

Lorenzan Creek Feasibility Study

Stakeholder Workshop – FINAL Summary Notes

January 26, 2022
1:00 to 3:00 pm via Microsoft Teams

Project Team Participants

Skagit County Project Team

- Emily Derenne, Skagit County, **Project Co-Manager**
- Jason Quigley, Skagit County, **Project Manager Support** and Stormwater Lead
- John Davidson, Skagit County, Operations Division Manager
- Grace Kane, Skagit County, Public Works Director
- Rick Owens, Skagit County Public Works, Equipment and Facilities Division Manager
- Michael See, Skagit County Public Works, Natural Resources Division Manager

Consultant Team

- Colleen Mitchell, Herrera, **Consultant Team Lead** and Stormwater Design Lead
- Christina Avolio, Herrera, Consultant Team Stream Restoration Design Lead
- Colin Butler, Watershed Science and Engineering, Hydraulic Modeling Lead
- Melanie del Rosario, Veda Environmental, Outreach Team
- Tina Mirabile, Herrera, Environmental and Permitting Support
- Annie Saunders, Herrera, Project Support
- Hilary Wilkinson, Veda Environmental, Workshop Facilitator

Other Participants

- Sue Closser, Neighboring Property Owner
- Melissa Conger, WA Ecology, Financial Manager
- Rick Hartson, Upper Skagit Indian Tribe, Habitat Biologist (representing the Tribe's interest in salmon recovery and treaty fishing rights)
- Joey Jiang, WA Ecology, Stormwater Engineer
- Nora Kammer, Skagit River System Cooperative (SRSC), (representing fisheries interests of the Sauk-Suiattle and Swinomish Tribes)
- Jason Miller, City of Concrete, Mayor
- Duncan Pfeiffer, WDFW, Region 4 Habitat Engineer
- Chris Rowell, WSDOT, District 3 Road Supervisor
- Bob Warinner, WDFW Habitat Manager

Workshop Objectives

Workshop participants will:

1. Get an update on the project's current status and next steps, including outcomes of stakeholder survey and how it shaped final evaluation criteria; existing conditions report; and draft design alternatives.
2. Have an opportunity to ask questions about and provide input regarding
 - a. Existing conditions
 - b. Evaluation criteria
 - c. Design alternatives.
3. Understand how workshop input will inform the preferred alternative selection/advancement.

Key Takeaways

- Several participants encouraged the project team to look long-term and plan for expected changes in the town of Concrete, (e.g., population growth, increased flooding and other climate change impacts, etc.).
- There was strong interest among participants in seeing the results of the alternatives modeling.
- Concern was expressed regarding potential flood impacts to nearby properties.
- Strong interest was expressed regarding the size of the culvert

Topics Covered

Project Overview – Presentation from Jason Quigley, Skagit County and Colin Butler, Watershed Science and Engineering

- A brief overview of the project goals was provided
- The step-by-step process was reviewed, and includes
 - **Step 1:** complete existing conditions, including hydraulic modeling (**DONE**)
 - **Step 2:** develop draft evaluation criteria to help project team evaluate among alternatives and select a preferred alternative (**DONE**)
 - **Step 3:** share draft evaluation criteria with stakeholders via poll and revise evaluation criteria based on input (**DONE**)
 - **Step 4:** develop draft design alternatives (**DONE**)
 - **Step 5:** hold stakeholder workshop to share project status and solicit input on draft design alternatives (**DONE**)
 - **Step 6:** refine design alternatives based on stakeholder input (**IN PROCESS**)

- **Step 7:** apply evaluation criteria to the revised design alternatives and conduct detailed hydraulic modeling of each alternative to allow a preferred alternative to emerge. (IN PROCESS)
- A high-level overview of the **Existing Conditions** was shared with workshop participants. Highlights include:
 - Have completed existing conditions assessment (topographic survey; wetland and stream delineation; geomorphic; geotech; cultural assessments; and Ordinary High Water Mark (OHWM) analysis)
 - Hydraulic modeling outcomes reflecting two-year, ten-year, and 100-year flood events
- An overview of the **Evaluation Criteria** was shared. Highlights include:
 - There are six categories of evaluation criteria, including
 1. Community
 2. Estimated Cost
 3. Flooding/Geomorphic Hazard
 4. Habitat and Ecological Significance
 5. Implementation and Operational Complexities
 6. Water Quality
 - There are a total of 32 criteria across the six categories.
 - The criteria were revised based on a stakeholder survey; among the revisions include:
 - The project team made sure that ecological benefits were not just salmon-focused but more encompassing to include other species.
 - Services currently provided by the county's maintenance shop and the cost to potentially relocate it were factored into multiple criteria.
- **Preliminary design alternatives** were developed and are the primary focus of the remainder of the workshop.
- Currently, the project team is working to refine the design alternatives (input during the workshop will be reflected in these refinements); then will conduct hydraulic modeling and apply evaluation criteria to determine a preferred alternative.

Questions and Comments

- **Q1:** Is the flooding in the northwest of the figure due to Fish Creek?
- **A1:** This flooding comes from a small drainage area directly north of the project site. Fish Creek is further west than this area.
- **Q2:** Has WSDOT work been included in the flood analysis, and if so, what were the effects?
- **A2:** The analysis for the WSDOT culvert replacement on Lorenzan Creek under State Route 20 was reviewed and the effects of the replacement were taken into consideration during the hydrologic and hydraulic analyses for this project. The culvert replacement significantly increased the culvert capacity under SR 20, so it is assumed

that all incoming flow from the upstream basin will pass through SR 20 and reach the upstream end of the project area. The project team is estimating higher flows than the WSDOT analysis and is using a modeling approach that evaluates floodplain storage and culvert capacity within the project area.

- **Q3:** What is the overarching objective of this project?
- **A3:** Initially, it was to improve fish passage. However, stormwater issues became a concern, so now both of these issues are being addressed. This project should address stormwater concerns and address the culvert that could be exacerbating flooding upstream while blocking fish passage.
- **Comment:** It is important to ensure that growth can occur in urban areas to help alleviate pressure to develop new areas in suburban and rural settings. Yet, if flooding problems and faulty culverts in towns and urban areas go unaddressed, it is much more challenging to encourage development there instead of in suburban and rural areas.

Design Alternatives Overview – Presentation by Colleen Mitchell and Christina Avolio, Herrera

- Five alternatives were developed to address the issues described earlier within the immediate project area. These alternatives include:
 - Two that will keep the current function/purpose of the infrastructure on the site.
 - One that would eliminate the infrastructure (and move its function/purpose elsewhere) and maximize the restoration potential of the site.
 - One “no action” for comparison’s sake.
 - One that entails the County selling the parcel as-is.
- A high-level overview of each alternative was provided, as were opportunities for feedback, questions, and comments.

Alternative 1: Maintain site use; focus on water quality improvements with long culvert and treatment.

- **Q1:** Does the path of both culverts miss the structures on the site?
- **A1:** Yes.
- **Q2:** Has hydraulic modeling been completed?
- **A2:** The team is still refining the components of the alternatives; modeling will come next.
- **Q3:** What is the general slope of the proposed culvert?
- **A3:** A straight line based on existing conditions and 0.5% depending on different configurations. This may vary slightly. The team may be able to increase that some, but it will be fairly low profile/slope.

- **Q4:** What is the size of the culvert?
- **A4:** The Alternative 1 culvert is still very long and is considered a long culvert according to WDFW guidelines. If it was not this long, the culvert span would need to be in the 15-16 foot range. However, the span is generally increased between 25-30% for long culverts, meaning the span for Alternative 1 would likely need to be closer to 20 feet. Other features, such as meander bars, are also required to improve habitat and fish passage in long culverts. This increased size and additional features are driving the increased cost for Alternative 1.
- **Q5:** Regarding the comment that the culvert would be expanded from 18 inches to 16 feet. It seems overengineered; why is there no middle ground? Six or eight feet seems more than adequate.
- **A5:** The team has learned from previous projects that bigger generally seems to be better. Members of the team have been involved with intermediate upsizing of culverts in the past and later found that they were still insufficient. Additionally, there are requirements for culvert sizing for fish passage and flooding that are based on how much velocity small fish can handle. In the past, culverts were sized only to handle runoff; geomorphology, sediment transport, and fish passage requirements were not considered, and these have a big impact on the culvert geometry. Currently, there is sediment built up in the various structures. All of this needs to be considered in the recommended culvert geometry.

Alternative 2: Maintain site use; focus on fish passage by rerouting creek out of culvert and putting back into open stream; some water quality improvements.

- **Q1:** County road standards require a distance of 130 ft from the right-of-way. Is that why the gate is there now? To maintain that distance?
- **A1:** The County parcel is not 130 feet wide, so the existing driveway does not meet this standard. The project team will continue to work with the County and WSDOT to evaluate the best options for the driveway.
- **Q2:** If you were to move the creek into the outlined property south of the shop parcel, would you need to make agreements with the property owners?
- **A2:** That area is currently public right-of-way, under county jurisdiction. The team has spoken to environmental planners at the County to ensure that while the project will create new stream and wetland habitat, the critical area buffers of these newly created habitats will not encumber adjacent developed properties.
- **Q3:** I support this alternative and have a question about the berm. Is this image an accurate representation of how much area it would need? What's the expected slope of the berm on the channel side?
- **A3:** The target channel width 10 to 15 feet, which would take up half of the right-of-way. We will run the models first without the berm to determine the flood extents and

elevations before adding the berm and developing the berm geometry. It will likely be an iterative approach to see how the channel and berm design should be adjusted to avoid offsite flooding.

- **Comment** (comparing Alt 2 and Alt 3). Alternative 2 looks like it is asking for trouble with regard to future flooding of the properties south of the unopened right-of-way—berm or no berm. This area (north of pine- swap meet area) has been the problem child ever since a developer filled in a wetland. It was previously a shallow lake where neighboring property owners could fish. Alternative 3 would be better for creating a wetland.
- **Response:** It will be difficult to maintain the existing use and maximize stream improvements. Because alternative 2 is creating more capacity for conveyance and flood storage, it should improve flooding conditions compared to the existing system, but we will be modeling this, and have criteria in place to evaluate this further.

Alternative 3: Abandon site use; remove existing infrastructure and impervious surface and maximize the habitat and water quality improvements of the site.

- **Q1:** Is an Environmental Site Assessment (ESA) needed and have any remediation costs been considered?
- **A1:** The existing fuel tank has been emptied and no contamination was found. For the purposes of this project, the assumption is that the tank will be removed and that there is no contamination.
- **Q2:** What flood and other effects will this alternative have on the property to the west?
- **A2:** The parcel to the west is higher in elevation so the project team does not anticipate impacts. This will be documented in next steps. By making it a fish passable structure, the capacity of the culvert will be increased and it will therefore have greater ability to convey floodwater downstream. When the downstream analysis is completed, the team will look at any potential for flood increases to ensure there will be no impacts.
- **Q3:** Will this alternative increase the number of mosquitoes or other bugs?
- **A3:** The team does not think so as there will be no increase in the amount of standing water (the stream will be flowing during the wet months). The stream currently goes dry during the summer months and this project will have no impact on that.

Alternative 4: Sell parcel as-is.

- **Q1:** If the parcel was sold, would the system have to be addressed at that time, since the culvert is made up of different materials? Would it have to go to another agency?
- **A1:** The team will talk to County staff about this; we are currently unsure about the feasibility of selling the property.
 - Comments

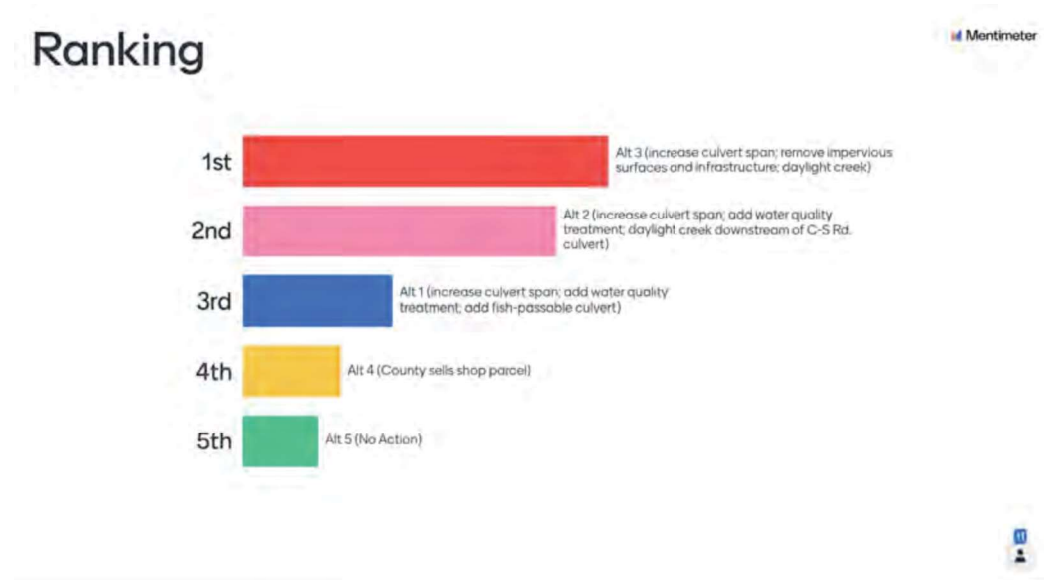
- It's very early to talk about this as an option; would require board approval.
- It would be a lost opportunity if the County chose to sell without addressing the habitat and flooding issues at the property. It is much easier to do this work when it is in public ownership.

Alternative 5: No Action

- Comments
 - Several participants expressed strong interest in seeing modeling results and encouraged the project team to take a long look (e.g., 50-100 years in the future).
 - There are many reasons to have a big culvert, including flooding issues and potential for growth in Concrete. The building on top of the culvert is more of a problem than the size of the culvert.
 - For the proposed conditions, please consider what it will look like with upstream culverts removed.

Alternatives Ranking

Participants were asked to participate in a poll to rank the five alternatives. Eleven participants voted and the results follow.



Next Steps

The following next steps are recommended by Veda staff.

- Update project webpage to include final summary notes from Stakeholder Workshop.
- Include a “FAQ” sheet on the webpage to reflect questions and answers from the workshop.
- Send update to Stakeholder list with key takeaways and next steps from the Workshop; plus a link to the Workshop notes. In this update, be sure to directly address exactly how the input from this workshop will inform next steps in the project.
- Discuss the feasibility of holding another stakeholder workshop to present the preferred alternative and solicit input.