

MEMORANDUM FOR MR. ROBINSON

Regarding Western Navajo Irrigation Project:

On my recent visit to the Western Navajo jurisdiction, Superintendent Walker, of ^{Julia} Silver City, went over the Marsh Pass diversion dam with me. Superintendent Walker had raised the diversion dam 18 inches. During the flood of last year the water over-flowed the south embankment; this was evidently caused by the increase in height on the diversion dam. Superintendent Walker claims that this additional height on the crest of the diversion dam was made necessary in order to divert the water to the lands under irrigation.

At the time of my visit there with Mr. Walker, I authorized him to use the sum of \$100.00, subject to your approval, to be used for constructing a jetty to deflect the current of the river toward the north bank, believing that if this was done and the channel properly straightened, that very little more work would be required to protect the south embankment from flood danger.

While at Silver City we also looked over the Moencopi ash diversion dam and canal. Superintendent Walker requested that the Irrigation Service construct a new head-gate at the diversion dam. A number of photographs were taken showing the conditions at the head-gates. Considerable trouble has been experienced in keeping the head-gates free from sand, because they are some thirty feet from the diversion dam, and the tendency is for the water to deposit the sand and scour the channel parallel to the west part of the diversion

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dam. The matter of constructing a jetty in the river was discussed, but it did not seem advisable to place such an obstruction in the channel because it was thought that if the river channel was deflected far enough toward the west bank to remove the sand deposit in front of the gate, that it would erode the west bank of the river.

Superintendent Walker also requested that a water bridge be constructed to carry flood waters from the hills over the present irrigation canal. This point is about $\frac{1}{2}$ mile below the head-gate. It is my recommendation that the new head-gate be 4 ft. wide by 1 ft. 6 in. high, together with the sluice gate ~~would~~ be placed in the present aperture left under the diversion dam, 4 ft. wide by 2 ft. high, be constructed during the next fiscal year. The location of the new head-gate would be about 6 ft. from the sluice gate; there would be no silt deposit adjacent to the head-gate, to interfere with the operation of the canal.

It is estimated that about \$550.00 would be required for this work. At least one-half of this should be provided by school funds, as one-half of the land cultivated under this project is worked by the Tuba City School. For the construction of the water bridge \$250.00 would be required. It is possible that we could undertake this work during the present fiscal year, however, we could not tell at this time if sufficient funds were available.

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the head wall from factors of 900 to 1000 ft.

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The Reservoir Canon Project was also discussed, and I believe that we should take steps to replace the present slab culvert that was constructed several years ago. The blow sand is gradually increasing and will soon cover the present culvert to a depth of about 20 ft.. It will be much cheaper to replace this structure with a culvert pipe at this time, than to wait until we would have to move considerable sand. Plans for this work will be prepared and submitted to the 1930 authorities.

Referring to Superintendent Walker's letter of August 20, 1928; it did not seem that we could allot any part of the \$10,000.00 among the several jurisdictions. If this was done we would not have enough funds to complete any one project.

It is my recommendation that practically all the work contemplated on the Western Navajo Jurisdiction be done during the fiscal year of 1930. If this meets with your approval steps will be taken immediately to prepare plans and estimates for this work. I believe that at least \$5,000.00 would be required to complete the work mentioned in this memorandum.

C. S. P.
Spillway canal - 14 ft wide - x 22 ft across
22 ft storage tank.

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