



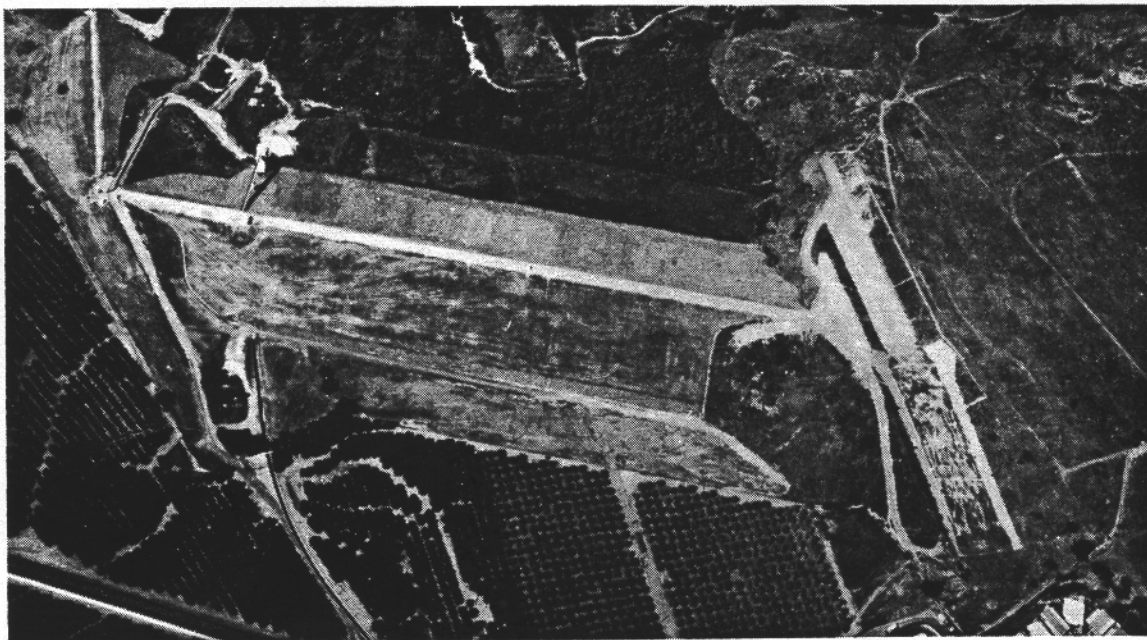
US Army Corps  
of Engineers  
Los Angeles District

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# Water Control Manual

## CARBON CANYON DAM AND RESERVOIR

Carbon Canyon Creek, California



December, 1990

CARBON CANYON DAM AND RESERVOIR  
CARBON CANYON CREEK, ORANGE COUNTY, CALIFORNIA  
PERTINENT DATA  
DECEMBER 1990

Completion date.....	May 1961
Stream system.....	Carbon Canyon Creek
Drainage area.....mi <sup>2</sup>	19.3
<b>Reservoir:</b>	
<b>Elevation</b>	
Streambed at dam.....ft, NGVD	400
Debris pool.....ft, NGVD	419
Flood control pool (spillway crest).....ft, NGVD	475
Original Spillway design surcharge level.....ft, NGVD	493.7
Revised PMF Spillway surcharge level.....ft, NGVD	491.9
Top of dam.....ft, NGVD	499
<b>Area (based on original survey**)</b>	
Debris pool.....ac	40.5
Spillway crest.....ac	223.5
Spillway design surcharge level (493.7).....ac	308.5
Top of dam.....ac	343.0
<b>Capacity, gross (based on original survey**)</b>	
Debris pool.....ac-ft	298 (0.29*)
Spillway crest.....ac-ft	7033 (6.83*)
Spillway design surcharge level (493.7).....ac-ft	12,063 (11.72*)
Top of dam.....ac-ft	13,781 (13.39*)
Allowance for sediment (50-year).....ac-ft	1500 (1.46*)
Allowance for sediment (100-year).....ac-ft	3000 (2.92*)
<b>Area (based on 1969 survey***)</b>	
Debris pool.....ac	33.8
Spillway crest.....ac	222.0
PMF Spillway surcharge level (491.9).....ac	287.0
Top of dam.....ac	305.6
<b>Capacity (based on 1969 survey***)</b>	
Debris pool.....ac-ft	228 (0.23*)
Spillway crest.....ac-ft	6615 (6.43*)
PMF Spillway surcharge level (491.9).....ac-ft	11,324 (11.0*)
Top of dam.....ac-ft	12,899 (12.53*)
<b>Dam:</b>	
Type.....	Earthfill
Height above original streambed.....ft	99
Top length.....ft	2610
Top width.....ft	20
Design Freeboard.....ft	5.3
PMF Freeboard.....ft	7.1
<b>Spillway:</b>	
Type.....	Ungated broad-crested weir
Crest width.....ft	125
Design discharge at surcharge elevation (493.7).....ft <sup>3</sup> /s	36,800
PMF discharge at surcharge elevation (491.9).....ft <sup>3</sup> /s	31,200
<b>Outlets:</b>	
<b>Gates - type.....</b> Hydraulic slide	
Number and size.....	2 - 5'W x 6.5'H
Entrance invert elevation.....ft, NGVD	403
<b>Conduits - type.....</b> Rectangular	
Number and size.....	1 - 4.75'W x 7'H
Length (including transition section).....ft	549
Entrance invert elevation.....ft, NGVD	403
Maximum Discharge at spillway crest elevation.....ft <sup>3</sup> /s	1270
Maximum Discharge at top of dam elevation.....ft <sup>3</sup> /s	1480
<b>Reservoir design flood (SPF):</b>	
Total inflow volume.(2-day).....ac-ft	8030 (7.80*)
Inflow peak.....ft <sup>3</sup> /s	9300
<b>Spillway design flood:</b>	
Design total inflow volume (1-day).....ac-ft	10,600 (10.30*)
Design inflow peak.....ft <sup>3</sup> /s	56,000
PMF total inflow volume (15-hour).....ac-ft	11,800 (11.46*)
PMF inflow peak.....ft <sup>3</sup> /s	52,000
<b>Historic maximums:</b>	
Maximum release(01 Mar 83).....ft <sup>3</sup> /s	703
Maximum water surface elevation(01 Mar 83).....ft, NGVD	430.9
Maximum storage (26 Feb 69).....ac-ft	891.7
Maximum peak inflow (1-hour)(02 Mar 83).....ft <sup>3</sup> /s	1727

\* inches of runoff

\*\* based on surveys of October 1937, August 1941, August 1949, and bottom resurvey of March 1961.

\*\*\* based on resurvey of September 1969.



DEPARTMENT OF THE ARMY  
SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS  
630 Sansome Street, Room 720  
San Francisco, California 94111-2206

REPLY TO  
ATTENTION OF:

CESPD-ED-W (1110-2-240b)

MAR 20 1951

MEMORANDUM FOR ~~✓~~ Commander, Los Angeles District  
Commander, Sacramento District

SUBJECT: ~~Planned Deviations from Approved Water Control Plans~~

1. All planned deviations from approved water control plans for reservoir projects within the South Pacific Division must be coordinated with the Coastal Engineering and Water Management Division at CESPD. Approval must be given prior to implementation of the deviation.
2. Emergency deviations do not require prior approval but coordination must still be made as soon as is practical.

A handwritten signature in cursive script, reading "Roger F. Yankospe", is written over the typed name.

ROGER F. YANKOSPE  
Brigadier General, U.S. Army  
Commanding

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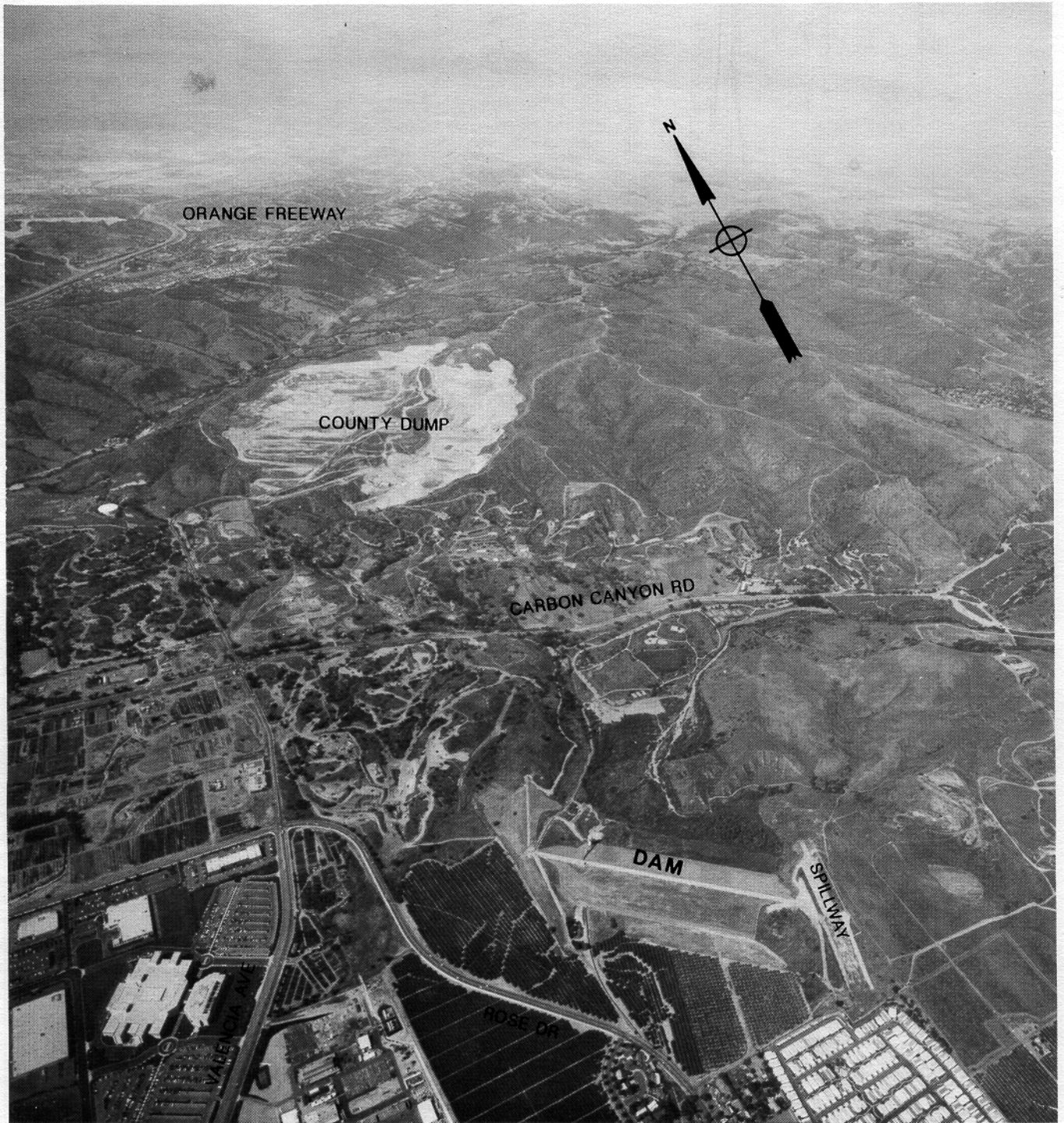
Prepared

by

U.S. Army Corps of Engineers

Los Angeles District

Reservoir Regulation Section



Aerial photograph of Carbon Canyon Dam

## NOTICE TO USERS OF MANUAL

Regulation specify that this Water Control Manual be published in loose-leaf form, and only those sections, or parts thereof, requiring changes will be revised and printed. Therefore, this copy should be reserved in good condition so that inserts can be made to keep the manual current.

## EMERGENCY REGULATION ASSISTANCE PROCEDURES

In the event unusual conditions arise, the Reservoir Regulation, Los Angeles District office, can be contacted by telephone at 213-452-3527 or 213-452-3623. See Table 9-1 for other important telephone numbers for reservoir regulation assistance.

## ORGANIZATION OF MANUAL

This manual is divided into chapters, indicated by Roman numerals. Within each chapter are numbered paragraphs, which are major topics discussed in the chapter. Tables and figures cited in the text of each chapter are presented at the end of that chapter. Plates cited are located in the back of the manual. Exhibits are included in the back as appendices.