Hydrology K18/D26 Arthritis Foundation

Z18/D26

ARTHRITIS FOUNDATION

1 PLAN

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

March 12, 1986

Ray Pang
Gardner, Mason & Associates, Inc.
2127 Menaul Boulevard, NE
Albuquerque, New Mexico 87107

RE: DRAINAGE PLAN FOR ARTHRITIS FOUNDATION
(K-18/D26) RECEIVED MARCH 12, 1986

Dear Mr. Pang:

The above referenced plan, dated March 3, 1986, is approved.

We are requesting that prints of this plan be made available to the contractor. We have released the building permit and do not have further contact with the contractor. We will also release the Certificate of Occupancy.

If you have any questions, call me at 766-7644.

Cordially,

Carlos A. Montoya

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

CAM/bsj

Gardner, Mason & Associates, Inc.
ENGINEERS & PLANNERS

2127 Menaul Blvd. NE
Albuquerque, N.M. 87107
(505) 881-3846

132 W. Las Cruces Av.
Las Cruces, N.M. 88001
(505) 525-8057

March 3, 1986

RECEIVED
MAR 12 1986
HYDROLOGY SECTION

Mr. Carlos Montoya
Design Hydrology Section
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103-1293

RE: Drainage Plan for Arthritis Foundation (K18-D26)

Dear Carlos:

As per our conversation today, I am forwarding herewith one copy each of approved S.O #19 and revised Drainage and Grading Plan for your records.

Please accept my appreciation for your cooperation and assistance on this project.

Sincerely,

Ray Pang

Ray Pang, Project Manager

Encl.

cc/ Mr. Roy Reini, Castillo Preston
Mr. John Hunt, Director, Arthritis Foundation

RP/tlc

CASTILLO PRESTON LTD.
Architects/Planners
20 First Plaza
Albuquerque, New Mexico 87102
505-842-0755

RECEIVED
JAN 28 1986
HYDROLOGY SECTION

January 27, 1986

Mr. Carlos A. Montoya, P.E.
City/County Floodplain Administrator
Design Hydrology Section
123 Central N.W.
Albuquerque, New Mexico 87102

RE: Arthritis Foundation Drainage Easement (K-18/D26)

Dear Mr. Monyoya:

This letter is to bring you up-to-date concerning the letter of December 11, 1986 by Mr. Bill Weaver of the Redeemer Lutheran Church requesting a curb along their property adjoining a city drainage easement.

We propose to install 180 linear feet of 6"x6" extruded concrete curb along the edge of the Redeemer Lutheran Church's parking lot.

The Church has requested such a curb in exchange for their consent to our proposal to extend the Arthritis Foundation parking lot into the City's easement.

I trust that this letter will clear up any questions that you may have regarding the proposed curb.

Additionally, I have been informed by our contractor, Building Contractors, that your department has an approved drainage plan, but that approved copies of the plan can not be located. I am therefore, enclosing with this letter, two copies of the latest drainage plan so you will have another two copies for your approval.

I understand that these two approved drainage plans will then be available to the contractor and that, with receipt of this letter a SO-19 will then be signed by Mr. Miranda.

If you have any additional questions, please call me at 842-0755.

Cordially,
CASTILLO PRESTON LTD.

Roy Reini

Roy Reini

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

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

January 9, 1986

Roy Reini
Castillo, Preston, Ltd.
68 First Plaza
Albuquerque, New Mexico 87102

RE: ARTHIRITIS FOUNDATION DRAINAGE EASEMENT
(K-18/D26)

Dear Mr. Reini:

Please update me concerning the letter dated December 11, 1985, by Mr. Bill Weaver. He is requesting a curb on the edge of Redeemer Lutheran Church's lot in exchange for this consent.

If you have any questions, call me at 766-7644.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

cc: Greg Olson

CAM/bsj

TRANSMITTAL LETTER

CASTILLO PRESTON LTD.

PROJECT: Arthritis Foundation

ARCHITECT'S PROJECT NO: 4053

DATE: 12-16-85

TO: Mr. Carlos Montoya
City/County Floodplain Administrator
123 Central N.W.

ATTN:

If enclosures are not as noted, please inform us immediately.
If checked below, please:
( ) Acknowledge receipt of enclosures.
( ) Return enclosures to us.

WE TRANSMIT:
(x) herewith ( ) under separate cover via _____
( ) in accordance with your request _____

FOR YOUR:
( ) approval ( ) distribution to parties ( ) information
( ) review & comment ( ) record
(x) use ( ) _____

THE FOLLOWING:
( ) Drawings (✓) Shop Drawing Prints ( ) Samples
( ) Specifications ( ) Shop Drawing Reproducibles ( ) Product Literature
( ) Change Order (x) Letter

COPIES	DATE	REV. NO.	DESCRIPTION	ACTION CODE
1	12-12-85		Letter from Redeemer Lutheran Church	

ACTION CODE A. Action indicated on item transmitted
B. No action required
C. For signature and return to this office
D. For signature and forwarding as noted below under REMARKS
E. See REMARKS below

REMARKS Re: Arthritis Foundation Therapeutic Pool

Mr. Montoya: I am enclosing a copy of a letter from Redeemer Lutheran church regarding their verification for relocation of the drainage channel.

COPIES TO: (with enclosures)

Ray Reini

CASTILLO PRESTON LTD.
68 FIRST PLAZA, GALERIA
ALBUQUERQUE, NEW MEXICO 87102

BY:

RECEIVED

DEC 12 1985

REDEEMER LUTHERAN CHURCH
210 Alvarado, SE Albuquerque, New Mexico 87108
Phone (505) 256-9881

December 11, 1985

Mr. Roy Reini
Castillo, Preston, Ltd.
68 First Plaza
Albuquerque, New Mexico 87102

Re: Arthritis Foundation, Drainage Easement

Dear Mr. Reini:

Thank you for appearing before our Church Council last night. Your comments were informative and helpful.

It is our understanding that Redeemer Lutheran Church's property borders the Arthritis Foundation's property; in other words, no third party owns land in the area of the current drainage ditch. The City holds a 55-foot wide drainage easement between Alvarado and Valencia Streets. Half of that easement, or 27 1/2 feet, lies on the Arthritis Foundation land, and half of it lies on Redeemer Lutheran's property. Because the Arthritis Foundation parking lot,as proposed, will extend onto the City's easement, the City's consent to the plan must be obtained. However, before it gives that consent, the City wants Redeemer Lutheran to concur also, with the latter realizing that it will be giving up its right to ask the City in the future for permission to build on that part of the easement that lies on Redeemer's property.

Redeemer Lutheran Church, acting by and through its Church Council, is willing to give its concurrence to this proposal. We are concerned about one aspect of it. Currently, a five- or ten-foot strip of land lies between Redeemer's parking lot and the drainage channel. As described by you and shown in the plans, the south edge of the proposed drainage channel would border on the north edge of Redeemer's parking lot. This would create a potential problem: people parking their cars in the northernmost row of spaces might accidentally edge forward too far and end up in the channel. Consequently, we believe it would be necessary to install an "extruded curb" along the edge of our lot similar to the curb shown on the plans for the southern edge of the Arthritis Foundation lot. Therefore, we request that, in exchange for our consent to your proposal to extend your parking lot into the City's easement, the Arthritis Foundation agrees to install a curb on the edge of Redeemer's lot when the Foundation's lot is built.

As you requested, Redeemer also would consent to the entry of vehicles on to our land for the purpose of building the drainage channel and the curb, with the understanding, of course, that any resulting damage would be repaired at the Foundation's expense.

Very truly yours,

Bill Weaver

Bill Weaver, Council Secretary

We have peace with God through Jesus Christ

REDEEMER LUTHERAN CHURCH
210 Alvarado, SE Albuquerque, New Mexico 87108
Phone (505) 256-9881

November 25, 1985

Castillo Preston
68 First Plaza
Albuquerque, New Mexico 87102

Attn: Roy Reini

Re: Arthritis Foundation
124 Alvarado S.E.
Albuquerque, New Mexico 87108

Void
12-3-85

Dear Mr. Reini:

The Redeemer Lutheran Church has been asked by the Arthritis Foundation, New Mexico Chapter, Inc. to state that we are aware that the City of Albuquerque has required that the drainage channel along the southerly property line of the Arthritis Foundation property be regraded and lined. We are also aware that this drainage channel is being shifted from the centerline of the drainage easement to the southern portion and will occupy land on that portion of the easement that adjoins the church's parking lot. Therefore the church will not be able to approach the City in the future to vacate the portion of the easement between the edge of the church's parking lot and the southerly edge of the drainage channel.

We understand that this has become necessary in order to accomodate the extra parking lot and drive area of the Arthritis Foundation.

Lastly, we would like to state that we are aware of and endorse the described work.

It is our understanding that the contractor will be grading and lining the portion of the drainage channel on Redeemer Lutheran Church property at no cost to Redeemer Lutheran Church. Please transmit this information to Mr. Carlos Montoya, the City/County Floodplain Administrator.

Sincerely,

Lyle Stuehrenberg

Lyle Stuehrenberg, Pastor

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

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

October 31, 1985

Ray Pang
Gardner, Mason & Associates, Inc.
2127 Menaul Blvd., NE
Albuquerque, New Mexico 87107

RE: DRAINAGE PLAN FOR ARTHRITIS FOUNDATION
RECEIVED OCTOBER 15, 1985 (K1-8/D26)

Dear Mr. Pang:

I have reviewed the referenced plan date September 9, 1985, and forward the following comments:

Please submit a concurrence letter from the south property owner for shifting the flows through their property. Also, the drainage covenant has been submitted but not approved by all the appropriate City departments.

If you have any questions, call me at 766-7644.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

CAM/bsj

Gardner, Mason & Associates, Inc.
ENGINEERS & PLANNERS

2127 Menaul Blvd. NE
Albuquerque, N.M. 87107
(505) 881-3846

132 W. Las Cruces Av.
Las Cruces, N.M. 88001
(505) 525-8057

RECEIVED
OCT 15 1985
HYDROLOGY SECTION

October 11, 1985

Mr. Sergio Miranda
Engineering Division
Municipal Development Department
P. O. Box 1293
Albuquerque, New Mexico 87103-1293

RE: ARTHRITIS FOUNDATION (K-18-Z) S.O. #19 Submittal

Dear Sergio:

Submitted herewith for your approval is S. O. #19 in reference to the regrading and soil-cement improvements within the arroyo along the southerly boundary of subject development.

As per our meeting conducted on September 12, 1985 with Mr. Greg Olson and Mr. Dan Hogan, I am enclosing the original letter of agreement from REDEEMER LUTHERAN CHURCH endorsing said work.

If you have any further questions regarding this matter, please do not hesitate to contact our office.

Very truly yours,

Ray Pang
Project Engineer

RP/mef

DRAINAGE INFORMATION SHEET

PROJECT TITLE: ARTHRITIS FOUNDATION ZONE ATLAS/DRNG. FILE #: K-18-Z/D26

LEGAL DESCRIPTION: LOTS 15-18, 24-27 - BLOCK 37, TIJERAS PLACE ADDITION

CITY ADDRESS: 124 Alvarado Dr., S. E. Albuquerque, New Mexico 87108

ENGINEERING FIRM: Gardner, Mason & Associates, Inc CONTACT: Ray Pang

ADDRESS: 2127 Menaul Blvd., N. E. Albuquerque, NM 87107 PHONE: (505) 881-3846

OWNER: ARTHRITIS FOUNDATION CONTACT: Castillo Preston Ltd.

ADDRESS: 5112 Grand Ave., N. E. Albuquerque, NM 87108 PHONE: (505) 265-1545

ARCHITECT: Castillo Preston Ltd. CONTACT: Lou Castillo

ADDRESS: First Plaza Galeria Albuquerque, NM 87102 PHONE: (505) 842-0755

SURVEYOR CONTACT:

ADDRESS: PHONE:

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

RECEIVED OCT 15 1985 HYDROLOGY SECTION

PRE-DESIGN MEETING:

XX YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. ___

EPC NO. ___

PROJ. NO. ___

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

XX DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

XX BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER ___ (SPECIFY)

DATE SUBMITTED: October 14, 1985

BY: R Pang

NOTE: Drainage Covenant is enclosed for review and approval.

Gardner, Mason & Associates, Inc.
ENGINEERS & PLANNERS

2127 Menaul Blvd. NE
Albuquerque, N.M. 87107
(505) 881-3846

132 W. Las Cruces Av.
Las Cruces, N.M. 88001
(505) 525-8057

RECEIVED
OCT 15 1985
HYDROLOGY SECTION

October 14, 1985

Mr. Carlos Montoya
Design Hydrology Section
THE CITY OF ALBUQUERQUE
P. O. Box 1293
Albuquerque, New Mexico 87103-1293

RE: Drainage Plan for Arthritis Foundation
(K18-D26)

Dear Mr. Montoya:

We are submitting the following response to your office based on your comments dated September 4, 1985 and a meeting with Mr. Billy Goolsby on September 12, 1985:

1. Existing flood plain limits and proposed treatment are depicted on the attached drainage and grading plan.

2. Submitted herewith is a notarized Drainage Covenant identifying the owner's maintenance responsibility within the drainage easement.

3. Special Order #19 for proposed work within drainage easement has been submitted to Mr. Sergio Miranda of Engineering Design Section for approval. A copy of said submittal is enclosed for your information.

4. It is our understanding from the meeting on September 12, 1985, attended by Mr. Billy Goolsby, Mr. Gil Gardner (Engineer) and Castillo Preston (Project Architect), that a Building Permit will be released pending execution of letter of agreement with respect to the insurance of compliance of all required conditions by Owner and Engineer within 30 days. Enclosed is fully executed agreement.

5. Vacation process of drainage easement for the proposed parking shall be initiated as soon as possible. Completion of vacation process is not a condition for Building Permit release.

If you have any questions concerning this matter, please do not hesitate to contact me.

Very truly yours,

Raymond Pang
Project Engineer

RP/mef
Enclosures

K18-D26

CASTILLO PRESTON LTD.
Architects/Planners
20 First Plaza, Suite 402
Albuquerque, New Mexico 87102
505-842-0755

September 12, 1985

Department of Hydrology
123 Central Ave. N.W.
Albuquerque, New Mexico 87102

re: 124 Alvarado Dr. N.E.

Sirs:

As per your request, we the undersigned agree that within 30 days all necessary documentation required by the hydrology department of the City of Albuquerque will be prepared and submitted to their satisfaction. Additionally, it is understood that the contractor for the above referenced project will not work on any site improvements until such documentation is received and approved by the hydrology department.

Sincerely,
CASTILLO PRESTON LTD.

Roy Reini

Roy Reini

John M. Hunt

Mr. John Hunt
Arthritis Foundation, New Mexico Chapter, Inc.

Gilbert D Gardner

Mr. Gilbert Gardner
Gardner Mason & Associates

9/16/85

Rick,
This letter is in compliance with my requirement for a temporary sign off (and so note on the plans) for building permit until such time as an approved SO#19 can be attached for full permit release.
BG.

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

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

September 4, 1985

Mr. Ray Pang
Gardner, Mason & Assoc.
2127 Menaul Blvd. NE
Albuquerque, NM 87107

RE: DRAINAGE PLAN FOR ARTHRITIS FOUNDATION (K18-D26) RECEIVED JULY 26, 1985

Dear Mr. Pang:

A review of the referenced plan and a meeting with Mr. Garner on August 30, 1985 has produced the following comments:

1. The following will be requested prior to Building Permit release.
   a. Please indicate on the drawing the existing and proposed flood-plain limits. We have in our files a flood plain revision which affects your site which was done by Isaacson & Arfman. This report will be helpful in determining the discharge through the drainage easement.

   b. Please address the type of treatment which will be used in the public easement. A drainage covenant should be submitted to identify such things as maintenance responsibility. The DPM has a sample drainage covenant.

   c. Work in our drainage easement will require a special order #19 or work order. Please coordinate with the design section on the type of submittal required.

2. An enchroachment agreement does not appear to be an appropriate method for the proposed parking in our easement. Vacation of a portion of the easement at DRB should be the method of obtaining parking for the proposed building. Building Permit can be released before vacation takes place.

If you have any questions, please contact this office at 766-7644.

Sincerely,

Carlos A. Montoya
City/County Flood Plain Admin.

CAM/cl

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

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

August 27, 1985

Mr. Ray Pang
Gardner, Mason & Associates
2127 Menaul Boulevard NE
Albuquerque, NM 87107

REF: DRAINAGE PLAN FOR ARTHRITIS FOUNDATION (K18-D26) RECEIVED JULY 26, 1985

Dear Mr. Pang:

I have reviewed the referenced plan and forward the following comments:

1. Please use the new information sheet for future submittals.

2. Please remove any details or notes which do not pertain to the drawing.

3. Please explain if the parking in the City easement is a requirement for the development. We cannot allow the parking in the easement if there is a possibility that future drainage improvements may remove this parking. If the City does not need the easement then please process the requirements to vacate it.

4. Show a typical cross section of the retaining wall adjoining Alvarado Drive.

If I can be of further assistance, please feel free to call me at 766-7644.

Tom - 10.00

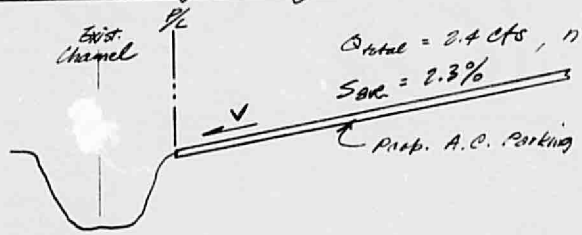
Sincerely,

Carlos A. Montoya

Carlos A. Montoya
City/County Flood Plain Admin.

CAM:mrk

Determination of entry velocity into Exist. Channel



Assumptions: 1. A rectangular channel section (parking lot) will be used for computation - 150' x 0.5'

2. Since the cross slope varies in the proposed parking area, an average slope will be used.

3. Uniform flow condition

Using Manning's formula:

$$AR^{2/3} = \frac{0.017\,(2.4)}{1.486\,(.023)^{1/2}} = 0.181$$

By trial and error, depth of flow = 0.018' or 0.22"

$$\text{Mean Velocity} = \frac{2.4}{.018 \times 150} = \underline{0.89 \text{ fps}}$$

Conclusion

Entry erosion effects are negligible.

RECEIVED
JUL 26 1985
HYDROLOGY SECTION

7/19/85

Comments by phone -

- Need to either eliminate grouted riprap with sheet flow analysis or change to some other material

- Need an encroachment agreement for parking in easement.

BG

INFORMATION SHEET

PROJECT TITLE Arthritis Foundation TYPE OF SUBMITTAL Second

ZONE ATLAS PAGE NO. K18 CITY ADDRESS

LEGAL DESCRIPTION

ENGINEERING FIRM Gardner, Mason & Associates, Inc. CONTACT Ray Pang

ADDRESS 2127 Menaul Blvd., N. E. Albuquerque, NM 87107 PHONE 881-3846

OWNER Castillo Preston Ltd. CONTACT Lou Castillo

ADDRESS 68 First Plaza Galeria Albuquerque, NM 87102 PHONE 842-0755

ARCHITECT Castillo Preston Ltd. CONTACT Lou Castillo

ADDRESS 68 First Plaza Galeria Albuquerque, NM 87102 PHONE 842-0755

SURVEYOR CONTACT

ADDRESS PHONE

CONTRACTOR CONTACT

ADDRESS PHONE

RECEIVED JUL 01 1985 HYDROLOGY SECTION

PRE-DESIGN MEETING:

X YES
___ NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
X BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
___ OTHER _____ (SPECIFY)

DATE SUBMITTED: June 28, 1985

BY: RWPang

APPENDIX

DRAINAGE PLAN

FOR

ARTHRITIS FOUNDATION BUILDING

(K18/D26)

RECEIVED
JUL 01 1985
HYDROLOGY SECTION

CHANNEL STABILITY ANALYSIS

GILBERT D. GARDNER
NEW MEXICO
5653
LAND SURVEYOR
REGISTERED PROFESSIONAL ENGINEER

7/1/85

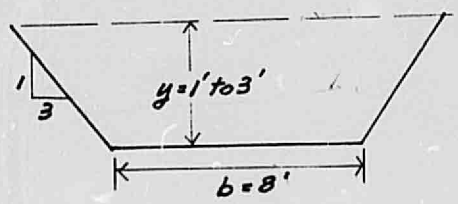
Gardner, Mason & Associates, Inc.
2127 Menaul Blvd., N. E.
Albuquerque, New Mexico 87107
Telephone: (505) 881-3846

APPENDIX
DRAINAGE PLAN
FOR
ARTHRITIS FOUNDATION BUILDING (K18/D26)

CHANNEL STABILITY ANALYSIS

I. CHANNEL HYDRAULIC DATA

Type: Existing channel that runs along the southerly property line of the proposed site is earth-lined and of a trapezoidal cross-section with a bottom width of 8'. Average side slope ratio is 3 (horizontal) to 1 (vertical). Channel depth varies from 1' to 3'.



Typical Channel Section

Minimum Channel Capacity:

$y = 1'$; $b = 8'$
Area (A) = 11 sq. ft.
Wetted Perimeter (P) = 14.32'

Hydraulic Radius (R) = $\frac{A}{P}$ = 0.7682

Friction Slope (S_f) = S_o (uniform flow) = 0.02 ft./ft.

Manning's (n) = 0.03

$$Q_{capacity} = \frac{1.486}{0.03}\ 11\ (0.7682)^{2/3}(0.02)^{1/2}$$

$$= 64.64 \text{ cfs}$$

100 year Peak Flow at developed condition (refer to plan) is 53.42 cfs $<$ 64.64 cfs.

Therefore channel capacity is adequate for developed condition.

II. <u>DEPTH OF FLOW AND MEAN FLOW VELOCITY</u> (100 year storm)

Developed Condition:

Q_{100} = 53.42 cfs

Using Manning's Formula

$$Q = \frac{1.486}{n} AR^{2/3} S^{1/2}$$

$$AR^{2/3} = \frac{nQ}{1.486(S)^{1/2}} = \frac{0.03\ (53.42)}{1.486(0.02)^{1/2}} = 7.63$$

Depth(y)	$A = (84 + 3y^2)$	$P = 8 + 2(y^2 + 3y^2)^{1/2}$	$R = \frac{A}{P}$	$AR^{2/3}$	
0.9'	9.90	11.6	0.85	8.92	
0.8'	8.32	11.7	0.71	6.64	
0.85'	8.97	11.4	0.79	7.66	$\cong$ 7.63

Depth of flow for a 100 year storm = 0.85' $<$ 1'.

Mean velocity for 100 yr. storm at peak discharge = $\frac{Q}{A} = \frac{53.42}{0.85}$ = 5.96 fps

According to Fortier and Scobey, the maximum permissible velocity for coarse gravel, noncolloidal lining is 6 cfs $>$ 5.96 fps. (Chows Open Channel Hydraulics)

Undeveloped Condition:

Q_{100} = 51.1 cfs

$$AR^{2/3} = \frac{0.03\ (51.1)}{1.486(0.02)^{1/2}} = 7.26$$

By interpolation y = 0.83' = Depth of flow for 100 year storm

Mean Velocity for 100 year storm = $\frac{51.1}{8.71}$ = 5.87 fps

Increase in flow depth for 100 year storm = 0.02' = 2.4%
Increase in mean velocity for 100 year storm = 0.9 fps = 1.5%

III. CONCLUSION & RECOMMENDATION

It is our conclusion that there are no adverse impacts on channel stability and capacity due to the following:

1. For a 100 year storm at peak discharge there is 15% freeboard at the channel's minimum section.

2. The mean flow velocity at the developed condition for a 100 year storm is less than the 6 fps maximum permissible velocity for erodable channels as recommended by Fortier and Scobey. Furthermore, since the inflow discharge is distributed along 180' of the channel's north bank, the actual mean velocity at any point upstream of the inlet should be less than 5.96 fps.

3. The existing channel has been in use for quite a number of years. Well-seasoned channel beds should be able to stand much higher velocities as they are better stabilized by the deposition of colloidal matter.

4. It is recommended that riprap structures (see plan) should be installed along the north bank (line of inflow). This should drastically lower the inflow velocities, facilitate more even inflow distribution and ensure inflow entry at no more than 90° to the centerline of the channel.

Gardner, Mason & Associates, Inc.
ENGINEERS & PLANNERS

2127 Menaul Blvd. NE
Albuquerque, N.M. 87107
(505) 881-3846

132 W. Las Cruces Av.
Las Cruces, N.M. 88001
(505) 525-8057

May 26, 1985

RECEIVED
JUL 01 1985
HYDROLOGY SECTION

Design Hydrology Section
123 Central, N. W.
Albuquerque, New Mexico 87102

RE: Drainage Plan for the Arthritis Foundation Building (K18/D26)

Gentlemen:

The following response is submitted in reference to your specific comments dated May 23, 1985:

1. The developer has been notified to complete plat recordation prior to Certificate of Occupancy.

2. In compliance with Drainage Ordinance 63-1982, we are submitting for your review the attached Drainage Plan Appendix entitled CHANNEL STABILITY ANALYSIS.

3. Please note that an Erosion Control Plan (Sht. C3) has been added.

Please call us if you need further clarification.

Very truly yours,

Gilbert D. Gardner, P.E.L.S.

cc: Lou Castillo
Castillo Preston Ltd.

GDG/met
Attachments

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

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

May 23, 1985

Mr. Gil Gardner
Gardner-Mason & Assoc.
2127 Menaul Blvd.
Albuquerque, N.M. 87107

RE: DRAINAGE PLAN FOR THE ARTHRITIS FOUNDATION BUILDING (K18/D26)
RECEIVED APRIL 29, 1985.

Dear Gil,

I have reviewed the above referenced submittal and foward the following comments.

1. Please provide, prior to C.O., a copy of the recorded plat creating one (1) lot for this development.

2. The identified channel adjacent to the south property line is classified as a major facility in that it carries 50 cfs or more. Therefore, per the Drainage Ordinance 63-1982 channel stability will need to be addressed. Please provide the hydraulics for the channel as well as the rundown from the street and any appropriate details for clarity.

Should you have any questions or comments, please call at 766-7644.

Cordially,

Fred Chaves
for Billy J. Goolsby,
CE/Design Hydrology

BJG/cl

K18/D26

INFORMATION SHEET

PROJECT TITLE Arthitis Foundation TYPE OF SUBMITTAL Drainage

ZONE ATLAS PAGE NO.K-18-Z CITY ADDRESS

LEGAL DESCRIPTION Lots 15-18, 24-27, Block 37 Tijeras Place Addition

ENGINEERING FIRM Gardner-Mason & assoc. CONTACT Gil Gardner

ADDRESS 2127 Menaul Blvd. PHONE 881-3846

OWNER N/A CONTACT

ADDRESS PHONE

ARCHITECT Castillo Preston CONTACT Roy Raney

ADDRESS First Plaza Galleria PHONE 842-0755

SURVEYOR Gordon Douglas CONTACT Gordon Douglas

ADDRESS 119 Industrial PHONE 345-6877

CONTRACTOR N/A CONTACT

ADDRESS PHONE

PRE-DESIGN MEETING:

___ YES
X NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
X BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
___ OTHER _____ (SPECIFY)

RECEIVED
APR 29 1985
HYDROLOGY SECTION

DATE SUBMITTED: 4/29/85

BY: Gilbert D. Gardner
Gilbert D. Gardner

ORDINANCE NO. 32-1973

AN ORDINANCE VACATING ZIA ROAD NE BETWEEN THE EAST RIGHT OF WAY LINE OF SAN MATEO BOULEVARD & THE WEST RIGHT OF WAY LINE OF MADEIRA DRIVE, AND ORTIZ DRIVE NE BETWEEN THE NORTH RIGHT OF WAY LINE OF ZIA ROAD & THE SOUTH RIGHT OF WAY LINE OF COPPER AVENUE, AND DECLARING AN EMERGENCY.

WHEREAS, there have heretofore been dedicated and conveyed to the City of Albuquerque, New Mexico certain easements for street purposes, more particularly described below, and

WHEREAS, a portion of said right of way is not needed for public use;

NOW, THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE, NEW MEXICO:

SECTION 1. That portion of Ortiz Drive NE lying between the north right of way line of Zia Road and the south right of way line of Copper Avenue, and that portion of Zia Road NE lying between the east right of way line of San Mateo Boulevard as established by New Mexico State Highway Commission Right of Way Map, Project No. U-034-1 (6), approved on May 1, 1969 by the State Highway Engineer, and the west right of way line of Madeira Drive are hereby closed and vacated, subject to easements reserved by Section 2 hereof.

SECTION 2. The City hereby reserves easements for public utilities, whether municipally or privately owned, and for drainage, which may be necessary for public use and benefit at the present time or in the future.

SECTION 3. Immediately upon the effective date of this ordinance, the land above-described shall be effectively vacated, and the City of Albuquerque by this ordinance disclaims from such date any further interest therein except for easements reserved by Section 2 hereof.

SECTION 4. This ordinance is an emergency measure due to urgent public need and will be effective five days after publication in full in accordance with law.

ADOPTED: March 26, 1973

/s/ Louis E. Saavedra
Chairman, City Commission, Albuquerque, New Mexico

ATTEST: /s/ Gisele Gatignol, City Clerk

NC March 30, 1973

Page 1946

CASE NO. V-72-31

ORDINANCE NO. 32-1973

DATE PUBLISHED 3-30-73

POSTED

MAP	BY	DATE
1000' Base		
2000' Base		
4000' Base		
200' Index	ALJ	6-26-73
200' Zone	ALJ	6-26-73
200'Base	ALJ	6-26-73
Zone Atlas	ua	
Vac. Sketches		
Ax Sketches	ua	
Bldg. Dept.	ALJ	6-27-73
Map Number PL-		K-18
Aerial Photo No.		

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

1

✓ ① floodplain existing

✓ ② floodplain proposed

③ after Building Permit must vacate what is not needed

✓ ④ Treatment of channel

✓ ⑤ drainage covenant for maintenance agreement

✓ ⑥ S.O. #19 or W.O. to do work in our easement.

K18/D26

85 92472 -08 11

DRAINAGE COVENANT

THIS COVENANT made this 1st day of November 1985, by and between the City of Albuquerque, a municipal corporation, (City) and THE ARTHRITIS FOUNDATION, NM CHAPTER (Owner, which term includes successors and assigns).

RECITAL

The Owner is owner of certain real property located at 124 Alvarado Dr., SE, Albq., NM 87108 in Albuquerque, New Mexico, (the Property) and more particularly described as follows:

Lots 15-18, 24-27 Block 37
Tijeras Place Addition

That pursuant to City ordinances, regulations, and other applicable laws, the Owner is required to install and/or maintain certain drainage facilities on the Property, and the parties wish to provide for an agreement as to the obligations and responsibilities for same.

DESCRIPTION OF FACILITIES

The following facilities are to be constructed and/or maintained by the owner:

Grading & Soil Cement Treatment of drainage channel abutting the southerly property line of above mentioned property.

CONSTRUCTION OF DRAINAGE FACILITIES

The Owner shall construct the drainage facilities in accordance with standards, plans, and specifications prescribed and approved by the City.

MAINTENANCE OF FACILITIES

The Owner shall, at his cost in accordance with the standards, plans, and specifications prescribed by the City, maintain said drainage facility. The City shall have the right to enter periodically upon the Property to inspect the drainage facility.

FAILURE TO COMPLY AND LIEN

In the event that the Owner shall fail to construct the drainage facility in accordance with standards, plans, and specifications prescribed and approved by the City or fail to adequately maintain said facilities, the City shall give the Owner notice in writing to construct, correct, or maintain said facilities, and if the Owner fails to comply therewith within 90 days, the City may enter upon said

property to perform the necessary construction or maintenance. The cost of the City's performing such construction or maintenance shall be paid by the Owner. In the event the Owner fails to pay said cost within thirty (30) days after being billed for same, the City may file a lien against the Property.

LIABILITY

The City shall not be liable for any damages to the Owner resulting from its construction, modification, or maintenance of said facilities.

NOTICE

The written notice provided for herein shall be accomplished by mailing same to:

ARTHRITIS FOUNDATION, NEW MEXICO CHAPTER
5112 Grand Avenue, N. E.
Albuquerque, New Mexico 87108

The Owner may change said address by giving written notice, certified mail, return receipt requested, to the City Engineer, City Hall, at 505 Marquette Street, Albuquerque, New Mexico, 87103.

INDEMNIFICATION AND HOLD HARMLESS

The Owner agrees to defend, indemnify, and hold harmless, the City, its, officials, agents and employees from and against any and all claims, actions, suits, or proceedings of any kind brought against said parties for or on account of any matter arising from the drainage facility provided for herein or the Owner's failure to construct, maintain, or modify the drainage facility under this Covenant.

COVENANT RUNNING WITH THE PROPERTY

The obligation of the Owner set forth herein shall be binding upon the Owner, his heirs, and assigns, and the property of the Owner as described herein and will run with said property until released by the City.

ATTEST:

City Clerk

OWNER - Arthritis Foundation, New Mexico Chapter, Ir

By:

Title: Executive Director

Approved As To Form
City Attorney
Date: 10/21/85

REVIEWED BY THE LEGAL DEPARTMENT:

Assistant City Attorney

CITY OF ALBUQUERQUE

10-31-85

Chief Administrative Officer

RECOMMENDED:

11/24/85

City Engineer

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

··09 16

The foregoing instrument was acknowledged before me this 20th day of September, 1985,
by [signature], Executive Director
(Name of Officer) (Title)
Arthritis Foundation, New Mexico Chapter Inc., New Mexico
(Name of Corporation) (State of Incorporation)
corporation, on behalf of said corporation.

Maurine A. Placeway
Notary Public Maurine A. Placeway

My Commission Expires:
June 30, 1986

OFFICIAL SEAL
MAURINE A. PLACEWAY
NOTARY PUBLIC - NEW MEXICO
Notary Bond Filed with Secretary of Stat
My Commission Expires 6/30/86

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this _____ day of _____, 1985,
by _____
(Name of Acknowledging Partner or Partners)
on behalf of _____,
(Name of Partnership)
a partnership.

_____
Notary Public

My Commission Expires:

_____

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me by _____,
this _____ day of _____, 1985.

_____
Notary Public

My Commission Expires:

_____

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 31st day of October, 1985,
by Harry E. Kinney/Mayor, Chief Administrative Officer of the City of Albuquerque,
municipal corporation, on behalf of said corporation.

John L. Grant
Notary Public

My Commission Expires:
12-18-88

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED
1985 NOV -1 PM 2:09
M 2814 PG 14-16

85 92473

RECEIVED
NOV 04 1985
HYDROLOGY SECTION

DRAINAGE COVENANT

THIS COVENANT made this 1st day of November, 1985, by and between the City of Albuquerque, a municipal corporation, (City) and Martha D. Risdal (Owner, which term includes successors and assigns).

RECITAL

The Owner is owner of certain real property located at 5201 Valle Vista NW (87105) in Albuquerque, New Mexico, (the Property) and more particularly described as follows:

A portion of the SE¼ of the SW¼ of the SE¼ Section 26, Township 11 North, Range 2 E, N.M.P.M.

That pursuant to City ordinances, regulations, and other applicable laws, the Owner is required to install and/or maintain certain drainage facilities on the Property, and the parties wish to provide for an agreement as to the obligations and responsibilities for same.

DESCRIPTION OF FACILITIES

The following facilities are to be constructed and/or maintained by the owner:

Retention Facility
See Exhibit "A"

CONSTRUCTION OF DRAINAGE FACILITIES

The Owner shall construct the drainage facilities in accordance with standards, plans, and specifications prescribed and approved by the City.

MAINTENANCE OF FACILITIES

The Owner shall, at his cost in accordance with the standards, plans, and specifications prescribed by the City, maintain said drainage facility. The City shall have the right to enter periodically upon the Property to inspect the drainage facility.

FAILURE TO COMPLY AND LIEN

In the event that the Owner shall fail to construct the drainage facility in accordance with standards, plans, and specifications prescribed and approved by the City or fail to adequately maintain said facilities, the City shall give the Owner notice in writing to construct, correct, or maintain said facilities, and if the Owner fails to comply therewith within 90 days, the City may enter upon said

property to perform the necessary construction or maintenance. The cost of the City's performing such construction or maintenance shall be paid by the Owner. In the event the Owner fails to pay said cost within thirty (30) days after being billed for same, the City may file a lien against the Property.

LIABILITY

The City shall not be liable for any damages to the Owner resulting from its construction, modification, or maintenance of said facilities.

NOTICE

The written notice provided for herein shall be accomplished by mailing same to:

5201 Valle Vista NW
Albuquerque, NM 87105

The Owner may change said address by giving written notice, certified mail, return receipt requested, to the City Engineer, City Hall, at 505 Marquette Street, Albuquerque, New Mexico, 87103.

COVENANT RUNNING WITH THE PROPERTY

The obligation of the Owner set forth herein shall be binding upon the Owner, his heirs, and assigns, and the property of the Owner as described herein and will run with said property until released by the City.

ATTEST:

City Clerk

OWNER

By:

Title: by Vera M. Cohen Agent

REVIEWED BY THE LEGAL DEPARTMENT:

Assistant City Attorney

CITY OF ALBUQUERQUE

10-30-85

Chief Administrative Officer

10/24/85

City Engineer

CM

Approved As To Form

City Attorney

Date: 10/21/85

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 2nd day of Oct., 1985, by Martha D. Risdal/Vera M. Cohea (Name of Officer), Owner/Agent (Title), N/A (Name of Corporation), a N/A (State of Incorporation) corporation, on behalf of said corporation.

Marci E. Juarez
Notary Public

My Commission Expires:

March 25 1987

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this _____ day of _____, 1985, by _____ (Name of Acknowledging Partner or Partners) on behalf of _____ (Name of Partnership), a partnership.

_____
Notary Public

My Commission Expires:

_____

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me by _____ on this _____ day of _____, 1985.

_____
Notary Public

My Commission Expires:

_____

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 30th day of October, 1985, by Harry E. Kenny Mayor/Chief Administrative Officer of the City of Albuquerque, municipal corporation, on behalf of said corporation.

Lola P. Grant
Notary Public

My Commission Expires:

12-18-88

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED
NOV - 1 PM 2:01

VICINITY MAP

ZONE ATLAS

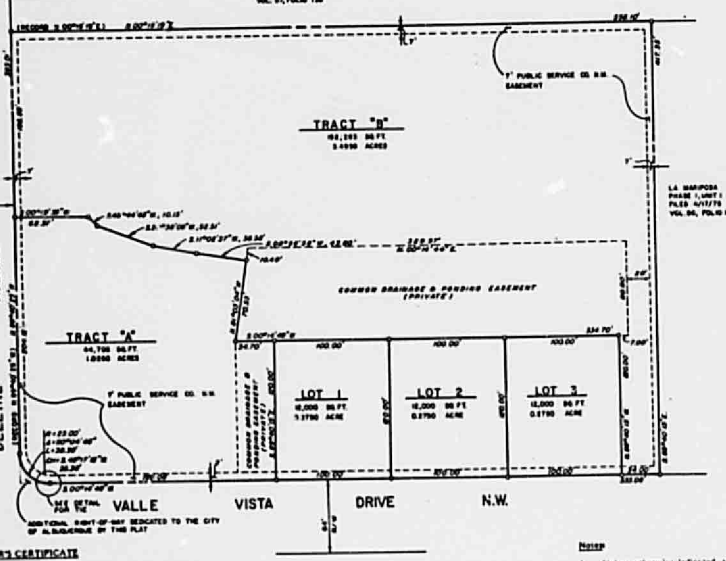
"NEW MEXICO STATE PLANE COORDINATE SYSTEM (CENTRAL ZONE)"

NOTE: ROTATE BEARINGS SHOWN 00°13' 24" COUNTER-CLOCKWISE TO OBTAIN NEW MEXICO STATE PLANE GRID BEARINGS (CENTRAL ZONE)

REPLAT
OF
A PORTION OF THE SE 1/4 OF THE SW 1/4 OF THE SE 1/4, SECTION 26
TOWNSHIP 11 NORTH, RANGE 2 EAST, N.M.P.M.
(NOW COMPRISING TRACTS "A" & "B" AND LOTS 1, 2 & 3)
WINDMILL MANOR
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
JULY 1985

NOTE:
"City of Albuquerque Water and Sanitary Sewer Service to Tract "B" must be verified and coordinated with the Water Resources Department, City of Albuquerque."

LA MARIPOSA UNIT 1-C PLAT 5/41/77 VOL. 07, FOLIO 133



RECEIVED
OCT 15 1985
HYDROLOGY SECTION

DEDICATION AND CONSENT STATEMENT

The undersigned owner(s) of the tract of land hereon shown: an unplatted portion of the Southeast one-quarter (S.E. 1/4) of the Southwest one-quarter (S.W. 1/4) of the Southeast one-quarter (S.E. 1/4), Section 26, Township 11 North, Range 2 East, New Mexico Principal Meridian, Bernalillo County, New Mexico (not Zone Map E-11-Z) (Now Comprising Tracts "A" & "B" and Lots 1, 2 & 3), do hereby consent to the redivision shown in the manner hereon shown; grant any easement shown (for the purpose shown), including power and communication easements (if any) reserved for overhead distribution lines, pole type utilities, buried distribution lines, conduits, pipes for underground utilities where shown or indicated, and easements for the right to install power and communication service lines along side lot lines (if required) and including rights of ingress and egress for construction and maintenance, and the right to trim interfering trees; and hereby certify that this redivision is their free act and deed.

BY: Martha D. Rodeo
Martha D. Rodeo
5201 Valle Vista, N.W.
Albuquerque, NM 87120

NOTARY:
STATE OF Calif. }
COUNTY OF Los Angeles } SS

OFFICIAL SEAL
LINA CLARK
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
My comm. expires OCT 16, 1986

The foregoing instrument was acknowledged before me a Notary Public in and for said County and State by the person(s) noted in the Affidavit appearing hereon on the 7 day of August 1985

My Commission Expires 12-16-86 Lina Clark Notary Public

ORB 85-555

PLANNING DIRECTOR, CITY	DATE
SUBDIVISION NO.	MAP NO.
CITY	COUNTY
CITY ENGINEER	DATE
A.M.A.F.C.A.	DATE
PARKS AND RECREATION Janet Sayers	DATE 9-24-85
TRAFFIC ENGINEER	DATE 9-24-85
WATER RESOURCES	DATE 9-24-85
PROPERTY MANAGEMENT	DATE 4/2/86
CITY SURVEYOR	DATE 8/19/86
PUBLIC SERVICE CO. OF N.M.	DATE 8-13-85
THE MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY	DATE 8-5-85
GAS COMPANY OF NEW MEXICO	DATE 8-13-85

SURVEYOR'S CERTIFICATE

I, FRED SANCHEZ, a duly qualified land surveyor, registered under the laws of the State of New Mexico, hereby certify that this plat was prepared by me or under my direct supervision, shows accurate dimensions, land areas, shows all easements shown on recorded plat or made known to me by the owner, utility companies, or other parties expressing an interest, and that this survey meets the minimum requirements for monumentation and surveys of the Albuquerque Subdivision Ordinance, and that the survey is true and correct to the best of my knowledge and belief.

FRED SANCHEZ, N.M.P.L.S. NO. 5015

NEW MEXICO PROFESSIONAL SURVEYOR FRED SANCHEZ 5015

Plat & Survey By:
ALBUQUERQUE SURVEYING CO. INC., 2119 Menaul Blvd. N.E., Albuquerque, New Mexico 87107 Ph. (505) 884-2036

NOTARY:
STATE OF NEW MEXICO }
COUNTY OF BERNALILLO } SS

The foregoing instrument was acknowledged before me a Notary Public in and for said County and State by the person(s) noted in the Affidavit appearing hereon on the 30th day of July 1985

My Commission Expires 8-21-87 Marjorie M. Villareal Notary Public

OFFICIAL SEAL
MARJORIE M. VILLAREAL
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires

Notes

1. Unless otherwise indicated, all corners are marked with an iron stake surmounted with a cap marked "LS 4078".
2. Bearings shown are based on bearings shown on "LA MARIPOSA, Unit 1-C, an addition to the City of Albuquerque" filed for record in the Office of the County Clerk of Bernalillo County, New Mexico, on March 16, 1977, in Volume D7, Folio 133.
3. Bearings and distances shown are field and record data. Bearings and distances shown in parentheses are record data.
4. Distances are ground distances.

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

EXHIBIT "A"

0 21

WINDMILL MANOR RETIREMENT HOMES

COMPRISING A PORTION OF THE SE 1/4 OF THE SE 1/4,
SECTION 26, TOWNSHIP 11 NORTH, RANGE 2 EAST, N.M.P.E.
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

BENCH MARK = "6-F11" in a 60-Penny nail in west pole of pylon located from the intersection of State Road 448 and Dellyne Avenue, N.W. go west 0.78 mile along Dellyne Avenue, N.W. to crossing of Plains Electric Co-op Transmission Line, then S.W. 300 feet along Transmission line to Pylon No. WR-16.
Elevation = 5116.623

Tbm = Top of Bonnet Bolt at top of Fire Hydrant at the Northwest corner of Intersection of Dellyne Avenue N.W. and Valle Vista Drive, N.W.
Elevation = 5110.63

RECEIVED
OCT 15 1985
HYDROLOGY SECTION

SCALE: 1"=30'

GRADING NOTES

THE RETENTION POND SHALL BE SEEDED UPON COMPLETION OF GRADING IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:

1. SEED MIX:

Species	Pure Live Seed (lbs/acre)*
Annual Rye Grass	8.0
Giant Dropseed	2.0
Sand Dropseed	1.0
Indian Ricegrass	4.0
Alkalinon Grass	6.0
Total	21.0

*Rates apply to drilled seed. Double rates listed if seed is broadcast.

2. FERTILIZER

200 bulk lbs. 0-20-0 Super Phosphate per acre
150 bulk lbs. 45-0-0 Urea per acre

3. MULCH

5,000 lbs. hay mulch per acre

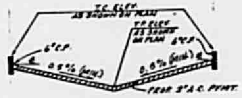
4. WATERING SCHEDULE

WEEK NO.	1	2	3	4	5	6	Total
INCHES	1.5/1.0*	2.0	1.0	1.0	0.5	0.5	7.0

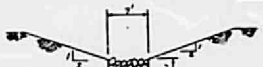
*The (2) applications three (3) days apart are required the first week.

GRADING NOTES

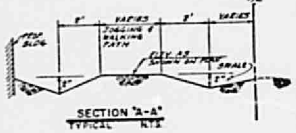
1. All top of curb elevations are to the back of the curb.
2. Prior to any construction work, Contractor shall install berming or silt fencing (2" min.) as approved by City Engineer along Valle Vista Dr. Frontage. (See Detail this sheet).
3. Prior to the end of each work day, Contractor shall perform debris clean-up within all public right-of-way.
4. Contractor shall maintain adequate access as approved by City Engineer to adjacent property owners at all times.
5. No dirt shall be placed within public right-of-way at anytime for either temporary or permanent storage.
6. Contractor shall maintain dust control at all times by adequate watering.
7. All unimproved parking areas shall be regraded to drain.



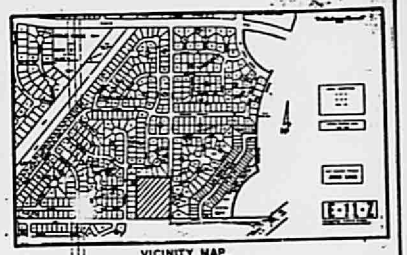
SECTION "D-D"
TYPICAL N.T.S.



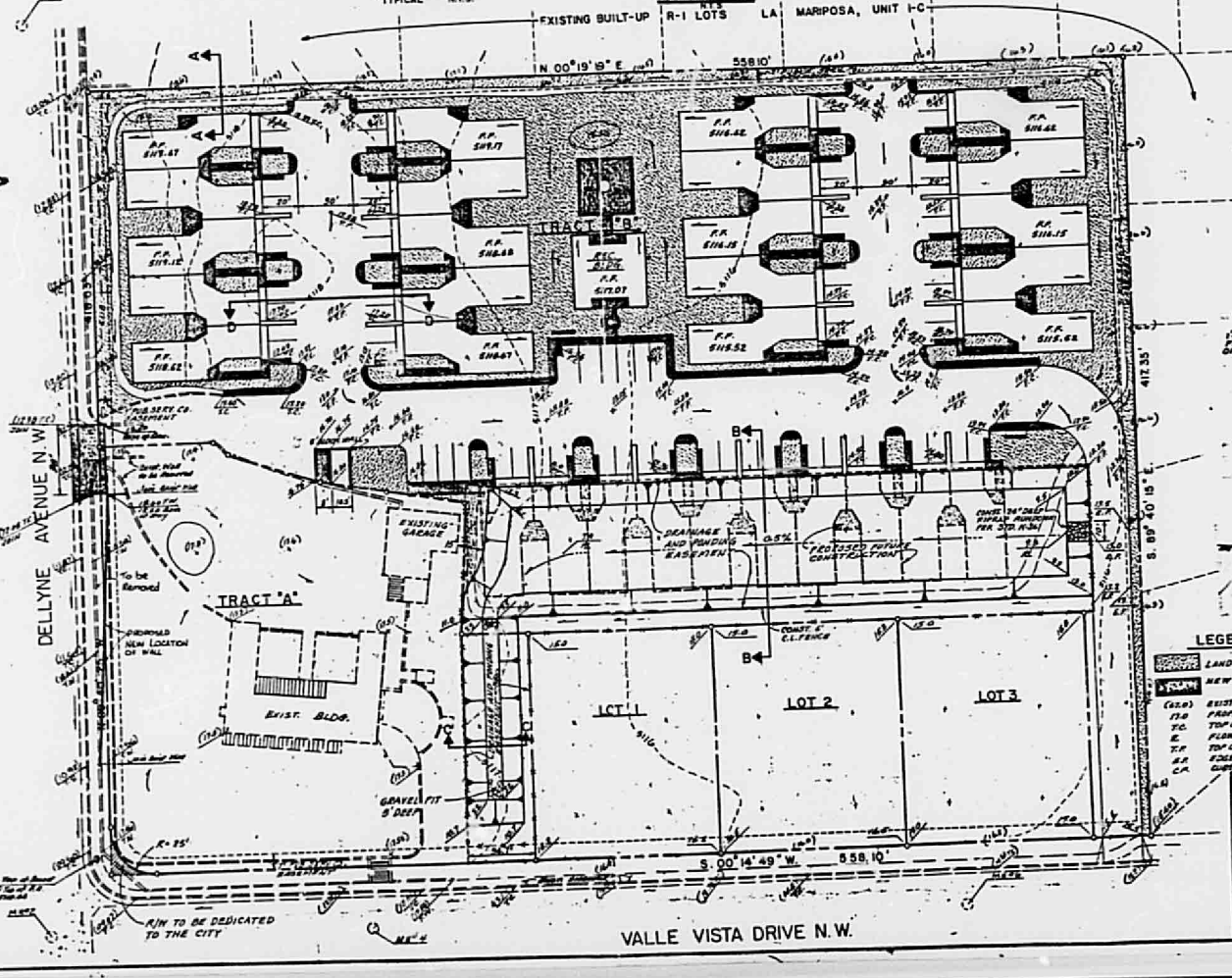
SECTION "C-C"
N.T.S.



SECTION "A-A"
TYPICAL N.T.S.



VICINITY MAP



ONSITE FLOWS
Windmill Manor

Existing

Area = 5.3559 acres

$T_c = 0.0078 \times 540^{(0.77)} / 0.0078^{(0.385)}$
$= 6.43$ min

C factor = 0.25

$I_{100} = (2.2)(6.84)(10)^{-0.51} = 4.65$ in/hr

$I_{10} = (1.44)(6.84)(10)^{-0.51} = 3.04$ in/hr

$Q_{100} = (0.25)(4.65)(5.3559)$
$= 6.22$ cfs

$Q_{10} = (0.25)(3.04)(5.3559) = 4.07$ cfs

ONSITE FLOWS
Windmill Manor

Basin A - (TRACTS A & B)

Developed

Area = 4.5194 acres

$T_c = 0.0078 \times 725^{(0.77)} / 0.037^{(0.385)}$
$= 5.0$ min

Rainfall Volume: 100 yr = 2.2 in
10 yr = 1.44 in

C factor = 0.85

$I_{100} = (2.2)(6.84)(10)^{-0.51}$
$= 4.65$ in/hr

$I_{10} = 3.04$ in/hr

$Q_{100} = (0.85)(4.65)(4.5194)$
$= 17.86$ cfs

$Q_{10} = (0.85)(3.04)(4.5194) = 11.88$ cfs

ONSITE FLOWS
Windmill Manor

Basin B - (LOTS 1,2 & 3)

Developed

Area = 0.8375 acres

$T_c = 0.0078 \times 325^{(0.77)} / 0.083^{(0.385)}$
$= 7.33$ min

C = 0.85

$I_{100} = (2.2)(6.84)(10)^{-0.51} = 4.65$ in/hr

$I_{10} = 3.04$ in/hr

$Q_{100} = (0.85)(4.65)(0.8375) = 3.31$ cfs

$Q_{10} = 2.16$ cfs

NO OFFSITE FLOWS

POND WATER LEVEL CALCULATION

100 Year Retention Volume
Area x Rainfall x C = (3.36 x 43.560) x (2.2/12) x (0.8)
= 34243.96 c.f.

Available Retention Surface Area
(325 x 70) + (30 x 110) + 0.5(30 x 70) = 36,400 sq. f.

For Calculation Purposes, use an equivalent square pond with equal widths = $\sqrt{36,400}$ ft. = 190.68 ft. and side slope of 3:1 for a trapezoidal cross section.

With Freeboard = 2' h & d = 100 Year water depth

Top Width (Water Surface) = 190.68 - 8 = 182.68 ft.

Bottom Width = (182.68 - 6d) ft.

Equating Volumes and solve for d:

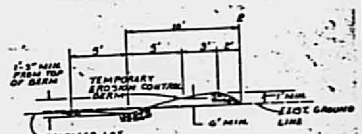
$\frac{182.68 + (182.68 - 6d)}{2} d (182.68) = 34243.96$

$33464.824 - 328.368d^2 = 34243.96$

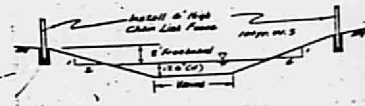
$328.368d^2 - 33464.824 = 34243.96 = 0$

$d = 1.46$ ft. or 17.52"

Total Pond Depth = 3.46 ft. (Continuous)



TEMPORARY EROSION CONTROL BERM DETAIL
(BERM TO BE REMOVED AFTER COMPLETION OF IMPROVEMENTS)
NOT TO SCALE



RETENTION POND
SECTION "B-B"
TYPICAL N.T.S.

LEGEND

LANDSCAPED AREAS
NEW CONCRETE
(52.0) EXIST. ELEV.
13.0 PROP. ELEV.
T.C. TOP OF CURB
F. FLOW LINE
T.P. TOP OF PAVEMENT
E.P. EDGE OF PAVEMENT
C.P. CURB FACE

REV. 10-10-85
10-3-85

WINDMILL MANOR RETIREMENT HOMES	1 of 1
GRADING & DRAINAGE PLAN	
GARDNER, MASON & ASSOC., INC. ALBUQUERQUE, NEW MEXICO	
PROJECT NO. / DRAWN: RC-MT / CHECKED: FS / DATE: 10-1-85	
TRACED: / APPROVED: / SCALE: 1"=30'	

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

85 92475

RECEIVED
NOV 05 1985
HYDROLOGY SECTION

DRAINAGE COVENANT

THIS COVENANT made this 1st day of November, 1985, by and between the City of Albuquerque, a municipal corporation (City), and Broadbent Development Company (Owner, which term includes successors and assigns).

RECITAL

The Owner is owner of certain real property located at 2703, 2715, and 2725 Broadbent Parkway, NE, in Albuquerque, New Mexico (the Property), and more particularly described as follows:

Tract C-3 of the lands of Menaul School, Inc.

That pursuant to City ordinances, regulations, and other applicable laws, the Owner is required to install and/or maintain certain Drainage Facilities (hereinafter defined) on the Property, and the parties wish to provide for an agreement as to the obligations and responsibilities for same.

DESCRIPTION OF FACILITIES

The following facilities (the "Drainage Facilities") are to be constructed and/or maintained by the Owner:

Approximately 1,394 yd^3 of compacted fill along the north bank of the Menaul School Channel between Broadbent Parkway, NE, and the Menaul School Pond, and less than 500 yd^3 of fill on the east bank of the Menaul School Pond, both in the general vicinity of the existing drainage outfall structure at the northwesterly terminus of the Menaul School Channel.

CONSTRUCTION OF DRAINAGE FACILITIES

The Owner shall construct the Drainage Facilities in accordance with standards, plans, and specifications prescribed and approved by the City.

MAINTENANCE OF FACILITIES

The Owner shall, at his cost in accordance with the standards, plans, and specifications prescribed by the City, maintain the Drainage Facilities. The City shall have the right to enter periodically upon the Property to inspect the Drainage Facilities.

FAILURE TO COMPLY AND LIEN

In the event that the Owner shall fail to construct the Drainage Facilities in accordance with standards, plans, and specifications prescribed and approved by the City or fail to adequately maintain the Drainage Facilities, the City shall give the Owner notice in writing to construct, correct, or maintain the Drainage Facilities, and if the Owner fails to comply therewith within thirty (30) days, the City may enter upon the Property to perform the necessary construction or maintenance. The cost of the City's performing such construction or maintenance shall be paid by the Owner. In the event the Owner fails to pay said cost within thirty (30) days after being billed for same, the City may file a lien against the Property.

LIABILITY

The City shall not be liable for any damages to the Owner resulting from its construction, modification, or maintenance of the Drainage Facilities.

NOTICE

The written notice provided for herein shall be accomplished by mailing same to:

Broadbent Development Company
2651-J Pan American Freeway, NE
Albuquerque, New Mexico 87107

The Owner may change said address by giving written notice, certified mail, return receipt requested, to the City Engineer, City Hall, at 505 Marquette Street, Albuquerque, New Mexico 87103.

INDEMNIFY AND HOLD HARMLESS

The Owner agrees to defend, indemnify, and hold harmless the City, its officials, agents, and employees from and against any and all claims, actions, suits, or proceedings of any kind brought against said parties for or on account of any matter arising from the Drainage Facilities provided for herein or the Owner's failure to construct, maintain, or modify the Drainage Facilities under this Covenant.

COVENANT RUNNING WITH THE PROPERTY

The obligation of the Owner set forth herein shall be binding upon the Owner, his heirs, and assigns, and the property of the Owner as described herein and will run with said property until released by the City.

ATTEST:

City Clerk

RECOMMEND:

City Engineer 10/10/85 10/24/85

REVIEWED BY THE LEGAL DEPARTMENT:

Assistant City Attorney

OWNER Broadbent Development Company

By: Richard E. Peterson

Title: Senior Vice President

CITY OF ALBUQUERQUE

10-30-85

Chief Administrative Officer

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
)ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 18th day of October, 1985, by Richard E. Peterson, Senior Vice President
(Name of Officer) (Title)
Broadbent Development Company, a Delaware
(State of Incorporation)
corporation, on behalf of said corporation.

Linda Anne Howden
Notary Public

My Commission Expires:
Aug 23, 1987

Approved As To Form
City Attorney
Date 10/25/85

STATE OF NEW MEXICO)
)ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 3 day of _____, 198__, by _____
_____
(Name of Acknowledging Partner or Partners)
on behalf of _____,
a partnership.

_____
Notary Public

My Commission Expires:
_____

STATE OF NEW MEXICO)
)ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me by _____, on this _____ day of _____, 198__.

_____
Notary Public

My Commission Expires:
_____

STATE OF NEW MEXICO)
)ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 30th day of October, 1985, by Harry E. Kinney, Mayor, Chief Administrative Officer of the City of Albuquerque, municipal corporation, on behalf of said corporation.

Ida L. Grant
Notary Public

My Commission Expires:
12-18-88

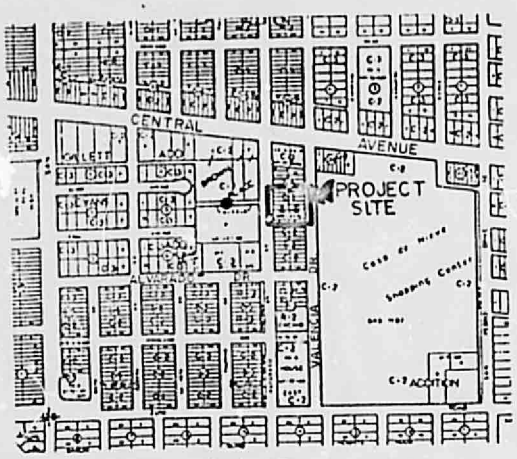
STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD
1988 NOV -1 PM 2:01
COUNTY CLERK

Mr287A 25 28

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

RECEIVED
MAY 19 1986
HYDROLOGY SECTION



N

SCALE: 1" = 800'

VICINITY MAP
K-18-Z

LEGAL DESCRIPTION: LOTS 15-18, 24-27 - BLOCK 37
TIJERAS PLACE ADDITION

BENCHMARK INFORMATION: ACS # MHP-1, Elev. 5280.00 Located at the intersection of Central Avenue & Valencia Drive.

GILBERT D. GARDNER
NEW MEXICO
3855
LAND SURVEYOR
REGISTERED PROFESSIONAL ENGINEER
2/27/86

NOTICE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.

2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with "Interim Std. Specifications for Public Works Construction 1985".

3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.

4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.

5. Backfill compaction shall be according to N/A street use.

F-14

RUSS PITNEY

APPROVALS	NAME	DATE	TITLE: ARTHRITIS FOUNDATION 124 ALVARADO DR. S.E. ALBUQUERQUE, NM 87108
CE/DESIGN	R.R.	02/27/86	
			FILE NO. 26454
			1 3 K-18-Z

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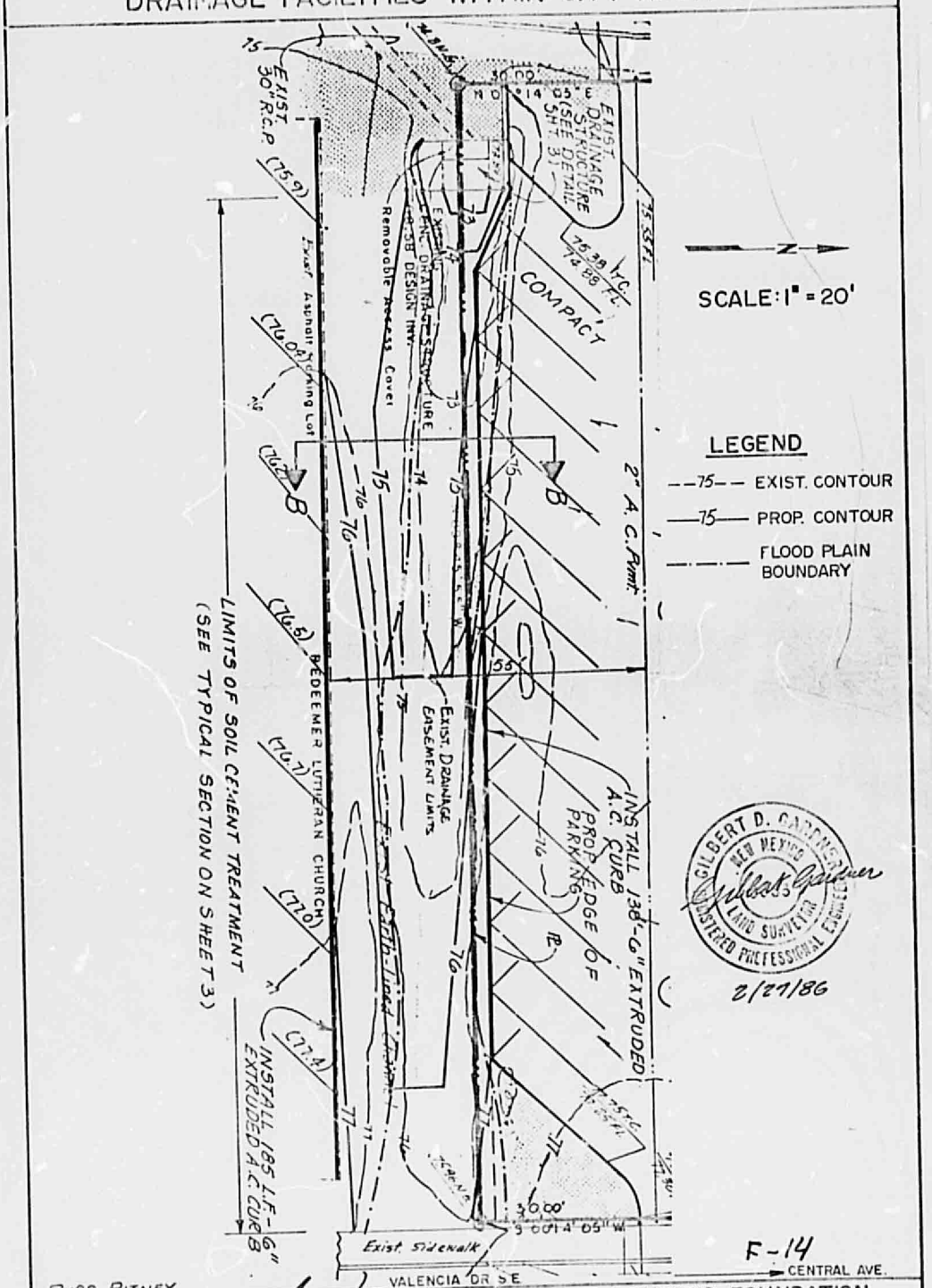
CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

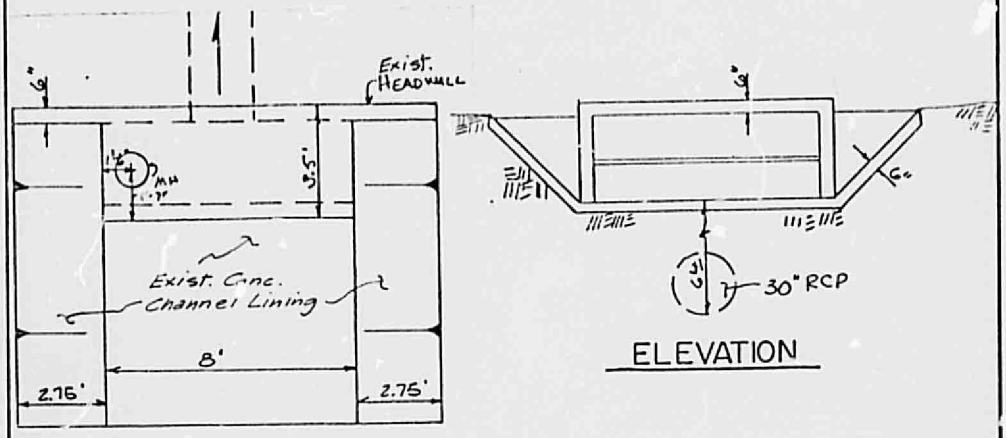


RUSS PITNEY

APPROVALS	NAME	DATE	TITLE: ARTHRITIS FOUNDATION 124 ALVARADO DR. S.E. ALBUQUERQUE, NM 87108
C.E./DESIGN		02/27/86	
INSPECTOR			PERMIT NO. 26454 — MAP NO. K-13-Z
C.O.A. FIELD			SHEET 2 OF 3

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



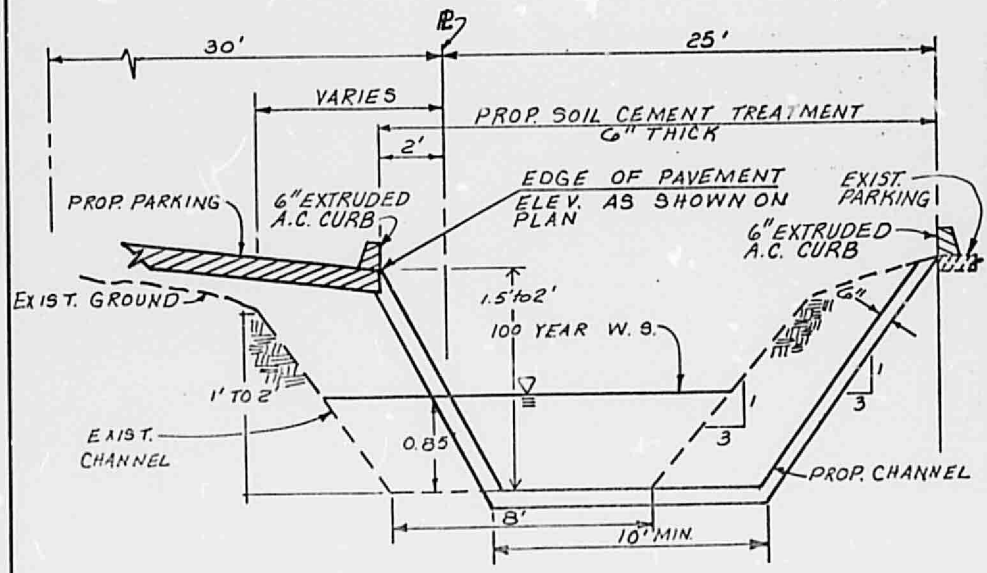
PLAN

ELEVATION

EXISTING DRAINAGE STRUCTURE DETAIL

NOT TO SCALE

GILBERT O. GARDNER
REGISTERED PROFESSIONAL LAND SURVEYOR
2/27/86



CHANNEL SECTION (TYPICAL) B-B

RUSS PITNEY

NOT TO SCALE

F-14

APPROVALS	NAME	DATE
A.C.E./DESIGN		02/27/86
INSPECTOR		
A.C.E./FIELD		

TITLE: ARTHRITIS FOUNDATION
124 ALVARADO DR. S.E.
ALBUQUERQUE, NM 87108

PERMIT NO. 26454
SHEET 3 OF 3

MAP NO. K-18-Z