BERNALILLO CO)	APPROXIMATE SCALE 1000 0 1000 2000 3000 4000 FEET	FLOOD HAZARD BOUNDARY MAP	MAP REVISED 2/14/78	FIGURE 3

DESIGN CRITERIA

In analyzing the storm runoff, the Rational Formula, $Q = CIA$ is used.

Where:

Q = Runoff quantity in cubic feet/second.

A = Contributing area in acres.

I = Intensity in inches/hour for a duration equal in minutes and obtained from Figure 3, Intensity Duration Frequency Curves, Albuquerque Area 1962. (Note: Where a Time of Concentration [Tc] is less than ten minutes, the intensity value derived from a Tc of ten (10) minutes is employed.)

C = Runoff coefficient (No Units). This coefficient represents the integrated effects of infiltration, detention storage, evaporation, retention, flow routing, and interception which all affect the time distribution and peak rate of runoff.

EXISTING DRAINAGE CONDITIONS

The site is developed on three sides with the entire onsite stormwater flow draining to Candelaria N.E. There are block walls on two of the three sides abutting the property.

Offsite flows are not a factor for consideration in this plan.

The existing topography, as shown on the Grading Plan (refer to Grading Plan), slopes from the east to the west at approximately 2.7 percent.

PROPOSED DRAINAGE CONDITIONS

The Grading Plan for the proposed subdivision is contained herein (refer to Figure 4). The conveyances of offsite flows will not be altered.

All lots within the subdivision will have rear yard ponding as shown on the grading plan. All roofs will drain to the rear yard. The runoff from the front yards and the proposed frontage street will be carried in Candelaria N.E.

All drainage facilities will be designed in accordance with the City of Albuquerque standards.

CONCLUSIONS

The following conclusions and recommendations are made for the development of Terilynne Terrace.

1. Construct backyard ponds for all lots.
2. Drain all roofs to the rear yard.
3. The average pond volume shall be greater than 253 cubic feet.
4. Drain front yards and proposed frontage street along the pathways of historic drainage.

CALCULATIONS

Undeveloped Flows

Area = 1.16 acres

Length = 140'

Slope = 2.7%

Tc = 10 min.

$I = \frac{189}{25 + 10} = 5.4$ inches/hour

$Q_{100} = (0.35)(5.4)(1.16) = 2.2$ c.f.s.

Developed Flows

Area Draining to Street

Impervious Area

Frontage Street	=	7,843
Driveways	=	2,880
Individual Walks	=	960
Sidewalk	=	2,172
		13,855 s.f. = 68%

Pervious Area

(362 x 56) - 13,855 = 6,417 s.f. = 32%

Total Area = 20,272 s.f. = 100%

Composite 'C' Factor

0.95 x 0.68 = 0.65

0.35 x 0.32 = 0.11

0.76

Area 1 - Total Area to Drain to Street

Area = (362) (56) = 20,272 s.f. = .47 acres

Q = (.76) (5.4) (.47) = 2.0 c.f.s.

TOTAL DEVELOPED RUNOFF = 2.0 c.f.s.

TOTAL UNDEVELOPED RUNOFF = 2.2 c.f.s.

SIZE OF POND

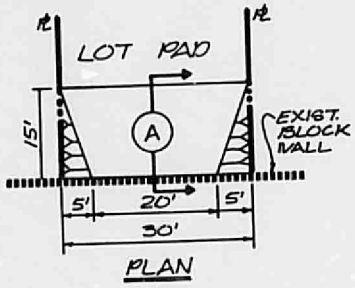
Volume Required per Lot = (30.17) (84) (0.1) = 253 cu. ft.

Average Pond Area = 15 x 30 = 450 sq. ft.

Average Depth of Pond = .62 ft.

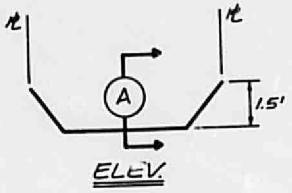
Pond Volume per Lot = 280 cu. ft.

POND CONFIGURATION DETAIL

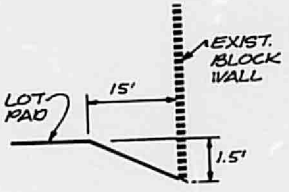


PLAN

SCALE
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 4'



ELEV.



SECTION A