

**MEMORANDUM****Project No:** 05116  
**To:** Mayor Alan Carr**Date:** 7/1/16  
**From:** Scott Severs**Subject:** S. Main St. Reconstruction Project Scope of Work Changes**Initial Project Assumptions/Scope of Work:**

The initial assumptions for the scope of work were determined based upon Attachment A of the Scenario of Small Damage Reduction Projects prepared by HDR, Inc. in November 2014 including Figure 4-9 of that report. It was assumed that there would be two separate 75 ft. bridge crossings with one 75 ft. bridge on 11th Street and one 75 ft. bridge on Main Street. The low chord of the bridge decks would be at elevation 246 feet. The initial length of project impact was estimated to be 1,200 linear feet of Main Street with intersecting side streets, alleys and driveways requiring grade adjustments to accommodate the raise in grade of Main Street by approximately three feet.

**Task 1.0 - Coordination with land owners:**

41 properties were identified early on in the project and a letter explaining the necessity for gaining access to property owners were delivered. The letter explained why collection of survey data, observations to prepare environmental documentation and site observations for preparing an archeological report was needed.

To date only 17 of the 41 properties identified have signed a Right-of-Entry agreement that allows for those activities to be performed.

The number of properties will now need to increase in order to accommodate the proposed final finish grade elevations. This task will require additional time and design budget to prepare final documents.

**Task 1.1 - Topographic Survey:**

Topographic survey within the Town's Rights-of-Way and in accordance with the Initial Assumptions has been completed.

Collection of topographic information on private property has been prevented by the lack of cooperation from the majority of the property owners. Additional budget will be needed to collect the required topographic data, including additional mobilizations.

A significant expansion of the area impacted by the project will require additional time and budget to complete final documents.

**Task 1.3 - Right-of-Way Control:**

Right-of-Way control has been completed for the areas that the initial assumptions covered.

Additional time and budget will be needed for establishing Right-of-Way control in the expanded areas of impact for design efforts..

**Task 1.4 - 30 Percent Plans:**

It was assumed that the feasibility study prepared by HDR for the Chehalis River Flood Authority was a workable starting point and that verification through hydraulic modeling would result in minor to moderate design changes the parameters established in the report.

Hydraulic Modeling subsequently prepared by Watershed Science and Engineering, Inc. (W.S.E.) determined that the HDR scenario would not be adequate to accommodate the 100 yr. storm event without significant impacts upstream of the 75 ft. bridges. Additionally the modeled 100 yr. event demonstrated that the roadway needs to be at least one foot above the elevations modeled. Minimum roadway design will be at elevation 247 and approximately elevation 251 at the bridge culverts. Based upon the modeled results the 90 ft. bridge culvert options increases the net rise more than 1 ft. which is the FEMA/Ecology standard. Additionally the 150 ft. wide modeled bridge culvert provided a net rise of 0.3 ft of rise at the bridge but 0.5 ft. 225 upstream of the structure.

Project meetings were held with Town staff to report the findings of the modeled results. JWMA was directed to evaluate other options in preparation for presenting those options to property owners in public meetings. Additional project meetings were held with Town staff to address citizen concerns presented at the first public meeting to address specific citizen concerns regarding on street parking, aesthetics, minimize upstream flooding impacts.

Direction was provided to evaluate wider bridge culvert openings for hydraulic capacity, and widen the roadway from 22 ft. to 30 ft. to accommodate limited on street parking. Additional budget is needed to cover the costs of the additional hydraulic modeling and preliminary and final design costs due to accommodate the proposed finish grades significantly higher than initially estimated, and 180 ft of flow path opening to provide for minimal upstream impacts on properties. Increases in the final grades and width of roadway impacts overhead power and communications, watermain and services, driveway approaches, pedestrian access to homes, the need for additional earth retaining structures than initially anticipated. Additional budget and time will be needed for final design efforts.

Right-of-way acquisition needed to account for the increase in final grade elevation, and greater flow path opening will need to be expanded and more properties evaluated than initially anticipated. Additional budget and time will be needed for those efforts.

Pursuant to direction the elevation grades on 11th were increased to mitigate backwater flooding for the homes and structures on the westerly side of Main Street. Raising the grades on 11th west of S. Main Street will trap runoff behind the roadway resulting in the need for a stormwater pumping station. A stormwater conveyance system is also needed and additional budget and time will be needed for final design.

The new FEMA flood map revisions are scheduled to be published in spring of 2018. Whether this will have an effect on the project is unknown. However, there may be a requirement to provide a LOMA (Letter of Map Amendment for permitting purposes.)

It would be recommended to add landscaping and landscape architect which were not included in the previous budget.

Remaining tasks will need to be evaluated for the changes in scope moving forward. More will be known after the Memorandum of Understanding has been completed and submitted.

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