



City Manager's Office

MEMORANDUM

DATE: 03/07/2023

TO: Mayor and City Council

THROUGH: Doug Thornley, City Manager Approved Electronically
Jackie Bryant, Assistant City Manager

FROM: John Flansberg, Regional Infrastructure Administrator
Trina Magoon, Director of Utility Services
Travis Truhill, Director of Maintenance & Operations

SUBJECT: North Valleys Closed Basins – What is different in 2023 vs 2017?

This memorandum is intended to share information on the North Valleys as it relates to flood and drainage that is different today from 2017 when Silver and Swan Lakes were rising and there was considerable snow pack in the Peavine and Peterson mountains.

Knowledge and Experience

Early in 2017, the main focus was on localized flooding in North Valleys and keeping drainages open for conveyance of stormwater to its low point (Silver and Swan Lakes). After repeated storms and rising lakes, staff turned their attention to containment of water in the lakes and to protect property. Containment included building barriers and berms to keep water in the lake and in some cases intentionally placing plugs in culverts so the water from the lake would not flow in reverse, causing flooding on private and public properties.

Today both agencies have detailed action plans and resources ready to deploy at appropriate intervals based on the elevation of the lakes. In addition, the Big Meadow Snotel site may be used to approximate the amount of water content in the snowpack on Peavine Mountain that would drain into either Silver or Swan Lake to better inform staff on the potential and rate of rising waters in the lake.

Stricter Design Regulations and Monitoring (Enforcement) of Stormwater Basins in North Valleys

Reno City Council increased the amount of stormwater detention required by developers in North Valleys from 1 to 1 mitigation to 1.3 to 1 increasing the amount of runoff that each development was required to capture and store from their impervious surface areas. Community Development (now Development Services) Engineering performed an assessment of all detention basins and sent notices to those properties whose basins were not functioning properly or needed maintenance. Utility Services is now performing that function and recently completed an analysis of these basins finding less than 10% needing some type of correction.

Capital Improvements: (Flow Shave & Swan Lake Pump and Irrigation Pipeline)

In 2019, Council approved moving forward with the “flow shave” diverting raw sewage from RSWRF to TMWRF which included building a pipeline between the headworks and sludge wet well. This

project allows staff to divert up to 500,000 gallons a day to reduce the amount of sewage and the resultant effluent from going to Swan Lake. The flow shave is in operation and is actively reducing the overall volume of effluent being discharged to Swan Lake.

Council also approved moving forward with an overland pipeline from Swan Lake to the American Flat parcel owned by Washoe County north of the Reno Stead Airport. The project included a pump, intake system, and irrigation pivots to actively pump water out of Swan Lake to reduce the volume of water in the lake that had experienced flooding for three years. This pipeline has been beneficial in managing the level of Swan Lake for flood protection by pumping the water out during the irrigation season and maximizing the available stormwater volume prior to the beginning of each water year (October through September). The American Flat parcel was converted from native vegetation to grass and alfalfa hay for purposes of using the pumped water. The farmer will begin to pump water in mid-April to irrigate the fields and actively remove water from Swan Lake.