



DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES

901 S. Stewart Street, Suite 2002
Carson City, Nevada 89701
(775) 684-2800 • Fax (775) 684-2811
<http://water.nv.gov>

October 18, 2005

Bill Coughlin, P.E.
Technical Assistant
Board for Financing Water Projects
901 South Stewart Street, Suite 4001
Carson City, NV 89701-5249

Re: Program of Grants for Water Conservation Projects (AB 237)
Letter of Intent from the Metropolis Water Irrigation District

Dear Mr. Coughlin:

Our office has reviewed the Letter of Intent from the Metropolis Water Irrigation District and the Metropolis Irrigation Restoration Project Preliminary Design Report. Under NRS 349.980 through 349.987, the Program of Grants for Water Conservation Projects was established to provide money to an eligible recipient to pay the cost of improvements to conserve water, including, without limitation:

1. Piping or lining of an irrigation canal;
2. Recovery or recycling of wastewater or tailwater;
3. Schedule of irrigation;
4. Measurement or metering of the use of water;
5. Improving the efficiency of irrigation operations; and
6. Improving the efficiency of the operation of a facility for the storage of water, including without limitation, efficiency in diverting water to such a facility.

An eligible recipient means a political subdivision of this state, including, without limitation, a city, county, unincorporated town, water authority, conservation district, irrigation district, water district or water conservation district.

The Metropolis Water Irrigation District Letter of Intent requests a grant to complete the final engineering design and to construct the restoration project. The

project will include reconstruction of conveyance canals, the main canal inlet at the diversion structure, an earth embankment at the diversion structure, a chute spillway at the drop structure, the Bishop Creek Dam, a new recreation facility, and an access road to the recreation facility. The estimated project cost is \$7,645,000. Key elements in the project improvements include water conservation and improved efficiency and meet the requirements under NRS 349.980 through 349.987; however, the new recreation facility and the access road to the recreation facility do not meet these requirements. These elements are estimated to cost \$1,443,669.

The Preliminary Design Report provides a dam design based on a one half Probable Maximum Flood ($\frac{1}{2}$ -PMF) event. The analysis provided shows that a house 4 miles downstream of the dam would experience substantial flooding following a full PMF event and breach of the dam. The dam will be classified as a high hazard dam due to the house. Therefore, the final design will have to either be designed for a full PMF, provide detailed incremental failure analysis to show that no occupied structures will be flooded as a result of a full PMF event, or provide for removal of any occupied structures from the floodplain resulting from a full PMF event and breach of the dam.

Please note that the Preliminary Design Report states on page V-4 that the proposed campground and roads will be above an elevation of 5940 feet, which is above the nominal pool and the spillway crest elevations of 5923 feet. Drawings of the proposed access road in Appendix V show the access road drops to 5900 feet between the proposed campground and Interstate 93. Based on the preliminary design, the campground will be inaccessible at normal pool and campers may become isolated following heavy precipitation events. The final design needs to address this limitation and related safety and liability issues.

The Preliminary Design Report estimates reservoir evaporation and seepage losses at 1,100 acre-feet annually. Capacity data suggest the reservoir will be 700 acres at normal pool resulting in evaporation losses of less than 19 inches per year. Larger evaporation losses would result in less water for irrigation. More details of the anticipated evaporation loss estimation should be provided.

The following recommendations are made:

1. The Metropolis Water Irrigation District Letter of Intent proposes a project that qualifies under the Program of Grants for Water Conservation Projects. Two elements of the project do not meet the requirements for the grant program. These exceptions are the new recreation facility and an access road to the recreation facility.
2. The final design must take into consideration that
 - Any dam under state jurisdiction will be subject to dam safety requirements set forth within NRS 535.

- The final design will have to mitigate the risk to occupied structures downstream of the dam for a full PMF event by one of the three options discussed above.
- Operation of the irrigation system is subject to the terms and conditions of the Humboldt River Decree and permits and certificates issued by the State Engineer's Office.

If you have any questions, please contact me at (775) 684 – 2854.

Sincerely,

A handwritten signature in cursive script that reads "Kurt Suchsland".

Kurt Suchsland, P.E.
Staff Engineer III