

Pertinent Data - Grapevine Lake
(See Exhibit A for Supplementary Data)

LOCATION: R.M. 11.7 on Denton Creek, Trinity
River Basin, about 20 miles northwest of
Dallas, Texas

DRAINAGE AREA:
695 square miles
One inch of runoff 37,067 acre-feet

DAM:
Type: Rolled earth fill
Length: 12,850' (including spillway)
Maximum Height: 137.0'
Top Width: 28'

SPILLWAY:
Crest Elev: 560.0' ngvd
Length: 500' net at crest
Type: Ogee
Control: None

INFLOW:
Spillway design flood peak, cfs 378,044
Spillway design flood volume, ac-ft 853,988
Spillway design flood runoff, inches 23.18
(688 sq.mi. drainage used in spillway design flood)

OUTFLOW (MAXIMUM DESIGN WATER SURFACE):
Total routed peak outflow, cfs 191,310
Spillway, cfs 191,310
Outlet works, cfs 0

OUTLET WORKS:
Type: 1 gate controlled conduit
Dimension: 13.0' diameter
Invert Elev: 475.0' ngvd
Control: Two 6.5'x13.0' service gates

	Guide Contour (ngvd)	Area (Acres)
Fee simple	560.0	15,663
Easement		2,163
Total		17,826

Feature	Elev Feet (ngvd)	Reser- voir Area (acres)	Reservoir Capacity (Original)			Spillway Capacity (cfs)	Outlet Works Capacity (cfs)
			Accumu- lative (ac-ft)	Equivalent Runoff (inches)	Incre- mental (ac-ft)		
Top of Dam	588.0						
Max Design Water Surface	581.9	19,800	788,000	21.27	363,000	191,310	
Spillway Crest	560.0	12,710	425,500	11.48		0	7,240
Top of Flood Control Pool	560.0	12,710	425,500	11.48	244,400		7,240
Top of Conservation Pool	535.0	7,280	181,100	4.89	145,100		5,890
Sediment Reserve					36,000*		
Total Storage					425,500		
Streambed	451.0						

*Estimated 61 years of sediment storage distributed as follows: 1,720 ac-ft between elev 560.0' and 535.0' ngvd; 34,280 ac-ft below elev 535.0' ngvd. Approximately 25,968 ac-ft of sediment reserve remained in 1966.

AUTHORIZATION: River and Harbor Act approved
2 Mar 45 (PL 79-14) (HD 403/77/1).

FINAL PROJECT COST (JUL 72):

Federal:	\$11,158,746.56
Non-Federal:	None*
Total:	\$11,158,746.56

ANNUAL O&M COST (FY 81):

Federal:	\$ 794,800
Non-Federal:	18,900
Total:	812,700

COST ALLOCATION METHOD: Incremental and law

LOCAL AGENCY: Cities of Grapevine, Dallas and
Dallas County Park Cities

LAND ACQUISITION:

	: Guide Contour ('msl):	Area (Acres)
Fee simple	560.0	15,663
Easement	575.0	2,163
Total		17,826

FLOOD DATA:

Date	Peak Discharge (1) (cfs)
May 08	43,800
Apr 42	38,000
Sep 62	76,800
Oct 81	85,000
May 82	45,000

(1) At Grapevine Reservoir

Bankfull capacities below dam: Denton Creek, dam to
mouth - 6,000 cfs. Elm Fork; mouth of Denton Creek
to mouth of Elm Fork - 8,000 cfs.

STATUS OF PROJECT: Construction initiated Jan 48
and completed Jun 82. Deliberate impoundment began
3 Jul 52. Project is complete and operational.

*NON FEDERAL PARTICIPATION AND LOCAL COOPERATION:

CITY OF GRAPEVINE: A contract with the city of
Grapevine was approved 14 Sep 53 for 0.8 percent
(1,250 ac-ft) of the conservation storage between
elevations 535.0 and 500.5 ft msl. City of
Grapevine has paid \$22,654.45, which includes capi-
talized O&M cost, for this water supply storage
space. A subsequent contract was approved 27 Feb
81 for interim use of 15.5 percent (25,000 ac-ft)
of the conservation storage between same elevations
until such time as this storage is needed for navi-
gation purposes. City of Grapevine will pay
\$683,547.14, in addition to their share of the
annual O&M cost, for this interim use water supply
storage.

CITY OF DALLAS: A contract with the city of Dallas
was approved 17 Mar 54 for 52.7 percent (85,000 ac-
ft) of the conservation between same elevations.
City of Dallas has paid \$1,433,026.08, in addition
to their share of the annual O&M cost, for this
water supply storage space.

DCPC: A contract with the Dallas County Park
Cities was approved 21 Mar 55 for 31.0 percent
(50,000 ac-ft) of the conservation between same
elevations. DCPC has paid \$607,000.00, in addition
to an annual O&M cost ranging between \$2,000 and
\$3,000, for this water supply storage.

REMARKS:

Dependable yield**: 32.0 cfs or 20.7 MGD
**Based on critical dry period from 1951-1957 and
50 years of sedimentation.

Visitation (1981): 5,721,424

Shoreline at top of conservation pool: 60 miles
(Sheet 2 of 2)
GRAPEVINE LAKE