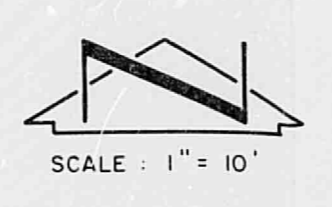


**LEGEND**  
 - - - - - EXISTING CONTOUR  
 - - - - - PROPOSED CONTOUR  
 - - - - - PROPOSED 1% SLOPE  
 - - - - - TOP OF ASPHALT  
 - - - - - TOP OF CONCRETE

**PROJECT BENCHMARK**  
 ACC. STATION 7+40.00, BEING A STANDARD  
 DRAIN CAP SET IN A DOTTED HOSE IN  
 THE SIDEWALK STATION 10+00.00  
 7+40.00, 10+00.00, & LOCATED AT THE  
 INTERSECTION OF ADJACENT LESTER RD. &  
 WINDMILL BLVD. N.E. IN THE N.E.  
 QUADRANT OF THE INTERSECTION.  
 ELEVATION = 5371.08 FEET (M.S.L.D.)

**TEMPORARY BENCHMARK**  
 TBM - AN 4" CIRCLED IN CURB, 10  
 FEET FROM THE PROJECT BENCHMARK.  
 ELEVATION = 5408.00 FT.

**LEGAL DESCRIPTION**  
 FOUR SEASONS TRACT



**DRAINAGE PLAN**  
 The following items concerning the Four Seasons-Lester Grading and Drainage Plan are contained hereon:  
 1. Vicinity Map  
 2. Grading Plan  
 3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located on the east side of Lester Street N.E. between Menaul Boulevard N.E. and Northeastern Boulevard N.E. At present, the site is developed with a building, paving and landscaping. Much of the surrounding area is currently developed, thereby making this a modification to an existing site within an infill area. The proposed improvements consist of a 570 square feet addition to the existing building, the removal and addition of sidewalk and landscaping.

As shown by Panel 24 of the Federal Emergency Management Agency Flood Boundary and Floodway Map, dated October 14, 1983, this site does not lie within a designated Flood Hazard Zone. Furthermore, the site does not appear to contribute runoff to an existing flood hazard area. Due to the fact that this is an infill site, that this is an existing site, the fact that this site does not contribute runoff to an existing flooding problem, the negligible increase in runoff demonstrated by the calculations, the free discharge of runoff from this site is appropriate.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 2'0" intervals, 2) continuity between existing and proposed grades, and 3) the limit and character of the proposed improvements. Flows generally flow from east to west. Offsite flows from the north, east, and south are contained in Lester Street N.E., hence offsite flows are not a concern. There is an increase of approximately 770 square feet of impervious surface as a result of the proposed construction. This results in a negligible increase in runoff because the grass provides a surface which will retain runoff. The negligible increase in peak runoff will not adversely affect the existing drainage from this area, will not increase the peak runoff rate, and will not increase the volume of runoff. The negligible increase in peak runoff will not increase the volume of runoff. The negligible increase in peak runoff will not increase the volume of runoff.

The calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The discharge and the SCS Method has been used to quantify the volume of runoff. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, and the City of Albuquerque Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed improvements will result in a negligible net increase in peak runoff by 0.1 cfs.

**CALCULATIONS**

**Ground Cover Information**  
 From SCS Bernalillo County Soil Survey, Plate 31: ETC - Embudo - Tijeras Complex Hydrologic Soil Group: B  
 Existing Pervious CM = 61 (DPM Plate 22.2 C-2)  
 Open Spaces, Lawns: good condition  
 Developed Pervious CM = 61 (DPM Plate 22.2 C-2)  
 Open Spaces, Lawns: good condition

**Time of Concentration/Time to Peak**  
 $T_c = 0.0078 L^{0.777} S^{0.385}$  (Kirpich Equation)  
 $T_p = T_c = 10$  min.

**Point Rainfall**  
 $P_6 = 2.39$  in. (DPM Plate 22.2 D-1)

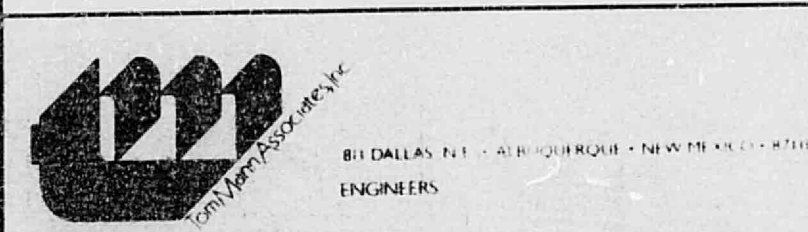
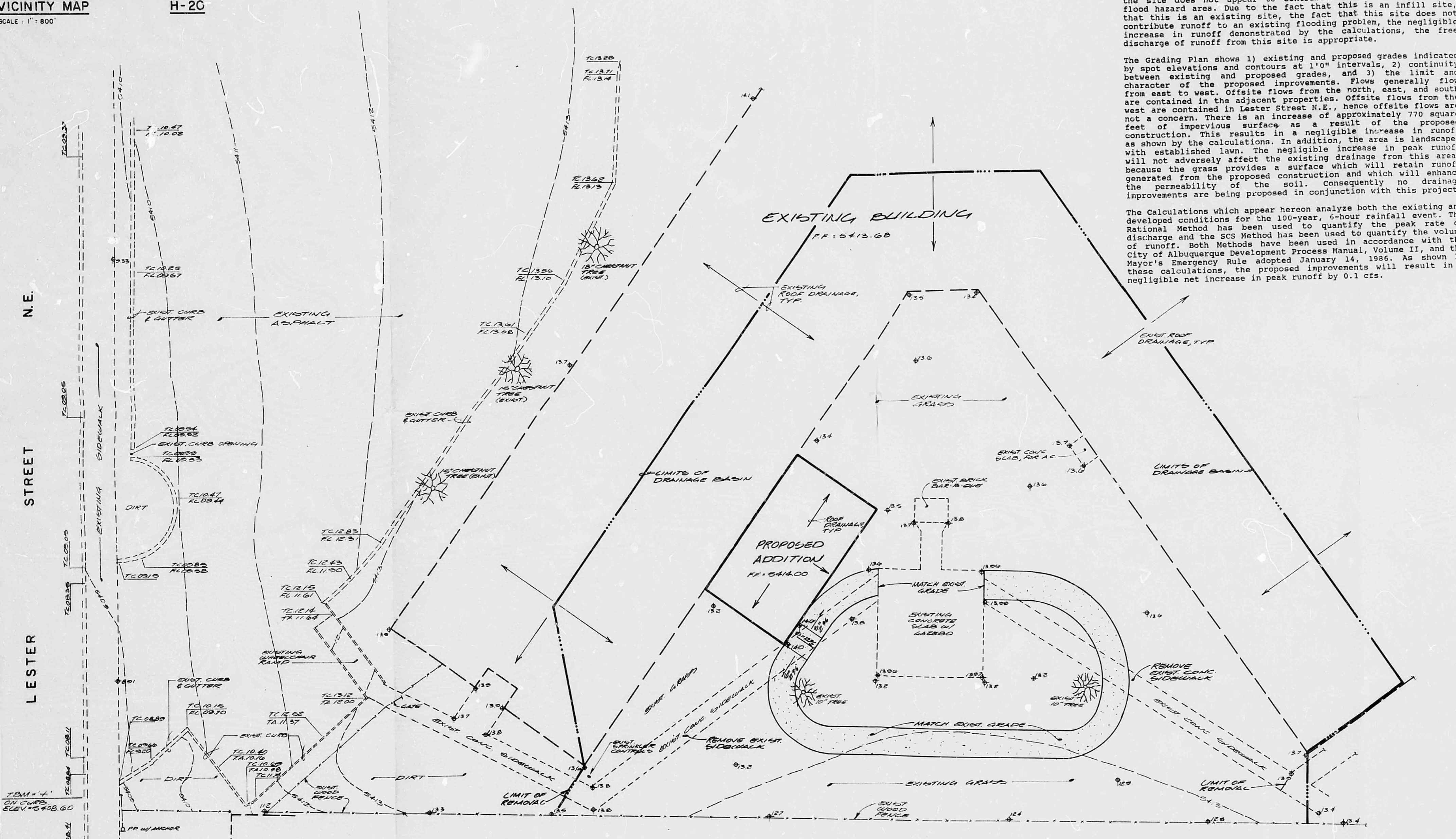
**Rational Method**  
 Discharge:  $Q = CIA$   
 where C varies  
 $i = P_6 (6.84) T_c^{-0.51} = 5.05$  in/hr  
 $P_6 = 2.39$  in (DPM Plate 22.2D-1)  
 $T_c = 10$  min (minimum)  
 A = area, acres

**SCS Method**  
 Volume:  $V = 3670(DRO)A$   
 Where DRO = Direct runoff in inches  
 A = area, acres

**Existing Condition**  
 Atotal = 13,115 sf = 0.30 Ac  
 Roof area = 5,470 sf (0.42)  
 Paved area = 650 sf (0.05)  
 Landscaped area = 6,995 sf (0.53)  
 $C = 0.56$  (Weighted average per Emergency Rule, 1/14/86)  
 $Q_{100} = CIA = 0.56(5.05)(0.30) = 0.8$  cfs  
 $A_{imp} = 6,130$  sf; % impervious = 47 %  
 Composite CM = 78 (DPM Plate 22.2 C-3)  
 $DRO = 0.72$  in (DPM Plate 22.2 C-4)  
 $V_{100} = 3630 (DRO)A = 785$  cf

**Developed Condition**  
 Atotal = 13,115 sf = 0.30 Ac  
 Roof area = 6,040 sf (0.46)  
 Paved area = 880 sf (0.07)  
 Landscaped area = 6,215 sf (0.47)  
 $C = 0.60$  (Weighted average per Emergency Rule, 1/14/86)  
 $Q_{100} = CIA = 0.60(5.05)(0.30) = 0.9$  cfs  
 $A_{imp} = 6,900$  sf; % impervious = 53 %  
 Composite CM = 80 (DPM Plate 22.2 C-3)  
 $DRO = 0.81$  in (DPM Plate 22.2 C-4)  
 $V_{100} = 3630 (DRO)A = 880$  cf

**Comparison**  
 $\Delta Q_{100} = 0.9 - 0.8 = 0.1$  cfs (increase)  
 $\Delta V_{100} = 880 - 785 = 95$  cf (increase)



**GRADING & DRAINAGE PLAN**  
**FOUR SEASONS-LESTER BLDG. ADDITION**

DESIGN BY	P.M.L.	DATE	1-1988	REVISION		JOB NO.	871431
DRAWN BY	C.V.M.					DATE	1-1988
APPROVED BY	J.G.M.					SHEET	1

