

# IDAHO STATE HISTORICAL SOCIETY

## REFERENCE SERIES

### MILNER DAM

Number 497

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Construction: Each dam and intervening island spillway segment was constructed separately. A south channel trench was excavated twenty-nine feet below bedrock and sealed with concrete. Above this trench, a thirty-five-foot horizontal plank core of overlapping two-inch boards with vertical boards spaced every two feet separated downstream rock and upstream dirtfill segments. Then a south island spillway had a steel and concrete foundation supporting ninety-nine wooden gates, each 5" x 5" x 10' with threaded stem gears bolted into each gate casing to raise and lower them. (These gates subsequently had to be replaced.) A second, mid-channel dam was constructed between Milner's two rock islands with another concrete trench for a base and a plank core rising above bedrock to seal a rock- and earth-fill structure.

Because the Snake River could not be diverted for construction of a north-channel concrete base, divers had to build one underwater. Then cribs were lowered by crane, with a single plank core installed November 13, 1904 to complete construction of that project. Upon completion, Milner Dam had a trapezoidal-shaped earthfill, with these segments separated by a plank core. Since closure of its diversion tunnels March 2, 1905, Milner reservoir has not been drained, and in 1942 the tunnels were blocked off by masonry walls for security.

Alterations: replacement of washed-out rock fill at various times (commencing prior to completion of construction) did not alter Milner Dam, but in 1916-1918 tunnel walls were repaired with concrete and tunnel doors were replaced with concrete plugs.

At that time, new wooden pilings were driven ten feet down to strengthen earth-fill segments, and a concrete cap was placed on them.

No original spillway gate piers have survived. Alternate piers were replaced during repairs in 1928, and all remaining piers were replaced in 1949, when Milner Dam was widened enough to allow vehicular traffic to cross it. A redesigned north spillway, with a four-foot-deep overflow space replacing badly deteriorated gates, was also completed by 1950. None of these changes has affected Milner Dam's significance as Idaho's primary Carey Act diversion structure.

Type: rockfill and earthfill  
 Dimensions:

|                     |  |
|---------------------|--|
| Height:             | 38 feet                                      |
| Crest Length:       | (3 sections with 2 intervening rock islands) |
| South Channel:      | 462 feet                                     |
| Middle Channel:     | 404 feet                                     |
| North Channel:      | 280 feet                                     |
| Crest Elevation:    | 4,138 feet                                   |
| Spillway Elevation: | 4,134 feet                                   |
| Upstream Slope:     | horizontal/vertical 4:1                      |
| Spillways:          |  |
| North Island        | 290 feet (completed 1909)                    |
| South Island        | 487 feet wide/99 feet long                   |

Commenced as a large reclamation enterprise under congressional legislation of August 18, 1894 (which provided for state supervised projects funded by private irrigation companies), Milner Dam diverted Snake River water to two large tracts north and south of a deep, narrow gorge in south central Idaho. Planned originally by I. B. Perrine, who had developed a Shoshone Falls resort and a Blue Lakes farm downstream from a suitable diversion point for large north and south side canals, Milner Dam attracted large-scale capital investment from Salt Lake and from Sharon, Pennsylvania. A gravity system unmatched in size and in national reclamation development, Perrine's venture contrasted remarkably with private canal company failures that led to congressional provision for federal reclamation projects after 1902. As a rare successful example of state supervised private irrigation development provided for in Senator Joseph M. Carey's reclamation statute of 1894, Milner Dam and its canal system have national significance in agricultural history.

When Perrine posted a Snake River water claim for 3,000 second feet at Milner, June 25, 1900, he had financial subscriptions of a thousand dollars each from J. H. Lowell and A. K. Steunenberg of Caldwell and Stanley B. Milner of Salt Lake. He also had strong support from Governor Frank Steunenberg, who obtained State Land Board approval for an initial 248,667 acre project, October 12, 1900, and who served as selecting agent for negotiation with Interior Department land office staff. Litigation and Senator George L. Shoup's 1898 congressional proposal to reserve Snake River gorge and Shoshone Falls for a National Park delayed their project until 1902, when Lowell and Steunenberg withdrew to work on a Reclamation Service Boise project. By that time, A. J. Wiley and Walter G. Filer had done some preliminary engineering, and Filer managed to interest two of his old mining associates from Sharon--Frank H. Buhl and Peter L. Kimberly--in providing more than a million dollar capital investment. Milner continued to support Perrine's project, for which construction started within a few months after all of

Perrine's major investors came out to examine it, November 24, 1902.

Modern construction methods were employed where possible. Milner Dam was designed as three rock and earth fill structures with a concrete core to block channels going past two bare lava rock islands above Snake River gorge. A temporary dam of cribs and rock fill fed a 100 second foot canal for a 200-kilowatt direct current generator that provided four electric cranes with power. Commencing with a 462-foot south channel dam, Milner's diversion tunnels, a more difficult 280 foot north channel barrier built from June to November, 1904. Two large spillways (one with ninety-nine gates) were provided, along with canal headgates on both river banks. When completed on November 15, 1904 Milner Dam raised Snake River thirty-eight feet to flow into major canals that had been dug over a two-year period. A town at Milner, large enough to accommodate 300 canal diggers and their teams of horses as well as dam construction crews, had served as an operating base. Milner townsite later was abandoned, but a notable group of north and south side cities and towns grew up to serve a large farming region made possible by construction of Milner Dam and its canals.