



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 22, 1993

Frank Lovelady
Lovelady & Associates
7408 Morrow NE
Albuquerque, NM 87110

RE: REVISED DRAINAGE PLAN FOR A FOUR UNIT APARTMENT COMPLEX (H22-D63)
REVISION 2/19/93.

Dear Mr. Lovelady:

Based on the information provided on your February 19, 1993 resubmittal, the above referenced site is approved for Building Permit.

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

If I can be of further assistance, please feel free to contact me at 768-2650.

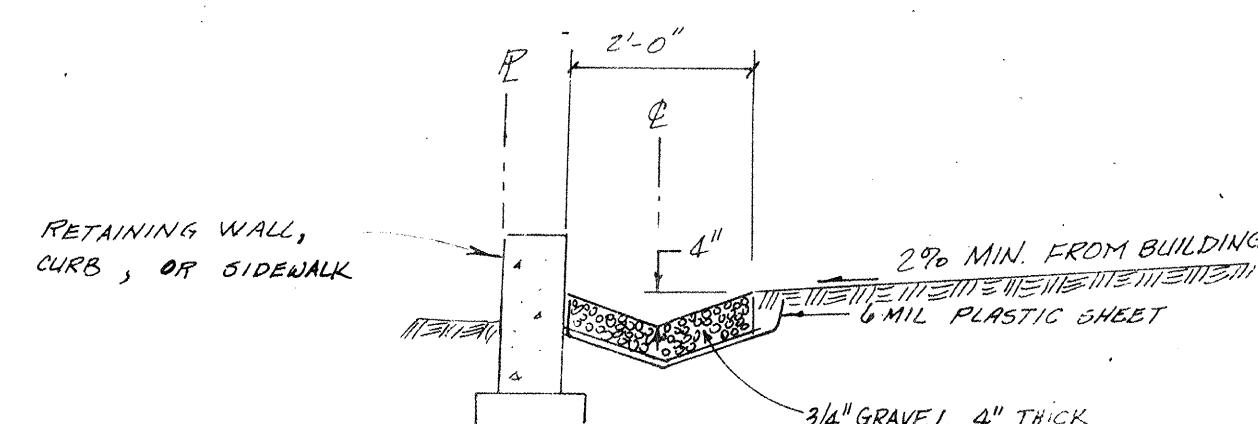
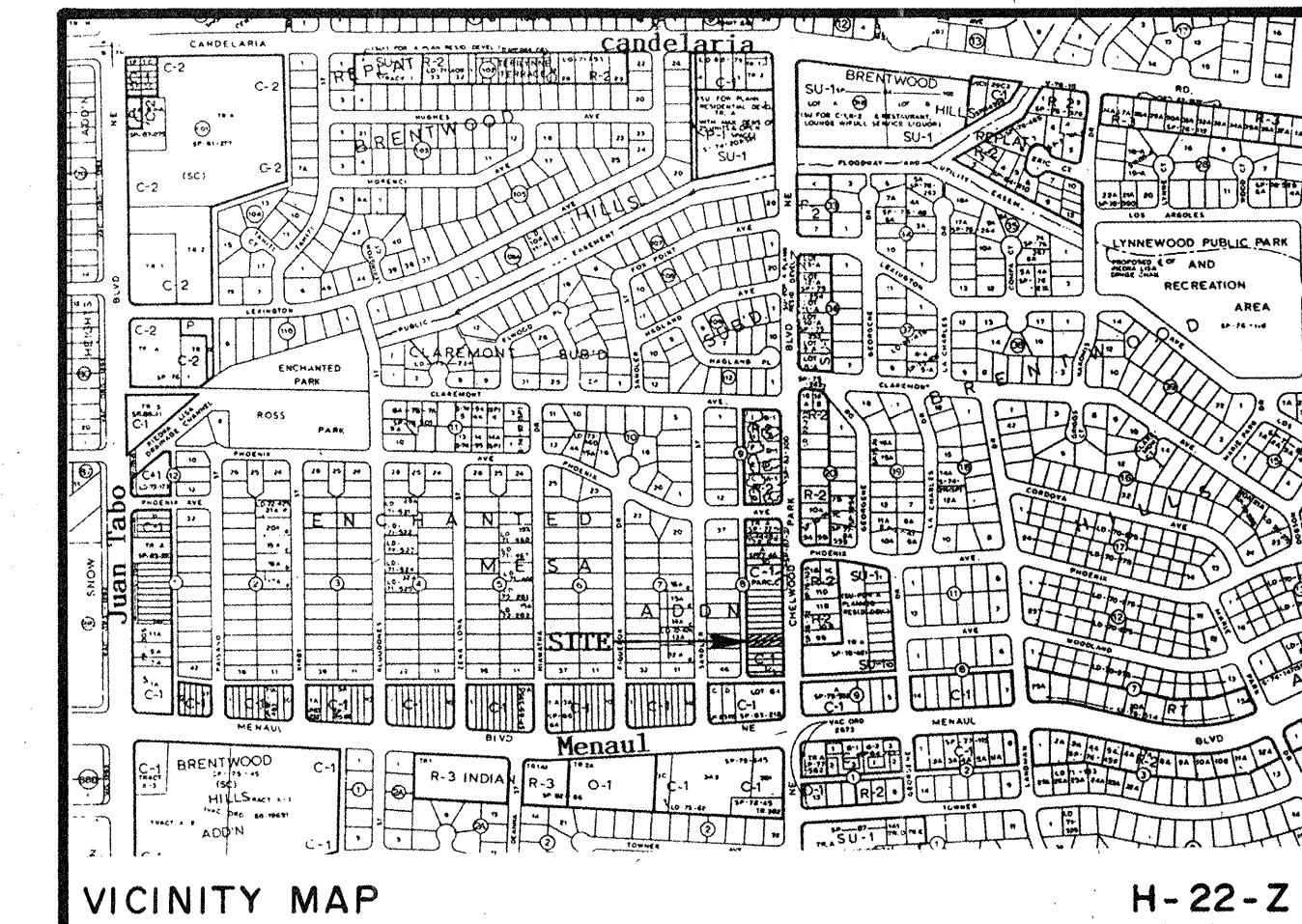
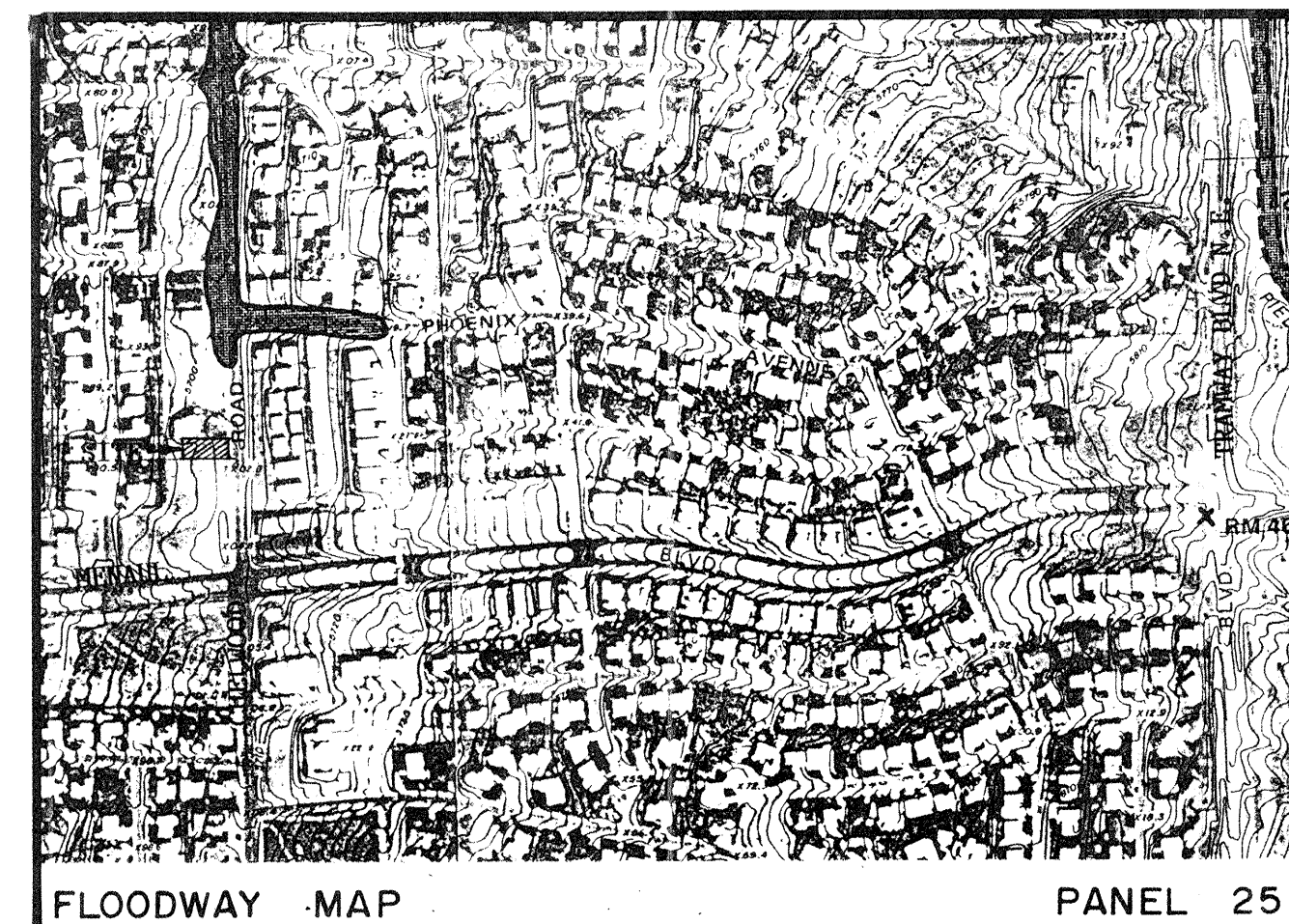
Sincerely,

Bernie J. Montoya
Bernie J. Montoya, CE
Engineering Assistant

BJM/d1/WPHYD/7516

xc: Alan Martinez
File

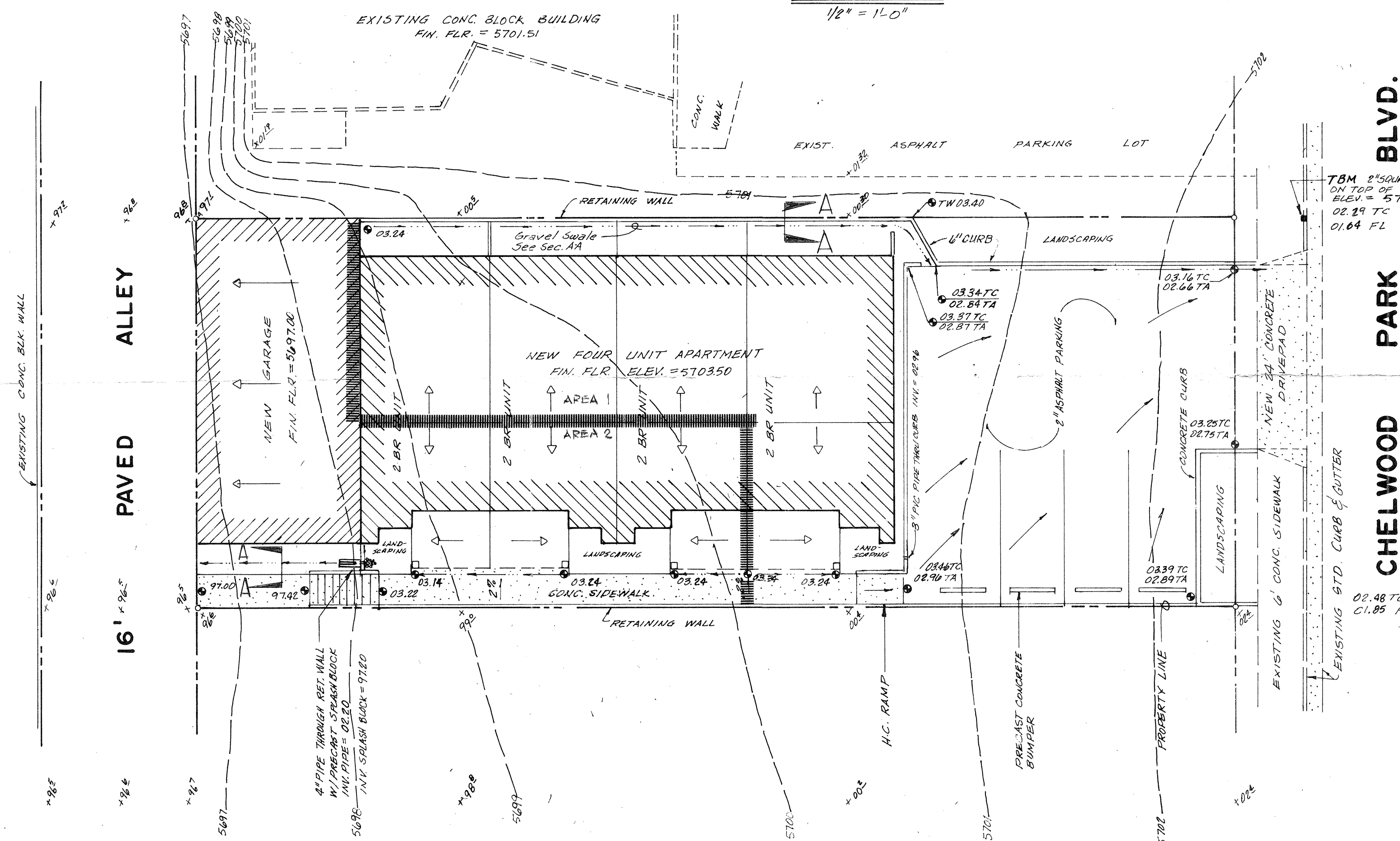
PUBLIC WORKS DEPARTMENT



SCALE 1" = 10'

SECTION A-A

1/2" = 1'-0"



EXISTING CONDITIONS:

The site is located on the west side of Chelwood Park Blvd. NE, north of Menaul. Chelwood is paved with standard curb and gutter. There is a paved alley at the west end of the lot. The pavement is in fair condition. There is an old Circle K building adjacent to the site on the north side. Adjacent to Chelwood. The remaining runoff will be directed to the alley. The existing site slopes from east to west.

PROPOSED CONDITIONS:

It is proposed to construct a 4-unit apartment building on the site as shown. Asphalt parking will be in front (east side) and a garage will be in the rear accessed by the alley. As much as possible runoff will be directed to Chelwood. The remaining runoff will be directed to the alley. Retaining walls will be constructed as required.

SOIL INFORMATION:

(Refer to "Soil Survey of Bernalillo County", June 1977). Soil is Etc, Embudo Tijeras complex, 0 - 9 percent slopes, Hydrologic Soil Group B.

FLOODWAY MAP:

The floodway map inset shows the site plotted on the FEMA Floodway Map. The site does not lie within or adjacent to any designated 100-year flood zones. There is a flood zone in Chelwood approximately 200' north of the site apparently created by flooding in Phoenix Ave.

DOWNSTREAM CONDITIONS:

There is a 48" storm drain in Chelwood which serves an area extending to Brentwood Hills Drive on the south and to Tramway Blvd. on the east. The site is very near an inlet which drains into Manhole No. S-452. This system empties into the Piedra Lisa Channel less than 1800 feet from the site. Since the site is relatively near the outfall, runoff from the site will enter the storm drain well in advance of the peak flows. The small amount that will flow to the alley will be reduced by one-fourth from what it is now.

RAINFALL, 100-YEAR, 6-HOUR:

(Refer to D.P.M. Plate 22.2 D-1). $R_6 = 2.5$ inches.

TIME OF CONCENTRATION:

(Use ten (10) minutes, minimum time of concentration).

RAINFALL INTENSITY:

(Refer to D.P.M., Plate 22.2 D-2. $I = R_6 \times 6.84 \times T_c^{-0.51} = 5.28$ in./hr.

EXISTING SITE RUNOFF:

Area = 6700 SF; Natural "C" = 0.40; CN = 82; DR = 1.00
 $Q_{100} = 0.40 \times 5.28 \times (6700 / 43560) = 0.32$ cfs; $Q_{10} = 0.657 \times 0.32 = 0.21$ cfs
 $V_{100} = (6700 \times 1.00) / 12 = 558$ cf; $V_{10} = 0.657 \times 558 = 337$ cf. All runoff from the existing site flows to the alley.

CALCULATIONS

PROPOSED SITE RUNOFF:

Surface	"C"	CN	DR	AREA 1	AREA 2	Totals
Roof	0.90	98	2.30	1772	1474	3246
Asphalt/Conc	0.95	98	2.30	370	2307	2677
Landscaping	0.25	72	0.25	72	705	777
Totals				2214	4486	6700

WEIGHTED "C" FACTOR AND WEIGHTED DIRECT RUNOFF:

	AREA 1	AREA 2	TOTALS
Weighted "C"	0.89	0.82	0.84
Weighted DR	2.23	1.98	2.06

PEAK DISCHARGE:

Use Rational Equation, $Q_{100} = CIA$; $Q_{10} = 0.657 Q_{100}$

	AREA 1	AREA 2	TOTALS
Q_{100}	0.24 cfs	0.44 cfs	0.68 cfs
Q_{10}	0.16 cfs	0.29 cfs	0.45 cfs

VOLUME, 100-YEAR, 10-YEAR, 6-HOUR:

$V_{100} = (\text{Direct-Runoff} \times \text{Area in sq. ft.}) / 12$; $V_{10} = 0.657 V_{100}$

	AREA 1	AREA 2	TOTALS
V_{100}	410 cf	740 cf	1150 cf
V_{10}	269 cf	486 cf	755 cf

INCREASE IN PEAK DISCHARGE AND VOLUME RESULTING FROM DEVELOPMENT:

	EXISTING	DEVELOPED	INCREASE
Q_{100}	0.32 cfs	0.68 cfs	0.36 cfs
Q_{10}	0.21 cfs	0.45 cfs	0.24 cfs
V_{100}	558 cf	1150 cf	592 cf
V_{10}	357 cf	755 cf	398 cf

FLOW FROM NORTH SIDE OF APARTMENTS:

Area = 1794 sf; Bldg. = 1483 sf; Landscaping = 311 sf
 $C_w = (1483 \times 0.90 + 311 \times 0.25) / 1794 = 0.79$

$Q_{100} = 0.79 \times 5.28 \times (1794 / 43560) = 0.17$ cfs Flow to exit gravel swale into asphalt parking lot.

FLOW FROM SOUTH SIDE OF APARTMENTS:

East end. $Q_{100} = 0.04$ cfs

Flow through 3" PVC Pipe from landscaping area into asphalt parking lot.

West end $Q_{100} = 0.12$ cfs Flow through 4" PVC pipe which has a capacity of approximately 0.4 cfs with 1.0' head per orifice equation.

EROSION CONTROL NOTES:

The contractor shall be responsible for compliance with the following:

- No sediment-bearing water shall be allowed to discharge from the site during construction.
- During grading operations and until the project has been completed, all adjacent property, rights-of-way, and easements shall be protected from runoff from the site.
- Should the contractor fail to prevent sediment-bearing water from entering public right-of-way, he shall promptly remove from the public right-of-way any and all sediment originating from the site.
- Control of sediment-laden waters will be accomplished by use of a compacted earth berm of adequate height. The berm shall be located along the downstream perimeter of the property.

DOWNSTREAM FLOW IN THE ALLEY:

The paved alley drains south from the site to its intersection with an east-west unpaved alley. The alley has a block wall on the west side and the east-west segment has walls on both sides. Lot 46, Block 8, has a 45° fillet at the SE corner and there is a gate in the block wall. Water from the alley has a tendency to enter this gate as evidenced by sand bags placed in front of the gate. There is plenty of grade to ensure the water passes the gate and continues around the corner and down the alley if a little work is done to clear the weeds and possibly shovel out a high spot or two. In any case, this project will reduce the quantity of runoff entering the alley by one-half, from 0.32 cfs to 0.16 cfs. Therefore, this project will not make existing conditions worse.

LEGEND:

EXISTING CONTOUR	---	5700
NEW CONTOUR	---	02
EXISTING SPOT ELEV.	•	X.022
NEW SPOT ELEV.	•	02.96
ROOF SLOPE	↖	
SWALE	↔	
SHEET FLOW	→	
PROPERTY LINE	---	
TOT OF ASPHALT	TA	
TOP OF CURB	TC	
TOP OF WALL	TW	
FLOW LINE	FL	

LEGAL DESCRIPTION:	FEB 19 1993
Lots 17 and 18, Block 8, Enchanted Mesa Addition.	
HYDROLOGY DIVISION	

BENCH MARK:

Station 6-H22A located at the intersection of Menaul Blvd. N.E. and Chelwood Park Blvd. N.E. in the east median nose. The station mark is a standard A.C.S. brass tablet stamped "6-H22A", set in top of a concrete post projecting 0.2' above ground. Elevation 5706 Feet.

GRADING & DRAINAGE PLAN

FOUR - UNIT APARTMENT

2417 CHELWOOD ROAD N.E.

ALBUQUERQUE, N. M.

