



TRI SAGE CONSULTING
Monthly Report
Carson Truckee Water Conservancy District

November 1, 2016

MONTHLY ACTIVITIES- October 2016

- 1) Completed Agreements with Reno Tahoe Construction and created scope of work photos for Debris Removal Work; secured insurance certificates and pursued entry agreements.
- 2) Scheduled and participated in call with USACE regarding 408 Encroachment Permitting process changes along with Chairman Westergard and Superintendent Penrose.
- 3) Inspected City Sewer Crossing job which has been completed by directional drilling instead of excavating; removal of over river sewer crossing is pending.
- 4) Follow up with USACE regarding Idlewild Path Rehabilitation Project determination if this requires a 408 Encroachment Permit.
- 5) Follow up with USACE on projects, information and 408 Applications.
- 6) Coordinate encroachment projects with USACE Regulatory Branch for NEPA review.
- 7) Met in field to discuss TMWA Glendale Weir Portage Project and drafted no encroachment permit required letter.

UPCOMING ACTIVITIES

- 1) Schedule 2016 Debris Removal Project work; re-evaluate scope following wind storms and higher river flows.
- 2) Perform the Semi Annual River inspection and write the report as required by the Martis Creek Agreement.
- 3) Update the Encroachment Permit Application to include additional items as required by the newly implemented USACE process and requirements.
- 4) Communicate changes to the 408 Permit process with likely applicants including the City, and utilities.
- 5) Pursue responses to inquiries with USACE on outstanding letters sent 9/14/16 (Riverside bank overtopping, maintenance projects and wall determinations) and projects and new inquires that might arise.

- 6) Work with project proponents for encroachment permit applications for City of Reno Idlewild Path Upgrades, City Strom Drain Addition, Chism Mobile Home Park and NDOT Verdi Bridge Scour Projects(this projects has now been delayed a year pending access).
- 7) Discuss 2-D Model updates with TRFMA and opportunity for CTWCD to use this model update.
- 8) Work with the City of Reno to pursue a permanent encroachment permit for the West Street Plaza and any associated projects.
- 9) Continue to evaluate and discuss temporary flood control measures including flow limitations, cost, storage, installation requirements and options for West Street Plaza and Booth-Riverside Drive areas.
- 10) Evaluate additional needs for model updates upstream of Idlewild Park to State Line and downstream of Lake Street to Glendale Bridge; possibly needed for upcoming 408 Encroachment evaluations.
- 11) 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.
- 12) Continued coordination with City of Reno for 1) Flood Response evaluation and incorporation of Interim Risk Reduction Measures into their Flood Response plan, and 2) Flap-gate Installation needs assessment and project.
- 13) Draft Vegetation Variance Application for Trees in Vegetation Free Zone if applicable under SWIF; confirm eligibility with USACE - once confirmation is received regarding wall determination, this item can be removed.
- 14) Finalize the Equipment Access/Entry Point Documentation and Mapping for the District Jurisdiction;

SUMMARY REPORT

Tri Sage has prepared both Phase 1 and Phase 2 agreements for the Debris Removal work which have been executed by both parties. In addition, Tri Sage has prepared scopes of work for these two phases based on the findings of the prior inspections. Tri Sage has worked to get access arrangements and agreements in place for impacted locations and has pursued the insurance certificates as required by the State Lands and City entry agreement/license. Tri Sage is now working with the contractor to schedule the work which is likely to be done in late November and early December. Due to the storms with high winds and increased river flows, a bit of reconnaissance be required prior to the start of work to determine if new debris has blown down and to identify debris which was moved by the higher river flows.

Tri Sage has continued to work through issues related to permitting with the USACE Flood Section and scheduled and participated in a conference call on October 17, 2016 with Chairman Westergard and Superintendent Penrose. The call was very informative regarding the changes to the 408 Permitting process which has been instituted by the USACE beginning in July of 2014, but not communicated with the District until permitting issues became prevalent. Based on the updated process, it is recommended that the District update the 408 Application to include several factors that will now be required for review by the USACE Flood Section. In addition, it is recommended that the updated process and timing

be communicated with likely applicants for permits so that these projects can apply well in advance for the 408 Permits. The USACE estimates that currently the process will take between 6-9 months to issue a 408 permit depending upon the specific project.

The City of Reno Sewer Crossing encroachment permit issued September 8th, 2016 caused the City to abort plans to excavate the channel and instead pushed them to try installation of the new beneath-channel river crossing using directional drilling techniques. The two ten inch HDPE sewer lines have successfully been installed beneath the channel bed using this technique. The City's contractor is working to complete the new sewer lines and once completed the over-river sewer will be retired from service and removed.

Tri Sage has not heard back from The Chism Park Project following the request for engineered wall and stair drawings. It now appears that in the current USACE Flood Branch process, this project will also require an environmental assessment, cultural resources survey and other NEPA reviews in order to pursue a permit. Tri Sage will approach the applicant and discuss options which include restoring the site to near prior conditions or pursuing the permit with an engineered wall design.

The City has requested determination by the USACE whether a 408 Encroachment Permit will be required for the Idlewild Path Project. This project has only very minor involvement of work/construction within the 14,000cfs flow channel and the City will not be able to delay the work if permitting will take 6-9 months to accomplish. The District has forwarded the determination request to the USACE Flood Branch and has worked to answer some additional questions regarding the path's existence prior to the Martis Agreement and the lack of existence of perfected easements for this structure within the Agreement. The City will redesign the path to remove it from the flood channel if the permitting is going to require additional time and efforts. The USACE has yet to respond to our inquiry and Tri Sage will continue to pursue their response.

Tri Sage met with the TMWA project engineer on site to discuss the need for a 408 Permit for the Glendale Diversion Portage. Because the expected work will only include the removal of vegetation and will not include excavation, construction or other elements, a letter has been sent to TMWA indicating that with the current plans, no 408 Permit is required but that should plans change they should revisit the permit need.

Other projects which will require encroachment permits are in the planning stages at this time including the NDOT project to apply scour protection to the Verdi Bridges. Tri Sage has notified this applicant regarding the new conditions for a 408 Permit and new timelines so that the NEPA information for this work can be shared upfront between the Regulatory and Flood Sections of the USACE.

The City of Reno is continuing with their review of the Flap-Gate requirements in order to address the USACE inspection issue; the city has engaged an engineering firm to design the flap-gates for installation at several locations and will pursue installations as budget allows.

The City is evaluating alternatives for the West Street Plaza interim risk reduction measures to be incorporated into the City's Flood Response Plan while the City works with a potential developer who is interested in the West Street Plaza. The City is working toward an application for a permanent encroachment permit for this project pending the outcome of work with the potential developer.

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 was 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 Idlewild Park to Lake Street areas for the determination of water surface elevations and identification of problem areas.

RECOMMENDATION

It is recommended that the Board of Directors continue to pursue the inspection/evaluation items as outlined in this report and work toward confirming open items with the USACE Flood Branch.