

City Watersheds of Sonoma Valley: Fryer Creek Responses to Public Comments & Areas of Concern

This document provides answers to some of the questions received at the City Watersheds of Sonoma Valley Fryer Creek Project Public Meeting on January 29, 2014.

“It sounds like the project is already designed. Will the public be able to affect the outcome?”

While the City Watersheds of Sonoma Valley Fryer Creek Project has received grant funding from the California Department of Water Resources (DWR), it is currently in the initial concept and site investigation stage. The drawing included in the grant application served as a rough mock-up design portraying coarse scale detention and flood affects/benefits. This is not the proposed project design. An appropriate design will incorporate geotechnical engineering, natural values, and aesthetics consistent with applicable plans and policies.

The public meeting on January 29 was held to hear from the public in an initial phase of the project. Field data will help the project team to identify what is possible. From there, the team will examine design alternatives. The public will have a chance to look at these designs at an early stage in the process. Additionally more public consultation will occur in the environmental review stage of the project. The ultimate project configuration and design, as well as a decision to move ahead with construction, is still in the future.

“Why are you spending so much money on this when you should instead be spending it on clearing creeks and streams to prevent flooding in Sonoma Valley? There are huge sedimentation, debris and overdue maintenance issues.”

The awarded grant funds from DWR would not be available for a single-purpose flood project or stream maintenance purposes. These funds specifically support multiple benefit and integrated approaches to stormwater management including flood protection, water supply, water quality enhancements, and public awareness/access.

The Sonoma County Water Agency (Water Agency) does however implement an annual Stream Maintenance Program that routinely manages and maintains vegetation and sediment in its flood control channels, utilizing existing programmatic permits. In general, the “clearing” of creeks and streams is not a straightforward process. Throughout Sonoma Valley, most creeks and streams are on private property and the Sonoma County Water Agency has neither the authority nor responsibility to maintain them. Even if a property owner authorized such work and funds were identified to carry it out, permits from regulatory agencies for such work are extremely difficult to obtain, as most activities of this type can be detrimental to aquatic and riparian species, including threatened steelhead.

Within the City of Sonoma, most, but not all of Fryer and Nathanson Creeks are covered under existing programmatic permits. The Water Agency owns the engineered flood channel portions of Fryer Creek. Nathanson Creek traverses mostly

private properties for which the Water Agency has easements. In easements areas, such as Nathanson Creek, sediment removal is not allowed under existing permits. The only activities permitted on Nathanson Creek is the removal of obstructions that may cause property damage due to flooding (such as fallen trees). Since these easements are on private property, the Water Agency assesses these situations at the request of the property owners.

There is debris and sedimentation on Lower Sonoma Creek, but analysis conducted for a recent study (ESA PWA, 2012) showed that facilitating flow down lower in Sonoma Creek would primarily benefit lower Schell Creek and would not translate into reduced flood risk upstream in the City of Sonoma.

“Are there less costly, more effective alternatives to accomplish groundwater recharge?”

The entire project costs are not attributable to recharge alone; multiple benefits will flow from the project investment. The project costs include the following components: 1) City of Sonoma Storm Drain Master Plan; 2) 1st Street West Storm Drain Modifications; 3) Montini Open Space Preserve Detention Recharge Basin; 4) Fryer Creek Culvert Replacement; 5) Habitat enhancement at the Montini Open Space Preserve and Fryer Creek; and 6) Montini Open Space Preserve Trail System. Of these, items 1, 2, and 6, have already been completed.

The City of Sonoma Storm Drain Master Plan estimated the costs to address similar (but lesser) Fryer Creek flood hazards only (without the multiple benefits associated with groundwater recharge and habitat enhancements) using somewhat different projects. In the Plan, the estimated cost to achieve similar, but more limited, flood risk reduction goals was greater, and did not address the full suite of benefits that would be provided by this project.

Though we are continuing to examine potential projects, this City Watersheds Fryer Creek project has been identified as the best project within the City of Sonoma even considering just recharge and flood risk benefits alone.

“Why are you doing this on Montini Open Space Preserve? It doesn't fit with the easement agreement.”

The Montini property was purchased by the Sonoma County Agricultural and Open Space District (District) to preserve and protect the conservation values of the property, including natural resources, scenic resources, urban open space, recreation, and education. Part of the motivation was the preservation of habitat and open space to provide a variety of benefits, including a pastoral view. One common open space benefit is the maintenance of undeveloped areas where shallow flooding

from stormwater can occur without causing harm and can support groundwater recharge. If a project can work within the constraints of the easement and provide enhanced habitat and enhanced recharge, than the public benefits increase for all concerned.

A project will only be permitted to proceed if it can meet the terms of the conservation easement. The easement permits surface alteration, with District review and approval, when relating to restoration or enhancement of wetland habitat, or protection of on-site natural resources. Project partners feel that this project as currently envisioned qualifies under the easement terms for the Montini Open Space Preserve. The final project design will be compared with the terms of the easement as part of the District's permitted use request evaluation process before the District can approve the project.

How will the project change the look of the Montini pasture?

The project will alter the terrain somewhat, as it will be graded to hold a larger volume of stormwater. All slopes will be very gradual, and the shape will be irregular and echo the existing contours of the site. One existing outlet structure will be replaced with a different outlet structure, probably in the southwest or southeast corners of the site. An inlet structure may also be added; if so, it will probably be in the northwest corner. Preserving the vista is a project goal. Post-construction revegetation is proposed with native grasses/plants, and compatible to the livestock grazing land use. The anticipated visual effect from the project is fairly minor.

“The Montini site has a clay layer. Putting a recharge/detention area on the site is going to force it to flood to the surrounding homes.”

The advantage of designing an area to be flooded is that potential impacts can be fully evaluated and the project modified to address them. While the proposed project would send more water to the site than occurs at present, it would do so in a controlled fashion; it would also be designed to avoid flood damages to the surrounding area and would incorporate a factor of safety in doing so.

The Montini property currently serves as a small holding area for stormwater, though it currently lacks any protection for the neighborhood in the event that stormwater inflow overwhelms the current outlet and leaves the site. The design of the proposed project will come with a careful, engineered look at infiltration potential and safety measures to protect the surrounding neighborhood, as well as monitoring, to ensure that the system is working as designed.

“The Montini site is not currently a “wetland” even though the project team is asserting that it is. What will the mosquito impacts be?”

The property does include a wetland – it was identified and documented at the site some years ago by consultants to Mr. Montini and was acknowledged in the Montini Open Space Preserve Draft Management Plan and Initial Study (2008). Wetlands vary substantially, and some tend to hold water for only a short while before it seeps into the ground, is taken up

by plants, or evaporates.

A key part of the project design will be to avoid providing mosquito breeding habitat. This is generally accomplished by limiting how long water remains on the surface. Mosquitos typically require 7-14 days of standing water to breed successfully; we anticipate that this wetland will be designed to eliminate standing water after 72 hours or less.

“Will the project even work to recharge groundwater?”

We carried out site investigations in December 2013 specifically to determine how effective the project will be for recharging the groundwater. While some recharge definitely occurs, we do not yet know how much, nor do we have the data in hand to understand how well-connected the recharge zone is to the underlying zones being tapped for water supply. We expect the site investigation results to be complete in May of 2014.

How can the proposed wetland enhancement at the Montini site possibly hold enough water to make a difference in flooding?

Computer simulation of the effects of a 12 acre-foot storage volume demonstrated a marked effect on flooding extents and depths. It is typically just very short duration, intense flood peak flows that cause most of the flooding that is beyond the capacity of the stormdrain system to handle. If some of that water can be delayed, peak flow rates are reduced and significant differences in flooding can result.

Won't the project construction create significant neighborhood impacts?

Like any construction project, the Fryer Creek Project will create disruption, noise, and inconvenience for those who live nearby or visitors to the site. The project should be able to be constructed over a relatively short period of time, with most work completed in a 2-3 month window, and measures to minimize those effects will be implemented as appropriate.

What will the maintenance effort be for the Montini site?

Annual maintenance for the Montini site and Fryer Creek Channel upstream of West MacArthur is envisioned to include inspections, monitoring, and vegetation maintenance. Sediment removal may be required approximately every five years, and over even longer time frames (e.g., 10 years), replanting of vegetation may also be necessary. Documentation and reporting would also be performed as required. Based on preliminary assumptions made for the project at the conceptual stage, maintenance-related efforts for all project elements were estimated to cost \$6,300/year. Certain periodic activities that would be conducted less frequently, such as substantial sediment removal and revegetation, were estimated at up to \$73,500 in a year. The actual costs will depend on the final design of the project, and the actual increase to maintenance costs would be less than these estimated total amounts since existing costs being incurred for sediment removal and vegetation management in Fryer Creek channel have not been discounted.

Couldn't the existing storm drain outlet in the field at the Montini site just be raised to accomplish the project's purposes?

This modification (raising the storm drain outlet) would be very limited in its effects, as only a modest volume of water would be stored on the site with the current topography, limiting flood benefits and the enhancement of the existing wetland habitat. In addition, unless additional sources of water are routed to the site, recharge benefits would also be less than would occur as a result of the proposed wetland enhancement at the Montini site.

"Fryer Creek isn't really as big a flood risk as other areas; we've never seen it flood in all the years we've been here. Aren't there bigger priorities? What will be the percent reduction in flows?"

In both the 2011 City of Sonoma Storm Drain Master Plan and the Federal Emergency Management Agency's floodplain maps, Fryer Creek is shown as a notable source of flood risks. Anecdotal information from some in neighborhoods adjacent to Fryer Creek indicate that they have experienced flooding.

While flood risks also exist in other areas, they may not be as readily addressed from a project options or funding source perspective. The Water Agency has already contributed to the funding of a feasibility study investigating opportunities to address flood hazards on Lower Sonoma Creek (Lower Sonoma Creek Flood Management and Ecosystem Enhancement, October 2012, available at <http://www.sonomarcd.org/publications.php>). The Water Agency and Sonoma Ecology Center are continuing to look at flood management and groundwater recharge opportunities within the City of Sonoma, which may lead to some future additional projects, such as along Nathanson Creek.

The estimated reduction in Fryer Creek peak flows that would result from the proposed project is estimated to be on the order of 25 – 70 cfs in a 100-year and 25-year flood event respectively.

According to the City's Storm Drain Master Plan, a 25-year peak flow on Fryer Creek upstream of MacArthur Street is approximately 550 cubic feet/second, or cfs. For reference, a 100-year peak flow is approximately 600 cfs. The project would reduce peak flows in these sized storms on the order of 5-12%. Given the many design decisions yet to be made, it would probably be appropriate to estimate the peak flow reduction at 3-20% with the greatest percentage reductions in smaller, more frequent storm events (e.g., 10-year floods).

While the proposed project will not eliminate all flood risk due to Fryer Creek, it will reduce that risk significantly – now and in the future, when even more extreme floods are predicted as a result of climate change.

"The MacArthur culvert was placed there years ago to reduce flood risk downstream. What will be the impacts of removing it?"

We know from the Water Agency project files that decades

ago, there was an expectation that the MacArthur culvert would be enlarged and lowered someday. We've found nothing in the files to suggest that it was placed to reduce flood risk downstream. Impacts (i.e, construction related, aquatic habitat, etc...) from any modifications at MacArthur Street would be fully analyzed during the design and environmental review process and the design adjusted to address any significant negative effects.