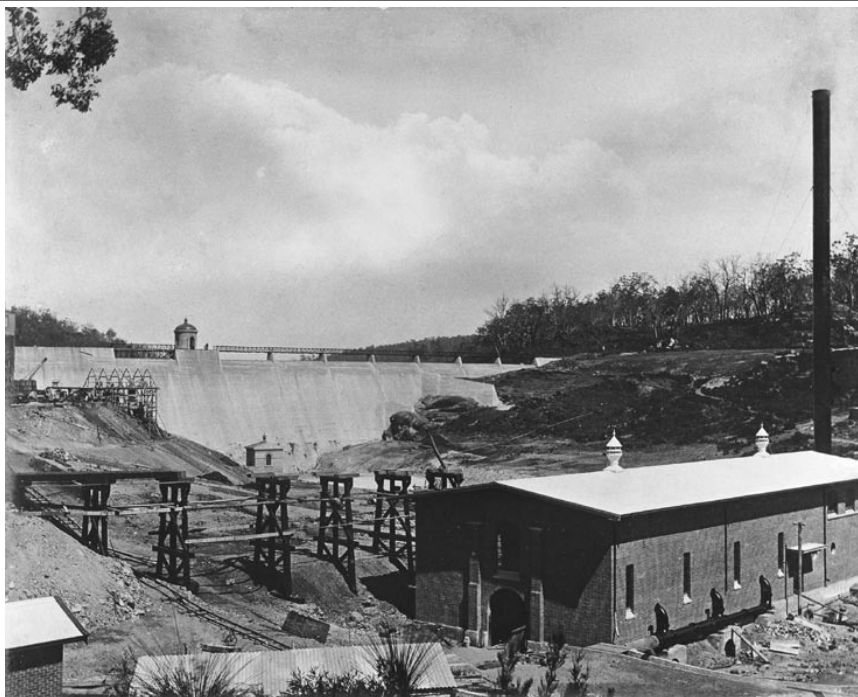


Building No 1 Pumping Station, 1902



Description

This is a black-and-white photograph showing No 1 Pumping Station, then nearing completion as part of the Coolgardie Water Supply Scheme, against the backdrop of the reservoir wall of the Mundaring Weir in Western Australia. On the bottom right of the photograph, three outlet pipes, each from one of the three pumping engines inside, can be seen emerging from the wall of the engine house. The caption below the photograph (not visible) reads 'Back of Weir showing No 1 Pumping Station'. The photograph measures 11 cm x 15 cm.

Educational value

- This photograph shows the main elements of the Coolgardie Water Supply Scheme: the main storage reservoir, one of the eight pumping stations and the three outlet pipes that represent the beginning of the project's 560-km pipeline. Opened in 1903, the Scheme attracted worldwide attention and has been declared an Australian national engineering landmark.
- Prospectors had rushed to what became known as Coolgardie and Kalgoorlie following rich gold discoveries, with many dying of thirst in the inhospitable gold fields or from diseases spread by lack of sanitation and clean water. Water was also needed so the gold mining industry could develop. Attempts to obtain fresh water from local underground sources and dams proved unsustainable and finally this Scheme was built at great expense.
- Construction of the pumping Scheme started on this site in 1898, with the dam being completed by June 1902 in order to collect that winter's rainfall in time for the official opening in January 1903. At the time this photograph was taken, the three outlet pipes from the three engines inside the Pumping Station had been installed.
- Behind and to the left of the building, still under construction, is the light railway that delivered coal from the Collie fields in the south-west of WA to fire the



Categories: Storing and Pumping Water

boilers in this Pumping Station. Within two years coal had been discontinued in favour of the more readily available and less expensive local firewood.

- No 1 Pumping Station, the first of eight pumping stations, was at the foot of the dam. Water gravitated through a pipe to supply the engines that had to lift the water from the bottom of the Helena River valley to No 2 Pumping Station, higher up the Darling Scarp, a vertical lift of about 50 m. No 2 pumped the water on to No 3 Pumping Station, No 3 to No 4 Pumping Station and so on. The pumping stations were spread over a distance of almost 560 km, delivering water further than it had ever been delivered before.
- Over the entire Scheme, the pumps had to lift the water almost 400 m, which was unheard of at the time. The first four pumping stations had three engines each, while the remaining four had two engines, with one engine at each station designated as a spare to be used only in case of breakdowns or during maintenance. The first four pumping stations needed two engines working at any one time because of the height to which they had to lift the water but the countryside became flatter after No 4 Pumping Station at Merredin, and therefore only one engine was required to work this and subsequent stations at any one time.
- The functional Pumping Station and the two valve houses that controlled the flow of water to it were designed by prominent Western Australian architect George Temple Poole in an ornate style. Poole was the government architect when C Y O'Connor became engineer-in-chief in 1891, and although he had resigned to go into private practice, he returned to the Public Works Department to work on the Coolgardie Water Supply Scheme.
- The site of the storage reservoir for the gold fields water supply was chosen because of its natural features. The narrow valley of the Helena River and the granite hills that make up the Darling Range through which the River flows were very suitable for the purpose. T C Hodgson, later to become engineer-in-charge of construction, recommended what was to be the final site to C Y O'Connor in these words: 'On the Helena I have had several sites surveyed, and I can with safety recommend one ... The site is almost an ideal one. The foundations at the dam site are bed rock; the valley at that point very narrow, and sides precipitous. A concrete dam might be made 100 feet [30.48 m] high, and its length on top would only be 650 feet [198.12 m]'.
- This is an important photograph of Mundaring Weir, showing the original weir wall and the two training or guide walls. These are of particular significance because engineer-in-chief C Y O'Connor left instructions about them before his suicide in 1902, writing in a last message: 'Put the wingwalls to Helena Weir at once'. The two guide walls were built on the rocks at right angles to the dam wall and O'Connor intended them to calm the water overflowing the dam wall and prevent it undermining the wall's foundations. When the main wall was raised it was also thickened to increase its strength, and the smaller of the two guide walls was covered by concrete. The second was deliberately left visible because of its historical significance.

Copyright Reproduced courtesy of of the Forrest family

Creator Unidentified

Identifier National Trust of Australia (Western Australia) number P22

Source National Trust of Australia (Western Australia) <http://valuingheritage.com.au/>



Categories: Storing and Pumping Water