



2017-19 Local Projects Recruitment Form

Chehalis Basin Flood Relief

A. What are local flood relief projects? -- In general, local projects are those projects that provide predominantly localized and quantifiable benefit, are capable of being completed within the funding cycle, are supported by the jurisdiction within which the project is proposed, and are vetted and advanced through a public entity like a City, County, Conservation District, Agency, etc. Furthermore, local projects are envisioned as helping with flooding, not adverse to fish or habitat and (where possible) providers of multiple, quantifiable benefits.

B. What kinds of local flood relief projects are likely to be logical funding candidates for 2017-19?

- Projects that complete an effort previously funded/started.
- Projects that advance improved emergency response.
- Projects that advance improved public infrastructure protection.
- Projects that advance improvements in local or community flood hazard reduction, including local flood proofing projects (e.g., elevations, buy-outs, foundation venting/opening, etc.).
- Projects that advance Conservation District initiated flood hazard reduction (e.g., farm pads, evacuation routes, bank erosion/bank stabilization, etc.)
- Projects that demonstrate innovation (e.g., thinking beyond traditional bank stabilization techniques in favor of natural system designs), partnerships, cost-sharing/leveraging resources, multiple benefits, and proactive vetting with agencies and tribes.
- Projects typically not in excess of \$3M for the stage/phase being funded.

C. Are there projects that would not be good candidates?

- Projects that seek to utilize State Capitol Budget dollars for uses not typically allowed (e.g., maintenance and repair work, cost-sharing under select circumstances, etc.).
- Projects likely to increase potential for flood damage upstream or downstream.
- Projects with unmitigable adverse environmental impacts or significant uncertainty regarding potential environmental impacts.
- Projects not sponsored by a public entity.

Instructions:

- Please submit local flood relief project requests (via this form) to Scott Boettcher (scottb@sbgh-partners.com) no later than 5:00 p.m., Friday, August 12, 2016.
- Please submit one request form for each project proposed, even those past projects previously or partially funded.
- Note: Parts III and IV below [marked by "(**)"] will be scored as part of the Flood Authority Projects Committee's review and evaluation. Part I and II will not be scored.



Part I General	
1. Date:	23 September, 2016
2. Project Name:	Rice Road Culvert Replacement
3. Project Location -- Please identify the location of the project as precisely as possible, including providing decimal degree latitude/longitude coordinates.	Rice Road, Chehalis, WA 98532, Southwest side of the I-5 Interchange. The culvert spans Dillenbaugh Creek. 46°38'41.54"N 122°57'36.50"W
4. Project Contact -- Please identify who will be responsible for overseeing and managing the project (i.e., name, email, telephone number, etc.).	Trent Lougheed tlougheed@ci.chehalis.wa.us 360-345-2229
5. Lead Organization -- Please identify the lead organization, agency, entity, etc. responsible for this project. Please identify key partners responsible for assisting in the delivery or implementation of the project.	Lead: City of Chehalis Partner: Skillings Connolly, Inc.

Part II Description, Timing and Cost	
6. Project Description -- Please describe the project, what is intended to be accomplished, the benefits to be accrued, and to whom.	The double box culvert located under Rice Road, southwest of the I-5 Interchange, is currently under sized for existing 25 and 100-year flood conditions. The project will include hydraulically sizing the culvert structure to accommodate 25 and 100-year flood conditions and designing the stream crossing to meet fish passage requirements. Upsizing the culvert will decrease the flood water elevation on the upstream side. Unfortunately, no amount of upsizing will bring the floodwater down so as to not over top the low lying section of Rice Road by Stan Headwall Park. Therefore, a section of Rice Road southwest of the culvert location will be raised in order to mitigate against flood damage while allowing access for emergency crews during high intensity rain events.
7. Project Timeline -- Please describe the overall timeline for completion of the project as well any interim stages or phases.	This project is intended to be completed during the summer/fall of 2018 to take advantage of the dry season. Phase 1: Remove existing double box culvert.



	<p>Phase 2: Install new bottomless culvert hydraulically sized for the 25 and 100-year rain event.</p> <p>Phase 3: Raise the elevation of Rice Road to prevent overtopping of road during the 25 and 100-year flood.</p> <p>Phase 4: Mitigate impacts of construction in the surrounding wetlands.</p> <p>All four phases will occur simultaneously or in order of the project. Mitigation will require a monitoring plan which follows the Services guidelines.</p>
<p>8. Project Cost and Funding -- What is the cost of this project? What are the on-going maintenance and operation requirements and costs? Is it clear who will be responsible for covering on-going maintenance and operation costs?</p>	<p>Estimated Cost: \$2,862,061</p> <p>The current Dillenbaugh Creek culvert under Rice Road is a double 8 foot x 8 foot, four-sided, box culvert. It is undersized and does not pass flood waters efficiently. This project will replace the box culvert with a three-sided culvert that is 110 feet long, 10 feet deep, with a 26-foot span that will pass a 25-year flood. There may still be some flooding at the 100-year flood so this project also will raise 965 foot of Rice Road to elevation 185 to limit 100-year flood overtopping. These criteria are Washington State Department of Transportation (WSDOT) hydraulic design standards for culvert design.</p> <p>The construction cost estimate is based on the 110 feet long, 10 feet deep, 26-foot span culvert being replaced at its current location. This estimate assumes the existing culvert will be removed by excavating the roadway full depth and width, then constructing the new culvert in that excavation. A full closure of Rice Road will be required during this excavation necessitating a detour southerly on Rice Road to connect with LaBree Road and then I-5, a distance of about three miles. The eventual contractor could choose to use a sheet pile wall to limit the length of excavation but the full closure of Rice Road would still be required.</p> <p>Total project length is estimated at 1300 feet. The Lewis County Road Design Standard of a 40-foot roadway, 12-foot lanes with 8-foot shoulders, is assumed as is the standard roadway section of 0.30-foot hot mix asphalt surface, 0.20-foot crushed surfacing top course, and 0.80-foot crushed surfacing base course. Unit prices for the calculated item quantities utilize the latest WSDOT bid</p>



	<p>results. The cost per square foot for the new structure was calculated from unit costs for preliminary design in the WSDOT Bridge Design Manual.</p> <p>The design and construction engineering estimates at 20% are standard for this type of project and include the environmental process needed for processing as well as the coordination with WSDOT required for constructing the project within I-5 limited access rights of way.</p> <p>It is the intention of the City of Chehalis to fund the project using this and other grants. Agencies in line with this type of project are the Chehalis Flood Authority, Department of Ecology, Salmon Safe, etc.</p> <p>Given the habitat restoration element of this project, a one, three, five and ten-year monitoring plan will need to be implemented by the City's partners to ensure restoration success. Additional planning will dictate the expenses associated with this activity.</p> <p>As this is a replacement project, ownership and operation needs should be reduced, maintenance responsibilities will not change.</p>
<p>9. Other Funding -- Please explain the extent to which other funding sources or funding partners are available.</p>	<p>Additional funding in the form of grants will be applied for through the Department of Ecology, Salmon Safe, etc.</p>
<p>Part III (**) Completion and Doability by June 30, 2019</p>	
<p>10. Project Completion -- Does the funding requested complete (or substantially complete) a project that has already been started? If so, please explain.</p>	<p>This project has not been started but complies with funding timelines associated with the Flood Authority. Provided funding is available, this project should be started and completed during the summer of 2018. Some monitoring may continue past June 30, 2019 in order to comply with construction impact mitigation regulations.</p>
<p>11. Project Doable -- Can this project or the stage/phase for which funding is sought be completed by June 30, 2019? Please describe any circumstances with potential to impact the project's doability or timeline (e.g., permitting or regulatory unknowns, lack of availability of other cost-share funding resources, etc.). Please describe any advance</p>	<p>Yes, this project can be completed by June 30, 2019 with the funding available from this grant.</p> <p>All phases listed below are estimated to be completed in full within the \$3 million limit of this grant. Given the straightforward nature of this project, we do not anticipate unforeseen costs of great magnitude. Should</p>



<p>coordination or vetting with agencies, tribes, other entities, etc. and the outcomes of that effort.</p>	<p>Phase 1 and 2 have unplanned expenses, Phase 3 could be completed at a later date when additional funding becomes available.</p> <p>Phase 1 will include the demolition and removal of the existing double box culvert and excavation of the road above.</p> <p>Phase 2 will include installation of a new, hydraulically sized, bottomless culvert that will meet fish passage requirements. Phase 2 will also include restoration of the road above.</p> <p>Phase 3 will consist of raising approximately 965 feet of roadway to prevent overtopping of the road during the 100-year rain event.</p> <p>Phase 4 will be an ongoing phase of wetland mitigation monitoring.</p>
<p>12. Project Impacts -- Please identify how any project impacts will be mitigated, funded and if that mitigation will be accomplished by June 30, 2019?</p>	<p>If funded by this grant, this project will complete all demolition, construction, and mitigation phases by June 30, 2019.</p> <p>At the completion of all project phases, the culvert site will be restored to a more natural state as the wide, bottomless culvert allows for natural changes in creek path. Natural conditions are beneficial to habitats, flood storage, and stream and river riparian functions. The complete site restoration to natural conditions will mitigate construction impacts.</p>

Part IV (**) Benefits Stated and Quantified	
<p>13. Emergency Response Benefits -- Please describe (and quantify) how this project enhances emergency response in a flood emergency (e.g., does it keep critical access roads and transportation facilities open and functional, does it enable easy movement of cattle, equipment and farm chemicals out of harm's way, etc.).</p>	<p>The ultimate goal of this project is to reduce the effects of high intensity rain events on the City of Chehalis and its residents. The current double box culvert is undersized. During high intensity rain events, the culvert becomes inundated with water and is unable to pass the water. As a result, the upstream floodwater rises to such a height that it overtops Rice Road to the southwest of the site. This prevents use of Rice Road by emergency personnel or evacuating residents. By resizing the culvert and raising Rice Road, a critical access road will remain open during flood emergencies.</p>



<p>14. Essential Infrastructure Protection Benefits -- Please describe (and quantify) how this project protects essential infrastructure and the risks or consequences of not acting this funding cycle.</p>	<p>During a 25 or 100-year flood event at this location, flood water overwhelms the existing undersized culvert, causing high headwater depths, high velocity through the culvert and submergence of Rice Road. High velocity flows through the culvert can cause structural failure, erosion, concrete degradation, undesirable stream conditions such as undercutting and bank erosion. Saturation of the road compromises the integrity of the base and subbase and risks failure of the embankment. By resizing the culvert to accommodate the 25 and 100-year rain events and raising the low section of Rice Road, floodwater damage can be mitigated. Lower headwater equates to lower velocities through the culvert and no submergence of an emergency access road.</p>
<p>15. Public Health, Safety and Welfare Benefits -- Please describe (and quantify) how this project protects public health, safety and welfare.</p>	<p>Currently, during a high intensity rain event, flood water overwhelms the existing undersized culvert, causing highwater depths and the submergence of Rice Road. By resizing the culvert and raising Rice Road, there should be no closure of Rice Road during an emergency.</p>
<p>16. Residential, Commercial and/or Agricultural Protection Benefits -- Please describe (and quantify) how this project protects residential, commercial and/or agricultural interests and communities and the benefits of acting (or consequences of not acting) this funding cycle. Consider factors like number of structures at risk, number of people at risk, historic frequency of flood damage, magnitude of benefit to be gained for the cost, etc.).</p>	<p>During a 25 or 100-year flood event at this location, flood water overwhelms the existing undersized culvert, causing high headwater depths and high velocity through the culvert. By resizing the culvert, upstream flooding of the existing agricultural fields will be reduced and downstream fields will be less impacted by erosion from flow velocity. By raising Rice Road, flood waters from the Dillenbaugh should no longer submerge Stan Headwall Park.</p> <p>It is important to note that while effects on Stan Headwall Park from Dillenbaugh Creek will be mitigated, the Newaukum River may still cause flooding from the westerly side of the park.</p>
<p>17. Other Project Impacts -- Please explain how this project impacts or is potentially impacted by another project.</p>	<p>The Rice Road culvert assessment is part of a larger assessment of the bridges and culverts along Dillenbaugh Creek currently under evaluation. The ultimate goal of this project is to reduce the effects of high intensity rain events on the City of Chehalis and its residents. Each site is being assessed on condition, hydraulic sizing, and fish passage compliance. This is just one of multiple stream crossings</p>



	that need to be improved for flows and fish passage.
18. Anything Else -- Please feel free to offer any additional information (e.g., photos, maps, video, drawings, etc.) that would help to better understand the scope, timing and benefits of this project.	<p>Additional information included with this application is provided in the attached documents. This includes the following:</p> <p>Attachment A: Vicinity Map Attachment B: NRCS Soils Mapping Attachment C: FEMA Flood Insurance Rate Map Attachment D: Well Logs for the Surrounding Area Attachment E: National Wetland Maps and Supporting Data Attachment F: Priority Habitats and Species List Attachment G: Construction Estimate Attachment H: Site Photos</p>

Appendix A

Process/Schedule (current as of 7-22-2017)	
July 21, 2016 (FA In-Person Mtg.)	<ul style="list-style-type: none"> Post and distribute local projects recruitment request on 7/22/2016 following Flood Authority review/discussion at their 7/21/2016 meeting. Allow three weeks for project proposals/submittals (i.e., due no later than 5:00 p.m., Friday, August 12, 2016).
August 18, 2016 (FA Conf. Call Mtg.)	<ul style="list-style-type: none"> Receive proposals/submittals. Update Flood Authority at their 8/18/2016 meeting on number received, type of projects received, distribution, etc.
September 15, 2016 (FA In-Person Mtg.)	<ul style="list-style-type: none"> Update Flood Authority at their 9/15/2016 meeting on status of Projects Committee's effort to review, rank, discuss with Tribes, discuss with agencies, preliminarily sort and rank, etc.
October 20, 2016 (FA In-Person Mtg.)	<ul style="list-style-type: none"> Review/discuss DRAFT ranked and prioritized list with Flood Authority at their 10/20/2016 meeting.
November 17, 2016 (FA Conf. Call Mtg.)	<ul style="list-style-type: none"> Seek Flood Authority approval of FINAL ranked and prioritized list at their 11/17/2016 Flood Authority meeting.