



**LACEY CITY COUNCIL
WORKSESSION
THURSDAY, FEBRUARY 25, 2021
4:00 – 5:00 P.M.
REMOTE ATTENDANCE**

To comply with Governor Inslee's Proclamation 20-28, the City Council Worksession will be conducted remotely, not in-person. However, you may view the meeting by watching live through Zoom:

Link: <https://us02web.zoom.us/j/88133078386>

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(888) 788-0099 or (877) 853-5247 - when prompted enter Webinar ID **881 3307 8386**
press # (participant ID not required)

AGENDA

4:00 [WRIA 13 WATERSHED RESTORATION AND ENHANCEMENT PLAN](#)

JULIE RECTOR, WATER QUALITY ANALYST

*ANGELA JOHNSON, STREAMFLOW RESTORATION PLANNER, DEPARTMENT OF ECOLOGY
(STAFF REPORT)*

4:30 NISQUALLY RIVER COUNCIL UPDATE

JULIE RECTOR, WATER QUALITY ANALYST

(BRIEFING)

4:45 UPDATE FROM LACEY PARKS, CULTURE & RECREATION DEPARTMENT

JEN BURBIDGE, PARKS, CULTURE & RECREATION DIRECTOR

(BRIEFING)

5:00 ADJOURN



LACEY CITY COUNCIL WORKSESSION

February 25, 2021

SUBJECT: Presentation on WRIA 13 Watershed Restoration and Enhancement Plan

RECOMMENDATION: This presentation is informative. A request to authorize approval of the WRIA 13 Watershed Restoration and Enhancement Plan will be presented at the March 18, 2021 Lacey City Council Meeting.

STAFF CONTACT: Scott Spence, City Manager *SS*
Scott Egger, Public Works Director *SE*
Peter Brooks, Water Resources Manager *PB*
Julie Rector, Water Quality Analyst *JR*

ORIGINATED BY: Water Resources Department

ATTACHMENTS:

1. [Executive Summary; excerpt from draft Watershed Restoration and Enhancement Plan](#)
2. [Hicks Lake Stormwater Retrofit project description; excerpt from draft Watershed Restoration and Enhancement Plan](#)

FISCAL NOTE: Approving the Plan does not create a financial obligation

PRIOR REVIEW: None

BACKGROUND:

Angela Johnson, Streamflow Restoration Planner with the Washington Department of Ecology, is the lead coordinator for the WRIA 13 Watershed Restoration and Enhancement Committee ("WREC") that developed the Plan. She will be giving a presentation on the process and the Plan.

The following provides some highlights from the Plan, including elements where the City will have a major role in Plan implementation.

Members on the WREC represent a wide range of stakeholders in WRIA 13, which is comprised of the Deschutes River watershed and a number of other sub-basins including the Woodland Creek sub-basin. The City has been active on the committee since its inception in October 2018. Deputy Mayor Pratt is Lacey's designated representative on the WREC and has also participated on its technical sub-committees.

The final draft Plan has just been completed, and the Executive summary is provided in Attachment 1. The Plan must be approved by the stakeholder jurisdictions, and then by the full WREC, before it is sent to Ecology for final approval. Because the law requires Ecology to review and approve the Plan by June 30, 2021, the schedule requires stakeholders to approve the Plan by March, and for the WREC to approve sending the plan to Ecology in April.

As required in the law, the Plan accomplishes the following:

- Identifies the projected number of new permit-exempt domestic groundwater wells within the boundaries of WRIA 13 for the 20-year period of 2018 – 2038;
- Estimates instream flow impacts from the consumptive use of these wells, within the entire basin as well as within defined sub-basins;
- Identifies projects for offsetting the instream flow impacts from these wells
- Quantifies the water offsets to be provided by these projects and provides assurances that implementation will also provide a net ecological benefit to the watershed.

Overall, the WREC estimated a total of 2,616 permit-exempt wells (or new connections to existing wells) will be constructed from 2018-2038. Using conservative estimates for the consumption portion of indoor and outdoor water use, streamflow impacts from these wells is projected to be a total of 0.6 cubic feet per second in WRIA 13.

The Plan identifies several water offset projects as well as habitat restoration projects that are not water offset projects but will provide a Net Ecological Benefit to the watershed. In addition, the Plan includes regulatory and policy recommendations and an adaptive management process that are intended to aid in implementation and further meet the goals of the Plan.

It is anticipated that the City will have a role in implementing the following recommendations:

- Participation on a long-term implementation group that will oversee and track implementation of this Plan. The WREC is referring to this group as the Deschutes River Council.
- A lead role in implementing the Hicks Lake Stormwater Retrofit (see Attachment 2). This project that will upgrade Lacey's existing stormwater facility to provide additional water quality treatment and to incorporate groundwater infiltration which will provide water offsets. This is the only viable water offset project proposed in the Woodland Creek sub-basin.
- Thurston County will look at their policies for opportunities to promote connections to Group A water systems.

Other policies of interest to the City include:

- Thurston County policy to revisit the current restrictions on the use of reclaimed water within the county.
- Improvements to Ecology's well log database, to clarify details on well construction and improve publicly accessible well log data.
- Creating a position at Ecology for a South Sound water steward.
- Investigate whether changes are needed to the instream flow rules in WRIA 13.

Most of funding for implementation is expected to come from state grants, including Streamflow Restoration grants administered by the Department of Ecology.

ADVANTAGES:

1. When implemented, the WREC Plan will enhance stream flow and habitat in WRIA 13.

DISADVANTAGES:

1. None.

Executive Summary

In January 2018, the Washington State Legislature passed the Streamflow Restoration law (RCW 90.94) to help support robust, healthy, and sustainable salmon populations while ensuring rural communities have access to water. The law directs the Department of Ecology to chair local planning Committees to develop Watershed Restoration and Enhancement Plans that identify projects necessary to offset potential consumptive impacts of new permit-exempt domestic groundwater withdrawals on instream flows over the next 20 years (2018 – 2038) and provide a net ecological benefit to the watershed². This Watershed Restoration and Enhancement Plan was written to meet the guidance and policy interpretations as provided by the Department of Ecology.

The Department of Ecology (Ecology) established the Watershed Restoration and Enhancement Committee to collaborate with tribes, counties, cities, state agencies, and other entities and interests in the Deschutes watershed, also known as Water Resource Inventory Area (WRIA) 13. The WRIA 13 Committee met for over 2 years to develop a watershed plan.

As required by the law, and to allow for meaningful analysis of the relationship between new consumptive use and offsets, the WRIA 13 Committee divided the watershed into nine subbasins. Subbasins help describe the location and timing of projected new consumptive water use, the location and timing of impacts to instream resources, and the necessary scope, scale, and anticipated benefits of projects.

This watershed plan projects 2,616 permit exempt (PE) well connections over the 20-year planning horizon. The projects and actions in this watershed plan will address and offset the consumptive water use from those 2,616 PE well connections. The projected new consumptive water use associated with the new PE well connections is 435 acre-feet per year in WRIA 13, which the Committee determined to be the “most likely” estimate. This equates to 0.6 cubic feet per second (cfs) or 388,343 gallons per day (gpd). This watershed plan also presents a higher consumptive use estimate as a goal to achieve through adaptive management and project implementation of 513 acre-feet per year (0.7 cfs or 457,977 gallons per day) in order to support streamflows.

This watershed plan includes projects that provide an anticipated offset of 1,316 acre-feet per year to benefit streamflows and enhance the watershed. Additional projects in the plan include benefits to fish and wildlife habitat, such as several thousand feet of streambed improvements, dozens of acres of restoration and protection, and many miles of riparian restoration across WRIA 13.

² Some members of the WRIA 13 Committee have different interpretations of RCW 90.94.030. Statements from entities and other documents provided in the Compendium provide more information on their interpretations, which apply throughout this plan.

Out of the 9 subbasins identified by the Committee, 4 subbasins have anticipated project offsets that exceed both the most likely and higher consumptive use estimates; 1 subbasin has anticipated project offsets that do not meet either the most likely or the higher consumptive use estimate; and, 4 subbasins do not have any offset projects identified.

To increase the reasonable assurance for plan implementation and tracking progress, this watershed plan includes policy and regulatory recommendations and an adaptive management process. The fifteen policy and regulatory recommendations are included to contribute to the goals of this watershed plan, including streamflow restoration and meeting net ecological benefit. These recommendations enhance water conservation efforts; improve research, monitoring, and data collection; plan for better drought response; and finance plan implementation. The watershed plan describes an adaptive management approach, which identifies the development of an ongoing implementation group (Deschutes Watershed Council) to support implementation, a tracking and reporting structure to assess progress and make adjustments as needed, and a funding mechanism to adaptively manage implementation.

Hicks Lake stormwater retrofit

Description

The Ruddell Road Stormwater Facility was constructed by the City of Lacey in 1999, consisting of a pretreatment settling basin that flows to constructed wetlands; ultimately flowing into Hicks Lake. Although the facility is an improvement to the previous, untreated condition, the limited water quality wet pool volume, relatively high inflows, and flow-through design conditions, limit water quality treatment and provides minimal, if any, infiltration benefit. Therefore, the City is investigating the feasibility of an offset infiltration facility as an upgrade to the current system.

The proposed project would provide water offsets and ecological benefit (per RCW 90.94.030) to the Woodland Creek sub-basin. The improvements are expected to provide a significant shallow groundwater recharge component, and augment base flow to Hicks, Pattison, and Long Lakes, ultimately benefitting Woodland Creek, which is currently impaired by low instream flow (303d listing 6169). Proposed upgrades to the facility include a flow splitting manhole, filtration treatment BMP, infiltration gallery and an overflow structure to the existing wetland.

Quantitative or qualitative assessment of how the project will function, including anticipated offset benefits, if applicable. Show how offset volume(s) were estimated.

The delineated basin contributing to the existing stormwater system has an approximate total area of 346.46 acres. Stormwater runoff was modeled for the catchment by characterizing precipitation, soils, impervious surfaces, and land use composition. The proposed infiltration facility was sized according to potential stormwater flows, an assumed soil infiltration rate, and soil characteristics. A range of diversion flows were modeled (1cfs, 2cfs, and 3 cfs) were modeled and resulted in a corresponding range of average annual infiltration of 167, 244, and 296 afy, respectively. All flows, up to 3.5 cfs are expected to be 100% infiltrated, but infiltrating up to 3cfs accounts for reduction in infiltration capacity over time. Therefore, infiltrating up to 3 cfs for an offset benefit of 296 cfs is reasonable.

Conceptual-level map and drawings of the project and location.

Figure 1 shows the general layout of the proposed infiltration facility, in series with the existing stormwater (water quality) treatment facility. Up to 3 cfs in stormwater flow would be directed to and infiltrated in the proposed facility. Any stormwater not infiltrated would still over into the existing facility, and flow into Hicks Lake.



Figure 1. Layout of Proposed Infiltration Facility

Description of the anticipated spatial distribution of likely benefits

The infiltrated stormwater would seep into Hicks Lake. Hicks Lake is the headwaters of the Woodland Creek watershed. Water in Hicks Lake flows through Pattison Lake, Long Lake, and then into Woodland Creek. Infiltrated stormwater would reduce flood flows and presumably increase base flows in the entire system during non-storm periods.

Performance goals and measures.

Performance will be measured in terms of infiltration. Stormwater flows and infiltration capacity (or bypass to the water quality BMP) will be measured or observed, for effectiveness.

Descriptions of the species, life stages and specific ecosystem structure, composition, or function addressed.

Woodland Creek supports spawning populations of coho, chum, and Chinook salmon (WDF 1975; WDFW 2020). Steelhead trout has documented presence. These salmonids are present from Henderson Inlet to Long Lake. Within this reach, the creek is seasonally dry from Lake Lois to Beatty Springs, north of Martin Way. The watershed is heavily urbanized in the headwaters, contributing to reduced summer flows. This project will contribute to moderating the effects of urban stormwater impacts.

Identification of anticipated support and barriers to completion.

The City supports this project. The project will be on property the City is planning to purchase, and the City does not anticipate any barriers to completion.

Potential budget and O&M costs.

The preliminary OPCC totals approximately \$3.3 million for the proposed facilities as currently envisioned (Attachment A).

Anticipated durability and resiliency.

The project would have lasting benefits as it would be actively managed by City.

Project sponsor(s) (if identified) and readiness to proceed/implement.

The project sponsor is the City of Lacey. The City is ready to implement this stormwater retrofit project, commensurate with funding.

References

WDF (Washington Department of Fisheries), 1975. "A Catalog of Washington Streams and Salmon Utilization, WRIA 13."

WDFW (Washington Department of Fish and Wildlife), 2020. Salmonscape mapping of fish distribution. Available at: <http://apps.wdfw.wa.gov/salmonscape/>

**Attachment A - Opinion of Probable Costs of Construction
(OPCC) - Concept Plan Level**

Note: Preliminary OPCC does not include sales tax, design, CM, property acquisition, legal, and other administrative/legal costs

**Total
OPCC: \$3,295,000**

Item	Description	Unit	Unit Cost	Qty	Cost	Comments
	<i>General Requirements - Stormwater Facilities</i>					
1	Mob/Demob, Survey, Temp Facilities, Utilities Protection, Traffic Control, etc.	ls	331,000	1	\$331,000	15% of Items below
	<i>Flow Splitter at Connection to Existing SD</i>					
2	Flow Splitter Vault with Adjustable High Flow Bypass Weir	ls	\$60,000	1	\$60,000	Precast vault with interior lateral weir wall with alluminum adjustable weir plate - assume 8'X16' vault size
	<i>Water Quality Pre-Treatment</i>					
3	Pre-treatment Facilities Prior to Groundwater Discharge	cfs	\$80,000	3	\$240,000	Pre-settling vault and/or hydrodynamic separator(s) - allowance for 3 cfs capacity
	<i>Drainage Conveyance System</i>					
4	12" Dia. Storm Drain (Polypropylene)	lf	\$60	700	\$42,000	Collective 12" conveyance SD; 4' - 6' Depth
5	Catch Basin Type 1	ea	\$4,000	4	\$16,000	Collective Type 1 CBs, 5' Std Depth
6	Catch Basin Type 2	ea	\$7,000	2	\$14,000	Collective Type 2 CBs, 6' - 10' Depth

7	Catch Basin Type 2 Emergency Overflow w/Debris Rack	ea	\$10,000	1	\$10,000	Overflow spillway from infiltration gallery to existing constructed wetland; debris cage
8	Trench Excavation Safety Systems	ls	\$7,000	1	\$7,000	All conveyance facilities
	Earthwork					
9	Construction TESC Control and Compliance	ls	\$70,000	1	\$70,000	CSWPPP, TESC, SPCC, Temp Treatment, Discharge, CSGP Monitoring/Compliance
10	Clearing, Grubbing, Disposal	ac	\$14,000	3.0	\$42,000	Forrested parcel; on-site processing with grinder assumed
11	Infiltration Facility Pad Excavation Incl Haul, Disposal	cy	\$20	32,000	\$640,000	Assumes excess material disposal within 5 mi
12	Infiltration Gallery Footprint Excavation, Haul, Disposal	cy	\$24	6,500	\$156,000	Assumes excess material disposal within 5 mi
13	Shoring or Extra Excavation	ls	\$15,000	1	\$15,000	Temporary shoring for gallery excavation
	Infiltration Gallery					
14	Storm HDPE Arch Infiltration Chambers	lf	\$40	12,000	\$480,000	16" high HDPE arch infiltration chambers
15	Crushed Stone - 1.5" Fractured/Washed	cy	\$55	4,500	\$247,500	Infiltration chambers zone backfill
16	Geotextile	sy	\$4	5,500	\$22,000	Separation geotextile from overlying soils
17	Topsoil	cy	\$40	1,100	\$44,000	Topsoil above gallery and in disturbed fringe areas
18	Access Road Restoration - AC Pavement	sy	\$36	1,200	\$43,200	Perimeter 1,100' X 10'W access road and connection to Ruddell Rd
19	Gallery Footprint Restoration Seeding	ls	\$5,000	1	\$5,000	Grass surface restoration above infiltration gallery
20	Perimeter landscape Plantings and Irrigation	ls	\$50,000	1	\$50,000	Landscaping allowance

Subtotal	\$2,534,700
Construction Contingency (Planning Level, 30%)	\$760,410