HYDROLOGY ○ G21/D19 ○ 1 PLAN

G21/D19

1 Plan

ENGINEER'S DRAINAGE REPORT

FOR

APARTMENTS NEAR JUAN TABO BLVD.

ON COMANCHE ROAD

MAP G-21

WILSON & COMPANY
ENGINEERS & ARCHITECTS
1321 SAN PEDRO DRIVE N.E.
ALBUQUERQUE, NEW MEXICO 87110

RECEIVED
AUG 05 1981
CITY ENGINEER

JULY 1981

(81-502)

WILSON & COMPANY ENGINEERS ARCHITECTS

ENGINEER'S DRAINAGE REPORT

For

APARTMENTS NEAR JUAN TABO

On

COMANCHE ROAD

LOCATION: The proposed apartments are located on Tract L-1 of La Reina De Los Altos, Unit 2, which fronts on Comanche Road N.E., and is bounded on the west by the Embudito Arroyo. The exact location is shown on the attached copy of Zone Atlas Map G-21.

DESIGN CRITERIA: The rate of runoff is determined by the Rational Method using the following formula:

$Q = CiA$

Q = Rate of runoff in cubic feet per second
i = Rainfall intensity
A = Drainage area in acres

For Albuquerque Area for 100 year event

$$i_{100} = \frac{189}{tc+25}$$

tc = Time of concentration in minutes

RECEIVED
AUG 05 1981
CITY ENGINEER

The theoretical capacity of an Albuquerque Double Grate, Type C catch basin, with 8 inches of water over grate is 28.8 cfs. Using a factor of safety of 2, 14.4 cfs was used to compute the ponding area required.

OFFSITE DRAINAGE. The apartment complex located at the southeast corner of the site drains all runoff to the southwest corner of their complex and is then discharged to the Embudito Arroyo by way of a small earth ditch.

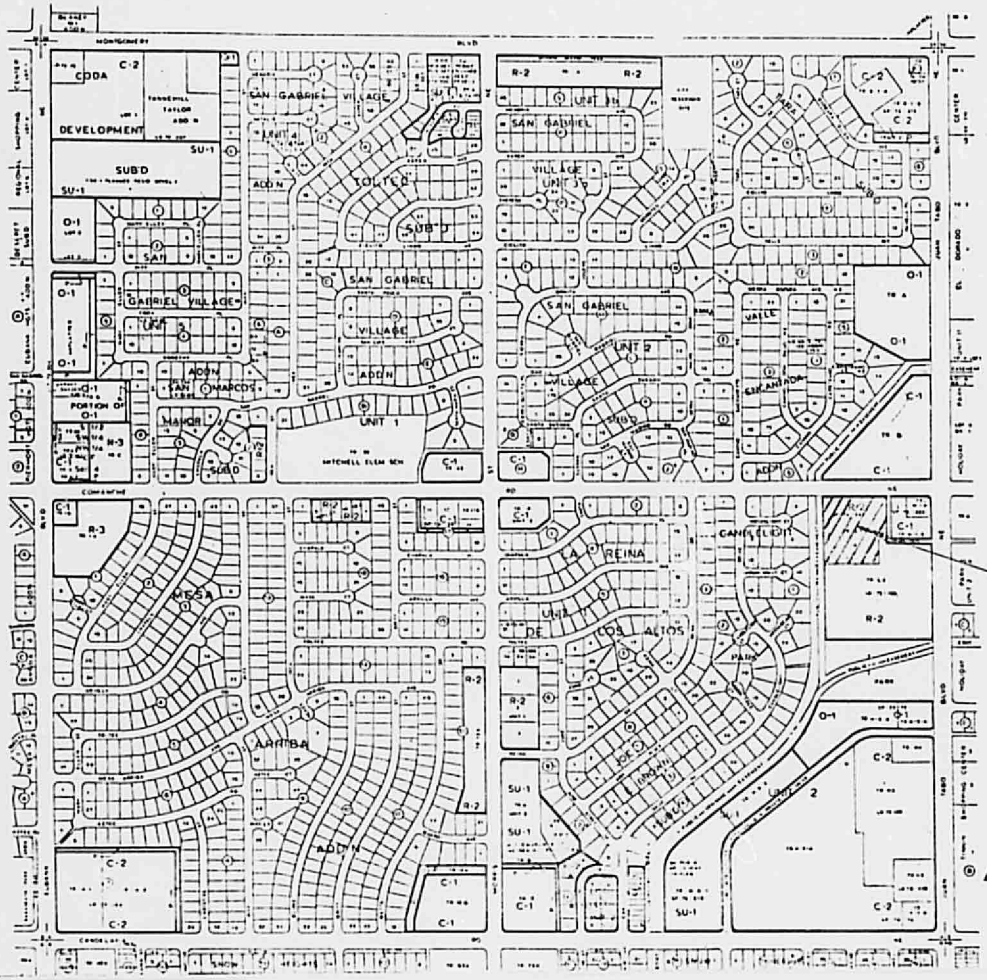
The office building immediately east of the project site has an on site storm drainage system that appears to discharge to the storm drain in Comanche Road.

The amount of storm water runoff that enters the project site appears to be a minimal amount.

SITE DRAINAGE. The project is adjacent to the Embudito Arroyo and has an area of 3.252 Acres. It has been determined it would be in the City of Albuquerque's best interest to directly discharge all runoff to the Eubudito Arroyo without detention. It is proposed to discharge to the Embudito Arroyo at the southwest corner of the project site with a double grate, Typce C, catch basin and an 18-inch diameter pipe. Using a discharge rate of 14.4 cfs for the inlet with a head of 0.65 feet, the parking area will provide ponding area required at curb depth.

The following material has been provided as a part of this report:

1. Location Map
2. Engineer's Computations
3. Site Grading Plan & Details.


PROJECT SITE
3.25 ACRES.
LOCATION MAP
G-21-Z

Capacity Double C Catch Basin (City Std K-5-1)

Inlet Located at Low Point.

Per Attached Fig 8: (GRATE)
Perimeter = (6.5+2.1)(2) = 17.2
Head = 0.67 ft.
Q/Ft PERIM = 1.5 cfs
Q = 1.5 x 17.2 = 25.8 cfs

Per Attached Fig 7 (Curb Opening)
h = 6"
H = 10.75"
H/h = .56
Capacity Per Ft of Curb Opening = .46 cfs

Q = 6.5 x .46 = 3 cfs

Q_T = 25.8 + 3 = 28.8 cfs use 14.5 cfs.

Inflow (Maximum)
Rational Formula $Q_{100} = CiA$

C = 0.82

$i_{100} = \frac{189}{tc+25}$

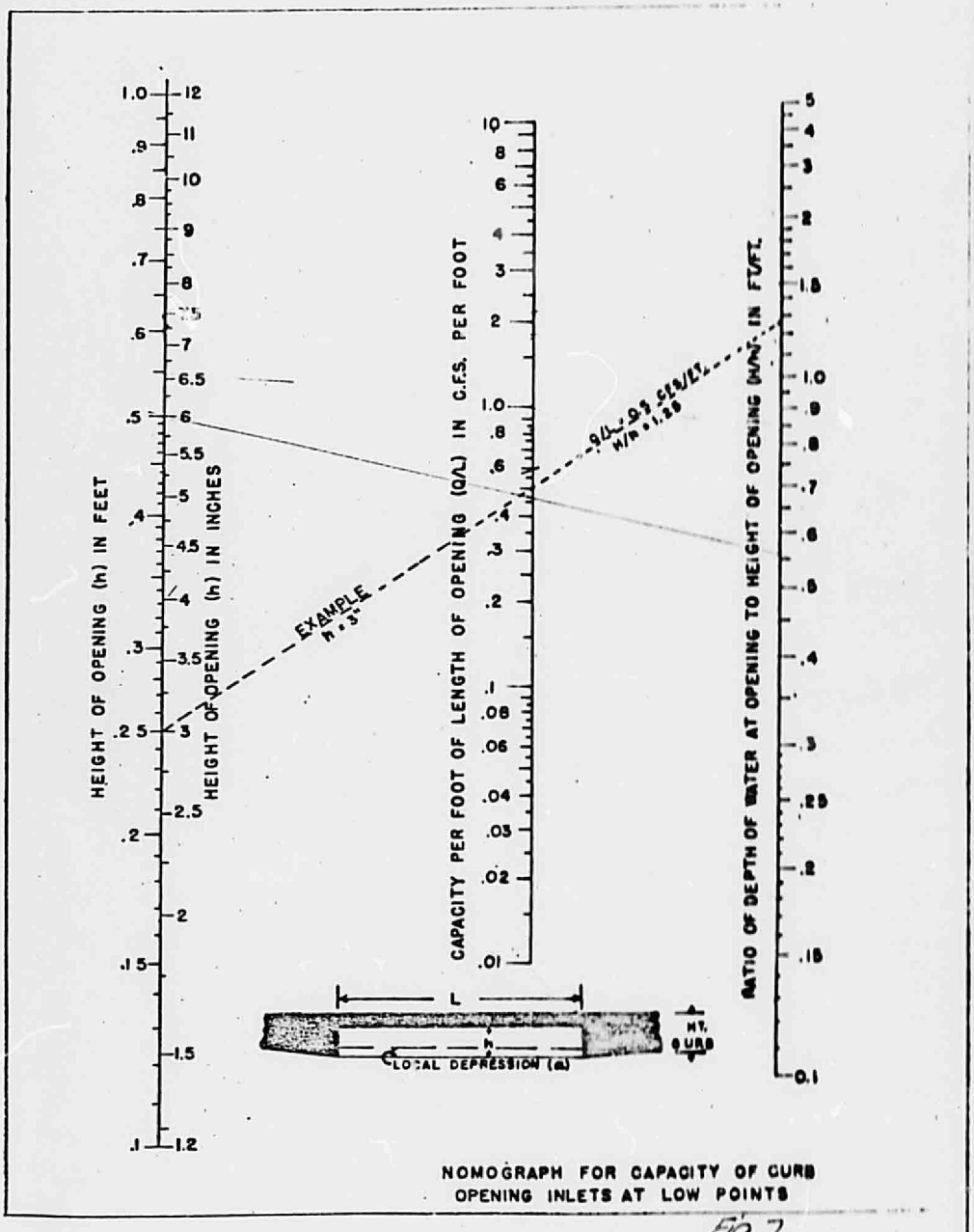
tc = 10

$i_{100} = \frac{189}{35} = 5.40$

A = 3.252 Acres

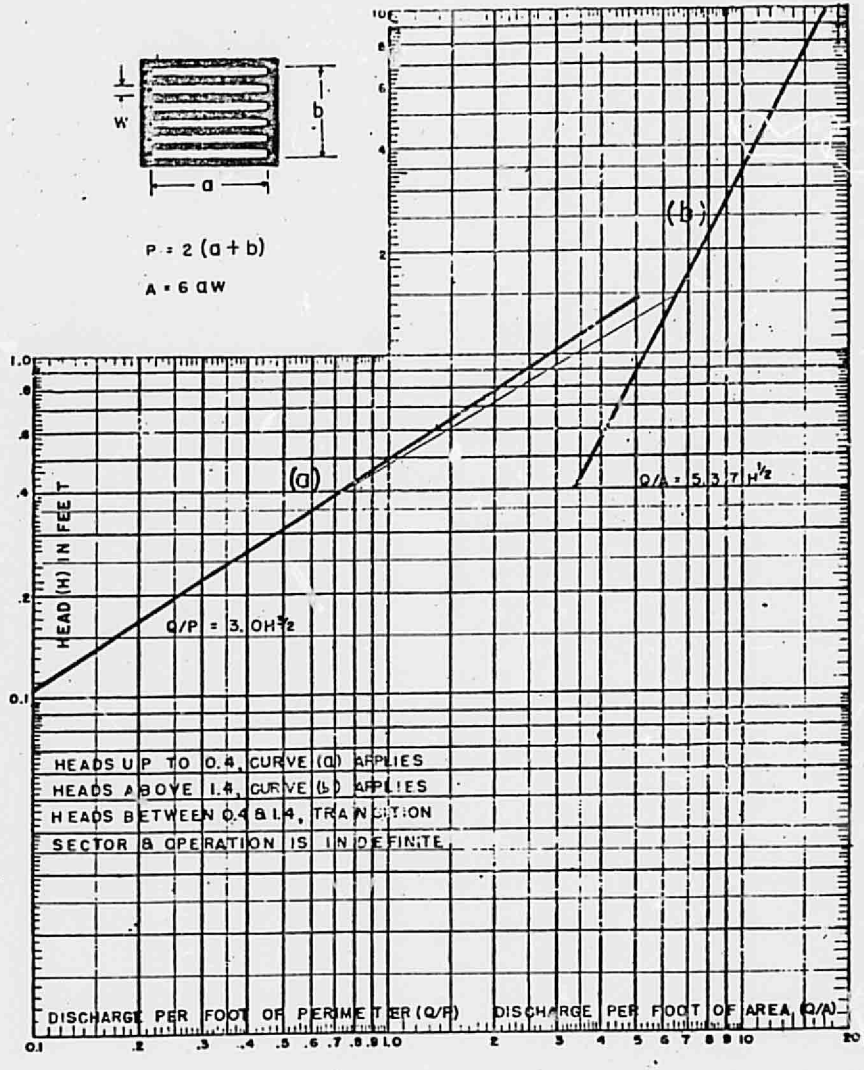
Q_{100} = 0.82 x 5.40 x 3.252 = 14.00 cfs.

No Major Ponding Reqd. Max Inflow Rate = 1/2 Capacity of Inlet.



NOMOGRAPH FOR CAPACITY OF CURB OPENING INLETS AT LOW POINTS

Fig. 7



CAPACITY OF GRATE INLET IN SUMP
WATER PONDED ON GRATE

Fig. 8

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

September 8, 1981

Robert F. Sykes, P.E.
Wilson & Co.
1321 San Pedro N.E.
Albuquerque, N.M. 87110

RE: APARTMENT NEAR JUAN TABO ON COMANCHE RD. DRAINAGE REPORT (FILE NO. G-21-D-19)

Dear Mr. Sykes:

Attached are my review notes for the referenced Drainage Report. Please address the items checked "NO" on the Drainage Report checklist and any corresponding comments. This Report was not reviewed for construction detail, therefore, if this Report is intended for construction purposes, please comply with the Construction Plan Requirements Checklist (also attached).

With your re-submittal, would you please complete the Drainage Report Information Sheet attached to the checklists for our records and future correspondence.

If you have any questions concerning the above, please feel free to call me.

Sincerely,

Bernie J. Montoya

for Fred J. Aguirre, P.E.
Civil Engineer/Hydrology

FJA/tsl

cc: Reading File
Drainage File

WILSON & COMPANY
ENGINEERS & ARCHITECTS

505 262-2116

ENGINEERS
ARCHITECTS
PLANNERS

Office Location... 1321 SAN PEDRO N.E. • ALBUQUERQUE, NEW MEXICO 87110

An Equal Opportunity Employer

Mailing Address... P.O. BOX 3548 • ALBUQUERQUE, NEW MEXICO 87190

December 14, 1982

RECEIVED
DEC 15 1982
CITY ENGINEER

Mr. Andre Houle
Engineering Division - Hydrology
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Tract L-1, La Reina de Los Altos, Unit 2
(File No. G21-D19A)
WCEA File: 81-502

Dear Mr. Houle:

Enclosed is a copy of letter, with attachments, to Mr. Heller requesting the proposed 18-inch storm drain pipe be constructed as a part of the East Side Arroyo Protection System Phase V construction contract held by KNC, Inc.

I have discussed this with Mr. Kielich and he believes this is the way to go.

Please give me a call if you have any questions.

Very truly yours,
WILSON & COMPANY

Robert F. Sykes, P.E.

xc: Cauwels & Davis

Enclosures

-sap

WILSON & COMPANY
ENGINEERS & ARCHITECTS

505 262-2116

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Mailing Address... P.O. BOX 3548 • ALBUQUERQUE, NEW MEXICO 87190

ENGINEERS
ARCHITECTS
PLANNERS

An Equal Opportunity Employer

December 14, 1982

Mr. Richard S. Heller
City Engineer
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Apartment Complex on Comanche near Juan Tabo
Drainage Facilities
WCEA File: 81-502

Dear Mr. Heller:

As a part of the approved drainage report for the proposed apartment complex on Tract L-1, La Reina de Los Altos, Unit 2, it is necessary to install an 18-inch RCP in the right-of-way of the Embudito Arroyo. The developer, Cauwels & Davis, are requesting this pipe be installed as a part of the East Side Arroyo Protection System Phase V., which is presently under contract to KNC.

Cauwels and Davis are willing to pay the cost for installing the pipe at this time.

Please give me a call if you have any questions or need further information.

Very truly yours,
WILSON & COMPANY

Robert F. Sykes, P.E.

xc: Cauwels & Davis
Bohannon Houston

-sap

Sheet 8 of 53
East Side Arroyo Protection System
Phase V

84+00

13

MATCH LINE STA. 85+00.00

Slope Limits

3:1

Sta 84+02 (I) 18"x 56" RCP
℄ W 5633.31 ℄ E 42.16
See Sheet 26 For Tie In Detail.
(I) Temporary Plug In East End.
(Pipe for future Inlet For Apartment Complex.)

45°

TRACT L-1

ey & :
ruction &

oge of Existing
ler and RCP In
n Sta 79+00 to

PT Sta 75+43.46

Sta 75+28.60 Embudito Arroyo -
Sta 0+00.00 North Glenwood Hills Arroyo

℄ Embudito Arroyo
(Survey ℄ & Construction ℄)

8'

℄ Embudito Arroyo

℄ North Glenwood Hills Arroyo
(Survey ℄ & Construction ℄)

2'

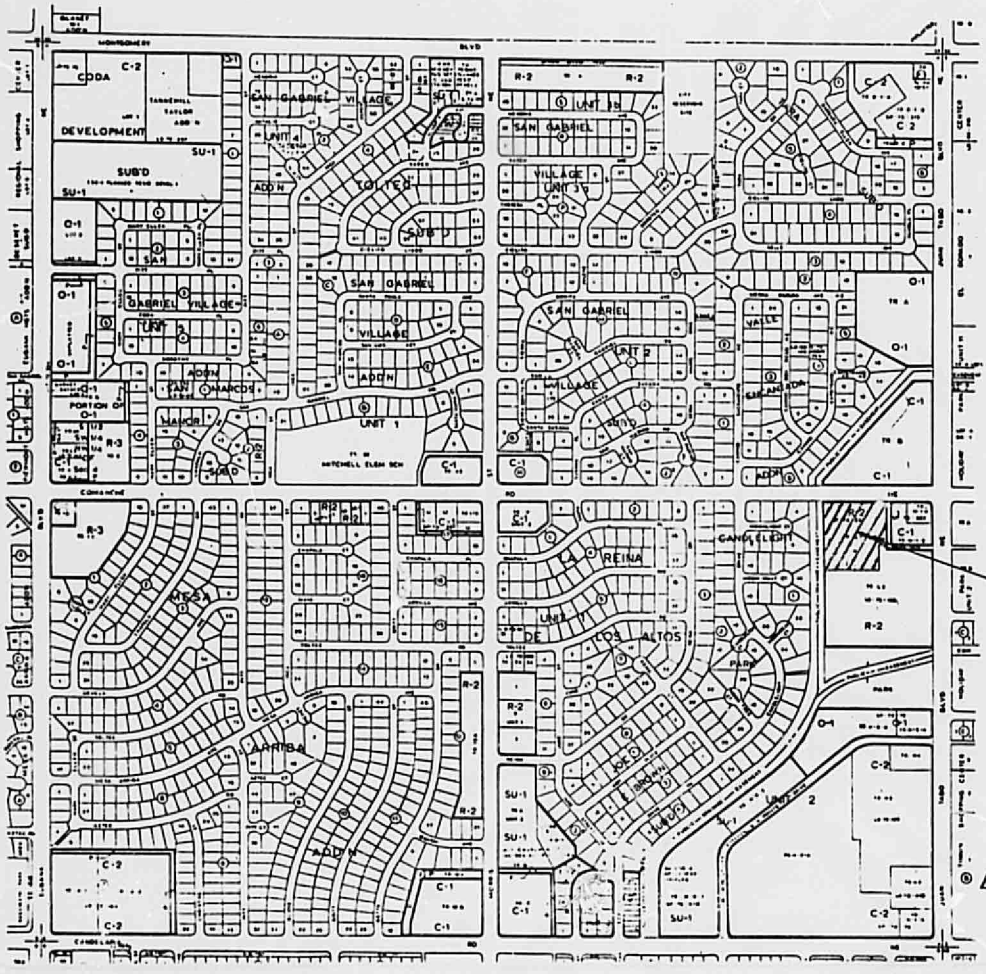
30 14'

DETAIL "A"

AS-BUILT INFORMATION	
CONTRACTOR	
WORK STAKED BY	DATE
INSPECTOR'S ACCEPTANCE BY	DATE

BENCH MARKS	
TBM #9 Elev 559.579	
" □ " Cut on top of block wall west of Embud-	
ito Arroyo, 454' ± north of Candelaria Rd.	

VFORMATION		
BY	DATE	


PROJECT SITE
3.25 ACRES.
LOCATION MAP
G-21-Z

WILSON & COMPANY
ENGINEERS & ARCHITECTS

505 262-2116

Office Location... 1921 SAN PEDRO N.E. ■ ALBUQUERQUE, NEW MEXICO 87110

Mailing Address... P.O. BOX 3305 ■ ALBUQUERQUE, NEW MEXICO 87190

ENGINEERS
ARCHITECTS
PLANNERS

An Equal Opportunity Employer

August 4, 1981

RECEIVED
AUG 0 5 1981
CITY ENGINEER

Mr. Charles M. Easterling
Principal Assistant City Engineer/Hydrology
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Apartments Near Juan Tabo on Comanche Road
WCEA File: 81-502

Dear Mr. Easterling:

We have delivered to your office 4 copies of the drainage report for an apartment complex on Comanche Road near Juan Tabo.

Please give me a call if you have any questions.

Very truly yours,
WILSON & COMPANY

Robert F. Sykes, P.E.

xc: Rick Davis

-sp