

Pertinent Data - Lavon Dam & Lake
(See Exhibit A for Supplementary Data)

LOCATION: In Collin County, R.M. 55.9 on the East Fork of the Trinity River near Wylie, Texas and about 22 miles northeast of Dallas, Texas.

DRAINAGE AREA:

770 square miles
One inch of runoff 41,067 acre-feet

DAM:

Type: Rolled earth fill
Length (including spillway): 18,864 feet
Maximum Height: 81 feet
Top Width: 30 feet

SPILLWAY:

Crest Elev: 475.5 feet NGVD
Length: 480 feet (net opening)
Type: Concrete Ogee Weir
Control: 12 tainter gates, 40 ft x 28 ft

INFLOW:

Spillway design flood peak, cfs 460,000
Spillway design flood volume, ac-ft 1,070,500
Spillway design flood runoff, inches 25.68

OUTFLOW:

Total routed peak outflow, cfs 359,000
Spillway, cfs 357,700
Lowflow Outlets, cfs 1,300

LOW FLOW OUTLETS:

Type: Five low-flow sluices through spillway piers controlled by slide gate action
Dimension: 36 inch diameter
Invert Elev: 3@453.0, 1@473.0 and 1@482.0 feet NGVD
Control: 5 manually operated slide gates with 3' x 4' emergency slide gates

POWER FEATURES: None

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Feature	Reservoir Capacity			Reservoir Capacity			Spillway Capacity (cfs)	Lowflow Outlet Capacity (cfs)
	Elev (NGVD)	Area (acres)	Accumulative (ac-ft)	Runoff (inches)	Incremental (ac-ft)	Increase (ac-ft)		
Top of Dam	514.0							
Maximum Design Water Surface	509.0	33,500	921,200	22.43			357,700	
Top of Flood Control Pool and Top of Gates	503.5	29,450	748,100	18.22	291,600		275,600	1,300
Top of Conservation Pool	492.0	21,400	456,500	11.12	363,900		118,000	1,000
Spillway Crest	475.5	12,750	178,200	4.34				
Invert at Lowest Intake	453.0	2,870	12,700	0.31				
Sediment Reserve							92,600*	
Total Storage							748,100	
Maximum Tailwater	471.0							
Streambed	433.0							

* Estimated 100 years of sediment storage below elevation 503.5 feet NGVD.

AUTHORIZATION: River & Harbor Act approved 2 Mar 45 (PL 79-14) (HD 533/78/2); Flood Control Act approved 24 Jul 46 (PL 79-526); Flood Control Act approved 23 Oct 62 (PL 87-874) (HD 554/87/2).

PROJECT COST ESTIMATE (OCT 81):

Federal:	\$69,750,000
Non-Federal:	220,000*
Total:	\$69,970,000

ANNUAL O&M COST (FY 81):

Federal:	\$ 845,800
Non-Federal:	31,700
Total:	\$ 877,500

COST ALLOCATION METHOD:

Separable costs - remaining benefits

LOCAL AGENCY: North Texas Municipal Water District

LAND ACQUISITION:

	: Guide Contour ('msl) :	Area (Acres)
Fee simple	508.0	38,072
Easement		1,835
Total		39,907

FLOOD DATA:

Date	Peak Discharge (cfs)
May 42	80,000 (1)
Jun 35	64,800 (1)
May 57	54,600 (2)
Oct 81	54,000 (3)
May 82	134,000 (3)

- (1) Rockwall gage
- (2) Natural; modified 43,000
- (3) Based on change in lake contents

Bankfull capacity below dam - East Fork,
dam to mouth: 250 to 2,600 cfs

STATUS OF PROJECT: Construction began Jan 48 and deliberate impoundment began 14 Sep 53. Impoundment after modification of the dam began 1 Dec 75. Project is complete and operational.

*NON-FEDERAL PARTICIPATION AND LOCAL COOPERATION:

A contract with the North Texas Municipal Water District was approved 8 Jul 54 for 100 percent (100,000 ac-ft) of the conservation storage between elevations 472.0 and 453.0 ft msl. NTMWD will pay \$1,445,261.67, inclusive of interest charges, in addition to their share of the annual O&M cost, for this storage space. Another contract with NTMWD was approved 22 Sep 67 for 43 percent (120,000 ac-ft) of the conservation storage between elevations 492.0 and 472.0 ft msl. NTMWD has furnished assurances that the remaining 57 percent (160,000 ac-ft) of this raised conservation storage will be purchased within the project life. NTMWD will pay \$16,129,750.23 and \$21,381,296.81, respectively, in addition to their share of the annual O&M cost, for these present and future water supply storages.

REMARKS:

FC Act of 23 Oct 62 provides for modification of the reservoir and channel improvement downstream. The top of dam was raised 12' allowing the conservation pool elevation to be raised 20'.

Dependable yield**: 142 cfs or 92 MGD

**Based on critical dry period from 1951-1957 and 50 years of sedimentation.

Visitation (1981): 2,887,615

Shoreline at top of conservation pool: 121 miles