

Restoration Feasibility Assessment: Los Alamos County Open Space

Report Presentation

2/9/2023



Objectives

- Assess Channels and Riparian Corridors on Open Space lands for restoration potential
- Focus on channel stability, plant community and erosion potential
- Utilize need, cost, and other important site characteristics to form prioritization matrix



Barranca Crossing

- Trail crossing drainage
- Channel incision
- Trail and drainage erosion
- Repair should focus on trail surface and drainage



Upper Acid Canyon

- Incised with loss of floodplain function
- Eroding banks
- Active headcut
- Some nonnative species
- Utilize machinery to build rock grade control
- Access and potentially contaminated soils are issue



Orange Canyon

- Channel Incision
- Excess sediment at culvert
- Utilize Rock Grade Control
- Hand crews and volunteers



Middle Pueblo Canyon

- Incised Channel
- Grade control at Utilities creates scour
- Treat with rebuilt grade control using large boulders and geomorphic concepts

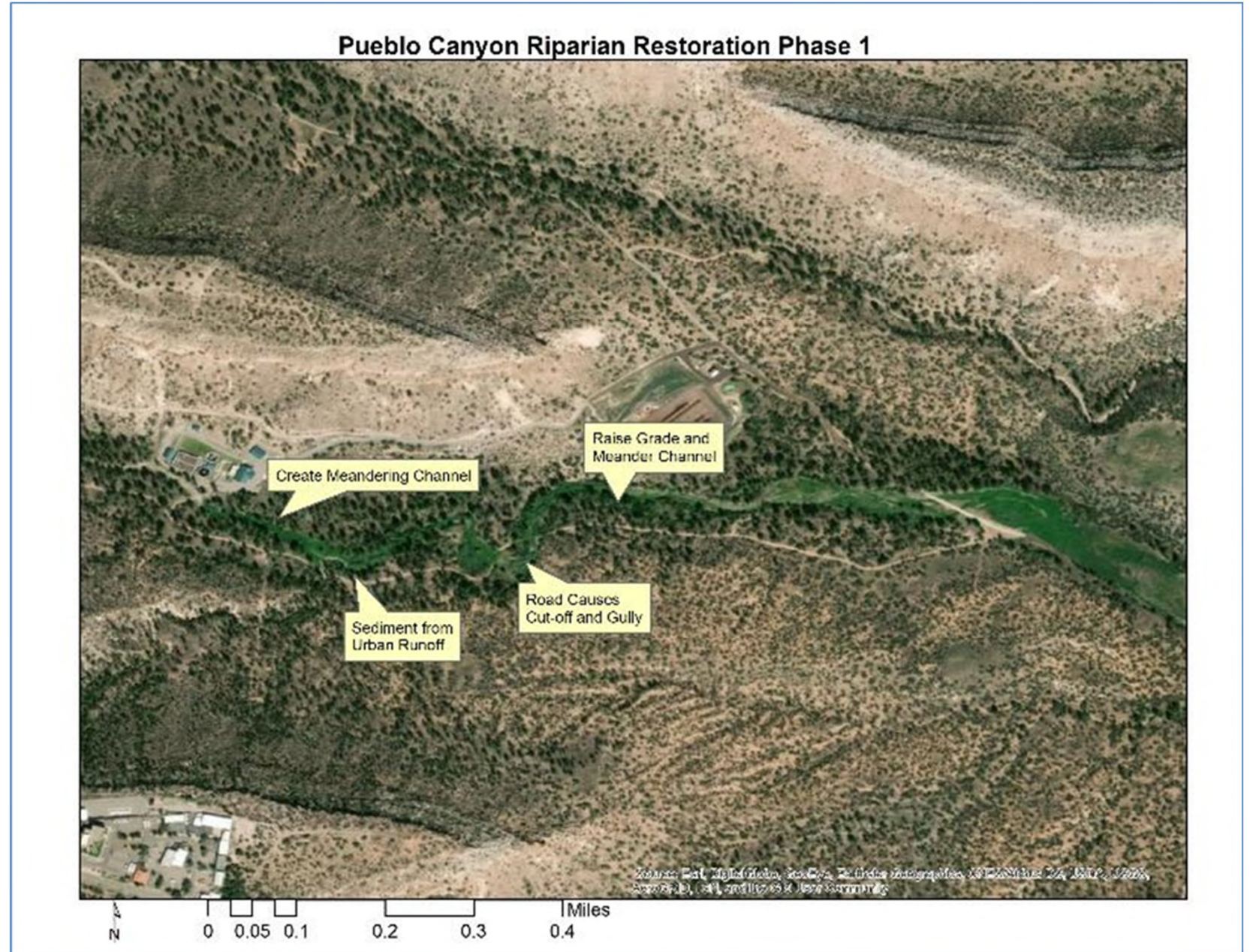


Lower Pueblo Canyon

- High sediment supply from urban runoff
- Existing grade control
- Invasive Reed Canary Grass
- Create meandering wetland channel
- Revegetate



Lower Pueblo Concept



Rendija Canyon

- Erosion through old alluvial deposit
- Requires channel restoration to appropriate dimensions



Walnut Canyon

- Reed Canary Grass & Russian Olive Infestation
- Incision into wetland
- Weed Treatment
- Replanting
- Handbuilt Grade control



White Rock Canyon

- Invasive Russian Olive and Tamarisk
- Remove and revegtate



Perched Wetlands

- Small shallow pockets of wetland plants supported by alluvial soils and runoff on hill slopes
- Erosion through fine soils
- Repair with hand build rock structures



Table 1. Summary Table for Restoration Potential

Criteria: habitat, site potential, channel stability, accessibility for restoration, community engagement, existing wetland areas, active erosion, invasive species. Costs are approximate based on local knowledge of construction costs and methods. Engineering, permitting costs are based on current knowledge of project scope and if a CWA 404 permit will be required. Costs do not represent a bid for services and should be utilized for planning purposes only.

Area	Habitat	Site potential	Active erosion	Existing Wetland	Invasive Species	Accessibility	Community Engagement	Permits?	Funding Potential?
Barranca Crossing	-	-	+	-	-	+	+	No	No
Acid Canyon	+	+	+	+	+	+	+	Yes	Yes
Orange Canyon	+	+	-	-	-	-	+	No	No
Pueblo Upper	+	-	+	+	-	-	+	Yes	Yes
Pueblo Middle	+	+	+	+	-	+	-	Yes	? (Utilities)
Pueblo Lower	+	+	+	+	+	+	-	Yes	Yes
Rendija Canyon	+	+	+	-	-	+		Yes	Yes
Walnut Canyon	-	-	+	+	+	+	+	No	No
White Rock Canyon	+	+	X	+	+	-	+	Yes	Yes
Perched Wetlands from Urban Runoff	+	+	+	+	+	+	+	No	Yes

Area	Engineering & permitting	Construction Ballpark	Approx. Total	Notes
Barranca Crossing	NA	\$15,000	~\$15,000	Machine drainage of road into Rendija, hand build one rock dams to restore trail to south
Acid Canyon	\$12,000	\$40,000	\$52,000	Unknown issues with contaminants, length of project could be short or long
Orange Canyon		15,000		Small hand or machine built project
Pueblo Upper	X	X	X	No access to canyon
Pueblo Middle	\$15,000	60,000	\$75,000	Stream crossings of pipe and road could be prioritized, road access exists
Pueblo Lower	+	Included as appendix		Phase 1 in appendix, phase II is wetland above N3B grade control
Rendija	\$12,000			
Walnut Canyon	\$3,000	10,000	\$13,000	Headcutting and erosion control, Russian olive removal
White Rock Canyon	NA	100,000		Indeterminate scope, many floodplains each with differing amounts of Russian Olives, long

QUESTIONS?