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ADDRESS ALL COMMUNICATIONS TO
THE COMMISSIONER

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
WASHINGTON

<i>Stiles</i>
<i>Nelson</i>

OFFICE OF THE COMMISSIONER

JUN 24 1940

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of the Interior.

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During the period from 1904 to 1909 the Bureau of Reclamation constructed the Arrowrock and Deer Flat Reservoirs, distributing canals, and a drainage system for the Boise Project in Idaho of 166,000 acres. Adjacent to this project there is an area of 174,000 acres which has been irrigated for a much longer period than the Federal project. Both areas, amounting to a total of 340,000 acres, have suffered water shortages in recent years.

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The engineers of the Bureau of Reclamation have for some time been making investigations of the possibilities of furnishing supplemental water to eliminate these shortages. In 1938 a proposal was submitted which included the construction of the Twin Springs dam and power plant on the Middle Fork of the Boise River and a pumping plant on the Snake River, the latter to furnish water to the lands of the Deer Flat Division of the Federal project. An appropriation of \$750,000 was made available in the 1938 Interior Department appropriation bill for the commencement of construction of this development, the total estimated cost of which is \$11,296,000. Before construction was initiated the Department of Agriculture and the Corps of Engineers, while making flood control surveys, had found that the Anderson Ranch site on the South Fork of the Boise River was more desirable from a flood control standpoint than the Twin Springs site. The three agencies thereupon made a study of the relative merits of the two sites for the purposes of flood control, irrigation, power development, and silt control.

The report of the Bureau engineers on the two developments is transmitted herewith. Their conclusions are that the more desirable project is the construction of a dam on the South

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Fork of the Boise River at the Anderson Ranch site and the altering of the outlet works of the existing Arrowrock Dam on the Boise River as a flood control feature. The storage of water in the Anderson Ranch Reservoir will practically eliminate the shortages for the 340,000 acres in the Boise Valley in all years except those similar to 1931. The development is greatly desired by local irrigation interests and would materially improve their economic status. Based on repayment in forty years without interest, the total annual charge to irrigation will amount to \$116,000, which can readily be paid by the irrigators.

The estimated cost of the project is \$13,100,000. In the Interior Department appropriation act for the fiscal year 1941, the Congress provided that the funds previously made available for the Twin Springs development "shall remain available for construction of either or both of the same or such other project works on the Boise River or its tributaries as may be found by the Secretary of the Interior, following current investigations, to be more feasible." This provision makes this money available for the Anderson Ranch Reservoir.

The water studies made by the engineers of the Bureau indicate the desirability of installing a power plant of 20,000-kw. capacity. With this installation, about 104,000,000 kw-hrs. of electrical energy can be generated. A large block of this power, about 14,000,000 kw-hrs., will be required for irrigation pumping in the Boise and Payette Valleys and the Owyhee Project, a development of the Bureau of Reclamation. The power in excess of that needed for irrigation pumping can be absorbed in the surrounding power market area, and the Idaho Power Company has already indicated a desire to purchase it. Owing to the location of the Arrowrock Reservoir downstream from the Anderson Ranch site, it will be possible to develop the firm power at the Anderson Ranch plant without the loss of run-off during the non-irrigation season.

The Department of Agriculture has made studies of erosion and silting conditions in the Boise Valley from which it is concluded that 30,000 acre-feet of the dead storage space in the proposed reservoir will prevent annual siltation damages amounting to \$23,000.

The Corps of Engineers, War Department, has made a flood control survey of the Boise River Basin. During the progress of the investigations, there was close cooperation between the field

staffs of the two agencies. The report of the Division Engineer proposes the construction of the Anderson Ranch Reservoir to the same capacity considered by the Bureau of Reclamation and recommends the same allocations for storage space. A conference between the representatives of the Bureau and the Board of Engineers was held on May 24, 1940, at which time the few small differences in the reports of the two agencies were adjusted.

The capacity of the Anderson Ranch Reservoir, amounting to 500,000 acre-feet, will be utilized as follows:

	Acre-feet
Flood control	212,500
Irrigation development	212,500
Power development	45,000
Silt control	30,000

The Board of Engineers for Rivers and Harbors determined that one-half of the cost of the Anderson Ranch Reservoir, exclusive of an allocation of \$1,000,000 for power development, plus the cost of making the proper charges for flood control purposes at the Arrowrock Dam represent a proper evaluation of flood control and silt control benefits. These costs amount to \$5,050,000.

Details of the estimated costs, benefits, allocation of costs, and annual charges for the various features, as agreed to by the two Federal agencies, are shown in the following table:

Allocations
Costs, Benefits and Annual Charges

Features	Total	Allocations		
		Flood Control	Irrigation	Power Development
Construction Costs:				
Anderson Ranch Reservoir:				
Dam and Reservoir	\$10,300,000	\$4,650,000	\$4,650,000	\$1,000,000
Power Plant	2,400,000			2,400,000
Arrowrock Reservoir				
Outlet Changes	400,000	400,000		
Total Costs	13,100,000	5,050,000	4,650,000	3,400,000
Annual Benefits	783,000	298,000	285,000	200,000
Annual Charges	504,000	(1) 215,000	(2) 116,000	(3) 173,000

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*Including Silt Control.

- (1) Theoretical amount required if the flood control costs were amortized in 50 years at $3\frac{1}{2}$ percent.
- (2) Repayment in 40 years without interest.
- (3) Half of cost to irrigation pumping - Repayment in 40 years without interest.
Half of cost to commercial power - Amortization in 40 years at 3 percent.
Operation and maintenance, repairs, and general expense.

The new repayment contract will be negotiated largely with the same group that is now repaying the cost of the present works. The operation and maintenance for any new construction will be supplementary to that already in force. In view of this situation there should be no doubt that the Bureau of Reclamation should construct and operate the proposed works.

The benefits to be derived from the construction of the Anderson Ranch Reservoir exceed the annual costs, and the project clearly meets all the requirements of feasibility and authorization under Section 9 of the Reclamation Project Act of 1939. Through the cooperation between the field staffs of the Bureau of Reclamation and the War Department, a satisfactory and fair allocation has been arrived at for flood control purposes. I recommend that the report and a Finding of Feasibility on this project be submitted to the President and to the Congress in compliance with the provisions of the Reclamation Project Act of 1939.

Respectfully,

John C. Page
Commissioner.

Enclosure 2547215.

By *J. C. Page* NARA Date 4/25/61