5. Hoquiam	Hoquiam Queen Ave Pump Station	a. Please clarify/quantify/ restate cost and benefit – i.e., what quantitative value is protected (or impact avoided) for the cost of the project? The project will be designed to provide flood protection to homes and critical infrastructure that experiences chronic flooding Hoquiam. The project will remove existing parcels from a flood Hazard Area Zone AE and Place in Zone X reducing flood insurance premiums and protecting permanent jobs in conjunction with the North Shore Levee West Project. The existing wetwell is in adequate condition from site visits, however the pumps are nearing the end of their useful life and need replacement. The site will be retrofitted to provide better/easier access for maintenance for O&M staff as well as standardizing all City facilities as part of the City's lift station improvement plan. b. How much remaining functional life does the existing pump have? 1 year? 3 years? 5 years? Is failure imminent? What does the current pump cost to operate/maintain? The facility was constructed in 1962 to discharge stormwater flows and is ageing. The facility was undersized based upon predicted flows as part of the City's Comprehensive Surface Water Management Plan. The two 5,000 gallons per minute (gpm) pumps cannot keep up with projected capacity flows for the 10-year, 24-hour event, let alone the 25-year, 24-hour event. The outfall of the pump station is also controlled by the elevation of the Hoquiam River. The redesign would allow for flows from the system to consistently flow regardless of River elevations. Installing a new facility with no pumps would decrease O&M costs for maintaining ageing pumps which could fail in the near term. c. What is the pumping volume/capacity of the existing pump, and what is the pumping volume/capacity of the proposed new pump? The City currently does not have any flow meters or run times on there stormwater pump stations. The existing pumps are rated to pump approximately 5,000 gpm each. The new pumps are estimated at 10,000 to 12,000 gpm each for redundancy with the potential of utilizing Variable Frequency Drives (VFDs). d. What flood event is the existing pump calibrated to, and what flood event is the proposed new pump calibrated to? The new pumps will be sized for redundancy to pass the 25-year, 24-hour storm event for the basin and potentially gravity flow for the 100-year, 24 hour storm event. The pump station was originally designed for the 10-year, 24-hour event.

		e. Please describe any habitat benefits/impacts/opportunities. As described in question 18, Part 1 of the 2021 local projects form, the project will improve water quality by separating the stormwater and wastewater facility. Providing additional capacity for the "first flush" or initial rainfall to settle particles in the wetwell structure and trash to be captured within screens prior to discharge to the river will reduce pollution and sedimentation at this outfall. Sediment increases turbidity and reduces light penetration which leads to decreased quantities of plan materials. This results in decrease abundance of fish food organisms and a decrease in the production of fish. f. Please discuss plans and budget for ensuring meaningful archaeological and cultural resource survey and documentation. The City and HDR will subconsult to a firm to perform cultural resource assessment at the 10th Street pump station site, similar to several past projects designed and managed by the City of Hoquiam. This includes background research of the WISAARD database, field investigation and shovel test probes at the site, and preparation of the reports required by the Department of Archaeology and Historic Prevention (DAHP).