

PLATES

REFERENCE TO LOS ANGELES DISTRICT CORPS OF ENGINEERS DOCUMENTS
PERTAINING TO LYTLE-CAJON CREEK IMPROVEMENTS
SAN BERNARDINO COUNTY, CALIFORNIA

REPORT	DATE	REPORT	DATE
1. Interim Report On Survey Of Lytle Creek, San Bernardino County, California, For Flood Control	Dec. 10, 1943	13. Design Memorandum No.2 General Design For Devil Creek Diversion Devil, East Twin, Warm, and Lytle Creeks, California	Feb. 1956
2. Definite Project Report On Lytle And Cajon Creeks Channel Improvement, Santa Ana River Basin California	May 1945	14. General Design For Devil Creek Diversion, Devil, East Twin, Warm and Lytle Creeks, California	Feb. 1956
3. Engineering Construction Record Lytle And Cajon Creeks Improvement Bypass, Levees And Groins	1945-1946	15. Operation & Maintenance Manual For Lytle Creek Levee Appendix To Operations & Maintenance Manual For Lytle And Cajon Creeks, Santa Ana River Basin	Jul. 1958
4. Hydraulic Model Study Intake And Bypass Structures Lytle And Cajon Creeks Channel Improvement, Santa Ana River Basin, California	July 1946	16. Santa Ana River And Tributaries, California Review Report For Flood Control Lytle And Warm Creeks San Bernardino County, California	Oct. 30, 1964
5. Analysis Of Design Lytle And Cajon Creeks Improvement	May 1946	17. Design Memorandum No.1 General Design For Lytle And Warm Creeks San Bernardino County, California	May 1969
6. Report On Survey Of Santa Ana River And Tributaries, California, For Flood Control	Nov. 1946	18. Specifications For Restoration Of Lytle-Cajon Creek Levees, San Bernardino County, California	Oct. 1969
7. Santa Ana River Basin, California Lytle And Cajon Creeks Improvement Lytle Creek Channel Intake Plans For Gate Structure And Control House	Feb. 1947	19. San Bernardino County Appendix F Report On Floods Of January And February 1969	Dec. 1969
8. Specifications For Tainter Gate And Hoist At At Lytle Creek Channel Intake, San Bernardino County, California	Apr. 1947	20. Design Memorandum No.1 General Design For Lytle And Warm Creeks San Bernardino County, California	Sept. 1971
9. Santa Ana River Basin, California Lytle And Cajon Creeks Improvements Specifications For Gate Structure And Control House For Lytle Creek Channel Intake San Bernardino County, California	Dec. 5, 1947	21. Specifications For Flood Debris Removal And Rehabilitation of Channels At Lytle And Warm Creeks And Santa Ana River, San Bernardino County, California	June 1978
10. Operation And Maintenance Manual For Lytle And Cajon Creeks Santa Ana River Basin San Bernardino County, California Flood Control Project	Mar. 1950	22. Supplement To Design Memorandum No.1 For Lytle And Warm Creeks San Bernardino County, California	May 1983
11. Design Memorandum No.1 General Design For Lytle Creek Levee, Devil, East Twin, Warm, And Lytle Creeks, California	Nov. 1955	23. Supplement To Design Memorandum No.1 For Lytle And Warm Creeks San Bernardino County, California	Apr. 1984
12. Specifications For Lytle Creek Levee Near San Bernardino, California	Jan. 1956		

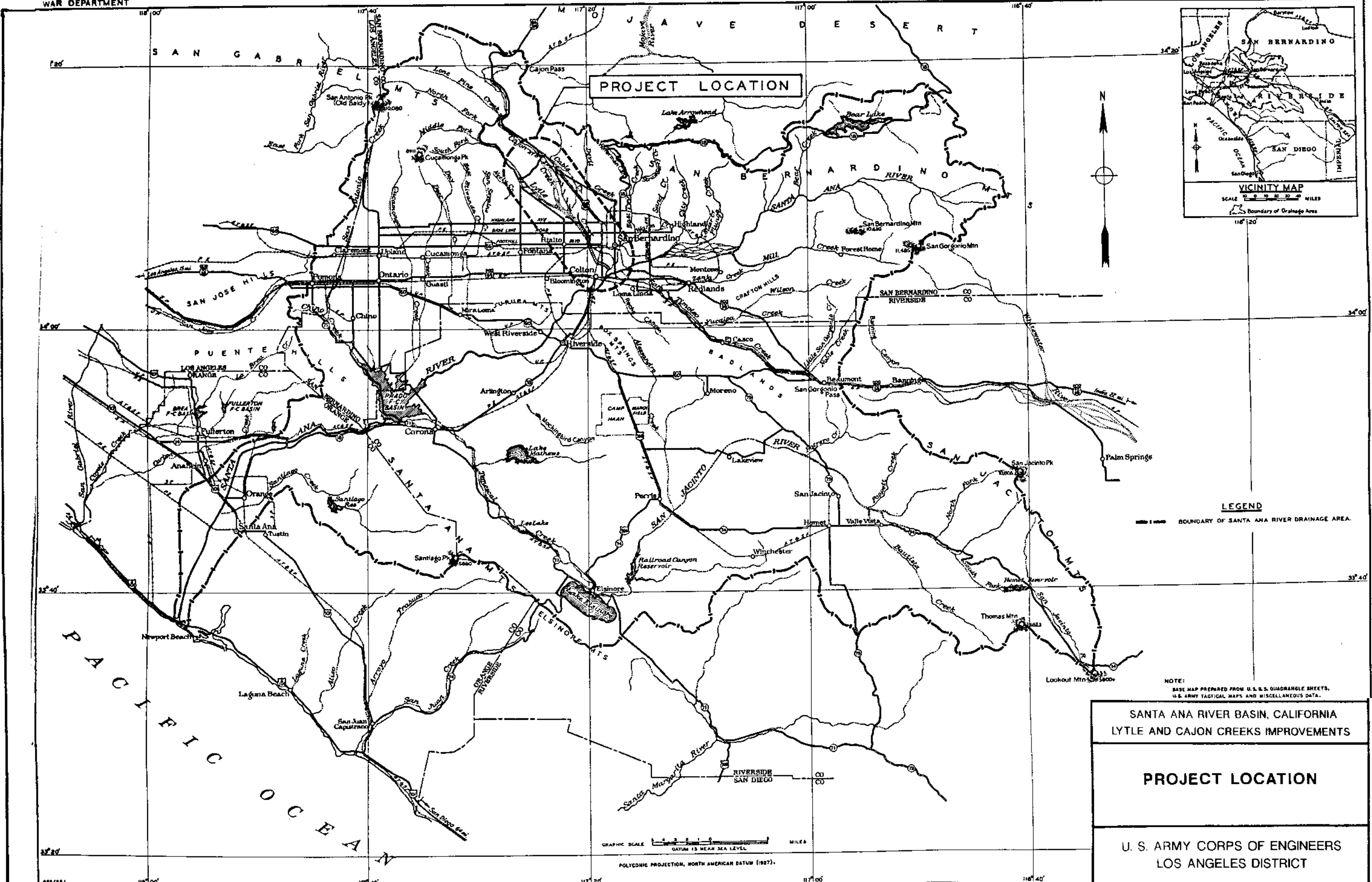
SOURCE: COMPILED FOR STANDING INSTRUCTIONS 1989

SANTA ANA RIVER BASIN, CALIFORNIA
LYTLE AND CAJON CREEKS IMPROVEMENTS

DOCUMENT REFERENCE

U. S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

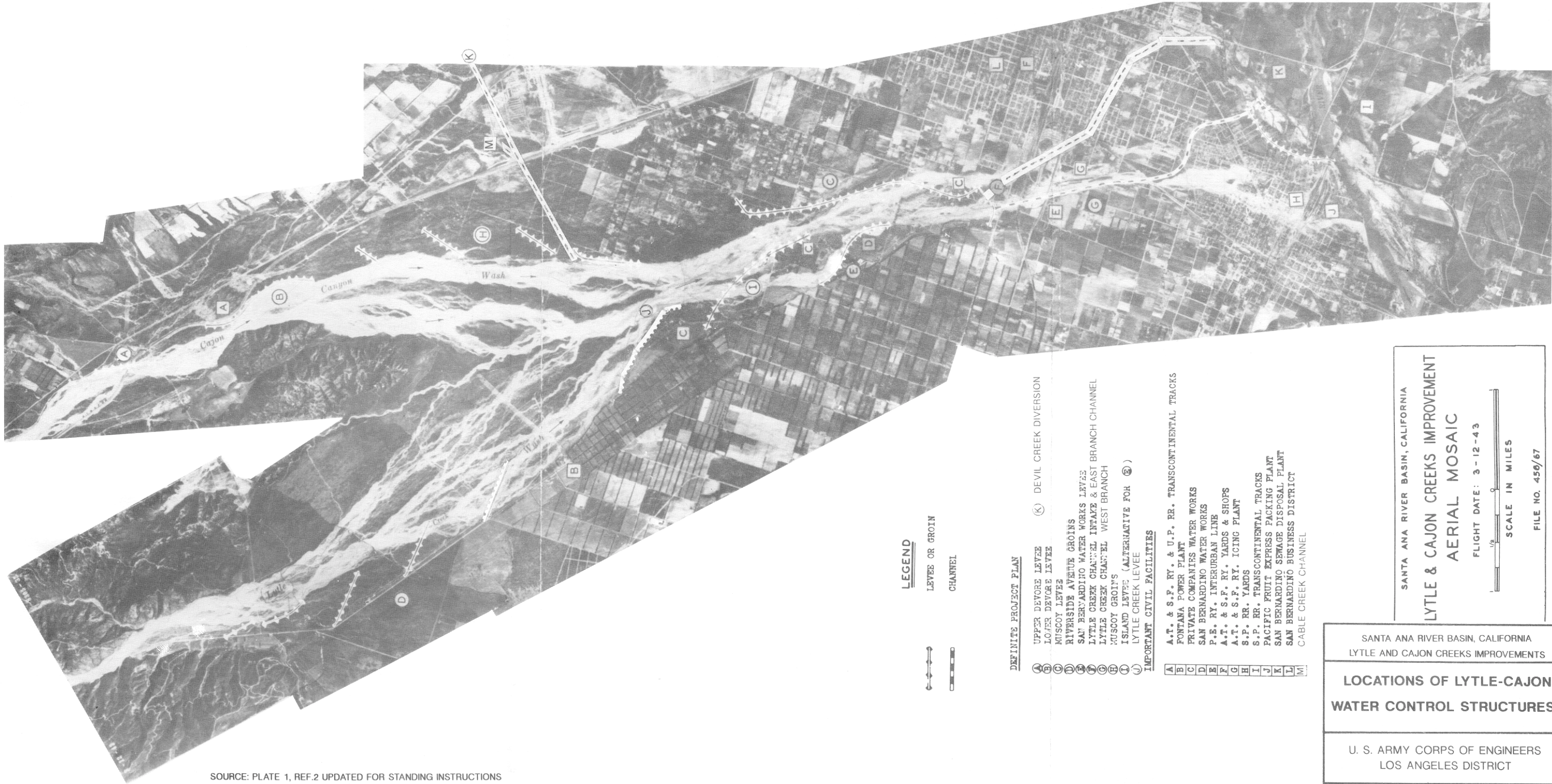
WAR DEPARTMENT



SANTA ANA RIVER BASIN, CALIFORNIA
 LYTLE AND CAJON CREEKS IMPROVEMENTS

PROJECT LOCATION

U. S. ARMY CORPS OF ENGINEERS
 LOS ANGELES DISTRICT



SOURCE: PLATE 1, REF.2 UPDATED FOR STANDING INSTRUCTIONS

LEGEND

- LEVEE OR GROIN
- CHANNEL

DEFINITE PROJECT PLAN

- ① UPPER DEVORE LEVEE
- ② LOWER DEVORE LEVEE
- ③ MUSCOY LEVEE
- ④ RIVERSIDE AVENUE GROINS
- ⑤ SAN BERNARDINO WATER WORKS LEVEE
- ⑥ LYTLE CREEK CHANNEL INTAKE & EAST BRANCH CHANNEL
- ⑦ LYTLE CREEK CHANNEL WEST BRANCH
- ⑧ MUSCOY GROINS
- ⑨ ISLAND LEVEE (ALTERNATIVE FOR ⑥)
- ⑩ LYTLE CREEK LEVEE
- ⑪
- ⑫ DEVIL CREEK DIVERSION

IMPORTANT CIVIL FACILITIES

- A.T. & S.F. RY. & U.P. RR. TRANSCONTINENTAL TRACKS
- FONTANA POWER PLANT
- PRIVATE COMPANIES WATER WORKS
- SAN BERNARDINO WATER WORKS
- P.E. RY. INTERURBAN LINE
- A.T. & S.F. RY. YARDS & SHOPS
- A.T. & S.F. RY. ICING PLANT
- S.P. RR. YARDS
- S.P. RR. TRANSCONTINENTAL TRACKS
- PACIFIC FRUIT EXPRESS PACKING PLANT
- SAN BERNARDINO SEWAGE DISPOSAL PLANT
- SAN BERNARDINO BUSINESS DISTRICT
- CABLE CREEK CHANNEL

SANTA ANA RIVER BASIN, CALIFORNIA
 LYTLE AND CAJON CREEKS IMPROVEMENTS

**LOCATIONS OF LYTLE-CAJON
 WATER CONTROL STRUCTURES**

U. S. ARMY CORPS OF ENGINEERS
 LOS ANGELES DISTRICT

SANTA ANA RIVER BASIN, CALIFORNIA

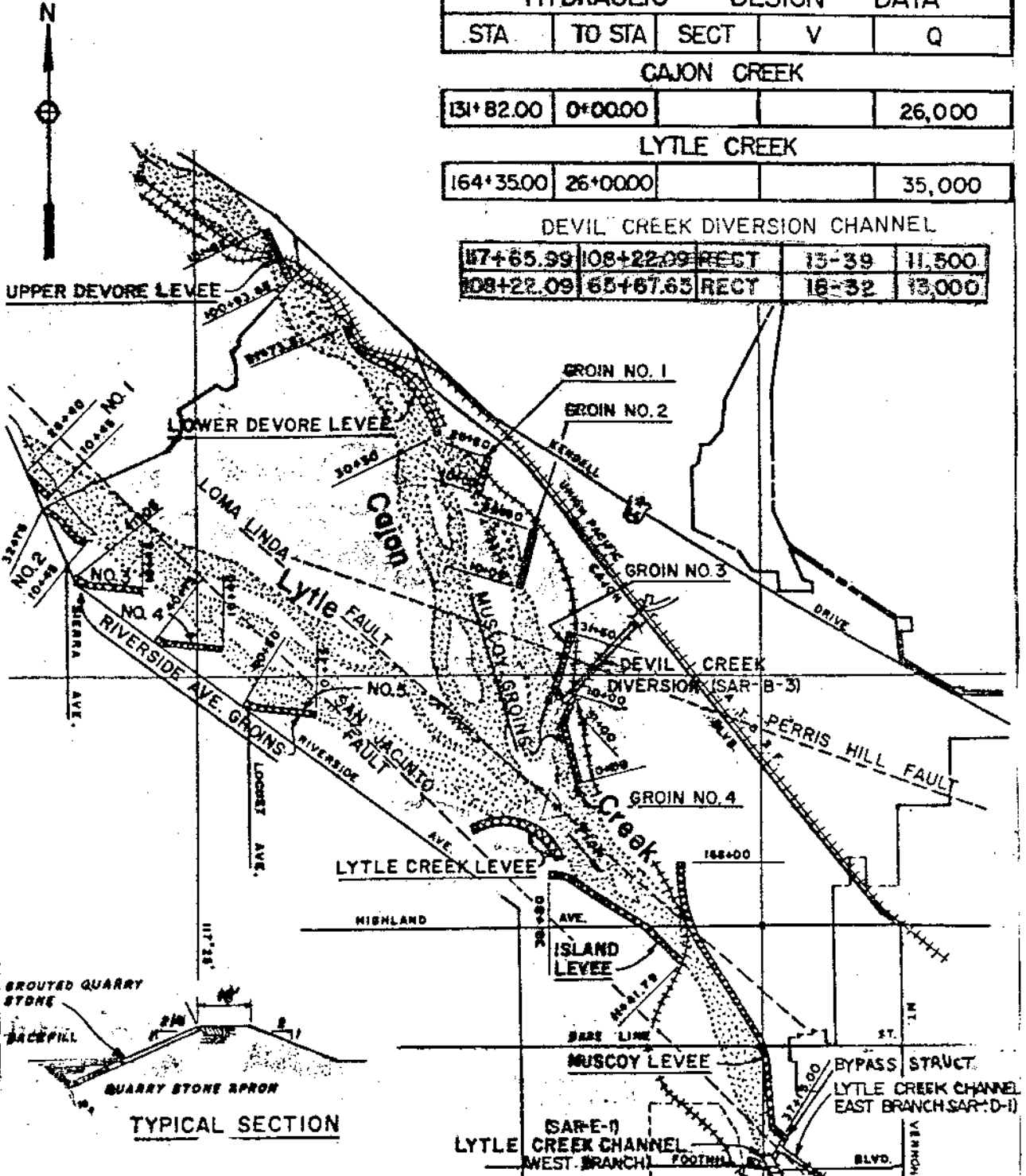
**LYTLE & CAJON CREEKS IMPROVEMENT
 AERIAL MOSAIC**

FLIGHT DATE: 3-12-43

SCALE IN MILES

FILE NO. 459/67

HYDRAULIC DESIGN DATA				
STA	TO STA	SECT	V	Q
CAJON CREEK				
131+82.00	0+00.00			26,000
LYTLE CREEK				
164+35.00	26+00.00			35,000
DEVIL CREEK DIVERSION CHANNEL				
117+65.99	108+22.09	RECT	13-39	11,500
108+22.09	65+67.63	RECT	16-32	13,000



OPERATION AND MAINTENANCE MANUAL
 LYTLE AND CAJON CREEKS IMPROVEMENT
 SAN BERNARDINO COUNTY, CALIF.
LEVEES AND BYPASS

SCALE IN FEET
 0 1000 2000 3000 4000

OFFICE OF THE DISTRICT ENGINEER
 LOS ANGELES CALIFORNIA
 SAR-C-1

SANTA ANA RIVER BASIN, CALIFORNIA
 LYTLE AND CAJON CREEKS IMPROVEMENTS

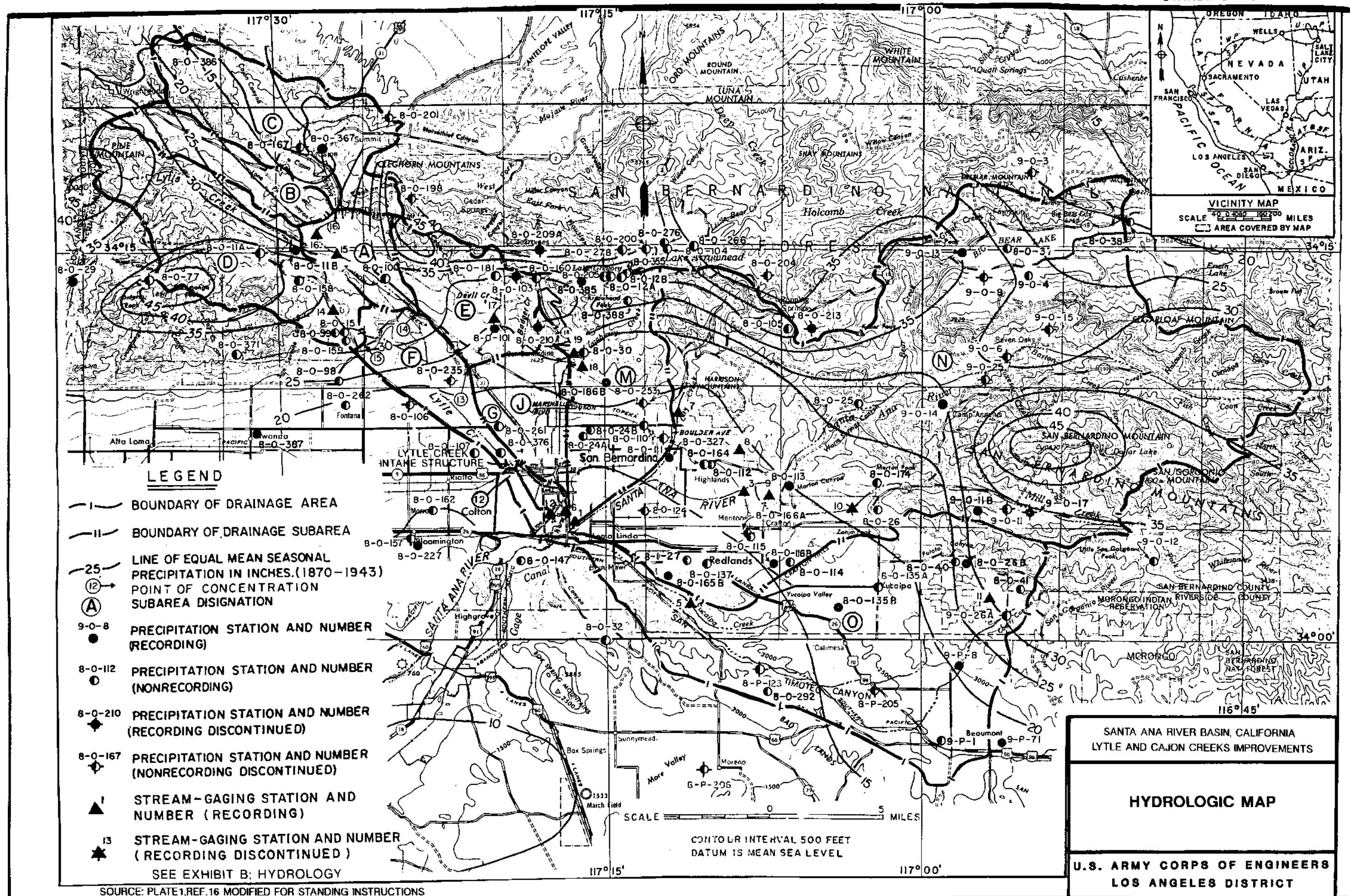
DIAGRAM OF LYTLE-CAJON
 WATER CONTROL STRUCTURES
 WITH FAULT ZONES

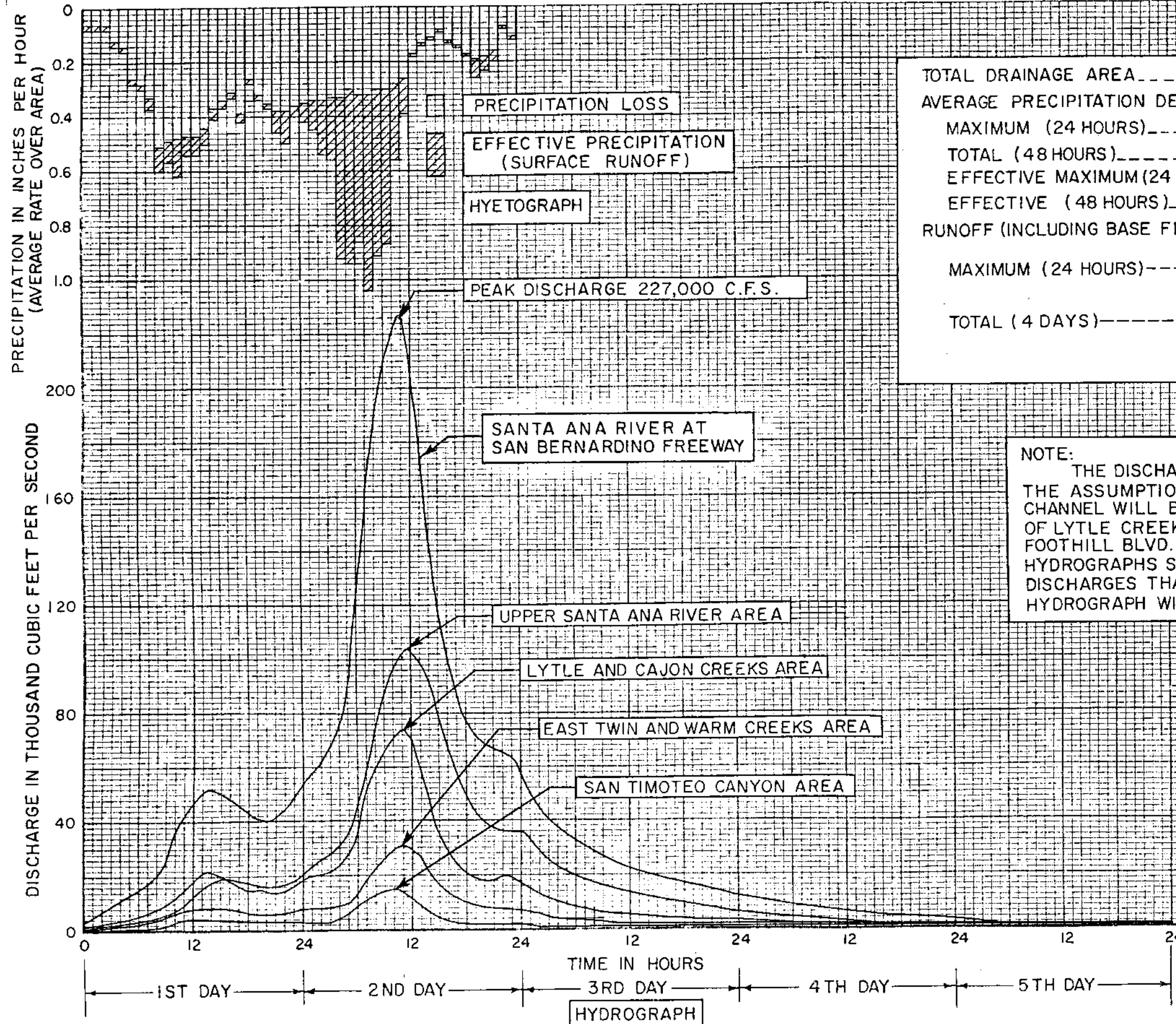
U.S. ARMY CORPS OF ENGINEERS
 LOS ANGELES DISTRICT

SOURCE: LAD OPERATION & MAINTENANCE 1985

Plates 4-6 are not currently available.

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





TOTAL DRAINAGE AREA	700.0	SQ. MI.
AVERAGE PRECIPITATION DEPTH OVER AREA.		
MAXIMUM (24 HOURS)	13.56	INCHES
TOTAL (48 HOURS)	19.05	INCHES
EFFECTIVE MAXIMUM (24 HOURS)	5.19	INCHES
EFFECTIVE (48 HOURS)	5.96	INCHES
RUNOFF (INCLUDING BASE FLOW)		
MAXIMUM (24 HOURS)	229,000	AC.-FT.
	6.31	INCHES
TOTAL (4 DAYS)	356,000	AC.-FT.
	9.54	INCHES

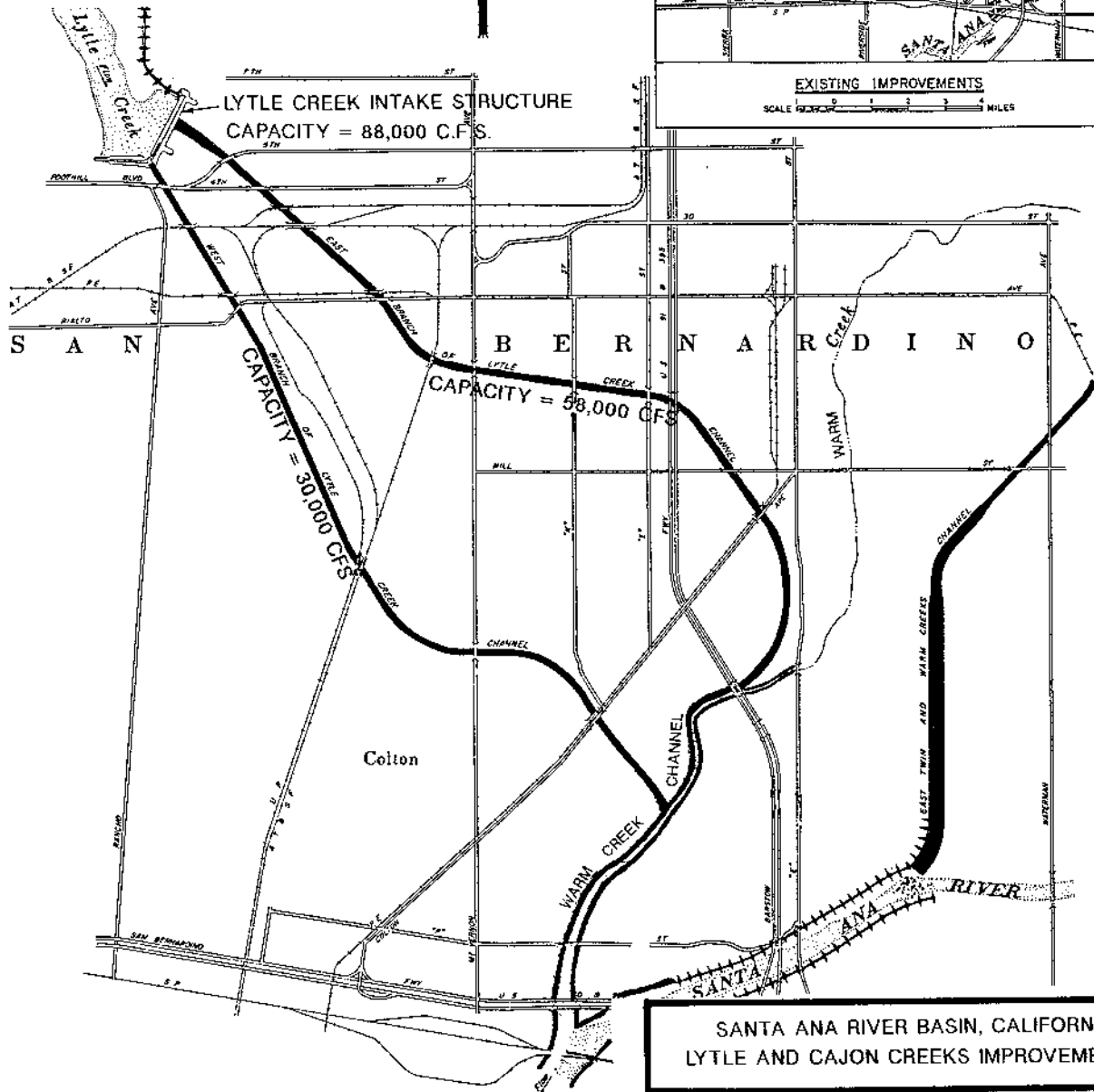
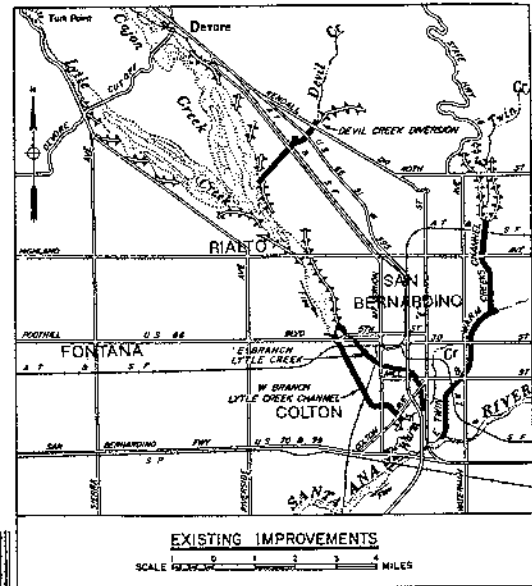
NOTE: THE DISCHARGE OF 227,000 C.F.S. IS BASED ON THE ASSUMPTION THAT IN THE FUTURE AN IMPROVED CHANNEL WILL BE CONSTRUCTED BETWEEN THE MOUTHS OF LYTLE CREEK AND CAJON CREEK CANYONS AND THE FOOTHILL BLVD. INLET STRUCTURE. THE OTHER HYDROGRAPHS SHOWN ARE THE CONTEMPORANEOUS DISCHARGES THAT COMBINE TO PRODUCE THE HYDROGRAPH WITH THE PEAK OF 227,000 C.F.S..

LYTLE AND CAJON CREEKS IMPROVEMENTS
SANTA ANA RIVER BASIN, CALIFORNIA

HYDROGRAPH
STANDARD PROJECT FLOOD
SANTA ANA RIVER AT
SAN BERNARDINO FREEWAY

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

SOURCE: PLATE 1, REF. 16



LEGEND

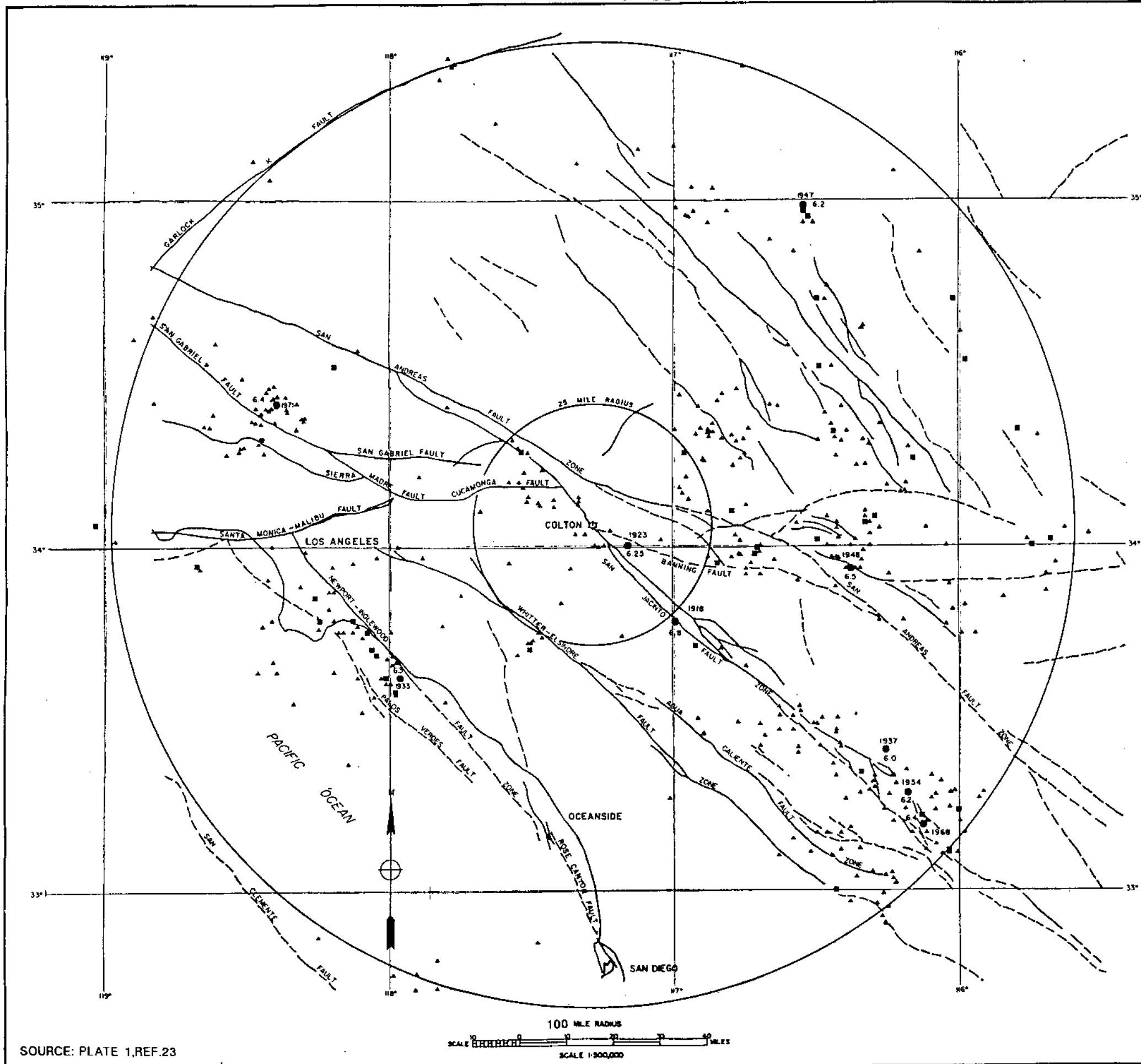
- EXISTING CHANNEL
- +++++ EXISTING LEVEE

SANTA ANA RIVER BASIN, CALIFORNIA
LYTLE AND CAJON CREEKS IMPROVEMENTS

SPF ROUTED DISCHARGES
INTAKE STRUCTURE LYTLE CREEK
EAST & WEST BRANCH CHANNELS

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

SOURCE: PLATE 1, REF. 16 UPDATED FOR STANDING INSTRUCTIONS



LEGEND

- ▲ EARTHQUAKE WITH MAGNITUDE 4.0 THRU 4.99.
- EARTHQUAKE WITH MAGNITUDE 5.0 THRU 5.99.
- EARTHQUAKE WITH MAGNITUDE 6.0 THRU 6.99.
- ★ LOCATION OF PROJECT AREA.
- TRACE OF FAULT - DASHED WHERE INFERRED OR CONCEALED.

NOTES

1. RICHTER SCALE MAGNITUDES ARE A MEASURE OF THE ENERGY RELEASED AT THE FOCUS (CENTER OF THE EARTHQUAKE), AS DETERMINED BY THE AMPLITUDES PRODUCED ON A SEISMOGRAM.
2. THE EPICENTER IS THE POINT ON THE EARTH'S SURFACE DIRECTLY ABOVE THE FOCUS.
3. EARTHQUAKE EPICENTERS PLOTTED ARE FROM 1932 TO 1979, UNLESS EARLIER DATES ARE SHOWN.

LYTLE AND CAJON CREEKS IMPROVEMENTS
SANTA ANA RIVER BASIN, CALIFORNIA

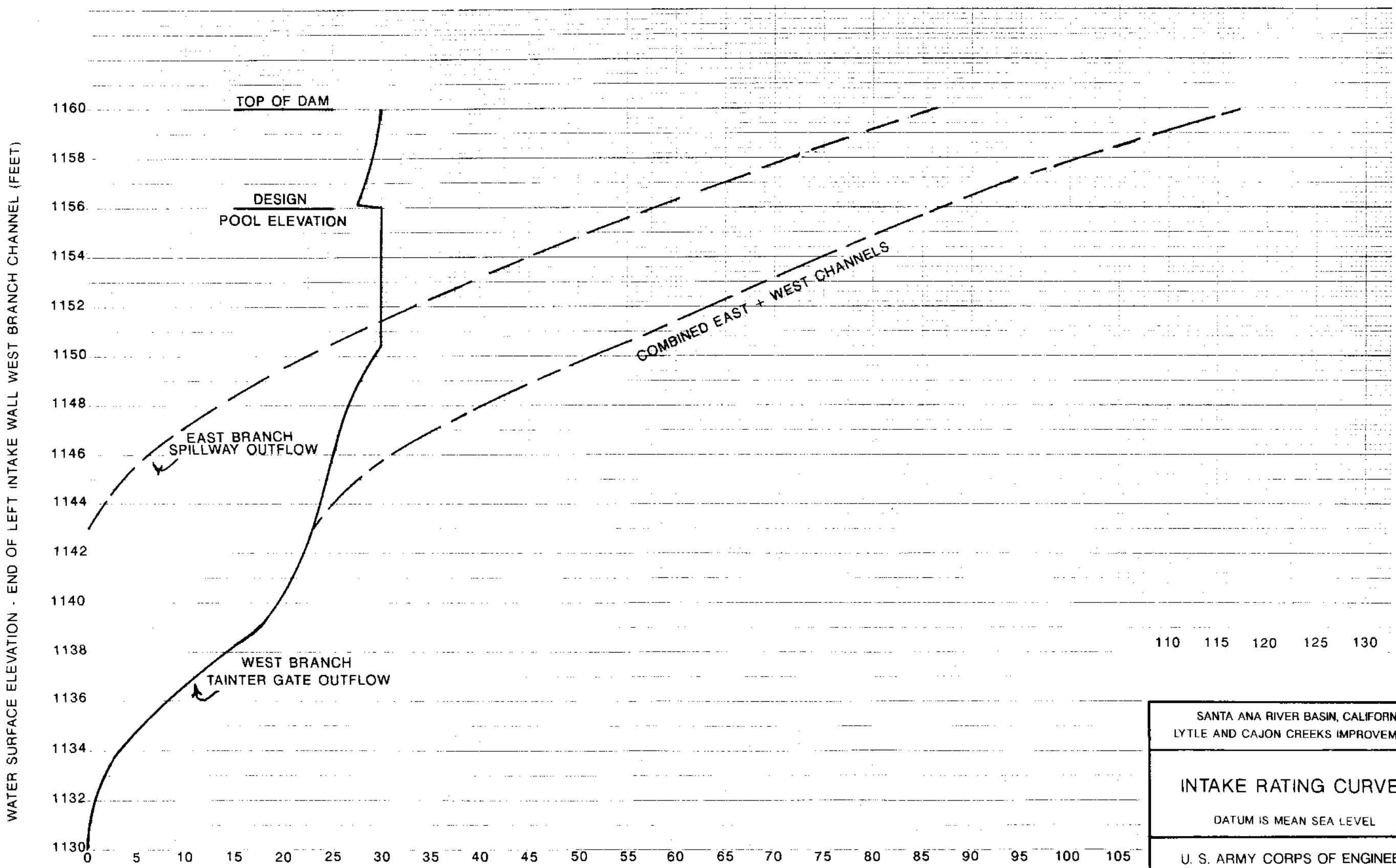
EARTHQUAKE EPICENTER AND
FAULT LOCATION MAP
100 MILE RADIUS

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

SOURCE: PLATE 1, REF. 23

100 MILE RADIUS
SCALE 1:500,000

LYTLE CREEK INTAKE STRUCTURE
LYTLE AND CAJON CREEKS



SOURCE: WEST BRANCH CORPS HYDRAULIC MODEL STUDY 1946
SOURCE: EAST BRANCH PREPARED FOR STANDING INSTRUCTIONS 1990

DISCHARGE IN THOUSAND C.F.S.

SANTA ANA RIVER BASIN, CALIFORNIA LYTLE AND CAJON CREEKS IMPROVEMENTS
INTAKE RATING CURVES DATUM IS MEAN SEA LEVEL
U. S. ARMY CORPS OF ENGINEERS LOS ANGELES DISTRICT