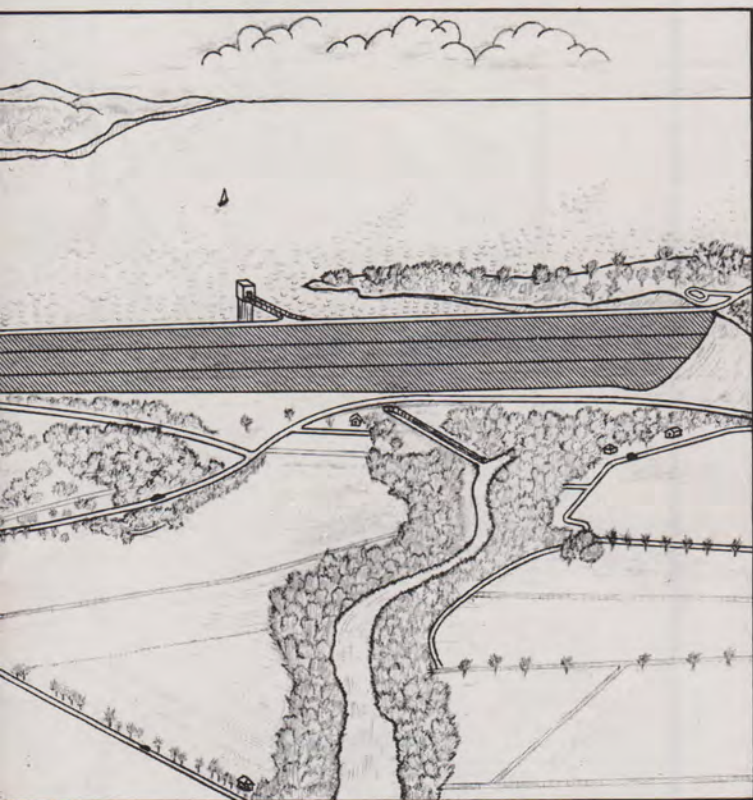


CANYON DAM AND RESERVOIR

UNDER
CONSTRUCTION



U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS
SEPTEMBER 1958

CONTROLLING THE GUADALUPE

Harnessing the Guadalupe River for flood control and water conservation purposes is the principal job to be done by the Canyon Dam and Reservoir Project.

For many years the Guadalupe, while one of the most picturesque of streams in Texas, has been recognized as a "bad actor" among rivers of the State from the standpoint of flood damages following extensive rains.

The Canyon Dam site is located at river mile 303 on the Guadalupe, about 12 airline miles northwest of New Braunfels. The entire project is located in Comal County.

Had this project been in existence during the flood of 1952, damages estimated at \$2,300,000 would have been prevented. Actual damages from the 1952 flood, in the area to be benefited by the project, amounted to \$4,700,000. In 1957, the project would have prevented \$1,500,000 of \$2,400,000 damages which actually occurred.

The Guadalupe River is a perennial stream formed by the confluence of the north and south forks at a point about 10 miles west of Kerrville. It flows generally in a southeasterly direction for about 432 miles to an outlet into San Antonio Bay, an estuary of the Gulf of Mexico. The watershed has a total drainage area of 6,032 square miles, of which 1,425 square miles are above the Canyon Dam site.

Authorization for the Canyon Dam and Reservoir project was given by the Rivers and Harbors Act approved 2 March 1945 (Public Law No. 14, 79th Congress, First Session), and as modified by the provisions of the Flood Control Act of 1954 (Public Law No. 780, 83d Congress, Second Session).

THE STRUCTURES

The Dam will consist of an earth embankment with a concrete outlet structure located near the middle. The overall length of the dam will be 4,410 feet and its maximum height 224 feet above the stream bed.

The dam will be constructed of selected soils carefully placed and compacted. Eighteen inches of rip-rap will be placed on the upstream face to protect it from wave action.

The Spillway will consist of a broadcrested weir about 1,100 feet long, located in a saddle on the right bank. The crest of the spillway will be at elevation 943.

The Outlet Works will consist of a reinforced concrete structure 225 feet high, located on the upstream side of the dam, with a 10-foot diameter conduit passing under the dam. The elevation of the lowest point of the inside of the conduit entrance (invert) will be 775 feet above mean sea level.

THE RESERVOIR

Flood Control Allocation — The portion of the reservoir allocated to flood control will be capable of storing 354,700 acre-feet (one acre-foot equals one acre of water one foot deep, or about 326,000 gallons) of flood water between the top of the conservation pool, elevation 909, and the spillway crest, elevation 943. This available storage space will provide reasonable control of the maximum flood of record originating in the watershed above the dam site. Flood waters which will be impounded in the flood control pool will be released as rapidly as downstream conditions permit, to have this storage space available for succeeding floods.

The portion of the cost of the project allocated to flood control will be borne by the Federal Government.

Conservation Allocation — At the beginning of deliberate impoundment, the portion of the reservoir allocated to conservation will be capable of storing 386,200 acre-feet of water at conservation pool level for municipal and industrial uses.

The Guadalupe-Blanco River Authority, an agency of the State of Texas, has agreed to contribute an amount not to exceed 42.9 percent of the total cost of construction of the project in return for rights to use the conservation storage space provided in the project. The Authority will pay \$1,400,000 during the period of construction, and the remainder of its allocable costs will be repaid in a period of not more than 50 years. Water stored in the conservation pool will be under complete control of the State of Texas and will be available for municipal and other beneficial uses. Thus, one dam will serve two important purposes: Flood control and water conservation.

Reservoir Operation — The water surface level will be maintained at elevation 909 as much of the time as possible. However, this level is subject to fluctuation upward or downward depending upon floods and droughts.

CONSTRUCTION OF THE PROJECT

All construction work will be accomplished by private contractors working under supervision of the Corps of Engineers. The construction contracts are advertised, inviting public bids and awarded to the lowest bidder meeting the government's requirements.

Construction of the project is expected to take about six years; however, actual completion will be dependent upon the rate at which funds are appropriated.

Real estate required for the project will be acquired as construction progresses. Land for the construction areas will be acquired first, then that for the reservoir area, working progressively upstream. The type of title acquired is dependent upon the ultimate use to be made of the land involved and sound real estate practices. The government will purchase complete ownership interest in lands which will be permanently or frequently flooded and in lands required for reservoir operation and public access. On the remaining lands within the project boundary, flowage easements will be purchased.

Benefits — It has been estimated that annual benefits of more than \$1,100,000 will result from the operation of the Canyon Reservoir Project owing to the prevention of flood damages and the conservation of water for various purposes.

Recreation — In addition to providing water conservation and flood control storage, the Canyon Reservoir will provide an excellent recreational area for public use. The lake and the government lands adjacent to it will be open to the public for swimming, fishing, boating, picnicking and other outdoor recreational activities. In cooperation with other federal, state and local agencies, plans will be formulated to assure the orderly development of the lake shores for the benefit of the visiting public.

STATISTICS

DAM

Type, rolled earth fill

Length, overall, feet	4,410
Height, above stream bed, feet	224
Width, crown, feet	20
Width, base, feet (Maximum)	1,400

SPILLWAY

Type, broadcrested, uncontrolled

Length, at crest, feet	1,100
Crest, elevation above mean sea level, feet	943

OUTLET WORKS

Type, Gate controlled conduit

Gates, hydraulic slide, size 5'8" x 10', each	2
Conduit, diameter, feet	10
Invert, elevation above mean sea level ..	775

RESERVOIR

Flood Control Pool

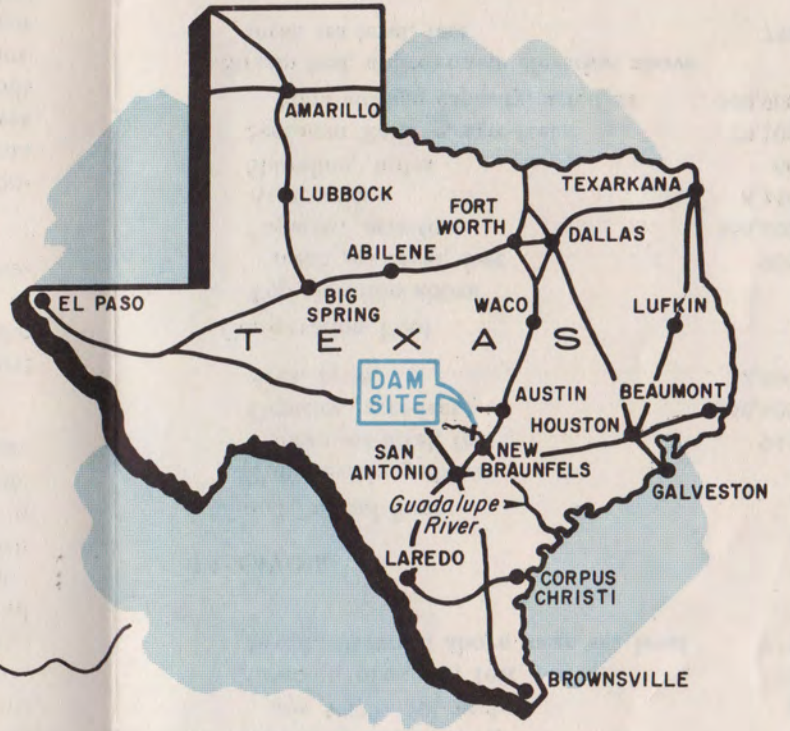
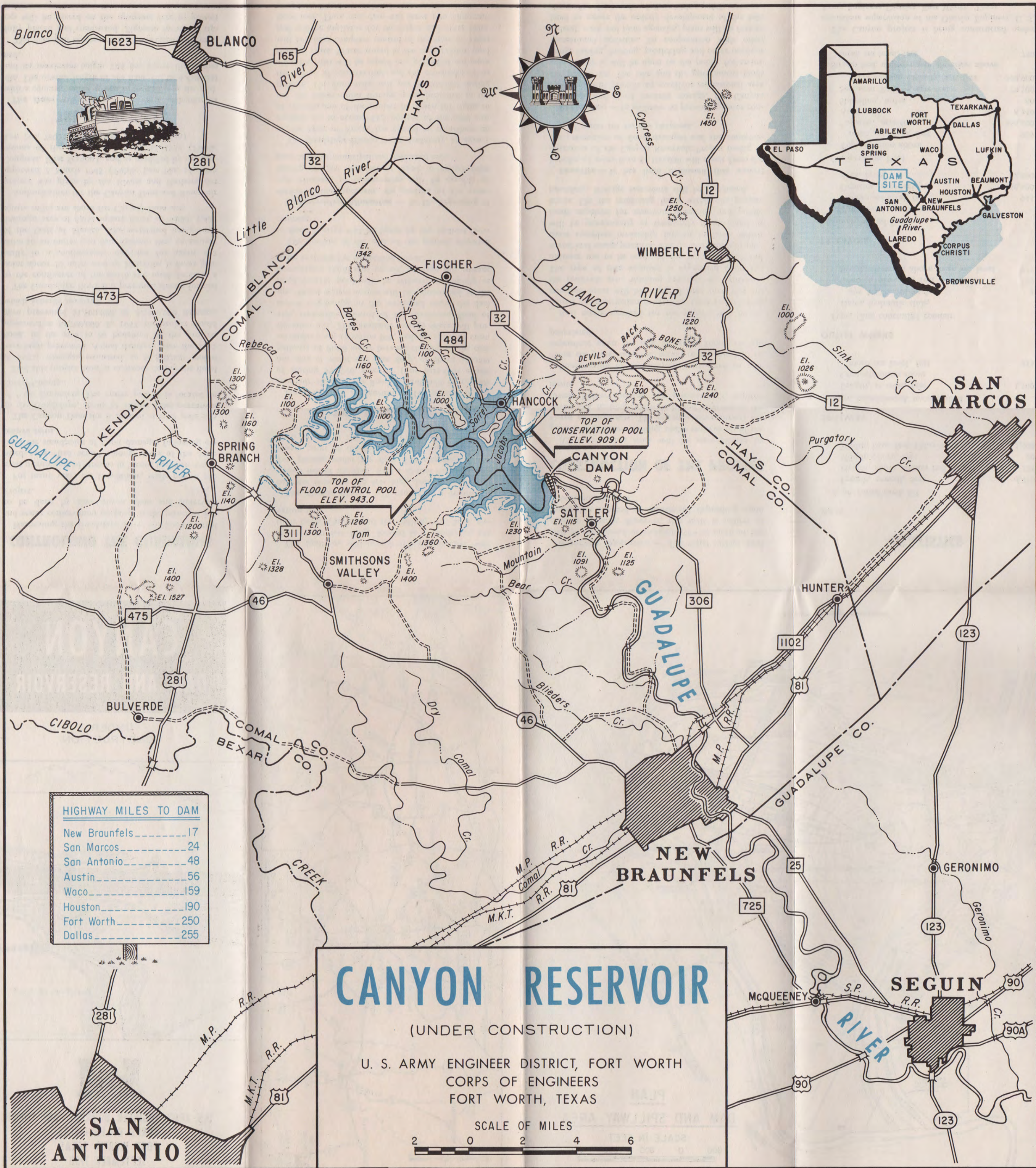
Top elevation, above mean sea level, feet	943
Capacity, acre-feet	346,400
Area, acres	12,890

Conservation Pool

Top elevation above mean sea level, feet	909
Capacity, acre-feet	366,400
Area, acres	8,240
Shoreline, miles	60
Sediment Reserve, acre-feet	28,100
Total storage capacity, acre-feet	740,900

Stream bed, approximate elevation above mean sea level, feet	750
---	-----

The Canyon project is being constructed under immediate supervision of the District Engineer, U. S. Army Engineer District, Fort Worth, Texas.



HIGHWAY MILES TO DAM	
New Braunfels	17
San Marcos	24
San Antonio	48
Austin	56
Waco	159
Houston	190
Fort Worth	250
Dallas	255

CANYON RESERVOIR
(UNDER CONSTRUCTION)
U. S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

SCALE OF MILES
2 0 2 4 6