



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August, 1993

Ron Bohannon, P.E. Tierra West Dev.
4600 Montgomery Blvd NE, #9
Albuquerque, N.M. 87109

RE: GRADING & DRAINAGE PLAN FOR CUBBY HOLE VII (A-14/D4A3)
ENGINEER'S STAMP DATED 7-7-93; RECEIVED JULY 16, 1993
FOR FINAL PLAT & BUILDING PERMIT APPROVAL

Dear Mr. Bohannon:

Based on the information included in the submittal referenced above, City Hydrology APPROVES this project for Building Permit.

Include a copy of the Grading & Drainage plan in the set of construction document submitted to the One Stop for Building Permit.

Engineer's Certification of grading & drainage per the DPM checklist must be approved before any Certificate of Occupancy will be released. Specifically all comments in the letter dated July 22, 1993 must be addressed.

If you have any questions about this project, you may contact me at 768-2727.

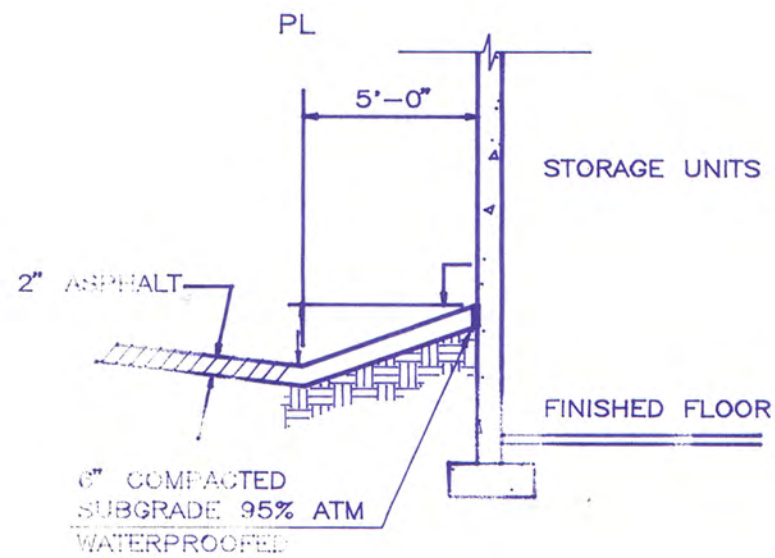
Sincerely,

John P. Curtin, P.E.
Civil Engineer/Hydrology

xc: Alan Martinez
File

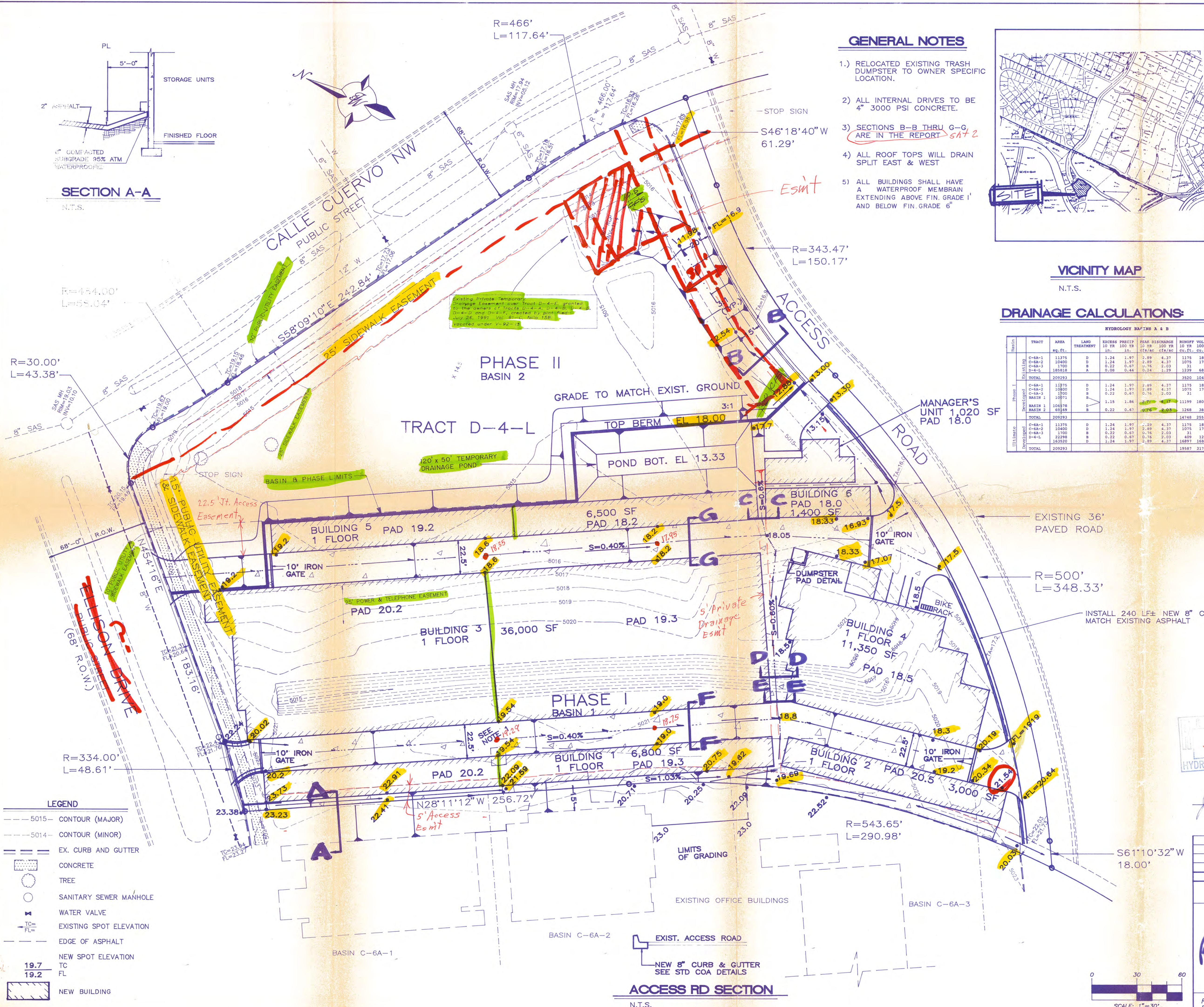
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PUBLIC WORKS DEPARTMENT



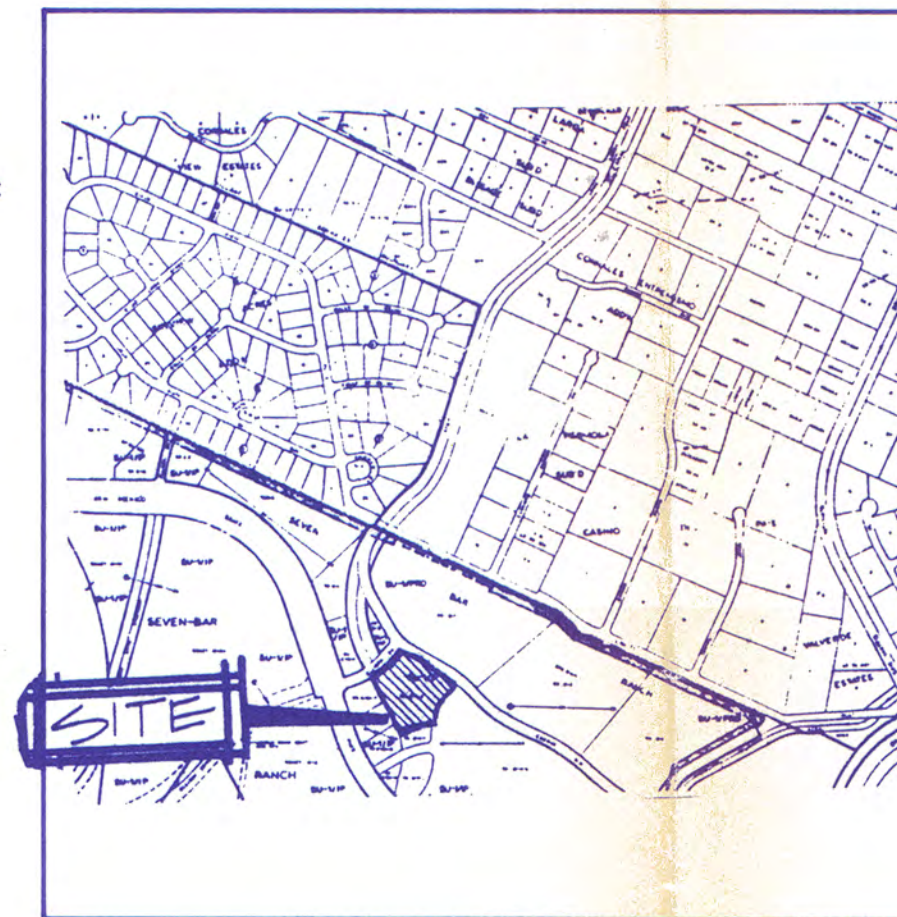
SECTION A-A

N.T.S.



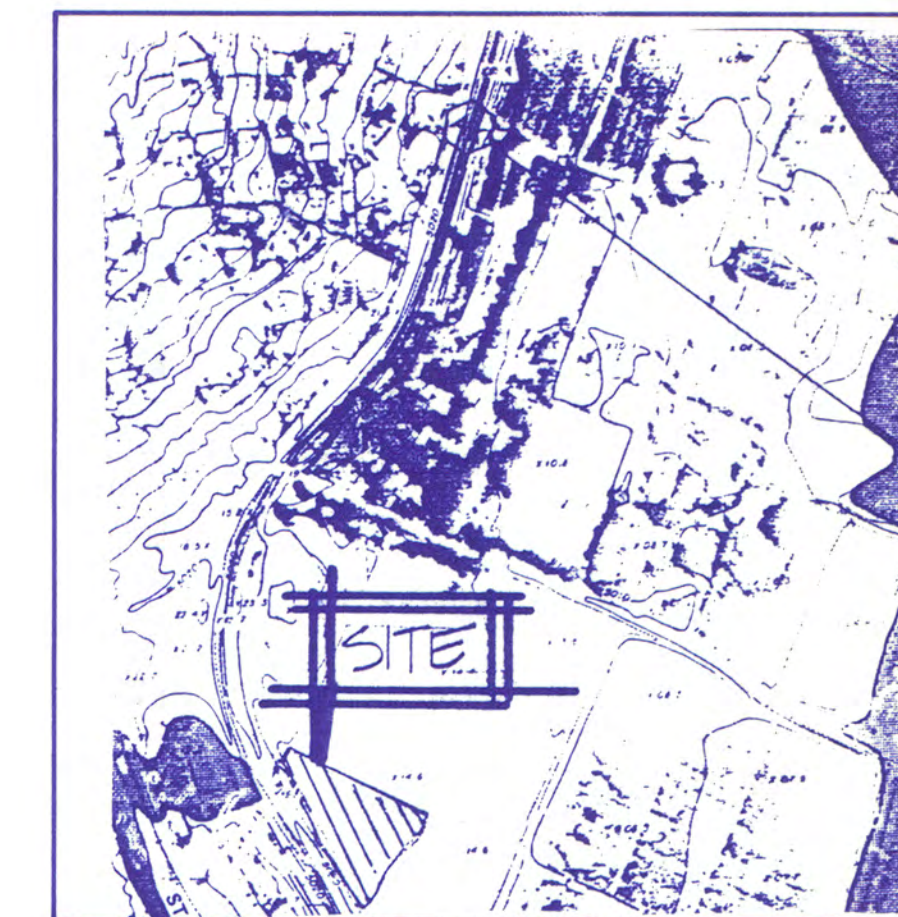
GENERAL NOTES

- 1.) RELOCATED EXISTING TRASH DUMPSTER TO OWNER SPECIFIC LOCATION.
- 2.) ALL INTERNAL DRIVES TO BE 4" 3000 PSI CONCRETE.
- 3.) SECTIONS B-B THRU G-G ARE IN THE REPORT SAT 2
- 4.) ALL ROOF TOPS WILL DRAIN SPLIT EAST & WEST
- 5.) ALL BUILDINGS SHALL HAVE A WATERPROOF MEMBRANE EXTENDING ABOVE FIN. GRADE 1' AND BELOW FIN. GRADE 6"



VICINITY MAP

N.T.S.



FEMA MAP

N.T.S.

DRAINAGE CALCULATIONS:

HYDROLOGY BASINS A & B									
Basin	Tract	Area Sq. Ft.	Land Treatment	Excess Precip. 10 Yr 100 Yr	Peak Discharge 10 Yr 100 Yr	Runoff Volume 10 Yr 100 Yr	Runoff Rate 10 Yr 100 Yr	Runoff Rate 10 Yr 100 Yr	Runoff Rate 10 Yr 100 Yr
Phase I	C-6A-1	11375	D	1.24 1.97	2.89 4.37	1175 1867	0.75 1.14	0.75 1.14	0.75 1.14
	C-6A-2	10400	D	1.24 1.97	2.89 4.37	1075 1707	0.69 1.04	0.69 1.04	0.69 1.04
	C-6A-3	1700	B	0.22 0.67	0.76 2.03	31 95	0.03 0.08	0.03 0.08	0.03 0.08
	D-4-L	181818	A	0.08 0.44	0.24 1.29	1239 6413	1.02 5.50	1.02 5.50	1.02 5.50
	TOTAL	209293				3520 10492	2.49 7.76	2.49 7.76	2.49 7.76
Phase II	C-6A-1	11375	D	1.24 1.97	2.89 4.37	1175 1867	0.75 1.14	0.75 1.14	0.75 1.14
	C-6A-2	10400	D	1.24 1.97	2.89 4.37	1075 1707	0.69 1.04	0.69 1.04	0.69 1.04
	C-6A-3	1700	B	0.22 0.67	0.76 2.03	31 95	0.03 0.08	0.03 0.08	0.03 0.08
	D-4-L	181818	A	0.08 0.44	0.24 1.29	1239 6413	1.02 5.50	1.02 5.50	1.02 5.50
	TOTAL	209293				3520 10492	2.49 7.76	2.49 7.76	2.49 7.76

Location & Legal Description

The tract of land is located on Zone Atlas Page A-14, near the intersection of Ellison and RM 128 on Albuquerque's West Side. The parcel is Tract D-4-L of the Seven-Bar Ranch, filed June 5, 1992 in book 92C Page 109, containing 4.2658 acres.

Existing Condition

Currently the land is vacant and has an abandoned drainage ditch traversing the property. Three commercial tracts south of the site discharge to the south boundary and are designated C-6A-1, C-6A-2 and C-6A-3.

The parcel lies within a larger analysis performed by Bordenave Designs under A14/D4. The upland flow rates along with the developed flow rates were analyzed under that design. The flow proceeds north to an existing culvert and channel that flows to the Cabelon Channel. That culvert and channel were designed and analyzed by Esterling & Associates under A14/D4, which limits flow to 16.5 cfs.

Proposed Conditions

Tract D-4-L will be developed in two phases. This report sets up the analysis for Phase I and continues to utilize the limitation of the flow and pond near the northeast corner of the Tract. This analysis will verify the runoff rates and flows under the current conditions.

We are proposing a series of small detention basins that are all connected to the outfall pipe and will drain within 24 hours.

Design Conditions

We utilized Part A of the DPM Section 22.2 as revised August, 1991. The site lies within Zone I and will use the design storm listed in Table 2.

The land treatment in Phase I is a combination of Treatment B and D. The balance of the property is Treatment B for Phase I. A subsequent drainage report will be required when Phase II is developed.

Existing Pond Volume = 13800 Cubic Feet

Land Treatments

Total Acreage D-4-L	4.2658
Acreage Phase I	2.4779
Acreage Phase II	1.7879

Treatment Phase I

Treatment B Phase I	0.2312
Treatment D Phase I	1.5879
Treatment D Phase II	2.4467

Weighted Excess Precipitation

$$\text{Weighted E} = \frac{(1.8191 \times 0.67) + (2.4467 \times 1.97)}{4.2658} = 1.4156 \text{ inches}$$

$$\text{Volume} = 1.4156 \times 4.2658 = 0.5032 \text{ Ac. Ft.} = 21,920.83 \text{ cu. ft.} = 25589 \text{ cu. ft. w/OFF-SITE FLOW}$$

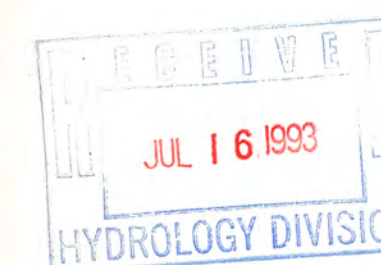
Peak Runoff

$$Q_p = \frac{(1.8191 \times 0.67) + (2.4467 \times 4.37)}{16.64 \text{ cfs w/O.S.F.}}$$

Conclusion

As shown on the attached calculation, the Phase I development flows discharge a peak flow of 16.64 cfs, which exceeds the 16.5 cfs per A14/D4. Water will continue to pond on the Phase II portion of the tract and discharge within 24 hours to Cabelon Channel.

No change to existing volume on-site which will accommodate 100 year developed flow rate at this time.



John P. Curtin
APPROVED FOR ROUGH GRADING ± 1%

7-13-93
DATE

REVISION DATE	DESCRIPTION	BY	BY
7-7-93	ADDED SECTIONS C THRU G	JCS	RRB
6-14-93	ADDED EMERG. SPILLWAY, EXIST. TOPO	JCS	RRB
3-26-93	TEMP. DRAINAGE ESMIT.	RRB	RRB
3-24-93	ADDED EXISTING ELEVATIONS	JCS	RRB
DRAINAGE & GRADING			
CUBBY HOLE VII			
COORDS & CORRALES NW			
TERRA WEST DEVELOPMENT MANAGEMENT SERVICES			
4800 MONTGOMERY BLVD. N.E., SUITE 9 ALBUQUERQUE, NEW MEXICO 87109 (505)883-7592			
SHEET # 1 OF 2			
JOB # 930004			