



**INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT
ENGINEERING DIVISION TECHNICAL MEMORANDUM**

TO: LAURA WHITNEY/USACE SACRAMENTO DISTRICT

FROM: JOSEPH J. POMROY, P.E./IVGID

SUBJECT: IVGID EFFLUENT STORAGE BASIN IMPROVEMENTS PROJECT SCOPE OF WORK

DATE: FEBRUARY 15, 2019

BACKGROUND

The Incline Village General Improvement District (IVGID or District) operates a wastewater collection, treatment, and effluent export system that serves the communities of Incline Village and Crystal Bay, NV and the Nevada State Parks (Sand Harbor, Spooner and Memorial Point) located at Lake Tahoe. A critical component of this operation is the 2.4 million gallon primary effluent storage basin located adjacent to the wastewater resource recovery facility (Plant). This storage basin was designed to provide automated back-up effluent storage in the event the Plant's 500,000 gallon effluent storage tank fills to capacity. By lining the storage basin, it will allow for effluent storage during emergency situations and planned effluent pipeline repair and replacement construction projects. The lining will also eliminate the need to retreat this effluent through the Plant, speeding recovery from the incident. Depending on the time of year and associated influent flows at the Plant, the primary effluent storage basin can provide between 1.6 and 3.2 days of storage. The primary storage basin also ensures there is adequate storage capacity to accommodate a multiple day power outage that interrupts Plant operations.

As a condition of IVGID's current operating permit with the Nevada Department of Environmental Protection (NDEP), the District is no longer allowed to utilize the primary effluent storage basin for storage because it is unlined. This significantly hampers the District's ability to conduct planned maintenance of the effluent export system and puts IVGID at risk of a discharge of effluent to the waters of Lake Tahoe in the event of a significant emergency.

EFFLUENT STORAGE IMPROVEMENTS PROJECT

Analysis conducted as a component of the IVGID Effluent Export Project Predesign Report July 2004 indicates that, due to the regulatory limitations associated with the use of the Primary Effluent Storage Basin, there is insufficient operational storage available to IVGID to provide adequate redundancy and reliability of the effluent export system.

The following improvements are proposed to be completed to allow routine use of the Primary Effluent Storage Basin:

- 1) Clear, grub, and re-grade the Primary Effluent Storage Basin.
- 2) Construct improvements to allow impervious containment of effluent within the Primary Effluent Storage Basin.

- 3) Install fencing around the basin periphery for security and safety.
- 4) Construct mechanical improvements to allow the Primary Effluent Storage Basin to be operated in conjunction with the Effluent Storage Reservoir.
- 5) Replace and automate existing piping, pumping system, and controls to allow unattended operation of the Primary Effluent Storage Basin.

ENVIRONMENTAL ASSESSMENT

An Environmental Assessment is anticipated to be required for this project. The USACE will be the lead agency and perform all field work and document composition with assistance from the District staff.

As a reference, the District completed an Environmental Assessment to allow previous effluent export system improvements. The Environmental Assessment was completed in October 2004 with a Finding of No Significant Impact, issued by the USACE. The area of impact for the recommended improvements to the Primary Effluent Storage Basin is contained within the Environmental Assessment's Project Area and studied as a component of the project analysis.

PROJECT WORK TO DATE

The following work has been completed or is underway to allow implementation of the Primary Effluent Storage Basin improvements:

- Expansion of the access road around the wastewater treatment plant to improve ingress/egress to allow construction of improvements to the Primary Effluent Storage Basin. This work included the purchase of an adjacent parcel.
- A contract with a consulting engineer is currently underway to complete pre-design analysis that evaluates alternatives, makes recommendations, completes preliminary design, and develops construction cost estimates to implement the above listed effluent storage recommendations. This work was completed in September 2018.

CONCEPTUAL PROJECT MILESTONES

- Complete pre-design analysis – September 2018
- Final design and environmental entitlement – March 2019 - September 2019
- Project bidding and contract award – December 2019 - January 2019
- Project construction – July 2020 - October 2020

CONCEPTUAL PROJECT BUDGET

Project Component	Estimated Cost
Site Civil	\$200,000
Reservoir Improvements	\$1,200,000
Piping, Mechanical, & Controls	\$275,000
Subtotal	\$1,675,000
Contingency (20% of Subtotal)	\$335,000
Construction Estimate	\$2,010,000
Pre-Design	\$50,000
Final Design	\$250,000
Environmental Documentation	\$75,000
Construction Administration & Management	\$200,000
IVGID Project Administration & Management	\$125,000
Estimated Project Total	\$2,710,000
USACE Share (75%)	\$2,032,500
IVGID Share (25%)	\$677,500

ESTIMATED FISCAL YEAR(FY) BUDGET

FY 2019	Estimated Cost
Pre-Design, Final Design, Environmental Documentation	\$300,000
IVGID Project Administration & Management	\$75,000
Subtotal	\$35,000
Subtotal	\$410,000
FY 2020	Estimated Cost
Construction	\$2,010,000
Construction Administration & Management	200,000
IVGID Project Administration & Management	90,000
Subtotal	\$2,300,000
Total	\$2,710,000

PROJECT LOCAL SHARE

IVGID presently has sufficient funds in Utility Fund Reserves to provide the necessary project local share.