



City of Santa Barbara
Parks and Recreation Department

Memorandum

DATE: August 16, 2017

TO: Creeks Restoration/Water Quality Improvement Program
Citizen Advisory Committee

FROM: Cameron Benson, Creek Restoration/Clean Water Manager

SUBJECT: Las Positas Creek Restoration Project Update – For Discussion

COMMITTEE DIRECTION

That the Committee receive an update on the Las Positas Creek Restoration Project.

BACKGROUND

Las Positas Creek is one of the major tributaries to Arroyo Burro. The Creeks Division has been working on a significant restoration project that would remove a concrete channel and naturalize 2,000 linear feet of Las Positas Creek. Creeks Division staff and consulting engineers have conducted extensive hydrological modeling, regulatory review, and design alternatives analysis over the past two years. The proposed project is located west of Las Positas Road between Las Positas Place and Veronica Springs Road (see attached location map).

RESTORATION PROJECT UPDATE

Initially, the restoration project appeared fairly straightforward – remove the concrete channel, excavate a new creek channel, and install native trees and plants. However, after closer inspection, it has proven to be very complicated.

The first and most important challenge is the lack of adequate space to construct the project. There is existing development (Las Positas Road and private homes) at or near the top of the creek banks on both sides, and plans for a Class 1 bikeway along the creek corridor in the future. This severely limits the ability to widen the creek channel and reduce the slope of the creek banks in order to reduce flooding and erosion risks.

Second, there are existing flooding issues in the neighborhood adjacent to the creek; and much of the neighborhood is within the FEMA-mapped 100-year floodplain. The existing culverts at Las Positas Place and Veronica Springs Road, creek bank geometry, and storm drainage system all lack adequate capacity to accommodate large

storm events. Attempting to design a project that reduces, or at a minimum does not increase, these flooding risks has proven extremely difficult.

Third, there are numerous existing physical constraints in the area including bridges, culverts, roads, storm drain pipes, and utilities. Replacing, repairing, and or modifying these structures to accommodate the restoration project is both expensive and difficult to engineer.

Finally, there are existing natural constraints such as mature (50-60 year-old) oak trees on the banks, extensive riparian vegetation, and significant erosion at the downstream end of the project area.

In an effort to work around these many constraints, City staff and consulting engineers prepared technical studies and modeling, consulted with FEMA to refine flood information for the creek, and conducted an exhaustive analysis of potential restoration options. These design options included:

- Naturalize the creek channel using various bank geometries and native riparian vegetation palettes.
- Naturalize the low flow creek channel, construct a retaining wall along the eastern bank, and utilize the proposed bikeway to increase flood conveyance capacity during major storm events.
- Naturalize the creek channel using various bank geometries and riparian vegetation palettes and install a flood control basin upstream to reduce flooding risks.
- Naturalize the creek channel and construct a floodwall at the top of the western bank to protect homes from flooding.
- Naturalize the creek channel and install a high-flow bypass pipe under the eastern bank (beneath the proposed bikeway).
- Naturalize the creek channel and install a high-flow and storm drain bypass pipe under the western bank (up to the property line), shifting the creek alignment to the east.

Due to a combination of inadequate flood capacity, technical engineering constraints, potential impacts to existing and future structures/infrastructure, regulatory constraints, long-term maintenance liabilities, and significant construction costs, each option was eventually rejected. Ultimately, there was just not enough space to accommodate a natural creek channel without significant side effects.

NEXT STEPS

Although one of the project designs (pipe under the western bank) could have accomplished the flooding mitigation goals, it resulted in a project with very high

construction costs, significant long-term maintenance responsibilities, complicated infrastructure, and marginal improvements in habitat value and water quality.

After a lengthy and thorough design and review process, the Creeks Division staff and engineering design consultant see no viable project and recommend that the City not proceed with the Las Positas Creek Restoration Project at this time. It is our professional opinion that the cost, risk, and complexity of the project outweigh the potential environmental benefits.

The decision not to proceed with this project means the City will decline \$1.5 million in restoration grant funding from the state. Creeks Division staff will explore the possibility of redirecting some of the grant funding towards the construction of the Arroyo Burro Open Space Restoration Project next summer, however it is rare for granting agencies to allow such changes.

Attachment: Project Site Location

cc: Jill E. Zachary, Parks and Recreation Director