



TRI SAGE CONSULTING
Monthly Report
Carson Truckee Water Conservancy District

April 6, 2015

MONTHLY ACTIVITIES- MARCH 2015

- 1) Scheduled meeting with TRFMA and City of Reno to discuss Riverside Model findings.
- 2) Emails with USACE regarding process for Virginia Street Bridge Encroachment Permit release.
- 3) Follow-up emails with City of Reno and NV Lands regarding decks on Idlewild Drive.
- 4) Responded to engineer's inquiry for Stagg Lane river rock encroachment.
- 5) Inspected side channel upstream of Kietzke Bridge and removed debris activity.

UPCOMING ACTIVITIES

- 1) Meeting with TRFMA and City of Reno to discuss Riverside flow model findings and options; scheduled for April 15, 2015.
- 2) Finalize Virginia Street Bridge Replacement Project encroachment permit once other regulatory permits are ready to be issued.
- 3) Evaluate additional needs for model updates upstream of Keystone Avenue to State Line and downstream of Lake Street to Glendale Bridge.
- 4) Run 14,000cfs steady state HEC-RAS flow model to establish water surface elevations along key river locations to evaluate issues; complete sections upstream and downstream of downtown.
- 5) Schedule a meeting and with USACE regarding inspection issues, West Street Plaza, 14,000cfs model outcomes and evaluation of channel walls in downtown Reno and appropriate application/confirmation of SWIF process eligibility.
- 6) Continued coordination with City of Reno for 1) Flood Response evaluation and incorporation of Interim Risk Reduction Measures into their plan, 2) Flap-gate Installation needs and project and 3) Vegetation Variance for trees along channel- not expected to be necessary due to interim order.
- 7) Draft Vegetation Variance Application for Trees in Vegetation Free Zone if applicable under SWIF; confirm eligibility with USACE.
- 8) Finalize the Equipment Access/Entry Point Documentation and Mapping for the District Jurisdiction;

SUMMARY REPORT

Now that the engineering findings and memo for the updated Riverside Drive flow model has been issued, a meeting has been scheduled to discuss the findings and options in collaboration with the TRFMA team and the City of Reno. Due to schedules the meeting has been set for mid-April to accommodate all the meeting attendees.

The USACE was emailed regarding the process to have the Virginia Street Bridge Encroachment Permit executed and issued by the Sacramento Flood Control Branch; this permit has already been signed by both the City of Reno and the District and waits execution by the USACE. The USACE indicated there were no outstanding issues related to the signing of the permit; however, they are not able to forward this through their process for final signature until they have confirmation from the Regulatory Branch of USACE that the 404 Permit is ready to issue. The signature process may take up to two weeks.

Tri Sage has forwarded information regarding the jurisdiction of the District relative to the 14,000cfs water surface elevation for the decks on Idlewild Drive to the City of Reno and the NV Division of State Lands. The owner of the first deck is deciding whether to get a building permit, along with other required approvals from the District, or remove the deck. The owner of the second deck contacted Tri Sage to see what was going to be required and stating that the deck was built some forty-plus years ago as part of the original construction and withstood the 1997 flood without issue. The City of Reno is working to establish the building permit requirements for this deck. The District may need to discuss how to approach this deck.

The engineer for the owner at 6500 Stagg Lane who has built rock barriers in the river, has responded to the District's letter of inquiry. The property owner has built these barriers and pools to channel water to his irrigation box and pump for diversion of Truckee River water rights. The property owner is exploring the option of permitting the features. The District has suggested a field meeting to discuss the project and permitting.

Inspection of the side-channel that was cleared of blockage debris in the 2013 Debris Removal Project was completed this month to insure the channel was flowing without obstruction. There was some initial obstructions/structures that were cleared from the channel manually; monitoring and maintenance work will continue in this area to keep the channel cleared.

The following section is repeated from prior reports without update:

Notably, the USACE has yet to issue their inspection report from April 2013. As a reminder, the USACE criteria for rehabilitation funding and notifications changed late in 2013 such that the CTWCD inspection issues are not subject to loss of the rehabilitation funding nor notification.

Since the May 2014 monthly report, no further discussion has been had with the USACE regarding the determination of "Floodwalls" versus "Channel walls" through the downtown Reno river corridor; however this is an issue that will be pursued for some resolution as it impacts other inspection issues as noted below.

The Status of USACE inspection issues are noted below and the status remains unchanged since July's Monthly report except for the removal of the Box Culvert at Idlewild Drive and other italicized sections.

- 1) Shoaling- the shoaling deposits identified by USACE have been included in the recent modeling and at the current stage are NOT impacting the 14,000cfs flow. The USACE requested sensitivity analyses have been performed and indicate that doubling the size of the shoaling deposits does NOT push the waters out of the banks in any of the four areas identified during the inspection. The Keystone Avenue Bridge area has been eliminated as a shoaling deposit.
- 2) Flap-gates- Now that we have model water surface elevations in the downtown areas, the City of Reno will evaluate each penetration relative to the water surface elevation at 14,000cfs. (This work has been delayed due to personnel changes at the City). Once we have the model updated and run at the reaches upstream and downstream of the downtown areas to produce water surface elevation data, the City of Reno will continue their evaluation on the storm-drain penetrations into the channel. Tri Sage was able to get GIS data for the storm drain locations to correlate to model flow elevations.
- 3) Vegetation- vegetation along the walls and growing from the walls was removed by the City of Reno as part of the 2013 Debris Removal Project; however during the inspection it was noted that vegetation is developing again. *This was too minor to address in 2014 and will be cut back as part of the 2015 project work.* Potential determination of the walls as channel walls, not floodwalls means that there is no "vegetation free zone" requirement and other than the short section that the USACE might determine to be floodwalls, vegetation may become a moot point once specific determination is confirmed.
- 4) *Idlewild Box Culvert/Bank Erosion- the box culvert encroachment was removed in October 2014 and once the flow has an opportunity to re-establish in the unobstructed channel the bank erosion on the Right Bank will be further evaluated if necessary.*
- 5) Flood Response- It appears from the current modeling that the 14,000cfs water surface elevation is below the horizontal surface in all areas downtown except for the West Street Plaza area. There was no approved encroachment by the USACE or the CTWCD for this project including the removal of the walls and railings along this section of river. The USACE has requested that the CTWCD work with the City of Reno to propose Interim Risk Reduction Measures that can be reviewed and approved by the USACE and incorporated into the City's Flood Response Plan. It is not clear at this writing what the requirements will be relative to the placement of plywood along the railings and walls as called for in the Martis Creek Agreement now that it is apparent from the modeling that the 14,000cfs flow is below the top of wall and below the horizontal surface in all sections except the West Street Plaza.

Next steps include the evaluation and running of the model in reaches above and below the Keystone to Lake Street areas for the determination of water surface elevations. Discussion with agencies regarding the sections along Riverside Drive Bridge where the water leaves the channel at 14,000cfs evaluate mitigation options. The City of Reno will work to address the flap-gate needs as well as the Interim Risk Reduction Measures for the West Street Plaza. Director Penrose and Tri Sage will plan a meeting with the USACE to discuss the inspection report and associated issues.

RECOMMENDATION

It is recommended that the Board of Directors continue to pursue the inspection/evaluation items as outlined in this report.