



Garcia Creek Channel Stabilization

October 28, 2025

Overview | **Drainage Master Plan (Jan. 2023)**

Top Ranked CIP Projects (Jan. 2023)

1. **River Valley Drainage Improvements (\$0.5M)**

Not advanced until downstream improvements at Garcia Creek are addressed

2. **Village Path and Flat Creek Trib. (\$0.4M)**

Addressed as part of a private development agreement

3. **Garcia Creek Channel Stabilization (\$0.8M)**

Advanced to preliminary engineering to stabilize outfall and channel banks

4. **Athens Street South Drainage (\$19M)**

Submitted to TWDB State Flood Plan for Flood Infrastructure Fund eligibility; currently seeking funding opportunities due to high cost

5. **Naples Street North Drainage (\$23M)**

Also submitted for TWDB State Flood Plan consideration; project advancement dependent on external funding

Garcia Creek | Preliminary Engineering

Preliminary Engineering Report – Identified Alternatives

Option 1: Stabilize Culvert and Channel Banks with Wall System

(Short-term repair) – Estimated cost: \$1.1-\$1.5M

Option 2: Stabilize Culvert and Armor Channel Bottom with Rock Riprap

(Short-term repair) – Estimated cost: \$400-600k

Option 3: Reinforce concrete box with bypass channel

(Major reconstruction) – Estimated cost: \$2-2.5M

Council Action: City Council selected Option 1 in July 2025 to advance into final design

Garcia Creek | Current Progress

August: Prepared proposal for final design of Option 1

October 6: Conducted channel walk with Council Member King and City staff to review project scope, easement needs, and discuss the possibility of limiting work to the headwall erosion area.

Independent Technical Review:

- Senior geomorphologist and senior engineer evaluated long-term stabilization options.
- Review reaffirmed Option 1 as the most effective solution.
 - Headwall-only stabilization would not address ongoing channel erosion and could undermine repairs over time
 - Option 2 provides comprehensive stabilization of the culvert, headwall, and channel banks reducing long-term maintenance needs or creating new downstream erosion instabilities

Observation: ~20 feet of bank erosion in 10 years demonstrate continued degradation that could jeopardize localized repairs.

Garcia Creek | Bank Erosion Progression



February 2013



March 2022

Garcia Creek | Channel Erosion Examples



Council Action Requested

- Following the independent technical review and observed bank erosion of ~20 feet over the past decade, staff and Lochner reaffirm Option 1 as the most effective and resilient long-term solution.
- **Option 1 addresses:**
 - Stabilization of the headwall, culvert, and channel banks
 - Reduction of future erosion and maintenance risk
 - Protection of adjacent public infrastructure and properties

Requested Action: Authorize staff to proceed with negotiations for final design and implementation of Option 1 – Garcia Creek Channel Stabilization Project.