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MEMORANDUM

Date: 8/15/18
To: Ward Patrick
From: Brian Wacker
Subject: Summary of Marlette Lake Water System Grant Procurement Activities

Introduction

The Marlette Lake Water system (MLWS) is a historically significant water system constructed in 1873 to bring water to Virginia City in Storey County. In its current form, the system principally consists of Marlette Lake, Hobart Reservoir, Diversion Dam, the East Slope Catchment System, a generator Building, connecting transmission mains and a maintenance yard. The system was purchased by the State of Nevada in 1963 and is part of the State Public Works Division and Department of Administration. The MLWS system provides raw water to Carson City and Storey County. It is notably the only water supply to Virginia City, Gold Hill, and Silver City and 25% of Carson City's water supply.

Within the state, the MLWS is operated as an enterprise fund that is supported by sales of raw water to the Carson City and Storey County water systems. MLWS has an annual operating budget of \$500,000 and about an annual \$600,000 bond debt payment. Carson City is responsible for the majority of bond debt payment with Storey County contributing 10%. The total revenue for the MLWS (state budget 1366) has been \$1,100,000 - \$1,500,000 per year depending on sales. Raw water sales are made up of typical flows of 2,000 gallons per minute to Carson City and 300 gallons per minute to Storey County sold at \$0.75 per thousand gallons.

Maintenance of this system is challenging as some operating components are over hundred years old. The system was not consistently upkept when the state first purchased the system which has led to some decline, but much of the degradation can be attributed to the march of time. The system is still very relevant and functional for this region. Storey County has recently updated their 5-mile Reservoir from 5 million gallons to 7.5 million gallons as well as recently begun to replace transmission main from the siphon discharge to Virginia City. The State has also performed maintenance and upgrades to the system, financed with Carson City and Storey County bonds, including the generator building and replacement of several miles of transmission main. The MLWS also performs maintenance and smaller scale improvement project as allowed by their immediate operating budget.

Recent inspections by State Dam Safety, MLWS, and SPWD personnel have shown substantial projects are needed so that the state can responsibly operate the system and meet the future needs of Carson City and Storey County. Overall the next ten years over \$60,000,000 of work could be conducted on the system, of which over half is accounted for by the Marlette Lake and Hobart Reservoir Dams. In addition to the water supply, these dams are culturally and environmentally significant facilities.

SPWD has recognized that the projects on this system impact various state and local agencies and that there is a potential for federal grant funding to support these projects. Based on the above understandings, SPWD and the MLWS have begun regular discussions on how to apply for and successfully receive grant funding. The following is a summary of received information and project team activities.

Marlette Lake Water System Stakeholder List

This is list of stakeholders with direct involvement and oversight to the MLWS:

1. Legislative Committee for the Review and Oversight of the Tahoe Regional Planning Agency (TRPA) and Marlette Lake Water System (MLWS)
2. Marlette Lake Water System (MLWS) (Department of Administration)
3. Carson City Public Works
4. Storey County Public Works

Project Team and Additional Resources

This is a list groups and organization that are either working directly on this project (MLWS, SPWD, Stephanie Hicks, Guinn Consulting) or who have lent support and expertise to the effort.

1. State Public Works Division (SPWD) (Department of Administration)
2. Stephanie A. Hicks – Grant Writing Consultant
3. Guinn Consulting Engineers – Technical Consultant
4. State Office of Grant Procurement, Coordination & Management (Department of Administration)
5. State Division of Emergency Management
6. State Dams & Dam Safety (Division of Water Resources)
7. State Water Resources (Division of Water Resources)
8. Tahoe Regional Planning Agency

Action List

1. SPWD, MLWS, and the Grant Writing Consultant with the assistance of the Stakeholders, Project Team and Additional Resources are currently locating realistic and significant grant opportunities that could fund future work at the MLWS.
2. After the above activity is complete the project team will move towards preparing and submitting grant applications. The timing of this activity is contingent on grant application cycles.
3. The project team is meeting bi-weekly with various stakeholders on this project. The project team is also working on restarting quarterly MLWS stakeholder meetings.

Grant Opportunities

The following grant opportunities have been reviewed to date:

1. The FEMA Pre-Disaster Mitigation (PDM) program makes federal funds available to implement and sustain cost-effective measures designed to reduce the risk to individuals and property from natural hazards. The FY 2018 grant cycle is anticipated to open on October 1, 2018 and the application acceptance windows is anticipated to close January 31, 2019. This window changes with each cycle and is still subject to change. It is anticipated that FEMA will have \$235 million available this upcoming grant cycle.

Within the PDM grant there are several funding opportunities:

1. FEMA PDM Mitigation Project
 - a. Up to \$4 million for mitigation projects with required 25% match
 2. FEMA Resilient Infrastructure project
 - a. Up to \$10 million Federal Funding with required 25% match.
 3. FEMA PDM Advanced Assistance
 - a. \$200,000 available with required 25% match
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2. The FEMA Hazard Mitigation Grant Program (HMGP) provides \$3.4 million available to Nevada as a result of major federal disaster or fire management Assistance declarations.
 - a. The application cycle will be announced soon by the Nevada Division of Emergency Management and will close mid-January 2019.
 - b. Applications will be accepted statewide with priority placed on counties where the disasters occurred.
 - c. 25% match required.
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3. National Earthquake Hazard Reduction Program
 - a. Application cycle is anticipated to open early 2019 and close July 2019.
 - b. Funding availability is generally \$35,000 with a required 50% match.
-
4. EPA
 5. Federal dam life and safety
 6. WYNN

Recent Activities

1. June 5, 2018 Site Visit – MLWS personnel led site tour of the MLWS to discuss issues with the Legislative Committee for the Review and Oversight of the TRPA and MLWS.
2. July 2, 2018 Siphon Break – A section of siphon owned by Storey County (east of I-580) failed under a residence with enough force that the occupants that it was an earthquake. The system controls notified MLWS personnel of the leak and the water system was shut down and de-pressurized before even first responders knew the cause of the problem. While Storey County made repairs, their water supply was cut off and they had to rely on stored reservoir supplies.
3. August 7, 2018 Site Tour – MLWS personnel lead a multi-jurisdictional site tour of the MLWS to discuss potential projects and grant funding with many of the stakeholders (MLWS, SPWD, Carson City, Storey County, Stephanie Hicks, Guinn Consulting, DEM, Dam Safety, and the Administrative Services Division). Also attending were personnel from FEMA's Region IX. FEMA is responsible for several forms of grant funding that should be applicable to the MLWS.

Per your request, this memorandum will be updated as to document on progress on this effort. A PDF is also attached to this memorandum that gives further information on our efforts.

Marlette Lake Dam & Hobart Reservoir Dam



Marlette and Hobart Dams



Marlette Dam



Hobart Dam



Marlette Dam Spillway



Hobart Dam Spillway

Tahoe Oversight Committee

Legislative Committee for the Review and Oversight of the Tahoe Regional Planning Agency (TRPA) and the Marlette Lake Water System (MLWS)

Current Committee Members

- **Assemblyman Michael Sprinkle, Chair**
- **Senator Julia Ratti, Vice Chair**
- **Senator David R. Parks**
- **Assemblywoman Sandra Jauregui**
- **Assemblyman Al Kramer**
- **Senator James Settelmeyer**

Staff

- **Principal Research Analyst Jared MacDonald**

Points of Contact

- **Dept. of Emergency Management (DEM) – Janell Woodward**, State Hazard Mitigation Officer
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- **Nev. Division of Water Resources (WR) – Bunny Bishop**, State Floodplain Mgr.
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- **State Public Works Division (SPWD) – Ward Patrick**, Administrator
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- **Marlette Lake Water System (MLWS) – Jerry Walker**, System Manager
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- **Tahoe Regional Planning Agency (TRPA) – Dennis Zabaglio**, Principal Environmental Specialist
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- **Guinn Consulting Engineers, LLC - Thomas Guinn, P.E.**
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- **Stephanie Hicks**, Real Property Manager
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- **Thunderbird Preservation Society – Bill Watson**, Chief Executive and Curator
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- **State Lands/Tahoe Resource (DCNR) – Liz Kingsland**, Coordinator
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Letters of Support

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➤ Congressmen

- **Dean Heller, Senator**
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- **Catherine Cortez Masto, Senator**
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➤ Storey County Commissioners

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- **Lance Gilman, Vice Chairman**
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- **Assemblywoman Sandra Jauregui, Member**
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- **Assemblyman Al Kramer, Member**
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- **Senator James Settelmeyer, Member**
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Future Projects for the MLWS

Application ID	Name	19 CIP	21 CIP	23 CIP	25 CIP
	Marlette Lake Water System Master Plan	\$200,000			
19004	Pump and Generator Controls Upgrade (Marlette Lake Water System)	\$800,000			
19017	Diversion Dam Controls Upgrade (Marlette Lake Water System)	\$535,000			
19007	Advance Planning: Marlette and Hobart Dam Rehabilitation (Marlette Lake Water System)		\$1,099,000		
	Marlette Dam Rehabilitation (Marlette Lake Water System)			\$21,185,000	
	Hobart Dam Rehabilitation (Marlette Lake Water System)				\$16,004,562
19009	Additional East Slope Catchments (Marlette Lake Water System)	\$818,000			
19019	Construct Hobart Spillway Bridge (Marlette Lake Water System)	\$398,000			
19045	Replace Generators 1100 & 1200 (Marlette Lake Water System)			\$1,495,000	
19015	Advance Planning: Sawmill Transmission Main Upgrade (Marlette Lake Water System)		\$1,192,000		
	Sawmill Transmission Main Upgrade (Marlette Lake Water System)			\$11,680,000	
19018	Advance Planning: East Slope Transmission Main Upgrade (Marlette Lake Water System)	\$751,000			
	East Slope Transmission Main Upgrade (Marlette Lake Water System)		\$7,505,000		
Sub-Total Each CIP		\$3,502,000	\$9,796,000	\$34,360,000	\$16,004,562
Grand-Total		\$63,662,562			

Milestones

- Built in 1873 by Hermann Schussler for the Virginia and Gold Hill Water Company
- Hobart Dam collapsed in 1955
- State ownership – June 23, 1963 for \$1.65 million
- Historic Civil Engineering Landmark by ASCE (1975)
- Listed on National Register of Historic Places (1992)
- Diesel powered pump installed in 1966 at Marlette Lake after the Tunnel collapse and operated from 1966-2009
- Natural gas powered generator and electric pump installed 2009
- Weekly meetings of the “Marlette Steering Committee” have been established to monitor present projects and establish future system needs
- August 23, 2018 Presentation

Bibliography

- **Emergency Action Plans**
- **Dam Safety Reports**
- **1963 Transfer Documents**
- **Historical Description of the Water System**
- **Carson City Master Plan**
- **Tahoe Oversight Committee's Letter Regarding Grants**
 - **Response Letter**
- **State Emergency Response Plan**