



# East Fork of the Carson River Project

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## After-Action Report/Improvement Plan

May 2, 2016

**DRAFT**

The After-Action Report/Improvement Plan (AAR/IP) reviews the incident, or project in this case, with the basic intent of being able to improve upon future project work along the Carson River in Douglas County. Project information required for reporting and documentation analysis is included. Readers and participants are encouraged to review and implement the recommendations to support and proceed with future projects.

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## **Participants**

Eric Nelssen, P.E. Douglas County Engineer

Norman Harry, Program Director, Washoe Tribe of California and Nevada

Steve Thaler, County Commissioner, Douglas County

Greg Lynn, County Commissioner, Douglas County

Ed James, P.E. Carson River Sub Conservancy District

Rob Beltramo, Washoe Tribe of California and Nevada

Courtney Walker, Storm Water Manager, Douglas County

Jean Stone, Water Quality, Nevada Department of Environmental Protection

Craig Burnside, River Coordinator, Carson Valley Conservation District

## **Invited But Unable To Attend**

Aaron C. Park, USACE

Kristine S Hansen, USACE

Nancy Crawley, Nevada Division of State Lands

Neil Mortimer, Chairman, Washoe Tribe of California and Nevada

Irvin Jim, On Site Resource Manager, Washoe Tribe of California and Nevada

Michelle Hochrein, Environmental Specialist, Washoe Tribe of California and Nevada

## **Facilitator**

Tod F. Carlini, District Fire Chief/Emergency Management Director

## **Documentation**

Erin Albert, Senior Office Assistant

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## EXECUTIVE SUMMARY

Tod F. Carlini, District Fire Chief/Emergency Manager

The After Action Review (AAR) is designed to assess the over-all planning and mitigation efforts in an organized and systematic fashion by soliciting input from those directly involved in the various phases of the project. The goal is to not only define areas of challenge but also to recognize positive actions as well. The AAR also serves as a vehicle to established corrective measures and process for future work.

Douglas County Emergency Management solicited the participation of several key individuals and regulatory agencies. The key to an AAR is openness and honesty, which allows all the participants in the organization to participate. This, in turn, allows the organization to capture what really happened so that lessons may be learned. It affords leaders and partners an opportunity to gain maximum benefit from every program, activity, or task. It provides:

- Candid insights into specific strengths and weaknesses from various perspectives
- Feedback and insight critical to improved performance
- Details that are often lacking in evaluation reports alone

An after action review seeks to learn, not to place blame. The only way we can improve upon future work is by conducting an open and honest review of the project.

### Discussion Focus

Four key question groups are designed to help determine each participant's perspective. By discussing the answers to these questions, a better picture of the event can be formed that further explores the decisions and behaviors involved in the event. These key questions are:

1. What was planned?
2. What actually happened?
3. Why did it happen?
4. What can we do better next time?

In November of 2015, The East Fork Fire Protection District, representing by contract, Douglas County Emergency Management, conducted a grass roots survey of potential points of riverine flooding potential along both the East and West Forks of the Carson River in Douglas County.

The final assessment identified over four dozen locations where, if substantial river flows occurred, the potential for significant flooding and flood damage could result. The Carson River in Douglas County had gone without significant maintenance for over six year. Drought conditions over that same time period and left certain section of the river overgrown with new growth vegetation and massive amounts of free debris, and if at some point became buoyant, would have disastrous consequences downstream. With the potential threat of similar conditions seen in 1996/97, concerns were further validated.

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The first project selected was one which would clear a significant amount of debris over a 2800 foot stretch of the East Fork of the Carson River on lands under the jurisdiction of the Washoe Tribe of Nevada and California. Secondary, the site selected was one where significant land loss was and had occurred to tribal lands, due to bank erosion and instability. The project was immediately upstream of one of Carson Valley's most critical irrigation diversion structures and just adjacent to the most significant breach point of the river as documented in the 1997 flood event. That breach point contributed to the most significant amount of damage in the Gardnerville Rancho's area. Significant threat potential is now even greater with additional development in the areas down and east of US Highway 395.

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# AFTER ACTION REVIEW

## Question 1

***What was the Plan? Establish what was planned at the beginning of the project and measure whether the expectation was met.***

The project was proposed and designed to accomplish two specific objectives, those being to increase channel capacity over a 2800 foot stretch of the river and to reduce pressure and bank erosion on the east side (Burnside). The effort and focus was also related to a future project to be conducted by the Washoe Tribe which would help stabilize and remediate and rehabilitate area along the east bank. The project allowed for the building of cross jurisdictional cooperation and collaboration. (Harry) The projection of a much harsher winter with increased potential for heavy river flows increased the urgency of the project. Initially, clearing and snagging was the priority. The work later transitioned to the removal of two large sand and debris bars with specific parameters on width and depth. (Lynn) Concerns were voiced that there may have been a significant misunderstanding or communication regarding the initial plan and what actually happened. (Stone)

## Question 2

***What actually happened? Identify changes that happened during the assignment or project that differed from the original plan and measure the effectiveness of the work. Pull multiple perspectives from participant to build a shared picture of what really resulted.***

Specific concerns were voiced with the removal of the sand and debris bars, which have increased the slope and velocity of the river through the project area. Additional in-river diversion structures were constructed which block off the meanders. This is under review by the Army Corp of Engineers, with a violation to the Carson Valley Conservation District pending. Removal may be necessary. (Stone) Clearing and snagging is a basic maintenance need and process and not designed to provide for a re-channelization of the river. Projects are not designed to accomplish and accommodate the 100 year flood, rather to ensure the flow of the river is not impeded by debris. (James) Dozens of spots on the river exist with similar conditions. (Lynn) It was further noted that there are additional ways to clear vegetation without disrupting or impacting river flow. (Stone)

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### Question 3

***Why did it happen? Analyze cause and effect. In any operation or project, there generally are a combination of successes and failures.***

The work, effort, and outcome was encouraged by work occurring in neighboring Lyon County. The effort and means to accomplish a much larger scope of work were carefully observed by officials in Douglas County. With first-hand knowledge of flooding along the Walker River in Lyon County, it was easy to see and encourage similar efforts in Douglas County. (Carlini)

The community “buy in” and collaboration with the project also was noted and should not be disregarding. The project served as a “rally” point of sorts to bring several potential impacted agencies and private parties to the table and to focus on a single project. (Burnside)

One significant result was the construction of a diversion structure between the Carson Valley County Club Golf Course Property and the Washoe Tribe Lands, potentially mitigating the effects seen in 1997. It however must be noted that with every effect of this nature, a possible negative impact may be seen elsewhere. (James)

### Question 4

***What could we do differently next time? Identify actions or procedures that can be executed more efficiently and areas where teams are performing well and should sustain. Focus this part of the discussion on items that you can fix, such as process, communications, plan intent, tactics, strategies, and information dissemination. Avoid focusing on external influences outside of your control and recognize good performance and innovative solutions to problems.***

- ✓ Early and complete engagement and coordination with the appropriate parties needs to be a priority, especially including all regulatory agencies (Carlini)
- ✓ Define a clear scope of work and include that scope of work in binding contract documents. A provision to incorporate official change order(s) is very necessary. Field related changes or project modifications need to be avoided. A consistent and prescribed inspection process should be included contractually as well as a final inspection by the authority(s) having jurisdiction. (Harry)
- ✓ Develop a clear understanding of the necessary permitting and the time lines that are involved. Understand the limitations of the “clearing and snagging” permit and its intended purpose. Clearing and snagging can be combined into with river restoration projects.
- ✓ Understand grant opportunity(s), in particular Q-1 Funding. (James)

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- ✓ Use of river system and flood modeling is essential when developing and planning projects and should be a high priority in the future. The development of schematic drawings, including necessary engineer are essential to a positive outcome. (Stone)
  - ✓ Continue to build relationships and partnerships as it relates to funding. Continue to solicit support and funding from those with potential for river flooding impacts, both public and private. Continue to pursue “clearing and snagging” funding from the State of Nevada. (Lynn)
  - ✓ It is very important to maintain the open flood plan. Effort and plans should consider the impacts to the existing flood plain. (Stone)
  - ✓ The Carson Valley Conservation District should be the lead agency with future planning and project work. (Burnside)
  - ✓ Continue to advance and support the team concept that has been put into place with the initial project. This will include the Washoe Tribe and regulatory agencies.

## **Other Comments**

The meeting closed with several positive comments and a clear understanding that the initial focus of the work was vested from an emergency management perspective. Moving forward, projects should be timed better and not necessarily designed and implemented under an emergency situation potential.

It was noted that the cooperation between local county agencies, the Washoe Tribe, and private parties was exceptional and something that had not been experienced or seen in some time. The project work with the Washoe Tribe may be a signal and stepping stone towards enhanced relationships.

Regulatory agencies need to part be of the process from the beginning and all should strive to continue to build healthy relationships .