HYDROLOGY J10/D3 2 PLANS

J10/D3

2 Plans

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

September 18, 1979

Mr. Gary W. Tibljas
Fred Dorney & Associates, Inc.
2400 Comanche Road N.E.
Albuquerque, New Mexico 87107

Subject: BAG AND SAVE DRAINAGE REPORT, ATRISCO BUSINESS PARK

Dear Mr. Tibljas:

The letter amending the drainage report is consistent with the discussions held in our office regarding the drainage provisions for the Bag and Save Project. The drainage report is therefore hereby approved.

I also want to put you on notice, as agent for the Westland Corporation, that the implementation of the overall drainage management plan for the Atrisco Business Park, must receive expeditious attention, and that my office will not be able to approve further development in the absence of a clearly stipulated program of implementation.

Enclosed with this letter is your copy of the Engineer's Report for Atrisco Business Park.

Very truly yours,

Richard S. Heller

Richard S. Heller
City Engineer

BC/RSH/fs
Enclosure

cc - R. E. Leonard w/attachments
Bruno Conegliano
Fred Aguirre
Drainage File

Ponds are also sized to retain all runoff generated from the access road.

Total Area Right-of-Way	15,600 sf
Total Paved Area	8,742 sf
Total Area Not Paved	6,858 sf

V = (6,858 sf x (2.2/12) x 0.4) + (8,742 sf x (2.2/12) x 0.9)

V = 503 + 1442

V = 1945 cf Access Road Runoff

Total Ponding Volume = 28,436

Total On-Site Runoff = 26,270

Excess Ponding Volume= 2,166 cf > 1,945 cf O.K.✓

FRED DENNEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
2400 COMANCHE ROAD, N.E.
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-8852

September 14, 1979

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

Re: Bag & Save Drainage Report
Atrsico Business Park
F.D. Job No. 404.12

Dear Bruno:

Per our discussions of Thursday morning, we transmit the following material that will serve as ammendments to our original drainage report that was initially submitted on August 16, 1979.

1. A revised grading and drainage plan. We have modified the ponding area walls to be sloped at 1:1 and lined with 3" diameter cobbles. We have received verbal approval on this scheme from Mr. Phil Garcia of the Planning Department. The applicable ponding volume calculations are enclosed.

2. The pond drain line will no longer discharge onto Fortuna Road. Collected runoff will be discharged to a natural low point on the north side of Cloudcroft Road (See Exhibit E). Please keep in mind that the majority of the runoff generated on Cloudcroft Road between Airport Road and Coors Road drains to this low point and that this area will undoubtedly be transformed into a designated retention pond in the very near future.

   The drain line will be constructed on land owned by Westland Development Company, Inc. by procuring a 10 foot wide utility easement along the property lines as shown.

3. We have furnished a plan and profile representation of the access road that will serve the facility (See Exhibit F), along with a typical road section. Also enclosed, are calculations reflecting the amount of runoff that will be generated within the access road right-of-way. This additional runoff will be diverted to on-site ponding areas.

4. With the depth of water of approximately five feet to the southwest corner of the parcel, we will caution the owner and architect concerning the potential safety and liability problems that could arise because of this situation.

We believe that the above information should suffice in supplying the required information for final approval of the Drainage Report.

If you should have any questions, please give us a call.

Very truly yours,

Gary W. Tibljas

Gary W. Tibljas

GWT/lm

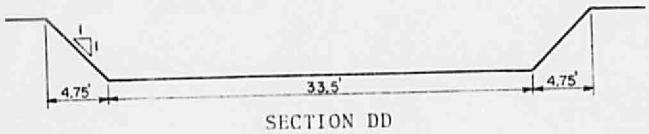
Enclosures

cc: Ken Haynes
Phil Garcia
Jack Sample

REVISED POND CROSS-SECTIONS

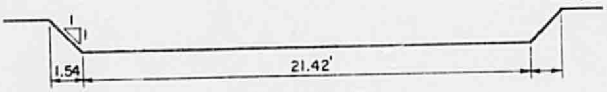
POND #1

A = 181.69 sf



SECTION DD

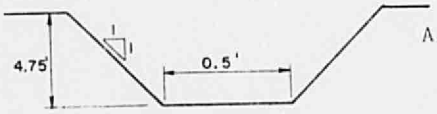
A = 35.36 sf



SECTION EE

V1 = (35.36 + 181.69/2) x 206 = 22,356 cf

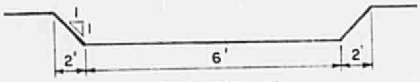
POND #2



A = 24.94 sf

SECTION CC

A = 16.00 sf



SECTION BB

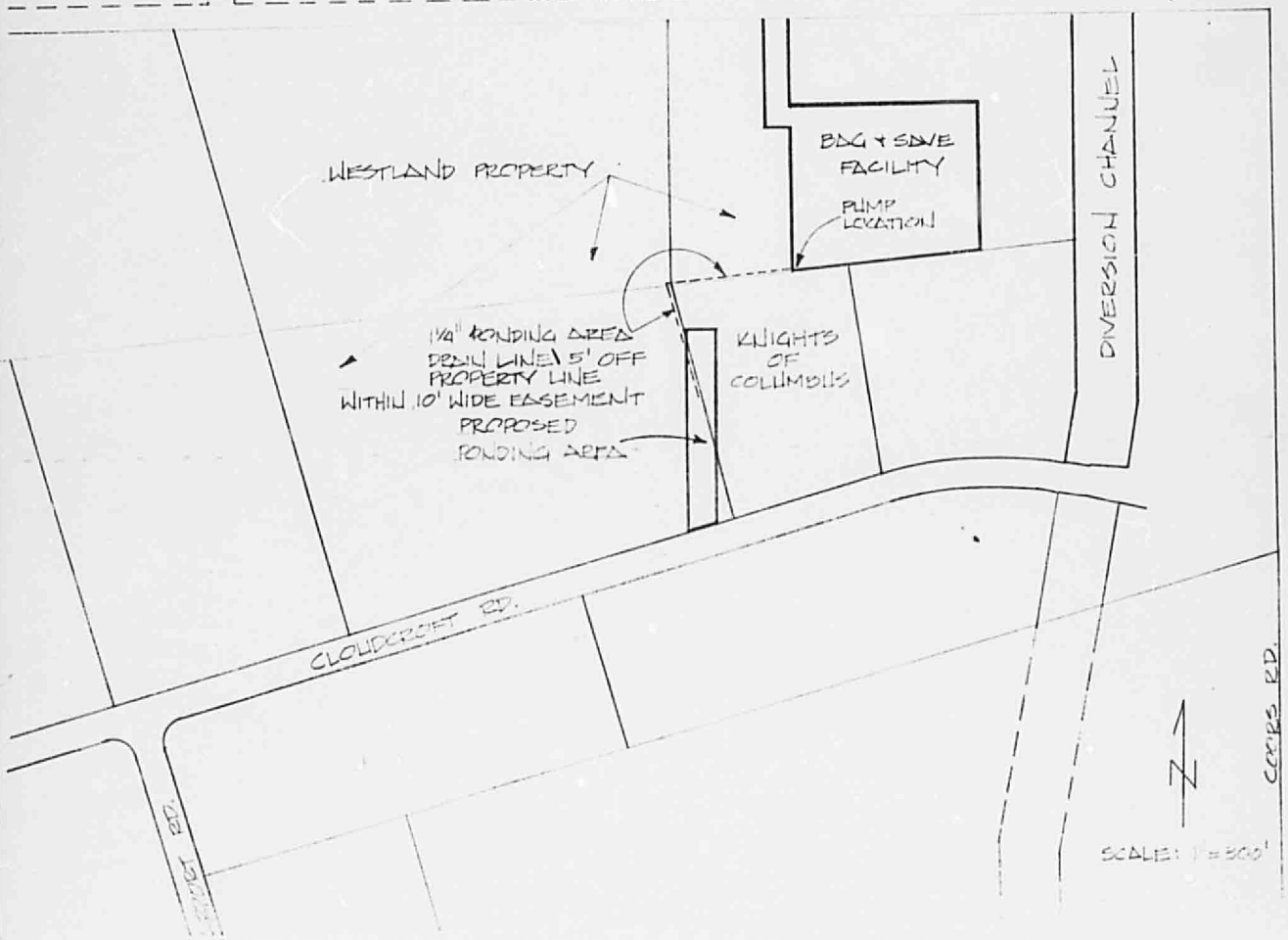
V2 = (24.94 + 16.00/2) x 297 = 6,080 sf

Total Ponding Volume = V1 + V2

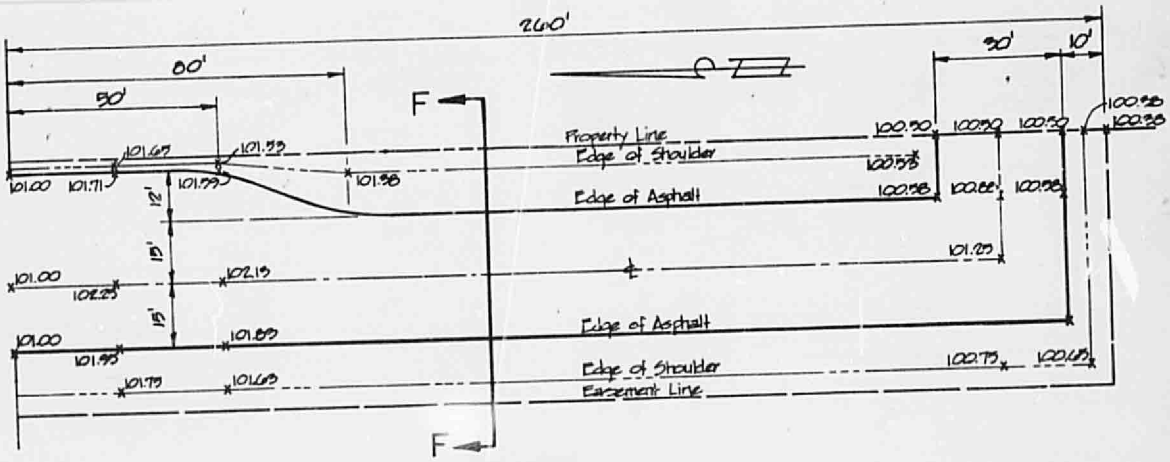
22,356 + 6,080 = 28,436 cf > 26,270 cf OK✓

All pond walls to be sloped at 1:1 and lined with 3" diameter cobbles.

EXHIBIT E

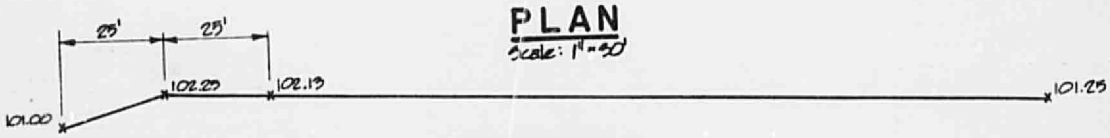

FORTUNA RD NW.
WESTLAND PROPERTY
BAG & SAVE FACILITY
PUMP LOCATION
DIVERSION CHANNEL
1¼" PONDING AREA DRAIN LINE 5' OFF PROPERTY LINE WITHIN 10' WIDE EASEMENT
PROPOSED PONDING AREA
KNIGHTS OF COLUMBUS
CLOUDCROFT RD.
COORS RD.
N
SCALE: 1" = 300'

FORTUNA ROAD N.W.



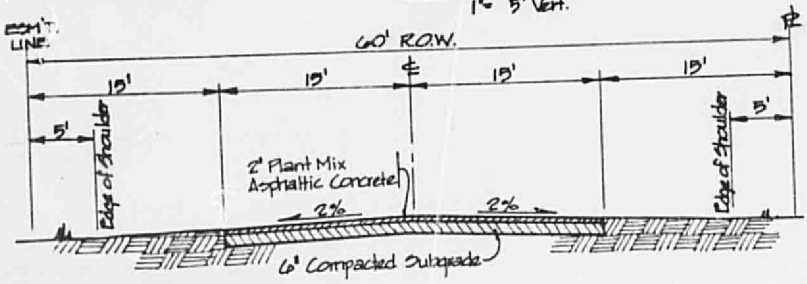
PLAN

Scale: 1" = 50'



℄ PROFILE

Scale: 1" = 50' Horiz.
1" = 5' Vert.



SECTION F-F

Scale: 1" = 10' Horiz.
N.S. Vert.

Fred Denney & Associates, Inc.
ENGINEERS PLANNERS
ALBUQUERQUE, NEW MEXICO 87107

EXHIBIT F

ACCESS ROAD

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

September 5, 1979

J10-D3

Mr. Fred Denney
Fred Denney & Associates
2400 Comanche N. E.
Albuquerque, New Mexico 87107

REFERENCE: BAG AND SAVE DRAINAGE REPORT

Dear Mr. Denney:

I have reviewed the drainage report for the captioned development, and I find that it is not in agreement with the requirements of the AMAFCA Resolution 72-2.

More specifically, the report does not supply the information required in Section 6, Paragraph B ". . . Such report and plan must clearly identify and locate each water course, as herein defined, situated within such lot, tract or parcel, and depict and compute the acreage of the area draining into such lot, tract or parcel."

The drainage report is further in disagreement with the indications that you verbally conveyed to me in regard to the point of discharge of the runoff collected by the ponding areas. As I recall, you showed me a map indicating community ponding facilities which will be constructed for use in the development of the Atrisco Business Park. My assistant, Mr. Bruno Conegliano, has not been able to locate a map reflecting such community pondings within our files. Would you please supply us such a map with an indication of proposed timing of construction?

I find that the discharge of the runoff onto Fortuna Road, worsening the conditions of the intersection of Fortuna and Coors, is not in the City's best interests. I further find that no indication is given on how the access drive which is to be constructed to provide access to the parcel in question, will be designed and, most importantly, drained.

I also wonder what restrictions the grading of this access drive may impose on its potential future extension to the south,

Mr. Fred Denney
September 5, 1979

Further, the drainage report indicates that the ponding areas which are recommended to be constructed with 2:1 side slopes have been computed using 0.5:1 side slopes. With the assumption of a 2:1 side slope, the ponding volume provided would be some 5,000 cubic feet short of the indicated volume of 27,276 cubic feet.

Finally, with a depth of water of almost five feet to the southwest corner of the parcel, there are safety aspects that have to be considered and potential liability questions.

If you have any questions on the observations above, please feel free to contact me or Mr. Conegliano at your convenience.

Very truly yours,

Richard S. Heller

Richard S. Heller
City Engineer

RH/BC/bm

CC - Richard Leonard, AMAFCA
Bruno Conegliano
Drainage File

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE September 4, 1979 REF. NO._____

TO: Dick Heller

FROM: Bruno Conegliano

SUBJECT: BAG AND SAVE DEVELOPMENT PLAN, LOT 1, TRACT S-2
ATRISCO BUSINESS PARK

I have reviewed the drainage report for the Bag and Save Development Plan which is part of Lot 1, Tract S-2 Atrisco Business Park. I'm enclosing a copy of the summary replat which has been approved by the City Planning Department and a copy of the aerial photo map showing the approximate location of the parcel in question.

As you can see from the summary replat, a sixty foot road and utility easement has been dedicated to provide access to the parcel in question. I presume that the developer will have to design and construct the road giving access to his parcel, but there is no indication in the drainage report on how this facility is going to be constructed and what impact it may have on the future development of the area.

As you can see from the aerial photo map, the access road crosses the upper end of a previously graded runway of the old West Mesa Airport and which at this time constitutes a ponding area. This is an example of the piecemeal approach to development of this area discussed Friday and which in my opinion is contrary to City interests.

For instance, what is going to be the overall configuration of the roadway going south from Fortuna Road and how will this public roadway drain? At the present time, the runoff from Fortuna Road accummulates at the northwest corner of the intersection of Coors and Fortuna until it infiltrates into the ground or evaporates. The proposal of the engineer for the onsite collection of the runoff into ponding areas at the southwest corner of the property may be acceptable, but will the proposed grading of the site condition the grading of the roadway which will extend to the south in an unacceptable manner? The proposal of the engineer to pump the water out onto Fortuna Road may be the only option available to him, but will undoubtedly worsen the conditions of Coors and Fortuna. Incidentally, the computations supplied conflict with the indications of the report. The recommended side slopes of 2:1 do not jive with the computations made on the basis of 1:2 side slopes for the ponds. The overall ponding volume provided is thus less than 22,000 cubic feet instead of the indicated 27,276 cubic feet.

BC/bm
CC - Drainage File

FRED DENNEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
2400 COMANCHE ROAD, N.E.
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-8853

August 16, 1979

Mr. Richard Heller
City Engineer
P.O. Box 1293
Albuquerque, New Mexico 87103

Re: Bag & Save Drainage Report
Atrisco Business Park
F.D. Job No. 404.12

Dear Mr. Heller:

Transmitted herewith are two copies of the Drainage Report for subject facility for your review and approval.

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

Very truly yours,

Gary W. Tibljas

Gary W. Tibljas

GWT/rs

Enclosures
cc: Ken Haynes

RECEIVED
AUG 16 1979
CITY ENGINEER

To Bruno for file RSH

FRED DENNEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
2400 COMANCHE ROAD, N.E.
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-8852

August 8, 1979

J10-03

Mr. Richard S. Heller, City Engineer
Post Office Box 1293
Albuquerque, New Mexico 87103

Re: Bag and Save Facility

Dear Mr. Heller,

The attached development plan for the Bag and Save facility shows the finished floor elevation to be 5101.00. This conforms to the Final Grading Plan (Plate 3 also accompaning this letter) that is part of the master drainage plan approved by A.M.A.F.C.A.

There will be some fill required on site to provide proper drainage for this tract, however, grading will be such that any runoff from the site will be to the south where ponding area labeled No. 1 will be constructed as properties develop according to said grading plan.

Your consideration and cooperation in approving this development plan is appreciated.

Very truly yours,

J.D. Metzgar

JDM/jhm

Enclosure

Formal Drainage Report to follow RSH
per Fred Denney 8/8/79

DRAINAGE REPORT
LOT 1-A TRACT S-2
ATRISCO BUSINESS PARK

PREPARED FOR
SUPERMARKETS OF NEW MEXICO

AUGUST 1979

PREPARED BY
FRED DENNEY & ASSOCIATES, INC.
2400 COMANCHE N.E.
ALBUQUERQUE, NEW MEXICO 87107

DRAINAGE REPORT
LOT 1-A TRACT S-2
ATRISCO BUSINESS PARK

PREPARED FOR
SUPERMARKETS OF NEW MEXICO

AUGUST 1979

RECEIVED
AUG 16 1979
CITY ENGINEER

PREPARED BY
FRED DENNEY & ASSOCIATES, INC.
2400 COMANCHE N.E.
ALBUQUERQUE, NEW MEXICO 87107

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
NEW MEXICO
4100
LAND SURVEYOR
REGISTERED PROFESSIONAL ENGINEER

DRAINAGE REPORT
Lot 1-A, Tract S-2
ATRISCO BUSINESS PARK

I. GENERAL:

This study involves a drainage plan for Lot 1-A of Atrisco Business Park. The tract contains an area of approximately 170,015 square feet and is located on Fortuna Road, N.W., near the intersection with Coors Road, N.W., as shown on the Location Map (See Exhibit "A").

In the latest publication of the Flood Hazard Boundary Maps, as published by the Flood Insurance Administration, the subject property is situated within a flood hazard area. These maps were published prior to the construction of the Ladera Flood Control System which is located northwest of Interstate 40 and approximately two miles northwest of the project site.

With the construction of Ladera, arroyos downstream of the system will not be subject to flood from 100-year storm runoff originating upstream of the system while runoff from area downstream of the system is presently transported across Interstate 40 via drainage culverts to Ponding Areas A and B as indicated on Exhibit "B".

The proposed site is essentially level and it will be built-up to create adequate slopes for on-site drainage. All runoff generated on the site will be routed to on-site ponding areas via drainage swales (See Exhibit "D") then pumped out of the ponds and released on Fortuna Road. The pump will be

sized at 30 GPM using a total dynamic head of 10 feet (See Exhibit "C" for pump location). A 1-1/4 inch P.V.C. drain line will be used to transport the runoff from the ponding areas to Fortuna Road (See Exhibit "D").

II. EXTRANEOUS FLOWS:

Presently, all runoff generated downstream of the Ladera System is transported across Interstate 40 through drainage culverts located at two points as indicated on Exhibit "B". Ponding Area A can expect a maximum of 800,000 cf of runoff to be delivered to it from Runoff Area I during a 100-year storm. Ponding Area A has an estimated holding capacity of 600,000 cf. The excess runoff of 200,000 cf is allowed to overflow onto Fortuna Road where it then travels to the east until diverted to the south to the abandoned West Mesa Airport site. This runoff will not have an effect on the proposed site.

During a 100-year storm, approximately 1,500,000 cf of runoff can be expected to cross Interstate 40 from Runoff Area II to a natural low point, B, which is bound on the north and west by Interstate 40, to the south by Fortuna Road and to the east by Coors Road. The majority of Area B is developed, therefore runoff entering this area finds its way to ponding areas along Coors Road via developed streets and natural topography. Due to Area B being approximately one to two feet lower in elevation than the tract under study, extraneous flows from this area cannot enter the site.

The proposed site will be built up to create adequate drainage patterns to on-site ponding areas. This will posi-

tion the site at a higher elevation than surrounding parcels giving it protection from extraneous flows from the north and west.

When future construction is completed on the Ladera System, all runoff generated upstream of Interstate 40 will be retained by the system allowing no runoff to cross the freeway. This type of development will eliminate the area under study from the FIA Flood Hazard Maps.

With the proposed grading plan for the site and proper design of future developments within the Atrisco Business Park, runoffs generated downstream of Interstate 40 during a 100-year storm will safely travel near the site with no adverse effects.

III. CALCULATIONS:

Area Before Development:

V_b = 170,015 sf x (2.2/12) x 0.4 = 12,468 cf

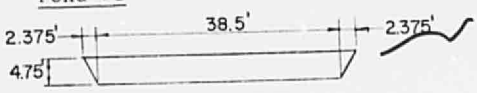
Area After Development:

V_a = (19,455 sf x (2.2/12) x 0.4) + (150,560 sf x (2.2/12) x 0.9) = 1,426.7 + 24,842.4 = 26,270 cf

Ponding Areas will be sized to retain 26,270 cf of runoff.

IV. POND CROSS SECTIONS:

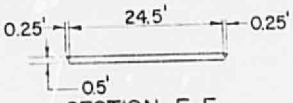
Pond #1



2:1 POND SLOPES not 1:2

SECTION D-D

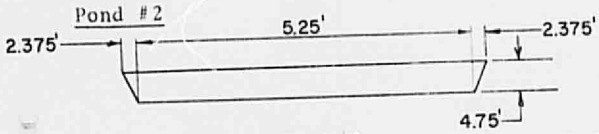
A = 194.16 sf



SECTION E-E

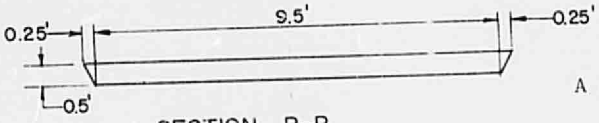
A = 12.375 sf

V1 = (194.160 + 12.375/2) x 206 = 21,273 cf



A = 36.22 sf

SECTION C-C



A = 4.875 sf

SECTION B-B

V2 = (36.220 + 4.875/2) x 297 = 6,103

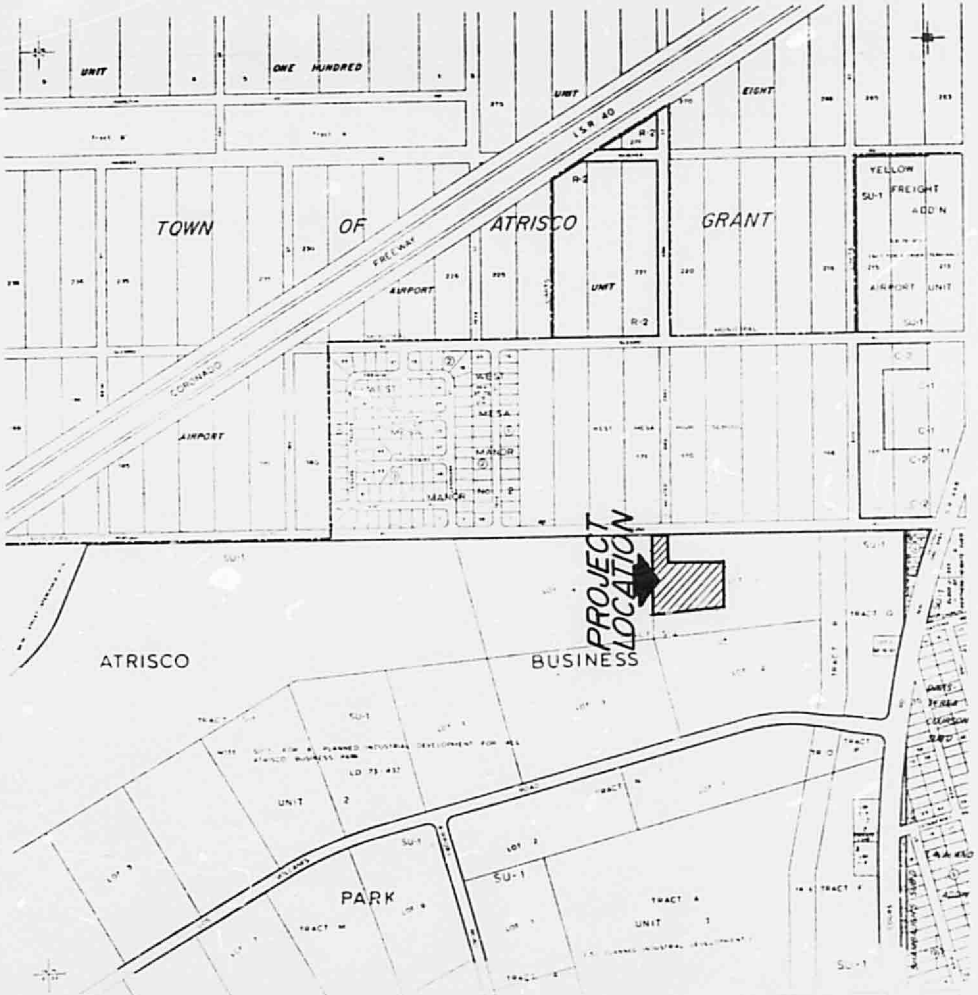
Total Ponding Volume = 27,276 cf > 26,270 cf OK

All pond walls to be sloped at 2:1 and sodded.

V. CONCLUSIONS AND RECOMMENDATIONS:

1. That the subject tract be developed in accordance with the attached grading plan.
2. Since the plan conforms with City Standards, we recommend it be approved by the City of Albuquerque Drainage Engineer.

EXHIBIT "A"

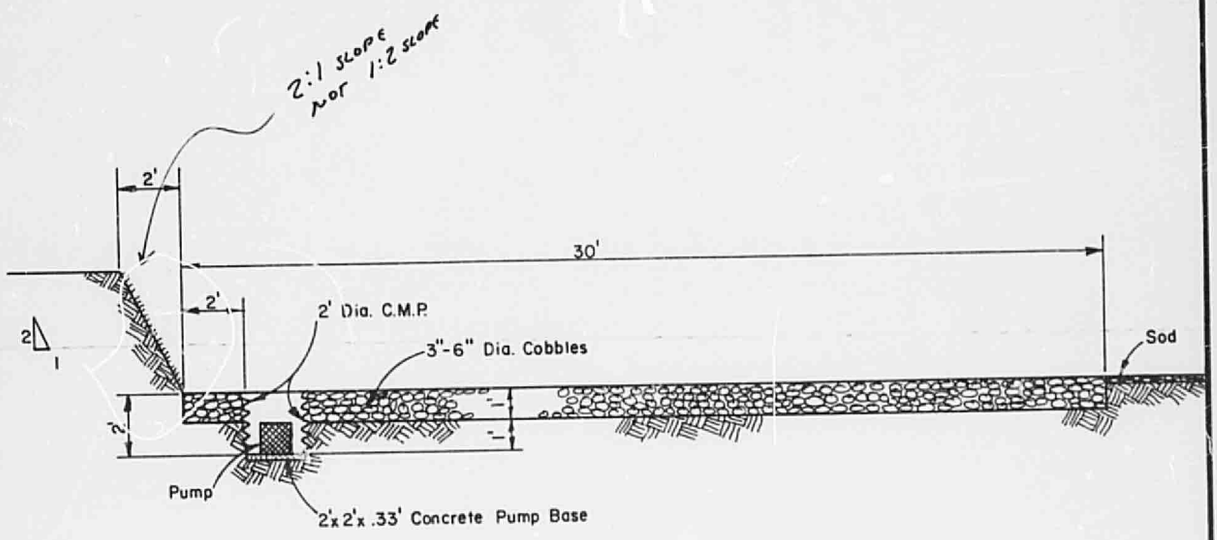


J-10-Z

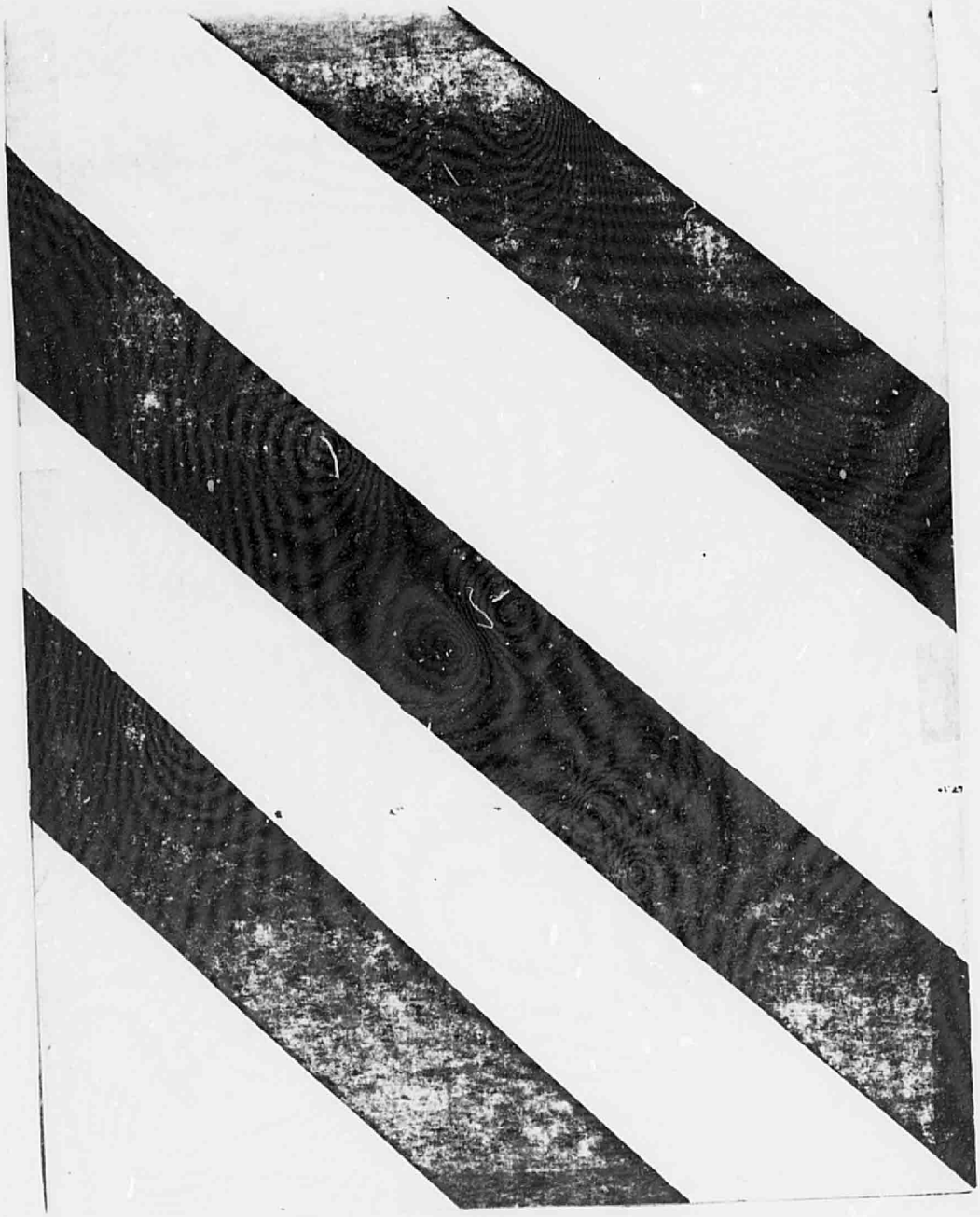
EXHIBIT B

DAM
DAM NO. 1
DAM NO. 2
DAM NO. 3
DAM NO. 4
DAM NO. 5
DAM NO. 6
DAM NO. 7
DAM NO. 8
DAM NO. 9
DAM NO. 10
DAM NO. 11
DAM NO. 12
DAM NO. 13
DAM NO. 14
LADERA DIVERSION DIKE
LADERA CHANNEL
RINCONADA CHANNEL
LADERA DETENTION BASIN NO. 15
1-30" R.C.P.
2-48" R.C.P.
PROJECT LOCATION
I
II
A
B

EXHIBIT C



SECTION A-A

Scale: 1" = 40'

0 7 9 7