Fig. 9.9 East trending concrete sidewalk at UCSB Married Student Housing on Los Carneros Road. (View from east.)

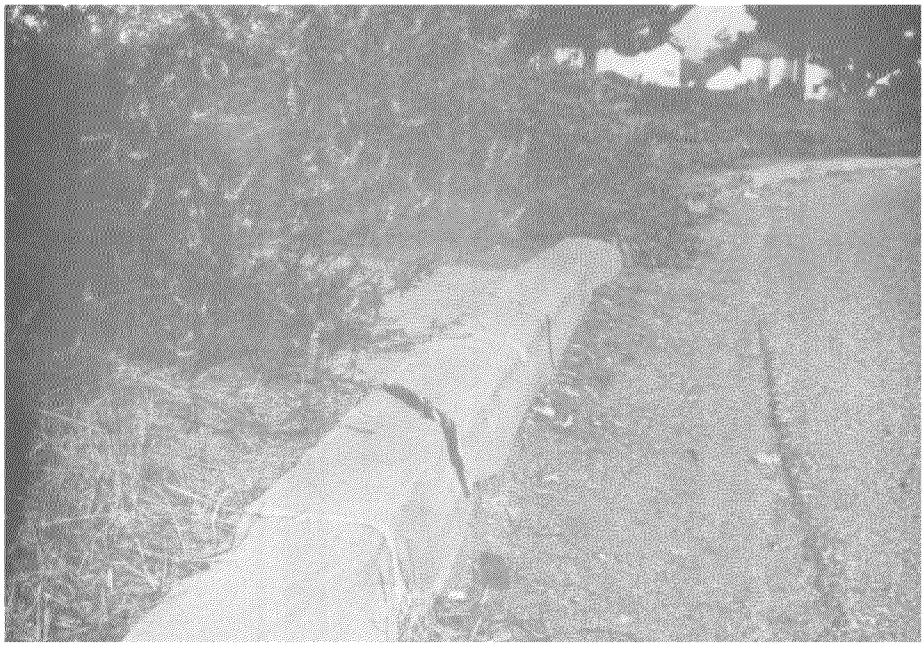

Fig. 9.10 Close up of curb push out shown in Fig. 9.9. (View from south.)

Horizontal lurching evidently thrust this sidewalk toward the pavement, fracturing the curb as shown in Fig. 9.10. An inspection of the surrounding area again revealed no evidence of surface ruptures or other damage to pavement or soil.

It has been reported that the train derailment near Hollister Avenue and U.S. Highway 101 in Goleta resulted from failure of a fill. The amount of lateral spreading was sufficient to cause a kink in the tracks which was noted by the railroad engineer as he approached it at 50 miles per hour.

At the facilities of Delco Electronics near the UCSB Married Student Housing shown in Figs. 9.9 and 9.10, an accurate triangulation was performed to check for relative soil displacements caused by the earthquake. The results of this survey showed that no such displacements occurred in this area.

9.2 Effects on Dams

Several dams are located in the mountains near Santa Barbara (see Fig. 9.11). As noted in Chapter 3, very small accelerations were recorded by strong motion instruments in the valve house and at the crest of Bradbury Dam (Lake Cachuma) and by instruments at Juncal Dam (Jameson Lake) and Gibraltar Dam (Gibraltar Reservoir). The accelerograph at Casitas Dam did not trigger, but was fully operational.

Except for minor damages to a few valves, no significant damage was reported at any of the dams. However, a substantial increase in the rate of ground water inflitration into the Tecelote Tunnel was reported. This tunnel, which runs from Lake Cachuma through the Santa Ynez Mountains to Goleta, is a major artery in the water distribution system for Goleta, Santa Barbara, and Carpinteria. Accurate measurements of the change in the rate of inflow are not yet available. Similar increases in the rate of inflow into the Doulton and Mission Tunnels were also reported. These tunnels supply south coast water from Jameson Lake and Gibraltar Reservoir, respectively.

The water behind earth-fill Sheffield Dam had to be lowered to allow repair of an earthquake-damaged valve. The dam itself was not damaged, although it has received damage in past earthquakes.

9.3 Acknowledgments

The comments of Professor A.G. Sylvester of the Department of Geological Sciences of the University of California, Santa Barbara, are gratefully acknowledged. Also acknowledged is the cooperation of the Cachuma Operation and Maintenance Board and the Montecito County Water District, the City of Santa Barbara and the Goleta County Water District in providing information on the performance of dams and aqueducts during the earthquake.

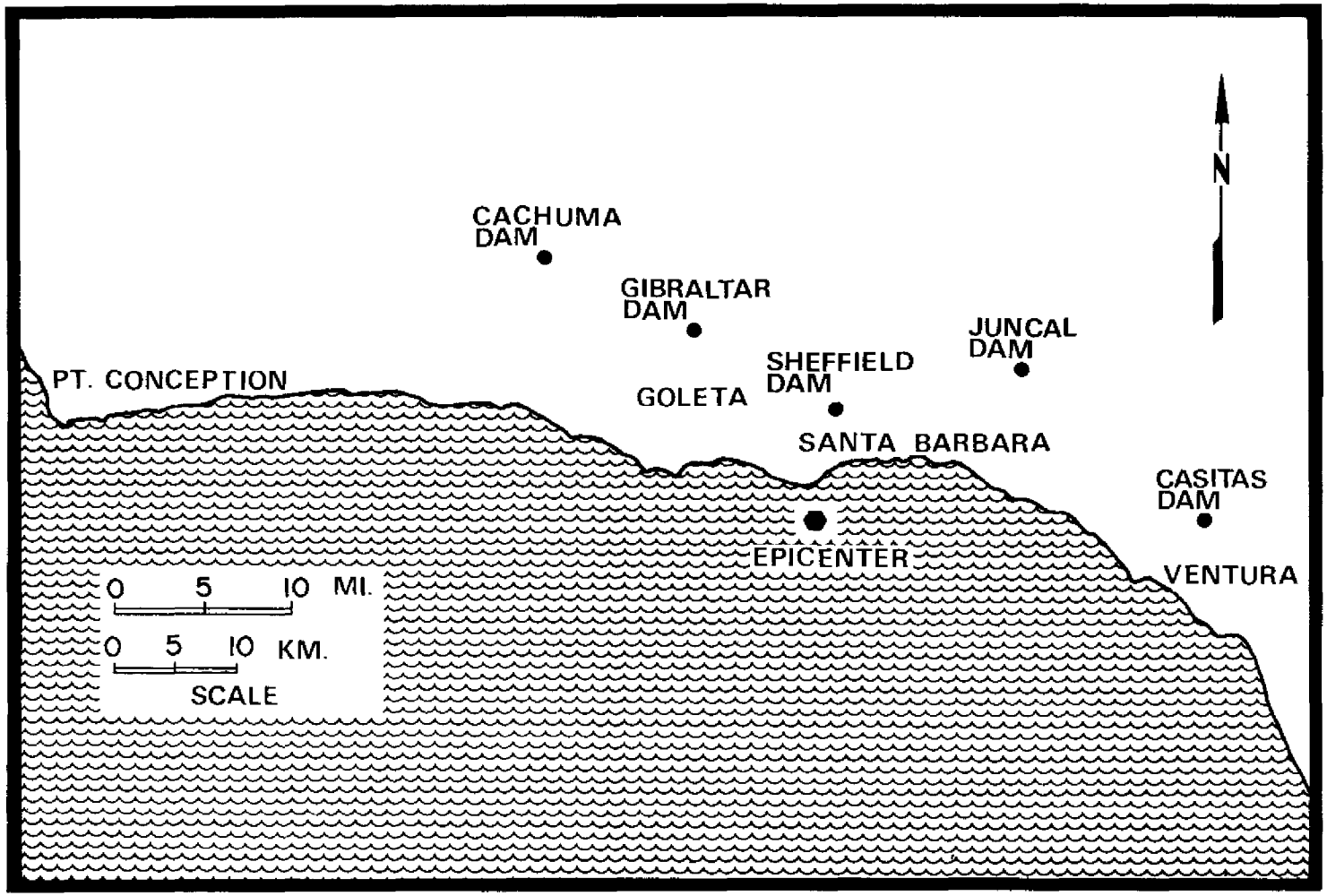

Fig. 9.11 Location of Dams in the Santa Barbara area