



TRI SAGE CONSULTING
Monthly Report
Carson Truckee Water Conservancy District

November 3, 2015

MONTHLY ACTIVITIES- October 2015

- 1) Monitor Virginia Street Bridge work for Encroachment Permit.
- 2) Follow up with 6500 Stagg Lane encroachment removal; call & emails with owners contractor/engineer.
- 3) Finalize Debris Removal Agreement and Right of Entry Agreements including City of Reno License.
- 4) NDEP Q3 Working in Waters Permit Letter/Report completed and mailed.
- 5) Meet with NDOT Bridge Project Engineer regarding encroachment permit requirements.
- 6) Discuss with Reno potential walking path project upgrades and permit needs; review river model in the vicinity for updated sections.
- 7) Work with City of Reno on Entry Authorization License for channel maintenance access.
- 8) Inspect channel encroachment behind Riverfront Condos to Oxbow Park.
- 9) Contact TRFMA/USACE in pursuit of old version of the HEC-2 model which may have been the source of the Martis Agreement water elevations.
- 10) Work toward scheduling meeting with TRFMA/ Reno/ and USACE to discuss Riverside matters among other issues and projects.

UPCOMING ACTIVITIES

- 1) Manage, monitor, and report on Debris Removal work for 2015.
- 2) USACE Semi Annual Inspection and Report.
- 3) Evaluate temporary flood control measures including cost, storage, installation requirements and options for West Street Plaza and Riverside Drive.
- 4) Work with project proponents for encroachment permit applications for City of Reno Path Upgrades and NDOT Verdi Bridge Scour Projects.
- 5) Evaluate additional needs for model updates upstream of Keystone Avenue to State Line and downstream of Lake Street to Glendale Bridge; possibly needed for upcoming 408 Encroachment evaluations.
- 6) 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.
- 7) Schedule a meeting and with USACE Flood Control Branch (December 2015) regarding inspection issues, West Street Plaza, Riverside matters, 14,000cfs model outcomes and evaluation of channel walls in downtown Reno and appropriate application/confirmation of SWIF process eligibility.

- 8) Continued coordination with City of Reno for 1) Flood Response evaluation and incorporation of Interim Risk Reduction Measures into their Flood Response plan, 2) Flap-gate Installation needs assessment and project and 3) Vegetation Variance for trees along channel- not expected to be necessary due to interim order.
- 9) Draft Vegetation Variance Application for Trees in Vegetation Free Zone if applicable under SWIF; confirm eligibility with USACE.
- 10) Finalize the Equipment Access/Entry Point Documentation and Mapping for the District Jurisdiction;

SUMMARY REPORT

Tri Sage has discussed the Stagg Lane encroachment with both the owners engineering firm and also the owner's irrigation pump company and confirmed the work that needs to be completed by the owner and confirmed the deadline for completion. The owner has called and stated that this work has now been completed; however with the current storms in the area, inspection will be postponed until the river flows recede and the storm front has moved on. Inspection is expected to be completed prior to the November Board Meeting.

Tri Sage has continued to monitor the work at the Virginia Street Bridge project site for compliance with the encroachment permit. Work is proceeding well to tie the arch/beams into the footing walls and once this is concrete is cured, the steel beams and falsework in the channel will be removed.

Tri Sage continued to work with Reno Tahoe Construction to finalize the Service Agreement for this year's debris removal work; both parties have executed the agreement and RTC has produced the insurance certificates for the State, District and City of Reno. Work is scheduled to begin on November 9th, 2015 and should be finished in approximately 7-10 days. The City of Reno Council has approved the License Agreement for use of Reno properties to gain access to the channel and a copy of the fully executed agreement has been received.

Tri Sage has worked with the proponents of two projects that potentially require encroachment permits from the District. The first project is an upgrade to the walking path along Idlewild Park by the City of Reno. The engineers are working to confirm the model in this section of the river has been updated with the most current LIDAR survey and whether this project is within the 14,000cfs channel with those updates in place. The second project is an NDOT project to install bridge pier scour enhancements to four bridges in the Verdi area. Tri Sage is working with the engineer and the USACE to determine the permit requirements for this project in light of the fact that these piers were placed prior to the Martis Agreement and there appears to be no encroachment permit in place for the original bridge piers.

Tri Sage is working to schedule meeting between the local parties to discuss a variety of channel matters and then to schedule a follow up meeting with the USACE and the local parties to discuss similar channel matters. Scheduling has been challenging but efforts will continue.

The City of Reno is continuing with their review of the Flap-Gate requirements in order to address the USACE inspection issue; work is progressing well on this project.

The following section is repeated from prior reports(*updates in Italics*):

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- *The City of Reno has engaged an engineer to evaluate each penetration relative to the water surface elevation at 14,000cfs through the downtown reach.* 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. *The City of Reno is working with the potential developer on this matter and will propose temporary measures at a minimum.* 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 and evaluation of mitigation options. The City of Reno is working to address the flap-gate needs as well as the Interim Risk Reduction Measures (IRRM) for the West Street Plaza. Director Penrose and Tri Sage will plan a meeting with the USACE Flood Control Branch in September or October of 2015 to discuss the inspection report and associated issues; this will give time for several items to be addressed including the flap-gates and the IRRM.

RECOMMENDATION

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