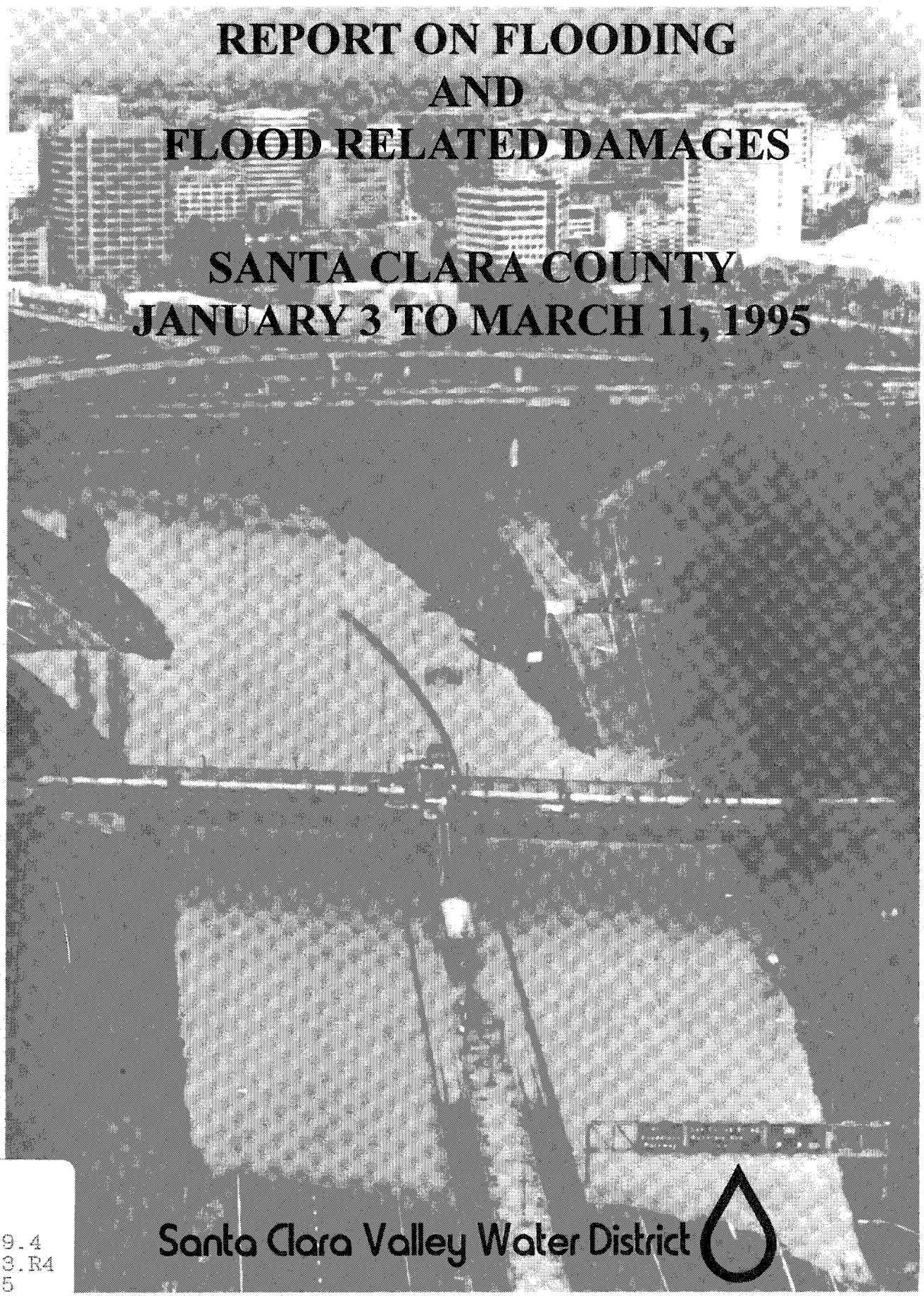
REPORT ON FLOODING AND FLOOD RELATED DAMAGES

SANTA CLARA COUNTY JANUARY 3 TO MARCH 11, 1995



Santa Clara Valley Water District

REPORT ON FLOODING AND FLOOD RELATED DAMAGES IN SANTA CLARA COUNTY JANUARY AND MARCH 1995

Prepared by

Flood Control Planning Division

and

Hydrologic Systems Section

with assistance from

Hydrology Division

DECEMBER 1995

R10130

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INTRODUCTION

Significant flooding occurred in Santa Clara County as a result of the storms of January 9 to 10, 1995, and March 9 to 11, 1995. The Mayor of San Jose declared a state of emergency and the President of the United States declared Santa Clara County a federal disaster area for both storms.

The January storm caused flooding in many areas of the county. In the northwest portion of the county Adobe, Barron, Permanente, San Francisquito, and Hale Creeks overflowed and caused property damage in the cities of Los Altos, Los Altos Hills, and Palo Alto. In the central area of the county floodwaters from Guadalupe River, Calero, Canoas, and Ross Creeks caused extensive property damage in the City of San Jose and flooded Highway 87. In the south part of the county overbanking on Llagas Creek and its tributaries caused property damage in the cities of Morgan Hill and Gilroy. On the east side of the valley flooding from Upper Penitencia Creek caused property damage in the City of San Jose.

Rain running off mountain sides in January helped increase water storage in Santa Clara Valley Water District (District) reservoirs by almost 80,000 acre-feet. Almost 30,000 acre-feet were gained between the mornings of January 9 and 11. The surface of Lexington Reservoir rose 28 feet in 2 days. Almaden, Stevens Creek, and Vasona Lake Reservoirs filled and spilled during the storm.

The March storm caused additional flooding in Santa Clara County. Flows overtopped the banks of the Guadalupe River contributing to flooding in portions of San Jose. Flooding was also reported along many creeks in the southern areas of the county.

In these storms overbanking on creeks was the primary factor for flooding. In some cases, however, streets were unable to drain due to high water in creeks causing a backup of the storm drain system. Flooding was also the result of ponding caused by natural land contours. The approximate flooded areas were mapped and are included in this report to provide only general flooding information. In addition to the maps a few representative pictures are included.

Generally, the statistical recurrence frequencies of peak flows for the creeks that flooded in the two storm periods varied from less than 5 to 50 years. A 100-year criterion is commonly used for flood protection design. It is estimated that damages would approach $2 billion in Santa Clara County as a result of the 100-year flood, or one percent event.

Throughout the report, reference is made to "4-year floods", "10-year floods," or "100-year floods." This is a shorthand description of flood events and does not mean that flooding will occur every 4 years, 10 ten years, or 100 years, but rather that this frequency of occurrence could be expected statistically on the average over a period of many years. The frequency is also often expressed as a percentage. A 100-year flood is said to be a one percent flood—a flood having a one percent chance of occurring in any year.

Rainfall and streamflow data for the above storm periods, along with historical data for the District precipitation and streamflow stations, are contained in Tables 1, 2, and 3.

The District owns and operates 10 reservoirs in Santa Clara County having a combined storage capacity of about 170,000 acre-feet. These reservoirs were authorized and built for the purpose of conserving local water resources. The reservoirs have spillways designed to safely carry into the creek channels high flows which would otherwise overtop the dams. During the 1995 storms, these reservoirs substantially reduced the flood peaks. An empty reservoir, or one partially full, will obviously hold back some of the

flood flows from upstream but even a full reservoir has a flood attenuating function. The water flowing into it cannot move through and out the spillway until it has ponded—spread out over the surface of the lake—and thus raised the whole lake level. The result is a delay and a reduction (attenuation) of peak flows downstream of the reservoir. Often reservoirs can eliminate the flood threat but at the very least they will attenuate the flood stage. The flooding in March reportedly caused less than $10 million damage after the reservoirs in the Guadalupe watershed filled and spilled. Without the reservoirs in place a free-flowing Guadalupe River could have caused an estimated $135 million damage. The effect of the Anderson-Coyote system is even more dramatic. If the reservoirs had not been in place to absorb the floodwaters on March 10 the Coyote Creek would have experienced near record flows and caused in excess of an estimated $300 million damage. Although built and operated for water conservation purposes the District's reservoirs are an integral part of the flood protection system in Santa Clara County.

WEATHER

In January, a series of winter storms battered California. The storms were warmer than usual and therefore carried a great deal of moisture. The jet stream, an upper-atmosphere narrow band of strong wind, guided the storms straight across the Pacific Ocean into California. On Monday, January 9, 1995, a flood advisory was issued by the National Weather Service for Santa Clara County. In this county, the most rainfall was centered around Mt. Umunhum, above the Guadalupe watershed in the Santa Cruz Mountains, as illustrated by Figure 1. The weather station in downtown San Jose recorded over three times its average for the month of January, an indication of the heavy rainfall.

In March, California again experienced strong storms. On Thursday, March 9, 1995, a flood watch was issued for Santa Clara County by the National Weather Service. In Santa Clara County, rainfall was heaviest in the Santa Cruz Mountains. Mt. Umunhum again recorded the highest rainfall. Rainfall for March 9 and 10 is illustrated on Figure 2.

Rainfalls and streamflow data for the storms are contained in Tables 1 through 4, along with analysis of the statistical return periods.

STORM OF JANUARY 9-10, 1995

The January storm was one of the wettest weeks on record in the Bay Area and around the state. From January 9-10, 1995, the amount of rainfall recorded in Santa Clara County ranged from 1 to 7.58 inches in 24 hours. Rainfall intensities varied to a 44-year return period. Estimated damages were $3 million for the county, with more than 150 homes damaged by flooding or downed trees. By late evening of January 9, mudslides and torrents of rain had closed sections of several major highways and forced evacuation.

NORTHWEST ZONE

Adobe Creek

Floodwater overbanked in Redwood Grove, Shoup Park, upstream and downstream of Burke Road, and upstream and downstream of West Edith Avenue. Robleda Drain, a local drainage facility tributary to Adobe Creek which enters approximately 700 feet downstream of West Edith Avenue, flooded when it became blocked with debris. The floodwaters flowed through two houses, over Fremont Road, and onto property adjacent to Adobe Creek. Overbanking from Adobe Creek downstream of West Edith Avenue added to the flooding from Robleda Drain. This flooding and the high waters in Adobe Creek caused approximately 100 feet of wooden retaining wall adjacent to the creek to fail during the storm.

Hale Creek

Water overbanked and rushed over Covington Road in Los Altos.

San Francisquito Creek

Minor flooding occurred downstream of Highway 101 in Palo Alto,

Barron Creek

Minor flooding occurred at Laguna Avenue in Palo Alto.

Permanente Creek

Permanente Creek overflowed its banks causing damage to two units of an apartment building on Park Drive in Mountain View. The flood water in the apartments rose to a level of about 2 feet and also inundated the adjoining garage, driveway, and parking area.

CENTRAL ZONE

Guadalupe River

Guadalupe River spilled over its banks on the night of January 9 at three locations in central San Jose: along River Street; at Virginia Street, where water flowed onto Highway 87; and near Alma

Avenue. The water raged beneath the St. John Street bridge in downtown San Jose at 8,950 (est.) cubic feet per second—a rate not seen in nearly 40 years.

On the night of January 9 from Virginia Street to Alma Avenue in the Gardener district, which is along Highway 87 and the Guadalupe River, the water reached depths of 15 feet. On Belmont Way in San Jose, fire fighters used at least one raft to help evacuate residents while others swam out. Red Cross shelters were prepared at three San Jose high schools and the City of San Jose set up five locations to distribute sandbags.

The river also spilled over its banks south of Interstate 280 and forced its way into homes and pushed cars along sidewalks. Highway 87 was under 6 feet of water from the northbound connector with Interstate 280 to south of the Virginia Street overpass, closing the highway and disrupting travel for thousands of commuters. Water overtopped the riverbanks, seeped through the embankments and cascaded on to Highway 87. The light rail tracks were also submerged in the median of the highway. Sandbags were placed along the banks of the nearby Guadalupe River and emergency stabilization measures were required to protect the highway embankment from collapse. The cleanup cost was estimated to be $100,000. The southbound lanes of Highway 87 were finally opened for the afternoon commute of January 11 and the northbound lanes were opened the morning of January 12.

Ross Creek

Overbanking occurred at Cherry Avenue along Montmorency Drive and at Jarvis Avenue in San Jose.

Canoas Creek

Overbanking occurred at four locations in San Jose: Redbird Drive, Kingfisher Drive, Calero Avenue, and Blossom Avenue.

Calero Creek

Overbanking occurred at McKean Road in San Jose.

EAST ZONE

Upper Penitencia Creek

Floodwaters overbanked the creek at three locations in San Jose: along Penitencia Creek Road at Toyon Avenue; upstream of Heatherfield Lane; and downstream of King Road.

SOUTH ZONE

West Little Llagas Creek

On January 9 West Little Llagas Creek flooded the Maple Leaf recreational-vehicle park in Morgan Hill. The park was covered by as much as 3 feet of water in some spots.

STORM OF MARCH 10, 1995

In March, heavy rainfall caused flooding throughout the Bay Area and around the state. In Santa Clara County peak 48-hour rainfall ranged up to 12 inches. Several major highways were again closed. Damage estimates for the March event were over $6,000,000.

NORTHWEST ZONE

Hale Creek

Covington Road, in the Town of Los Altos, was closed to traffic due to flooding from Hale Creek. District crews worked to clear the Covington Road culvert of debris, but the culvert could not handle the volume of water. Some property owners were asked by police to evacuate when their homes were threatened by flood waters.

CENTRAL ZONE

Guadalupe River

On March 10, 1995, Guadalupe River carried more water through downtown San Jose than any previous flood of record. The river overbanked the easterly levee between Alma Street and the Union Pacific Railroad bridge in San Jose, flooding the Elks' Lodge property and Alma Street. Floodwaters followed the existing topography downstream flooding Willow Street and properties on McLellan Avenue and Harliss Avenue. Properties on Belmont Way were also flooded. Guadalupe River spilled upstream of Virginia Street and upstream of Jerome Street flooding Highway 87. Homes along Virginia Street and St. John Street were evacuated due to flooding. Homes and businesses along River Street were flooded for the second time since January. Hotels and new offices needed sandbags to prevent floodwaters from entering the buildings. Downtown museums, the county government building, and the courts all closed to evacuate workers when the surrounding streets flooded. Water continued up San Pedro Street to Hedding Street threatening many older homes and depositing mud and silt everywhere. The water flowed east to Sixth Street, entering many buildings in the commercial area, and disrupting traffic and businesses. First Street was deep in water from south of Taylor Street to Hedding Street.

EAST ZONE

Fisher Creek

Local drainage problems were experienced along Caprista Court, Blossom Court, and Boulay Court and surrounding neighborhoods.

SOUTH ZONE

Rucker Creek and Skillet Creek

Rucker Creek overflowed its banks causing sheetflow over Omar Street onto private property and into Llagas Creek. Overbanking from Skillet Creek was observed sheeting over Foothill Blvd. into Llagas Creek and across Buena Vista Avenue into Llagas Creek. Water surrounded one home and some out-buildings on Buena Vista Avenue.

Burchell Creek

Burchell Creek flooded upstream of Burchell Road. Flow entered the box culvert under Burchell Road and was contained in the channel downstream.

Uvas Creek

For approximately 1,600 feet, Uvas Creek overflowed its banks 1,000 feet upstream of the confluence of Uvas Creek and Burchell Creek. For about 2,000 feet upstream of Uvas Road to 1,000 feet downstream of Uvas Road (by Thousand Trails Recreational Vehicle Park) flows from Uvas Creek overtopped existing banks and spread across the floodway and over Uvas Road bridge through Thousand Trails Recreational Vehicle Park. The flow was cresting about 2 feet over the park bridge entrance at the west side of the park.

Day Creek

Water flowing along Day Road into Day Creek flooded onto adjacent property. The intersection of Day Road and Santa Teresa Boulevard flooded.

West Branch Llagas Creek

Overbanking occurred on the east bank of West Branch Llagas Creek for 1,400 feet upstream of Day Road flooding adjacent agricultural land.

West Little Llagas Creek

Flows broke out of West Little Llagas Creek at several locations between Southern Pacific Railroad and La Crosse Drive. The Maple Leaf Recreational Vehicle Park on Monterey Road was flooded to a depth of approximately 2 feet. Flows also broke out causing flooding on Wright Avenue and on an adjacent open field. Also, there were pockets of flooding upstream of Hale Avenue and upstream and downstream of Llagas Road.

East Little Llagas Creek

Overbanking occurred on East Little Llagas Creek at several locations between Southern Pacific Railroad and Highway 101 flooding agricultural land.

DAMAGE ASSESSMENT SUMMARY

Preliminary estimates of damages by the Santa Clara Office of Emergency Services were $3,000,000 for the January event and $6,369,000 for the March event. The last situation summary and damage estimates for each event are attached in Appendix 1 (No.5, dated January 11, 1995; and No. 7, dated March 20, 1995).

The District's preliminary estimate of claims it will submit for emergency response and debris removal to the Federal Emergency Management Agency is $500,000 from the January event and $1,500,000 from the March event. Claims of approximately $1,000,000 will be submitted for emergency related permanent repair work such as erosion control and sediment removal. Additionally, the District identified several facilities which needed hazard mitigation work to restore design capacity. Estimates for this work, which was completed during the summer and fall were:

Guadalupe River	$1,500,000
San Tomas Aquino Creek	$565,000
Canoas Creek	$150,000
Coyote Creek	$100,000

TABLE 1

RAINFALL AMOUNTS AND RETURN PERIODS IN SANTA CLARA COUNTY FOR THE JANUARY 8 - 12, 1995 EVENT

STATION	6 HOURS		24 HOURS		48 HOURS	
	INCHES*	YEARS**	INCHES*	YEARS**	INCHES*	YEARS**
San Jose City	1.4	2-5	2.44	21	2.68	4
Alamitos	2.04	10	3.4	17	4.56	14
Johnson	2.36	15-20	5.2	44	6.96	34
Mt. Umunhum	3.82	15-20	7.58	30-40	10.38	60-70
Lexington	2.24	2	4.68	2	5.92	2
Almaden	3.16	15	6.11	37	7.59	16
Calero	2.51	2	5.35	26	6.27	12
Loma Prieta	2.24	2	4.32	2	5.52	2
Palo Alto	1.55	11	2.27	5	2.43	3
Dahl	1.99	-	4.11	6	5.51	5
Maryknoll	1.52	6	3.48	19	4.4	10
Mt. View	0.84	-	1.44	2	1.72	2
West Yard	1.4	5	2.88	7	3.84	8
Stevens Creek	2.2	4	2.84	2	3.96	2
Saratoga Gap	2.07	-	4.07	2	5.07	2
Valley Christian	2.07	2	2.96	2	4.64	2
Penitencia	1.08	3	2.16	8	2.32	4
Mt. Hamilton	1.56	2	3.84	8	5.16	8
Haskins	1.6	5	2.56	4	2.88	3
Evergreen	1.36	-	2.2	5	2.48	3
U.T.C.	1	2	1.71	2	1.75	2
Anderson	1.84	7	3.32	10	3.72	4
Coe Park	1.88	-	3.32	4	3.88	3
Coit	1.8	-	2.96	4	3.32	2
Peabody	1.47	5	1.63	2	1.71	<2

* Total rainfall received over 6, 24, or 48 hour period. ** Return period (average frequency of occurence).

TABLE 2

RAINFALL AMOUNTS AND RETURN PERIODS IN SANTA CLARA COUNTY FOR THE MARCH 8 - 12, 1995 EVENT

STATION	6 HOURS		24 HOURS		48 HOURS	
	INCHES*	YEARS**	INCHES*	YEARS**	INCHES*	YEARS**
San Jose City	0.87	2	1.61	2	3.07	8
Alamitos	1.42	4	2.87	7	5	20
Johnson	1.7	4	3.51	6	6.85	29
Mt. Umunhum	2.87	4	6.38	13	12.13	N.A.***
Lexington	1.73	<2	4.1	2	7.48	5
Almaden	1.66	<2	3.82	3	6.89	9
Calero	1.81	3	3.9	6	6.81	19
Loma Prieta	1.77	<2	4.72	2	7.67	4
Palo Alto	0.9	2	1.38	2	2.44	4
Dahl	1.89	3	3.98	4	6.93	18
Maryknoll	1.57	8	2.6	5	5.04	20
Mt. View	0.59	<2	1.22	<2	2.16	3
West Yard	1.3	4	2.4	4	4.64	18
Stevens Creek	2.01	3	3.82	3	6.65	8
Saratoga Gap	1.33	-	3.55	<2	5.94	<2
Valley Christian	2.99	5	6.03	5	11.81	43
Penitencia	0.9	<2	1.54	3	2.56	7
Mt. Hamilton	1.38	<2	3.42	5	5.4	7
Haskins	0.94	<2	1.77	<2	2.99	3
Evergreen	0.98	-	1.81	3	2.99	7
U.T.C.	1.14	3	2.4	6	4.49	20
Anderson	1.38	2	3.19	9	4.65	13
Coe Park	1.38	<2	2.8	2	4.49	4
Coit	1.93	10	3.82	17	5.24	18
Peabody	1.3	3	2.52	4	3.54	6

*Total rainfall received over 6, 24, or 48 hour period. **Return period (average frequency of occurence).
***Not available

TABLE 3
Historic Maximum Rainfall Events

Station No.	Name	24-Hour Duration			
		Depth (in)	Year	Frequency (yr)	No. Years of Record
1453	San Jose City	4.55	1911	154	93
2099	Palo Alto	3.7	1967	141	39
2073	Anderson Reservoir	6	1963	145	42
2066	Johnson Ranch	5.8	1968	47	24
1523	Peabody	4	1956	39	60

TABLE 4

Preliminary Peak Flow Values for Various Streams in Santa Clara County During 1994-95

Flow in Cubic Feet per Second

Stream Gage # and Location		Preliminary Peak Flow		Return Period (Years)		1% Event	10% Event	Historic Peak		Records
		Jan. 8-12	Mar. 9-14	January	March	Flow (cfs)	Flow (cfs)	Flow (cfs)	Date	Began
1	Penitencia @ Piedmont	830	342	5	2	4,500	1,500	2,200	4/2/58	1939
16	Alamitos below Almaden Dam	1,200	854	9	6	3,500	1,300	2,000	12/23/55	1939
17	Guadalupe below Dam	22	648	2	50	920	230			1942
23b	Guadalupe @ Almaden Expy.	8,470	5,590	14	6	14,300	7,200	8,400	1/22-30/83	1975
25	Saratoga @ Pruneridge	245	903	1	1	4,100	2,700	2,300	02/19/80	1939
26A	Calabazas @ Wilcox	1,680	1,870	3	4	3,800	2,500	2,540	01/14/78	1976
33	Hale near Magdalena	8	152	1	2	1,100	460			1946
32A	Permanente @ Berry	562	387	2	2	2,800	1,500			1962
44	Stevens below Dam	104	1,040	1	2	5,500	2,800	1,420	12/23/55	1930
51	Ross @ Cherry	910	935	2	3	2,200	1,500	1,550	1/30/68	1957
58	Coyote @ Edenvale	1,840	1,240	4	3	15,000	4,800	10,000	02/10/22	1916
59	Los Gatos @ Lark	596	1,570	4	10	7,000	1,600	2,800	2/19/86	1970
67	Los Gatos Below Lexington	335	1,910	3	13	6,600	1,600	3,540	04/02/58	1930
69	Llagas Creek Below Chesbro	571	934	11	17	3,900	500	3,190	4/2/58	1950
77	Coyote above Coyote Dam	7,630	13,900	8	25	21,800	8,600			1983
81	Pacheco near Dunville	1,940	12,500	2	13	24,700	11,400			1983
82	Coyote near Madrone	19	450	3	4	15,000	550	25,000	*03/07/11	1902
83	Upper Pennitencia @ Dorel	1,280	396	10	3	4,300	1,300			1988
91	Saratoga @ Saratoga-USGS	867	1,200	3	4	3,500	1,900	2,730	12/22/58	1933
93	San Franciscquito-USGS	824	2,010	1	3	8,300	4,300	5,560	12/22/55	1930

NOTE: All 1% and 10% flow rates are based on the 1976 Design Flood flows Manual

* Historic peak was recorded before Anderson & Coyote Dam were built.

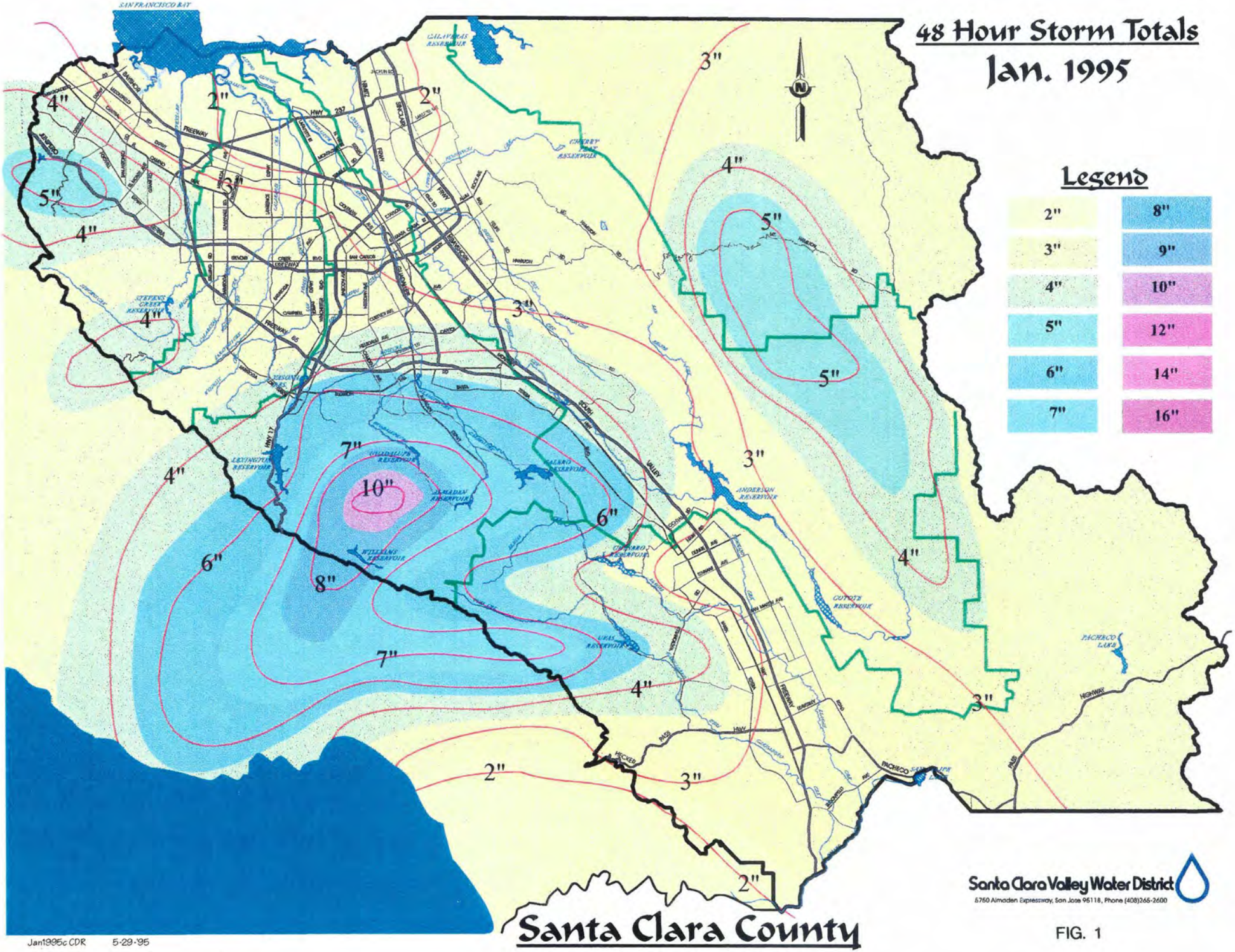
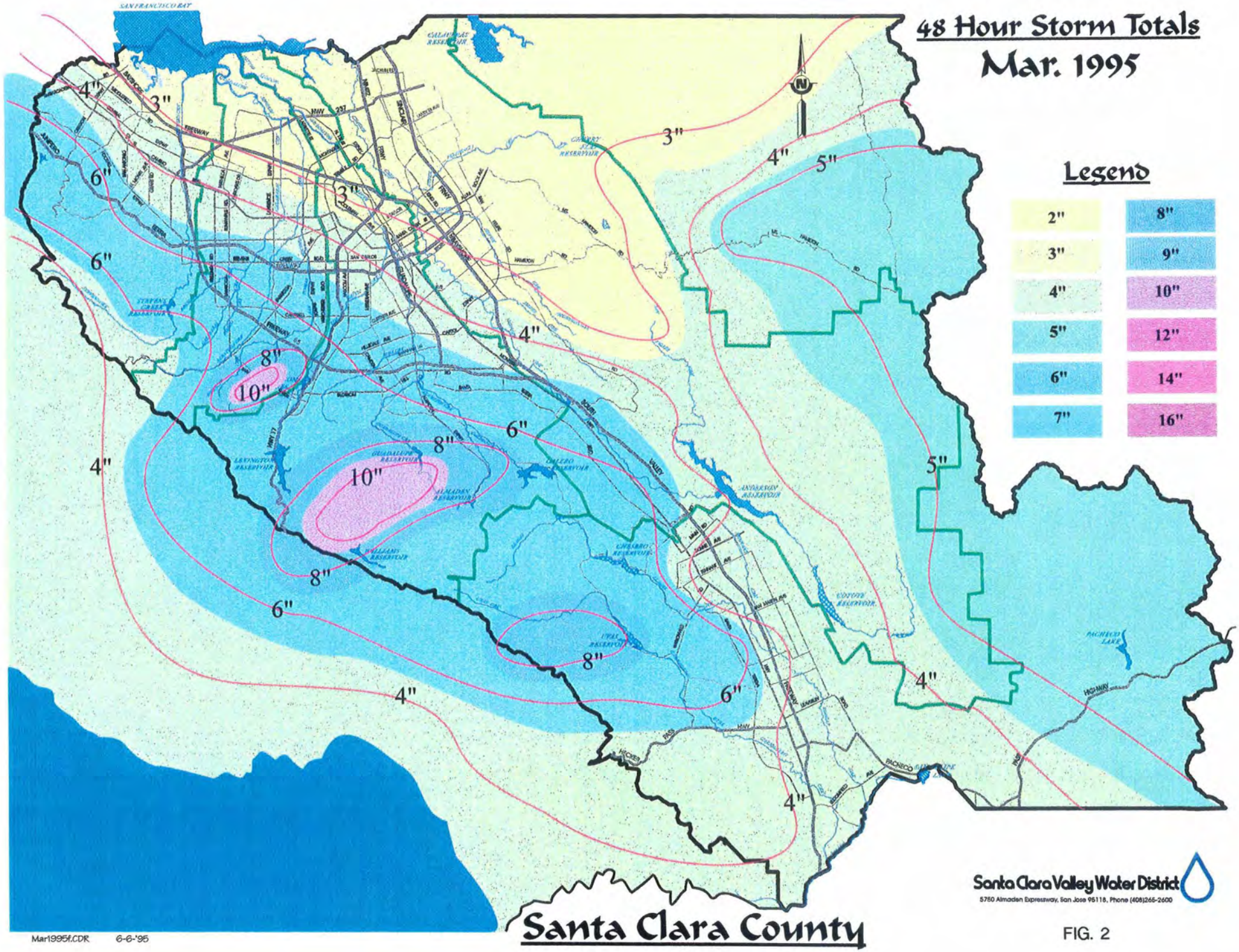

48 Hour Storm Totals
Jan. 1995
Legend
2"
3"
4"
5"
6"
7"
8"
9"
10"
12"
14"
16"
Santa Clara County
Santa Clara Valley Water District
5750 Almaden Expressway, San Jose 95118, Phone (408)265-2600
Jan1995c CDR 5-29-95

FIG. 1


48 Hour Storm Totals
Mar. 1995
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2"
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Santa Clara County
Santa Clara Valley Water District
5750 Almaden Expressway, San Jose 95118, Phone (408)265-2600
Mar1995f.CDR 6-6-'95

FIG. 2

Guadalupe River
(Near St. John)

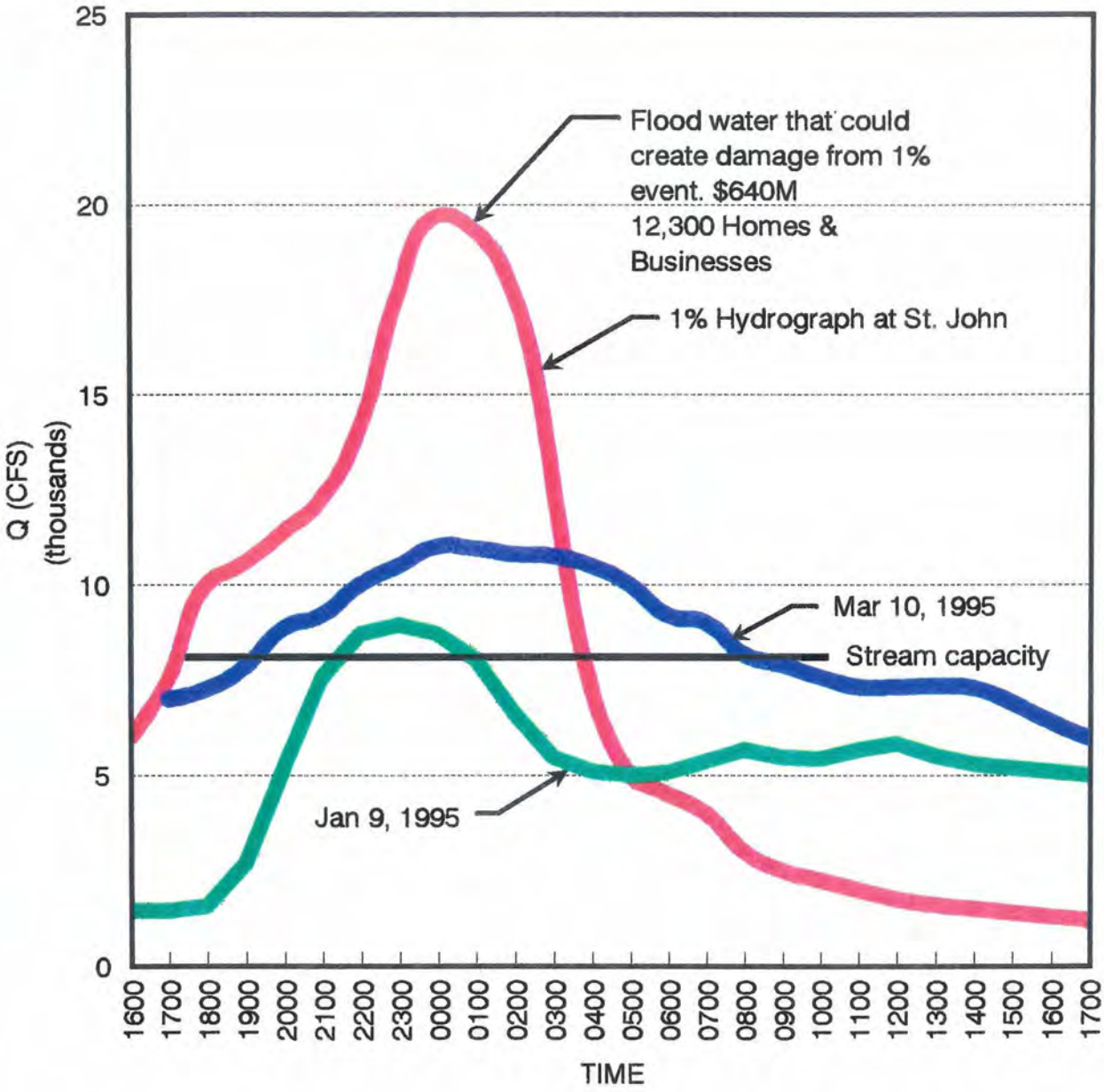


FIGURE 3

APPENDIX A

SITUATION SUMMARY AND DAMAGE ESTIMATES FROM THE SANTA CLARA COUNTY OFFICE OF EMERGENCY SERVICES

Santa Clara County Office of Emergency Services
(408) 299-3751

Situation Summary #5: January 11, 1995, as of 12:00 pm

Event: Winter Floods, 1995

Status of Declarations: Two. City of San Jose (Jan. 10, 1995)
County of Santa Clara (Jan. 10, 1995)

Weather: Lighter precipitation expected today, with light to moderate rain in the hillside areas. Tonight and tomorrow lighter rain is expected on and off, with possibly moderate levels of rain in the high slope areas. A bigger storm is expected on Friday with higher levels of rain expceted everywhere.

Deaths and Injuries: None at this time.

Damages:

Los Altos:	About thirty-one homes damaged by flooding and four to five by falling trees.
Mtn. View:	About 45-50 homes damaged by flooding. One building collapsed.
Palo Alto:	Three to Five cars damaged by falling trees.
San Jose:	35 homes with confirmed water damage.
County Facilities:	Downtown Superior Court basement flooded Various County buildings (25 roof leaks reported at 7:00 am)
Unincorporated Areas:	6 homes in Santa Cruz Mountains have reported damage from falling trees. Stanford University has street flooding and basement flooding in 2 structures.
Los Gatos:	Downtown businesses flooded and closed.

Estimated Dollar Value: Estimated countywide at $3,000,000.00

Evacuations:

None are in progress at this time.

Shelters:

No shelters are open at this time.

Medical/Health: None at this time.

Road Net:

City of San Jose:

- First and Montague flooded to Plumeria (12" deep), closed.
- Highway 87 is flooded and closed from Alma to Julian.
- Santa Teresa & Bayliss a mudslide is blocking al N/B lanes. On Santa Teresa there is flooding.
- Highway 87 between Curtner & Julian is closed due to flooding.
- Highway 87 at Highway 280 is closed due to flooding.

Unincorporated area:

- Old Santa Cruz Hwy closed at Call of the Wild, but residents can get in at either end.
- Morrill Road is closed between Summit and Wright Station, due to wires down.
- Redwood Gultch closed at Hwy 9.
- Alma Bridge Road at Lime Kiln is closed due to washout, but residents can get in.
- Summit Road is closed at Old San Jose Road.
- All South County roads are open, but there is flooding in some areas.

Air Space: No restrictions at this time.

Other Critical Information:

No current updates available at this time.

Status of EOC Activation/ Staffing:

- Santa Clara County operational area with limited staffing. City of San Jose on limited operational status.

Local Response:

Local resources adequate for current situation.

Clean up and monitoring continuing.

State Response:
No reported activity at this time.

Planning Issues: Continuing to monitor the situation.

Next Report: Next scheduled Situation Report will be released 12:00 hours, January 12, 1995.

Santa Clara County Office of Emergency Services
(408) 299-3751 - fax 408-294-4851

SANTA CLARA OPERATIONAL AREA

SITUATION SUMMARY # 7

Event: Winter Floods, March 1995

AS OF March 20, 1995 at 18:00 hrs.

(Information added or changed since last report is underlined.)

1. **Proclamations/Declarations:**
   Cities of San Jose, Santa Clara, Saratoga
   County of Santa Clara, City of Los Gatos

   Extended Proclamations/Declarations:

   Santa Clara County, City of San Jose

   OASIS Form 130 attached (3/20/95)

2. **Disaster Assistance Programs/Facilities:** None

3. **Dead/Injured:** None

4. **Evacuations:** None in progress.

5. **Care and Shelter:** All shelters closed.

6. **Medical:** None

7. **Utilities:** Electric power service restored in most areas.

8. **Road Net:** All major roads open to traffic.

   Closed:

   -Old Santa Cruz (since 1/9/95)
   -Alma Bridge Road of Hwy 17 (since 1/9/95)

Misc.:

City of Campbell reported discovering unspecified and as yet undetermined damages to a pedestrian/bicycle structure.

9. **Air Space/Facilities:** N/A

10. **Other critical information:** No

11. **EOCs and other facilities activated:**

City of San Jose EOC - Recovery operations in progress.

County of Santa Clara - Call back alert.

All other EOC's closed.

12. **Response actions taken and resources committed by function:**

Recovery damage assessment operations in progress. Situation monitoring increased due to prevailing inclement weather conditions.

13. **State Response:** N/A

14. **Planning Issues:**

FEMA / State OES Preliminary Damage Assessment (PDA) in progress and Individual Assistance outreach site visits underway.

15. **Next Report:**

Next Situation Report will be released as conditions warrant.

OPERATIONAL AREA DISASTER ASSISTANCE SUMMARY WORKSHEET OASIS FORM #130 (OA)

JURISDICTION Santa Clara County Operational Area DATE OF THIS SUMMARY March 20, 1995

CONTACT : Robert B. Fields, Emergency Services Mgr. PHONE: 408-299-3751 FAX: 408-294-4851

5. PRIVATE SECTOR DAMAGE

TYPE	5a. DESTROYED	5b. MAJOR	5c. MINOR	5d. AFFECTED	5e. EST $ LOSS
Homeowner		6	175	500	$ 2,335,000
Home Renter					
Mobile Home Owner				200	$ 50,000
Mobile Home Renter					
Business Owner (Owns premises)		12	20	100	$ 1,000,000
Business Renter (Rents or Leases Premises					
Other (describe)					
5f. Totals		17	195	800	$ 3,375,000

OPERATIONAL AREA DISASTER ASSISTANCE SUMMARY WORKSHEET
continued:

6. PUBLIC SECTOR DAMAGE

CATEGORY	6a. NUMBER OF SITES	6b. ESTIMATED COSTS
Category A: Debris Clearance	21	$ 173,000
Category B: Emergency Protective Measures	7	$ 460,000
Category C: Road System Repairs	22	$ 1,850,000
Category D: Water Control Facilities	3	$ 1,000
Category E: Buildings and Equipment	4	$ 510,000
Category F: Public Utility Systems		
Category G: Other (Not in above categories)		
Totals	57	6c. $ 2,994,000

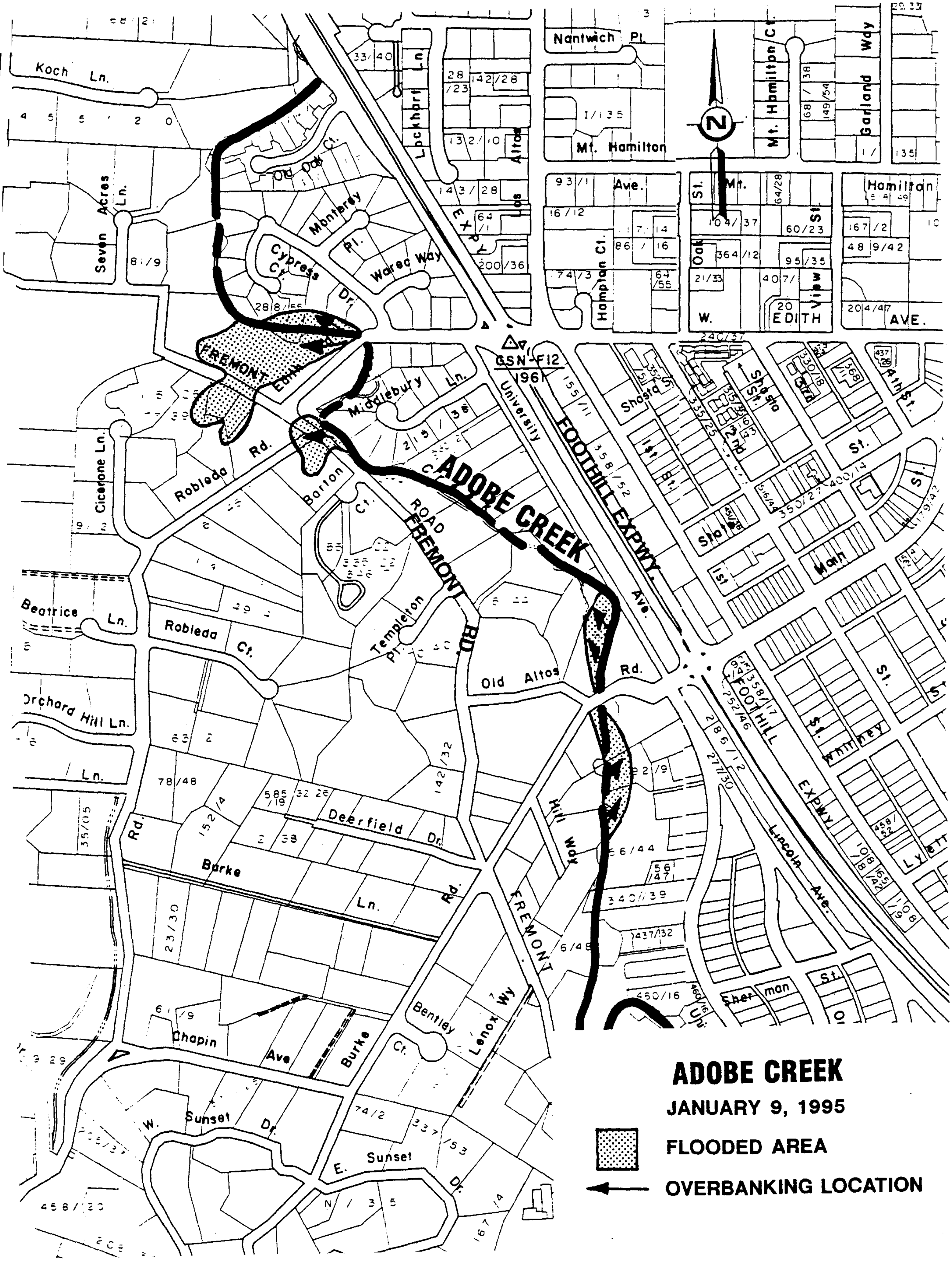
7. OTHER PUBLIC ASSISTANCE PROGRAMS

PROGRAM	ESTIMATED COSTS
Federal Highways (For damages to federal highway systems.)	7a.
U.S. Army Corps of Engineers (PL 99) [For emergency flood control projects]	7b.
Soil Conservation Service [For emergency watershed rehabilitation]	7c.
Other [Describe]	7d.
Totals:	7e.

APPENDIX B

MAPS AND PHOTOGRAPHS

JANUARY 1995 FLOODING MAPS

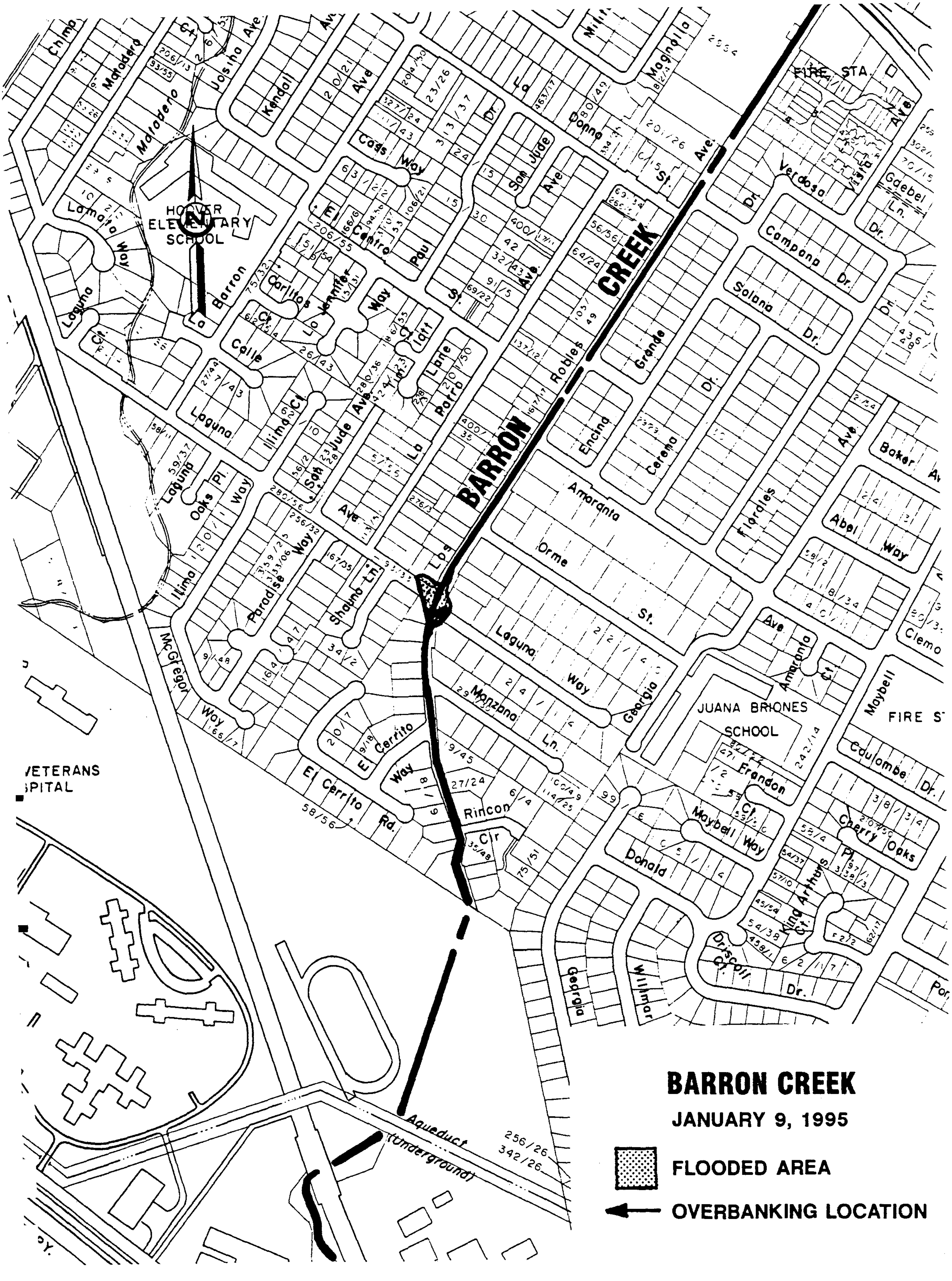


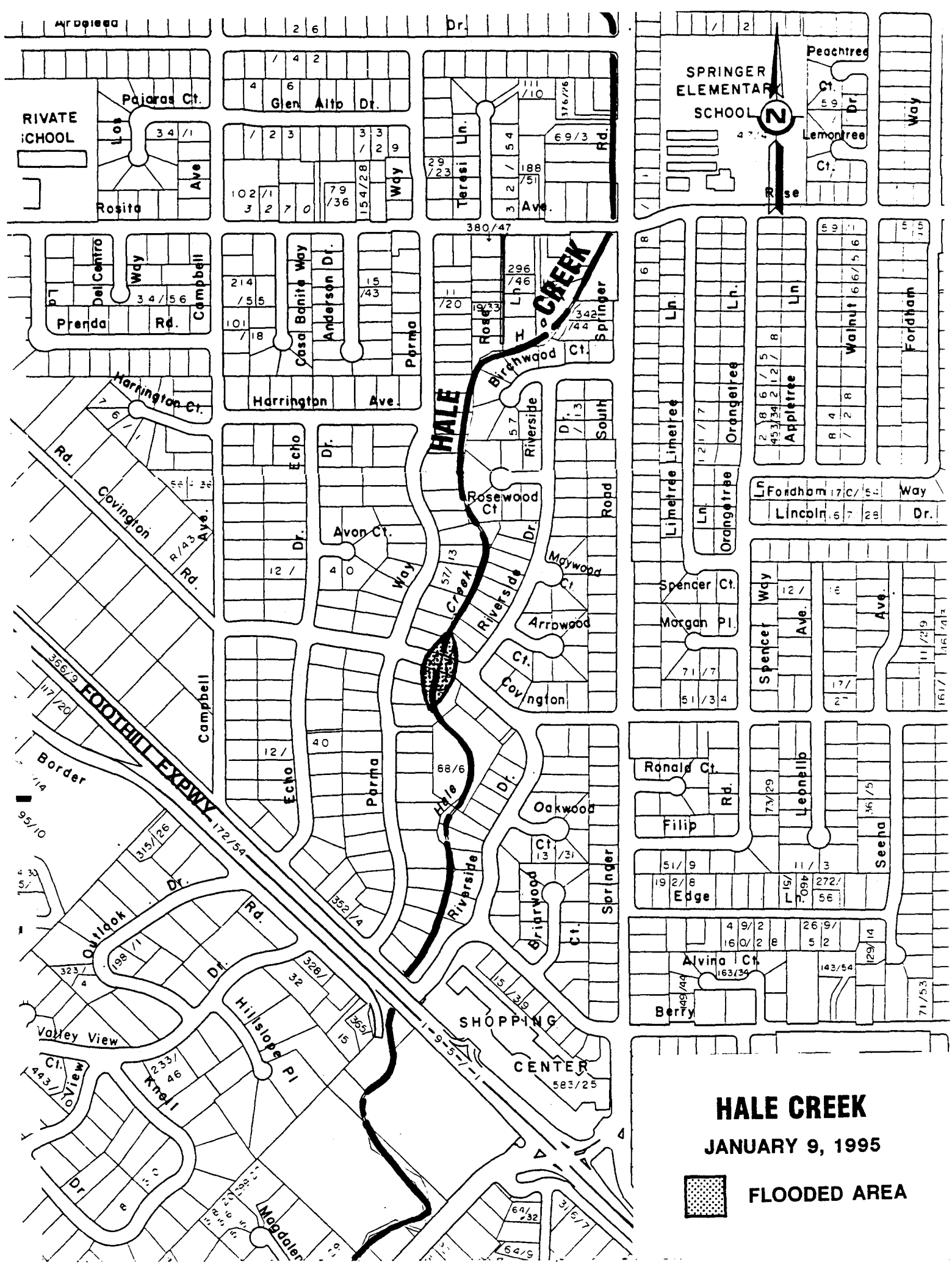
ADOBE CREEK

JANUARY 9, 1995

FLOODED AREA

OVERBANKING LOCATION

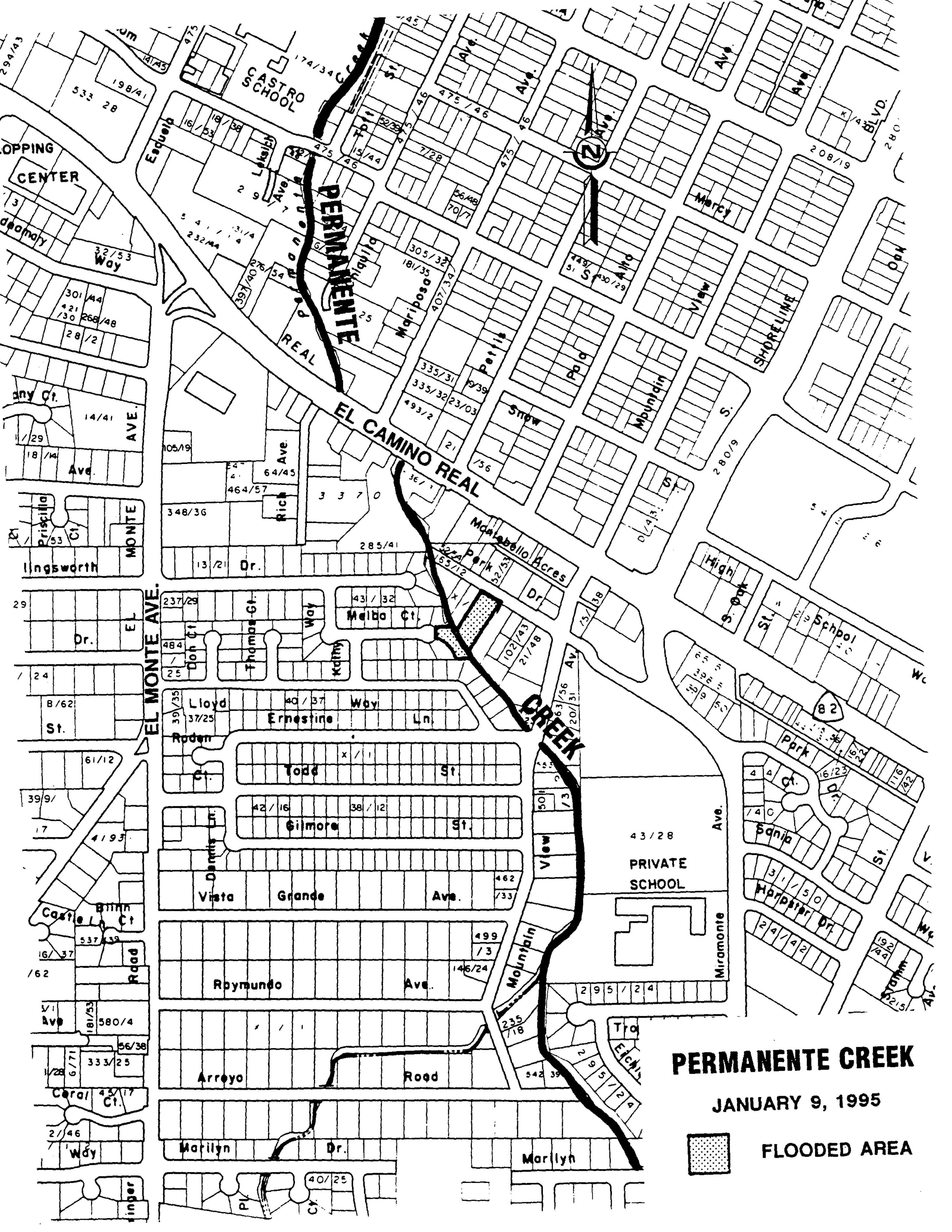

BARRON CREEK
JANUARY 9, 1995
FLOODED AREA
OVERBANKING LOCATION
BARRON CREEK
HOOVER ELEMENTARY SCHOOL
JUANA BRIONES SCHOOL
FIRE STA.
VETERANS
SPITAL
Aqueduct
(Underground)
La Barron
Los Robles Ave.
Laguna Way
Laguna Ave
Laguna Ct.
Laguna Oaks Pl.
Lamaita Way
Matadero
Josina Ave
Kendal Ave
La Donna Ave.
Magnolia
Cass Way
San Jude Ave
El Centro
Paul Ave
Carlitos Ct.
La Jennifer Way
Calle
Ilima Ct
Ilima Way
Platt Ct
Lane
La Para Ave
Paradise Way
Shauna Ln.
McGregor Way
Manzana Ln.
El Cerrito Way
El Cerrito Rd.
Rincon Cir
Encina Grande Dr.
Carolina
Amaranta Ave.
Amaranta Ct
Orme St.
Georgia Ave
Verdosa Dr.
Campana Dr.
Solana Dr.
Vista Ave
Goebel Ln.
Baker Ave
Abel Way
Maybell Ave
Maybell Way
Clemo
Coulombe Dr.
Frandon Ct.
Donald Dr.
Cherry Oaks Pl.
King Arthurs Ct.
Driscoll Ct.
Georgia
Willmar

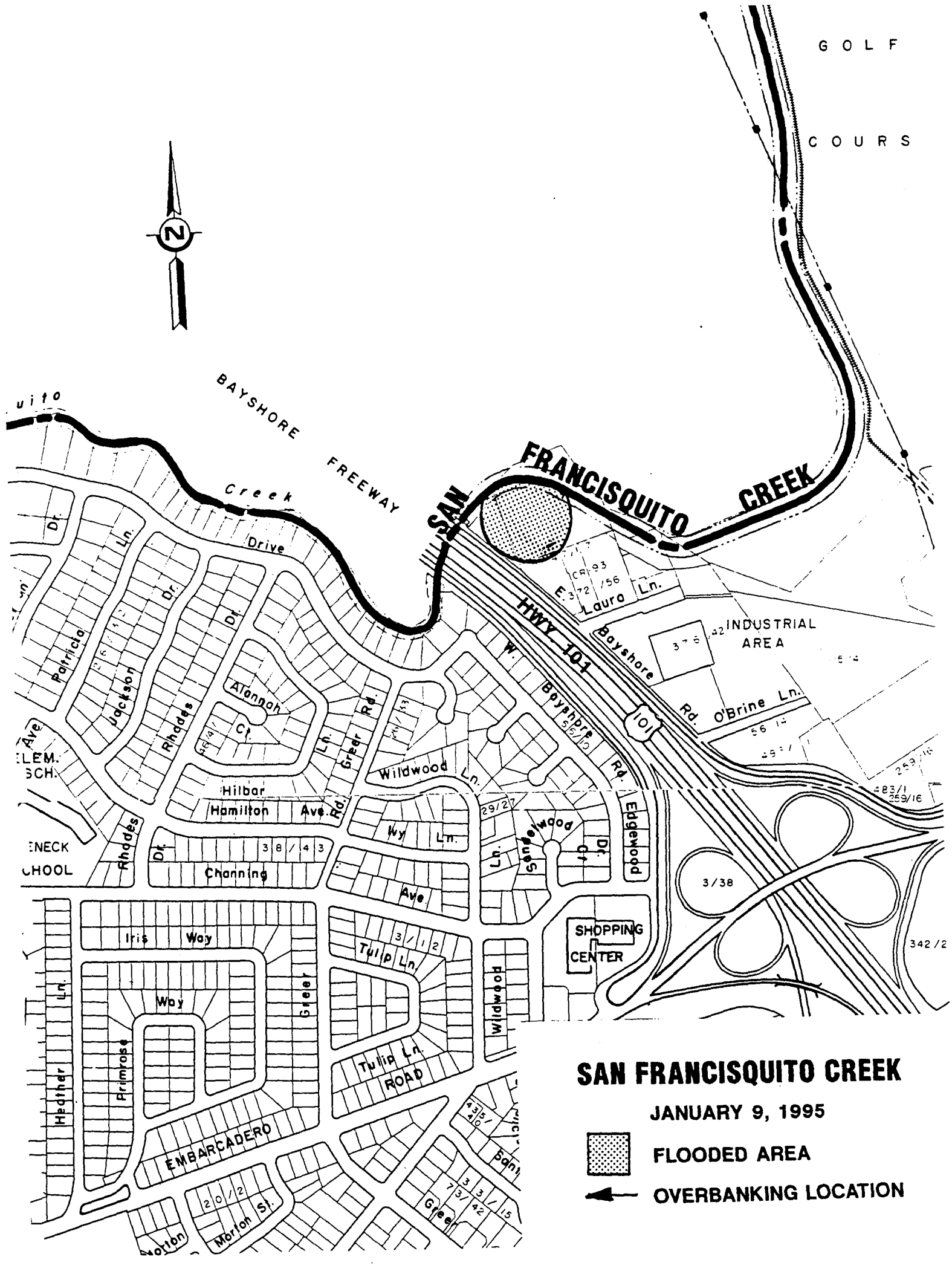


HALE CREEK

JANUARY 9, 1995

FLOODED AREA


PERMANENTE CREEK
JANUARY 9, 1995
FLOODED AREA
PERMANENTE
CREEK
EL CAMINO REAL
EL MONTE AVE.
CASTRO SCHOOL
SHOPPING CENTER
PRIVATE SCHOOL
Mariposa
Pettis
Snow
Pola
Mountain
View
Shoreline
Mercy
Alto
Montebello Acres
Park Dr.
Melba Ct.
Thomas Ct.
Kathy Way
Don Ct.
Lloyd Way
Ernestine Ln.
Roden Ct.
Todd St.
Gilmore St.
Dennis Ln.
Vista Grande Ave.
Raymundo Ave.
Arroyo Road
Marilyn Dr.
Miramonte Ave.
Harpster Dr.
Sonja
High
S. Oak
School
Rich Ave.
Coral Ct.
Castle Ln.
Bliss Ct.
Priscilla Ct.
Monte
Dr.
El
82

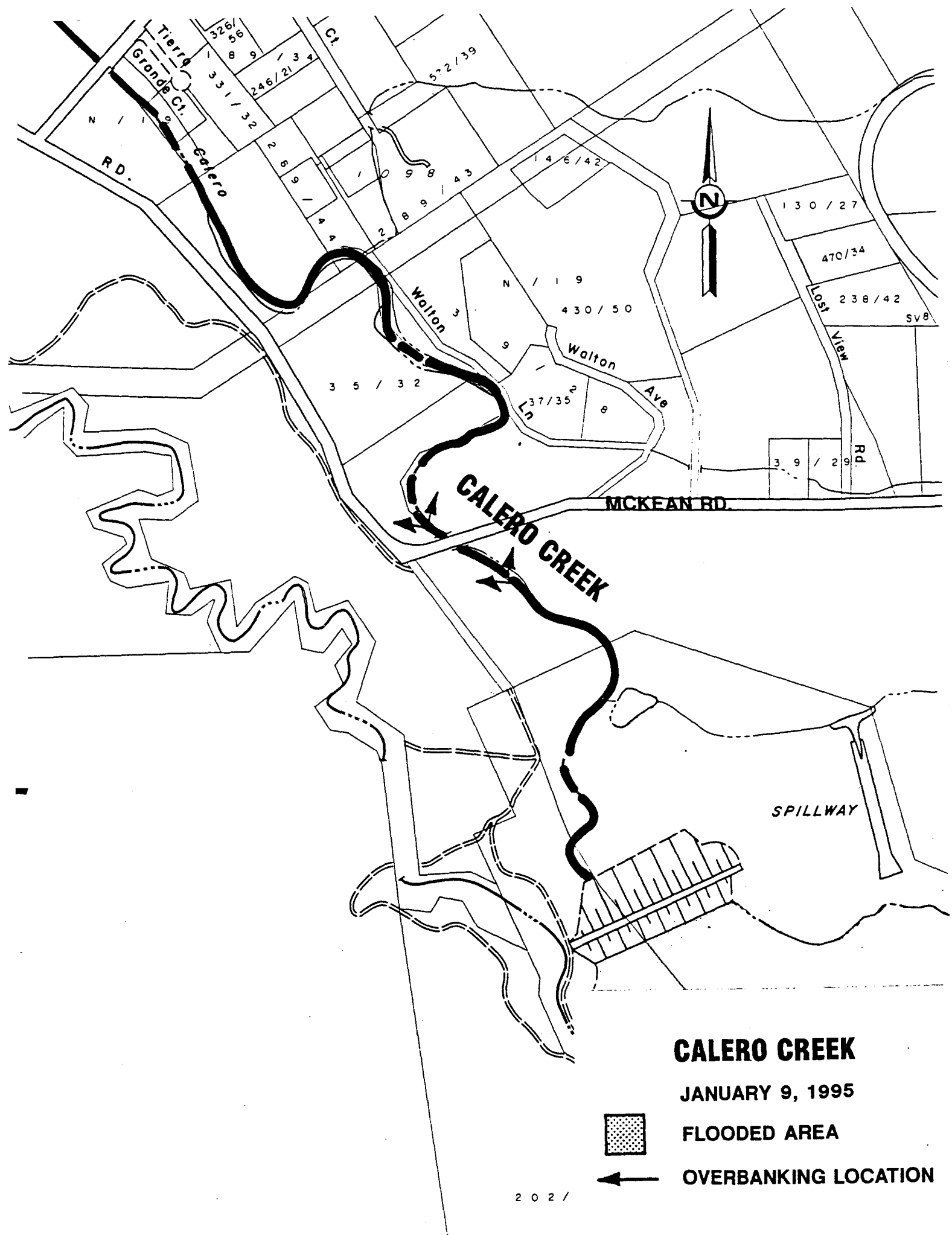


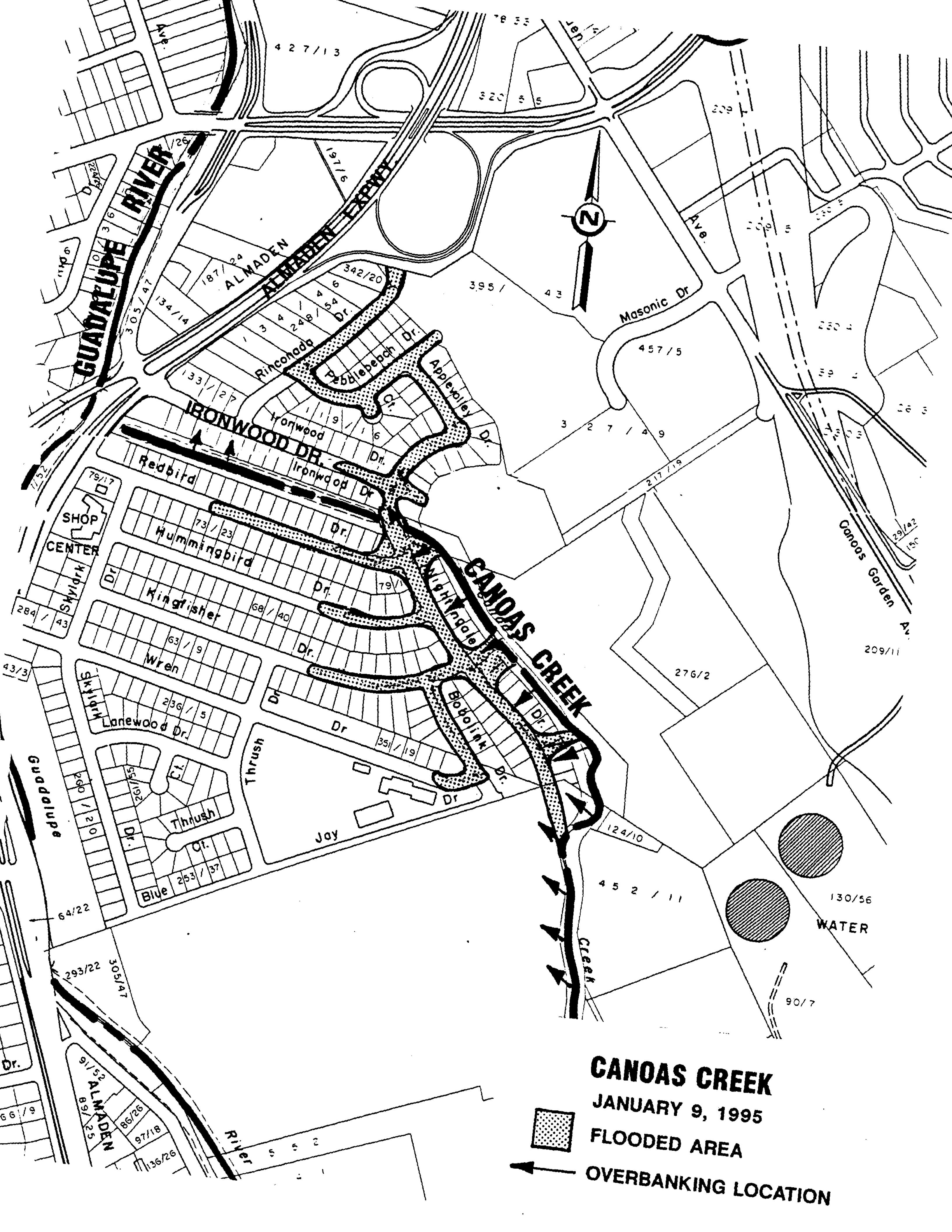
SAN FRANCISQUITO CREEK

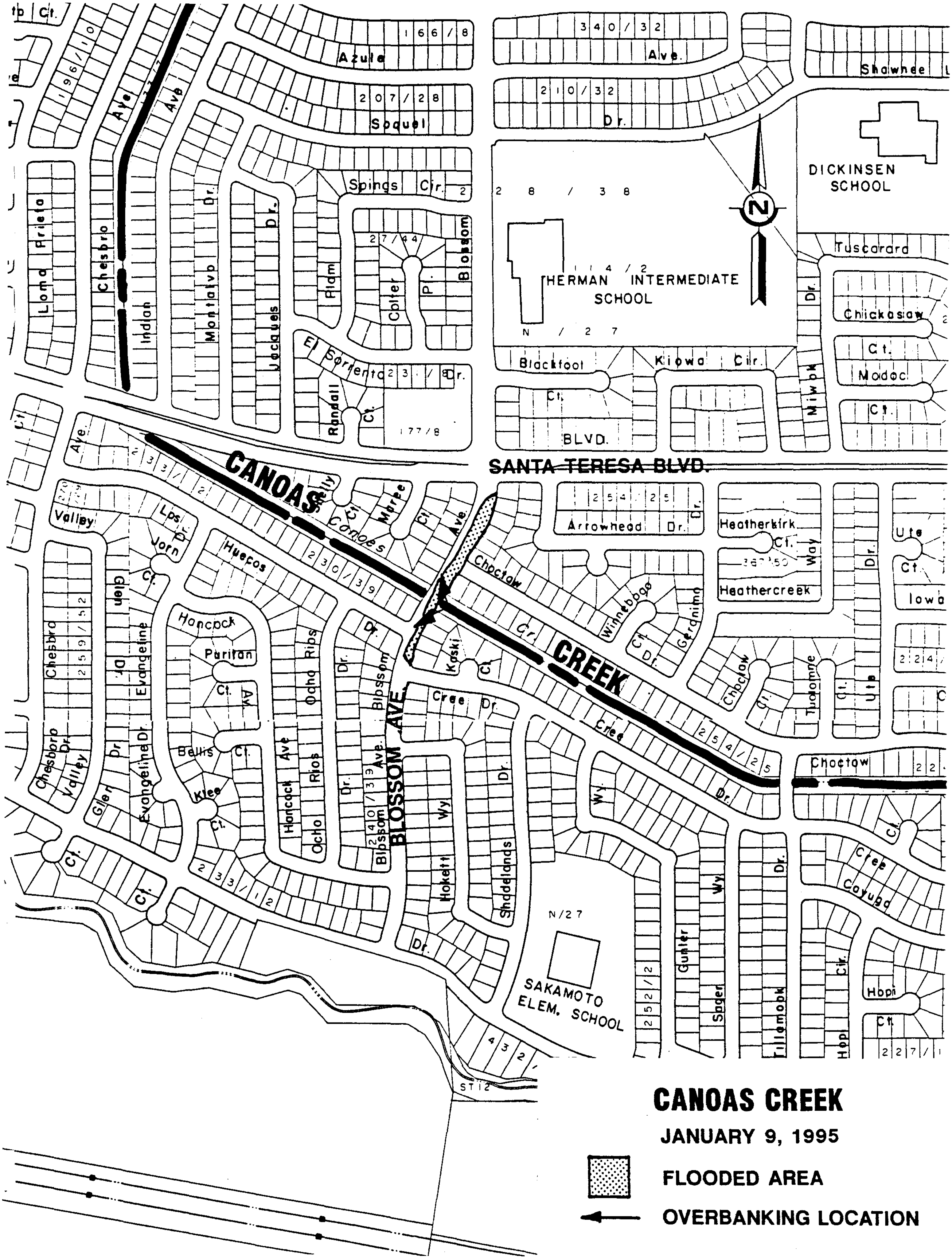
JANUARY 9, 1995

FLOODED AREA

OVERBANKING LOCATION


Tierra Grande Ct.
Calero
RD.
Ct.
Walton
Walton Ave
Walton Ln
Lost View
Rd.
MCKEAN RD.
CALERO CREEK
SPILLWAY
N
326/56
331/32
246/21
572/39
109/43
146/42
130/27
470/34
238/42
SV8
430/50
35/32
37/35
39/29
CALERO CREEK
JANUARY 9, 1995
FLOODED AREA
OVERBANKING LOCATION
202/


CANOAS CREEK
JANUARY 9, 1995
FLOODED AREA
OVERBANKING LOCATION
GUADALUPE RIVER
ALMADEN EXPWY.
ALMADEN
IRONWOOD DR.
CANOAS CREEK
Masonic Dr
Canoas Garden Av.
Rinconada
Pebblebeach Dr.
Applevalley Dr.
Ironwood Dr.
Redbird
Hummingbird
Kingfisher
Wren
Nightingale
Bobolink Dr.
Thrush
Jay
Lanewood Dr.
Skylark
SHOP CENTER
Thrush Ct.
Blue
WATER
Guadalupe
Creek
River

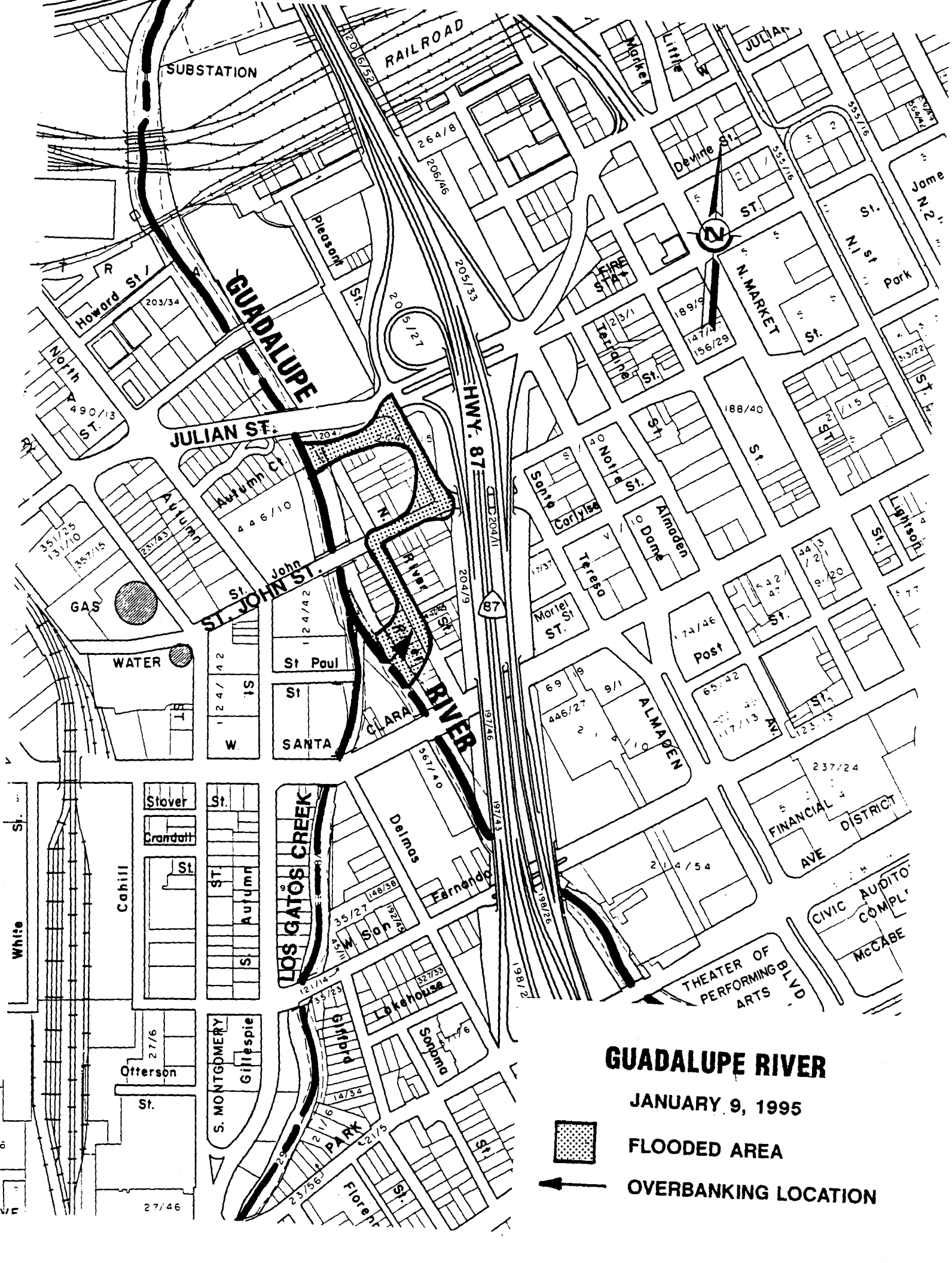


CANOAS CREEK

JANUARY 9, 1995

FLOODED AREA

OVERBANKING LOCATION

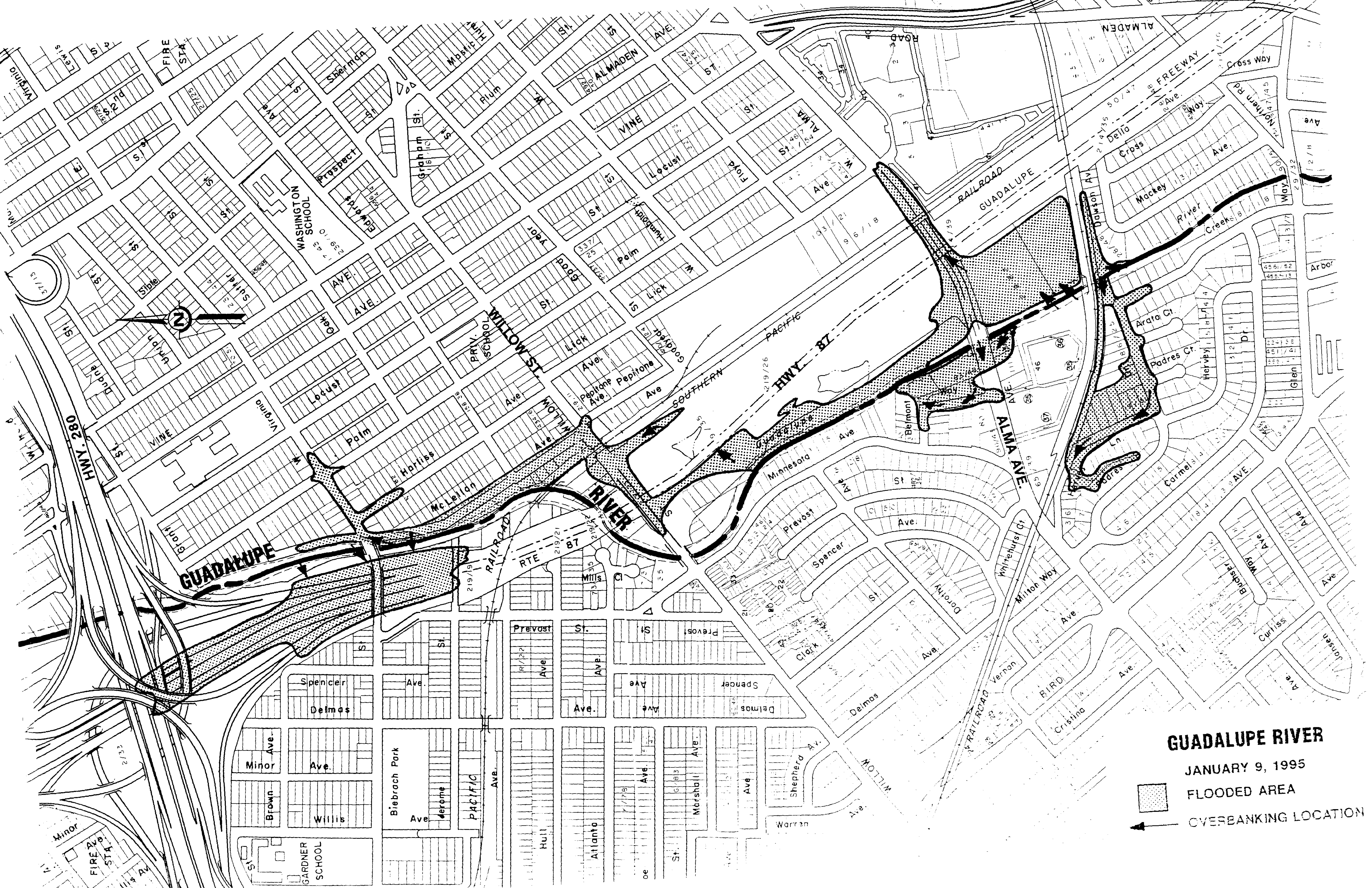


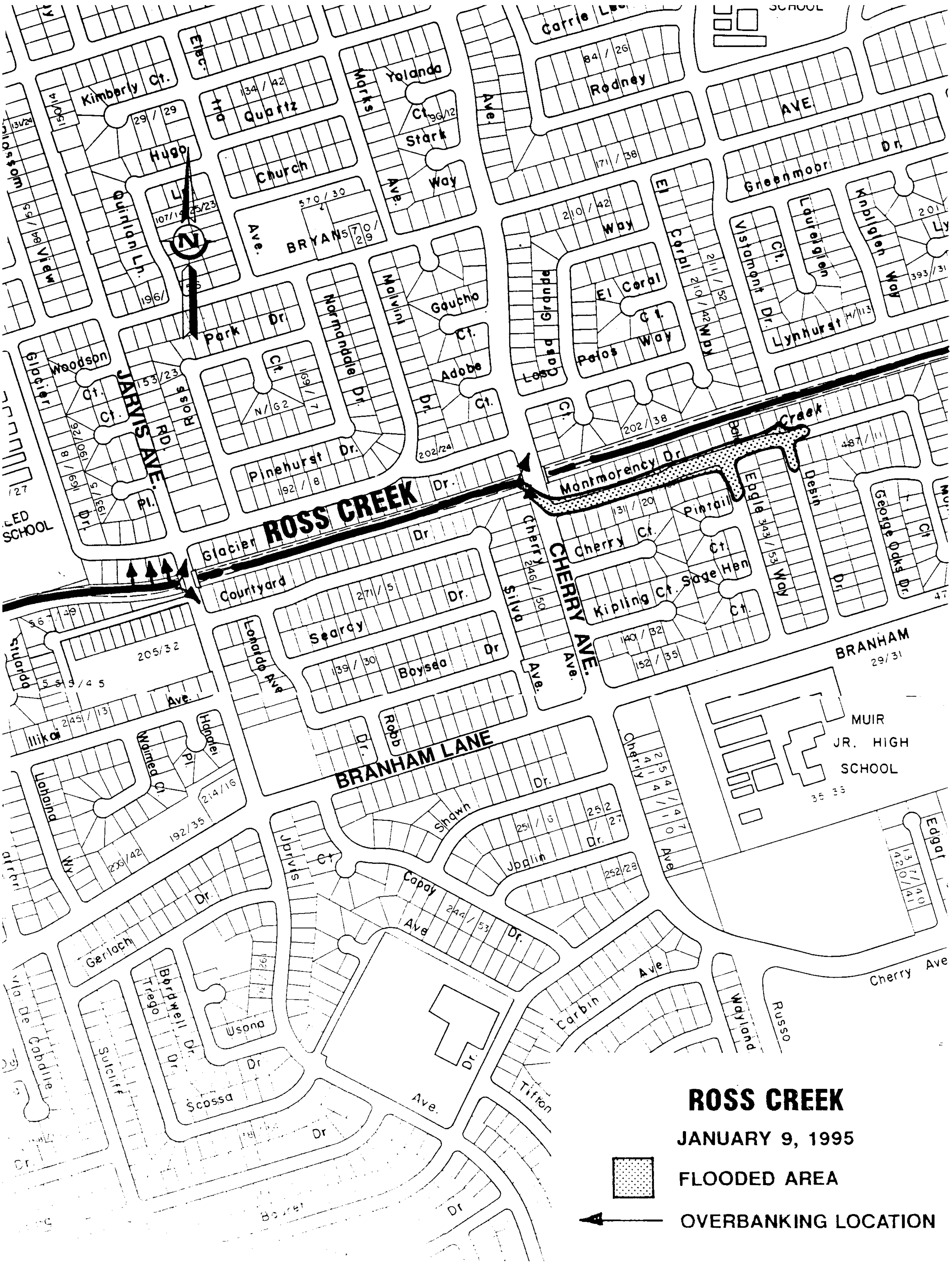
GUADALUPE RIVER

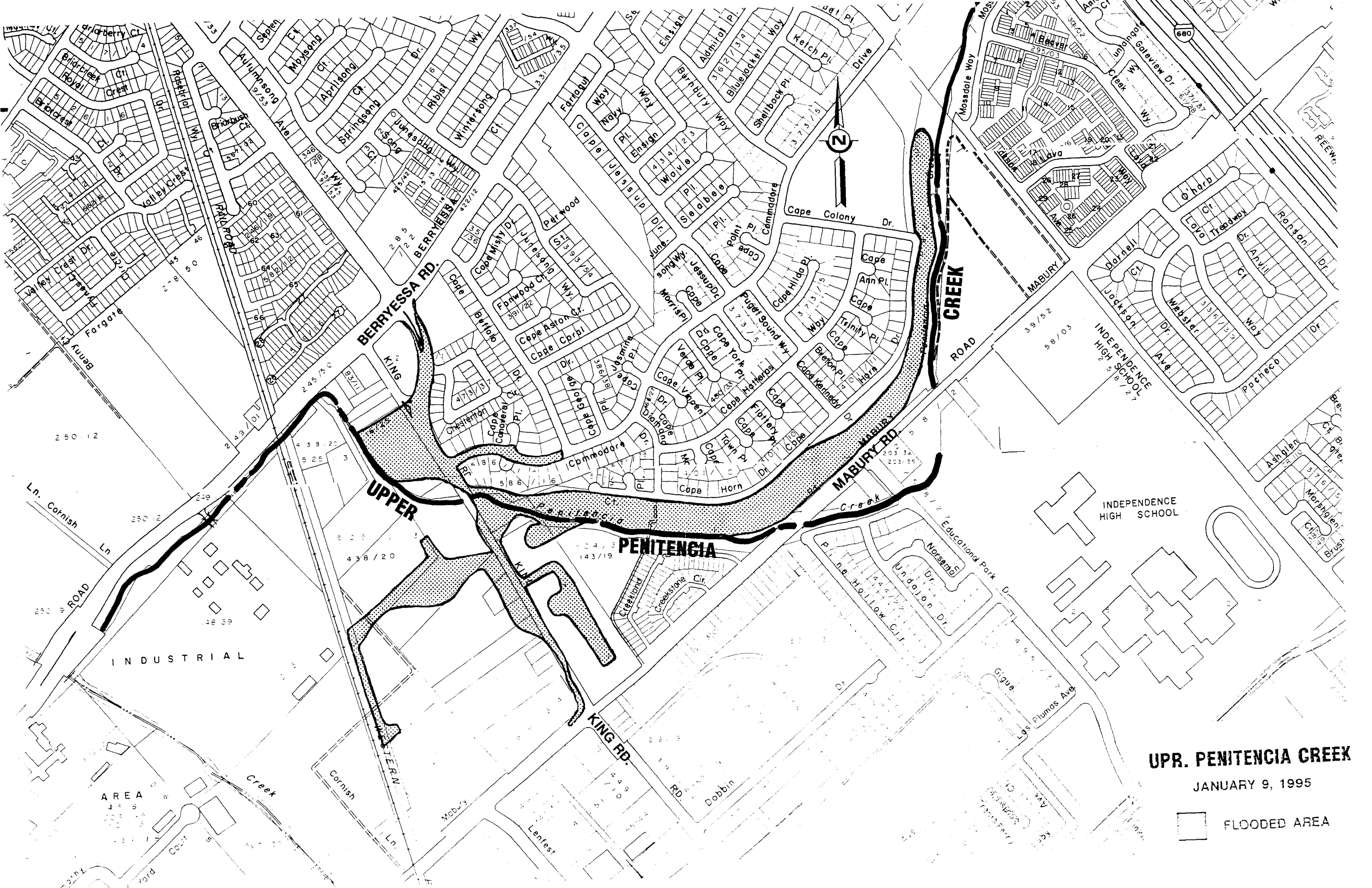
JANUARY 9, 1995

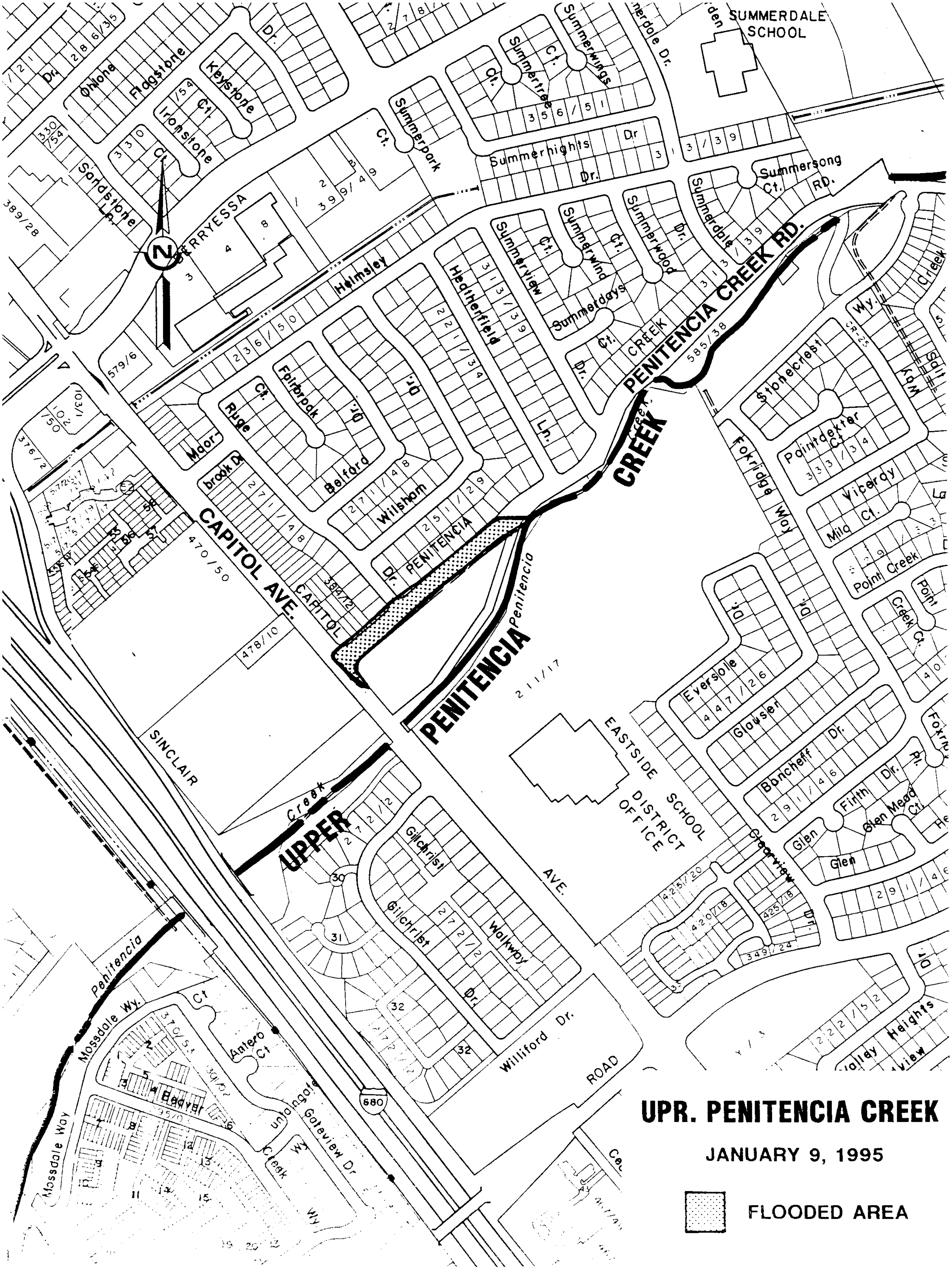
FLOODED AREA

OVERBANKING LOCATION


GUADALUPE RIVER
JANUARY 9, 1995
FLOODED AREA
OVERBANKING LOCATION
HWY. 280
HWY. 87
GUADALUPE
RIVER
WILLOW ST.
ALMA AVE.
SOUTHERN PACIFIC
WASHINGTON SCHOOL
GARDNER SCHOOL
ALMADEN FREEWAY


ROSS CREEK
JARVIS AVE.
CHERRY AVE.
BRANHAM LANE
BRANHAM
MUIR
JR. HIGH
SCHOOL
Montmorency Dr
Glacier Dr
Courtyard Dr
Pinehurst Dr.
Searcy
Boysea Dr
Kimberly Ct.
Quartz
Church
Greenmoor Dr.
Rodney
Carrie Lee
Lynhurst
Pintail Ct.
Sage Hen Ct.
Kipling Ct.
Eagle Way
Gerlach
Capay Dr.
Joplin Dr.
Carbin
Wayland
Russo
Cherry Ave
Tifton
Usona
Scossa
ROSS CREEK
JANUARY 9, 1995
FLOODED AREA
OVERBANKING LOCATION

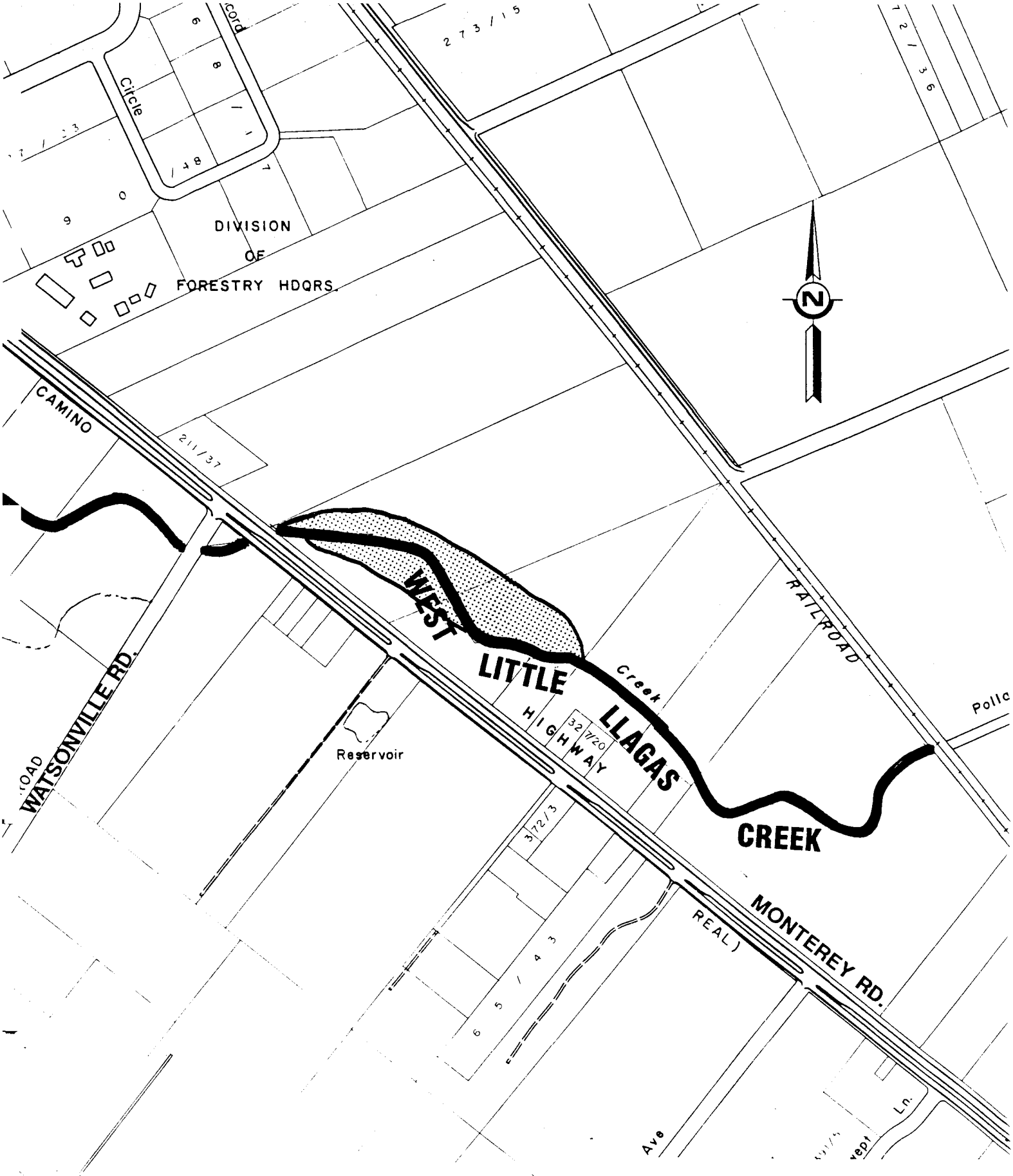

UPR. PENITENCIA CREEK
JANUARY 9, 1995
FLOODED AREA
UPPER
PENITENCIA
CREEK
BERRYESSA RD.
MABURY RD.
KING RD.
MABURY ROAD
INDEPENDENCE HIGH SCHOOL
INDUSTRIAL
AREA
RAILROAD
Cape Colony Dr.
Commodore
Cape Horn
Penitencia Ct.
Creekstone Cir.
Creekland
Educational Park Dr.
Las Plumas Ave.
Cornish Ln.
Lenfest
Dobbin
Fargate
Mossdale Way
Gateview Dr.
Jackson Ave.
Webster
Pacheco
O'hara Ct.
Ransom Dr.
680



UPR. PENITENCIA CREEK

JANUARY 9, 1995


NOBLE ELEMENTARY SCHOOL
PERCOLATION PONDS
UPPER PENITENCIA CREEK
PENITENCIA CREEK
NOBLE AVE.
TOYON ELEMENTARY SCHOOL
El Grande
Vista Del Valle
Bayo Vista
Vista Del Mar
Vista Oak
Noble Dr.
Noble Way
Terra Dr.
Los Garcias Dr.
El Grande Ct.
Otto Ct.
Dorel Dr.
Rock Canyon Rd.
Roddy Circle
Barbee Ct.
Bellflower Ct.
Talient Ave.
Gina Ct.
Sheree Ct.
Freeman Ave.
Ridgetop Dr.
Pablo Ave.
Joanne Ln.
Pepper Tree Ln.
Gardon Dr.
Holly Ave.
Golf Ave.
Linda Vista Ave.
Linda Flora St.
San Pablo Ave.
San Marino Ave.
San Andre Ct.
Bard St.
Albo Ct.
Darian Ct.
Copal Ct.
Toyon Ct.
Selby Ln.
Surf Ct.
Janky Ct.
Gridley
Pellas St.
Jaanne Ln.
Pepper Tree Dr.
Holly Dr.
Perkins Ct.
Gemma Ct.
Novak Dr.
UPR. PENITENCIA CREEK
JANUARY 9, 1995
FLOODED AREA

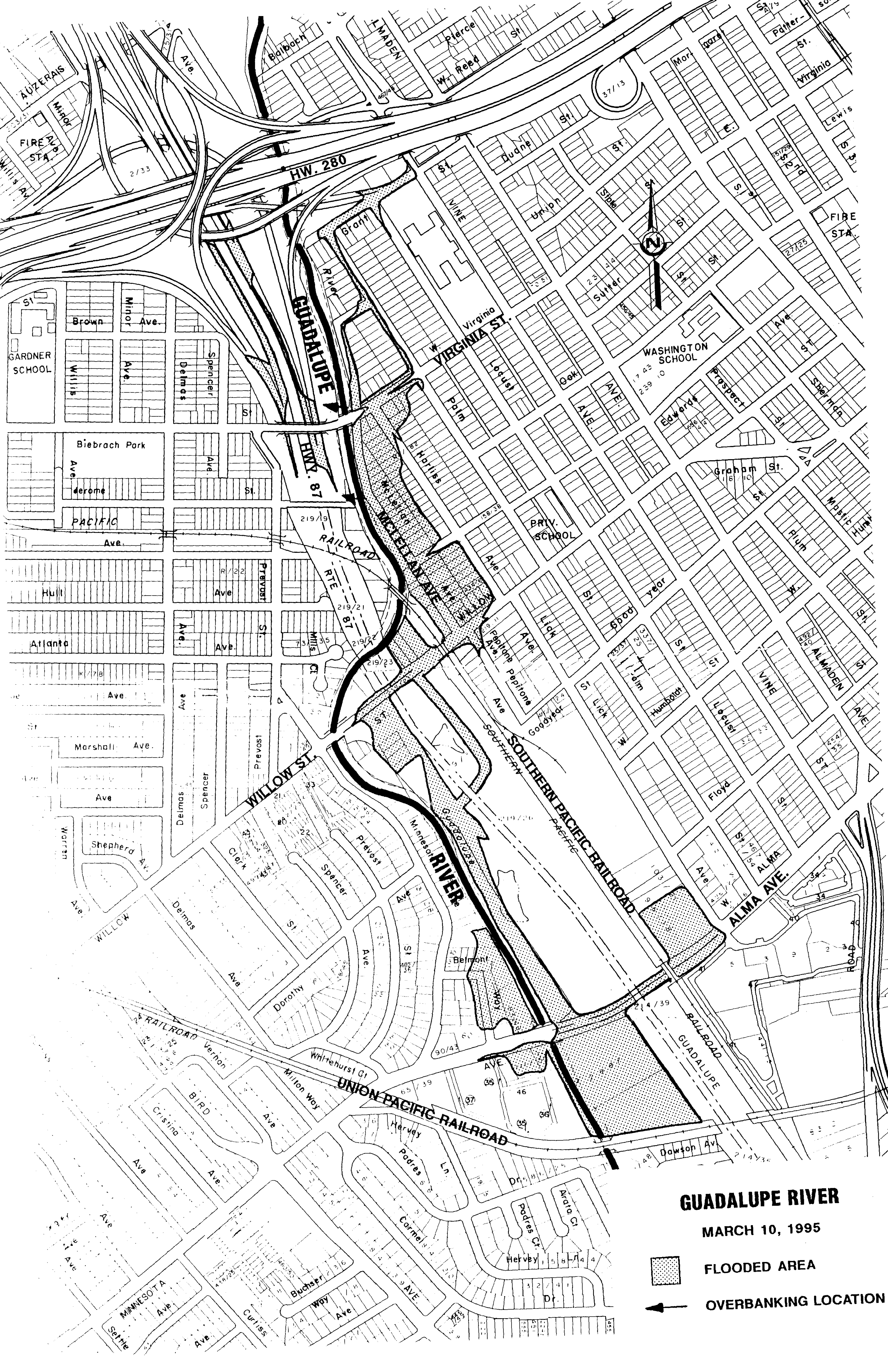


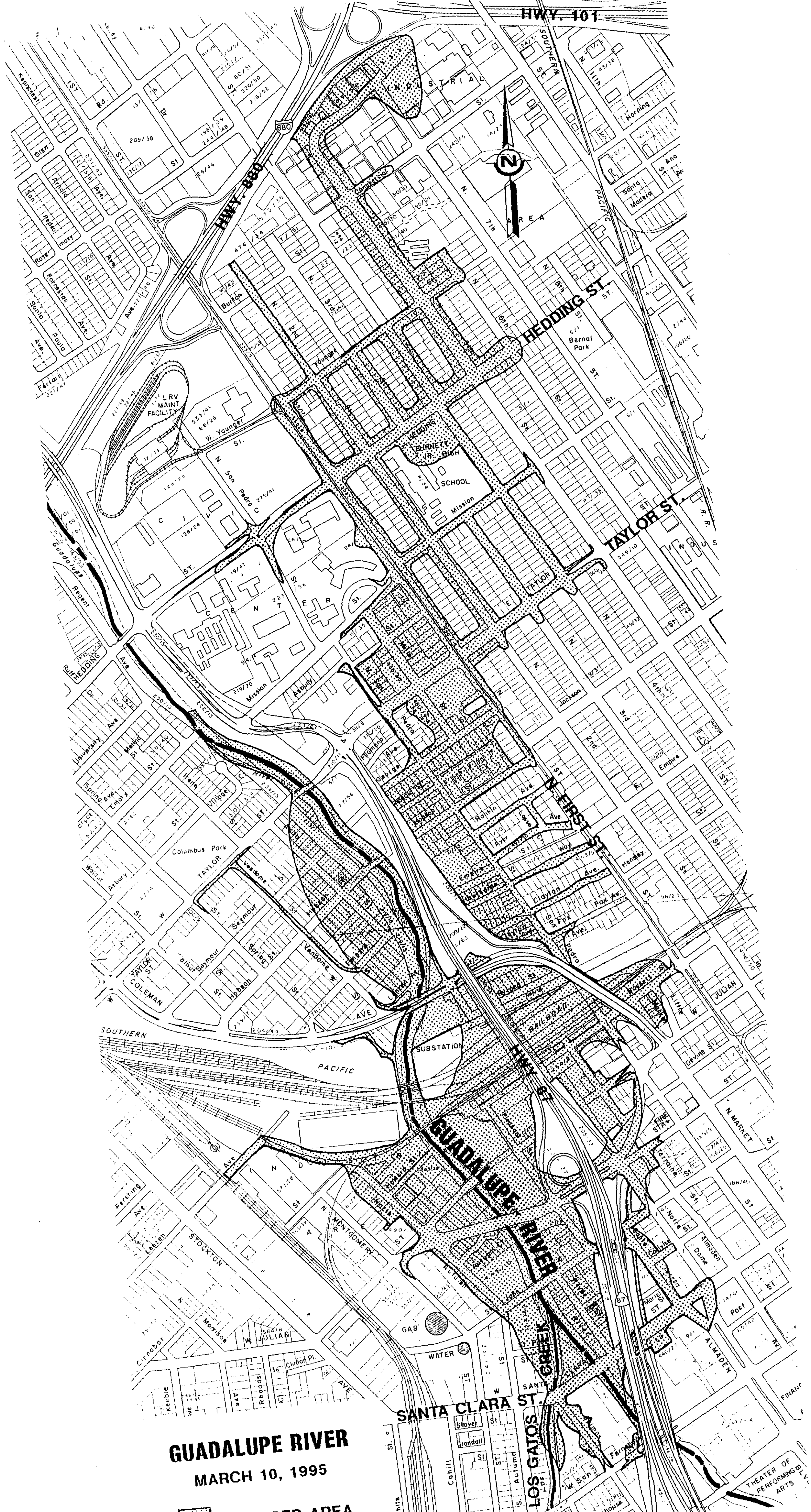
WEST LITTLE LLAGAS CREEK

JANUARY 9, 1995

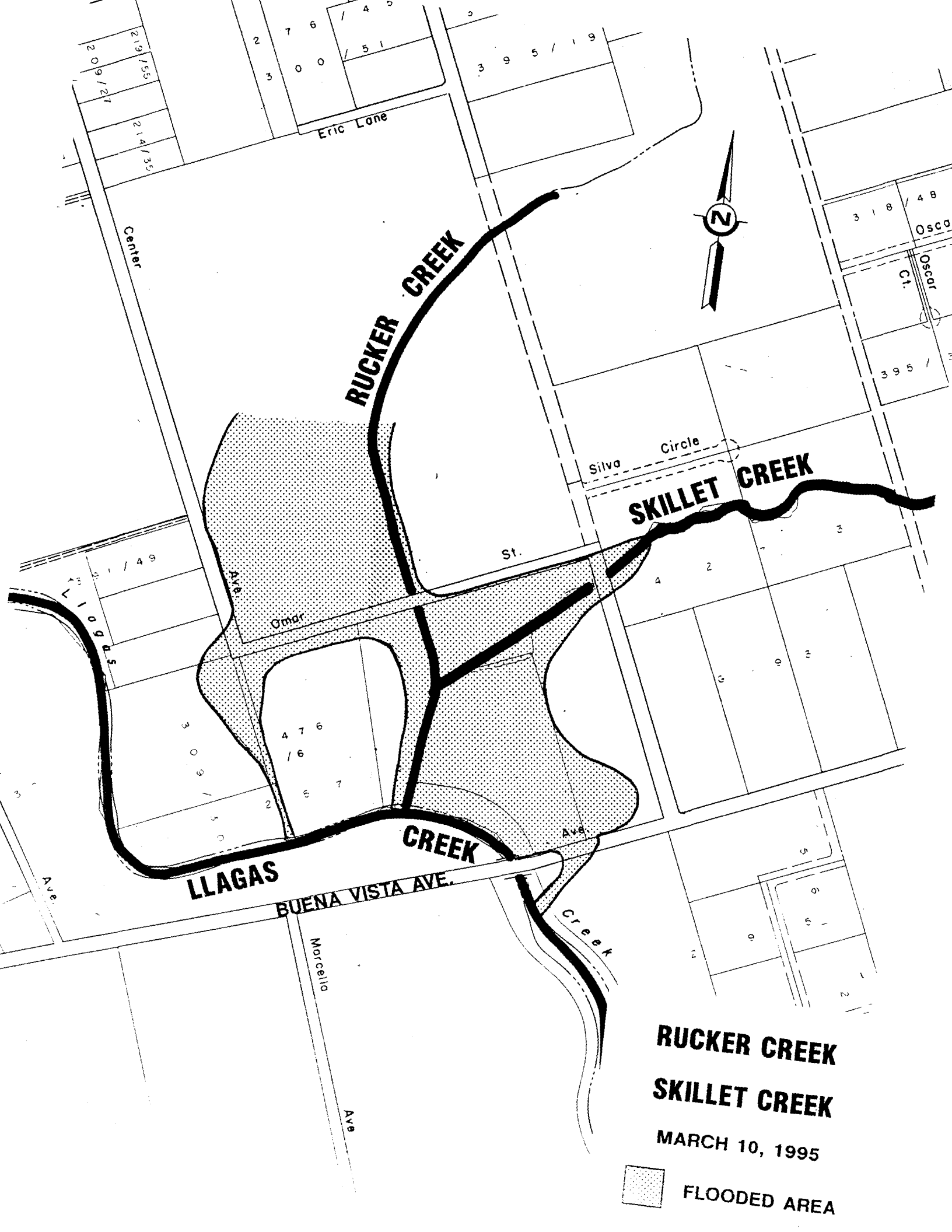
FLOODED AREA

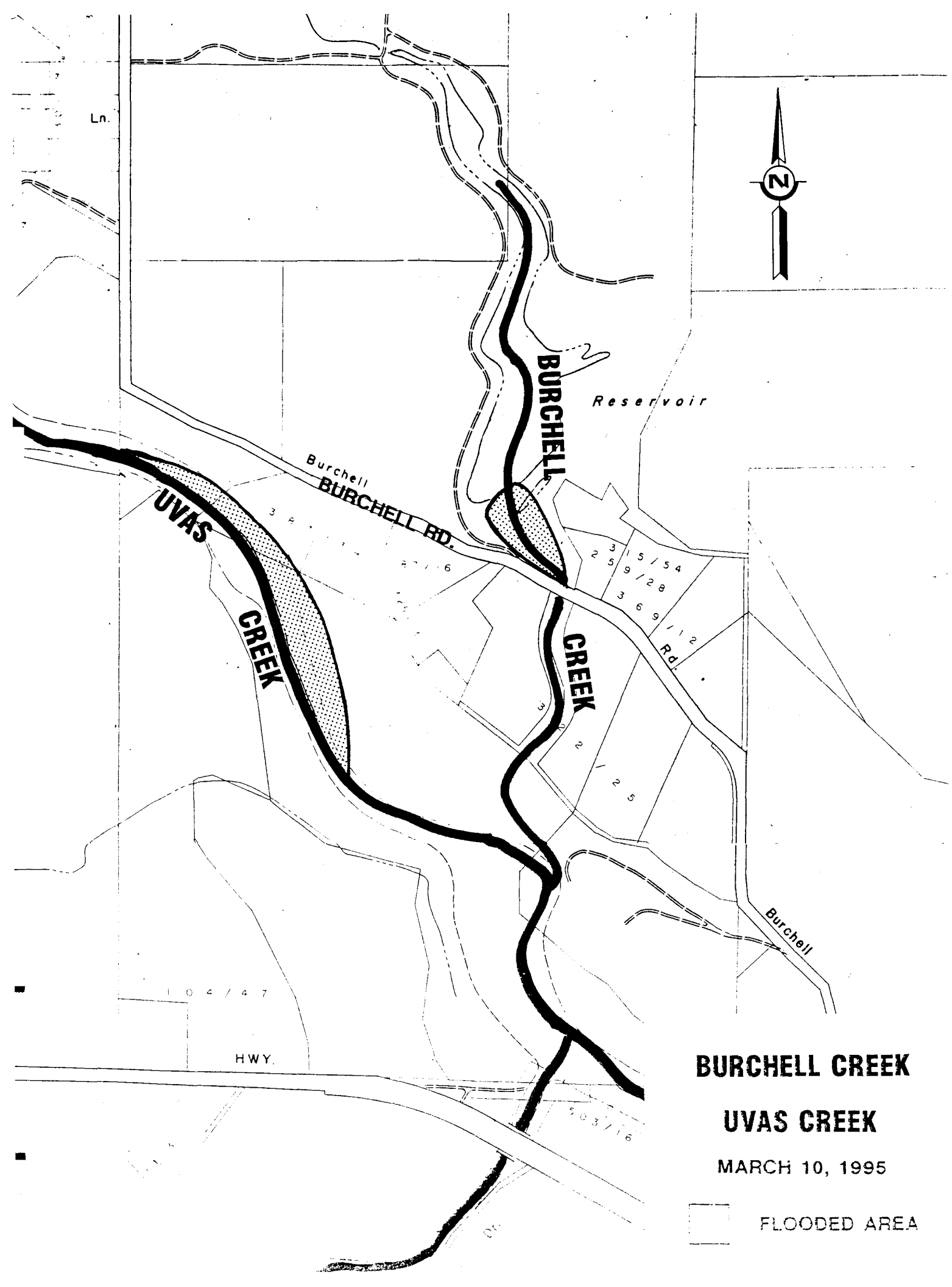
MARCH 1995 FLOODING MAPS

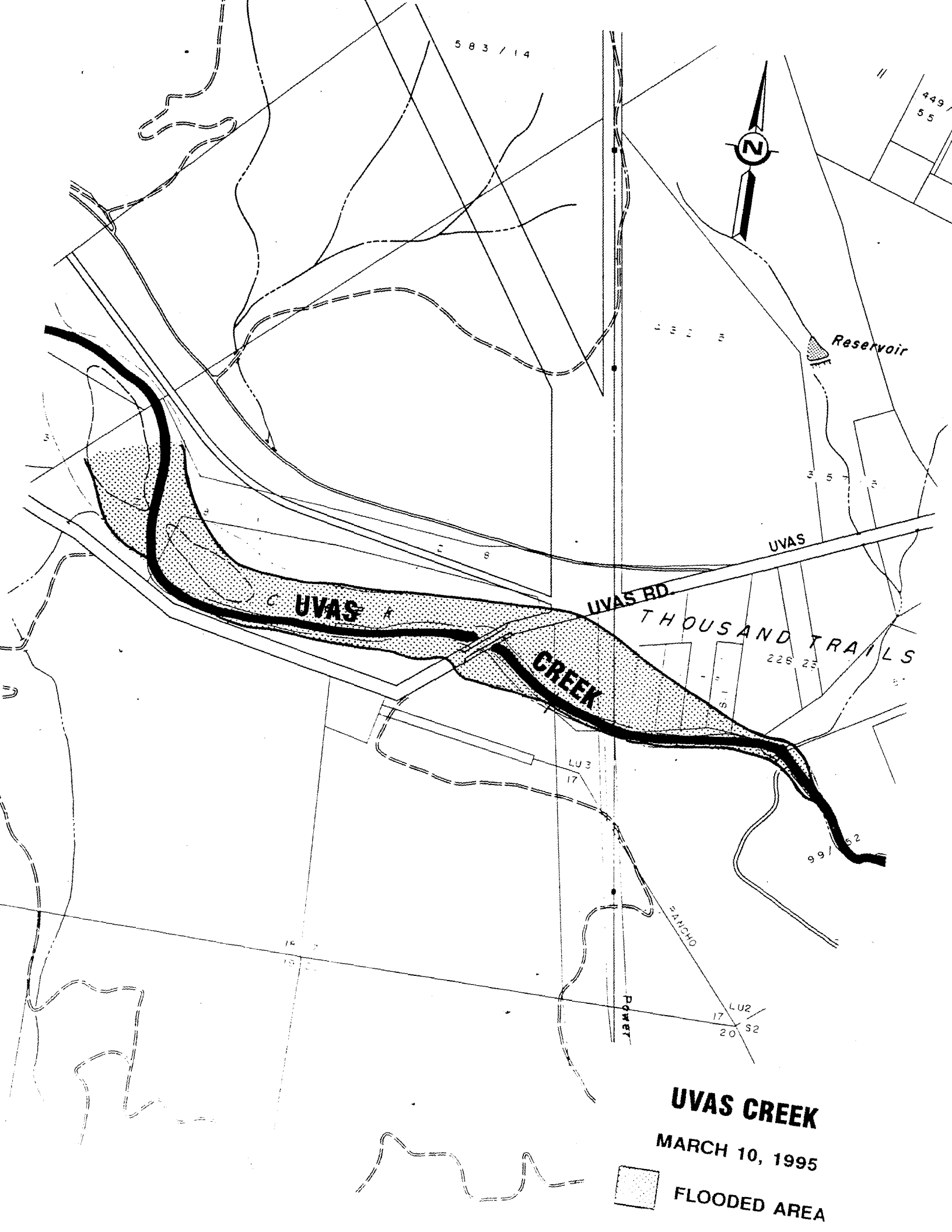

GUADALUPE RIVER
MARCH 10, 1995
FLOODED AREA
OVERBANKING LOCATION
HW. 280
GUADALUPE
RIVER
HWY. 87
RTE 87
MCLELLAN AVE
VIRGINIA ST.
WILLOW ST.
SOUTHERN PACIFIC RAILROAD
UNION PACIFIC RAILROAD
ALMA AVE.
GUADALUPE RAILROAD
PACIFIC RAILROAD
WASHINGTON SCHOOL
GARDNER SCHOOL
PRIV. SCHOOL
FIRE STA.
Biebrach Park
AUZERAIS
ALMADEN
VINE
Grant
Palm
Locust
Oak
Harliss
Goodyear
Lick
Humboldt
Floyd
Graham St.
Edwards
Prospect
Sherman
Belmont
Minnesota
Atlanta
Hull
Marshall Ave.
Brown
Jerome
Delmas
Spencer
Prevost
Willis
Dorothy
Whitehurst Ct
Milton Way
Vernon
BIRD
Cristina
Hervey
Padres
Carmel
Dawson Av
Arata Ct.
Padres Ct.
Buchser Way
Curtiss
MINNESOTA
Settle
ROAD

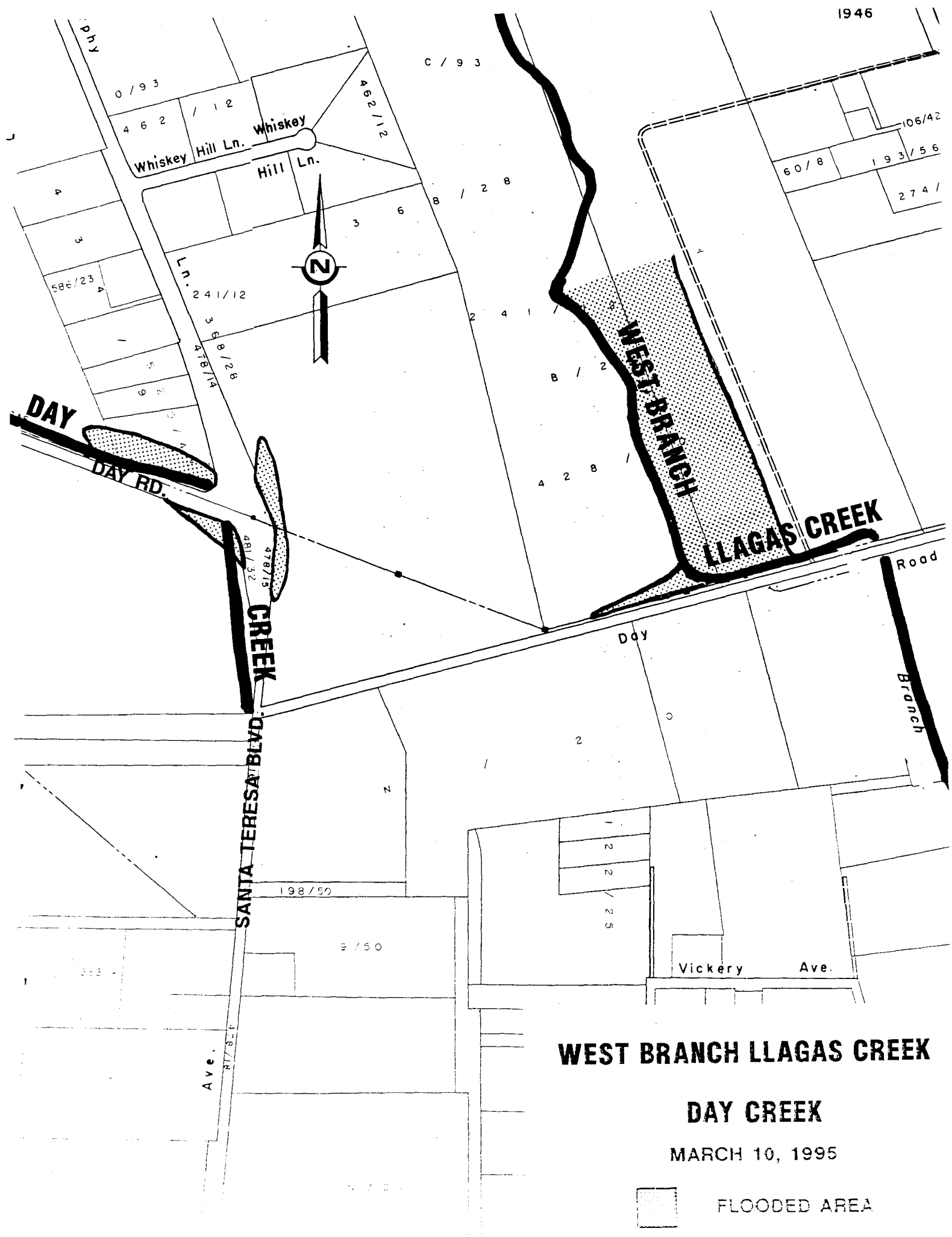


GUADALUPE RIVER
MARCH 10, 1995
FLOODED AREA
HWY. 101
HWY. 880
HWY. 87
HEDDING ST.
TAYLOR ST.
N. FIRST ST.
SANTA CLARA ST.
LOS GATOS CREEK
GUADALUPE RIVER
ALMADEN
SOUTHERN PACIFIC
SUBSTATION
SCHOOL
LRV MAINT. FACILITY
THEATER OF PERFORMING ARTS


RUCKER CREEK
SKILLET CREEK
LLAGAS CREEK
Eric Lane
Center
Silva Circle
Omar
St.
Ave.
BUENA VISTA AVE.
Marcella
Ave
Creek
Oscar
Ct.
N
RUCKER CREEK
SKILLET CREEK
MARCH 10, 1995
FLOODED AREA


Ln.
N
BURCHELL
Reservoir
Burchell
BURCHELL RD.
UVAS
CREEK
CREEK
Rd.
Burchell
HWY.
BURCHELL CREEK
UVAS CREEK
MARCH 10, 1995
FLOODED AREA


UVAS CREEK
UVAS RD.
UVAS
CREEK
Reservoir
THOUSAND TRAILS
RANCHO
Power
UVAS CREEK
MARCH 10, 1995
FLOODED AREA

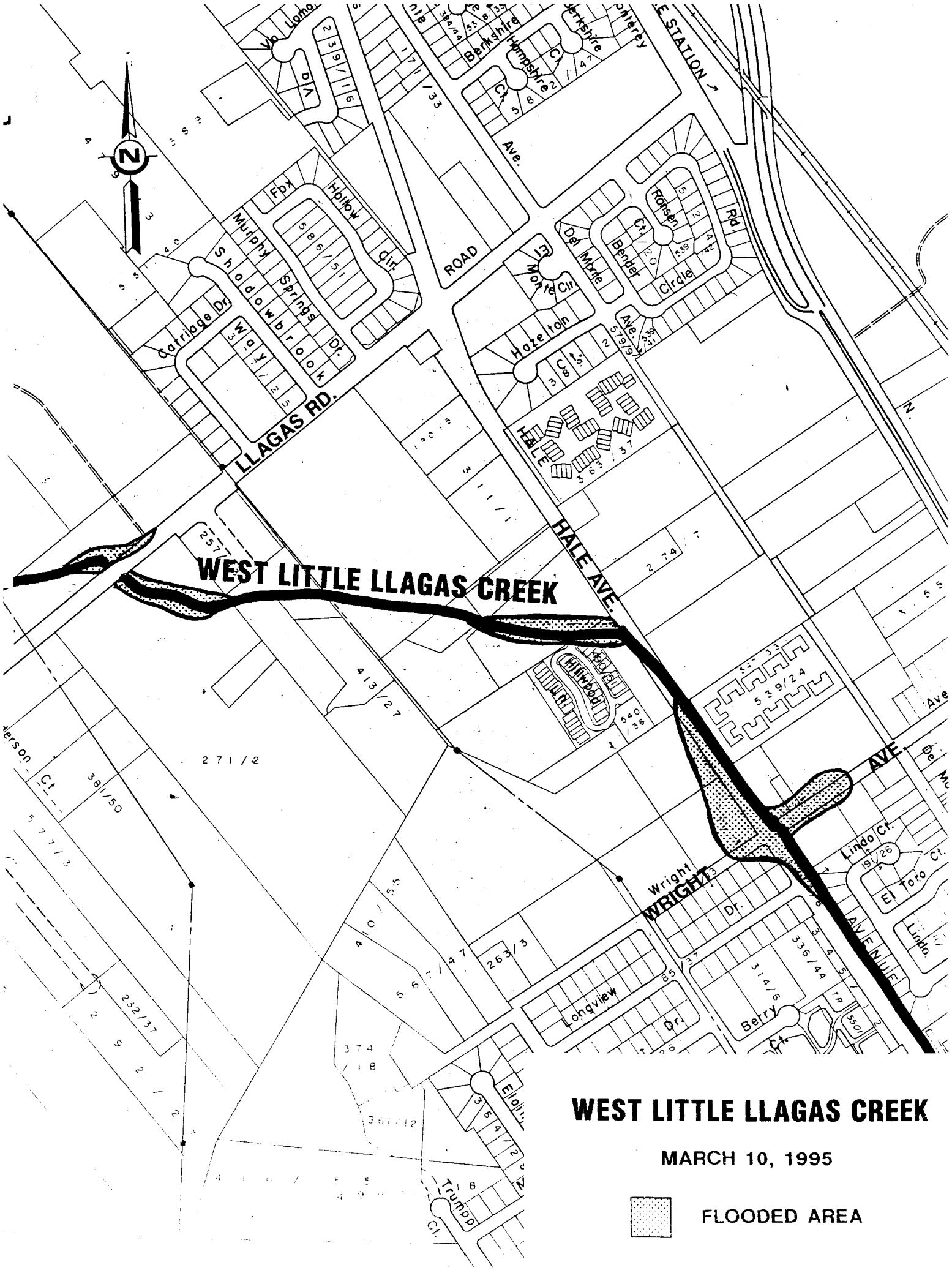


WEST BRANCH LLAGAS CREEK

DAY CREEK

MARCH 10, 1995

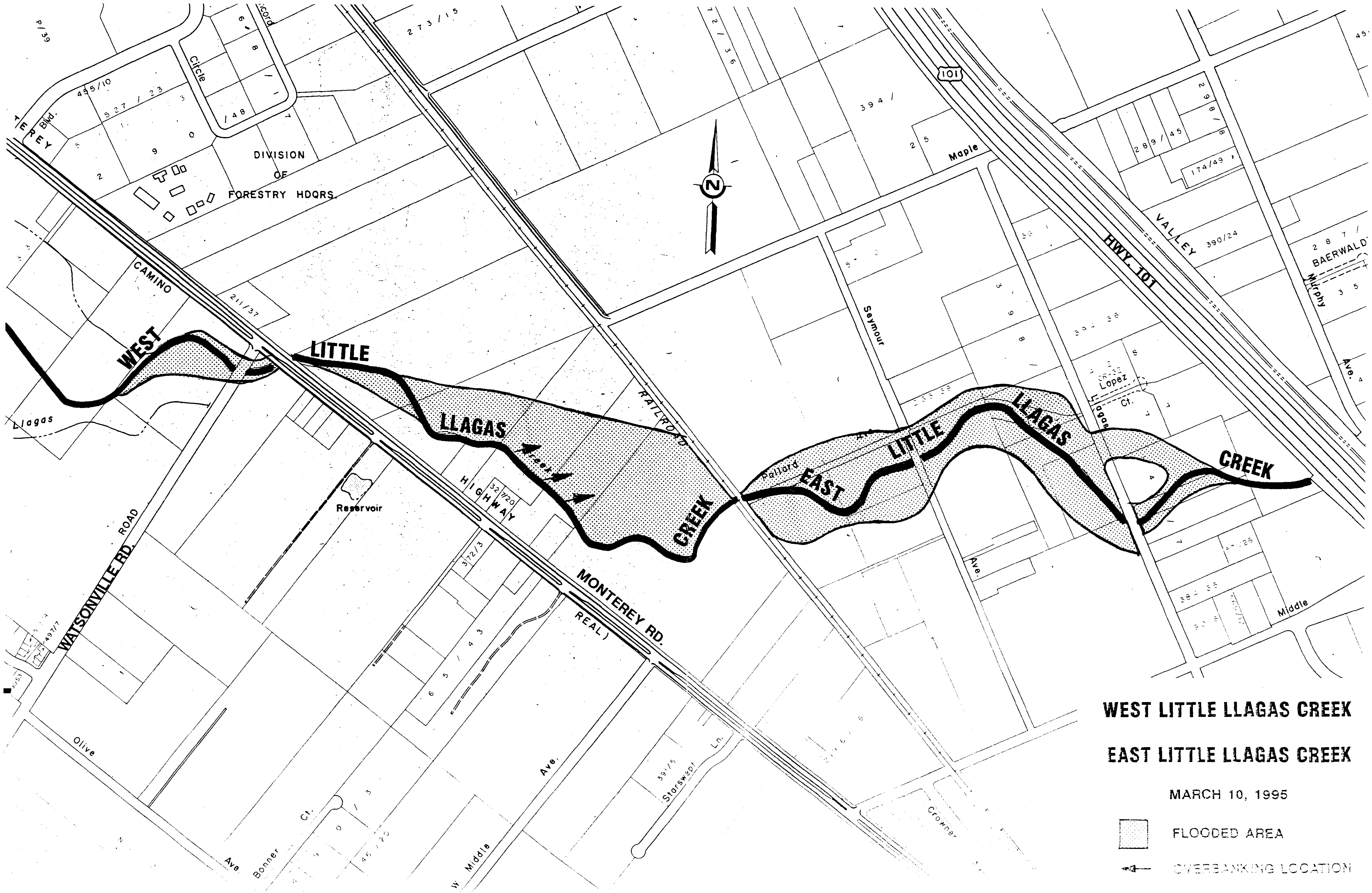
FLOODED AREA



WEST LITTLE LLAGAS CREEK

MARCH 10, 1995

FLOODED AREA

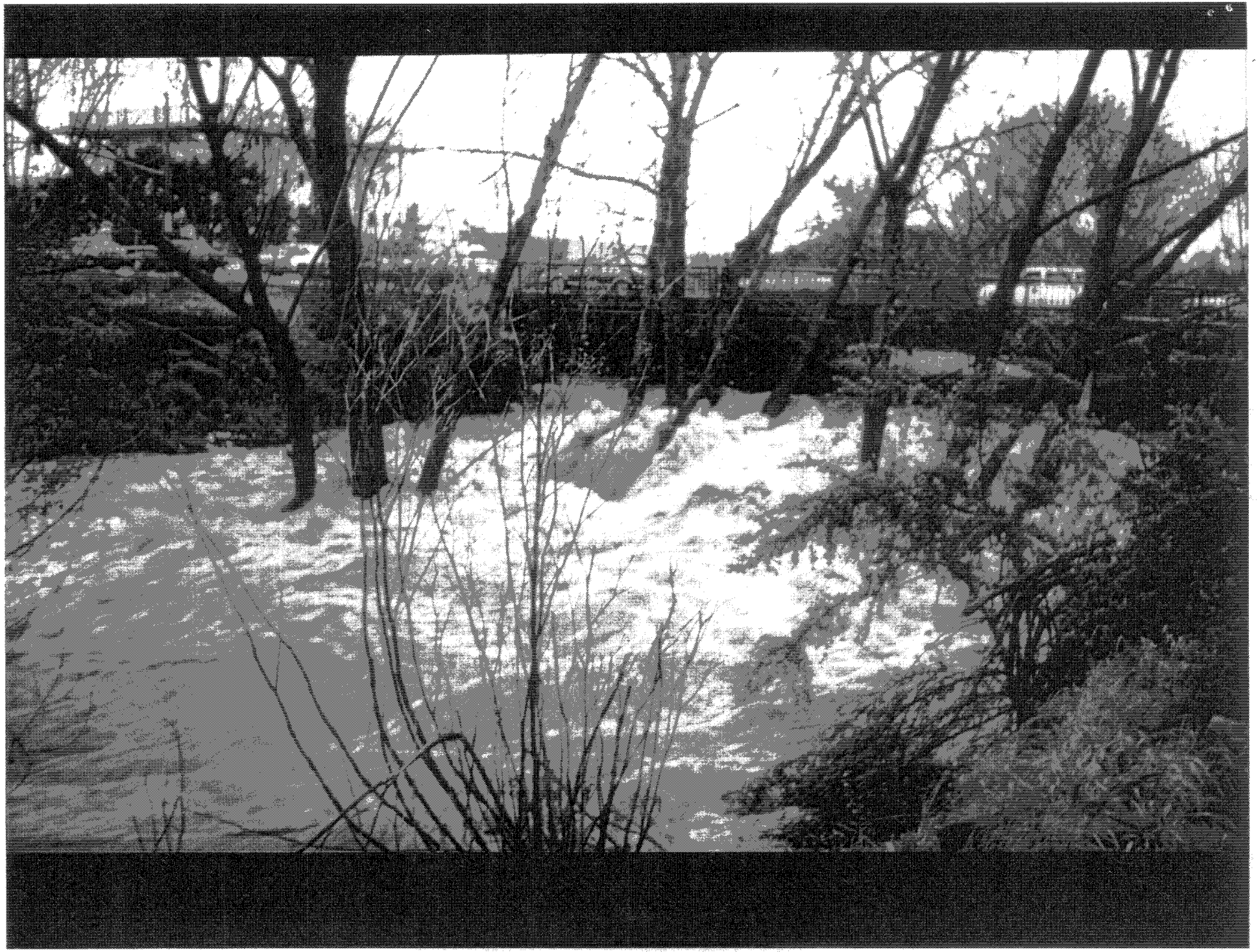

WEST LITTLE LLAGAS CREEK
EAST LITTLE LLAGAS CREEK
MARCH 10, 1995
FLOODED AREA
OVERBANKING LOCATION
DIVISION OF FORESTRY HDQRS.
WATSONVILLE RD.
MONTEREY RD.
HWY. 101
RAILROAD
Reservoir
Seymour
Maple
Middle
Olive
Murphy
BAERWALDT

1995 FLOODING PHOTOGRAPHS

FLOODING FROM ADOBE CREEK AT FREMONT RD. 1/10/95

GUADALUPE RIVER AT HWY. 237 1/11/95

FLOODING DAMAGE CAUSED BY UPPER PENITENCIA CREEK AT KING RD. NURSERY 1/11/95



GUADALUPE RIVER D/S HEDDING ST. 3/9/95

GUADALUPE RIVER AT SANTA CLARA ST. 3/9/95

SAN TOMAS AQUINO CREEK AT HETCH HETCHY CROSSING 3/10/95

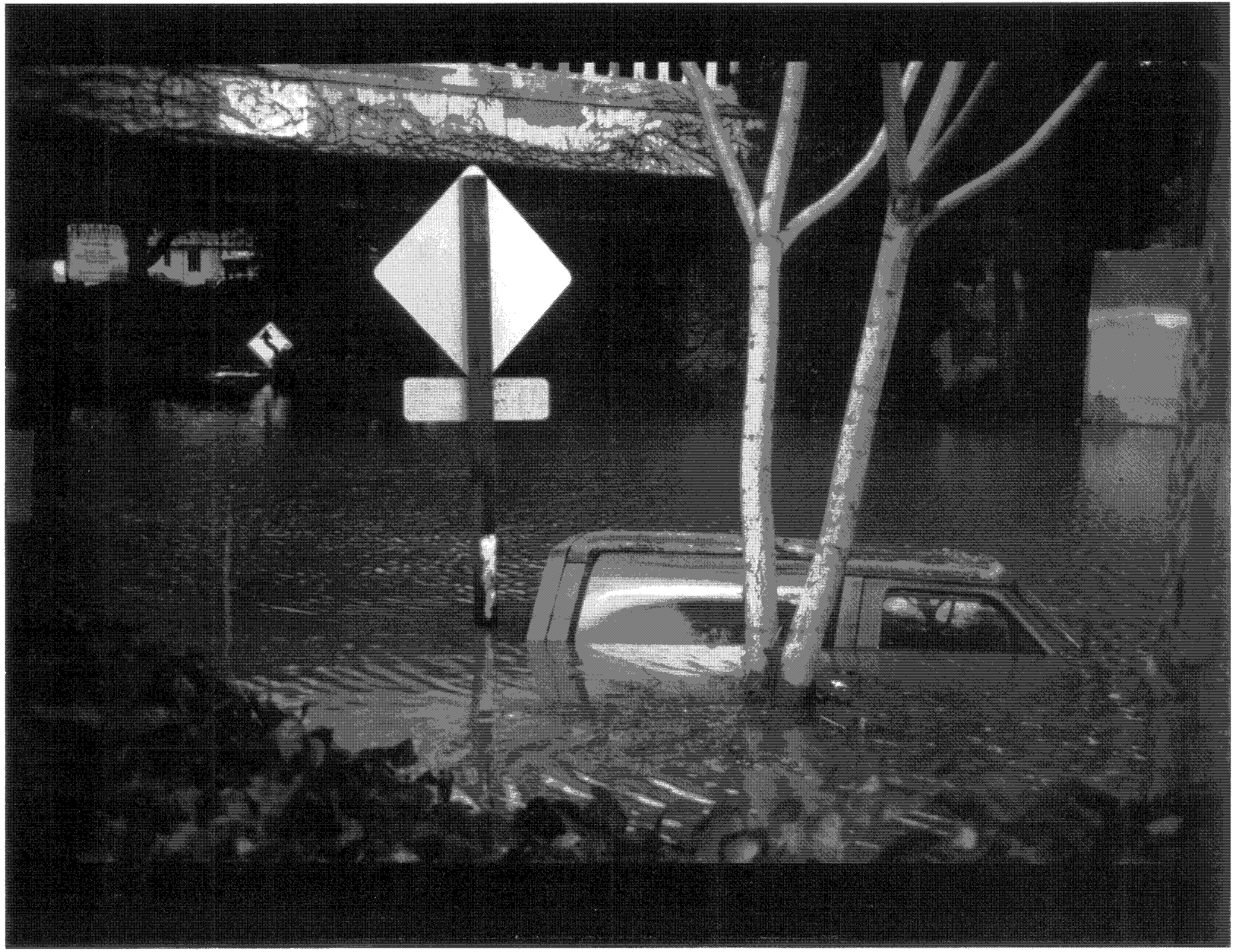
GUADALUPE RIVER AT HWY. 87 3/10/95

FLOODING FROM GUADALUPE RIVER AT JULIAN ST. AND AUTUMN ST. 3/10/95

FLOODING CAUSED BY GUADALUPE RIVER AT SAINT JOHN ST. AND RIVER ST. 3/10/95

FLOODING FROM GUADALUPE RIVER AT EDWARDS AVE. AND MCLELLAN AVE. 3/10/95

FLOODING FROM GUADALUPE RIVER AT HARLISS AVE. 3/10/95



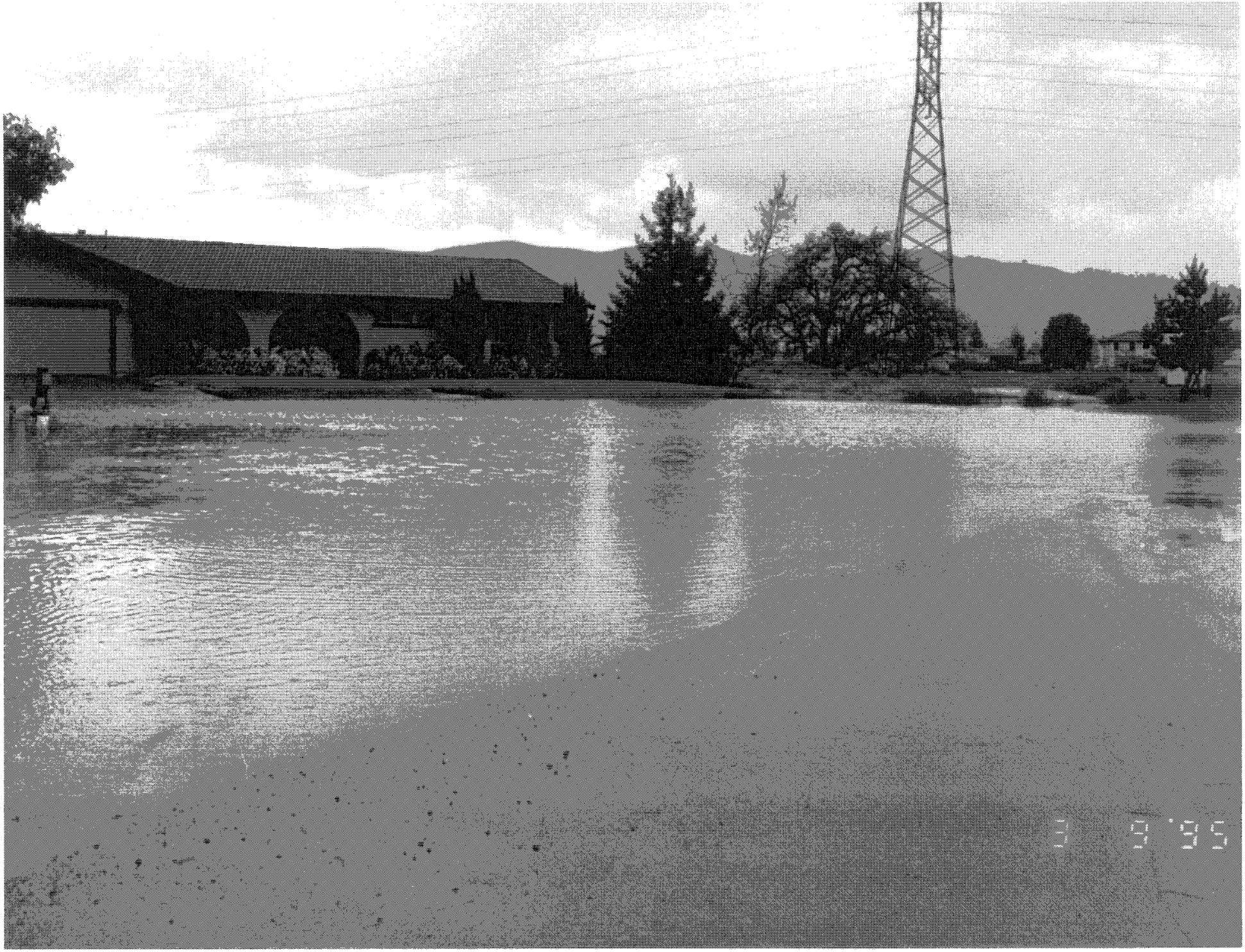
FLOODING FROM GUADALUPE RIVER AT WILLOW ST. 3/10/95

FLOODING FROM GUADALUPE RIVER AT SANTA CLARA ST. 3/11/95

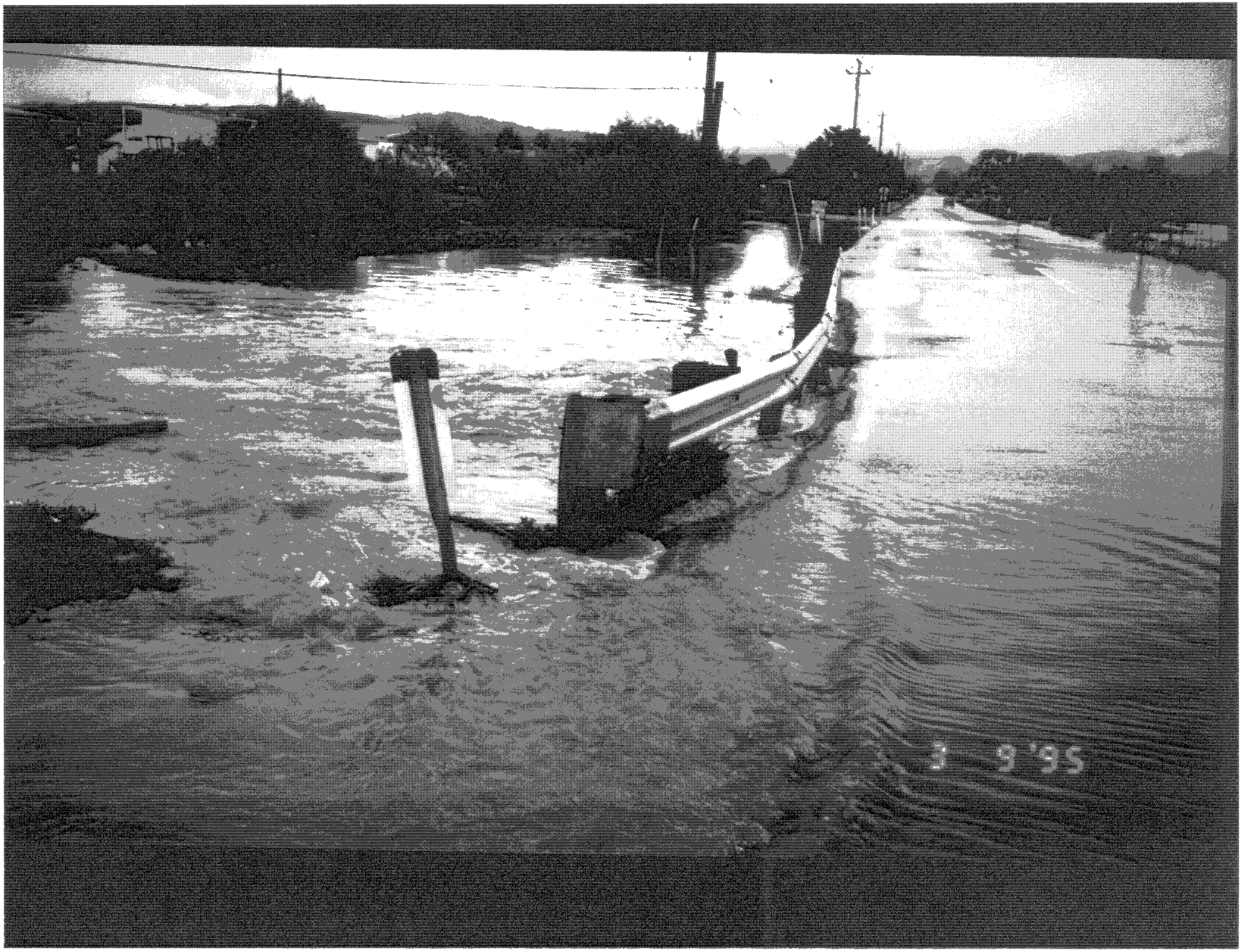
LOCAL DRAINAGE CAUSED BY GUADALUPE RIVER ON THE LIGHT RAIL AT ORCHARD ST. AND FIRST ST. 3/11/95

FLOODING CAUSED BY FISHER CREEK AT BOULAY CT. AND SCHELLER AVE 3/9/95

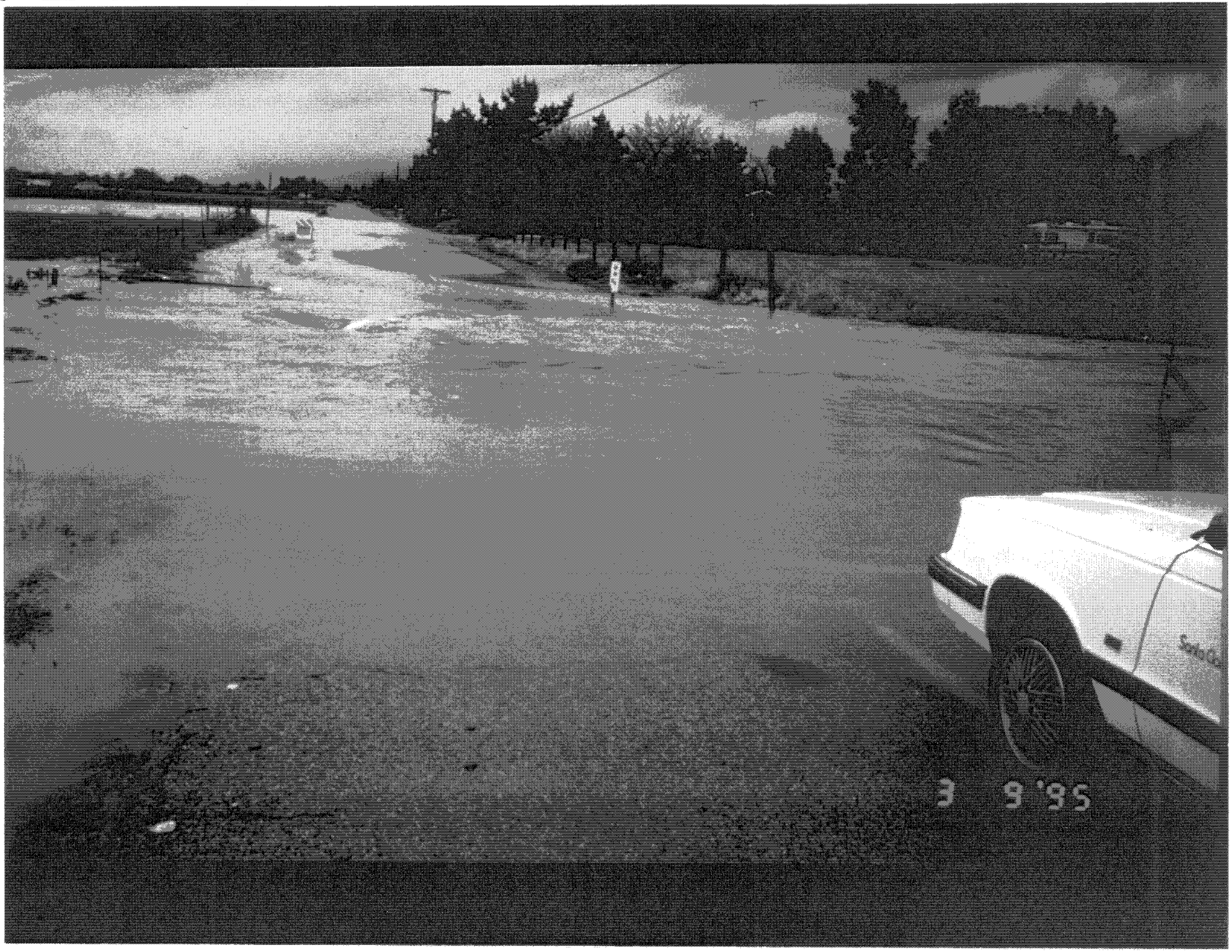
FLOODING CAUSED BY FISHER CREEK AT BLOSSOM CT. 3/9/95



FLOODING CAUSED BY FISHER CREEK AT CAPRISTA CT. 3/9/95



LLAGAS CREEK AT WATSONVILLE RD. 3/9/95



LLAGAS CREEK AT SEYMOUR AVE. 3/9/95