



TRI SAGE CONSULTING
Monthly Report
Carson Truckee Water Conservancy District

October 28, 2020

MONTHLY ACTIVITIES- September-October 2020

- 1) Completed the USACE Semi Annual River inspection;
- 2) Completed USACE Semi Annual River Inspection Report and transitioned reporting function internal to Tri Sage.
- 3) Prepare Debris Removal Scope of Work Documents for two contractors; field inspect removal needs & access and request pricing. Work to commence in early November.
- 4) Request Right of Entry license from County for River parcels and complete ROE for Debris removal.
- 5) Met with City of Reno Acting Assistant City Manager and Clean & Safe Program Director to discuss City assurances under the Martis Agreement and upcoming flood season.
- 6) Met with City of Reno Public Works Director regarding the unauthorized erosion repairs under Keystone bridge and discuss future permitting requirements. As follow up, final inundation maps and shapefiles were provided to the City to assist in identifying permit requirements for future projects.
- 7) Follow up with USACE on the status of review of the RTC Mixed-Use Path Permit; Suggested a phone call with RTC to provide clarity on some of the incomplete items that USACE is requesting.
- 8) Completed field visit to discuss Q&D/Ames construction approach for NDOT Spaghetti Bowl Xpress Bridge permitted by District under Permit 18-02. Work within the District's jurisdiction is expected to start in 2021.
- 9) Worked with Dyer/JUB to complete the river model for the kayak park, Arlington Bridges and review sediment capabilities; updated model to 2D at Wingfield to evaluate bank over-topping. Produced final inundation maps and shapefiles and deliver shape files to both City and County GIS Departments.
- 10) Provided the final river model to Jacobs to assist with design of the Arlington Avenue Bridge Replacement Project.
- 11) As follow up to prior conference calls with TRFMA, provided the final river model to their engineers. Models and data transferred between modeling engineers who can discuss updates and differences between the models. Awaiting receipt of TRFMA model prepared by HDR.
- 12) Review projects near river for Permit requirements; provide inundation maps for parcels.
- 13) Field Inspection of private trees either in river or along river that are likely to end up in the river. Discuss strategy with Superintendent and notify private owners of decisions.

- 14) Transitioning engineering support will continue into the fall debris work and inspection; Lori Williams will transition to a support role rather than the lead on new projects and inquiries going forward.

UPCOMING ACTIVITIES

- 1) Develop scope of work for Fall 2020 Debris Removal Project work and on-board contractors for work.
- 2) Monitor debris removal work and draft NDEP Working in Water Report for Debris Removal Project Work.
- 3) Collaborate with the City Forester for the removal of beaver damaged trees within the 14,000cfs flood channel if budget dollars permit.
- 4) Superintendent to Participate in the second Arlington Ave Bridge RTC Working Group on November 5th, 2020.
- 5) Complete Semi-Annual River Inspection prior to flood season and draft USACE Inspection report for submittal.
- 6) Continue working with project proponents for encroachment permit applications for RTC Mixed Use Path, USFWS fish passage projects, Arlington Bridge replacement project and other projects within the 14,000cfs flow channel.
- 7) Continue transitioning Tri Sage Lead Engineer.
- 8) Share modeling evaluation of the deposits within the Kayak Park Project in Wingfield Park with the City of Reno and establish a river capacity maintenance plan with the City based on this evaluation.
- 9) Follow up with the City of Reno as directed by the Board, work with Clean & Safe Director to address encroachments in the river.
- 10) Work with USACE to find out if there is an opportunity for the City of Reno to apply for a “blanket” 408 permit to allow rock placement in the areas of the river channel where encroachments are common.
- 11) Schedule informational meetings with potential entities with river crossings to inform them of CTWCD maintenance activities/capabilities and 408 Encroachment Permit requirements for projects along and across the river. Communicate changes to the 408 Permit process with likely applicants including the City, and utilities; update on Categorical Permission review and differences. Communicate updated fees and Fee Policy for 408 Permit Review if approved by the Board.
- 12) Draft and mail letters to homeowners along Idlewild Drive notifying them of encroachment requirements and limitations.
- 13) Discuss 2-D Model updates with TRFMA and opportunity for CTWCD to use this model update; when completed model will be made available to CTWCD by TRFMA.
- 14) Work with the City of Reno to pursue a permanent encroachment permit for the West Street Plaza and any associated projects.

- 15) 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.
- 16) Continued coordination with City of Reno for 1) Flood Response evaluation and incorporation of Interim Risk Reduction Measures into their Flood Response Plan for West Street Plaza, Oxbow Park Platform and Riverside Drive, and 2) Flap-gate Installation Phase 2 needs assessment and installation project.
- 17) Finalize the Equipment Access/Entry Point Documentation and Mapping for the District jurisdiction;

SUMMARY REPORT

The USACE required semi-annual river inspection was completed during late July and early August. The inspection had been delayed due to higher than normal river flows caused by the release of additional stored waters from upstream reservoirs. During the inspection, debris that needs to be removed was noted and photographed for inclusion in the Fall 2020 Debris Removal Project. Debris was identified in several critical locations including two large trees blocking the side-channel upstream of Kietzke Lane Bridge and behind the City Corp Yard. Generally, the river was in good shape with no notable deposition nor any erosion issues. During the inspection it was noted that a few of the parapet wall railing posts were deteriorating near Sierra Street and exposed rebar was rusting; in one case the wall is beginning to crack from the top down. The City of Reno was notified of this failure and the need for repairs prior to this deterioration causing failure of the flow channel wall. Tri Sage also requested the City of Reno again clear vegetation from the gabion walls along Riverside and clear the rip-rap at Booth Bridge of overgrown vegetation; the City agreed to have crews complete this work prior to flood season. Also, during the inspection several trees with minor beaver damage were noted and the City Forester was sent information on locations so that trees with minimal damage may be saved by wrapping in wire. During the inspection the recently completed flow modeling and associated inundation mapping was utilized to better assess the flood channel boundaries for evaluation of tree and debris removal needs. The inspection was used as a field training and transitioning exercise for the Tri Sage engineers who will be taking over this District work from Lori Williams. The Semi-Annual Report for USACE was completed and mailed in September. The Fall 2020 Debris Removal Project is currently being scoped with two contractors and work is expected to begin in early November. A Right of Entry License has been requested from Washoe County for their river parcels and has been issued.

The RTC Mixed Use Path Project application for a 408 Encroachment Permit has been approved unanimously by the District Board and is still pending review by the USACE. The USACE terminated negotiations with RTC for a funding agreement to review the permit stating that they would be able to complete the review in September. However, the USACE has still not completed the review of the permit so an email was sent to them and phone calls were made to get a status on this permit. It was also requested that if they were not going to complete the review as said, that they complete the funding

agreement for a paid review of the project. This past week, the USACE emails stating that they were missing documents for the NEPA review; however, all necessary documents have been transmitted no less than three times using various methods. Tri Sage has requested a conference call or ZOOM meeting with the USACE to discuss the submittals so that the project team can assist the USACE group with document identification. No response to this request to date.

The river flow model work is completed and the inundation maps for the entire jurisdictional reach are now available. GIS files of the 14,000cfs flow channel have been sent to both the City of Reno mapping and also to Washoe County mapping for use by project applicants in determining if project is in the flood channel and may require a 408 Permit. The transfer of these files had been delayed pending the model updates to the Arlington Bridge/Wingfield Park/Kayak Park areas of the model. During the recent assessment of the Kayak Park sediments it was noted that this area of the river had outdated flow model information and bathymetry. This area has been updated to include the existing Arlington Ave. Bridges and the base kayak park and to expand this into a 2D HEC-RAS version to model the bank overtopping. These updates to the flow model were critical for two reasons: 1) the engineers for the RTC Arlington Ave Bridge replacement project need an up to date model to work with as the basis for their modeling work for this project, and 2) the assessment of the kayak park and allowable sediment loading needed an accurate model to assess this limit. The findings for the kayak park indicate that any sediments in the flow channel at this location further reduce the channel capacity and are likely to overtop the banks/walls along Island Avenue. This finding will soon be shared with the City of Reno as a maintenance criteria for the kayak park. Additionally, there is a project being developed along Island Avenue that needed clear assessment of the requirement for a 408 Permit and this work has clarified that project to be outside the 14,000cfs flow channel.

RTC has scheduled the second meeting of the Working Group for the replacement of the Arlington Avenue Bridge on November 5th, 2020; Superintendent Penrose is on this working group and plans to attend the meeting.

Tri Sage has had several discussions with various employees at the City of Reno regarding the 14,000cfs flood channel extents and projects to prevent camping in the river area. During the river inspection it was noted that the north bank under the Keystone bridge had been rocked without authorization or permitting from the District. The work was directed to be done by the Chief of Police as it was deemed an emergency to eliminate the opportunity for future encroachments. This area was an area that had previous severe bank erosion so the repair was needed and was made in a way to not encroach into the flood channel by removing bank material before placing the rock armoring. Thus, the repair of the erosion is permissible under the Martis Agreement without a permit; however, the Tri Sage and District Superintendent held a meeting with City representatives on October 21st to further discuss projects within the flood channel and the permitting requirements. Additionally, there was a good discussion with the City regarding camping encroachments in the flood channel. The City assured the District that

they are doing everything possible to address these encroachments, especially with flood season approaching. They requested that another letter be sent to the City to further confirm the City's legal responsibility to keep the flood channel clear of encroachments. There was also discussion regarding possibly contacting Washoe County and reminding them of similar assurances that they committed to in the Martis Agreement.

Tri Sage had a call with the new Executive Director of TRFMA to bring him up to date on the District, our activities, our jurisdiction etc. We discussed having our modeling teams share information and collaborate more so that we both are using the best data and info possible. TRFMA is developing their model up the White Fir Bridge now, which is an extension and their engineer will be doing an update to the FEMA flood plain maps using this model which is generally a 1-D river model with 2-D over-banks; this allows them to map the inundation during various flow events. The District has now shared our model and data on bridges and river diversions/structures to support their efforts. A second meeting was held with the modeling engineers to discuss challenge areas and share approaches. The engineers will share documentation and models for use by both parties. The District is awaiting receipt of the TRFMA model so additional follow up can be considered.

The transition of the Tri Sage Team District lead from Lori Williams to Kayla Dowty is now going to continue. The inspection and reporting work and much District information has been shared through the inspection and reporting process. Transitioning will continue as requests and work comes in.

The section that pertained to the USACE April 2013 Inspection report has been eliminated from this report; and it is recommend the District continue to pursue improvements and correction of items noted in that last inspection report. The District has addressed or is currently addressing those items through its work.