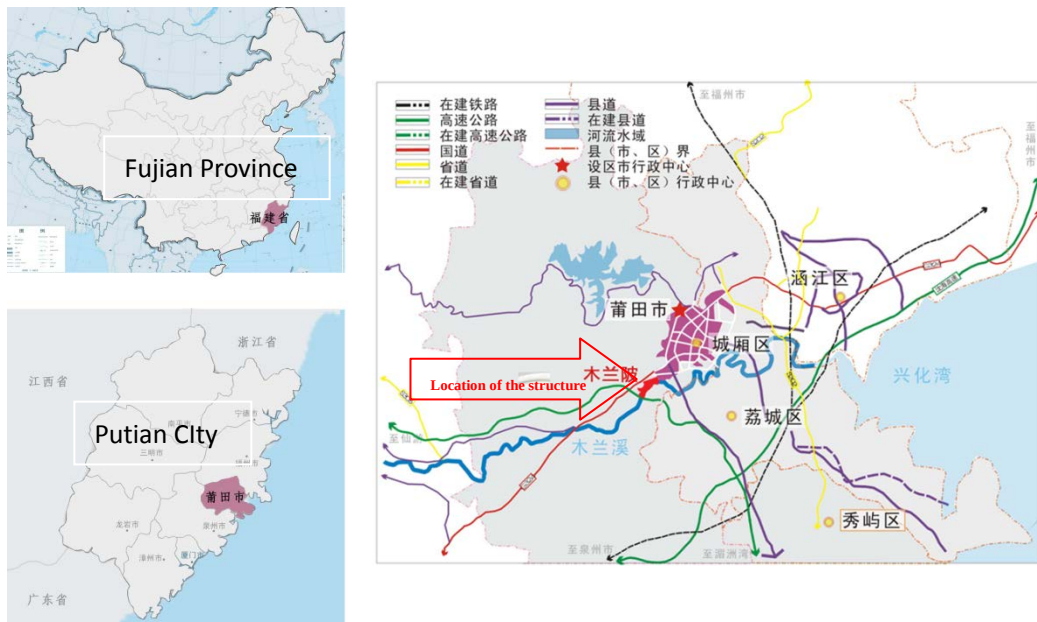


Document providing Mulanbei water conservancy Project description

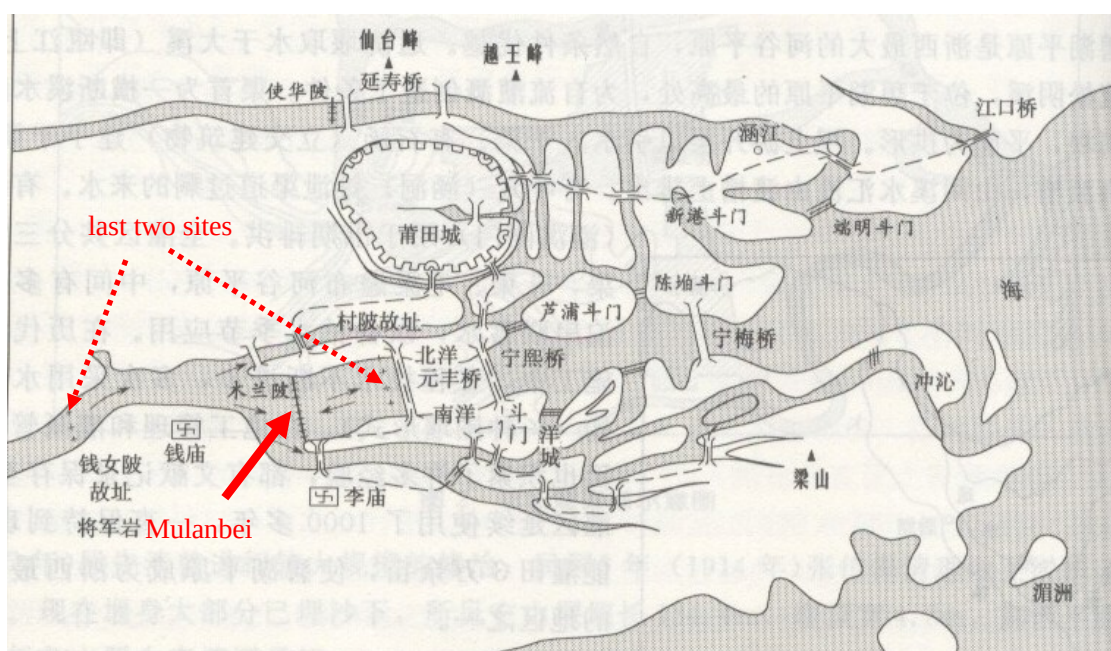
Mulanbei water conservancy project is situated at Mulan river, 4 km southwest to Putian of Fujian province in southeast of China. The structure, completed in 1083 (during the northern Song Dynasty), is still in operation nowadays, irrigating over 9133 ha. of farmland at the Putian Xinghua plain.



Mulanbei water conservancy project was initiated by a lady named Qian Siniang who was born to a wealthy local family. However, this structure located at the place where the Mulan river just flew out of the mountain, was of a narrow surface, steep slope and torrential flow. While the structure was destroyed, Qian Siniang sacrificed her own life. Due to the recent lesson written in blood, Lin Congshi moved the weir site

downward to the Spring Mouth. However, this site, though of slower water flow and flatter terrain, was very near to the coast. Soon after completion, the weir was once again destroyed, this time by surging sea tides. By 1073, Project Manager Li Hong and Monk Feng Zhiri summarized the experience of the previous two rounds of weir building and chose the weir premise to be between the last two sites beneath the Mulan Mountain. This place, sandwiched between two mountains, was of slow and wide river flow, very suitable for dam construction. In 1083, Mulanbei water conservancy project completed at last.

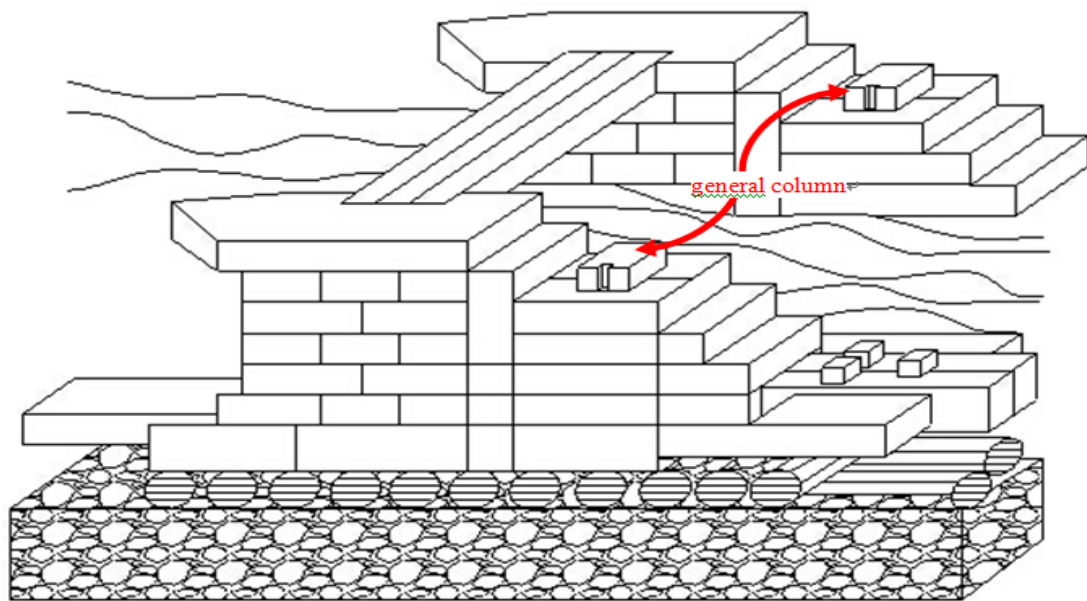
The head works structures of Mulanbei water conservancy project included overflow weir, gravity dam, diversion dike, sluicing gate and diversion mouths at both banks. The gravity dam is 123.43 m long and 7.6 m high, in north bank of the river.



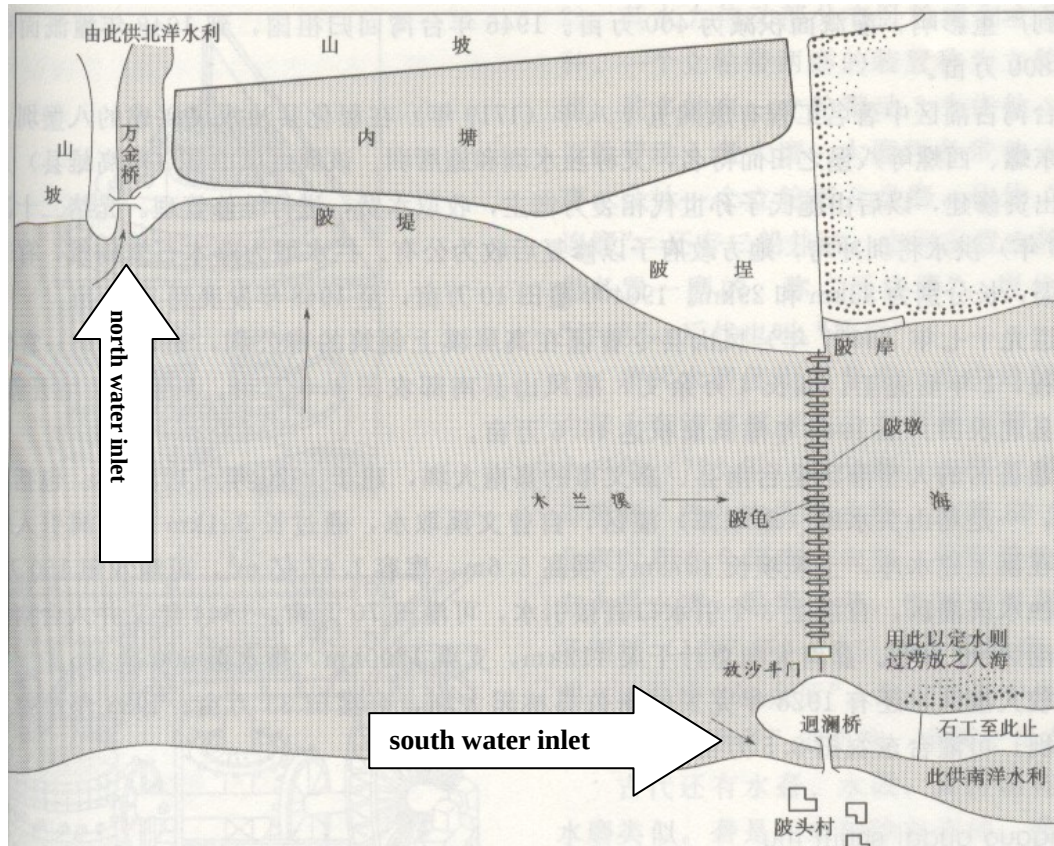


In the south bank , the overflow dam is 95.7 m long , with 28 water release gates and one scouring sluicing gate distributed above it. The weir foundation adopted the “raft foundation” commonly seen in bridge foundation which could effectively alleviated pier pressure on unit area.

Gate walls or piers were built on the weir while stone pillars which was called “general column” inserted through the walls or piers into the river-bed base rock, afterward, pig iron was melted to fill the gaps, the pier stones of the weir and the gates were linked with shoe-shaped iron ingots. As such, the weir/gate formed an integrated whole. Such structures integrating weir and gates were conducive to spill floods and dredge silts.



The south water inlet named Huilan Qian, double holds, 11 m³/s, controlled the south main canal, which irrigated 4867 ha. farmland and flew throw 70 villages. The north water inlet named Wanjin Qiao, single hold, 5.5m³/s, controlled the north main canal, which irrigated 4267 ha. Farmland and flew throw 63 villages.



Hitherto, the structure has operated for nearly 1.000 years with the weir front virtually free of sedimentation and the two inlets still in normal function.