

County Seeks Pipeline Prices

County flood control district supervisors yesterday afternoon gave the go ahead sign for officials to seek prices on a portion of the Matilija dam pipeline system.

Supervisors, after hearing District Engineer Robert L. Ryan present general specifications, authorized him and County Purchasing Agent Byron Snyder to see what price offers companies will make for 3.4 miles of steel, coal-tar enamel covered 26-inch pipe.

This first unit of pipe will be installed from the Matilija reservoir to the junction at Rice and El Roblar roads, near Meiners Oaks. It will serve to start dam water down a pipeline to the lower Ojai valley area and through another connecting line, to the eastern Ojai area.

Supervisor Russell Cook was worried that there might not be sufficient money remaining in the zone one coffers to buy the pipe if the district should lose its suit against the Donald R. Warren company over construction of Matilija dam. Approximately \$497,000 remains in the zone bond funds; Warren is suing the district for \$179,000.

District Attorney M. Arthur Waite, mildly scolding Cook for suggesting such a legal outcome, said that if worse came to worse the district would not necessarily have to pay Warren out of the bond fund. He felt it was all right to go ahead and order the pipe.

Snyder and Ryan will find out what prices companies want for the pipe and will report back to the supervisors.

Dam Money Nearly Gone

Installation of the Matilija dam conduit from the dam to the proposed junction at Meiners Oaks will leave only \$23,000 of the bond issue voted by the people of zone one for the Matilija and Casitas dam projects, it was learned at the meeting of the flood control supervisors yesterday.

Engineer Robert Ryan told supervisors the total cost of installing the conduit to the junction might cost as much as \$464,000. The bond issue of \$3,400,000 was to construct Matilija and Casitas dams and necessary conduit systems. Construction of Matilija dam has consumed \$2,665,000 of the bond funds.

The supervisors received bids on the 18,562 feet of the main conduit to Meiners Oaks at their last meeting but deferred action until yesterday in the hopes that Consultant Harold Conkling would be on hand to make final recommendations. Conkling was not able to attend yesterday's meeting and supervisors were still fishing for a definite proposal.

The bids received a week ago were higher than expected, causing supervisors to pause and reflect on the meager sum remaining in zone one's coffers. Counting bond and tax money there was on Jan. 1 a balance of \$931,772 in the zone's treasury of which \$487,843 is bond money.

Supervisors yesterday were split on the question of whether to go ahead with the main conduit and start delivering water—some at least—or whether to wait for an overall estimate of the entire pipeline system including the fork to San Antonio creek and the Ojai area.

It was finally decided that supervisors and Conkling would get together next Monday, hash the whole matter out and be ready for some action at next Tuesday's meeting of the flood board.

Flood Zone 1 Change:

Abolish Manager 9/7/45 Position

THE \$5,610-a-year office of Zone one manager held by Neil J. Stiver was officially abolished by county flood board supervisors yesterday who ordered the position to be included in a dual engineer-manager set-up to administer activities of the water zone.

The action was initiated at a meeting Aug. 26 of the zone one advisory committee with a recommendation to supervisors that the job of zone one manager was no longer practical. Flood Board Chairman R. E. (Sam) Barrett offered a resolution to do away with the present position and the board members voted compliance. The board then set Oct. 11 as the effective date to merge the job with that now held by district engineer Robert L. Ryan.

FOLLOWS JURY REPORT

In August, 1948, the grand jury recommended the district engineer be made manager of zone one because of duplication of effort between the two offices. The grand jury report also found dissemination of misinformation on the part of zone one management. The advisory group urged the carrying out of the jury recommendation.

Supervisors in merging the zone one jobs ordered the present manager and staff to deliver all papers and books to the district engineer. This, Stiver said, would be done after winding up the affairs of the district at the end of this week.

The board, in abolishing the job, offered a resolution of thanks and appreciation to Stiver for the work he accomplished. Chairman Barrett said ending of the position was "just one of those things" as the zone had no water to sell.

Stiver was given 22 days accrued vacation leave and members of his staff were also given unexpended vacation time.

He was appointed to the job Sept. 11, 1947.

THE GEOLOGICAL ASPECTS OF THE MATILIJA DAM CONTROVERSY

By

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In mid-year of 1946 Zone I of the Ventura County (California) Flood Control District let a contract for the construction of the Matilija Dam to be located just above Matilija Hot Springs some six miles northwest of the town of Ojai, California. The damsite selected was at a point where

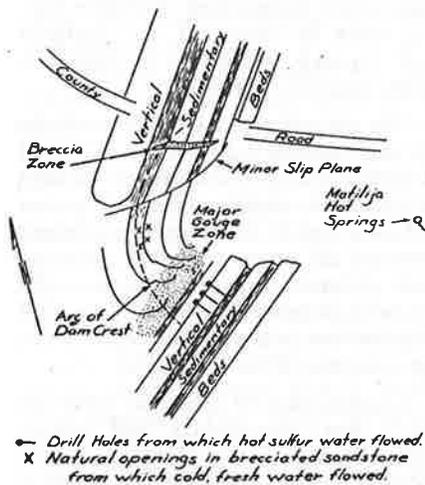


Fig. 11. Geological features of Matilija damsite as exposed after excavation compare Figure 1.

the west fork of Matilija Creek was constricted by massive sandstones of prominent relief.

Original geological reports on the damsite had assumed that these sedimentary formations which appeared to cross the canyon almost at right angles to the stream bed (See Figure 1) with a slightly overturned dip were unbroken from one side of the canyon to the other. This assumption was proven to be incorrect. I doubt if any of the early observers, and this includes many field groups from several institutions of higher learning that had come to study the area in detail as being one of unusual complexity and interest, ever suspected the truth of the "Matilija Overturn."

After construction was begun, schedules and costs were continually being revised, always upward, due to unsuspected conditions that developed from time to time. The greatest single factor in creating the unsettled job condition was the geological situation which presented itself as construction progressed. Described briefly, instead

of having a formation of sound rock continuously across the canyon, the rock formation was crossed by the badly affected crush zone of a strong fault which offered very poor foundation conditions. It was the writer's privilege to be present during the early stages of the work and thus have first hand knowledge of the physical conditions as they developed during the removal of some hundred thousand yards of overburden from the site.

The physical conditions which caused so much trouble were decidedly adverse to the economical construction of a thin-arch concrete dam, especially since there was no prior knowledge of their nature and they resulted directly in heavily increased construction costs and indirectly in the abandonment of Zone I's original three-part water conservation plan by exhausting funds earmarked for the construction of another dam and a connecting conduit system.

Feeling that the physical condition of the damsite should have been determined before the construction program was launched and that by his neglect of so doing the designing engineer was responsible for the very unsatisfactory condition in which Zone I found itself, the Flood Control District in 1948 brought suit against the designing engineer for recovery of funds in excess of the original contract agreement, a matter of some one and a quarter million dollars. This sum in itself was equal to the original contract price and half again as great as the engineer's original construction-cost estimate.

Early in 1949 the case went to trail before a Superior Court judge and continued for seventy court days. The legal aspects of the case are interesting but are far beyond the scope of this article or the understanding of this writer. However, the physical aspects of the case are matter of fact and are here very briefly reviewed.

Excavation failed to uncover a suitable foundation material for the thin-arch dam at the expected depth of approximately twenty feet below the stream bed because the native formations continued to yield to power excavation equipment without benefit of explosives. When the foundation was finally exposed across the bottom, the geological condition revealed verged on the fantastic. Instead of the bedding being continuous and regular across the canyon, it turned back on itself more than 180 degrees and ended in a broken and mashed jumble of confusion representing a wide zone of fault gouge. (See Figure II.) Considerable flows of cold water welled from the fractured areas where the massive sandstones were bent beyond the breaking point and evidence of a very small seep of oil or other petroleum product showed up in the gouge zone itself. This latter phenomenon was the only evidence of channeling found in the gouge area which generally gave strong evidence of being impervious to water passage.

The foundation was inspected at this stage by all parties concerned and was approved. Pouring of concrete was

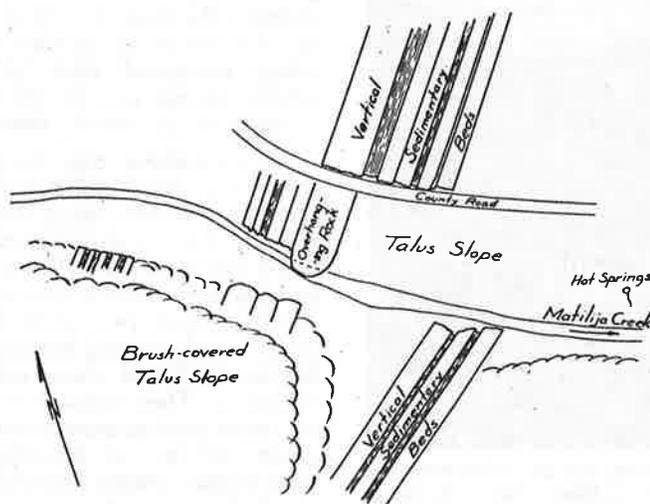
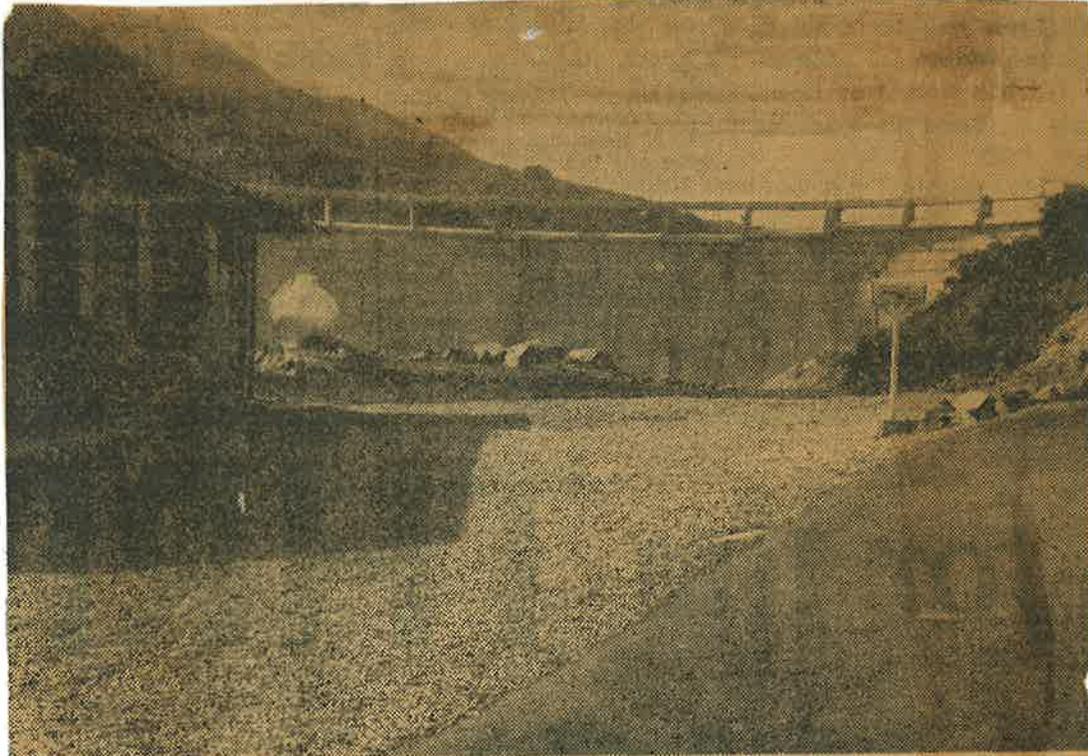
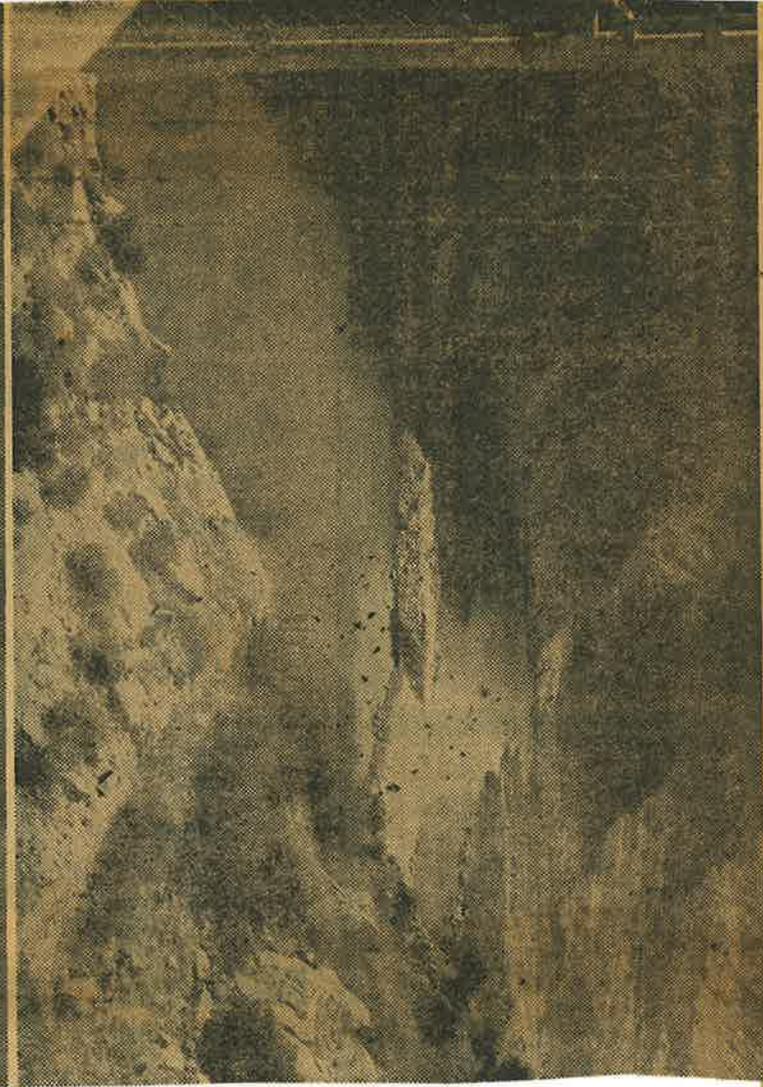


Fig. 1. General features of Matilija damsite before excavation.

★ ★ ★ ★ ★ THE DAM IN MATILISA CANYON, DECLARED SAFE, AWAITS FIRST RAIN ★ ★ ★ ★ ★



THREE VIEWS OF MATILISA—Begun in the autumn of 1946, Matilisa dam yesterday won its certificate as a safe structure from the state authorities. While the certificate was being awarded to the board of supervisors in Ventura, the dam lay in bright, hot sunshine awaiting the season when it will begin to back up substantial quantities of water, as much as 7,000 acre-feet. Upper left, the small lake behind the dam; upper right, the dam-keeper's house with the breast-top in the background; lower left, the base of the arch below the dam, with the fish-ladder for spawning trout to climb. (Photo by Joe Paul, Jr.)

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Wednesday, Sept. 28, 1949

Division of Water Resources Smiles Officially at Matilija

Matilija dam was officially declared to be a safe structure yesterday by the state division of water resources.

A certificate of approval signed by Edward Hyatt, state engineer was received by the board of flood control supervisors concluding a fiery controversy over the safety of the \$2,500,000 structure which has raged for many months. The first affirmation of the safety of Matilija dam came in a decision by Superior Court Judge L. N. Turrentine who, after a five months court controversy, gave his approval of the water barrier. The structure was designed by the Donald R. Warren company of Los Angeles.

According to the division of water resources, an inspection reveals the dam is safe for use to the full extent and will be able to store approximately 7,000 acre feet of water.

The text of the certificate approving the dam follows:

This is to certify that Ventura county flood control district of Ventura county of Ventura, state of California on April 24, 1946, filed application number 86 for approval of plans and specifications for the construction of the Matilija dam located in Ventura

county, state of California, that plans and specifications for said dam have been heretofore approved; that said dam as completed has been inspected; and that the state engineer finds that said dam has been constructed in accordance with the approved plans and specifications and further finds that the same is safe for use to the full extent contemplated therein.

Now, therefore, the said dam is hereby declared safe for use in accordance with findings hereinabove set forth.