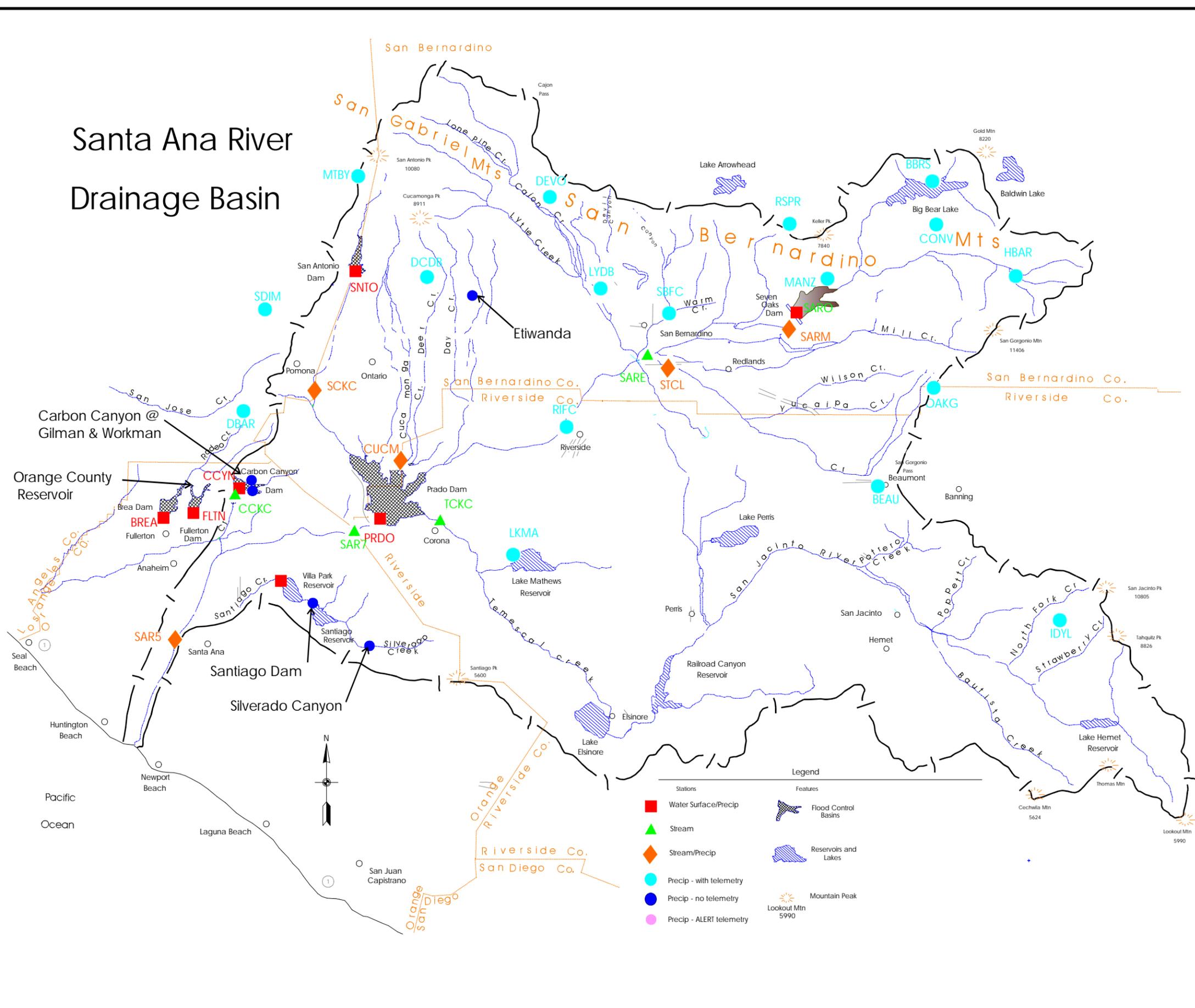
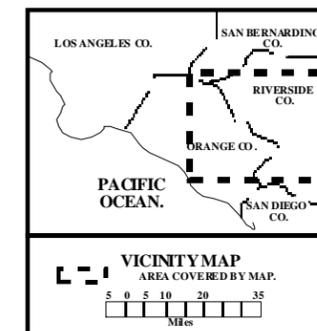


# Santa Ana River Drainage Basin

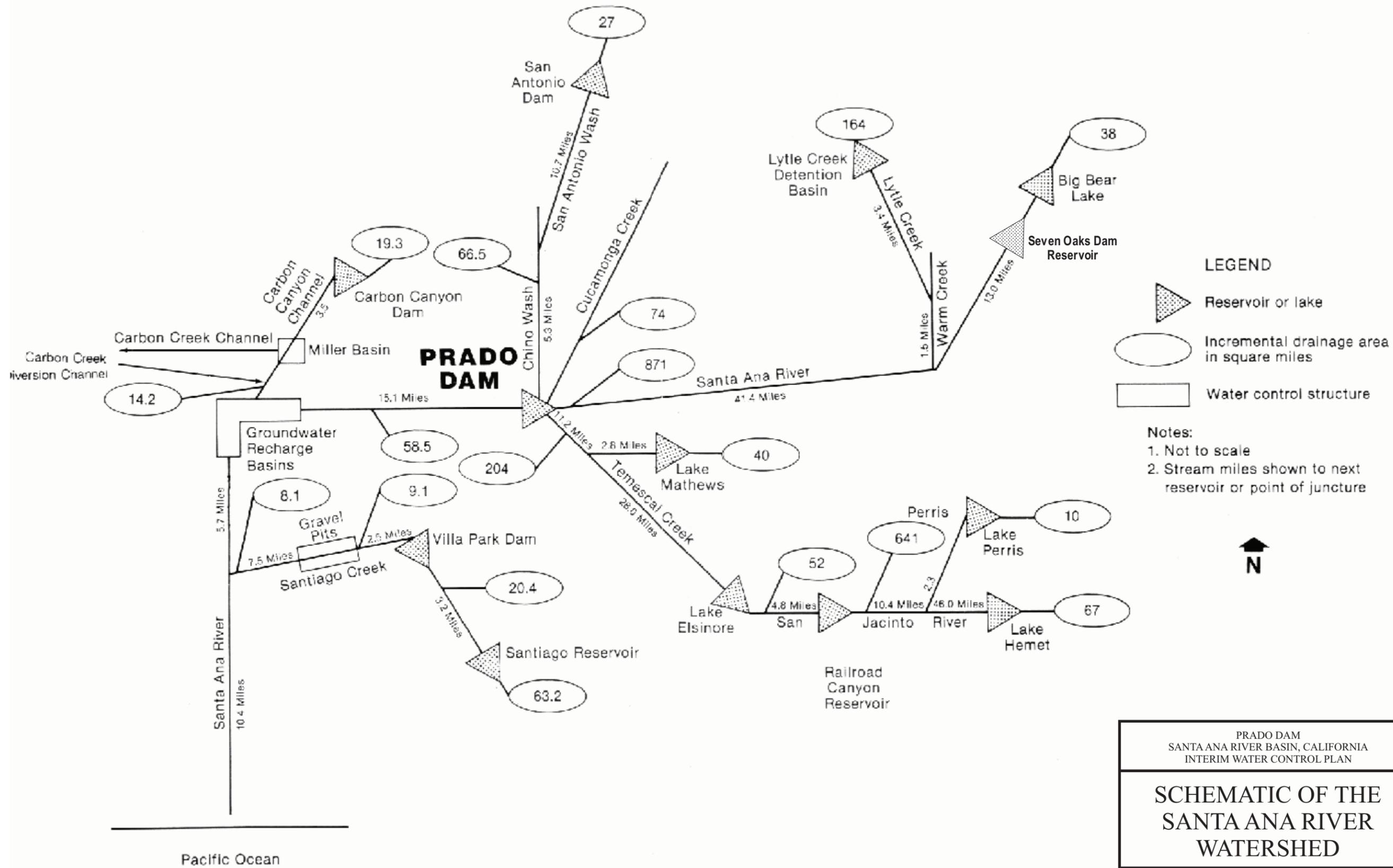


Legend	
Stations	Features
■ Water Surface/Precip	▭ Flood Control Basins
▲ Stream	▭ Reservoirs and Lakes
◆ Stream/Precip	☀ Mountain Peak
● Precip - with telemetry	○ Lookout Mtn 5990
● Precip - no telemetry	
● Precip - ALERT telemetry	

PRADO DAM  
SANTA ANA RIVER BASIN, CALIFORNIA  
INTERIM WATER CONTROL PLAN

**SANTA ANA RIVER  
DRAINAGE AREA**

U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT



**LEGEND**

- Reservoir or lake
- Incremental drainage area in square miles
- Water control structure

- Notes:**
1. Not to scale
  2. Stream miles shown to next reservoir or point of juncture



PRADO DAM  
SANTA ANA RIVER BASIN, CALIFORNIA  
INTERIM WATER CONTROL PLAN

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**SCHEMATIC OF THE  
SANTA ANA RIVER  
WATERSHED**

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U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT

**The Plate you are attempting to access is not currently available.**

For additional information, please contact the Los Angeles District Public Affairs Office at (213) 452-3908.

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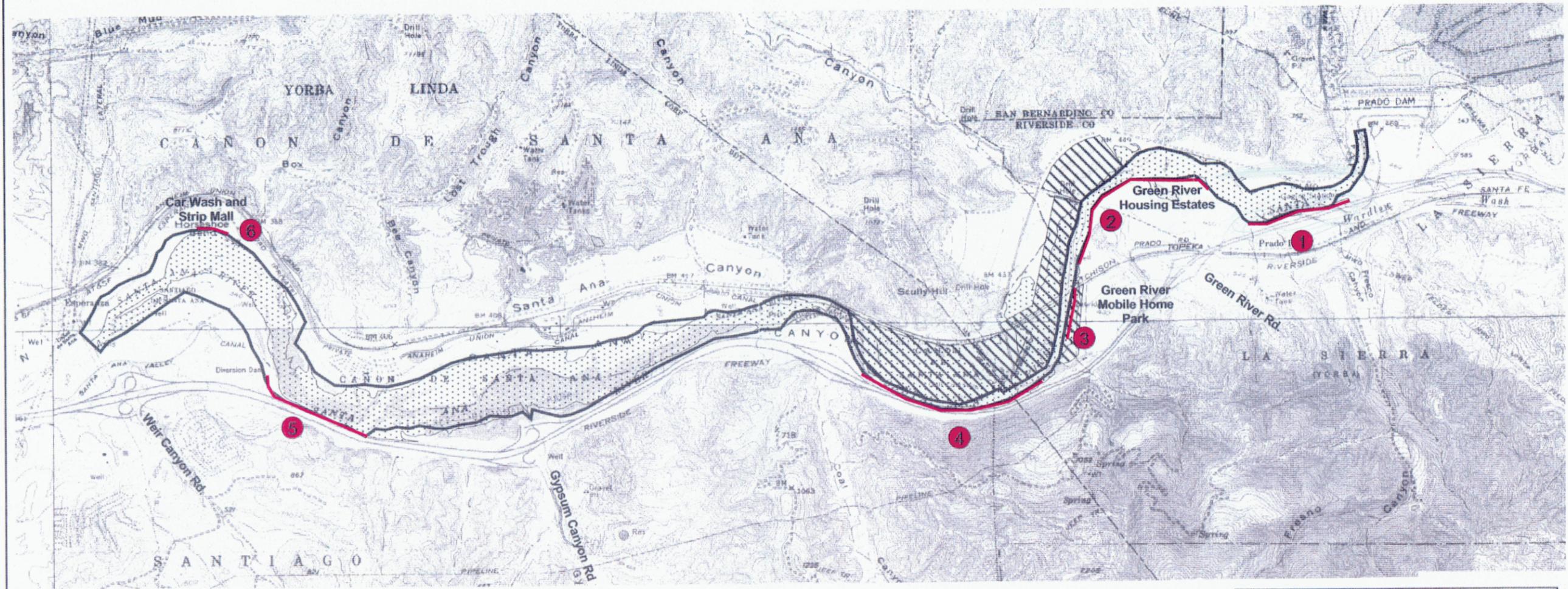
For additional information, please contact the Los Angeles District Public Affairs Office at (213) 452-3908.

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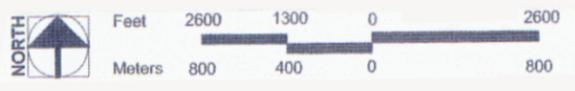
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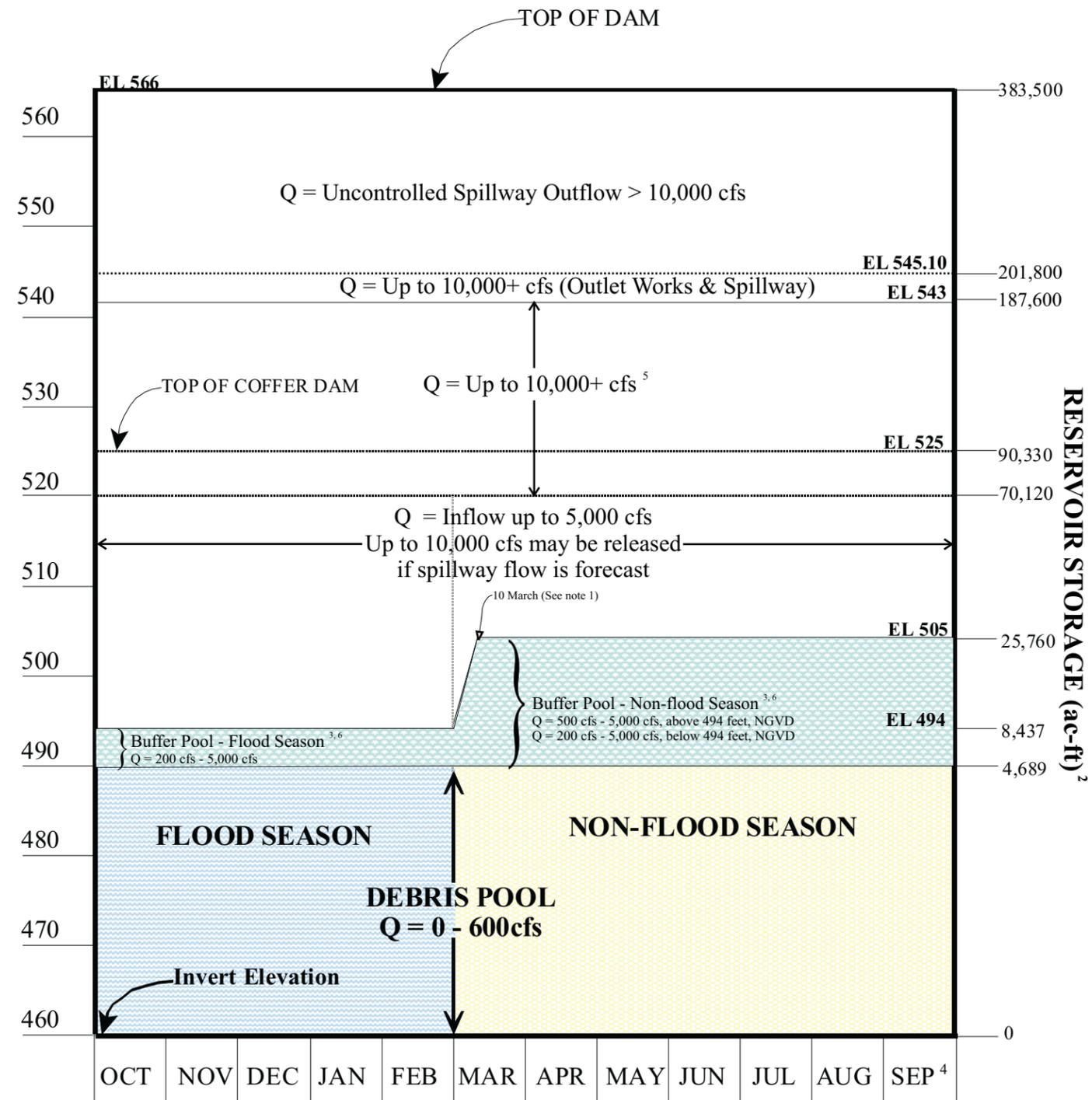
- Channel Improvement Features**
- ① Upper Highway 91 Embankment
  - ② Green River Housing Estate
  - ③ Green River Mobile Home Park
  - ④ Low Flow Channel at Green River Golf Course
  - ⑤ Lower Highway 91 Embankment
  - ⑥ Car Wash and Strip Mall Protection



PRADO DAM  
 SANTA ANA RIVER BASIN, CALIFORNIA  
 INTERIM WATER CONTROL PLAN

**LOWER SANTA ANA  
 RIVER CONSTRUCTION  
 (REACH 9)**

U.S. ARMY CORPS OF ENGINEERS  
 LOS ANGELES DISTRICT



### PRADO DAM Release Ranges - Using Existing Outlet Works

Release Range for the following Reservoir Elevations (ft)		Description
460 - 490		A debris pool is allowed to form in order to prevent floating debris from being drawn into the outlet works. Water within the debris pool is released at rates that equal OCWD's capability to recharge the groundwater without waste to the Pacific Ocean. Flow may be shut off to facilitate construction.
Flood Season * 490 - 494	Non-Flood Season ** 490 - 505	Reservoir releases range between 200 cfs and 5,000 cfs. Flood control releases match inflow up to 5,000 cfs year around. Water conservation releases are made equal to OCWD's groundwater recharge capacity subject to minimum releases as specified in section 4-03.
494 - 520	505 - 520	The resulting maximum reservoir release will depend on inflow forecast and downstream conditions. If necessary, a maximum of 10,000 cfs will be released within this elevation range.***
520 - 525		The resulting maximum reservoir release will depend on inflow forecast, observed downstream conditions, and possible damages to the construction site protected by the coffer dam. If safe, the maximum possible discharge may be released within this elevation range.***
525 - 543		The resulting maximum from the previous elevation range shall be maintained until conditions at the dam, downstream channel, or the upstream construction site warrants a change in releases.
543 - 545.10		Flood control release through the outlet works are reduced at the reservoir pool level rises above the spillway crest to as to maintain flow from the spillway plus outlet works at a maximum outflow.
545.10 - 566		All outlet gates are closed at reservoir pool levels above 545.10ft. Uncontrolled spillway discharge only. Under the extremely remote circumstance that the dam embankment were in danger of overtopping, all outlet gates are to be opened fully to minimize the possibility of dam failure.

Footnotes:

\* Flood season is defined to be between 1 Oct and 28 Feb of each year. Within this time period, a release magnitude between 200 cfs and 5,000 cfs is computed based on a real-time forecast of inflow volume so as not to exceed WSE 494 ft. The minimum release will always be equal to OCWD's groundwater recharge capability.

\*\* Non-flood Season is defined to be between 1 March and 30 Sep of each year. Within this time period, a release magnitude between 200 cfs to 5,000 cfs is computed based on a real-time forecast of inflow so as not to exceed WSE 505 ft, except during the month of September, if the reservoir is required to be empty due to maintenance work. Between elevation 494 and 505, an average minimum release of 500 cfs must be made.

\*\*\*The decision of release magnitude will depend on storm and runoff conditions, as well as conditions of the reservoir and channels in the Santa Ana River watershed, as how the flood control operational objectives of the dam can be met.

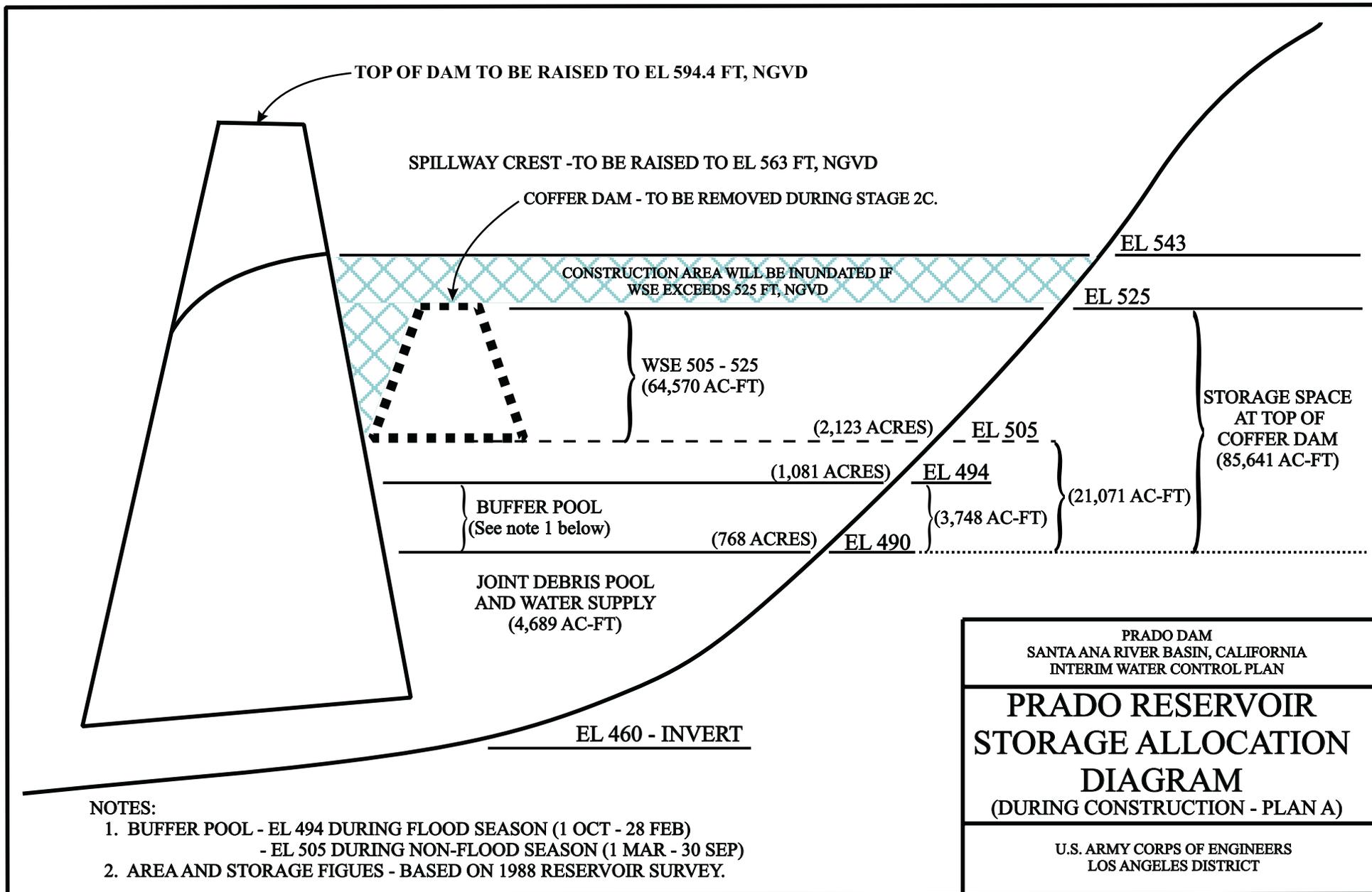
**NOTES:**

- Beginning 1 March, the reservoir WSE may be increased at a rate of 1.1 ft/day until WSE 505 ft is reached (by March 10).
- Reservoir Survey 1988.
- OCWD's spreading capacity is 200 - 600 cfs during both flood and non-flood seasons; if forecasts indicate WSE 505 ft will be exceeded, match inflow with outflow up to, 5000 cfs.
- September is designated as maintenance period (i.e., May require reservoir to be empty).
- Above Elevation 520 ft, releases may be increased to the maximum possible discharge to minimize spilling or to protect the upstream construction, only if dam safety is not compromised and downstream channel conditions allow it. (The maximum capable release within this range is 14,100 cfs to 17,000 cfs.)
- Releases could be reduced, if necessary, to protect downstream construction activities subject to minimum release requirements (200 cfs during the flood season and 500 cfs during the non-flood season).
- If releases greater than 10,000 cfs are made, a dam safety team must be on site to evaluate impacts to the dam and outlet works.

PRADO DAM  
SANTA ANA RIVER BASIN, CALIFORNIA  
INTERIM WATER CONTROL PLAN

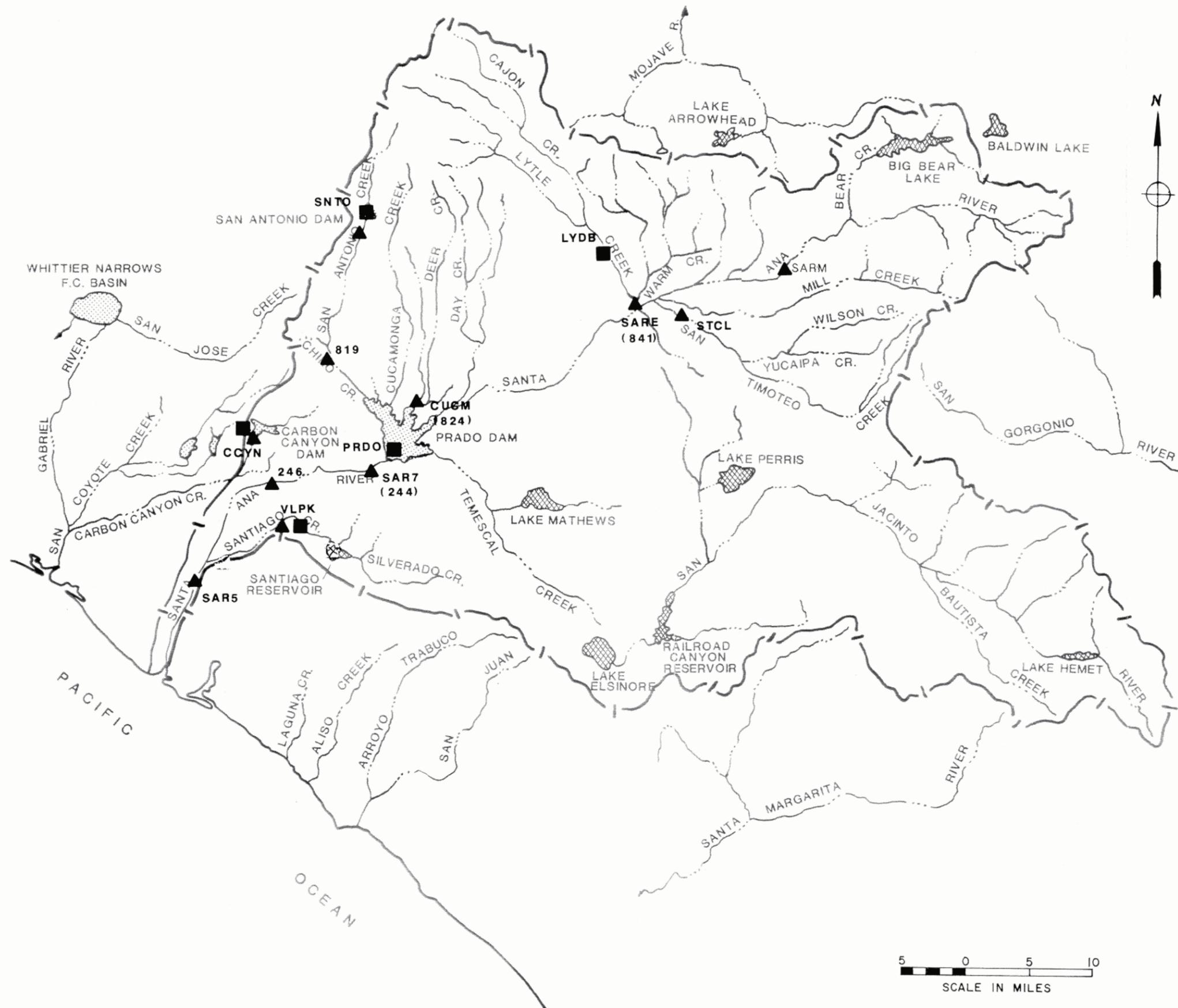
## WATER CONTROL DIAGRAM PLAN A

U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT



**NOTES:**

1. BUFFER POOL - EL 494 DURING FLOOD SEASON (1 OCT - 28 FEB)  
- EL 505 DURING NON-FLOOD SEASON (1 MAR - 30 SEP)
2. AREA AND STORAGE FIGUES - BASED ON 1988 RESERVOIR SURVEY.



- LEGEND**
- ▲ STREAM GAGE
  - RESERVOIR WATER SURFACE ELEVATION GAGE
  - SAR5** LOS ANGELES TELEMETRY SYSTEM (LATS) GAGE
  - 819** ALERT SYSTEM GAGE
  - WATER COURSE
  - ◻ FLOOD CONTROL BASIN
  - ◻ WATER SUPPLY RESERVOIR



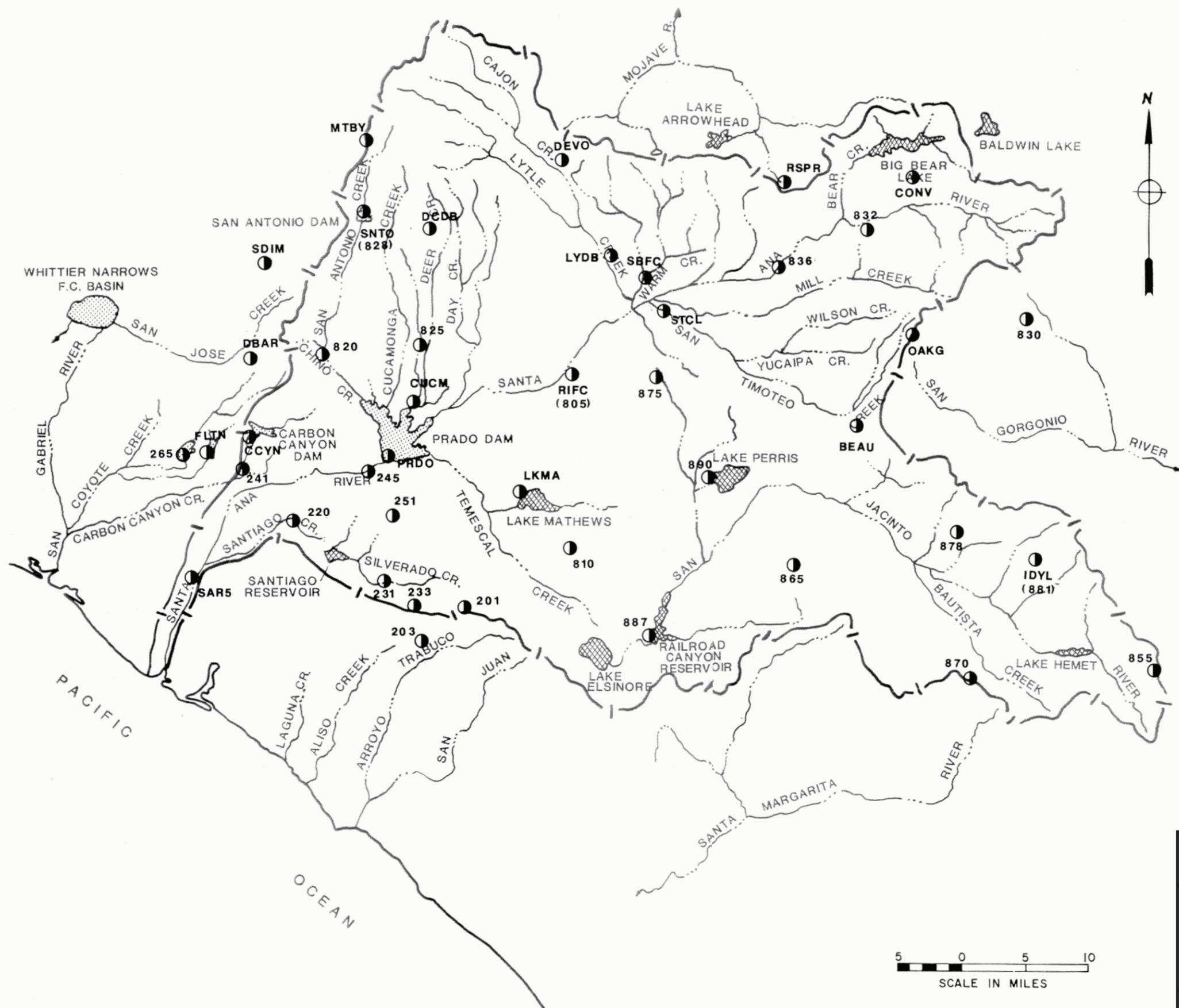
PRADO DAM  
 SANTA ANA RIVER BASIN, CALIFORNIA  
 INTERIM WATER CONTROL PLAN

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**ALERT AND LATS  
 STREAM AND RESERVOIR  
 GAGING STATIONS**

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U.S. ARMY CORPS OF ENGINEERS  
 LOS ANGELES DISTRICT



- LEGEND
- BEAU** LOS ANGELES TELEMETRY SYSTEM (LATS) GAGE
  - 251** ALERT SYSTEM GAGE
  - WATER COURSE
  - ▨ FLOOD CONTROL BASIN
  - ▩ WATER SUPPLY RESERVOIR



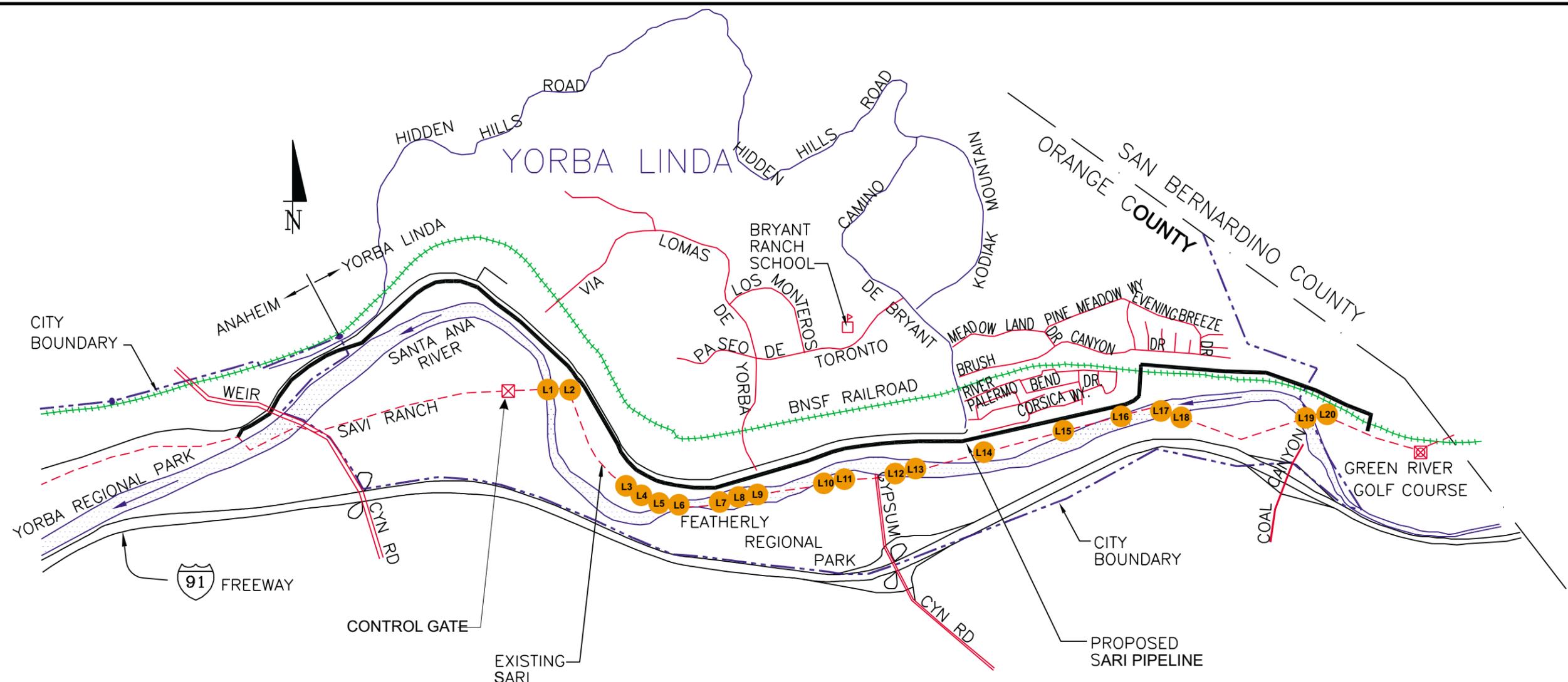
PRADO DAM  
SANTA ANA RIVER BASIN, CALIFORNIA  
INTERIM WATER CONTROL PLAN

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PRECIPITATION GAGES  
PERTINENT TO PRADO DAM

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U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT



LOCATION	LOCATION OF POTENTIAL SCOUR DISTANCE (MILES) FROM CONTROL GATE AT SAVI RANCH	PIPE DIA (IN)	EXISTING COVER <sup>1</sup> (FT)	ESTIMATED POTENTIAL SCOUR <sup>2</sup> (FT)	COVER AFTER SCOUR <sup>3</sup> (FT)	COMMENTS
L1	0.12	45	6.9	8.6	-1.7	RIVER CROSSING, ENCASED
L2	0.20	45	6.2	5.0	1.2	MANHOLE
L3	0.98	45	3.3	19.4	-16.1	RIVER CROSSING, SCOUR COULD TOTALLY EXPOSE PIPE
L4	1.06	45	4.5	19.4	-14.9	RIVER CROSSING, SCOUR COULD TOTALLY EXPOSE PIPE
L5	1.10	45	18.9	23.0	-4.1	MANHOLE, SCOUR COULD APPROACH MH BASE
L6	1.14	45	7.4	12.9	-5.5	RIVER CROSSING, SCOUR COULD TOTALLY EXPOSE PIPE
L7	1.29	45	18.2	20.0	-1.8	MANHOLE
L8	1.33	45	3.8	13.7	-9.9	RIVER CROSSING, SCOUR COULD TOTALLY EXPOSE PIPE
L9	1.39	45	7.4	13.7	-6.3	RIVER CROSSING, SCOUR COULD TOTALLY EXPOSE PIPE
L10	1.62	45	7.4	9.1	-1.7	RIVER CROSSING
L11	1.66	45	17.7	14.0	3.7	MANHOLE
L12	1.89	45	20.2	23.0	-2.8	MANHOLE
L13	1.93	45	6.4	17.0	-10.6	RIVER CROSSING, SCOUR COULD TOTALLY EXPOSE PIPE
L14	2.11	45	19.3	16.0	3.3	MANHOLE
L15	2.64	42	17.9	17.0	0.9	MANHOLE
L16	2.88	42	18.9	15.0	3.9	MANHOLE
L17	3.03	42	24.1	22.0	2.1	MANHOLE
L18	3.07	42	3.1	7.9	-4.8	ENCASED RIVER CROSSING, SCOUR COULD TOTALLY EXPOSE PIPE
L19	3.63	45	4.4	14.6	-10.2	ENCASED RIVER CROSSING, SCOUR COULD TOTALLY EXPOSE PIPE
L20	3.67	45	17.4	34.0	-16.6	MANHOLE, SCOUR COULD TOTALLY EXPOSE MH BASE

NOTE 1: MEASURED FROM EXISTING GROUND PER 1998 SURVEY COMPARED TO TOP OF EXISTING SARI PIPE AT RIVER CROSSING OR MANHOLE.  
 NOTE 2: TAKEN FROM AN OCSD PROJECT REPORT FOR SANTA ANA RIVER INTERCEPTOR SEWER PROJECT (CONTRACT NO. 2-14-5R2) DATED NOVEMBER 1996, PREPARED BY BROWN & CALDWELL.  
 NOTE 3: EXISTING COVER MINUS ESTIMATED POTENTIAL SCOUR.  
 NOTE 4: DRAWING IS NOT TO SCALE.

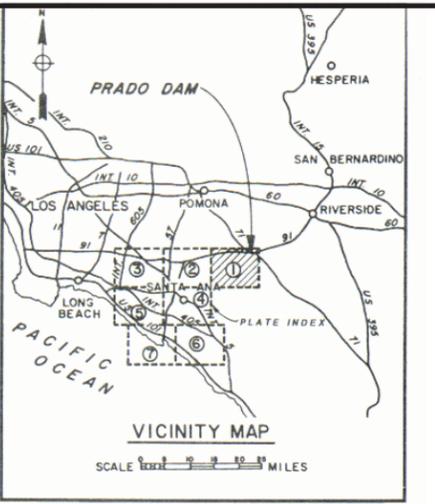
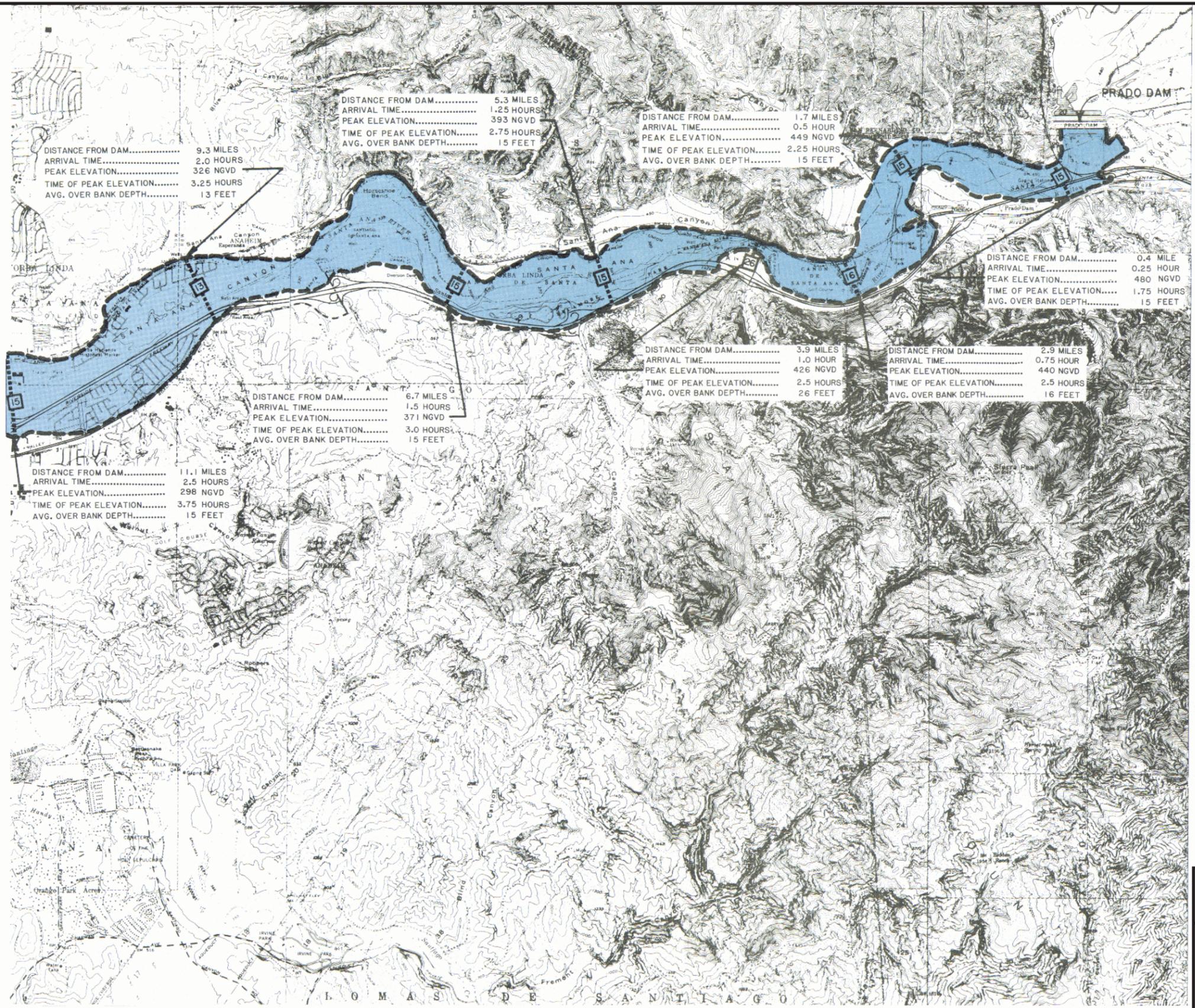
PRADO DAM  
 SANTA ANA RIVER BASIN, CALIFORNIA  
 INTERIM WATER CONTROL PLAN

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**SANTA ANA RIVER  
 INTERCEPTOR (SARI LINE)  
 POTENTIAL SCOUR AREAS**

---

U.S. ARMY CORPS OF ENGINEERS  
 LOS ANGELES DISTRICT



**LEGEND**

- Limit of flood due to dam failure with the pool at spillway crest, elevation 543 feet.
- Average overbank depth in feet at cross section.
- Cross Section



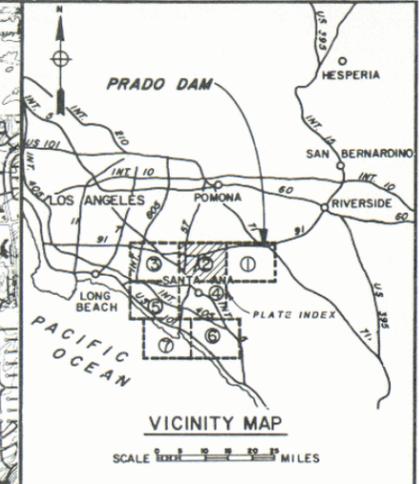
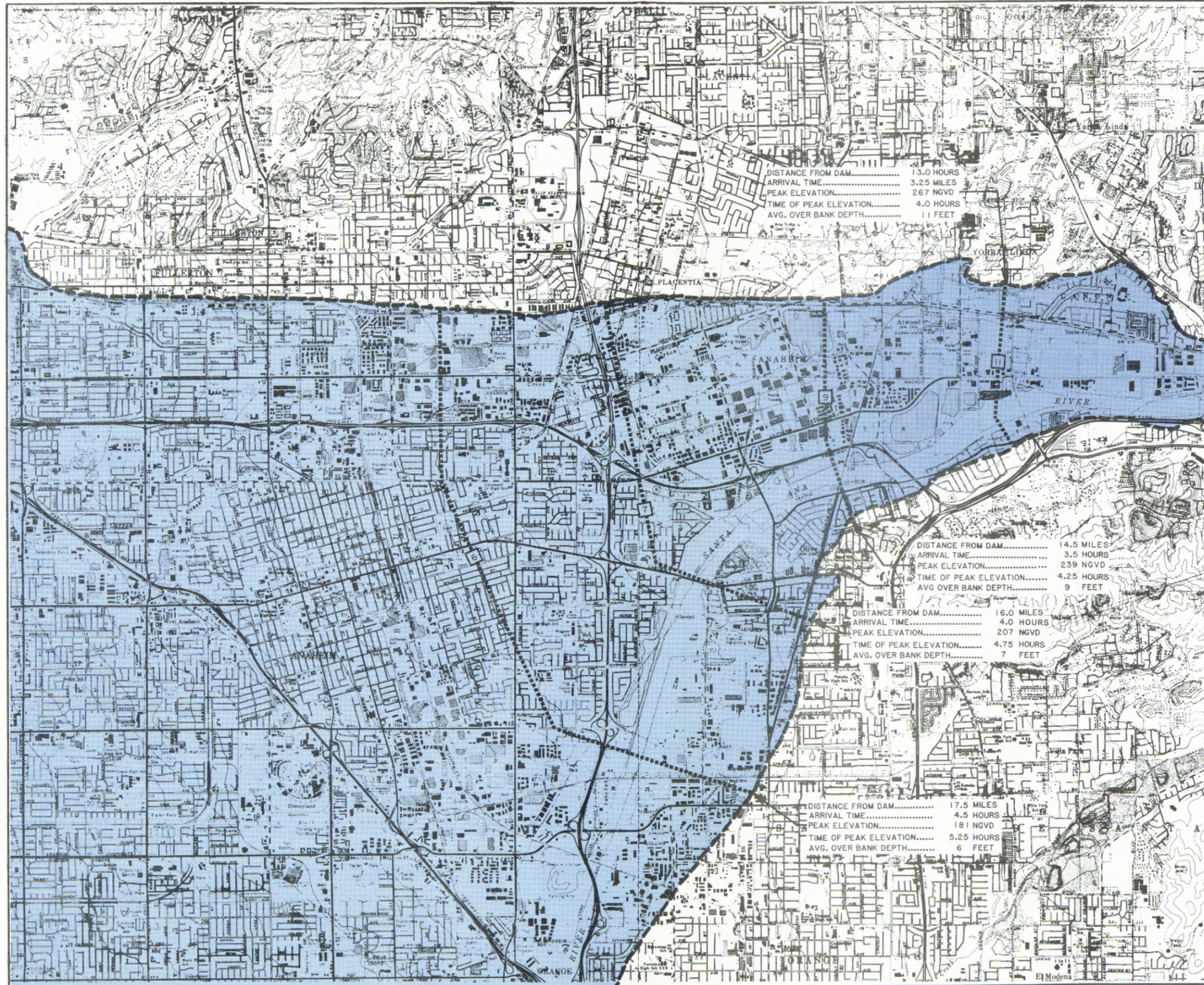
Contour interval 20 and 25 feet  
National Geodetic Vertical Datum of 1929  
Source of base map: U. S. Geological Survey 7.5 minute series

**NOTE:** The inundated areas shown on this map reflect events of an extremely remote nature. These results are not in any way intended to reflect upon the integrity of the Prado Dam

PRADO DAM  
SANTA ANA RIVER BASIN, CALIFORNIA  
INTERIM WATER CONTROL PLAN

**EMERGENCY ACTION PLAN  
DOWNSTREAM INUNDATION  
AREAS**

U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT



**LEGEND**

- Limit of flood due to dam failure with the pool at spillway crest, elevation 543 feet.
  - Average overbank depth in feet at cross section.
  - Cross Section
- 2000 0 2000 4000 6000  
SCALE IN FEET

Contour interval 5 and 20 feet  
National Geodetic Vertical Datum of 1929  
Source of base map: U. S. Geological Survey  
7.5 minute series

NOTE: The inundated areas shown on this map reflect events of an extremely remote nature. These results are not in any way intended to reflect upon the integrity of the Prado Dam

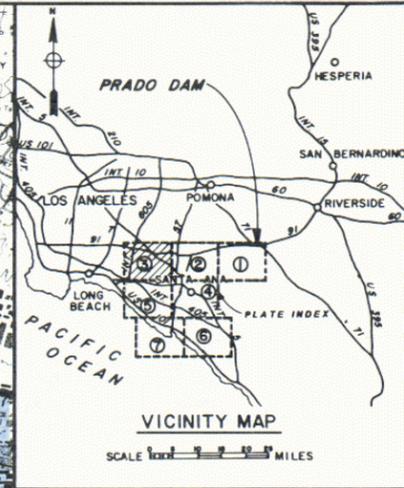
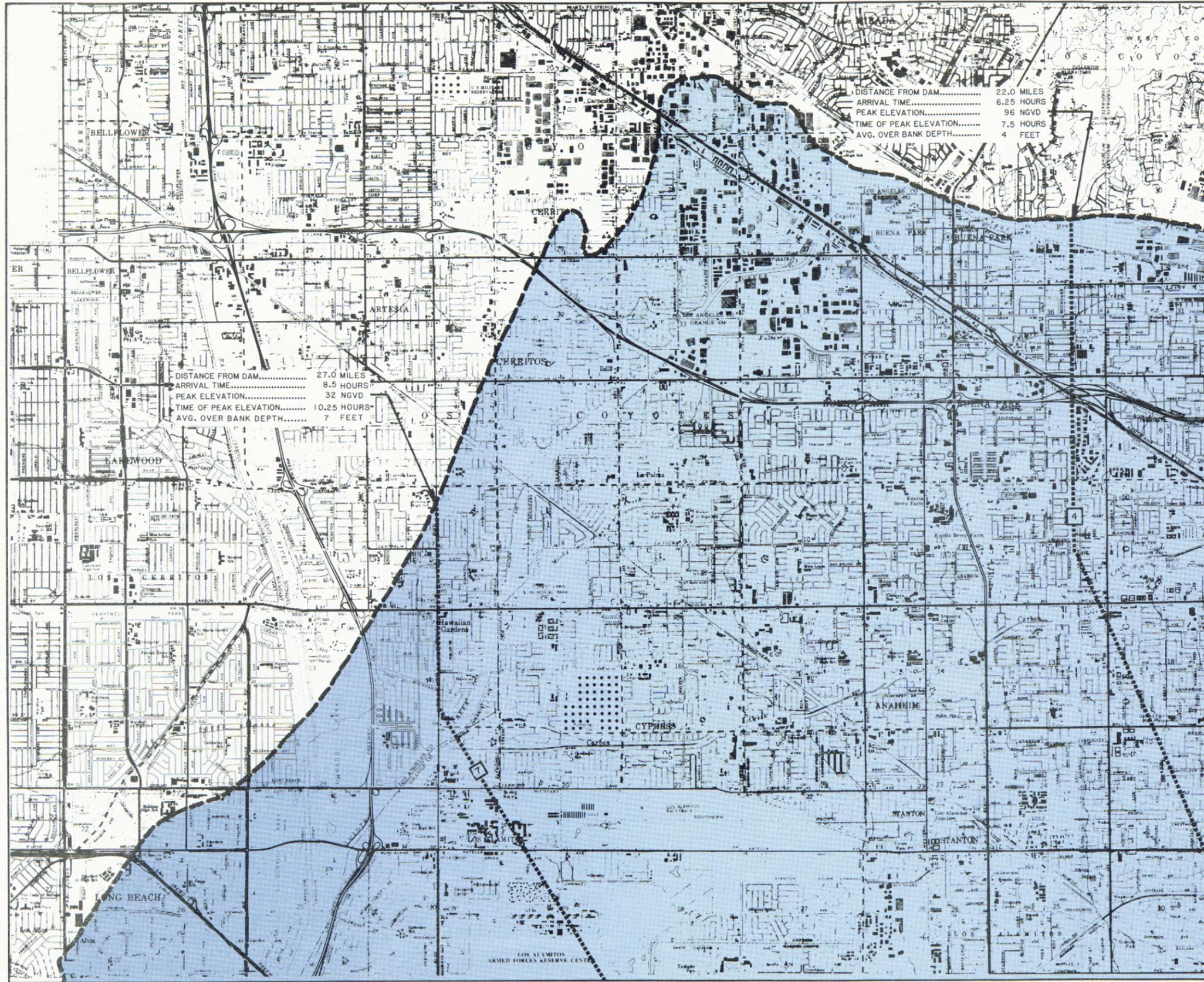
PRADO DAM  
SANTA ANA RIVER BASIN, CALIFORNIA  
INTERIM WATER CONTROL PLAN

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**EMERGENCY ACTION PLAN  
DOWNSTREAM INUNDATION  
AREAS**

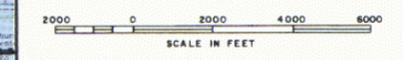
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U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT



LEGEND

-  Limit of flood due to dam failure with the pool of spillway crest, elevation 543 feet.
-  Average overbank depth in feet at cross section.
-  Cross Section



Contour interval 5 feet  
National Geodetic Vertical Datum of 1929  
Source of base map: U. S. Geological Survey  
7.5 minute series

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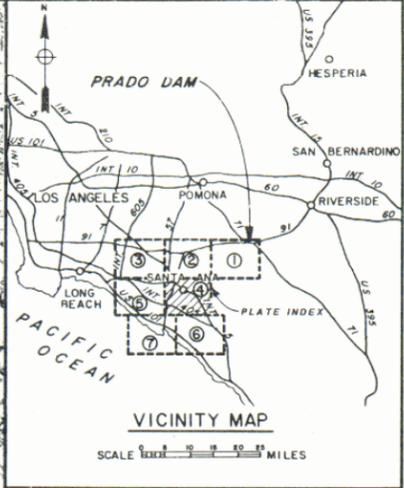
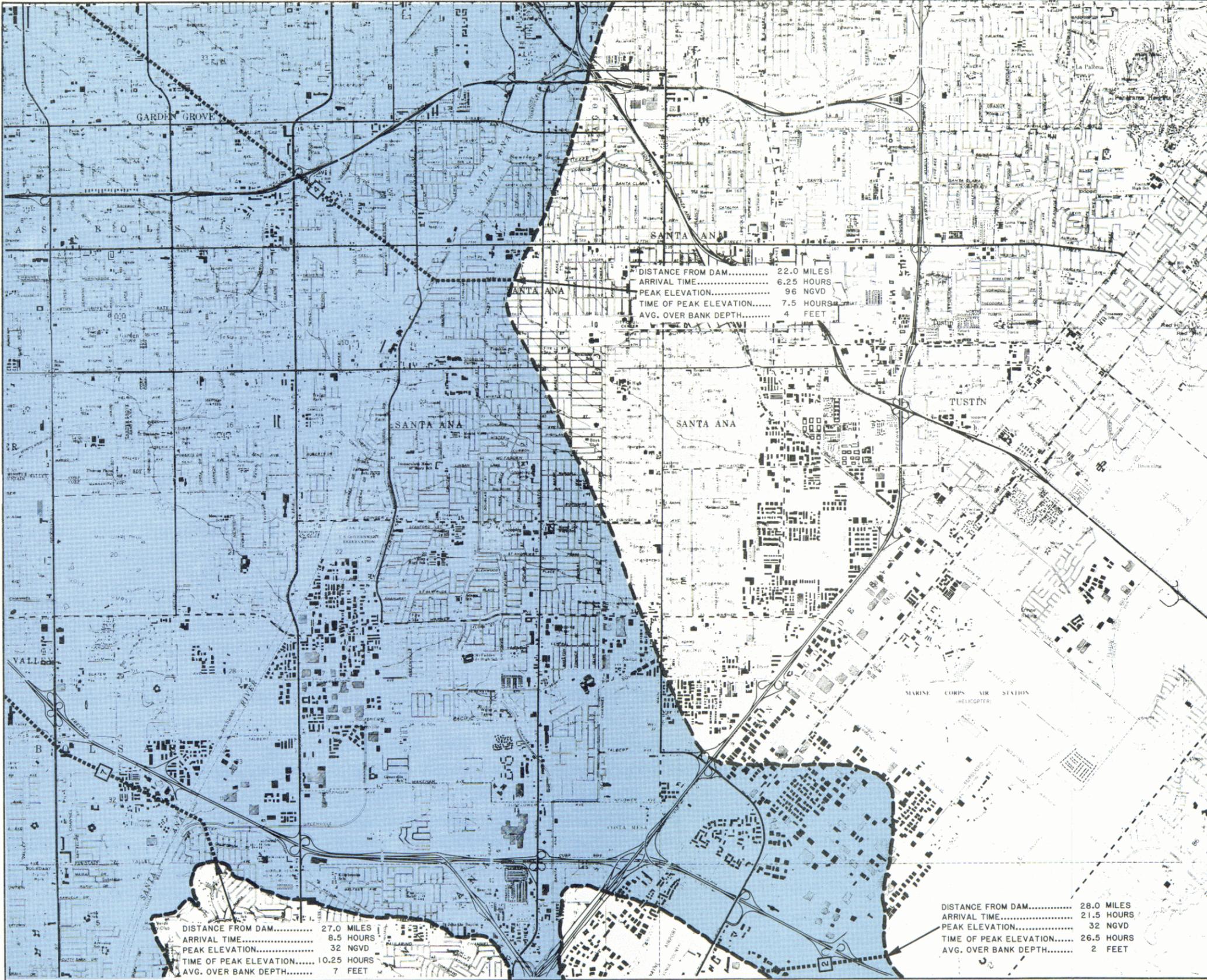
PRADO DAM  
SANTA ANA RIVER BASIN, CALIFORNIA  
INTERIM WATER CONTROL PLAN

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**EMERGENCY ACTION PLAN  
DOWNSTREAM INUNDATION  
AREAS**

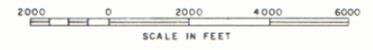
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U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT



LEGEND

-  Limit of flood due to dam failure with the pool at spillway crest, elevation 543 feet.
-  Average overbank depth in feet at cross section.
-  Cross Section



Contour interval 5 and 10  
National Geodetic Vertical Datum of 1929  
Source of base map U.S. Geological Survey  
7.5 minute series

NOTE: The inundated areas shown on this map reflect events of an extremely remote nature. These results are not in any way intended to reflect upon the integrity of the Prado Dam.

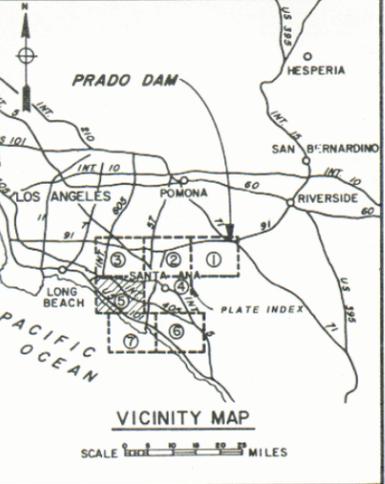
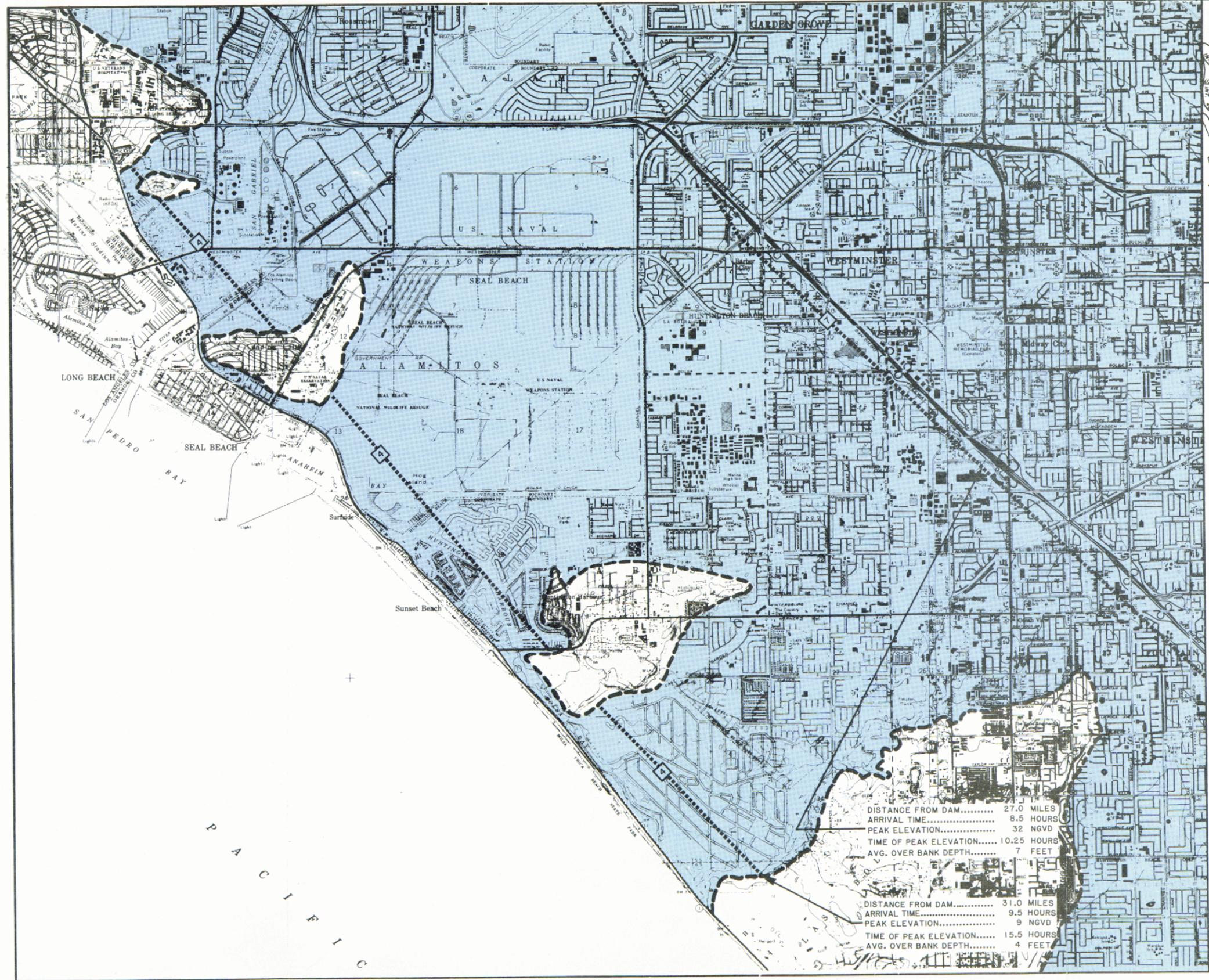
PRADO DAM  
SANTA ANA RIVER BASIN, CALIFORNIA  
INTERIM WATER CONTROL PLAN

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**EMERGENCY ACTION PLAN  
DOWNSTREAM INUNDATION  
AREAS**

---

U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT



LEGEND

- Limit of flood due to dam failure with the pool at spillway crest, elevation 543 feet.
  - Average overbank depth in feet at cross section.
  - Cross Section
- 2000 0 2000 4000 6000  
SCALE IN FEET

Contour interval 10 feet.  
National Geodetic Vertical Datum of 1929  
Source of base map: U. S. Geological Survey  
7.5 minute series

NOTE: The inundated areas shown on this map reflect events of an extremely remote nature. These results are not in any way intended to reflect upon the integrity of the Prado Dam

DISTANCE FROM DAM.....	27.0 MILES
ARRIVAL TIME.....	8.5 HOURS
PEAK ELEVATION.....	32 NGVD
TIME OF PEAK ELEVATION.....	10.25 HOURS
AVG. OVER BANK DEPTH.....	7 FEET

DISTANCE FROM DAM.....	31.0 MILES
ARRIVAL TIME.....	9.5 HOURS
PEAK ELEVATION.....	9 NGVD
TIME OF PEAK ELEVATION.....	15.5 HOURS
AVG. OVER BANK DEPTH.....	4 FEET

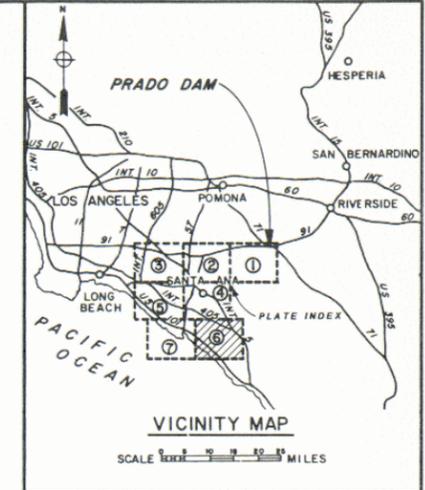
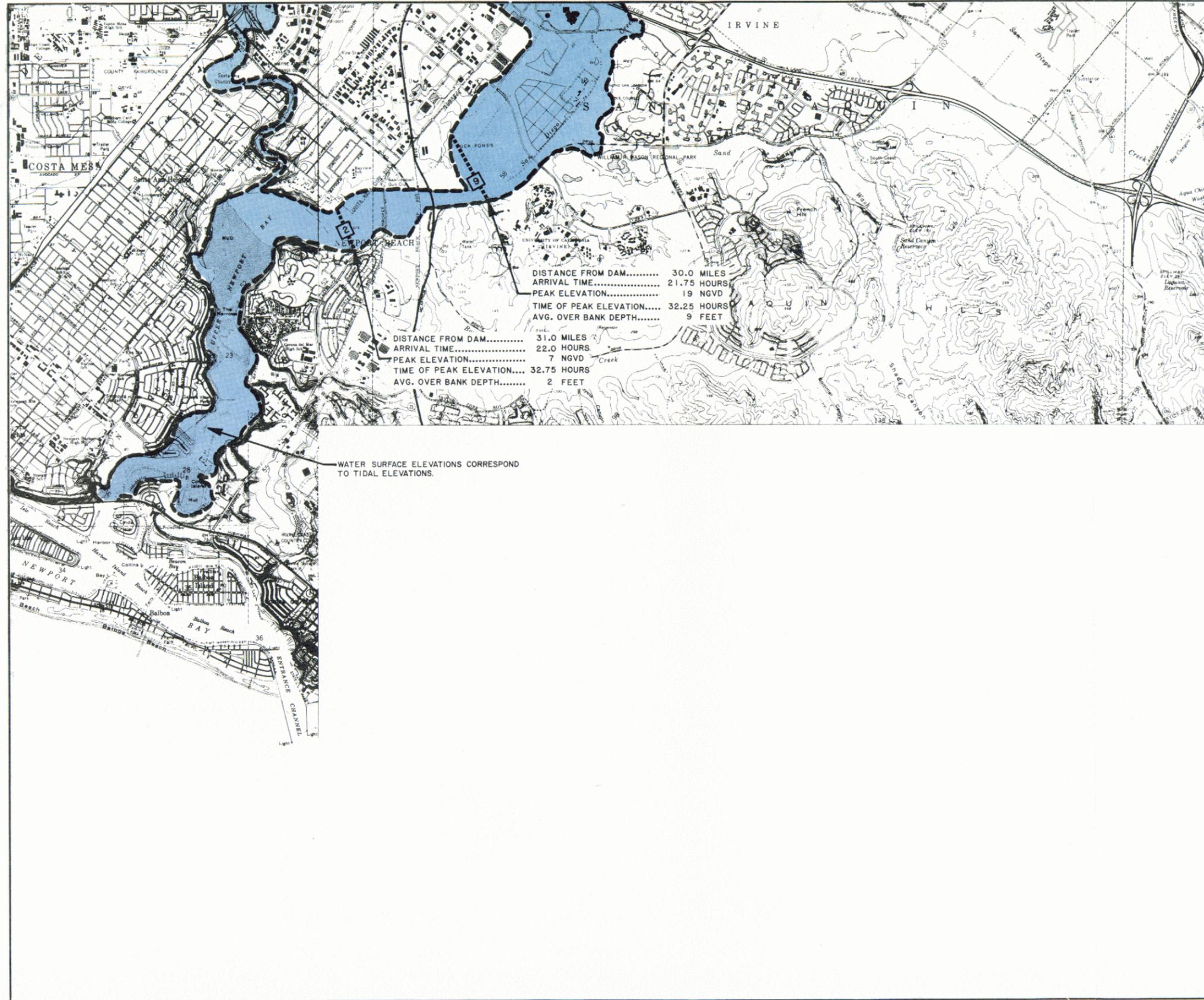
PRADO DAM  
SANTA ANA RIVER BASIN, CALIFORNIA  
INTERIM WATER CONTROL PLAN

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**EMERGENCY ACTION PLAN  
DOWNSTREAM INUNDATION  
AREAS**

---

U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT



LEGEND

- Limit of flood due to dam failure with the pool at spillway crest, elevation 543 feet.
- Average overbank depth in feet at cross section.
- Cross Section



Contour interval 5 and 10 feet  
 National Geodetic Vertical Datum of 1929  
 Source of base map: U. S. Geological Survey  
 7.5 minute series

NOTE: The inundated areas shown on this map reflect events of an extremely remote nature. These results are not in any way intended to reflect upon the integrity of the Prado Dam

PRADO DAM  
 SANTA ANA RIVER BASIN, CALIFORNIA  
 INTERIM WATER CONTROL PLAN

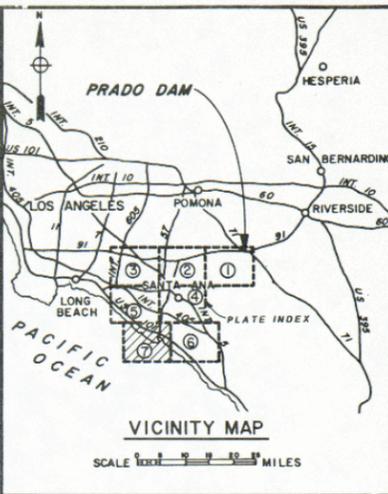
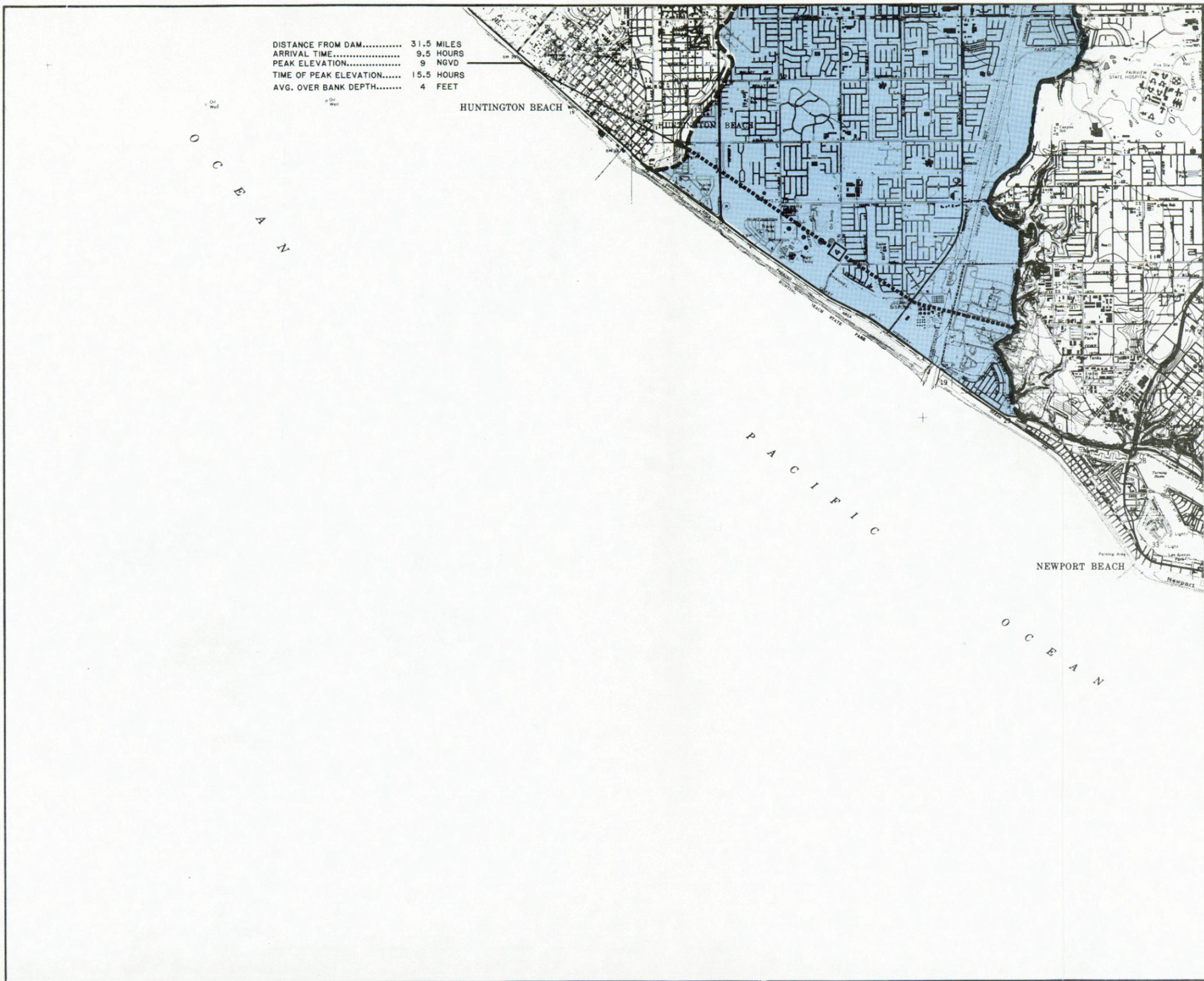
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**EMERGENCY ACTION PLAN  
 DOWNSTREAM INUNDATION  
 AREAS**

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U.S. ARMY CORPS OF ENGINEERS  
 LOS ANGELES DISTRICT

DISTANCE FROM DAM..... 31.5 MILES  
 ARRIVAL TIME..... 9.5 HOURS  
 PEAK ELEVATION..... 9 NGVD  
 TIME OF PEAK ELEVATION..... 15.5 HOURS  
 AVG. OVER BANK DEPTH..... 4 FEET



LEGEND

 Limit of flood due to dam failure with the pool at spillway crest, elevation 543 feet.

 Average overbank depth in feet at cross section.

 Cross Section



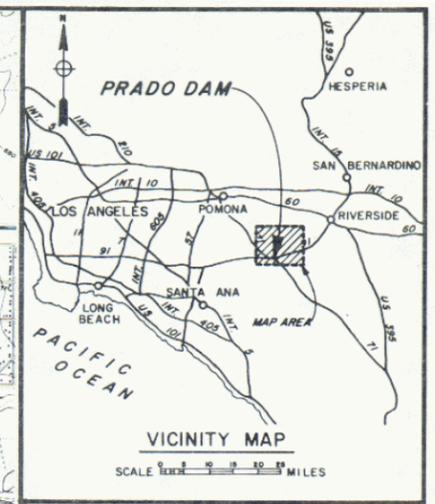
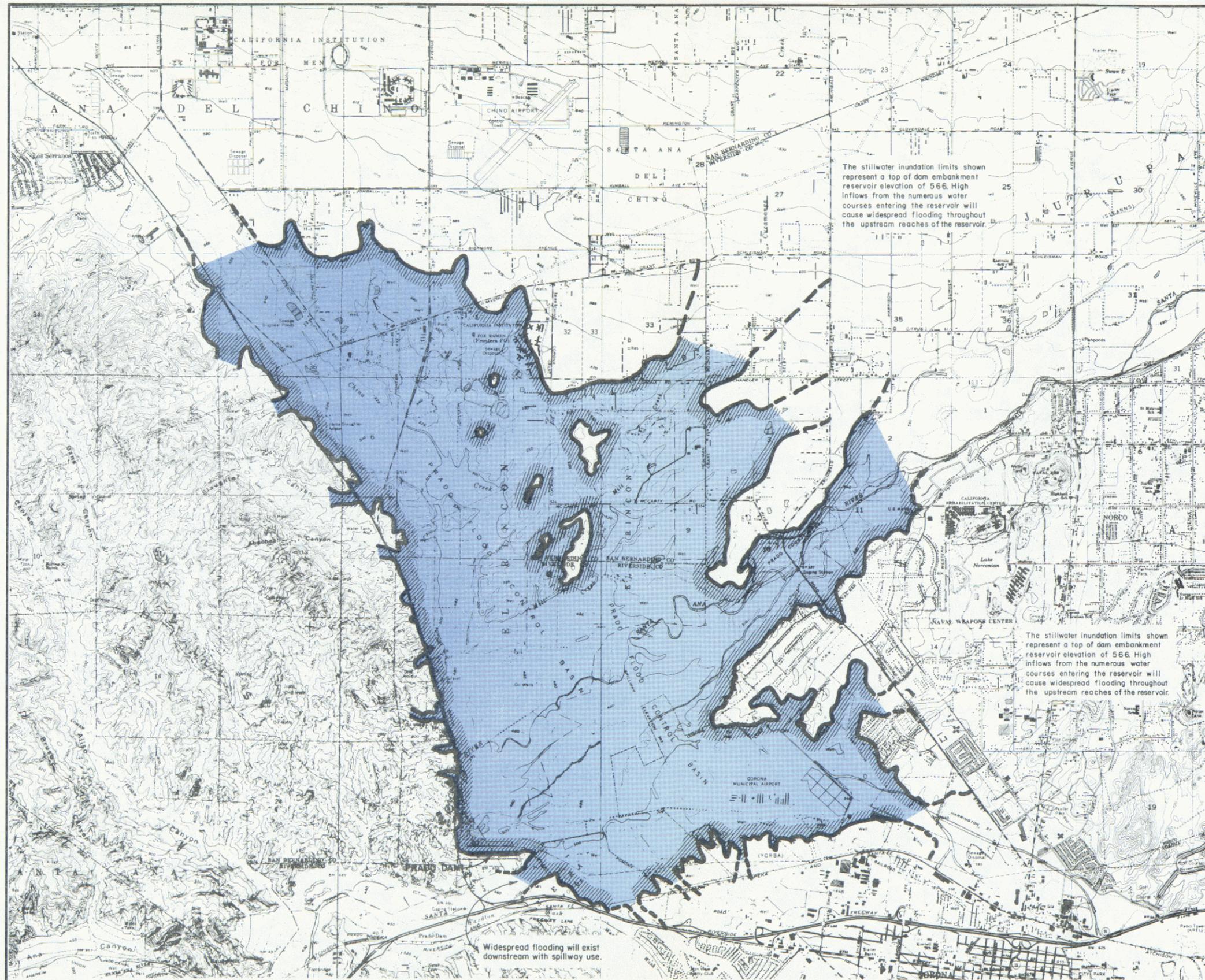
Contour interval 5 feet  
 National Geodetic Vertical Datum of 1929  
 Source of base map: U. S. Geological Survey  
 7.5 minute series

NOTE: The inundated areas shown on this map reflect events of an extremely remote nature. These results are not in any way intended to reflect upon the integrity of the Prado Dam

PRADO DAM  
 SANTA ANA RIVER BASIN, CALIFORNIA  
 INTERIM WATER CONTROL PLAN

**EMERGENCY ACTION PLAN  
 DOWNSTREAM INUNDATION  
 AREAS**

U.S. ARMY CORPS OF ENGINEERS  
 LOS ANGELES DISTRICT



LEGEND

 Limit of reservoir due to pool at top of dam, elev. 566.0 feet NGVD.



Contour interval  
National Geodetic Vertical Datum of 1929  
Source of base map: U. S. Geological Survey  
7.5 minute series

NOTE: The inundated area upstream of the dam, shown on this map, reflects the results of the use of the project under an extremely remote flood condition.

PRADO DAM  
SANTA ANA RIVER BASIN, CALIFORNIA  
INTERIM WATER CONTROL PLAN

**EMERGENCY ACTION PLAN  
DOWNSTREAM INUNDATION  
AREAS**

U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT