HYDROLOGY H17/D9 1 of 2 7 PLANS

H 17/D9

7 PLANS

LEEDSHILL-HERKENHOFF, INC. ALBUQUERQUE SANTA FE PHOENIX SAN FRANCISCO ENGINEERING COMPUTATIONS	NAME OF PROJECT Summit Office - Storage Units			SHEET NUMBER 1 OF 5
	COMPUTED BY: HR	CHECKED BY:	JOB NUMBER 2003.12	DATE: 10/17/84

To City

DRAINAGE REPORT

HYDROLOGY AND HYDRAULICS

SUMMIT OFFICE - STORAGE UNITS

AN AMENDMENT TO "THE SUMMIT OFFICE BUILDING" DRAINAGE PLAN DATED 06/04/79 BY ART DEKKER, ARCHITECT ENGINEER

RECEIVED
OCT 18 1984
HYDROLOGY SECTION

LEEDSHILL-HERKENHOFF, INC. ALBUQUERQUE SANTA FE PHOENIX SAN FRANCISCO ENGINEERING COMPUTATIONS	NAME OF PROJECT Summit Office-Storage Units			SHEET NUMBER 2 OF 5
	COMPUTED BY: HH	CHECKED BY:	JOB NUMBER 2003.12	DATE: 10/17/84

Calcs for Trough Sizing
East Side of Summit Storage Units.

A. Drainage Area & Runoff Coeff.
Intercept all flow south to Indian School Road.

Area	A	Pavement	0.09 Ac	Impervious
Area	B	Landscaping	0.12 Ac	Pervious
Area	C	Office Roof	0.09 Ac	Impervious
Area	D	Stor. Bldg Roofs	0.10 Ac	Impervious

0.09 + 0.09 + 0.10 = 0.28 Ac Imperv 70%
0.12 = 0.12 Ac Perv 30%
0.40 Ac

From Plate 22.1 C-1, DPM "B" Soil

Coeff. Runoff @ 70% Imperv. = 0.69 for 0.40 Ac

B. Qp100:

From Plate 22.2 D-1 100 Yr 6hr Amt = 2.3"

From Plate 22.2 D-2 for 10 minutes TC, 2.15 CSA/in Rn

Qp100 in trough = C x I x A

= 0.69 x 2.3 x 2.15 x 0.40 = 1.36 cfs

Qp100 is 1.36 cfs at outfall to existing rundown wall at Sta 2174.3.

LEEDSHILL-HERKENHOFF, INC. ALBUQUERQUE SANTA FE PHOENIX SAN FRANCISCO ENGINEERING COMPUTATIONS	NAME OF PROJECT Summit Office Storage Units			SHEET NUMBER 3 OF 5
	COMPUTED BY:	CHECKED BY:	JOB NUMBER 2003.12	DATE: 10/17/84

Trough Sizing (Cont'd)

C. Trough Hydraulics:

1. Assumptions:

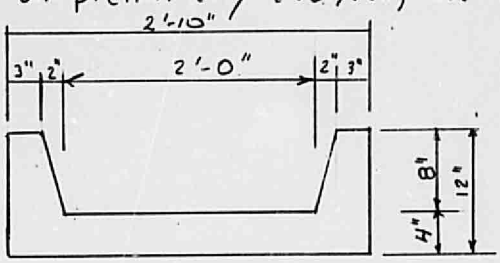
$n = 0.013$ for concrete trough

Use Max Q_{pipe} = 1.36 cfs for all Reach Analyses except at trough entrance

2. Criteria:

1. Downspout flows to enter over top of trough wall to provide vertical component to falling water.
2. Set trough wall at 8" height with steep vertical slope to confine downspout flows. (Use 1:4 side slope
3. Limit longitudinal flow depth to 2" ± for implementation Criteria 1 and 2.

3. Based on preliminary analyses, use this section.



LEEDSHILL-HERKENHOFF, INC. ALBUQUERQUE SANTA FE PHOENIX SAN FRANCISCO ENGINEERING COMPUTATIONS	NAME OF PROJECT Summit Office Storage Units			SHEET NUMBER 4 OF 5
	COMPUTED BY: R	CHECKED BY:	JOB NUMBER 2003.12	DATE: 10/17/84

Trough Sizing (Cont'd)

4. Analyses:

a. Reach No. 1: At Entrance

Areas A+B+C contribute, 0.30 Ac e C_{tot}=0.63

$Q_{p100} = C\,I\,A = 0.63 \times 2.15_{in} \times 2.5'' \times 0.30 = 0.93$ cfs

1. Assume no flare at entrance, (2' Bottom)

Wien Formula $Q = C \times W \times H^{1.5}$

$0.93 = 3.0 \times 2' \times H^{1.5}$, $H = 0.29' = 3\frac{1}{2}''$

2. Somewhat deep ponding. Use 6' wide flare for collection.

$0.93 = 3.0 \times 6' \times H^{1.5}$, $H = 0.14'$ e entr (2")

Use 6' wide flare at entrance to minimize depth ponding.

≈

b. Reach No 2: Sta. 0+85.5 to Sta 1+49.5 (First Bay)

Use $Q_p = Q_{p100}$ max = 1.36 cfs

e 2' Bottom, 1:4 SS, n = 0.013, S = 0.0216

D = 0.15', V = 4.36 fps F = 1.98 OK

c. Reach No 3: Sta 1+49.5 to Sta 2+74.3 (Exist Run down)

Use $Q_p = Q_{p100}$ = 1.36 cfs max

2' Bottom, 1:4 SS, n = 0.013, S = 0.0432

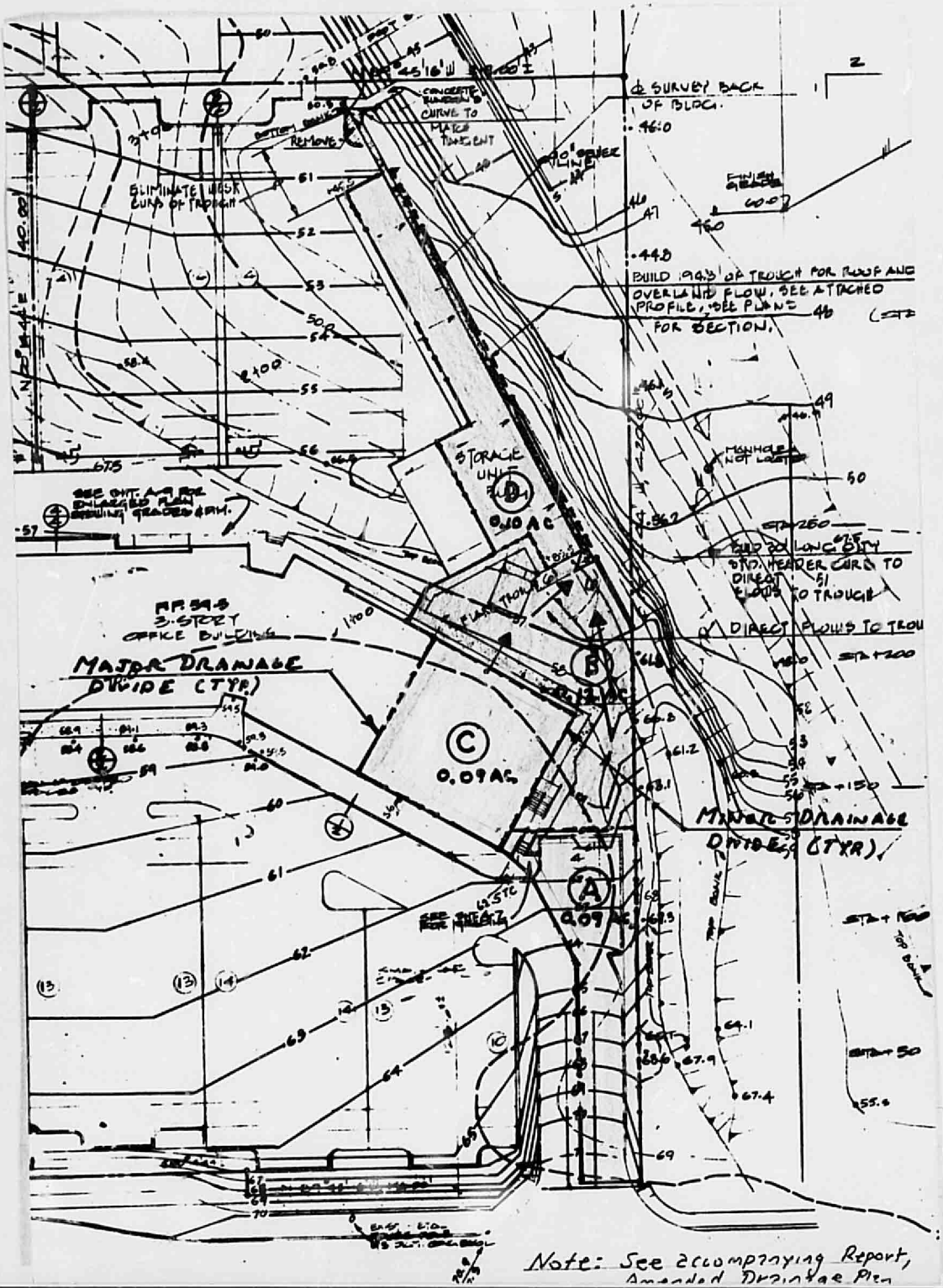
D = 0.12', V = 5.44 F_{no} = 2.75 OK

LEEDSHILL-HERKENHOFF, INC. ALBUQUERQUE SANTA FE PHOENIX SAN FRANCISCO ENGINEERING COMPUTATIONS	NAME OF PROJECT Summit Office Storage Units			SHEET NUMBER 5 OF 5
	COMPUTED BY: TR	CHECKED BY:	JOB NUMBER 2003.12	DATE: 10/17/84

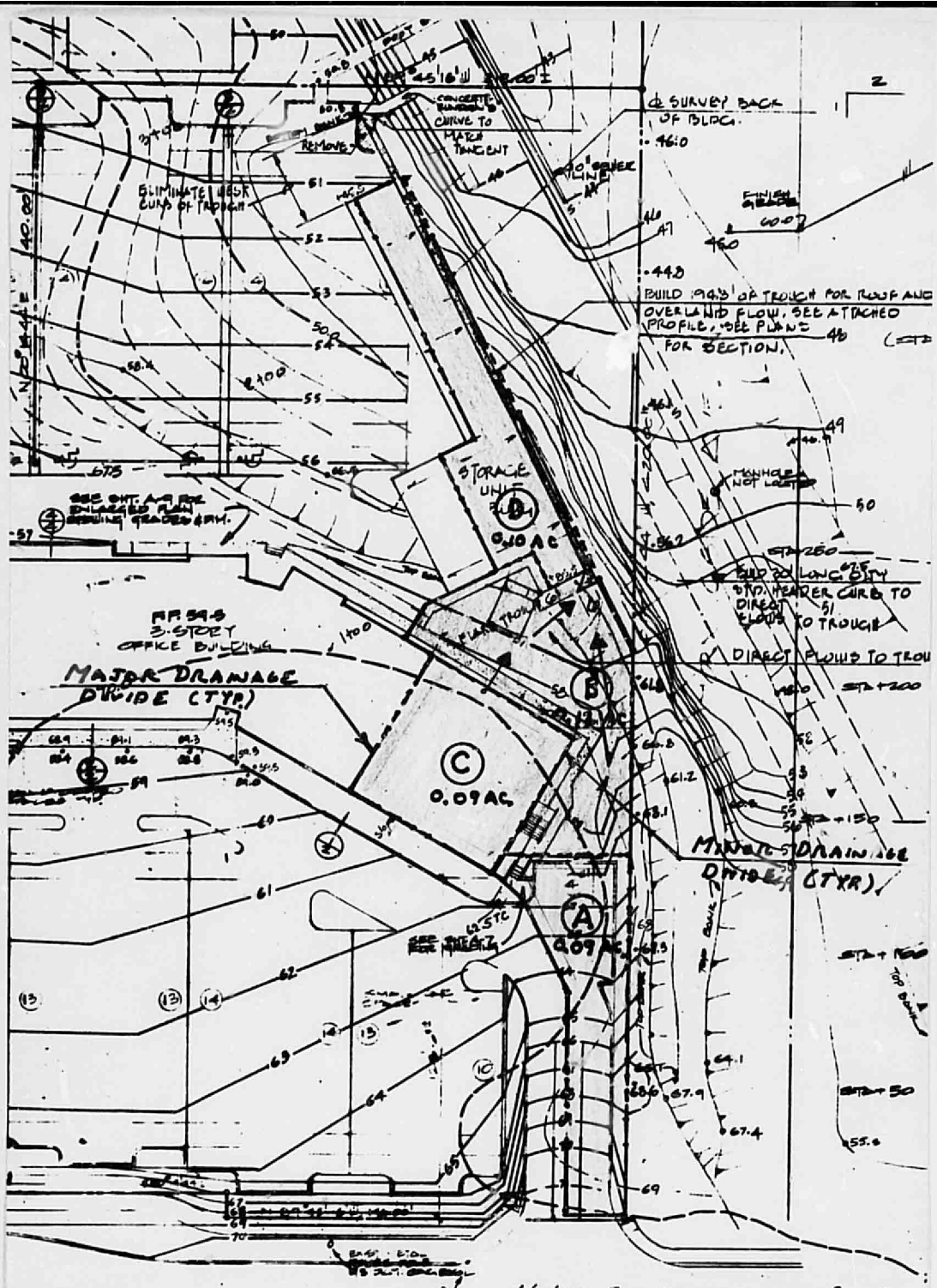
Trough Sizing (Cont'd)

d. Conditions at outfall to exist rundown.

Eliminate West Curb of Trough and allow flow to dissipate energy by spreading out over 30 foot length of pavement surfacing. Will be supplemented by pavement flows in this locale. Remove existing median curb and repave.



Note: See accompanying Report, Amended Drainage Plan



Note: See accompanying Report, Amended Drainage Plan Profile Sheet & Plans.

drainage plan

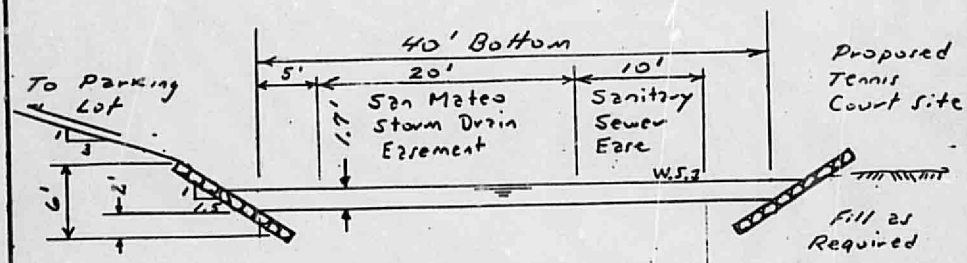
scale: 1"=40'

DRAINAGE AREA EXHIBIT 10/18/84

TROUGH FOR STORAGE UNIT - SUMMIT BLDG

NOTE: FINISH GR ASPHALT P PLAN FOR ARE 6" BE GRADE.

GORDON HERKENHOFF & ASSOCIATES ALBUQUERQUE SANTA FE ENGINEERING COMPUTATIONS	NAME OF PROJECT Coronado Company Apartments			SHEET NUMBER 1 OF 2
	COMPUTED BY HH	CHECKED BY	JOB NUMBER	DATE May 23, 78



Channel Section
Looking Northwest
Scale: 1" = 10'

Qp 100 year storm = 670 cfs

Manning's "n": Earth, = 0.03, Rip Rap, = 0.04

Channel Gradient to be 2%

Assume depth of flow = 1.7'

X Sectional Area = $(1.7 \times 1.5 + 40)1.7 = 72.33$ □'

Wetted Perimeter = $2 \times 1.7 \times (1^2 + 1.5^2)^{0.5} + 40' = 46.12'$

Hydraulic Radius = $72.33 \div 46.12 = 1.568' = R$

$R^{2/3} = 1.35$

Length-Weighted "n" =

$(40' \times 0.03 + 6.12' \times 0.04) \div 46.12' = 0.0313$

Velocity of flow = $\frac{1.486}{0.0313} \times 1.35 \times 0.02^{1/2} = \underline{9.06 \text{ fps}}$

Channel Capacity = $AV = 72.33$ □' $\times 9.06 = \underline{655}$ cfs

≈ 670 cfs req'd.

GORDON HERKENHOFF & ASSOCIATES ALBUQUERQUE SANTA FE ENGINEERING COMPUTATIONS	NAME OF PROJECT Coronado Company Apartments			SHEET NUMBER 2 OF
	COMPUTED BY TB	CHECKED BY	JOB NUMBER	DATE 5/23/78

NOTES:

1. We recommend that one foot thick wire-enclosed rip rap be provided along the entire length of the west side of channel to protect the bank and parking lot above from scouring due to velocity and to moderate the effect of any hydraulic jump formed as flow enters the pool which can be formed by ponding at the entrance to the NMSHD 10'x6' box culvert. Theoretically, a 10 year return frequency storm will cause a pool to form at about the top of the box culvert (Elev. 42.5). Such a pool would inundate the rip rap and could cause some bank sloughing. A more severe storm would tend to overflow west down the freeway rights of way.

Short of providing significant fill, the tennis court lands east of the channel cannot be protected from potential frequent flooding. A rip rap bank for scour protection is shown for the eventuality that the owner may desire to fill that site. If no facilities are to be built that require protection, the rip rap protection on the east side serves no purpose and can be deleted.

GORDON HERKENHOFF & ASSOCIATES ALBUQUERQUE SANTA FE ENGINEERING COMPUTATIONS	NAME OF PROJECT Coronado Company Apartments			SHEET NUMBER 3 OF 4
	COMPUTED BY MA	CHECKED BY	JOB NUMBER	DATE 5/23/78

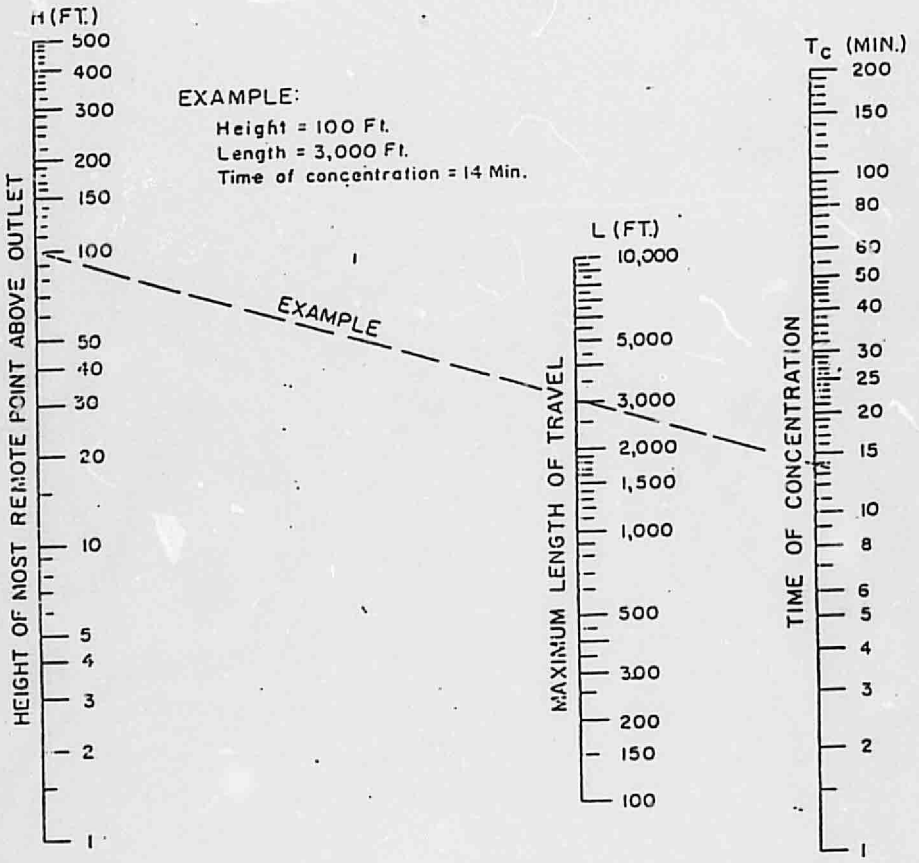
2. We recommend that an excavated earth channel wider than the existing channel and wider than the street outfall at Indian School Road be provided for 400 feet through the owner's property in light of the following two factors:

- Ponding from even a ten year storm could extend approximately 300 feet upstream from the concrete box culvert, or in other words, 3/4 of the 400 feet length for which the owner is responsible. A hydraulic jump may develop at some location in the owners lands or lands to the south. After that turbulent jump forms, the channel velocity will be much reduced and the computed channel velocity will not be pertinent.
- Approximately 400 feet to the south, 670 cfs ($Q_{p\,100}$) running at 15 fps, 1.5' deep in a 32' street section at 1.4 % gradient will outfall at Indian School Road. There is no reasonable hope that the City, the other owner or any other agency will be able to justify the expense required to instantaneously reduce that velocity to a more desirable rate of flow to serve only 500-600' of channel.

GORDON HERKENHOFF & ASSOCIATES ALBUQUERQUE SANTA FE ENGINEERING COMPUTATIONS	NAME OF PROJECT Coronado Company Apartments			SHEET NUMBER 4 OF 4
	COMPUTED BY AB	CHECKED BY	JOB NUMBER	DATE 5/13/78

3. It is believed that due to constraints at both ends of this 800 feet long reach, the best approach is to emphasize bank protection to the land owners' properties along the channel.

Please type after the City's review and prior to any other reviews.

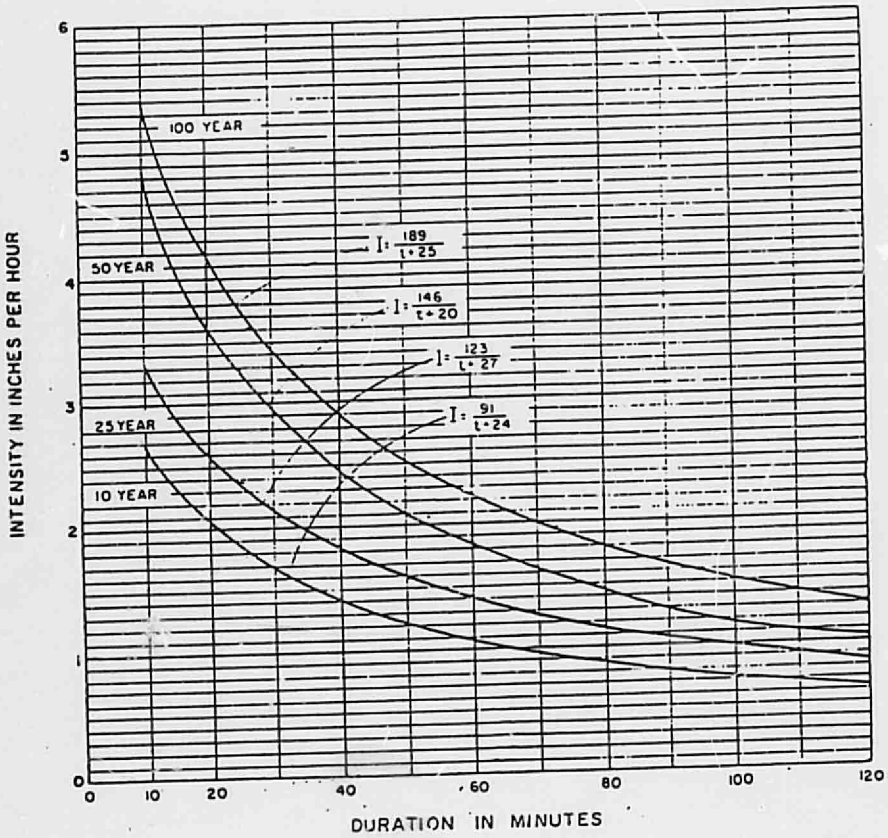


Based on study by P. Z. Kirpich,
Civil Engineering, Vol. 10, No. 6, June 1940, p. 332

FIG. 1 TIME OF CONCENTRATION OF SMALL DRAINAGE BASINS

Reprinted from "Design of Roadside Drainage Channels - Hydraulic Engineering Circular No. 6", April 1965, U. S. Dept

Plate 2



MASTER PLAN OF DRAINAGE CITY OF ALBUQUERQUE - NEW MEXICO AND ENVIRONS	
INTENSITY DURATION FREQUENCY CURVES (ALBUQUERQUE AREA - 1961)	
GORDON HERKENHOFF & ASSOC CONSULTING ENGINEERS ALBUQUERQUE, NEW MEXICO	CHART 1

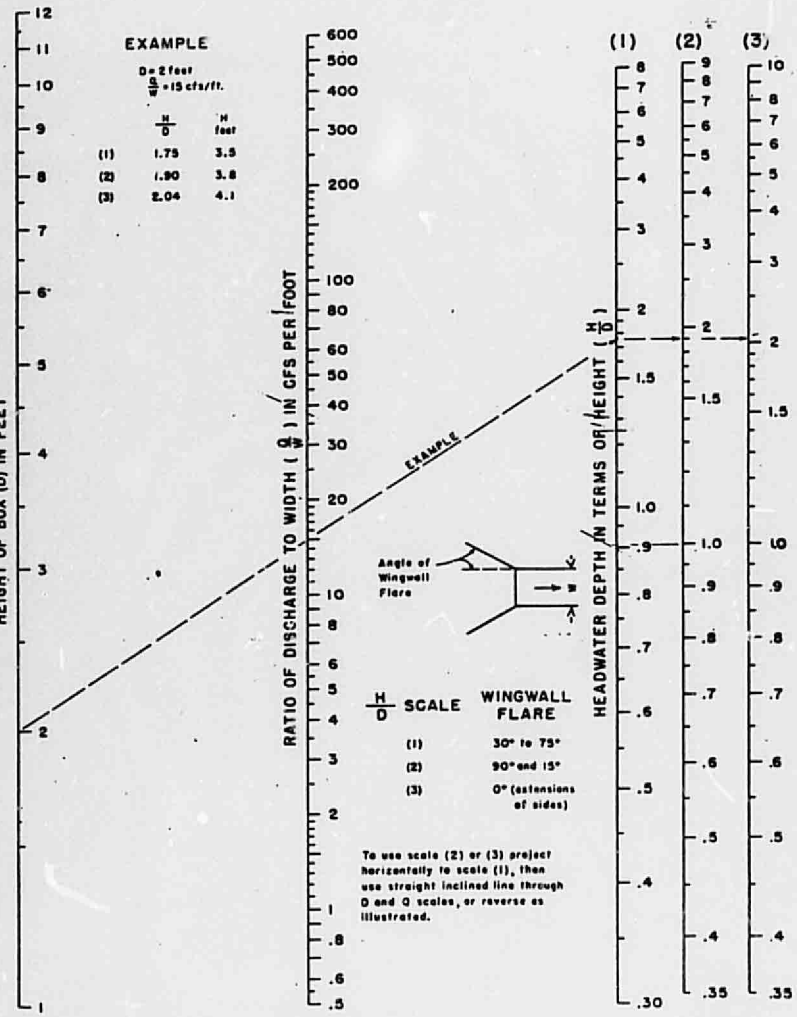


Figure 8–12. Headwater depth for box culverts with entrance control. (U.S. Bureau of Public Roads.) 288–D–2912.

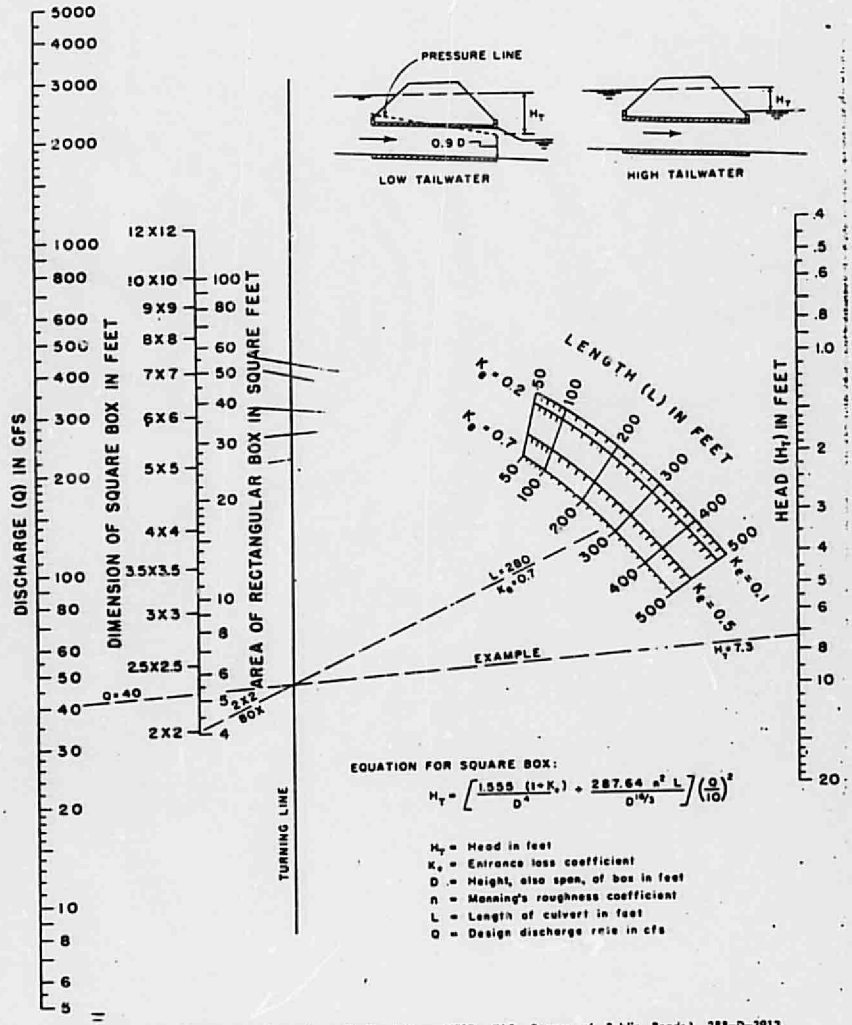


Figure 8–13. Head for concrete box culverts flowing full, n=0.013. (U.S. Bureau of Public Roads.) 288–D–2913.

ENGINEER'S STUDY ON STORM DRAINAGE FOR

PURPOSE AND SCOPE: The purpose of this study is to present the results of a drainage analysis performed and to make general recommendations for on-site and off-site drainage flows.

STUDY AREA: The study area is bounded on the South by Indian School Road, N.E., on the East by Morningside Avenue, N.E., on the North by Interstate 40 and on the West by an existing K-Mart structure, containing 10.47 acres more or less.

GENERAL: The developer will be developing the subject property into a mixed office-residential complex. This report consists of determining the peak runoff that can be expected from a 100-year design storm, sizing the required retention areas and establishing recommendations for treatment of an arroyo which crosses the eastern side of the site and ~~passing~~ passes through a 10 x 6 box culvert under Interstate 40.

HYDROLOGY: The rational formula, Q = AIR, is used in determining the on-site runoff with Q = peak flow, A = area in acres, I = rainfall intensity (in/hr), and R = runoff factor. The 100-year storm curve from the intensity duration frequency curves from the Master Plan of Drainage for Albuquerque and Environs, by Gordon Herkenhoff and Associates, 1963, is used in determining rainfall intensity. The runoff coefficient for the study areas is 0.80; being the weighted average of the runoff coefficients for roof areas (0.95), paved parking areas (0.90), paved streets with curb

and gutter (0.90), and unimproved areas (0.30). The initial time of concentration is set at 10 minutes, with longer times calculated from the time required for the runoff water to travel a particular distance. The drainage areas, as they would appear after development, are delineated on a 1" = 40' scale grading plan included with this report. The contributing drainage area for the arroyo is shown on a 1" = 1,000' scale map.

SITE DEVELOPMENT: The study area will be developed with the following requirements:

Formula to derive retention requirements:

(Area) x (Rainfall) x (Runoff Coefficient) = Volume

Rainfall = 2.4"/12" - 100 yr., 6-hr. Design Storm

Runoff Coefficients = 0.95 for roofs and paved areas
or 0.30 for unimproved areas unless otherwise indicated.

AREA #1

Area = 85,600 S.F.

Vol. = (85,600) (2.4"/12") (0.95) = 16,264 C.F.

Retention Pond = 7,410 S.F.

Retention Capability =

Refer to Ponding Section "1" in Appendix.

AREA #2

Area = 28,000 S.F.

Vol. = (28,000) (2.4"/12") (0.95) = 5,320 C.F.
Retention Capability =
Refer to Ponding Section "2" in Appendix

AREA #3

Area = 142,560

Vol. = (142,560) (2.4"/12") (0.95) = 27,086 C.F.

This area will be treated differently than the aforementioned areas, in that the storm waters generated will be channeled into the area shown and allowed to flow into the existing arroyo. The rationale for this treatment is as follows:

1. Historic flow on the subject property typically split the site into approximately halves; one-half which flowed into the existing K-Mart property, and one-half which flowed into the existing arroyo. Historic volumes exceed the volumes generated by this drainage area as demonstrated below:

Volume for Area #3 = 27,086 C.F.

Historic Volume for SITE = (456,073 S.F.) (2.4"/12") (0.30) = 27,364 C.F.

2. Although, as mentioned previously, half the site historically did not drain into the arroyo, it is felt that by redirecting these flows into the arroyo, excessive flooding of the K-Mart property will be alleviated. Refer to Appendix for details on the concrete rundown.

AREA #4

A = 48,160

Vol. = (48,160) (2.4"/12") (0.95) = 9,150 C.F.

Retention Pond = 2,397 S.F.

Retention Capability = 9,415 C.F.

Refer to Ponding Section "4" in Appendix.

AREA #5

This drainage area consists of a four building apartment complex. All storm waters generated by this area will be ponded in the landscaped areas as shown. Final grading plans to prove retention are to be provided by the architect.

AREA #6

Area = 17,400 S.F.

Vol. = (17,400) (2.4"/12") (0.40) = 1,392 C.F.

Note: The runoff coefficient for this area, 0.40, was arrived at as follows:

Area = 17,400 S.F.

of which 7,200 S.F. Tennis Court (0.90)

10,200 Landscaped (0.30)

Weighted Coefficient = 0.37, use 0.40

The landscaped area will be utilized, in total, to pond storm water for this area. The landscaped area shall be recessed 6" below finish grade starting from the arroyo edge to the property lines to retain storm waters.

EXISTING ARROYO:

Contributing Drainage Area: 355 Acres

(See accompanying map)

Formula for Determining Flow Rates:

Q = Coefficient x Intensity x Area

Coefficient = 0.65, (City Drainage Engineer)

Vertical Drop = 5,136.5 (Box Invert) to 5,240' = 103.5'

Horizontal Run = 7,580'

Intensity = $189/t_c+25$

(t_c = 40 min) = 189/65 = 2.91

Q = (0.65) (2.91) (355) = 671 cfs

The arroyo enters a 10 x 6 box culvert at the northeast corner of the site. Utilizing the table included in the Appendix, Headwater Depth for

Box Culverts, it is calculated that assuming 670 cfs and a 10 x 6 box, water will pond to a depth of 9.60 feet in order to achieve the head necessary for 670 cfs to pass through the box. This is assuming average entrance conditions to the box, which we feel are present.

As a consequence, it is the recommendations of this report that the following treatment be undertaken for the arroyo itself:

1. A retaining wall shall be constructed, as shown, at the section shown, which shall have top of wall elevation ~~for~~ of not less than 5,~~148~~.10' 5,152.10'. The wall will be constructed to prevent ponding of storm waters from the arroyo of that area of the site lying to the west of the channel.

2. The channel itself shall remain in a natural state and ponding will occur on adjacent properties to the same elevation, approximately 5,146.10', as it has historically. This due to the fact that the water will pond to that elevation where sufficient head is acquired to accommodate 670 cfs through the box culvert.

It is felt that these recommendations regarding the channel treatment are valid in that the box culvert itself was under-designed and consequently becomes a "given" in regards to channel treatment. Provided the retaining wall is contructed as shown, no erosion problem will occur. The remaining portion of the site, Area #6, has been left in an under-developed state (landscaping and tennis courts) to assure no structures or parking areas will be subject to flooding during the 100 year design storm.

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

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

October 18, 1984

Mr. Miguel Cheug-Guajardo
Leedshill-Herkenhoff, Inc.
500 Copper Square
P.O. Box 1217
Albuquerque, New Mexico 87102

RE: AMENDED DRAINAGE REPORT FOR STORAGE UNITS-SUMMIT BUILDING (H17-D9)
RECEIVED OCTOBER 18, 1984

Dear Miguel:

The above referenced plan, dated October 18, 1984 is approved.

Please attach a copy of this approved plan to the construction set prior to Hydrology sign-off.

If I can be of further assistance, please contact me at 766-7644.

Sincerely yours,

Carlos A. Montoya
Civil Engineer/Hydrology

CAM/bm

INFORMATION SHEET

PROJECT TITLE Storage Units - Summit Bldg. TYPE OF SUBMITTAL AMENDED DRAINAGE REPORT FOR H17B9

ZONE ATLAS PAGE NO. H-17-Z09 update CITY ADDRESS 4001 Indian School Rd. NE.

LEGAL DESCRIPTION

ENGINEERING FIRM Leedshill-Herkenhoff Inc. CONTACT Miguel Cheng-Guajardo

ADDRESS 500 Copper Square P.O. Box 1217 PHONE 247-0294

OWNER Summit Bldg. CONTACT Charles Naya

ADDRESS 4001 Indian School Rd. NE. PHONE 262-2323

ARCHITECT Leedshill-Herkenhoff Inc. CONTACT Miguel Cheng-Guajardo

ADDRESS 500 Copper Square P.O. Box 1217 PHONE 247-0294

SURVEYOR Leedshill-Herkenhoff Inc. CONTACT Miguel Cheng-Guajardo

ADDRESS 500 Copper Square P.O. Box 1217 PHONE 247-0294

CONTRACTOR Summit Construction Inc. CONTACT Tony Thomas

ADDRESS 900 Hazeldine S.E. PHONE 842-8113

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
OCT 18 1984
HYDROLOGY SECTION

DATE SUBMITTED: 10-18-84

BY: Miguel Cheng Guajardo

Update file.

DR file
CW

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

H17-D9

RECEIVED
APR 21 1981
CITY ENGINEER

April 17, 1981

Mr. George A. Rutherford
George A. Rutherford, Inc.
General Contractors
P. O. Box 309
Albuquerque, New Mexico 87103

Re: Summit Apartments and Office Building at 4001 Indian School Rd. NE

Dear Mr. Rutherford:

Our records indicate that your organization has satisfactorily complied with the approved drainage plan for the referenced site which also included the required drainage easement improvements. Therefore, our agreement of October 27, 1980 has been satisfied.

Your cooperation in this matter has been appreciated.

Sincerely,

Fred J. Aguirre, P.E.
Civil Engineer

FJA/cc

xc: Dwayne Sheppard, Principal Assist. City Engineer/Field & Inspection ✓
Bill Kearney, Assist. City Engineer/Field

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
DAVID RUSK

CITY ATTORNEY
GEORGE R. "PAT" BRYAN, III
William L. Kraemer, Deputy City Attorney

ASSISTANT CITY ATTORNEYS

Barbara Albin
Jeffrey L. Baker
William R. Conner
Malcolm deVesty
C.J. Finnen
Robert C. Gutierrez
Phillip P. Medrano
Patrick L. McDonald
Beth McLellan
Robert K. Patten
Steven H. Schiff
Deborah C. Slade
Barbara G. Stephenson
Albert N. Thiel

October 24, 1980

H17-D9

George A. Rutherford, Inc.
General Contractors
P. O. Box 309
Albuquerque, New Mexico 87103

Re: Summit Project - Drainage Improvements

Gentlemen:

Attached hereto is an original and three (3) copies of the Agreement for construction of the Summit Project Drainage Improvements and the issuance of a Certificate of Occupancy, which must be signed by Rutherford and the joint venturer then approved by the City Engineer and, lastly, by the Chief Administrative Officer.

These documents should then be returned to our office for review in order to determine that they are complete. They must be accompanied by the Performance Bond, which I am returning to you.

I note that Robert J. Clark has signed for the Joint Venturer as Attorney-in-Fact for Indian School Properties. We will need an original power of attorney before we can accept his signature. Furthermore, we will need copies of the minutes of the Board of Directors authorizing Larry Lucero the secretary to sign for the George A. Rutherford corporation.

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

Sincerely,

Malcolm W. deVesty

Malcolm W. deVesty
Assistant City Attorney

MWdV/dh
Enclosures
c: Dwayne Sheppard

LEGAL DEPARTMEMT / PLAZA MAYA BUILDING / 615 FIRST STREET, N.W.
Third Floor 766-7411
Third Floor 766-7724

file

MEMORANDUM

TO: Chuck Campbell DATE: 10-16-78

FROM: Bruno Conegliano B.C.

SUBJ: SUMMIT SUBDIVISION
Meeting with Chuck Campbell Regarding Drainage Report

Problems Discussed

Their master drainage plan shows access to property from Morningside and regrading east of Morningside on Coe's property. Indicated to Chuck that they needed to obtain easement from property owners for the regrading of the property adjacent to the Arroyo. Possibility of requesting vacation of Morningside Avenue north of Indian School Road and performing some type of land swap. Indicated to Chuck that clarification is necessary on what they want to do with the sidewalk along Indian School (encroachment of Indian School Road right-of-way?). Also requested 3 feet high wall along the sidewalk to form a physical barrier between the sidewalk and the sloping land to the parking lot. Requested of Chuck existing cross sections of the Arroyo every 100 feet with superimposed proposed cross sections from the culvert to the bridge.

/1a Dear Chuck

This is the summary of what we discussed today

Bruno

Bruce

Summit file

INTER-OFFICE MEMORANDUM
MUNICIPAL DEVELOPMENT DEPARTMENT

ENGINEERING

- ☐ Administration
- ☐ Capital Implementation
- ☐ Code Administration
- ☐ Engineering
- ☐ Information
- ☐ Planning
- ☐ Renewal & Rehabilitation
- ☐ Other

- ☐ City Engineer
- ☐ Asst. City Engineer-Des.
- ☐ Asst. City Engineer-Field
- ☐ Asst. City Engineer-Hydrolog.
- ☐ Chief City Surveyor
- ☐ Office Coordinator
- ☐ Secretary

Please make copies for the package go to Bruce for file - One directly to Engineering Dept. 7/15

RECEIVED
JUL 07 1980
CITY ENGINEER

ATTENTION: [illegible]

For Your:
- ☐ Approval
- ☐ Circulation
- ☐ Comment & Return
- ☐ Files
- ☐ Handling
- ☐ Information
- ☐ Investigation & Report
- ☐ Signature

Response Requested by:

REMARKS:

Vicki: I reviewed this in field w/ Les Smith - the request to substitute Concrete in rip-rap slope protection on East Side of the Summit Employee Building is okay as Indian Slope Paving I recommend approval with [illegible] Bruce -

Appears to be a reasonable request, just so it gets some [illegible] this one has been around [illegible]

RIA 7/8/80

H17-09

e of concrete slope
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the items that we

roceed with the work.

y truly,

T LTD.

th

see [illegible] 7/7/80

C.D. Hupman
7/15/80

CONTRACTORS • ENGINEERS • CONSTRUCTION MANAGERS

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

Bulletin

Summit File

INTER-OFFICE MEMORANDUM
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING

- ☐ Administration
- ☐ Capital Implementation
- ☐ Code Administration
- ☐ Engineering
- ☐ Information
- ☐ Planning
- ☐ Renewal & Rehabilitation
- ☐ Other
- ☐ City Engineer
- ☐ Asst. City Engineer-Des.
- ☐ Asst. City Engineer-Field
- ☐ Asst. City Engineer-Hydrolog.
- ☐ Chief City Surveyor
- ☐ Office Coordinator
- ☐ Secretary

Please make copies of entire package for the Reserve file — one directly to the Chief Engineer. EKA 7/15

RECEIVED
JUL 07 1980
CITY ENGINEER

ATTENTION: R. Hedley

For Your:
- ☐ Approval
- ☐ Circulation
- ☐ Comment & Return
- ☐ Files
- ☐ Handling
- ☐ Information
- ☐ Investigation & Report
- ☐ Signature

Response Requested by:

REMARKS:

Rick: I reviewed this in field w/ Les Smith — he wants to substitute Concrete for rip-rap slope protection on East Side of the Summit Improvement (Below Bellino's Restaurant Indian Lake Road). I recommend approval and [illegible] that [illegible]

Dwayne —
Appears to be a reasonable request, just so it gets some [illegible] this one has been around awhile
EKA
7/8/80

H17-09

e of concrete slope
otection at the

the items that we

roceed with the work.

y truly,

T LTD.

th

see EKA 7/7/80

C.D. Humphrey
7/15/80

INTER-WEST LTD.
4004 Carlisle N.E., Suite N
Albuquerque, New Mexico 87107
Phone: 884-7636

July 3, 1980

RECEIVED
JUL 07 1980
CITY ENGINEER

City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Attn: Mr. Dwayne Sheppard
Asst. City Engineer

Gentlemen:

Attached is a sketch which reflects the use of concrete slope paving in lieu of rip-rap for the embankment protection at the Summit Apartments.

I believe that this sketch contains all of the items that we discussed in the field this afternoon.

Please advise if acceptable, and we will proceed with the work.

Yours very truly,

INTER-WEST LTD.

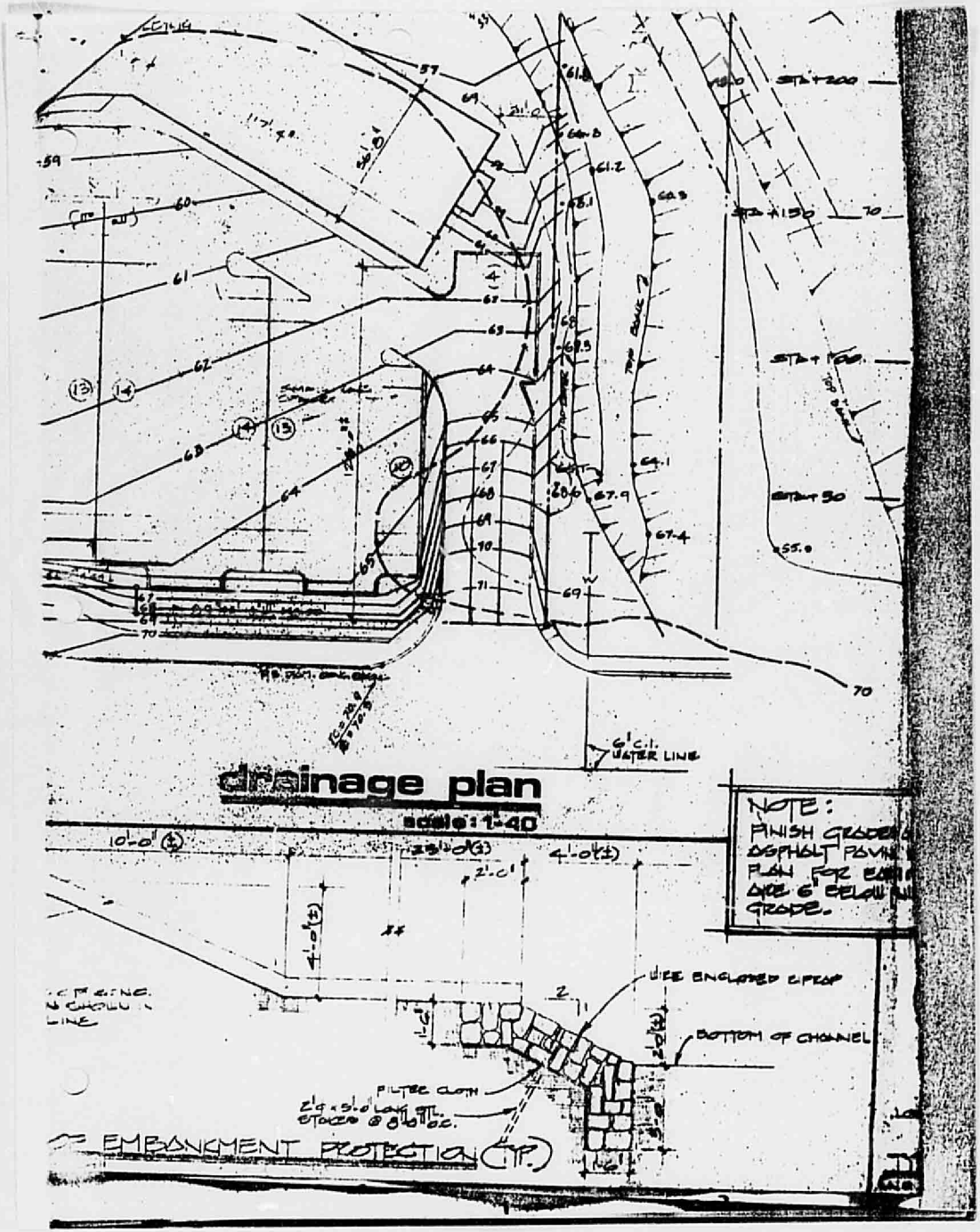
M. L. Smith
President

Encl.

cc: Paul Blanchard

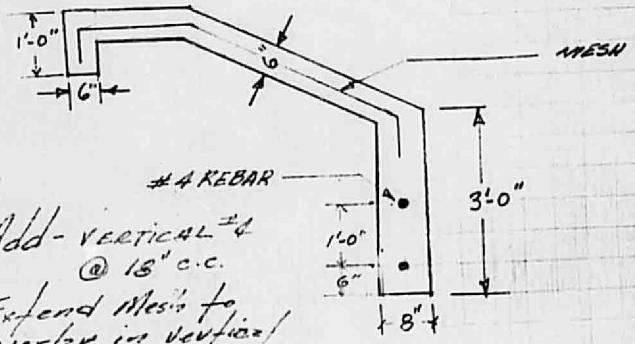
MLS/mg

Approved w/notations as per ~~CDS~~ 7/7/80
C. D. Hampton
7/15/80


drainage plan
scale: 1"=40'
NOTE:
FINISH GRADE
ASPHALT PAVING
PLAN FOR
SIDE 6" BELOW
GRADE.
6" C.I. WATER LINE
STA 1+200
STA 1+150
STA 1+100
STA 1+50
STA 0+00
TOP BANK
TOP BANK
4'-0"(±)
4'-0"(±)
2'-0"
USE ENGLISH CLEAT
BOTTOM OF CHANNEL
FILTER CLOTH
EMBANKMENT PROTECTION (TYP.)

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

SLOPE PAVING ~ SUMMITT



Add - VERTICAL #4 @ 18" c.c.
Extend Mesh to overlap in vertical toe-wall.
CAK 7/7/80

Approved C. A. Kuppa 7/15/80

INTER-WEST LTD.
4004 Carlisle N.E., Suite N
Albuquerque, New Mexico 87107
Phone: 884-7636

H17-D9

July 3, 1980

RECEIVED
JUL 07 1980
CITY ENGINEER

City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Attn: Mr. Dwayne Sheppard
Asst. City Engineer

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Please advise if acceptable, and we will proceed with the work.

Yours very truly,

INTER-WEST LTD.

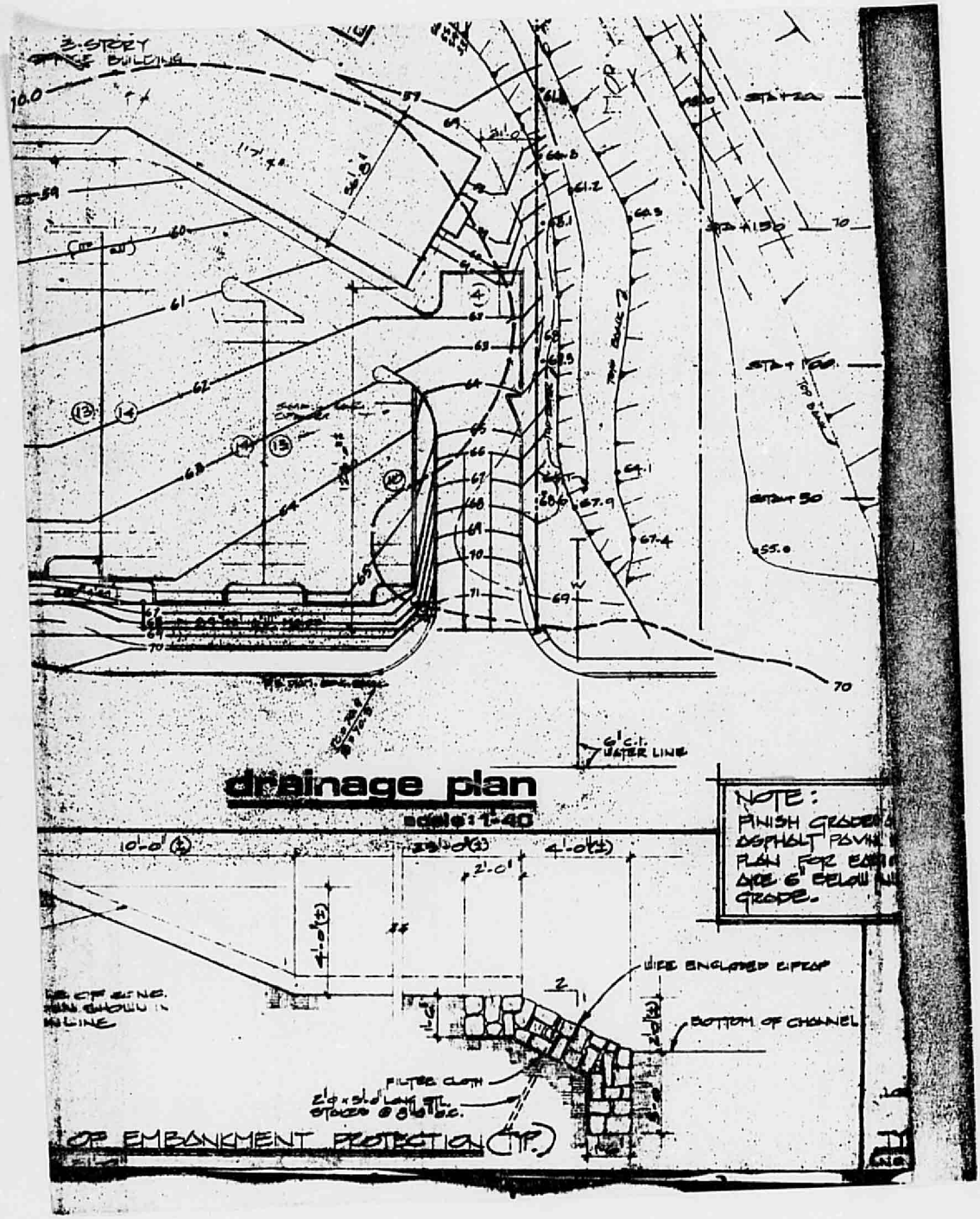
M. L. Smith
President

Encl.

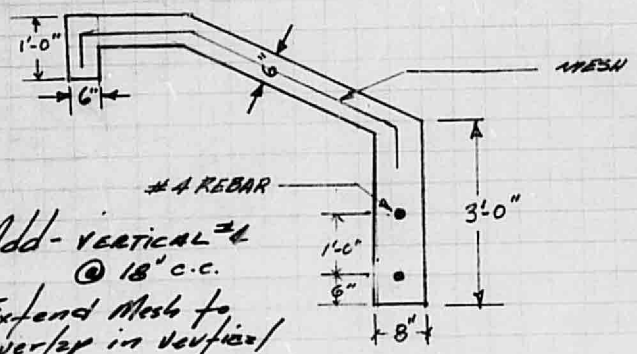
cc: Paul Blanchard

MLS/mg

Approved w/notations as per CDS 7/7/80
C.D. Sheppard
7/15/80


3-STORY
STORAGE BUILDING
STA 1+20
STA 1+50
STA 1+00
STA 50
6" C.I. WATER LINE
drainage plan
scale: 1-40
NOTE:
FINISH GRADE
ASPHALT PAVING
PLAN FOR EAR
ARE 6" BELOW
GRADE.
WIRE ENCLOSED RIPRAP
BOTTOM OF CHANNEL
FILTER CLOTH
OF EMBANKMENT PROTECTION (TYP.)

SLOPE PAVING ~ SUMMIT



Add - VERTICAL #4
@ 18" c.c.
Extend Mesh to
overlap in vertical
toe-wall.
CH 7/7/80

Approved C. H. Hupp 7/15/80

BLANCHARD **Development and Construction**

November 14, 1979

Dick Heller, City Engineer
City of Albuquerque
Engineering Department
P.O. Box 1293
Albuquerque, NM 87103

H17-D9

RE: Summit Office Building

Dear Mr. Heller,

It's our understanding that we are required to enter into a AHB contract with the City of Albuquerque for the Summit Office Building. We will enter into this contract immediately.

We, also recognize that a Certificate of Occupancy will not be issued on the Summit Office Building until this requirement is met.

Thank you for your cooperation regarding this matter.

General Contractor

George Rutherford
General Partner

PB/rig

THE AHB CONTRACT is for
THE REQUIRED DRAINAGE IMPROVEMENTS P.B.
for THE MORNINGSIDE DRAINAGE DITCH.

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

MAYOR
David Rusk

March 6, 1979

3901 Indian Sch Rd N.E
Approved 7-3-79

Mr. W. Dekker
Art Dekker Architects
2403 San Mateo Blvd. N.E.
The Summit Complex
Albuquerque, N.M. 87110

Dear Mr. Dekker:

Conditional approval was granted to the foundation plans for the referenced project subject to the submission to the City of detailed construction plans prepared by a registered professional engineer for that part of the construction that will be executed in the City easement for the Sunningdale Arroyo. A formal contract must be entered by the developer with the City (A.H.B.A.) so that the construction is executed and supervised as per City standard procedures. Building permits will not be issued in the absence of such an executed contract. Please contact Mr. Dwayne Sheppard, Assistant City Engineer-Field or Mr. Dick Heller, City Engineer, for the details of the required arrangements.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/fs

cc - Dick Heller
Dwayne Sheppard
Rich Leonard
Fred Aguirre
Drainage File

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

January 29, 1979

Mr. Bill Sullivan
Knight & Sullivan
P. O. Box 25146
Albuquerque, N.M. 87125

Dear Mr. Sullivan:

I want to confirm the indication given you verbally today that the property adjacent to Indian School Road area west of Morningside is not subject to flooding. My office has received and approved the drainage report submitted by the consulting firm of Gordon Herkenhoff and Associates.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/fs

cc - Dick Heller, City Engineer
Drainage File

KNIGHT AND SULLIVAN
A PROFESSIONAL ASSOCIATION
ATTORNEYS AT LAW

DERWOOD KNIGHT
WILLIAM J. SULLIVAN
PATRICK VILLELLA
GORDON LEE SKARSGARD
CHARLES J. NOYA
ROBERT DUFF CUSTER
SUSAN LEE EDWARDS
RICHARD B. GREGORY
MICHAEL D. FISHER
MARCIA B. LINCOLN
ROBERT B. MARTINEZ

SUITE 300
AMERICAN BANK OF COMMERCE COMPLEX
200 LOMAS BOULEVARD, N.W.
P.O. BOX 25146
ALBUQUERQUE, NEW MEXICO 87125
AREA CODE 505/765-1020
TELEX 660421

January 11, 1979

RECEIVED
JAN 15 1979
CITY ENGINEERS

City Engineer
City of Albuquerque
400 Marquette Avenue, N.W.
Albuquerque, New Mexico

Dear Sir:

This office represents Indian School Property, a Joint Venture.

Indian School Property, a Joint Venture, is currently in the process of developing certain real estate in a couple of phases here in Albuquerque that lies along Indian School Road, commencing mmediately east of the K-Mart building, and extending all the way to Washington, N.E. You probably recognize this as the old Wilhemina Coe property.

A commitment has been issued by Mortgage Investment Company as regards financing in reference to a portion of this property for the construction of office buildings and apartments, and one of the conditions of the commitment, is that the property is not subject to flooding.

I am enclosing a copy of the legal description of the property which will be developed in the near future, and would ask that you send a letter to me stating that the property is not in the flood hazard area.

In any event, after you have read this letter, I would appreciate your calling me.

Thanking you kindly in advance for your help in this matter.

Very truly yours,

WILLIAM J. SULLIVAN

WJS:cec

Encl.

A certain parcel of land situate within the City limits of the City of Albuquerque, Bernalillo County, New Mexico, in the Southwest one-quarter (1/4) of Section 11, Township 10 North, Range 3 East, New Mexico Principal Meridian; being and comprising all of Blocks numbered Eighteen (18) and Nineteen (19), (excepting therefrom all that portion taken for street widening of Indian School Road NE from said Blocks); all of that remaining Southerly portion of Blocks numbered Twelve (12) and Thirteen (13), of the NETHERWOOD PARK - SECOND FILING, an Addition to the City of Albuquerque, New Mexico, as the same is shown and designated on the Plat of said Addition filed in the office of the County Clerk of Bernalillo County, New Mexico on December 26, 1914, that is lying South of the Southerly right-of-way line of Interstate Highway No. 40 (Coronado Freeway) as shown and designated on Sheet 7 of 9 of New Mexico State Highway Commission Right-of-Way Map for New Mexico Project No. I-040-3(4)160, Bernalillo County, all of the East one-half (1/2) of vacated Solano Avenue NE that lies between the present Northerly line of Indian School Road NE and the Southerly right-of-way line of aforementioned Interstate Highway No. 40, that portion of vacated Euclid Avenue NE lying between the East line of said vacated Solano Avenue NE and the West line of Aliso Avenue NE, and that portion of vacated Euclid Avenue NE lying between the East line of Aliso Avenue NE and the West line of Morningside Avenue NE; being more particularly described by metes and bounds survey as follows:

BEGINNING at the Southeast corner of the parcel herein described, said Southeast corner being common to the point of intersection of the now present Northerly line of Indian School Road NE and the Westerly line of Morningside Avenue NE (a point on the East line of aforementioned Block numbered 19); whence, from said beginning point the Northeast corner of said Block numbered 19 bears N 00°14'44" E, 570.00 feet distance; thence, leaving said beginning point,

N 89°45'16" W, 146.00 feet distance along the Northerly line of said Indian School Road NE to a point; thence,

S 00°14'44" W, 5.00 feet distance to a point; thence,

N 89°45'16" W, 206.00 feet distance along the Northerly line of Indian School Road NE to a point on the East line of aforementioned Block numbered 18; thence,

S 00°14'44" W, 5.00 feet distance to a point; thence,

N 89°45'16" W, 322.00 feet distance along the Northerly line of said Indian School Road NE to a point being common to the point of intersection of the centerline of aforementioned Solano Avenue NE with the Northerly line of Indian School Road NE, the Southwest corner of the parcel herein described; thence,

N 00°14'44" E, 737.54 feet distance along the centerline of said vacated Solano Avenue NE to its intersection with the aforementioned Southerly right-of-way line of Interstate Highway No. 40, the Northwest corner of the parcel herein described; thence,

Southeasterly, 86.12 feet distance along the arc of a curve bearing to the right along said Southerly right-of-way line of Interstate Highway No. 40 (said curve having a radius of 3485.17 feet and a chord which bears S 79°13'31" E, 86.12 feet distance) to a point of reverse curvature; thence,

(cont'd on next page)

EXHIBIT "A"

Southeasterly, 241.01 feet distance along the arc of a curve bearing to the left along the Southerly right-of-way line of Interstate Highway No. 40 (said curve having a radius of 5792.85 feet and a chord which bears S 79°45'55" E, 241.00 feet distance) to a point on curve being a point on the West line of aforementioned Aliso Avenue NE; thence,

Southeasterly, 60.67 feet distance continuing along the Southerly line of said Interstate Highway No. 40 along the arc of a curve bearing to the left (said curve having a radius of 5792.85 feet and a chord which bears S 81°15'20" E, 60.67 feet distance), to a point on the West line of aforementioned Block 12; thence,

Southeasterly, 89.95 feet distance along the arc of a curve bearing to the left along the Southerly line of Interstate Highway No. 40 (said curve having a radius of 5792.85 feet and a chord which bears S 82°00'00" E, 89.95 feet distance) to a point of compound curvature; thence,

Southeasterly, 204.55 feet distance along the arc of a curve bearing to the left along the Southerly right-of-way line of Interstate Highway No. 40 (said curve having a radius of 5854.55 feet and a chord which bears S 89°27'04" E, 204.54 feet distance) to a point being the Northeast corner of the parcel herein described, a point on the West line of aforementioned Morningside Avenue NE; thence,

S 00°14'44" W, 622.89 feet distance along the West line of said Morningside Avenue NE, to the Southeast corner, the point and place of beginning of the parcel herein described.

EXCEPTING from the above described parcel of land all of that portion of Aliso Avenue NE that is lying between the now present Northerly line of Indian School NE and the Southerly right-of-way line of Interstate Highway No. 40 (Coronado Freeway).

[illegible] City Engineer

To:

( ) Public Works Director
( ) Asst. Public Works Director
( ) Sewer Maintenance Engineer
( ) Contract and Management Division
( ) _____
( ) _____

( ) Asst. City Engineer- Design
( ) Asst. City Engineer- Field
(✓) Asst. City Engineer- Hydrology
( ) Chief City Surveyor
( ) Office Coordinator
( ) Secretary

Summit Cayon Date 12/27/78

Due 1/5

Bruno
Please take care
[illegible]

( ) Please Handle
( ) Please See Me
( ) Please Attend Meeting Outlined
( ) Please Distribute as Indicated

2186-1605.12-78 209

NOV 29 1978

Rec 12/12/78
City Engineer

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

November 29, 1978

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

RE: THE SUMMIT COMPLEX - DRAINAGE REPORT

Dear Mr. Conegliano:

Pursuant to your correspondence of November 27, 1978, we are herewith transmitting one print of the drainage plan for the referenced project.

As we discussed, Mr. Orr has received the notorized letter indicating the developer's agreement to dedicate a drainage easement for the Sunningdale Arroyo. I am also enclosing a second copy of the Drainage Report. I would ask that you please sign this copy and return it to our office for our files. Your approval will be based on the contingency that the items delineated in your correspondence will be resolved in the construction drawings.

I realize this project has taken a considerable amount of time on the part of both parties involved; however, I feel equitable solutions to drainage have been achieved and I appreciate your time and diligence in helping us to resolve the issues.

Should you have any further questions, please feel free to call.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
Encls.
cc: Mr. Rip Orr
Mr. Tunney Wilson
Mr. Art Dekker

NOV 27 1978

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 27, 1978

Gordon Herkenhoff & Associates, Inc.
302 Eighth Street, NW
Albuquerque, NM 87102

RE: The "Summit" Complex

Dear Mr. Campbell:

I have reviewed the revised drainage report for the referenced development and it is consistent with the recommendations given during our discussions.

I would like to receive a better print of the site grading plan because the one received is practically illegible. I want also to note that the rundowns are shown to terminate on the berm behind the rip-rap protection of the channel. Profile and cross sections of these facilities will have to be shown on the construction plans clearly indicating that no wash out of the berm and bank will occur.

Due to the mentioned illegibility of the print, I can not tell for sure whether the flow will be properly conveyed to the rundowns or if there is a possibility of bank erosion. The construction plans will have to include detailed construction information for the channel at the northeast corner of the property, including the appropriate transition from the existing channel.

Finally, contrary to the first statement in your letter, there was no signed and notorized letter from the owner indicating his willingness to dedicate the appropriate R.O.W. on the Sunningdale Arroyo.

I would like to receive reassurance on the items above, otherwise the drainage report is approved.

Sincerely yours,

Bruno Conegliano
Assistant City Engineer - Hydrology

BC/dfa

cc: Dwayne Sheppard
"Rip" Orr
Rich Leonard
Drainage File

NOV 20 1978

Member:

B.O.M.A.

THE CORONADO COMPANY, INC.

REAL ESTATE • INVESTMENTS • MORTGAGE LOANS

120 VASSAR S.E. — ALBUQUERQUE, NEW MEXICO 87106
TELEPHONE 265-8833

November 17, 1978

Mr. H. R. Orr, Jr.
Acting Director
Public Works
P. O. Box 1293
Albuquerque, NM 87103

Re: Summit Complex

Dear Mr. Orr:

In accordance with your request of November 14, 1978, we hereby agree to proceed as quickly as possible to provide you with the necessary documents for dedication of the Sunningdale Arroyo as it traverses our property.

Very truly yours,

Robert J. Clark
President

RJC/mr

SUBSCRIBED AND SWORN TO BEFORE ME this 17th day of November, 1978.

Mary J. Lupley
Notary Public

My commission expires
January 22, 1981

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

MAYOR
David Rusk

November 14, 1978

Mr. Charles W. Campbell
Gordon Herkenhoff & Associates
302 8th Street NW
Albuquerque, N. M. 87102

Subject: SUMMIT COMPLEX

Dear Mr. Campbell:

As we discussed yesterday along with Mr. Decker, Mr. Rutherford, and others, we have no objection to the developer of the Summit Complex performing minor grading operations within the public right-of-way of Morningside as indicated on your plans and cross sections.

Please be advised that the developer is responsible for disruption of any utilities that might be incurred.

We understand that the developer may choose to request vacation of a portion of Morningside, in which event your plan may be modified to some extent.

Sincerely,

H. R. Orr, Jr.
Acting Director of Public Works

HRO:rs

cc: Mr. R. S. Heller, City Engineer
Mr. Bruno Conegliano, Assistant City Engineer-Hydrology

November 14, 1978

Mr. Charles W. Campbell
Gordon Herkenhoff & Associates
302 8th Street NW
Albuquerque, N. M. 87102

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Sincerely,

H. R. Orr, Jr.
Acting Director of Public Works

HRO:rs

cc: Mr. R. S. Heller, City Engineer
Mr. Bruno Conegliano, Assistant City Engineer-Hydrology

20 -1605.12-78 NOV 4 1978

HRO

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0295

November 6, 1978

Mr. H. R. Orr Jr.
Acting Director of Public Works
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: SUMMIT COMPLEX

Dear Mr. Orr:

The referenced project is located at the intersection of Morningside Avenue and Indian School Road N.E. and is being developed as a mixed office-apartment complex.

In the course of our engineering studies, specifically drainage, we have encountered a problem related to the use of adjacent City right-of-way (Morningside Avenue). As noted on the enclosed grading plan, our proposed grades at the owner's property line are lower than existing grades within Morningside Avenue. We are proposing to lower grades within the City's right-of-way accordingly to match the proposed grades on our plan and thus alleviating the need for a retaining wall.

We have discussed this issue with Mr. Conegliano at length and he has discussed the situation with Mr. Sheppard. It is their feeling that we cannot change existing grades on Morningside Avenue without permission of the City to do so. Mr. Conegliano further suggested that we establish a meeting with the Parks and Recreation Department, who are anticipating purchase of this property for use as a park, and Public Works. It should be pointed out that this is not a technical problem related to drainage, but rather a problem of grading a minimal amount of earth on City property to allow development of our site.

We would appreciate you reviewing the situation with Mr. Conegliano and Mr. Sheppard at your earliest possible convenience, after which I will establish a meeting between you and the developer's of the project to attempt to resolve this issue. Should you have any questions, please call.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
cc: Mr. Art Decker
2403 San Mateo N.E.
Albuquerque, N.M.

Mr. Tunney Wilson
The Coronado Company, Inc.
120 Vassar S.E.
Albuquerque, N.M.

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

21[illegible].12-78 NOV 20 1978

GORDON HERKENHOFF & ASSOCIATES, INC
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

Rip: please find revised grading plan and details in grading plan CWC

November 17, 1978

Mr. H. R. Orr Jr.
Acting Director of Public Works
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: SUMMITT COMPLEX GRADING PLAN

Dear Mr. Orr:

In accordance with your discussion of November 14, 1978 with Mr. Joe E. Pino of our firm; I am hereby providing the following information:

1) Dedication of an easement for the Sunningdale Arroyo: please find enclosed a notorized letter from the owner/developers of the referenced project indicating they are agreeable to dedication of this easement and will endeavor to provide the City with the necessary documents regarding the same as soon as is physically possible. The easement will parallel the existing storm sewer/sanitary sewer easements and, as shown on the cross sections which Mr. Conegliano has, will be 30' in width.

2) Entrance Structure as Sunningdale Arroyo enters Summitt property: as shown on the enclosed grading/drainage plan; we will provide a cut-off wall at our property line to alleviate the possibility of erosion behind the rip-rap structure protecting the arroyo channel.

3) Plans and Profiles: Mr. Conegliano, in a letter dated October 16, 1978, requested that we provide him with cross sections of the arroyo every 100 feet. On October 18, 1978 we did in fact provide him with these cross sections. Should you desire to have these plotted on plan and profile sheets we would be happy to provide you with this.

It is our understanding that these are the final items which were required to be resolved regarding the Summitt.

Should you have any further questions, please feel free to call.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
cc: Mr. Bruno Conegliano
Mr. Tunney Wilson
Mr. Art Dekker

NOV 20 1978

M . M O R A N D U M

TO: Chuck Campbell DATE: 10-16-78

FROM: Bruno Conegliano B.C.

SUBJ: SUMMIT SUBDIVISION
Meeting with Chuck Campbell Regarding Drainage Report

Problems Discussed

Their master drainage plan shows access to property from Morningside and regrading east of Morningside on Coe's property. Indicated to Chuck that they needed to obtain easement from property owners for the regrading of the property adjacent to the Arroyo. Possibility of requesting vacation of Morningside Avenue north of Indian School Road and performing some type of land swap. Indicated to Chuck that clarification is necessary on what they want to do with the sidewalk along Indian School (encroachment of Indian School Road right-of-way?). Also requested 3 feet high wall along the sidewalk to form a physical barrier between the sidewalk and the sloping land to the parking lot. Requested of Chuck existing cross sections of the Arroyo every 100 feet with superimposed proposed cross sections from the culvert to the bridge.

/la Dear Chuck
This is the summary of what we discussed today
Bruno

NOV 20 1978

Rip - you should receive the original by mail on 11/20/78. aw

November 17, 1978

Mr. H. R. Orr, Jr.
Acting Director
Public Works
P. O. Box 1293
Albuquerque, NM 87103

Re: Summit Complex

Dear Mr. Orr:

In accordance with your request of November 14, 1978, we hereby agree to proceed as quickly as possible to provide you with the necessary documents for dedication of the Sunningdale Arroyo as it traverses our property.

Very truly yours,

Robert J. Clark
President

RJC/mr

SUBSCRIBED AND SWORN TO BEFORE ME this _____day of November, 1978.

My commission expires
January 22, 1981

_____
Notary Public

2246-1605.12-78

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

December 6, 1978

RECEIVED
DEC 08 1978
CITY ENGINEERS

Mr. Richard E. Leonard
Executive Engineer
A.M.A.F.C.A.
2600 Prospect Ave., N.E.
P.O. Box 25851
Albuquerque, New Mexico 87125

RE: SUMMIT COMPLEX DRAINAGE REPORT

Dear Mr. Leonard:

Please find enclosed a copy of the referenced report, as approved by Mr. Connegliano, for your files.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
Fncl.

cc: Bruno Connegliano

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
No. 243
NEW MEXICO
G. E. HERKENHOFF

I certify that this Drainage Report and Plan was prepared under my direction; conforms to the Drainage Resolutions (1972-2 and 59-1976) and is true and correct to the best of my knowledge.

Gordon Herkenhoff and Associates, Inc. — September 1, 1978
Date

Approved: [illegible] ACG 11/27/78
City of Albuquerque

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

December 4, 1978

Gordon Herkenhoff & Associates, Inc.
302 Eighth Street N.W.
Albuquerque, New Mexico 87102

Gentlemen:

Please find enclosed a signed copy of drainage report for the Summit Office/Apartment Complex.

I will also need an additional copy of this report for the use of AMAFCA.

Sincerely,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/fs
Enclosure

cc - Drainage File
Reading File

2186-1605.12-78

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

November 29, 1978

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

RE: THE SUMMIT COMPLEX - DRAINAGE REPORT

Dear Mr. Conegliano:

Pursuant to your correspondence of November 27, 1978, we are herewith transmitting one print of the drainage plan for the referenced project.

As we discussed, Mr. Orr has received the notorized letter indicating the developer's agreement to dedicate a drainage easement for the Sunningdale Arroyo. I am also enclosing a second copy of the Drainage Report. I would ask that you please sign this copy and return it to our office for our files. Your approval will be based on the contingency that the items delineated in your correspondence will be resolved in the construction drawings.

I realize this project has taken a considerable amount of time on the part of both parties involved; however, I feel equitable solutions to drainage have been achieved and I appreciate your time and diligence in helping us to resolve the issues.

Should you have any further questions, please feel free to call.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
Encls.
cc: Mr. Rip Orr
Mr. Tunney Wilson
Mr. Art Dekker

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

November 27, 1978

Gordon Herkenhoff & Associates, Inc.
302 Eighth Street, NW
Albuquerque, NM 87102

RE: The "Summit" Complex

Dear Mr. Campbell:

I have reviewed the revised drainage report for the referenced development and it is consistent with the recommendations given during our discussions.

I would like to receive a better print of the site grading plan because the one received is practically illegible. I want also to note that the rundowns are shown to terminate on the berm behind the rip-rap protection of the channel. Profile and cross sections of these facilities will have to be shown on the construction plans clearly indicating that no wash out of the berm and bank will occur.

Due to the mentioned illegibility of the print, I can not tell for sure whether the flow will be properly conveyed to the rundowns or if there is a possibility of bank erosion. The construction plans will have to include detailed construction information for the channel at the northeast corner of the property, including the appropriate transition from the existing channel.

Finally, contrary to the first statement in your letter, there was no signed and notorized letter from the owner indicating his willingness to dedicate the appropriate R.O.W. on the Sunningdale Arroyo.

I would like to receive reassurance on the items above, otherwise the drainage report is approved.

Sincerely yours,

Bruno Conegliano
Assistant City Engineer - Hydrology

BC/dfa

cc: Dwayne Sheppard
"Rip" Orr
Rich Leonard
Drainage File

2143-1605.12-78

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0295

Bruno-
please find revised grading plan and details in drainage report
Charlie

November 17, 1978

Mr. H. R. Orr Jr.
Acting Director of Public Works
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: SUMMITT COMPLEX GRADING PLAN

Dear Mr. Orr:

In accordance with your discussion of November 14, 1978 with Mr. Joe E. Pino of our firm; I am hereby providing the following information:

1) Dedication of an easement for the Sunningdale Arroyo: please find enclosed a notorized letter from the owner/developers of the referenced project indicating they are agreeable to dedication of this easement and will endeavor to provide the City with the necessary documents regarding the same as soon as is physically possible. The easement will parallel the existing storm sewer/sanitary sewer easements and, as shown on the cross sections which Mr. Conegliano has, will be 30' in width.

2) Entrance Structure as Sunningdale Arroyo enters Summitt property: as shown on the enclosed grading/drainage plan; we will provide a cut-off wall at our property line to alleviate the possibility of erosion behind the rip-rap structure protecting the arroyo channel.

3) Plans and Profiles: Mr. Conegliano, in a letter dated October 16, 1978, requested that we provide him with cross sections of the arroyo every 100 feet. On October 18, 1978 we did in fact provide him with these cross sections. Should you desire to have these plotted on plan and profile sheets we would be happy to provide you with this.

It is our understanding that these are the final items which were required to be resolved regarding the Summitt.

Should you have any further questions, please feel free to call.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
cc: Mr. Bruno Conegliano
Mr. Tunney Wilson
Mr. Art Dekker

RECEIVED
NOV 20 1978
CITY ENGINEERS

November 17, 1978

Mr. H. R. Orr, Jr.
Acting Director
Public Works
P. O. Box 1293
Albuquerque, NM 87103

Re: Summit Complex

Dear Mr. Orr:

In accordance with your request of November 14, 1978, we hereby agree to proceed as quickly as possible to provide you with the necessary documents for dedication of the Sunningdale Arroyo as it traverses our property.

Very truly yours,

Robert J. Clark
President

RJC/mr

SUBSCRIBED AND SWORN TO BEFORE ME this _____day of November, 1978.

My commission expires
January 22, 1981

_____
Notary Public

Copy - Intoff. corr on Summit file

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

November 14, 1978

RECEIVED
NOV 15 1978
CITY ENGINEERS

Mr. Charles W. Campbell
Gordon Herkenhoff & Associates
302 8th Street NW
Albuquerque, N. M. 87102

Subject: SUMMIT COMPLEX

Dear Mr. Campbell:

As we discussed yesterday along with Mr. Decker, Mr. Rutherford, and others, we have no objection to the developer of the Summit Complex performing minor grading operations within the public right-of-way of Morningside as indicated on your plans and cross sections.

Please be advised that the developer is responsible for disruption of any utilities that might be incurred.

We understand that the developer may choose to request vacation of a portion of Morningside, in which event your plan may be modified to some extent.

Sincerely,

H. R. Orr, Jr.
Acting Director of Public Works

HRO:rs

cc: Mr. R. S. Heller, City Engineer
Mr. Bruno Conegliano, Assistant City Engineer-Hydrology

2059-1605.12-78

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

November 6, 1978

Mr. H. R. Orr Jr.
Acting Director of Public Works
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RECEIVED
NOV 08 1978
CITY ENGINEERS

RE: SUMMIT COMPLEX

Dear Mr. Orr:

The referenced project is located at the intersection of Morningside Avenue and Indian School Road N.E. and is being developed as a mixed office-apartment complex.

In the course of our engineering studies, specifically drainage, we have encountered a problem related to the use of adjacent City right-of-way (Morningside Avenue). As noted on the enclosed grading plan, our proposed grades at the owner's property line are lower than existing grades within Morningside Avenue. We are proposing to lower grades within the City's right-of-way accordingly to match the proposed grades on our plan and thus alleviating the need for a retaining wall.

We have discussed this issue with Mr. Conegliano at length and he has discussed the situation with Mr. Sheppard. It is their feeling that we cannot change existing grades on Morningside Avenue without permission of the City to do so. Mr. Conegliano further suggested that we establish a meeting with the Parks and Recreation Department, who are anticipating purchase of this property for use as a park, and Public Works. It should be pointed out that this is not a technical problem related to drainage, but rather a problem of grading a minimal amount of earth on City property to allow development of our site.

We would appreciate you reviewing the situation with Mr. Conegliano and Mr. Sheppard at your earliest possible convenience, after which I will establish a meeting between you and the developer's of the project to attempt to resolve this issue. Should you have any questions, please call.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er

cc: Mr. Art Decker
2403 San Mateo N.E.
Albuquerque, N.M.

Mr. Tunney Wilson
The Coronado Company, Inc.
120 Vassar S.E.
Albuquerque, N.M.

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

994-160 12-78 10/30

Talked w/ Val Valdez
he indicated that
negotiations are under way
but it will be long time
Their asking price (Coe) is
very high for Park to
go above

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

October 27, 1978

Mr. Bruno Conegliano
Assistant City Engineer - Hydrology
4th Floor - City Hall
Albuquerque, New Mexico

RE: SUMMIT COMPLEX - DRAINAGE REPORT

Dear Mr. Conegliano:

Pursuant to your letter dated October 16, 1978, regarding the referenced report, I am providing the following comments:

1. Coe's property, directly east of the Summit Complex, is currently being negotiated for by the City of Albuquerque for use as a park. As a consequence, we have revised our grading plan to indicate that the slope adjacent to the Sunningdale Arroyo will now transition into the existing slope at the western R/W of Morningside Avenue.

At some point in the future, after the Coe-City negotiations are completed, the owners of the Summit and the City will endeavor to vacate Morningside, dedicate an easement for the Sunningdale Arroyo and continue the treatment of the arroyo on Coe's property to the bridge. We feel this will expedite our grading of the Summit Complex and alleviate any problems in the future.

2. The sidewalk on Indian School was indicated as shown at the request of the City. We have no problems in realizing the sidewalk if the City so desires, however, this should not be allowed to affect approval of the drainage report nor further delay construction.

3. Our clients have informed us that they take exception to construction of the retaining wall adjacent to the Indian School Road sidewalk.

4. Please find enclosed a revised grading plan and the cross sections as per your request.

Should you have any further questions regarding these issues, please feel free to contact me.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
cc: Mr. Tunny Wilson
The Coronado Co., Inc.
120 Vassar S.E.
Albuquerque, N. M.

HYDROLOGY H17/D9 2 of 2 7 PLANS

1648-M1 -78

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0295

September 1, 1978

Mr. Bruno Conegliano
Assistant City Engineer
Hydrology
City Hall
Fourth Floor
Albuquerque, New Mexico 87103

RE: SUMMIT COMPLEX DRAINAGE REPORT
SUNNINGDALE AT INDIAN SCHOOL ROAD, N.E.

Dear Mr. Conegliano:

Please find enclosed two (2) copies of the referenced report for your approval.

Should you have any questions, please feel free to contact me.

Sincerely,

Charles W Campbell

CHARLES W. CAMPBELL

CWC:mm
Enclosures

RICHARD E. LEONARD
EXECUTIVE ENGINEER

B. H. SWINBURNE, CHAIRMAN
WILLIAM V. HEREFORD, VICE-CHAIRMAN
LINCES MCCOY, SECRETARY-TREASURER
VERNON DOAK, DIRECTOR
RICHARD H. CLOUGH, DIRECTOR

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority
3600 PROSPECT AVE. N.E.
P. O. BOX 25851 - ALBUQUERQUE, N. M. 87125
TELEPHONE 344-3516

August 11, 1978

Mr. Joe E. Pino
Gordon Herkenhoff & Associates, Inc.
302 Eighth Street, N. W.
Albuquerque, NM 87102

Dear Mr. Pino:

Reference your August 3, 1978 letter to Mr. Bruno Conegliano, re: Summit Complex, Sunningdale at Indian School Road, N. E.

I have examined the situation and discussed it with Mr. Conegliano. We approve your approach.

Sincerely,

Richard E. Leonard

Richard E. Leonard
Executive Engineer

gfm

1393-Misc.-78

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0295

August 3, 1978

Mr. Bruno Conegliano
Assistant City Engineer-Hydrology
City Hall
Marquette at Fourth, N.W.
Albuquerque, New Mexico

RE: SUMMIT COMPLEX
SUNNINGDALE AT INDIAN SCHOOL ROAD, N.E.

Dear Mr. Conegliano:

We request approval to directly dispose of storm runoff from the referenced site into the Sunningdale Arroyo immediately before it enters the box culvert under I-40. This culvert has its outfall in the Embudo Arroyo Channel immediately east of Carlisle Boulevard, N.E. Downstream storm drainage facilities are adequate, and two separate analyses indicate that storm runoff from the referenced site will have minimal effects on rates of flow generated upstream in the watershed.

We have developed considerable information based upon hydrology utilizing the conservative rational formula and upon the recent Bohannan-Huston Study. All of this data seems to justify disposal of the site storm runoff into the arroyo without any modification, since that runoff is completely disposed of prior to the time when the peak rate of flow for the entire watershed is reached.

This is not an attempt to avoid furnishing a drainage report containing information justifying this position, but merely an overture to facilitate action without repetitious technical presentation. We would appreciate it if you would evaluate this position, and advise us regarding your determinations at your earliest convenience.

Very truly yours,

J. E. PINO

JEP:mm

cc: Mr. Richard Leonard
Executive Engineer/AMAFCA

Fred Aguirre

GEORGE A. RUTHERFORD, INC. AGREEMENT

File 417-D9

THIS AGREEMENT made on this 27 day of October, 1980, by and between the CITY OF ALBUQUERQUE, a New Mexico municipal corporation, (CITY) and INDIAN SCHOOL PROPERTIES, a joint venture, and GEORGE A. RUTHERFORD, INC., (RUTHERFORD).

RECITAL:

RUTHERFORD has constructed what is known as the Summit Apartments and Office Building at 4001 Indian School Road, N. E., Albuquerque, New Mexico and said premises abut a drainage area upon which the CITY is requiring RUTHERFORD to make certain improvements before a Certificate of Occupancy to said premises can be issued. RUTHERFORD desires to obtain the Certificate of Occupancy prior to said construction of the drainage improvements and the CITY is willing to grant same provided RUTHERFORD complies with the terms and conditions set forth in this Agreement.

NOW, THEREFORE in consideration of the premises and the covenants contained hereto, the parties herein agree as follows:

1. RUTHERFORD will construct according to the City's plans and specifications drainage improvements as indicated in Estimate No. SS-28-37(174) dated December 13, 1979, attached hereto and marked as Exhibit 1. Said construction shall be completed within a period of ninety (90) days from the date of this instrument.

2. RUTHERFORD will further provide a Performance Bond in the amount of $21,859.49 on a company authorized to do business in the State of New Mexico and acceptable to the City, which bond will insure that this construction will be completed, and in the event it is not so completed within the time limits set forth herein, the City shall institute action against said

surety company, as well as RUTHERFORD, for the completion of said improvements.

3. Upon receipt of a fully executed complete Agreement and Performance Bond, the City shall issue the Certificate of Occupancy.

CITY OF ALBUQUERQUE

James C. Jaramillo
Chief Administrative Officer

APPROVED:

for City Engineer 10/29/80

REVIEWED BY LEGAL DEPARTMENT

Malcolm W. deVesh
Assistant City Attorney

GEORGE A. RUTHERFORD, INC.

By: George A. Rutherford

Title: Pres

INDIAN SCHOOL PROPERTIES

George A. Rutherford partner

By: B Clark

Title:

surety company, as well as RUTHERFORD, for the completion of said improvements.

3. Upon receipt of a fully executed complete Agreement and Performance Bond, the City shall issue the Certificate of Occupancy.

CITY OF ALBUQUERQUE

James C. Jaramillo
Chief Administrative Officer

APPROVED:

for City Engineer 10/29/80

REVIEWED BY LEGAL DEPARTMENT

Malcolm W. deVesh
Assistant City Attorney

GEORGE A. RUTHERFORD, INC.

By: George A. Rutherford
Title: Pres

INDIAN SCHOOL PROPERTIES

George A. Rutherford partner

By: B Clark

Title:

Transamerica
Insurance Services

Transamerica Insurance Company
A STOCK COMPANY HOME OFFICE: LOS ANGELES, CALIFORNIA

Bond No. 5760-31-30

PERFORMANCE BOND

Approved by The American Institute of Architects
A.I.A. Documdnt No. A-311 (February 1970 Edition)

KNOW ALL MEN BY THESE PRESENTS: that GEORGE A. RUTHERFORD, INC., 900 HAZELDINE AVE., S.E., ALBUQUERQUE, NEW MEXICO 87106 AND INDIAN SCHOOL PROPERTIES, JOINT VENTURE, 4001 INDIAN SCHOOL ROAD, N.E., ALBUQUERQUE, NEW MEXICO 87110
(Here insert full name and address or legal title of Contractor)

as Principal, hereinafter called Contractor, and TRANSAMERICA INSURANCE COMPANY, a California Corporation of Los Angeles, California, as Surety, hereinafter called Surety, are held and firmly bound unto THE CITY OF ALBUQUERQUE NEW MEXICO, MORTGAGE INVESTMENT COMPANY OF EL PASO, TEXAS, A TEXAS CORPORATION & TRANSAMERIC LIFE INSURANCE AND ANNUITY COMPANY, A CALIFORNIA CORPORATION
(Here insert full name and address or legal title of Owner)

as Obligee, hereinafter called Owner, in the amount of TWENTY ONE THOUSAND EIGHT HUNDRED FIFTY NINE AND 49/100- Dollars ($21,859.49- - - - h

for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Contractor has by written agreement dated OCTOBER 27, 19 80, entered into a contract with Owner for LINING FOR CHANNEL AT THE SUMMIT APARTMENTS AND OFFICE BUILDING, NORTH OF INDIAN SCHOOL ROAD AND EAST OF CARLISLE BLVD.

in accordance with drawings and specifications prepared by ARTHUR W. DEKKER, 2403 SAN MATEO BLVD., N.E., ALBUQUERQUE, NEW MEXICO
(Here insert full name and address or legal title of Architect)

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

627 (4-70)

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly

1) Complete the Contract in accordance with its terms and conditions, or

2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

Signed and Sealed this 27TH day of OCTOBER, 19 80

GEORGE A. RUTHERFORD, INC.
PRINCIPAL

Dorolea Shiplet
WITNESS

BY: Larry Lucero
LARRY LUCERO, TITLE SECRETARY
INDIAN SCHOOL PROPERTIES, JOINT VENTURE
(Principal) (Seal)

Mary Rupley
(Witness)

BY: B Clark
ROBERT J. CLARK, TITLE JOINT VENTERER & ATTORNEY-IN-FACT (Seal)

Transamerica Insurance Company
(Surety) (Seal)

Julia Shoellhan
(Witness)

By: [illegible]
Attorney-in-Fact
JERRY H. J. SHAW

Property and Casualty Insurance from Transamerica Corporation

Transamerica Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS:

That TRANSAMERICA INSURANCE COMPANY, a corporation of the State of California, does hereby make, constitute and appoint ROGER N. DOWNEY, JERRY H.J. SHAW, BEVERLY BRUSKAS ----- ---------- ALBUQUERQUE, NEW MEXICO ----------

its true and lawful Attorney(s)-in-Fact, with full power and authority, for and on behalf of the Company as surety, to execute and deliver and affix the seal of the Company thereto, if a seal is required, bonds, undertakings, recognizances or other written obligations in the nature thereof, as follows: ANY AND ALL BONDS AND UNDERTAKINGS UNLIMITED IN AMOUNT, IN ANY SINGLE INSTANCE, FOR OR ON BEHALF OF THIS COMPANY, IN ITS BUSINESS AND IN ACCORDANCE WITH ITS CHARTER ----------

and to bind TRANSAMERICA INSURANCE COMPANY thereby, and all of the acts of said Attorney(s)-in-Fact, pursuant to these presents, are hereby ratified and confirmed.

This appointment is made under and by authority of the following by-laws of the Company which by-laws are now in full force and effect:

ARTICLE VII

SECTION 30. All policies, bonds, undertakings, certificates of insurance, cover notes, recognizances, contracts of indemnity, endorsements, stipulations, waivers, consents of sureties, re-insurance acceptances or agreements, surety and co-surety obligations and agreements, underwriting undertakings, and all other instruments pertaining to the insurance business of the Corporation, shall be validly executed when signed on behalf of the Corporation by the President, any Vice President or by any other officer, employee, agent or Attorney-in-Fact authorized to so sign by (i) the Board of Directors, (ii) the President, (iii) any Vice President, or (iv) any other person empowered by the Board of Directors, the President or any Vice President to give such authorization; provided that all policies of insurance shall also bear the signature of a Secretary, which may be a facsimile, and unless manually signed by the President or a Vice President, a facsimile signature of the President. A facsimile signature of a former officer shall be of the same validity as that of an existing officer.

The affixing of the corporate seal shall not be necessary to the valid execution of any instrument, but any person authorized to execute or attest such instrument may affix the Corporation's seal thereto.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following resolution adopted by the Board of Directors of the Company at a meeting duly called and held on the 17th day of October 1963.

"Resolved, That the signature of any officer authorized by the By-laws and the Company seal may be affixed by facsimile to any power of attorney or special power of attorney or certification of either given for the execution of any bond undertaking, recognizance or other written obligation in the nature thereof; such signature and seal, when so used being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, TRANSAMERICA INSURANCE COMPANY has caused these presents to be signed by its proper officer and its corporate seal to be hereunto affixed this 4TH day of FEBRUARY, 19 80

By J. W. Fleishman

J. W. FLEISHMAN, Vice President

State of California)
County of Los Angeles) ss

On this 4TH day of FEBRUARY, 19 80 before me personally came J.W. Fleishman to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sierra Madre, State of California; that he is a Vice-President of Transamerica Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of said Corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

OFFICIAL SEAL
ELIZABETH AHERNE
NOTARY PUBLIC CALIFORNIA
PRINCIPAL OFFICE IN
LOS ANGELES COUNTY
My Commission Expires March 30, 1980

Elizabeth Aherne

Notary Public

1719 A

(4-76)

I, J. H. Tanner, Assistant Secretary of Transamerica Insurance Company, do hereby certify that the Power of Attorney herein before set forth is a true and exact copy and is still in force, and further certify that Section 30 of Article VII of the By-Laws of the Company and the Resolution of the Board of Directors, set forth in said Power of Attorney are still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said Company this 27TH day of OCTOBER, 19 80.

J. H. TANNER, Assistant Secretary

Property and Casualty Insurance from Transamerica Corporation

A STOCK COMPANY

Transamerica Insurance Group

Transamerica Insurance Company

HOME OFFICE: LOS ANGELES, CALIFORNIA

LABOR AND MATERIAL PAYMENT BOND

Approved by The American Institute of Architects

A.I.A. Document No. A-311 (February 1970 Edition)

THIS BOND IS ISSUED SIMULTANEOUSLY WITH PERFORMANCE BOND IN FAVOR OF THE OWNER CONDITIONED ON THE FULL AND FAITHFUL PERFORMANCE OF THE CONTRACT

KNOW ALL MEN BY THESE PRESENTS: that GEORGE A. RUTHERFORD, INC., 900 HAZELDINE AVE., S.E., ALBUQUERQUE, NEW MEXICO 87106 AND INDIAN SCHOOL PROPERTIES, JOINT VENTURE, 4001 INDIAN SCHOOL ROAD, N.E., ALBUQUERQUE, NEW MEXICO 87110
(Here insert full name and address or legal title of Contractor)

as Principal, hereinafter called Principal, and TRANSAMERICA INSURANCE COMPANY, a California Corporation, of Los Angeles, California, as Surety, hereinafter called Surety, are held and firmly bound unto THE CITY OF ALBUQUERQUE, NEW MEXICO, MORTGAGE INVESTMENT COMPANY OF EL PASO, TEXAS, A TEXAS CORPORATION & TRANSAMERICA LIFE INSURANCE AND ANNUITY COMPANY, A CALIFORNIA CORPORATION
(Here insert full name and address or legal title of Owner)

as Obligee, hereinafter called Owner, for the use and benefit of claimants as hereinbelow defined, in the amount of TWENTY ONE THOUSAND EIGHT HUNDRED FIFTY NINE AND 49/100- - - - -Dollars ($21,859.49- - -),
(Here insert a sum equal to at least one-half of the contract price)

for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Principal has by written agreement dated OCTOBER 27, 1980, entered into a contract with Owner for LINING FOR CHANNEL AT THE SUMMIT APARTMENTS AND OFFICE BUILDING, NORTH OF INDIAN SCHOOL ROAD AND EAST OF CARLISLE BLVD.

in accordance with drawings and specifications prepared by ARTHUR W. DEKKER, 2403 SAN MATEO BLVD., N.E. ALBUQUERQUE, NEW MEXICO
(Here insert full name and address or legal title of Architect)

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.

b) After the expiration of one (1) year following the date on which Principal ceased work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

Signed and sealed this 27TH day of OCTOBER, 19 80.

Dorolea Shiplet
WITNESS

Mary Rupley
(Witness)

GEORGE A. RUTHERFORD, INC.
PRINCIPAL

BY: Larry Lucero
LARRY LUCERO, TITLE SECRETARY
INDIAN SCHOOL PROPERTIES, JOINT VENTURE
(Principal) (Seal)

BY: R J Clark
ROBERT J. CLARK, TITLE JOINT VENTERER & ATTORNEY-IN-FACT (Seal)

Transamerica Insurance Company
(Surety) (Surety)

Julia Havelka
(Witness)

Attorney-in-Fact
JERRY H. J. SHAW

Property and Casualty Insurance from Transamerica Corporation

Transamerica Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS:

That TRANSAMERICA INSURANCE COMPANY, a corporation of the State of California, does hereby make, constitute and appoint ROGER N. DOWNEY, JERRY H.J. SHAW, BEVERLY BRUSKAS ----- ---------- ALBUQUERQUE, NEW MEXICO ----------

its true and lawful Attorney(s)-in-Fact, with full power and authority, for and on behalf of the Company as surety, to execute and deliver and affix the seal of the Company thereto, if a seal is required, bonds, undertakings, recognizances or other written obligations in the nature thereof, as follows: ANY AND ALL BONDS AND UNDERTAKINGS UNLIMITED IN AMOUNT, IN ANY SINGLE INSTANCE, FOR OR ON BEHALF OF THIS COMPANY, IN ITS BUSINESS AND IN ACCORDANCE WITH ITS CHARTER ----------

and to bind TRANSAMERICA INSURANCE COMPANY thereby, and all of the acts of said Attorney(s)-in-Fact, pursuant to these presents, are hereby ratified and confirmed.

This appointment is made under and by authority of the following by-laws of the Company which by-laws are now in full force and effect:

ARTICLE VII

SECTION 30. All policies, bonds, undertakings, certificates of insurance, cover notes, recognizances, contracts of indemnity, endorsements, stipulations, waivers, consents of sureties, re-insurance acceptances or agreements, surety and co-surety obligations and agreements, underwriting undertakings, and all other instruments pertaining to the insurance business of the Corporation, shall be validly executed when signed on behalf of the Corporation by the President, any Vice President or by any other officer, employee, agent or Attorney-in-Fact authorized to so sign by (i) the Board of Directors, (ii) the President, (iii) any Vice President, or (iv) any other person empowered by the Board of Directors, the President or any Vice President to give such authorization; provided that all policies of insurance shall also bear the signature of a Secretary, which may be a facsimile, and unless manually signed by the President or a Vice President, a facsimile signature of the President. A facsimile signature of a former officer shall be of the same validity as that of an existing officer.

The affixing of the corporate seal shall not be necessary to the valid execution of any instrument, but any person authorized to execute or attest such instrument may affix the Corporation's seal thereto.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following resolution adopted by the Board of Directors of the Company at a meeting duly called and held on the 17th day of October 1963.

"Resolved, That the signature of any officer authorized by the By-laws and the Company seal may be affixed by facsimile to any power of attorney or special power of attorney or certification of either given for the execution of any bond undertaking, recognizance or other written obligation in the nature thereof; such signature and seal, when so used being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, TRANSAMERICA INSURANCE COMPANY has caused these presents to be signed by its proper officer and its corporate seal to be hereunto affixed this 4TH day of FEBRUARY, 19 80

By J. W. Fleshman

J. W. FLESHMAN, Vice President

State of California)
County of Los Angeles) ss

On this 4TH day of FEBRUARY, 19 80 before me personally came J.W. Fleshman to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sierra Madre, State of California; that he is a Vice-President of Transamerica Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of said Corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

OFFICIAL SEAL
ELIZABETH AHERNE
NOTARY PUBLIC CALIFORNIA
PRINCIPAL OFFICE IN
LOS ANGELES COUNTY
My Commission Expires March 30, 1980

Elizabeth Aherne
Notary Public

1719 A (4-78)

I, J. H. Tanner, Assistant Secretary of Transamerica Insurance Company, do hereby certify that the Power of Attorney herein before set forth is a true and exact copy and is still in force, and further certify that Section 30 of Article VII of the By-Laws of the Company and the Resolution of the Board of Directors, set forth in said Power of Attorney are still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said Company this 27TH day of OCTOBER, 1980.

J. H. TANNER, Assistant Secretary

I, J. H. Tanner, Assistant Secretary of Transamerica Insurance Company, do hereby certify that the Power of Attorney herein before set forth is a true and exact copy and is still in force, and further certify that Section 30 of Article VII of the By-Laws of the Company and the Resolution of the Board of Directors, set forth in said Power of Attorney are still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said Company this 27TH day of OCTOBER, 1980.

J. H. TANNER, Assistant Secretary

ENGINEER'S STUDY
ON
STORM DRAINAGE
FOR
THE SUMMIT OFFICE/APARTMENT COMPLEX

Prepared For:

THE CORONADO COMPANY

Date:

SEPTEMBER 1, 1978

Prepared By:

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
ENGINEERS ARCHITECTS PLANNERS

ENGINEER'S STUDY
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ENGINEERS ARCHITECTS PLANNERS

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
No. 243
NEW MEXICO
G. E. HERKENHOFF

I certify that this Drainage Report and Plan was prepared under my direction; conforms to the Drainage Resolutions (1972-2 and 59-1976) and is true and correct to the best of my knowledge.

Gordon Herkenhoff

Gordón Herkenhoff and Associates, Inc.

September 1, 1978
Date

Approved: _____
City of Albuquerque

ENGINEER'S STUDY ON STORM DRAINAGE
FOR
THE SUMMIT, OFFICE/APARTMENT COMPLEX

PURPOSE AND SCOPE

The purpose of this study is to present the results of a drainage analysis performed and to make general recommendations for storm water runoff. The recommendations are to serve as guidelines for the client's architect in developing final site and arroyo treatment plans.

In accordance with Drainage Resolution 1972-2, it was determined that the storm water runoff from this tract will discharge from the tract in such a manner as does not exceed the capacity of storm drainage facilities downstream. Copies of our letter requesting such consideration and A.M.A.F.C.A.'s letter of approval appear in the Appendix.

STUDY AREA

The study area is bounded on the North by Interstate I-40, on the East by Morningside Avenue N.E., on the South by Indian School Road, N.E., and the West by properties belonging to K-Mart Enterprises; containing 10.47 acres more or less. One arroyo is discussed which passes under Indian School Road and proceeds to a 10 x 6 box culvert carrying it under Interstate I-40.

GENERAL

The Coronado Company will be developing the parcel into a mixed office/apartment complex. This report consists of determining the peak rate and volume of runoff that can be expected from a 100 year design storm, recommended channel treatment and establishing guidelines for site development. Included at the end of this report are recommended channel sections, design notes, suggested structures to be utilized and other related data. All improvements shown are based on data from the topographical map prepared by D. T. Morrison and dated August, 1977.

HYDROLOGY

The rational formula, Q = AIR, is used in determining the on-site runoff with Q = peak flow, A = area - acres, I = rainfall intensity, and R = runoff factor. The 100 year storm curve from the intensity duration frequency curves from the Master Plan of Drainage for Albuquerque and Environs, by Gordon Herkenhoff and Associates, Inc., 1963, is used in determining rainfall intensity. The runoff coefficient for the study area, unless otherwise noted, is 0.95. This being the weighted average of the runoff coefficients for roof areas (0.95), paved parking areas (0.90), paved streets with curb and gutter (0.90), unimproved areas (0.30) and landscaped areas (0.20).

Volume requirements are determined using the following formula: (Area) x (runoff coefficient) x (rainfall) = ponding requirements. The rainfall used in all cases is 2.4". The hydraulic analysis for all storm water carriersis based on Mannings Formula: $Q = \frac{1.486}{n} S\ 1/2\ R\ 2/3A$. The value of 'n' equals 0.015 for

paved areas, 0.30 for earth sections and 0.40 for grass lined sections.

SITE DEVELOPMENT

The site will be developed with the following set of development guidelines:

1. There shall be no on-site ponding requirements. Storm waters eminating from the site will generate the following volumes and rates:

   Q = CIA

   C = 0.95

   I = 189/25 + 10 = 5.4

   A = 10.47 acres

   Q = (0.95) (5.4) (10.47) = 53.71 cfs

   Volume = runoff coefficient x area x rainfall

   runoff coefficient = 0.95

   area = 10.47 ac. (456,073 S.F.)

   rainfall = 2.4" or 2.4"/12" = .2'

   0.95 x 456,073 x .2' = 86,653 C.F.

   = 3,209 C.Y.

The justification for having no on-site ponding, which was previously discussed with and approved by the City Drainage Engineer and AMAFCA (see letters in Appendix), is as follows:

CORONADO:

In order to appraise the effect of storm runoff from the site directly into the Embudo Arroyo, two investigations were made. First, hydrology using the Rational Formula was employed to construct standard triangular hydrographs for the watershed. The deduction for the increased capacity of the storm sewer system was taken, and the hydrograph for the site was superimposed. Peak rate of flow was unaffected, and the site runoff was completely disposed of prior to peak flows from the remainder of the area. These results utilizing this most conservative approach indicates that no adverse effects should be anticipated by directly disposing of site runoff into the available system. Second, to further verify this, an anlaysis was made utilizing the Bohannon-Huston hydrology prepared for the City. This hydrology indicates that at the present time the overland flows are minimal in the 100 year storm, and even when the San Mateo Storm Sewer System is extended and loaded to capacity, the effect of the site runoff is minimal on anticipated overland flows.

Please refer to the Appendix for the calculation related to the preceding statements.

ARROYO TREATMENT

A major, unnamed arroyo begins at the northerly end of the pavement of Sunningdale Avenue (under the north side of the Indian School Bridge) and passes northwesterly for approximately 350 feet through property of others. It then passes through the owner's lands for approximately 400 feet to the entrance of a 10' wide by 6' high I-40 concrete box culvert. The arroyo bed itself is occupied by a 20' wide easement for the 102" diameter San Mateo Storm Drain on the west and an adjacent 10' wide easement for a 10" diameter sanitary sewer on the east. Generalizing, land to the west of the easement rises abruptly while lands to the east rise at a moderate slope (see the Rough Grading and Drainage Plan and the cross sections provided with this study). The slope of the arroyo from the box culvert upstream approximates 1.9%.

HYDROLOGY

The following data was utilized in conjunction with the rational formula to arrive at flows for the subject arroyo. Computations do not include the effect of any flow intercepted by the San Mateo Storm Drain:

C = 0.65 (City Engineer)

I = in accord with the Yarnell Curve Formula, $I = 189/(t_c = 25)$ for the 100 year return frequency storm in Albuquerque, using a t_c (Time of concentration) of 37 minutes based on the California Culverts Practice Formula applied to a length of a watershed vertical relief of 88 feet.

$$t_c = 11.9 \times \frac{\left(\frac{6800}{5280}\right)^3}{88}^{0.385} = 0.62 \text{ hrs.} = 37.2 \text{ min.}$$

t_c = 37 minutes
I = 189/(37 + 25) = 3.05"

A = the measured drainage area is 345 acres.

Q = (0.65) (3.05") (345) = 684 cfs

The contributing drainage area is developed with housing and the main drainageway down Sunningdale Avenue has been provided with drop inlets. In minor storms, much silt and flow should tend to be intercepted by the San Mateo Storm Drain.

Rates of flow will be such that the channel water level will reach the elevation of the top of the box culvert if overflows west on freeway right-of-way should be modified to permit. As a consequence, we have set the following considerations for arroyo treatment:

1.) At least the west bank of the arroyo must be provided protection from scour in consideration of the high fill slopes to be constructed on that side.

2.) Cover should be maintained over the San Mateo Storm Drain pipe which dictates that this location should not be in the arroyo bed.

3.) A straight arroyo alignment parallel to the two existing utility easements is desirable.

4.) Any development of the triangular shaped piece of owners land to the east of the arroyo must be contingent on the owners knowledge that this area is subject to frequent flooding and damage to structures in the area may occur. These lands are not protected by this plan.

5.) The bottom width and alignment of any excavated channel should approximate the width of the skewed headwalls for the NMSHD box culvert.

6.) Ultimately, high velocity street outfall flow from Sunningdale Avenue will be moderated by others.

In consideration of all the above, we believe that the best approach to the development of the arroyo is basically to provide rip rap slope protection on the west side of the channel, and to provide a berm on the west side to both provide cover over the pipes and keep the fill slope away from the San Mateo Storm Drain easement. If the arroyo silts in, the flow could overflow lands to the east in a manner similar to what would occur today. If the arroyo scours, the flexible rip rap protection on a 2:1 slope should tend to slide down the slope to establish a new base level.

RECOMMENDATIONS: We recommend that the City of Albuquerque approve this Drainage Report and its development guidelines; and that the developer follow the recommendations as set forth herein. In addition, we recommend the following be undertaken by the present or future property owners in the study area and/or adjacent areas:

1.) That the owner accept this report and its recommendations, and insure that all development meets the drainage requirements.

2.) That the City of Albuquerque accept this report, and issue all permits necessary for construction.

3.) That any changes in this site plan as herein presented be brought to the attention of this engineer prior to any construction taking place.

4.) That upon completion of site grading, the recommended channel improvements be completed to prevent erosion of the channel slope. This shall be completed before actual construction of parking lots, buildings and other site improvements are commenced.

5.) All finish floor elevations be 1' - 0" above nearest top of curb elevation.

APPENDIX

OUTLINE ANALYSIS CORONADO

1. Using most conservative hydrology (rational).

   A. Flow for total drainage area (west of Louisiana to box culvert entrance I-40) without intermediate interception = 763 cfs (Tc = 53 min.).

   B. Intercepting 254 cfs generated east of San Pedro in San Pedro Storm Sewer, flow at box culvert = 738 cfs (Tc = 40 min.).

   C. With interception of 254 cfs in San Pedro Storm Sewer, a flow of 433 cfs could be anticipated at San Mateo.

   D. Flow generated in area from San Mateo to I-40 box culvert = 541 cfs.

2. Bohannon hydrology for 100 year storm is less conservative (and possibly more realistic.)

   A. Flow in existing San Mateo Storm Sewer at Constitution = 760 cfs. (Capacity of pipe = 864 cfs). With future extensions of San Mateo Storm Sewer to accomodate lower frequency storms, pipe will be full.

   B. Overland flow at Constitution and San Mateo - 122 cfs compared to C. (433 cfs generated - 104 cfs storm sewer capacity.) 329 cfs.

3. Our analysis:

   A. There are 40 double "C" storm sewer inlets on Sunningdale west of San Mateo to Indian School Road with a design increase of 170 cfs in the pipe (from increase of 170 cfs in the pipe (from full at San Mateo.)

   B. Runoff rate from the site is 50 cfs with a 7 minute time of concentration.

   C. Volume from the site will increase from .63 to 1.99 ac. ft. [(27,443 cf to 86,684 cf) - (4,500 S.F. to 14,500 S.F. @ 6' deep]

   D. Total volume will modify the hydrograph for site runoff to a total of 35 min. duration (7 rise + 21 flat + 7 fall). This would affect peak rate of runoff only if San Mateo - I-40 hydrograph was utilized.

CONCLUSIONS

Using standard triangular hydrographs constructed from flows computed for the total drainage area and the area from San Pedro to the box culvert at I-40 (anticipating the interception of all flows generated east of San Pedro in the San Pedro Storm Sewer and constructing a similar hydrograph for the site, the effect of site flows on flow rates from either drainage area modified by storm sewer interception is minimal (16 to 0 cfs for 2 + min. total area and 35 to 0 cfs for 5- min. in area from San Pedro.) The total volume contribution from the site will be complete prior to peak rate being reached during flows from either drainage area. Since 100 year storm flows from this area are easily accomodated by the Embudo Channel where the culvert outfalls and since we are not adding to peak discharges, direct outfall from the site without moderation of rate or volume should be permitted, since downstream storm sewer facilities will handle the flows.

TOTAL DA

A = 485 Ac. L = 11,500' tc = 53 min. $i = 2\frac{42''}{}$/hr. Q = 763 cfs

H = 170' C = 0.65

TO SAN MATEO

A = 243 Ac L = 6,100 tc = 33 min. $i = 3\frac{26}{}$ Q = 515 cfs

H = 90 C = 0.65

TO SAN PEDRO

A = 95 Ac. L = 3,500 tc = 21 min $i = 4\frac{11''}{}$/hr. Q = 254 cfs

H = 50' C = 0.65

SAN PEDRO TO SAN MATEO

A = 148 Ac. L = 2,600 tc = 17 min $i = 4\frac{50''}{}$/hr. Q = 433 cfs

H = 40' C = 0.65

SAN MATEO TO I-40

A = 242 Ac. L = 5,400 tc = 30 min. $i = 3\frac{44''}{}$/hr. Q = 541 cfs

H = 80' C = 0.65

SAN PEDRO TO I-40

A = 390 Ac. L = 8,000 tc = 40 min. $i = 2\frac{91}{}$ Q = 738 cfs

H = 120 C = 0.65

STORM SEWER

SAN MATEO REACH: Min. = 102" @ 5 = 0.0065

$Q = 10{,}720\ (0.0065)^{1/2} = 864$ cfs
(Bohannan 100 year 760 cfs)

SUNNINGDALE REACH: 96" @ 0.0104 = $Q = 9119\ (0.0104)^{1/2} = 930$ cfs

90" @ 0.0178 = $Q = 7681\ (0.0178)^{1/2} = 1{,}025$ cfs

102" @ 0.0093 = $Q = 10720(0.0093)^{1/2} = 1{,}034$ cfs

WORST RATE INFRINGEMENT: San Pedro to I-40 or San Mateo - I-40

$738/40 = 18\frac{45}{}$ cfs/min; $170/18\frac{45}{} = 9\frac{21}{}$ min.

SITE INFRINGEMENT: $50/7 = 7\frac{14}{}$ cfs/min.

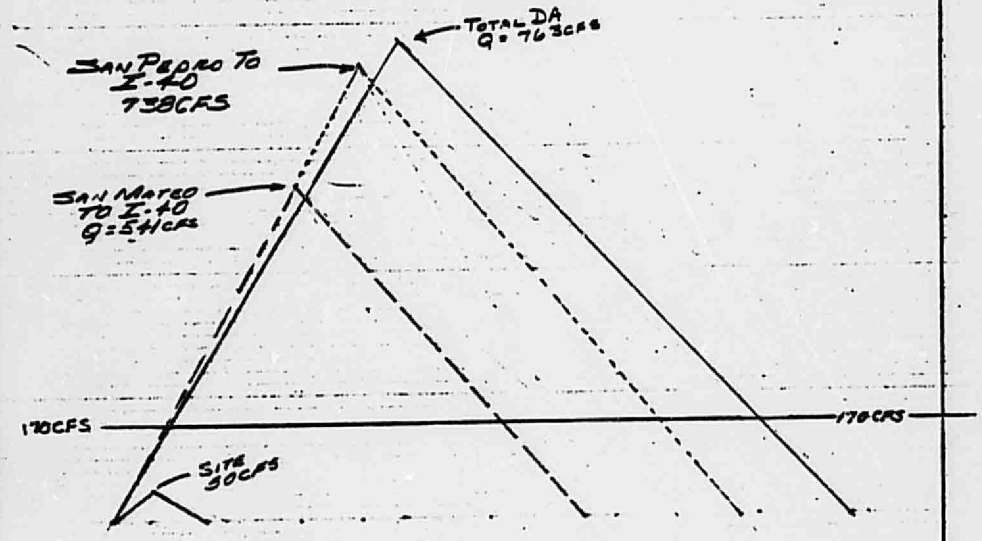
from $9\frac{21}{}$ min. = $34\frac{72}{}$ to 0 cfs in 14 min.

<u>TOTAL DA</u>: $763/53 = 14\frac{40}{}$ min.; $170/14\frac{40}{} + 11\frac{81}{}$

Site - $7\frac{14}{} \times 4\frac{81}{} = 34\frac{34}{}$; 50 - 34 = 16

from $11\frac{81}{}$ min. = 16 cfs to 0 in 14 min.

GORDON HERKENHOFF & ASSOCIATES ALBUQUERQUE SANTA FE ENGINEERING COMPUTATIONS	NAME OF PROJECT			SHEET NUMBER OF
	COMPUTED BY	CHECKED BY	JOB NUMBER	DATE



WORST RATE INFRINGEMENT – SAN PEDRO TO I-40 OR SAN MATEO – I-40

738/40 = 18.45 CFS/MIN ; 170/18.45 = 9.2 MIN.

SITE INFRINGEMENT – 50/7 = 7.1 CFS/MIN –

FROM 9.2 MIN = 34.2 TO 0 CFS IN 14 MIN

TOTAL DA.

763/53 = 14.40 MIN ; 170/14.40 = 11.8

SITE – 7.1 × 4.8 = 34.1 ; 50 – 34 = 16

FROM 11.8 MIN = 16 CFS TO 0 IN 14 MIN

CALCULATED VOLUMES

As noted on the enclosed grading plan, a portion of the subject site will drain, as it historically has, into K-Mart properties. The remainder will drain, as discussed previously, into the Sunningdale Arroyo. The calculations as they relate to these flows are as follows:

Site: $Q = CIA$

$C = 0.95$

$A = 10.47$

$I = 5.4"/hr.$

(Rise: 30', Run: 900', t_c = 7 min.)

$Q = 0.95 \times 5.4 \times 10.47 = 53.71$ cfs

Historic Volume: 10.47 x 2.4"/12" x 0.30 = .63 Ac. Ft.

Developed Volume: 10.47 x 2.4"/12" x 0.95 = 1.99 Ac. Ft.

Difference: 1.36 Ac. Ft.

Area To Drain To K-Mart

Historic Volume: Area = 5.24 Ac.

5.24 x 2.4"/12" x 0.30 = .31 Ac. Ft.

Volume On Plan: Area = 1.6 Ac.

1.6 x 2.4"/12" x 0.95 = .30 Ac. Ft.

Area To Drain To Arroyo

Developed Volume: 1.99 Ac. Ft.

K-Mart Drainage: .30 Ac. Ft.

1.69 Ac. Ft. to drain to Arroyo

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0295

August 3, 1978

Mr. Bruno Conegliano
Assistant City Engineer-Hydrology
City Hall
Marquette at Fourth, N.W.
Albuquerque, New Mexico

RE: SUMMIT COMPLEX
SUNNINGDALE AT INDIAN SCHOOL ROAD, N.E.

Dear Mr. Conegliano:

We request approval to directly dispose of storm runoff from the referenced site into the Sunningdale Arroyo immediately before it enters the box culvert under I-40. This culvert has its outfall in the Embudo Arroyo Channel immediately east of Carlisle Boulevard, N.E. Downstream storm drainage facilities are adequate, and two separate analyses indicate that storm runoff from the referenced site will have minimal effects on rates of flow generated upstream in the watershed.

We have developed considerable information based upon hydrology utilizing the conservative rational formula and upon the recent Bohannan-Huston Study. All of this data seems to justify disposal of the site storm runoff into the arroyo without any modification, since that runoff is completely disposed of prior to the time when the peak rate of flow for the entire watershed is reached.

This is not an attempt to avoid furnishing a drainage report containing information justifying this position, but merely an overture to facilitate action without repetitious technical presentation. We would appreciate it if you would evaluate this position, and advise us regarding your determinations at your earliest convenience.

Very truly yours,

J. E. PINO

JEP:mm

cc: Mr. Richard Leonard
Executive Engineer/AMAFCA

RICHARD E. LEONARD
EXECUTIVE ENGINEER

B. H. SWINBURNE, CHAIRMAN
WILLIAM V. HEREFORD, VICE-CHAIRMAN
ANCES McCOY, SECRETARY-TREASURER
VERNON DOAK, DIRECTOR
RICHARD H. CLOUGH, DIRECTOR

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority
2500 PROSPECT AVE. N.E.
P. O. BOX 25851 • ALBUQUERQUE, N. M. 87125
TELEPHONE 344-3516

August 11, 1978

Mr. Joe E. Pino
Gordon Herkenhoff & Associates, Inc.
302 Eighth Street, N. W.
Albuquerque, NM 87102

Dear Mr. Pino:

Reference your August 3, 1978 letter to Mr. Bruno Conegliano, re: Summit Complex, Sunningdale at Indian School Road, N. E.

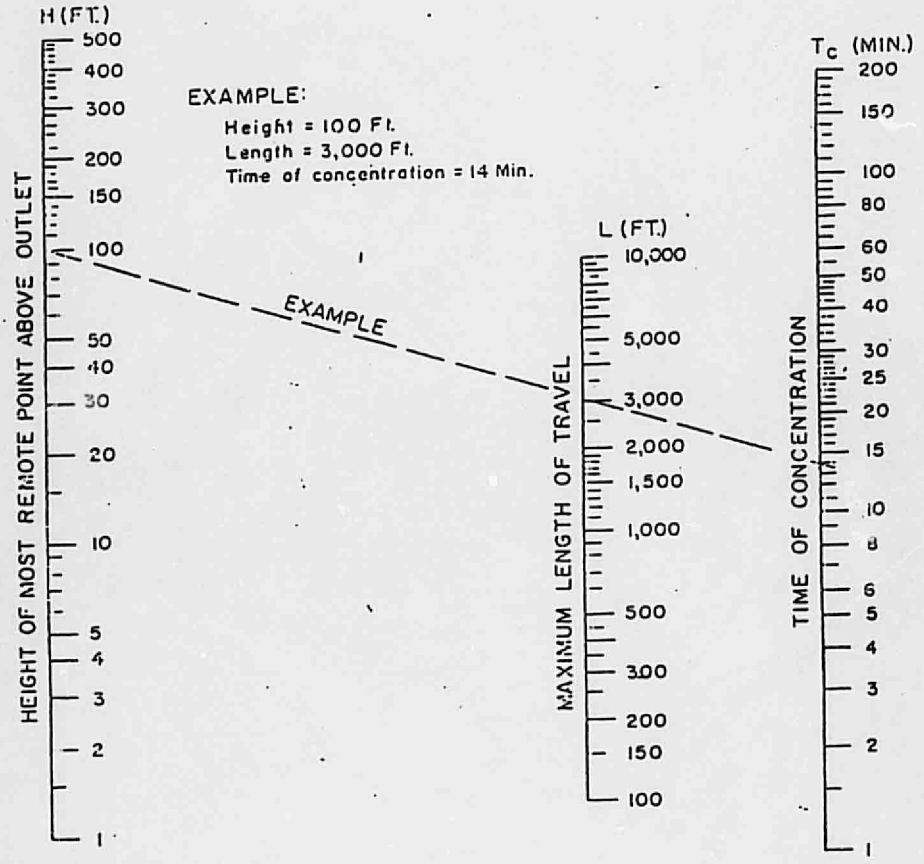
I have examined the situation and discussed it with Mr. Conegliano. We approve your approach.

Sincerely,

Richard E. Leonard

Richard E. Leonard
Executive Engineer

gfm

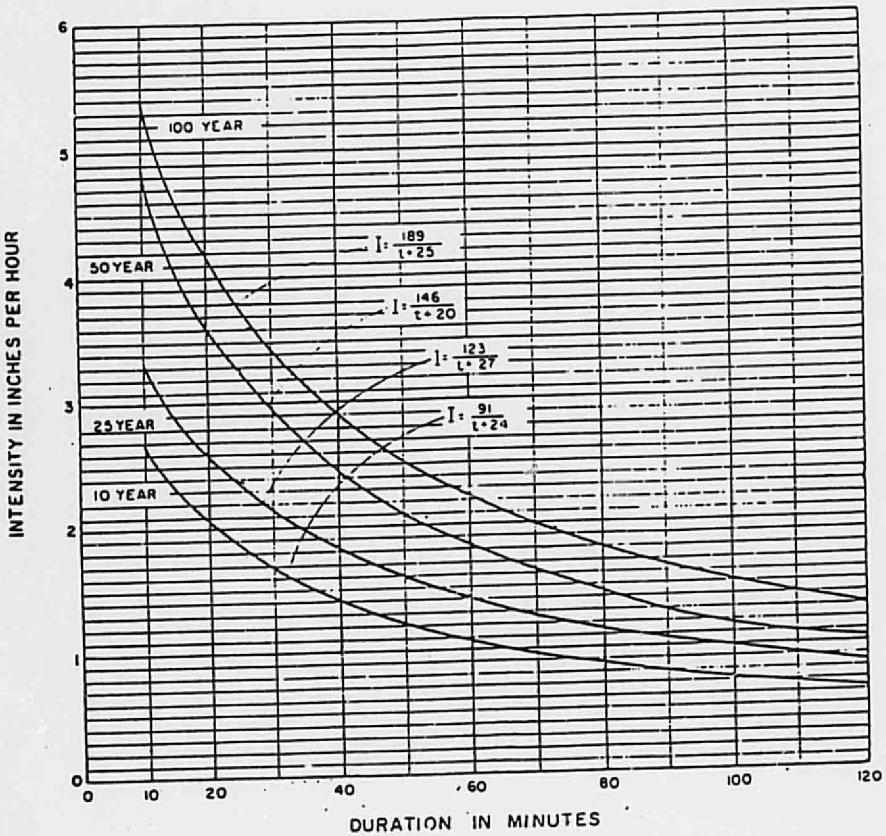


Based on study by P. Z. Kirpich,
Civil Engineering, Vol. 10, No. 6, June 1940, p. 332

FIG. 1 TIME OF CONCENTRATION OF SMALL DRAINAGE BASINS

Reprinted from "Design of Roadside Drainage Channels - Hydraulic Engineering Circular No. 6", April 1965, U. S. Dept

Plate 2



MASTER PLAN OF DRAINAGE
CITY OF ALBUQUERQUE - NEW MEXICO
AND ENVIRONS

INTENSITY DURATION
FREQUENCY CURVES

(ALBUQUERQUE AREA - 1961)

GORDON HERKENHOFF & ASSOC
CONSULTING ENGINEERS
ALBUQUERQUE, NEW MEXICO

CHART
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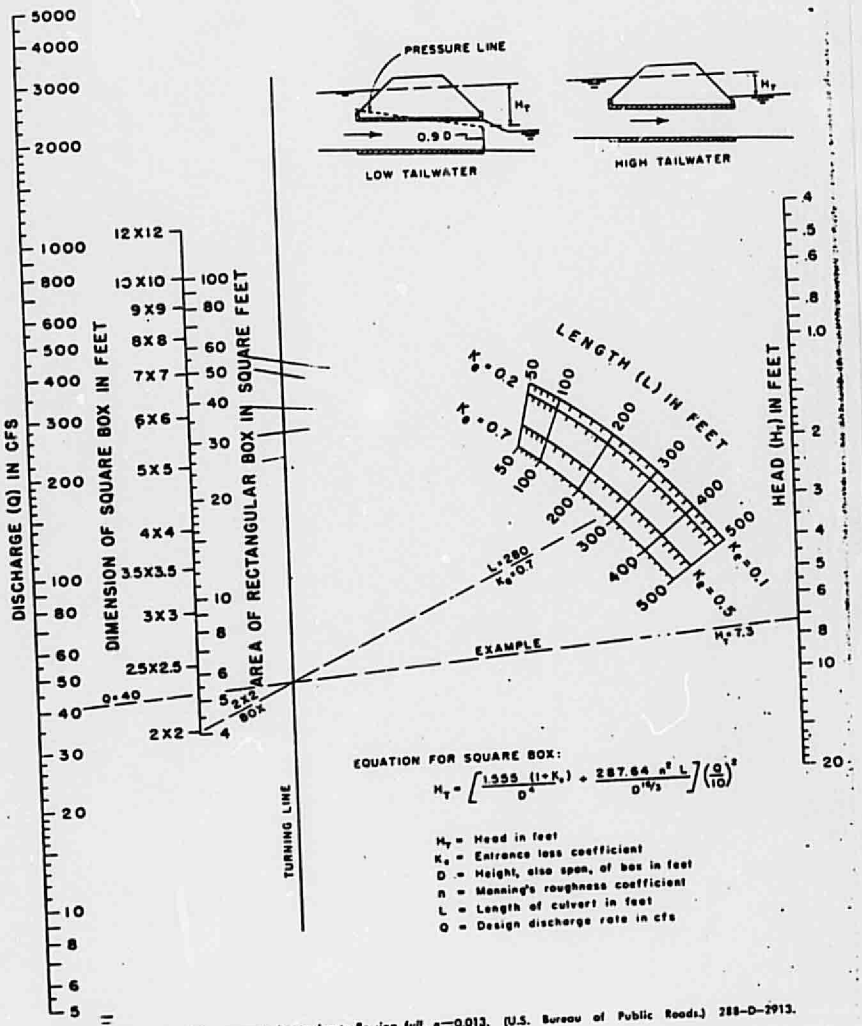

Figure 8–13. Head for concrete box culverts flowing full, n=0.013. (U.S. Bureau of Public Roads.) 288–D–2913.

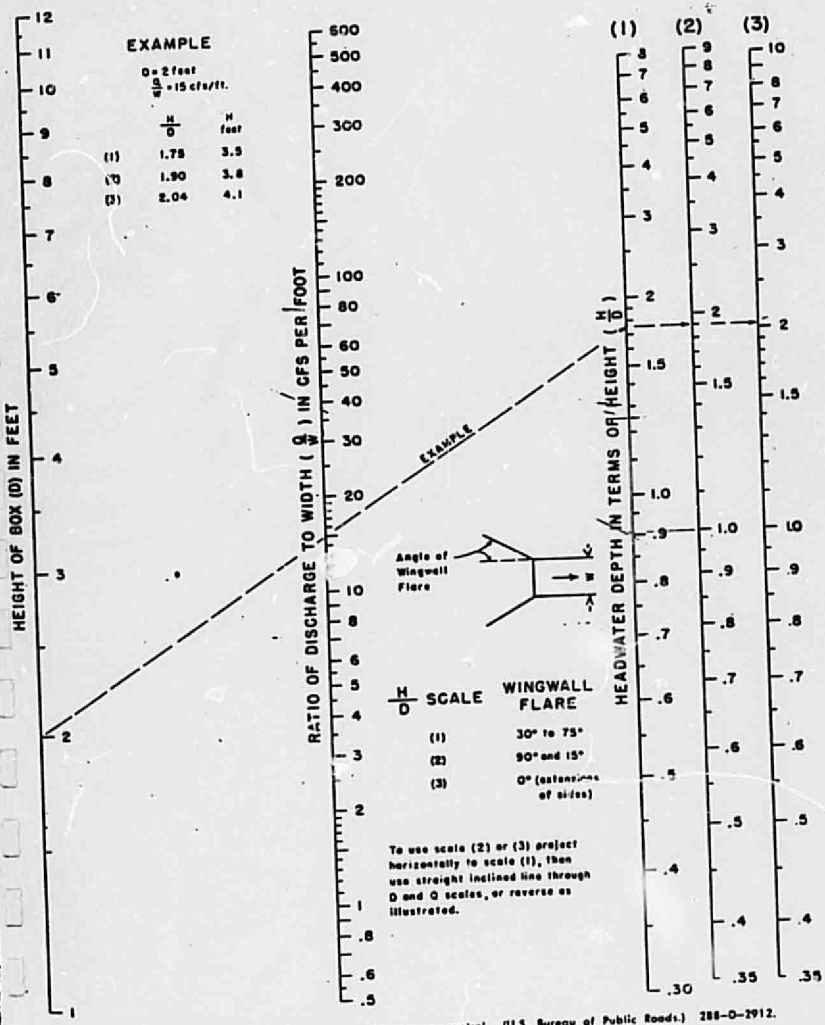

Figure 8–12. Headwater depth for box culverts with entrance control. (U.S. Bureau of Public Roads.) 288–D–2912.