

condition and working order or shall be placed in such condition and order at the expense of the Contractor. All tests of completed work required under this contract shall be made under the direction of the Engineer by and at the expense of the Contractor, who shall repair at his own expense all damage resulting therefrom.

- 8.2 Work in Service. If desired by the Owner, portions of the work, as completed, may be placed in service, the Contractor to give proper access to the work for this purpose; but such use and operation shall not constitute an acceptance of the work, and the Contractor shall be liable for defects due to faulty construction until the entire work under this contract is finally accepted.
- 8.3 Final Clean Up. Upon completion and before final acceptance, the Contractor shall remove all falsework, excavated or useless materials, rubbish and temporary buildings, replace or renew any fences damaged, and restore in an acceptable manner all property, both public and private, which may have been damaged during the prosecution of the work, and shall leave the construction site in a neat and presentable condition, satisfactory to the Engineer.
- 8.4 Completion and Acceptance of Work. On completion of the work, but prior to the acceptance thereof by the District, the Contractor shall furnish proof in documentary form that all claims, liens, or other obligations incurred by him and all of his subcontractors in connection with the performance of the work have been properly paid and settled. This information shall be in affidavit form, bearing the authorization of the Surety Company, who is bonding the Contractor on this Contract, to make final settlement.

Upon completion of the work the Engineer shall satisfy himself, by examination and test, that the work has been finally and fully completed in accordance with the plans, specifications and contract, and report such completion to the Board.

- 8.5 Final Estimate and Payment. After official approval and acceptance of the work by the Board, the Engineer shall be authorized to prepare a final estimate of the work done under this contract and the value thereof. Such final estimate shall be submitted to the Board within ten (10) days after its preparation has been authorized as aforesaid. And the District shall pay the entire sum so found to be due hereunder, after deducting all amounts to be kept and retained under any provision of this contract, within thirty-five (35) days after said final estimate and payment; but in the absence of error or manifest

mistakes, it is agreed that all estimates, when approved by the Board, shall be conclusive evidence of work done and materials furnished.

- 8.6 Release of Liability. The acceptance by the Contractor of the last payment shall operate as, and shall be, a release to the District and every officer and agent thereof, from all claims and liability to the Contractor for anything done or furnished for, or relating to the work, or for any act or neglect of the Owner or of any person relating to or affecting the work, and, following such acceptance, no person, firm or corporation, other than the signer of this contract as Contractor, will have any interest hereunder, and no claim shall be made or be valid, and neither the District nor any employee or agent thereof shall be liable or be held to pay any money, except as herein provided.

PART III

SPECIAL PROVISIONS

SECTION 1. GENERAL INFORMATION

- 1.1 Location. Location of proposed Meiners Oaks Dam is in Lot 3 of N.E. $\frac{1}{4}$ of Sec. 3, Twp. 4 N. R 22 W, S.B.B. & M, and may be reached by driving North on Maricopa Highway to $\frac{1}{2}$ mile beyond intersection of Fairview and Tico Rds., then turning in on right over private road for 200 yds.
- 1.2 Work to be Done. Consists, generally, of excavating for and constructing a rolled fill earth dam, with a spillway on the left abutment, and a sixteen inch (16") conduit through the dam, and all appurtenant work.
- 1.3 Utilities. Contractor shall make his own arrangements for power, light, and water. No utilities need to be relocated, and no telephone is required by the District at the job site. The Contractor may be able to arrange with Mr. George Hantgin, or Mr. B. E. Bastord, adjacent property owners, for a supply of water from their reservoir or pipelines. Pipes are already laid to the site.
- 1.4 Roads, Access. The Contractor will provide and maintain an access road from Maricopa Highway over a Right of Way provided by the District, both to the lower side of the damsite and to the upper side of the damsite, and shall construct and maintain work roads within the project limits.
- 1.5 Supervision. This dam will be constructed under the supervision of the State Division of Water Resources in accordance with the Act relative to Supervision of Dams, California Adm. Code, Title 23, Chap. 2.
- 1.6 Sanitary Provisions. Contractor shall provide sanitary conveniences for employees on the job, which shall meet requirements of the County Health officer.
- 1.7 Labor. Shall meet requirements of the District as set forth in the General Provisions.

- 1.8 Changes on Project. If field conditions so warrant it, District reserves the right to make any minor changes in design and line and grades. Radical changes made necessary will require consideration of adjustments of payments.
- 1.9 Water in Foundation. It is not anticipated that water will be encountered in the foundation excavation. It is anticipated that construction work will not commence till after all danger of floods is over, so no provisions are made for flood protection of project.

SECTION 2 - CLEARING AND GRUBBING OF FOUNDATION OF DAMSITE, SPILLWAY AND BORROW PIT AREAS.

- 2.1 Trees and Other Growth. All trees, weeds, brush and other growth shall be removed by clearing and grubbing, and material removed shall be taken to an approved area outside the work area, but inside the reservoir area, and piled, ready for burning, except as noted below.

No burning shall be permitted except by written permissions from the County Fire Warden, Ojai, California. In case the project is completed before such permission is received, or the season is too far advanced for burning safely, the Contractor will not be required to burn it, the District assuming this obligation.

All trees, stumps and roots must be completely removed from the Borrow Pit and Dam areas. All trunks and limbs of trees, four inches (4") or larger in diameter, shall be cut into four (4) foot lengths, and stockpiled, out of the work area, for use by the District.

- 2.2 Limits of Clearing. Limits of clearing shall be established not less than ten feet outside the exterior boundaries of dam slopes, and twenty feet outside Borrow Pit areas.

Surface soil over Borrow Pit areas including side slopes will be removed to a depth of not less than one foot (1') or more as directed by the Engineer, in order to eliminate surface trash, ashes and other undesirable materials. This soil may be used to backfill in debris basins on watercourse.

Surface soil on foundation of dam embankment and abutments shall be removed as specified under Section 3, paragraph 3.5 labeled "Earth Excavation."

- 2.3 Payment. The price paid per acre for clearing, grubbing, and surface stripping includes full compensation for furnishing all labor, materials, equipment and appurtenances, necessary to do the work specified above, and as set forth in Item 2 of Proposal.

SECTION 3 - EXCAVATION

- 3.1 Dam and Spillway. The foundation, abutments and spillway, shall be excavated to line and grade, subject to changes in the field, as determined to be necessary by the Engineer.

Excavation shall be of two classes:

- 3.2 Earth Excavation. Shall consist of all excavation other than structural excavation and stripping of foundation and borrow pit areas. All top soil and unsuitable material must be removed from abutments and foundation of the dam to a depth of not less than 2 feet or deeper to material that will provide a good base or support for embankment. Material so removed shall be considered as stripping and borrow material as set forth under Section 2 above. Cut-off trench shall be excavated to depth as determined by the Engineer. It is anticipated that not over three feet of material will have to be removed to find a suitable base. Any material removed that can be incorporated in the impervious section of the dam, will be so done and will be paid for only as embankment. All boulders or rocks over six (6) inches in size shall be removed from any material placed in embankment, and may be placed in rock toes. Excavated material not suitable for use in the dam, shall be removed to an area outside of the work areas. Material excavated from spillway, borrow and cut areas may be wasted at places approved by the Engineer or used in embankment if suitable.

Calculation of yardage for all types of excavation or embankment shall be made by the method of end areas, using data obtained by means of surveys made before and after excavation.

Payment for earth excavation shall be at the unit price per cubic yard as placed in embankment and shall include full compensation for furnishing all material, labor, equipment and appurtenances to do all of the work specified under the respective specifications.

- 3.3 Structural excavation shall include the removal of all material necessary for the construction of all concrete structures below the point of finish grade set for excavation of the dam, such as conduits and spillway structure. Pay lines for structural excavation shall be neat lines of the concrete, for outlet structure and spillway outlet structure. For conduit cut-offs,

pay lines

will be neat lines of concrete, which may be poured directly against the trench.

Backfill of structures is included in the price per cubic yard for structural excavation. Unsuitable excavated material shall be removed from work area. After concrete has been properly cured, suitable material shall be placed and mechanically tamped to get same compaction present in adjacent material. Material shall be placed in horizontal layers not over four inches (4") loose height, and, if necessary, moisture shall be added to obtain proper compaction. Structural excavation shall be measured in place before removal, by calculation using pay lines and elevations.

Payment for structural excavation includes backfill and will be made at the unit price per cubic yard and shall include full compensation for furnishing all material, labor, equipment and appurtenances to do all of the work specified.

SECTION 4 - STRIPPING BORROW AREAS AND SITE OF DAM EMBANKMENT.

All top soil, trash, ashes, and undesirable material shall be excavated from surface of borrow areas to a depth as directed by the Engineer in order to provide clean and fresh soil for dam material, and shall be removed from surface of borrow areas to a reasonable distance from said area, or may be used for debris check dams on upstream channels.

Payment for stripping shall be at the unit price per cubic yard and shall include full compensation for furnishing all material, labor, equipment and appurtenances to do the work specified, under Item 2 of proposal.

SECTION 5 - EMBANKMENT

- 5.1 Preparation of Foundation. After excavation has been made, foundation material shall be scarified and broken up to permit new fill material to bond with old earth. Moistening shall be done, if necessary, to provide suitable bonding material. Full compensation for this work shall be included in cost per cubic yard of embankment and no additional amount shall be paid. No embankment shall be placed till approval has been given by the Engineer of the foundation on which embankment is to be placed. If embankment is placed against outcropping of bed rock or where conditions do not permit rolling, it shall be mechanically tamped to a density equivalent to rolled embankment.

- 5.2 Materials Used. Embankment shall be built to line and grade, set forth in the plans and specifications, with an allowance for settlement on width and slopes of the dam. All unsuitable material such as roots, or growth of any sort shall be removed from embankment material, and one employee or more shall be specifically employed to remove roots or other deleterious material during construction of embankment.

All rocks or boulders over six inches (6") in size shall be removed from embankment material and placed on toe of dam. Embankment shall be placed in generally horizontal layers over width and length of dam. The layers shall not exceed six inches (6") loose height and shall be compacted by means of tamping and rolling equipment to meet specifications set forth below. Care shall be taken that the embankment at all times shall drain properly away from dam axis.

- 5.3 Addition of Moisture and Compaction. Moisture shall be added to material in borrow pit and it shall be mechanically harrowed to thoroughly incorporate applied water with material so that the moisture content is fairly uniform, and additional moisture shall be added after material is spread in layers on the embankment so that the optimum moisture content is obtained. Harrowing and scarifying shall be done before rolling to insure uniform moisture content. In case material becomes too wet, it shall be left unworked until it can be used properly.

The compaction required shall be obtained by sixteen (16) trips made over the material with a tamping roller. If more or less trips are required, the Contractor will be paid for excess trips or deduction will be made for less trips than specified at a rate of per cubic yard per roller trip by agreement between the District and the Contractor.

- 5.4 Tamping. Tamping rollers shall consist of metal rollers, drums or shells surmounted by metal studs with tamping feet projecting not less than seven inches (7") from the face of the roller, drum or shell. Tamping feet shall be arranged in rows, the space between rows and between feet within any one row being not less than six inches (6") nor more than twelve inches (12"). The cross-sectional area of each tamper foot measured perpendicularly to the axis of the stud shall not be less than four (4) nor more than twelve (12) square inches.

Tamping rollers shall weigh not less than 2000 pounds per lineal foot of roller. The contractor shall have one double roller for each 150 cubic yards of material placed per hour.

- 5.5 Placement of Material. Material shall be so placed that it is relatively homogeneous without pockets, lenses of sand or soft material differing from adjoining material, and it shall be sufficiently compacted to test not less than one hundred nineteen pounds (119) per cubic foot dry weight, as determined by Engineer using field tests. Optimum moisture content of material shall be determined from time to time by the Engineer, and application of moisture to material shall be strictly controlled.
- 5.6 Pervious Material. If material of more pervious nature than that indicated in preliminary tests is encountered within the borrow pit area, it may be used in the downstream section of the dam, as directed by the Engineer, but such segregation shall be done at the same unit price as the cost per cubic yard of other embankment in place.
- 5.7 Amount of Shrinkage. It is estimated that material used in embankment will average 25% shrinkage on compaction and Contractor should use this factor in estimating total yardage to be excavated in building the embankment.

- 5.8 Payment for Embankment. Payment for embankment shall be made at the unit price per cubic yard for excavating such material, moistening, hauling to damsite and building the embankment, and shall include full compensation for furnishing all material, labor, equipment, and appurtenances to do the work specified.

Note: There is no overhaul item included in these specifications.

- 5.9 Additional Borrow Pits. Top soil and other unsuitable material shall be removed from Borrow Pit area under item of "stripping".

if necessary, additional areas shall be opened up for borrow and Contractor shall be prepared to move into such areas at no additional cost other than bid items for stripping and furnishing embankment material.

SECTION 6 - DAM FACING AND ROCK TOES

- 6.1 Material Used. Material shall consist of rock, or stones, six inches (6") or larger, with sufficient smaller sizes to fill spaces between large rocks or stones. Material may be dumped in place with only such handwork as is necessary to provide a fairly uniform toe or surfacing, with spaces fairly well filled between large rocks or stones.
- 6.2 Payment. Payment shall be made at the unit price per cubic yard as part of the embankment and includes full compensation for furnishing all material, labor, equipment, and appurtenances to do the work specified.

Material used may be that material removed and segregated from excavated material and stockpiled or placed directly as embankment is constructed, and shall be measured by cubic yards of embankment in place.

- 6.3 Sand and Gravel Blanket. Contractor shall provide a blanket of bank-run river gravel and sand 8" thick under the lower 35 feet of the toe of the dam, as shown in plans. This material shall be paid for as part of the embankment in place.

SECTION 7 - CONDUIT INSTALLATION (See also Section 13)

- 7.1 Conduit Description. The conduit laid through the dam shall be either common concrete pipe 16" in diameter or 15" centrifugally spun reinforced concrete pressure pipe, or both, encased in reinforced concrete.

- 7.2 Trenching and Pipe Laying. Pipe excavation shall be made by trenching in the natural formation six (6) inches below grade of bottom of pipe, and of sufficient width to provide for concrete casing as shown on the plans, and shall be paid for under item "Structural Excavation". (Section 3.3)

Pipe shall be supported on concrete blocks six (6) inches thick, and of sufficient other dimensions to support the pipe before and during concrete pouring, and shall be filled with water during placing of concrete casing around same. The payment per lineal foot for conduit shall include full compensation for all labor, material, tools, equipment and doing all the work involved in providing a conduit in place in accordance with the plans and specifications.

- 7.3 Concrete Casing Around Conduit, and Concrete Cut-off Walls. Shall comply with the requirements of Section 8.3, "Reinforced Concrete."

- 7.4 Backfill. Shall be placed around and on the pipe cover, and compacted with mechanical tamping methods, to the same compaction as that of the dam embankment. The extent of this tamping shall be sufficient to reach the point where sheepsfoot rolling is possible. In any case, at least twelve (12) inches of material shall be tamped as above specified on top of concrete cover.

Concrete must be properly cured before tamping and backfilling will be permitted, and specific approval of the Engineer must be obtained beforehand.

SECTION 8 - REINFORCED CONCRETE STRUCTURES

8.1 The following structures shall be constructed of reinforced concrete:

- (a) Conduit inlet and structures.
- (b) Spillway entrance and outlet structures.
- (c) Concrete casing around conduit and cut-off walls.

The following concrete work shall be installed, only if field conditions require such installations.

- (a) Spillway side wall and cut-off walls as required by final location of spillway structure.

8.2 Payment. Excavation and backfill of reinforced concrete structures shall be done and shall be paid for as set forth in Section 3.3, "Structural Excavation."

Concrete work including all items set forth, shall be done and paid for as set forth in following paragraphs on "Portland Cement Concrete" and "Reinforcing Steel."

8.3 Portland Cement Concrete. Shall be composed of Portland Cement fine and coarse aggregate and water, proportioned and mixed to provide class "B" concrete, containing four hundred and seventy (470) pounds of Portland Cement per cubic yard and complying with specifications of the State of California, Department of Public Works, Division of Highways, Standard Specifications, dated January 1935, Section 35, except as noted below.

Materials. - Portland cement shall conform to standard specifications for Type I, Portland cement of the A.S.T.M., serial designation C150-44 and as subsequently amended.

Aggregates. - Tests for fine and coarse aggregates shall be adjusted to permit use of Ventura County aggregates, in accordance with present practice of the County of Ventura.

Mixing. - Transit mix will be permitted.

Curing. - Shall be done by means of water or the use of Hunts process oil or equal.

Forms - Shall comply with Section 37, paragraph g of above mentioned State Highway specifications.

The payment per cubic yard for Portland cement concrete shall include full compensation for all labor, material, tools, equipment and doing all the work in accordance with the plans and specifications.