The development and utilization of course resources constitute one of the key components of curriculum reform. Over a history spanning more than four millennia of water conservancy construction, China has achieved remarkable accomplishments. The construction and operation of water conservancy projects—ranging from flood control projects to irrigation projects—encompass rich resources relevant to physics education, including principles of fluid mechanics and hydrodynamics. By systematically developing, integrating, and applying these specialized resources within secondary school physics instruction, the educational value of water conservancy projects can be more effectively demonstrated. This approach leverages real-world scenarios to cultivate students' comprehensive abilities in solving practical problems, enhances their core disciplinary competencies, facilitates the inheritance and development of outstanding traditional Chinese culture through physics education, and strengthens students' national pride.  
  
Note: In future references, flow rates may be expressed in cubic meters per second (m³/s) or gallons per minute (gpm), while elevation values should adhere to the international standard of meters above sea level.