

## Scott Boettcher

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**From:** Betsy Dillin <Betsy.Dillin@lewiscountywa.gov>  
**Sent:** Friday, October 12, 2018 1:55 PM  
**To:** Scott Boettcher  
**Cc:** Erik Martin  
**Subject:** Phasing of FCZD Comprehensive Plan

Hi Scott,

I was able to talk to our consultant and we have devised a way to phase the planning effort to take advantage of the funds that are available.

### Phase 1

- Organize planning committee
  - Flood Hazard Mitigation Stakeholder Committee
  - Coordination with Other Agencies
  - Review of Programs
- Review Previous Work/Studies
- Begin to Develop Capital Improvement Program

### Phase 2

- Risk Assessment
  - HAZUZ Modeling
  - Flood maps
  - Flood Loss Analysis
- Finish Developing Capital Improvement Program
- Public Involvement Strategy
- Implementation and Adoption

We will need to refine this further, and we have a meeting planned with our consultant on the 22nd to talk about the details. Please let me know if you need any other info from us. Thanks for the opportunity to help us get started!

*Betsy Dillin, PE*

Senior Utilities and Surface Water Engineer

Lewis County Public Works  
2025 NE Kresky Ave  
Chehalis, WA 98532  
Phone: (360) 740-1138

[Betsy.Dillin@lewiscountywa.gov](mailto:Betsy.Dillin@lewiscountywa.gov)

## Scott Boettcher

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**From:** Scott Boettcher  
**Sent:** Tuesday, July 3, 2018 8:24 AM  
**To:** 'Betsy Dillin'  
**Cc:** Erik Martin; colronjanaverill@comcast.net  
**Subject:** RE: Chehalis River Basin FCZD - 2019-21 Local Project Application

Thank you Betsy. Your proposal has been rec'd on time.  
Scott

Scott Boettcher, Staff  
Chehalis River Basin Flood Authority  
360/480-6600  
[scottb@sbgh-partners.com](mailto:scottb@sbgh-partners.com)

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**From:** Betsy Dillin <Betsy.Dillin@lewiscountywa.gov>  
**Sent:** Monday, July 2, 2018 8:58 AM  
**To:** Scott Boettcher <scottb@sbgh-partners.com>  
**Cc:** Erik Martin <Erik.Martin@lewiscountywa.gov>  
**Subject:** Chehalis River Basin FCZD - 2019-21 Local Project Application

Hi Scott,  
Please see the attached Project Recruitment Form and the associated Scope of Work for the Comprehensive Flood Hazard Management Plan project by the Chehalis River Basin Flood Control Zone District. Please contact me if you have any questions.

Thank you,

*Betsy Dillin, PE*  
Senior Utilities and Surface Water Engineer

Lewis County Public Works  
2025 NE Kresky Ave  
Chehalis, WA 98532  
Phone: (360) 740-1138

[Betsy.Dillin@lewiscountywa.gov](mailto:Betsy.Dillin@lewiscountywa.gov)



**2019-21 Local Projects Recruitment Form  
Chehalis Basin Local Flood Relief**

**A. What are local flood relief projects?** -- In general, local projects provide predominantly localized, 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, Port, etc. Local projects are additionally envisioned as helping with local flood relief (reducing flood damage and impacts), not adverse to fish, wildlife, or habitat, and (where possible) providers of multiple, quantifiable benefits (per Part IV below).

**B. What kinds of local flood relief projects are likely to be logical funding candidates for 2019-21?**

- 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, 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, public engagement and community planning, and proactive vetting with agencies and tribes.
- Projects that demonstrate informed decision-making through hydraulic analysis/understanding.
- Projects that demonstrate early planning involvement, information exchange with regulatory agencies.
- 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, significant uncertainty regarding potential environmental impacts, or significant concerns about obtaining regulatory approval.
- Projects not sponsored by a public entity.
- Projects not located in the Chehalis Basin.
- Projects that do not show quantifiable benefit.

**Instructions:**

- a. Please submit project requests (via this form) to [scottb@sbgh-partners.com](mailto:scottb@sbgh-partners.com) no later than 5:00 p.m., 7/03/2018.
- b. Please submit one request form for each project proposed, even past projects previously or partially funded.
- c. Note: Parts III and IV [marked by "(\*\*)"] will be scored for review/evaluation. Parts I, II, and V will not be scored.
- d. See Appendix A for overview of 2019-21 Local Projects Recruitment Process (and schedule), or [https://www.ezview.wa.gov/site/alias\\_1492/37282/2019-21-Local-Projects-Recruitment-Process.aspx](https://www.ezview.wa.gov/site/alias_1492/37282/2019-21-Local-Projects-Recruitment-Process.aspx).

<b>Part I General</b>	
1. <b>Date:</b>	July 2, 2018
2. <b>Project Name:</b>	Chehalis River Basin Comprehensive Flood Hazard Management Plan
3. <b>Project Location</b> -- Please identify location of the project as precisely as possible, including providing decimal degree latitude/longitude coordinates.	The boundaries of the Chehalis River Basin Flood Control Zone District located in Lewis County, Washington.
4. <b>Project Contact</b> -- Please identify who will be responsible for overseeing and managing the project (i.e., name, email, telephone number, etc.).	Erik Martin, PE 2025 NE Kresky Ave Chehalis, WA 98532 (360) 740-2697 Erik.martin@lewiscountywa.gov
5. <b>Sponsor</b> -- Please identify the sponsor, lead organization, primary entity, etc. responsible for this project. Please identify key partners responsible for assisting in delivery or implementation of project.	Chehalis River Basin Flood Control Zone District

<b>Part II Description, Timing, and Cost</b>	
6. <b>Project Description</b> -- Please describe the project, what is intended to be accomplished, the benefits to be accrued (flood hazard reduction and otherwise) and to whom. Please also identify what phase/stage of the project funding is being sought for (e.g., planning, preliminary engineering, final design and permitting, construction, etc.).	This planning project affects only those areas located entirely in Lewis County under the boundaries of the Chehalis River Basin Flood Control Zone District (FCZD). Currently there are multiple planning documents attempting to guide the activities of the FCZD. RCW 86.15.110 requires a comprehensive planning update to be completed, approved and promulgated by the local political body prior to any project implementation and budget approval. Further, the primary planning goal is to follow the Community Rating Systems 10-step planning process in an effort to coordinate all community floodplain management and mitigation activities into a single comprehensive, cohesive, and implementable planning document. Doing so will ensure that the planning effort will meet all state, FEMA, and CRS criteria.  The FCZD intends to procure the services of an experienced consultant through normal competitive, qualification based selection processes as outline in County code.
7. <b>Project Timeline</b> -- Please describe the timeline and phases for completion of the overall project and describe the timeline for completion of the phase to be funded by 19-21 funding.	Once funded, this project is anticipated to be a year-long planning effort, with no phased work.

<p>8. <b>Project Cost and Funding</b> -- What is the cost of the overall project (or anticipated cost)? What is the cost of the phase to be funded by 19-21 funding? 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>This planning project is anticipated to cost \$275,000. The FCZD will be responsible for plan maintenance and scheduled updates. The Chehalis Basin Flood Control Zone District was formed by resolution in 2011 for the express purpose of reducing flood-risk within the boundaries established by the Board of County Commissioners.</p>
<p>9. <b>Other Funding</b> -- Please explain the extent to which other funding sources, funding partners are available for this phase and any other phase of the project.</p>	<p>Lewis County Public Works recently self-funded \$74,000 for contracted assistance to evaluate current comprehensive planning levels and to assist in development of this planning scope and funding application. The FCZD has property assessment and taxing authority under RCW 86.15.160. The FCZD is also the recipient of grant funds through agreement with the State of Washington to serve as the project applicant for a water retention facility project aimed at flood risk reduction.</p>

<p style="text-align: center;"><b>Part III (**)</b> <b>Completion, Doability, Alternatives, and Impacts</b></p>	
<p>10. <b>Project Completion</b> -- Does the funding requested complete, substantially complete, or continue a project already started? If so, please explain.</p>	<p>This funding request would complete the planning project as described.</p>
<p>11. <b>Project Doable</b> -- Can this project or the stage/phase for which funding is sought be completed by June 30, 2021? 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 coordination or vetting with agencies, tribes, other entities, etc. and the outcomes of that effort.</p>	<p>It is anticipated that the project will be completed and become actionable once approved and adopted by the FCZD Board of Supervisors in December of 2020.</p> <p>The FCZD is currently administered by the County Engineer, consistent with RCW 86.15. Currently, the Chehalis Basin FCZD staff and the Board of Supervisors have created a FCZD Flood Advisory Committee. It is anticipated that this group will serve as the primary Stakeholder Group for the life of the project. Additional stakeholders will be identified and added for this specific planning effort. Once funded, this allows for a seamless community outreach transition into the planning project.</p> <p>The FCZD is currently engaged in a project level SEPA and NEPA effort involving coordination with the Army Corps of Engineers, Department of Ecology (as well as other state agencies), and both the Confederated Tribes of the Chehalis and Quinault Indian Nation.</p>
<p>12. <b>Project Alternatives</b> -- Please describe alternatives to the project that were considered (including doing</p>	<p>The alternative to the project would be to not undertake a comprehensive planning effort. The consequences of not completing the project ensures no change to the</p>

<p>nothing), and the rationale for selecting the project described, proposed here.</p>	<p>current risk as identified in the Lewis County All-Hazards Mitigation Plan as well as the modeling results provided in the previous three planning efforts.</p> <p>This comprehensive planning update will serve to protect both the fragile economic and environmental impacts of flooding to ensure a rapid recovery.</p>
<p>13. <b>Project Impacts Avoided, Mitigated</b> -- Please identify how project impacts will be avoided and mitigated, and if that mitigation will be accomplished by June 30, 2021?</p>	<p>This planning project is subject to SEPA and any impacts from the planning effort will be identified as an element of the project. As this, by SEPA definition, is a non-project action; the direct mitigatable impacts are likely to be minimal.</p>

<p align="center"><b>Part IV (**)</b> <b>Benefits Stated and Quantified</b></p>	
<p>14. <b>Emergency Response Benefits</b> -- 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/functional, does it enable easy movement of cattle, equipment and farm chemicals out of harm's way, is it part of a larger hazard mitigation plan, etc.).</p>	<p>This planning project is intended to more fully mature previously identified flood mitigation projects. Initial review of the current plans have identified the need for further evaluation of identified projects to ensure that they meet these goals and objectives.</p> <p>The Plan will also include a comprehensive review of the flood warning capability in Lewis County. This review will include a review of existing programs and protocols, and will include a list of changes or program enhancements that fall within the capabilities of the FCZD. The team will use CRS activity 610 (Flood Warning Programs) as the standard for which this evaluation will be based upon.</p>
<p>15. <b>Essential Infrastructure Protection Benefits</b> -- Please describe (and quantify) how this project protects essential infrastructure and the risks or consequences of not acting this funding cycle.</p>	<p>The update will include a capital improvement program, and projects will be evaluated based on goals and objectives set by the FCZD, which align very closely to the goals of the Flood Authority.</p> <p>Since completion of the three previous planning efforts, the FCZD and Lewis County have identified additional project opportunities that are currently not identified in any of the current comprehensive plans. This planning project intends to include an improved prioritization element in an effort to move projects from planning level to "shovel ready" in a more comprehensive manner.</p>
<p>16. <b>Public Health, Safety and Welfare Benefits</b> -- Please describe (and quantify) how this project protects public health, safety, and welfare.</p>	<p>In the Chehalis River Basin, in particular those areas currently served under the boundaries of the FCZD, each and every project identified will provide for public health, safety and welfare benefits. Additionally, this comprehensive planning update will serve to protect both the fragile economic and environmental impacts of flooding to ensure a rapid recovery.</p>

	<p>The consequences of not completing the project ensures no change to the current risk as identified in the Lewis County All-Hazards Mitigation Plan as well as the modeling results provided in the previous three planning efforts.</p>
<p>17. <b>Residential, Commercial and/or Agricultural Protection Benefits</b> -- Please describe (and quantify) how this project protects residential communities, commercial, and/or agricultural interests and benefits of acting (or consequences of not acting) this funding cycle. Consider factors like number of structures and people at risk, historic frequency of flood damage, magnitude of benefit for the cost, etc.</p>	<p>Since the completion of previous planning efforts, no significant projects have been completed as identified by the Chehalis Basin FCZD. While efforts at the regional level include strategies and implementable projects that have been completed, much work remains to move currently identified opportunities as well as additionally identified opportunities forward.</p> <p>Based on the updates made to the NFIP Report of Repetitive Losses as of December 31, 2011, Lewis County has 34 repetitive loss properties and is a Category C community for CRS purposes. All requirements for the 2013 cycle have been met. CRS Credit is provided for the adoption and implementation of the Floodplain Management Plan which has benefits to at risk property in the Chehalis Basin.</p>
<p>18. <b>Habitat Benefits</b> – Please describe (and quantify) how this project benefits or improves existing or future habitat conditions.</p>	<p>A planning philosophy to be used during this project includes the programming of a Reach Approach Multiple Benefit methodology to help identify flood risk reduction and habitat enhancement projects. This approach enhances current and future habitat conditions by including engagement of key stakeholders throughout the basin so all parties gain comprehensive understanding of issues which encourages and fosters collaboration in the development of multiple-benefit solutions.</p> <p>This approach within the planning process is necessary to ensure that any alternatives analysis for capital project identification includes an evaluation of habitat benefits for funding and permitting</p>
<p>19. <b>Costs and Benefits</b> – Project funders (and the public they represent) value cost-effective, sound funding decisions. To that end, please describe (and quantify) in general terms benefits gained for funds requested and frequency, time-scale benefits will be realized. Please also describe (and quantify):</p> <ol style="list-style-type: none"> <li>Funds requested.</li> <li>Costs avoided if funded (and on what frequency, time-scale).</li> <li>Costs incurred if funded (and on what frequency, time-scale).</li> <li>Benefits gained if funded (and on what frequency, time-scale).</li> </ol>	<ol style="list-style-type: none"> <li>Funds Requested - \$275,000</li> <li>Costs avoided if funded - Based on the updates made to the NFIP Report of Repetitive Losses as of December 31, 2011, Lewis County has 34 repetitive loss properties and is a Category C community for CRS purposes. Credit is provided for the adoption and implementation of Floodplain Management Plans. Since Lewis County is a Category C community and is required to annually report floodplain management activities, it is imperative to continue to maintain current status so flood insurance rate costs to the community are</li> </ol>

<p>e. Impacts incurred if funded (and on what frequency, time-scale).</p> <p>f. Impacts and implications of not funding (and on what frequency, time-scale).</p> <p>Guidance Note (1): For this question, it will be helpful to think in terms of what will be the dollar value of assets protected, dollar value of impacts avoided, dollar value of monies retained or recouped, etc. for the amount of public monies invested.</p> <p>Guidance Note (2): Part V is intended to help project reviewers concisely summarize, compare funding requests. Answers here (and in related questions on this form) should be consistent with Part V.</p>	<p>stabilized at their current rates.</p> <p>c. Costs incurred if funded – Currently, there is no funding mechanism approved by the Board of Supervisors for this activity. No funding for planning may mean no capital projects would be programmed. Without critical capital projects identified by this plan, flood damage costs in some areas will remain current or increase.</p> <p>d. Benefits gained if funded – There are multiple benefits of funding this project. An approved Comprehensive Flood Hazard Management Plan is the basis for managing and administering the responsibilities of the FCZD. Currently, there are multiple studies and hydrological analysis available, but no defined capital project program for use by the FCZD.</p> <p>e. Impacts incurred if funded – If funded, the CFHMP will guide the programmatic and capital project elements for the FCZD, thereby lowering the risk of flooding throughout the basin in harmony with regional efforts. Impacts for each project identified by the plan will be evaluated on a project by project basis.</p> <p>f. Impacts and implications of not funding – Maintains the status quo for the FCZD. No plan to study, develop and implement community scale flood risk reduction programs and projects equals higher risk in the future for the residents that live and work in the basin. Additionally, it can be expected that the economic impact of flooding will continue to increase as future flooding is expected at increased intensity.</p>
<p>20. <b>Other Project Benefits</b> -- Please describe (and quantify) any other project benefits not already discussed. This could include how this project compliments, leverages, or implements another project or planning process already underway.</p>	<p>The most powerful impact of this project is the ability of the staff of the Chehalis Basin FCZD to have a working plan that includes a comprehensive Capital Improvement element that can be implemented on an annual cycle. That currently does not exist in any current planning form that is consistent with RCW 86.15.110.</p> <p>The FCZD recognizes that this plan update creates an opportunity to create a capital program that is cohesive with all the other work that is occurring within the basin. During the plan development, the FCZD and consultant will involve stakeholders within the basin. At a minimum this will include other local governments within the planning areas, neighboring counties, tribal governments, FEMA Region X, Washington Emergency Management Division, and the Washington Department of Ecology. –Other entities exist that may be identified to provide additional support and coordination.</p>

21. <b>Anything Else</b> -- Please offer any additional information (e.g., photos, maps, video, drawings, drone, etc.) that would help to better understand the scope, timing, and benefits of this project.	See attached planning Scope of Work.
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<b>Part V</b> <b>Summary of Benefits, Impacts, Costs</b>			
	22. <b>Benefits</b> – Please summarize, tally project economic and non-economic benefits as described.	23. <b>Impacts</b> -- Please summarize, tally project economic and non-economic impacts as described.	24. <b>Costs</b> -- Please summarize, tally project economic and non-economic costs as described.
<b>Quantify</b>	The benefits and impacts have not been quantified at this time, but it is expected that the projects and actions considered will be prioritized to provide the greatest benefit and positive impact possible.	The benefits and impacts have not been quantified at this time, but it is expected that the projects and actions considered will be prioritized to provide the greatest benefit and positive impact possible.	Project cost: \$275,000
<b>Describe</b>	This planning project creates the opportunity to develop a capital improvement program that utilizes input from a wide variety of stakeholders in the basin, and complements the wider efforts already underway within the basin.	This planning project will impact the portion of the Chehalis River Basin that is within Lewis County.	This cost includes the consultant time to prepare the Plan.

## Appendix A

<b>Process/Schedule Overview</b> (current as of 6-12-2018)	
June 12, 2018	<ul style="list-style-type: none"> <li>• Post and distribute local projects recruitment request.</li> <li>• Allow three weeks for project proposals/submittals (i.e., due no later than 5:00 p.m., Tuesday, July 3, 2018).</li> <li>• Due to Scott Boettcher, <a href="mailto:scottb@sbgh-partners.com">scottb@sbgh-partners.com</a>.</li> </ul>
July 3, 2018	<ul style="list-style-type: none"> <li>• Receive proposals/submittals.</li> </ul>
July 5, 2018 (or July 12, 2018)	<ul style="list-style-type: none"> <li>• Update Chehalis Basin Board on numbers received, types of projects received, distribution, dollar value, etc.</li> </ul>
July 19, 2018 (or August 16, 2018)	<ul style="list-style-type: none"> <li>• Update Flood Authority on numbers received, types of projects received, distribution, dollar value, etc.</li> </ul>
September 20, 2018	<ul style="list-style-type: none"> <li>• Update Flood Authority on status of Projects Committee's effort to review, rank, discuss with Tribes, discuss with agencies, sort and rank, etc.</li> <li>• Review/discuss PRELIMINARY DRAFT ranked and prioritized list.</li> </ul>
October 4, 2018	<ul style="list-style-type: none"> <li>• Update Chehalis Basin Board on status of Projects Committee's effort to review, rank, discuss with Tribes, discuss with agencies, sort, and rank, etc.</li> <li>• Review/discuss DRAFT ranked and prioritized list.</li> </ul>
October 18, 2018 (SPECIAL MEETING)	<ul style="list-style-type: none"> <li>• Seek Flood Authority approval of FINAL ranked and prioritized list.</li> </ul>
November 8, 2018	<ul style="list-style-type: none"> <li>• Seek Chehalis Basin Board approval of FINAL ranked and prioritized list.</li> </ul>
June 2018 through November 2018	<ul style="list-style-type: none"> <li>• Work with agency, OCB, and CBB technical staff on refining and finalizing recruitment instrument, scoring criteria, scoring instrument, categorization, and ranking, developing draft and final lists, etc.</li> </ul>

### Legend:

Chehalis Basin Board	Flood Authority
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# **Chehalis Basin Flood Control Zone District Comprehensive Flood Hazard Management Plan (CFHMP) Update Scope of Work**

## **Introduction**

This work effort is intended to blend multiple past Comprehensive Flood Hazard Management Plans into a single working plan that drives the annual work efforts of the Chehalis Basin Flood Control Zone District (FCZD) located in Lewis County. Due to the significant nature of flood impacts in the Basin, multiple agencies have been established to address flood risk reduction at the local, state, and federal levels. There is a high public safety and economic need to establish a coordinated approach at the local level to ensure cost effective and planned projects are implemented according to Revised Code of Washington 86.15.

The proposed technical approach for this project will be under five primary elements.

## **Element 1: Organize Planning Committee**

The consultant will organize a planning committee pursuant to the Community Rating System (CRS) section 511.2.a requirements. The makeup of this committee will strive to include citizen's stakeholders, and appropriate FCZD personnel to meet the CRS classification prerequisite criteria. The team will work closely with FCZD personnel to identify potential members of the planning committee. Once organized, the team will facilitate a series of planning committee meetings to meet the planning process milestones required under the CRS program. The team will prepare all meeting materials and document all meeting outcomes throughout this facilitated process.

This element will include three specific tasks that will identify measurable deliverables for the team to provide for meeting the overall objectives of this element.

### **Task 1.0 – Flood Hazard Mitigation Stakeholder Committee**

Under this task, the consultant will support the FCZD in the formation of a Stakeholder Committee to oversee the plan development process from start to finish. Additionally, it has been assumed that the Stakeholder Committee will meet no fewer than six times at a date and time to be determined during the plan development process. This support includes:

- Guidance on makeup of committee
- Drafting of Stakeholder Committee “ground rules”.
- Working with the lead FCZD Project Manager to develop agendas for each meeting that will assure the progress in plan development.
- The Stakeholder Committee meetings will be led and actively facilitated by the consultant team through close coordination with the FCZD Project Manager.

### **Task 1.1 – Coordination with Other Agencies**

The consultant team will identify other agencies involved in flood hazard mitigation that may have an interest in this effort to be invited to participate. The level of participation solicited will be determined by the Stakeholder Committee. At a minimum, this will include other local governments within the planning areas, neighboring counties, tribal governments, FEMA Region X, Washington Emergency Management Division, and the Washington Department of Ecology. Other entities exist that may be

identified to provide additional support and coordination. The consultant team will prepare mailing and e-mail lists of all key agencies and provide to the FCZD Project Manager, to ensure that all parties are kept informed during all elements of the plan development process. These agencies will also be provided a copy of the draft plan for their review and comment at the end of the planning process.

### **Task 1.2 – Review of Programs**

Under this task, the consultant team will conduct a literature review of other studies and programs that could support or impact flood hazard mitigation in effect within the boundaries of the Chehalis Basin FCZD. This will include a comprehensive review of the components of the Lewis County Hazard Mitigation Plan, the 2010 Lewis County CFHMP, 2011 Chehalis Basin CFHMP, and the 2014 Scenario of Small Flood Damage Reduction Projects. This review will also include consultation with the Lewis County Community Development Department to understand the needs of the floodplain management program and the implementation of Lewis County Code (LCC) 15.35. Additional review of the Lewis County Comprehensive plan may also be required as directed by the FCZD Project Manager. A comprehensive list of best available data will be produced for addition to the plan.

### **Element 2: Risk Assessment**

Under this element, the consultant team will assist in assessing the characteristics of the flood hazards that impact the planning area. It is anticipated that the Review of Programs described in Element 1 will provide a significant amount of the background needed to accomplish the Risk Assessment. Any additional modeling identified as needed will be conducted as requested by the planning team and the FCZD. In this planning update, a thorough assessment of the flood hazard as well as the vulnerability may be accomplished using available risk assessment tools (such as Hazus v. 2.1), benefit-cost analysis tools and historical/local knowledge of past occurrences. This would include a full review of past economic analysis completed by others that meet the needs of the planning update. These are standard outputs from the Hazus and benefit/cost analysis tools produced by FEMA. As a starting point, the team will use any existing pertinent studies or plans identified under Element 1, Task 1.2 and the existing State Hazard Mitigation Plan, and the best available data to create the following elements:

- Define the planning area.
- A description of the type, location (map), and extent of the flood hazard that can impact the planning area.
- Flood hazard area depth grid production (if needed).
- A description of the planning area's vulnerability to the flood hazard that include an overall summary of the hazard and its impact on the planning area expressly under the jurisdiction and boundaries of the Chehalis Basin FCZD.
- The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the flood hazard areas and the potential impacts to those facilities.
- An estimate of the potential dollar losses to vulnerable structures in the study area.
- A general description of current land uses and development trends within the planning area.
- A review of all National Flood Insurance Program (NFIP) repetitive loss properties. This review will meet the Section 503 requirements for repetitive loss properties under the CRS program.
- A review of all properties within the defined planning area that have received flood insurance claims (in addition to those identified repetitive loss properties).

Under this Element, three specific tasks have been identified that will provide measurable deliverables that will meet the overall objectives of Element 2. These include:

## **Task 2.0 – Hazus Modeling**

Under this Task, the consultant team will perform the Hazus analysis for the flood hazard specific to the planning area. This will be a level 2, user-defined analysis that includes a general building stock update within the County regulated floodplain utilizing Lewis County Assessor's data and County LIDAR data if available. The team shall provide the results of this analysis in a user-friendly format to the FHMSC for their review and approval. Outputs from this task will include:

- Maps that illustrate extent and location of the flood hazard areas.
- Review of past occurrences since the completion of the prior plan.
- Flood Hazard depth grids for the 10, 50, 100 and 500-year flood events in areas where detailed flood studies are available.
- The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas for each scenario event.
- Loss estimates for each scenario event for all residential, commercial, industrial buildings and identified critical facilities within each hazard area.
- An analysis of identified, vulnerable critical facilities for each scenario event.
- An analysis of the estimated debris generated from each scenario event.
- A land use analysis for each scenario event that includes a look at land with potential for future development (i.e.: buildable lands analysis).

## **Task 2.1 – GIS Flood Maps**

Under this task, the team will generate "GIS" based maps that will illustrate the extent and location the flood hazard within the defined planning area. This will include those areas mapped by FEMA as flood hazard areas as well as those areas regulated by Lewis County as flood hazards areas. It is important to note that the performance of new flood studies are not included in this proposed scope of work.

## **Task 2.3 – Flood Loss Analysis –**

Under this task, the consultant team will analyze the loss results generated by HAZUS and validate those results by looking at the following:

- Past Disaster assistance claims.
- Flood Insurance claims.
- FEMA repetitive loss data.
- Property owner information obtained under phase 3 of this scope of work.

Once data has been validated, HAZUS outputs will be formatted in to a format that will be incorporated into the final plan.

## **Element 3: Public Involvement Strategy**

In this element, the planning team will work with the Stakeholder Committee to develop and implement a public involvement strategy that will meet the requirements of the CRS program. Key to this task will be to utilize multiple media within the capabilities of the partnership that will give the public multiple opportunities to provide comment on the subject matter. This strategy will focus on three primary objectives:

1. Assess the public's perception of risk associated with flood hazards.
2. Assess the public's perception of vulnerability to those risks.
3. Identify possible mitigation strategies that will be supported by the public.

It should be noted that the level of effort for this phase will be at the discretion of the Stakeholder Committee. This strategy will focus on how to best share the information with the public utilizing the currently known capabilities and thus allow for the opportunity for public comment. The following tasks are recommended components of a comprehensive public involvement strategy that meet or exceed the requirements of the CRS program.

### **Task 3.0 – Data Gathering**

Under this Task, the planning team will develop a flood hazard questionnaire (survey) pertinent to issues within the planning area to gauge the public's perception of risk, vulnerability and willingness to support mitigation initiatives. This will be set up in an electronic format that can easily be disseminated and tallied electronically. This task will include tabulation of the responses and analysis of the results.

### **Task 3.1 – Public Meetings**

The consultant team will support the FCZD in the facilitation of public meetings during the course of the plan update process. The number of public meetings held during this process will be at the direction of the planning team. To assure that this planning process will meet the minimum requirements under the CRS program, we propose a minimum of two (2) public meetings be held during this planning process. One (1) meeting will be held during the risk assessment element to share findings of the risk assessment and to gauge the public's perception of risk. This meeting will be held at a location within the floodplain to allow an opportunity for floodplain residents to comment on the risk assessment. Additionally, one (1) public meeting will be held once the draft plan has been assembled to give the public an opportunity to comment on the plan. All public meetings will be advertised via press releases implemented under task 3.3 below.

### **Task 3.2 – Website**

A key objective under this element will be to support a project specific website to be supported by FCZD staff. This will be a one-stop shop for all information pertaining to this planning process. This website will be hosted by Lewis County and all materials for the site will be prepared by the consultant team.

### **Task 3.3 – Media Releases**

With support from the consultant team, the planning team will prepare press release materials via multiple media providing plan update details and announcing the planning project, how the public can get involved in the process and the public meetings scheduled under Task 3.1.

## **Element 4: Develop the CFHMP Update and Capital Improvement Program**

Under this element, the planning team will assemble the plan utilizing all data gathered and generated in previous elements. The format and layout of the updated plan will be determined and approved by the planning team. It will be a principle objective of this element to format the plan such that it can be easily incorporated back into other plans that can support or enhance the outcome of the update such as the Lewis County All-Hazards Mitigation Plan and the Lewis County Comprehensive Plan. The tasks to be completed under this element include the following:

### **Task 4.0 – Establish Goals and Objectives**

Under this Task, the consultant team will facilitate the selection of a guiding principal, goals and objectives for the planning update. The basis for this review will be the current goals and objectives of the Lewis County All-Hazards Mitigation Plan and the Lewis County Comprehensive Plan to assure consistency with those programs. The confirmation goals and objectives will be made by the planning

team, based on feedback received via the public involvement strategy, and issues identified by the risk assessment and previous planning efforts. The primary goal of this task is to identify goals and objectives that are measurable and are consistent with the needs and capabilities of the FCZD.

#### **Task 4.1 – Flood Hazard Mitigation Strategy – Proposed projects and solutions**

Under this Task, the consultant team will work with the planning team to develop a flood mitigation strategy that includes a project prioritization schedule that will be utilized by the FCZD in the selection of their mitigation action plan. This prioritization shall be established with a special emphasis on estimated project costs versus the estimated project benefits, flood risks, potential for property damage and development potential. A key element of this task will be an alternatives analysis that will identify a comprehensive range of both structural and non-structural solutions. Under this Task, the planning team will support the FCZD in establishing an action plan that includes:

- Identification of current problems and necessary capital improvement projects
- Identify a comprehensive range of alternatives
- Establish criteria for action selection
- Categories that can be assigned to each project's cost and benefits that are reasonable and measurable (i.e.: high, medium, and low) to show ratios of 1.0 or higher.
- Identify other measurable elements to be considered when prioritizing an action (i.e.: the number of goals and or objectives an action will meet)
- Identify funding options (i.e.: grants, local sources, private sector sources)
- Create guidance package for planning partners on how to prioritize projects once selected.
- Clearly identify whether initiative will impact new or existing structures.

#### **Task 4.2 – Write the updated plan text**

Under this Task, the draft plan will be authored and assembled by the planning team. Coordinating with the planning team, stakeholders and the FCZD, the consultant team will format the plan layout to meet the objectives established for this planning process. The consultant team will prepare a plan that will include the following parameters:

- A description of the planning process.
- A description of the public involvement campaign.
- A comprehensive flood hazard risk assessment as described under Element 2 of this proposed approach.
- Planning area characteristics that focus on the physical and cultural characteristics of key sub-watersheds with the Chehalis Basin FCZD.
- A capability assessment that includes: an inventory of the planning areas missions, programs and policies and an analysis of the capability to carry them out.
- A comprehensive review of floodplain management policies in effect within Lewis County and recommendations for changes or enhancements.
- Illustrate goals of the plan.
- A review of all possible mitigation activities for each hazard including those not recommended by the plan.
- A discussion on floodplain funding opportunities and management.
- Include an action plan that will target agencies/departments for implementation, targeted time frame for completion and potential funding.
- A summary of how the plan's progress will be monitored and establish a timeline for progress reports and updates.

- Identification of the process for incorporating the plans requirements into other planning mechanisms within the planning area.

#### **Task 4.3 – Flood Warning Program Review**

Under this Task, the consultant team will perform a comprehensive review of the flood warning capability of Lewis County, overall. This review will include a look at existing programs and protocols, and will include a list of changes or program enhancements that fall within the capabilities of the FCZD. The team will use CRS activity 610 (Flood Warning Programs) as the standard for which this evaluation will be based upon. Any recommendations on this task will be presented within the plan as action items depending upon the planning team and the FCZD.

#### **Task 4.4 – Technical Editing/Format**

Once the initial draft has been developed, the draft plan will be submitted for a technical/format edit to prepare the final draft plan that will be presented to the public for their review and comment. Once all public comments have been received, and the plan has been approved by reviewing agencies, a final plan will be created under this task.

#### **Task 4.5 – Community Rating System (CRS) Impact Analysis Report**

Under this task, the consultant team will perform a programmatic evaluation of Lewis County's overall floodplain management program to identify the feasibility and classification potential for Lewis County under the CRS program. A CRS Impact Analysis Report will be prepared that will separate from the completed plan. This report will:

- Summarize CRS activities.
- Evaluate County credit potential based on existing programs.
- Identify uniform minimum credits based on state programs.
- Make recommendations for program enhancements to maximize CRS credit potential.
- Flood insurance statistic summary that will show potential CRS classification impacts in Lewis County by CRS class.

### **Element 5: Implement and Adopt the CFHMP**

Once Element 4 is complete, the Final Draft Plan will be ready to present to the political body. To meet Department of Ecology and CRS program requirements the governing body must adopt the plan. Under this element, the consultant team will support the FCZD in preparation and presentation of the plan to the political body for adoption. Element 5 will be broken down into specific tasks that will identify measurable deliverables for the consultant team to provide that will meet the overall objectives of this element. Each task and deliverables for each task are described as follows.

#### **Task 5.0 – Complete Plan Review Crosswalk**

Under this Task, the consultant team will complete the CRS plan review crosswalks to illustrate the plan's compliance with the requirements of section 510 of the CRS Coordinators Manual.

#### **Task 5.1 – Pre-adoption Review Request**

Under this Task, the consultant team will prepare and submit the plan to the Insurance Services Office (ISO) to request their pre-adoption review and comments.

### **Task 5.2 – Adoption Support**

Once pre-adoption has been received from the ISO, the consultant team will support the project manager in the adoption phase of the planning process. This support will include the following:

- Sample resolutions for adoption.
- 2 master hard-copies for the completed plan and 2 print-ready digital copies of the plan. This scope assumes that the FCZD will provide for mass reproduction for distribution of the plan.
- Preparation of Power Point presentation to be utilized by the FCZD in their presentations to the political body for their adoption.

**PLANNING PROJECT DURATION: 12 months**

**PLANNING LEVEL ESTIMATE: \$275,000**

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