



LEGAL DESCRIPTION

LOT 5, EXECUTIVE HILLS SUBDIVISION, BERNALILLO COUNTY, ALBUQUERQUE, NEW MEXICO

NOTE:

THIS IS NOT A BOUNDARY SURVEY, APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION SHOWN IS FROM EXECUTIVE HILLS SUBDIVISION REVISED GRADING AND DRAINAGE PLAN DATED 9-29-88 (HYDROLOGY FILE NO. L23/D12)

PROJECT BENCH MARK

ACS "TOM" ELEVATION = 5711.67
A STANDARD ACS BRASS TABLET STAMPED "TOM-1978". BENCH MARK BEARS N 31° 47' 11" E, 2,303.27' FROM THE NORTHEAST CORNER OF THE SUBDIVISION.

TBM = FBM

DRAINAGE PLAN

The following items concerning the Naraghi Residence are contained hereon:

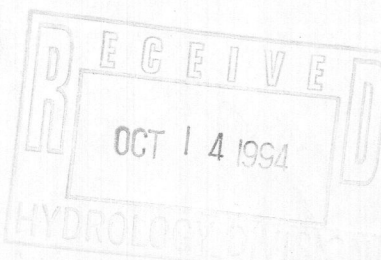
1. Vicinity Map
2. Grading Plan
3. Calculations

As shown by the Vicinity Map, the site is located within Executive Hills. The lot is more particularly described as Lot 5, of the Executive Hills Subdivision. This lot lies on the west side of Executive Hills Lane.

As shown by Panel 37 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, New Mexico, dated October 14, 1983, this site does not lie within a designated flood hazard zone. Downstream flooding is noted, however, in the Tijeras Arroyo. That runoff generated by this site which is not captured in the existing retention ponds which lie along the west limits of the site may eventually reach this arroyo, if not abstracted otherwise.

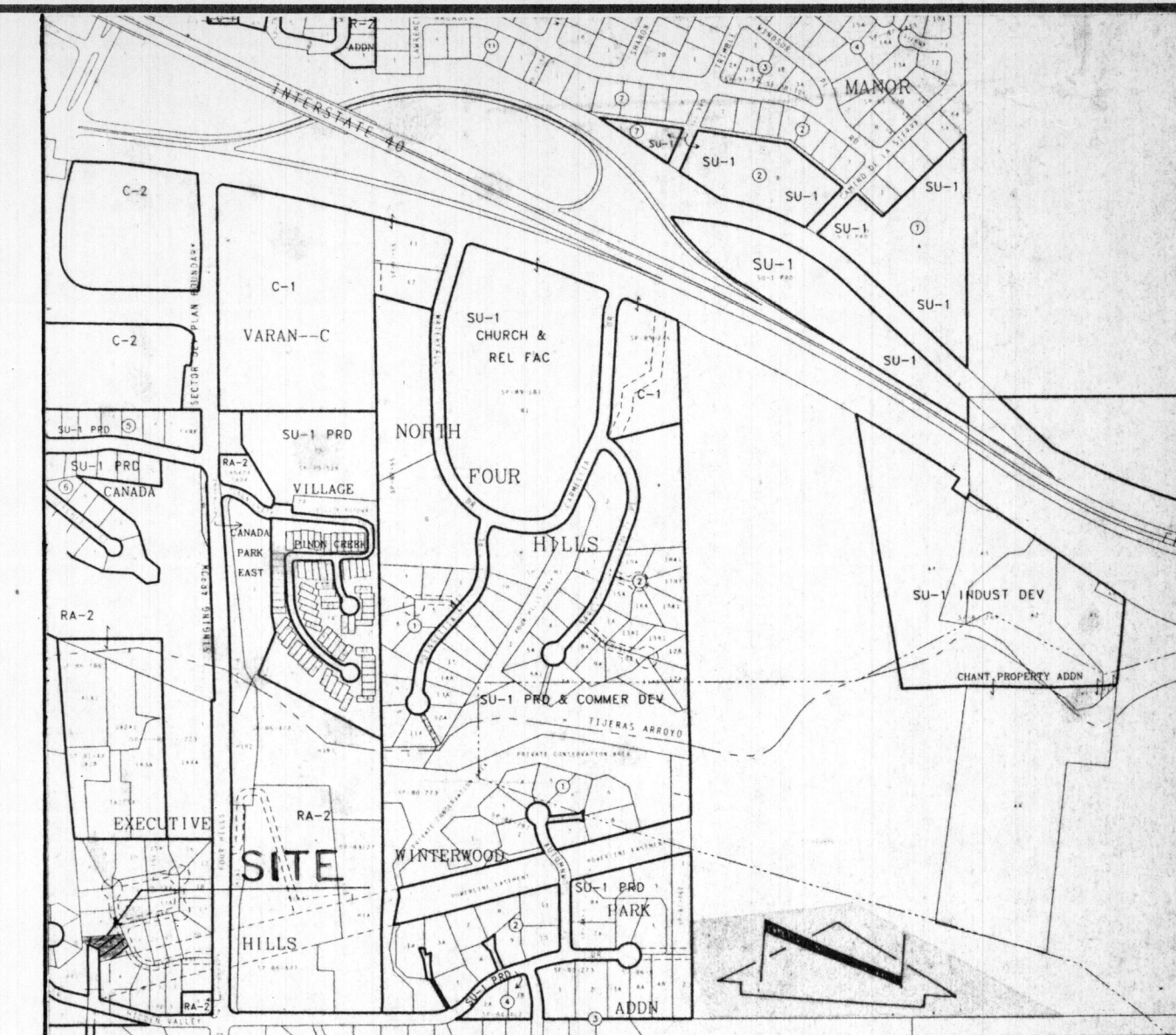
The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) the limit and character of the existing improvements, 3) the limit and character of the proposed improvements, and 4) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of the construction of a single family residential structure, along with associated paving. Landscaping will be provided immediately adjacent to the structure in the front yard area. At present, the site slopes steeply from east to west. Because of this, the stem walls of the house will need to be retaining. Retaining walls will also be required in other areas where significant grade changes are proposed. The limits of walls are shown on the grading plan. The proposed grading of the site will not alter the existing drainage pattern. The site will continue to drain from east to west. Two retention ponds have previously been constructed on this site and will not be altered by this plan.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Procedure for 40-acre and Smaller Basins, as set forth in the Revision of Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, dated January, 1993, has been used to quantify the peak rate of discharge and volume of runoff generated. As shown by these calculations, a minor increase in runoff is anticipated due to the proposed construction. The presence of the onsite downstream retention ponds will mitigate this minor increase in runoff.



**GRADING AND DRAINAGE PLAN
NARAGHI RESIDENCE**

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ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250



VICINITY MAP L-23
SCALE: 1" = 750'

Construction Notes:

1. Two (2) working days prior to any excavation, contractor must contact New Mexico One Call System 260-1990, for location of existing utilities.
2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer in writing so that the conflict can be resolved with a minimum amount of delay.
3. All work on this project shall be performed in accordance with applicable federal, state and local laws, rules and regulations concerning construction safety and health.
4. All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque Standards and Procedures.
5. If any utility lines, pipelines, or underground utility lines are shown on these drawings, they are shown in an approximate manner only, and such lines may exist where none are shown. If any such existing lines are shown, the location is based upon information provided by the owner of said utility, and the information may be incomplete, or may be obsolete by the time construction commences. The engineer has conducted only preliminary investigation of the location, depth, size, or type of existing utility lines, pipelines, or underground utility lines. This investigation is not conclusive, and may not be complete, therefore, makes no representation pertaining thereto, and assumes no responsibility or liability thereof. The contractor shall inform itself of the location of any utility line, pipeline, or underground utility line in or near the area of the work in advance of and during excavation work. The contractor is fully responsible for any and all damage caused by its failure to locate, identify and preserve any and all existing utilities, pipelines, and underground utility lines. In planning and conducting excavation, the contractor shall comply with state statutes, municipal and local ordinances, rules and regulations, if any, pertaining to the location of these lines and facilities.

6. The design of planters and landscaped areas is not part of this plan. All planters and landscaped areas adjacent to the building(s) shall be provided with positive drainage to avoid any ponding adjacent to the structure. For construction details, refer to landscaping plan.

LEGEND

- PROPOSED SPOT ELEVATION
- 5630 --- EXISTING CONTOUR
- 29 --- PROPOSED CONTOUR
- ▭ PROPOSED ASPHALT
- BOUNDARY LINE
- DIRECTION OF FLOW
- TW TOP OF WALL
- TC TOP OF CURB
- TA TOP OF ASPHALT

Site Characteristics

1. Precipitation Zone = 3
2. $P_{2.100} = P_{2.60} = 2.60$
3. Total Area (A_T) = 13470 s.f./0.31 acres
4. Existing Land Treatment

Treatment	Area (sf/ac)	%
B	3370/0.08	25.0
C	3370/0.08	25.0
D	6730/0.15	50.0

5. Developed Land Treatment

Treatment	Area (sf/ac)	%
B	1060/0.02	7.9
C	2500/0.06	18.6
D	9910/0.23	73.5

Existing Condition

1. Volume

$$E_w = (E_{wA} + E_{wB} + E_{wC} + E_{wD}) / A_T$$

$$E_w = [(0.92)(0.08) + (1.29)(0.08) + (2.36)(0.15)] / (0.31) = 1.71 \text{ in}$$

$$V_{100} = (E_w / 12) A_T$$

$$V_{100} = (1.71 / 12) (0.31) = 0.0442 \text{ ac. ft.}; 1,925 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{100} = (2.60)(0.08) + (3.45)(0.08) + (5.02)(0.15) = 1.2 \text{ cfs}$$

Developed Condition

1. Volume

$$E_w = (E_{wA} + E_{wB} + E_{wC} + E_{wD}) / A_T$$

$$E_w = [(0.92)(0.02) + (1.29)(0.06) + (2.36)(0.23)] / 0.31 = 2.06 \text{ in}$$

$$V_{100} = (E_w / 12) A_T$$

$$V_{100} = (2.06 / 12) (0.31) = 0.0532 \text{ ac. ft.}; 2,320 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{100} = (2.60)(0.02) + (3.45)(0.06) + (5.02)(0.23) = 1.4 \text{ cfs}$$

$$Q_{100} = 1.4 \text{ cfs}$$

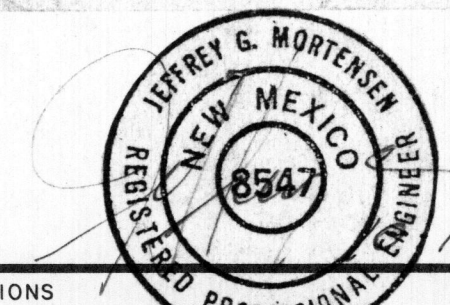
Comparison

1. $\Delta V_{100} = 2320 - 1925 = 395 \text{ cf (increase)}$
2. $\Delta Q_{100} = 1.4 - 1.2 = 0.2 \text{ cfs (increase)}$

*Q: Why submitting?
- Over 500yds flow to site?
- Offsite flows impact how do ponds function?*

Erosion Control Measures:

1. The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property.
2. The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
3. The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.
4. Any areas of excess disturbance (traffic access, storage yard excavated material, etc.) shall be re-seeded according to C.O.A. Specification 1012 "Native Grass Seeding". This will be considered incidental to construction, therefore, no separate payment will be made.



DESIGNED BY JGM	NO.	DATE	BY	REVISIONS	JOB NO.
DRAWN BY SS					940891
APPROVED BY JGM					DATE 09/94
					SHEET 1 OF 1