



**CITY COUNCIL STUDY SESSION
DRAFT MINUTES**

Monday, February 1, 2021

Held Electronically

View on Channel 9 or Channels 180 and 181 (for Charter Communications customers)
or live stream via rvtv.sou.edu select RVTV Prime.

Mayor Akins called the Study Session to order at 5:30 p.m.

Councilors' Hyatt, Graham, Seffinger, Moran, DuQuenne and Jensen were present.

1. Wastewater Treatment Plant National Pollution Discharge Elimination System Permit (NPDES) Presentation

City Manager Pro-Tem Adam Hanks gave a brief introduction.

Public Works Director Scott Fleury introduced Senior Project Manager Kaylea Kathol.

Kathol went over a PowerPoint presentation (*see attached*). Items discussed were:

- NPDES Background.
 - Permit Renewal Process.
 - New Requirements.
 - Water Criteria.
 - Regulatory mixing zones.
 - Thermal plume provisions.
 - Toxic Pollutants.
 - Temperature TMDL & Biologically based numeric criteria.
 - Coldwater protection criteria.
 - Required compliance strategies.
 - Outfall relocation.
 - Water quality temperature trading.
 - Financial impact.
2. Request for Direction on Vendor Selection for Wastewater Treatment Plant UV System Upgrade

Hanks introduced Fleury and Engineering Project Manager Chance Metcalf.

Fleury went over a PowerPoint Presentation (*see attached*). Items discussed were:

- Ultraviolet Disinfection Project background.
- Preliminary Engineering.
- Life Cycle Costs.
- Next steps.

Council thanked Staff for their presentations.

Council discussed other options and cost.

Moran suggested to have a Rogue Valley Sanitation come to Council with a presentation to discuss options. He spoke that he does not want to spend more money without more details.

DuQuenne agreed with Moran.

Council directed Staff to invite Rogue Valley Sanitation to come and give a presentation to Council.

The Study Session was adjourned at 7:00 PM.

Respectfully submitted by:

City Recorder Melissa Huhtala

Attest

Mayor Akins

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Administrator's office at (541) 488-6002 (TTY phone number 1-800-735-2900). Notification 72 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to the meeting (28 CFR 35.102-35.104 ADA Title I).



CITY OF ASHLAND
WASTEWATER
TREATMENT PLANT

NPDES Permitting Update

Background



- What is NPDES?
- Who administers NPDES?
- How does NPDES apply to the wastewater treatment plant?
- Why are we discussing permitting updates today?

Permit Renewal Process

PAST ACTIONS

- 2008 – City applied to DEQ for NPDES permit renewal
- 2008-2019 - Compliance planning and consultation with DEQ
- Spring 2020 - DEQ began writing the draft permit
- November 2020 – DEQ issued draft temperature, mixing, thermal plume, and toxins criteria to City for review

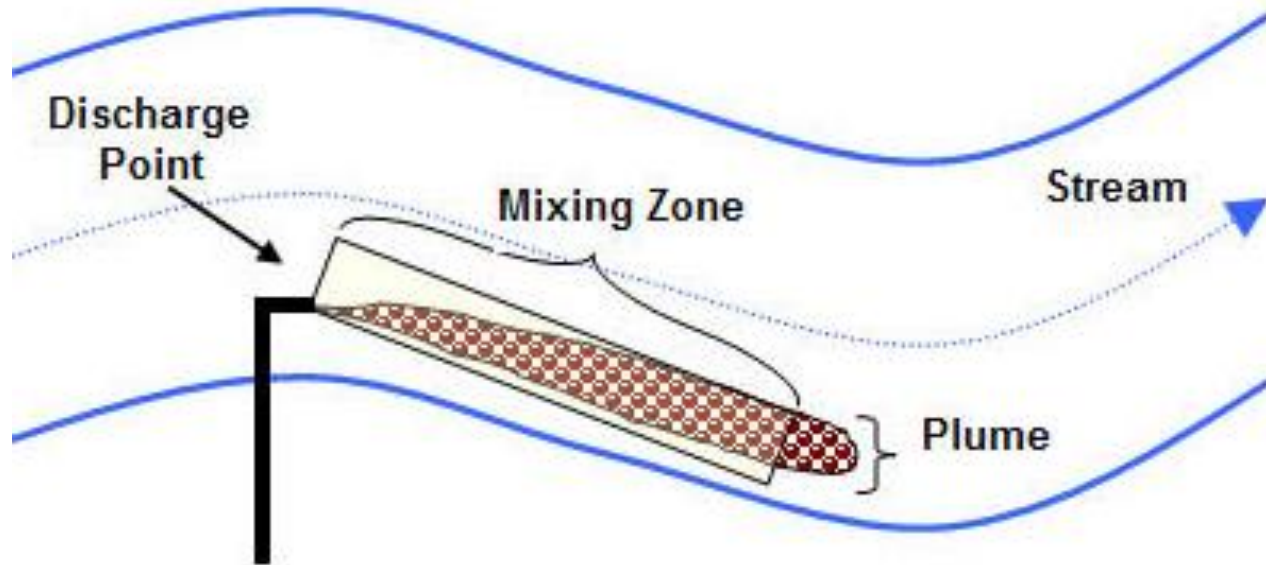
NEXT STEPS

- DEQ’s internal review, 14 days
- Permittee review, 14 days
- DEQ reviews City comments, makes changes
- Public review, 35-days
- DEQ reviews and responds to public comments, makes needed changes
- Permit is formally issued. City ensures regulatory compliance for the 5 year term



New Requirements: Water Quality Criteria

Regulatory Mixing Zones



- Definition: An established area where effluent mixes with the receiving stream or water body. Water quality standards are relaxed within the mixing zone.
- Compliance Challenge: There is no mixing zone at the current point of discharge in Ashland Creek

Thermal Plume Provisions

- Definition: A plume of warmer effluent that persists in the mixing zones.
- Purpose: To protect salmonids from acute or short term impacts close to the permitted mixing zone.
- Compliance challenge: It is not possible to comply with thermal plume regulations at the point of discharge in Ashland Creek.



Table 1A – Effluent Parameters for All POTWS

Alkalinity as CaCO ₃ *	pH
Biochemical oxygen demand (BOD-5 or CBOD-5)	Temperature
Bacteria: (Fecal Coliform, E. Coli &/or Enterococci)	Total suspended solids
Design Flow Rate	

Table 1-Effluent Parameters for All POTWS w/a Flow ≥ 0.1 MGD

Ammonia (as N)	Kjeldahl nitrogen (TKN)
Chlorine (total residual, TRC)	Oil and grease
Dissolved oxygen	Phosphorus (Total)
Nitrate/Nitrite	Total dissolved solids (TDS)

Table 2--Effluent Parameters for Selected POTWS

Hardness (as CaCO ₃)	
<i>Metals (total recoverable), cyanide and total phenols</i>	
Antimony	Lead
Arsenic	Mercury
Arsenic (Inorganic) *	Nickel
Arsenic (III) *	Selenium
Beryllium	Silver
Cadmium	Thallium
Chromium	Zinc
Chromium (III) *	Cyanide (Free)*
Chromium (VI) *	Cyanide (Total)
Copper	Total phenolic compounds
Iron (Total) *	

Toxic Pollutants

- NPDES regulates concentrations of certain metals and ammonia discharged to receiving waters.
- Compliance challenge: Copper and ammonia require dilution beyond what can be provided by Ashland Creek.

ROGUE RIVER BASIN TMDL
CHAPTER 2: TEMPERATURE



Temperature TMDL & Biologically Based Numeric Criteria

- Biologically-Based Numeric Criteria: Maximum water temperatures that will not impair salmonids.
- Temperature TMDL – allows effluent to warm Bear Creek up to 0.1°C above applicable numeric criteria. This is the “human use allowance” allocated to the WWTP.
- Compliance challenge: Thermal loading from the WWTP exceeds the human use allowance and must be mitigated.

Prepared by
Oregon Department of Environmental Quality





Coldwater Protection Criteria

- Definition: More stringent temperature limits that protect the spawning life stages of salmonids.
- Compliance challenge: Effluent is too warm and too close to coho spawning habitat to meet this criteria



Required Compliance Strategies



Outfall Relocation

- Relocate the outfall from Ashland Creek to Bear Creek
- Resolves “Near Field” compliance issues – Mixing Zone, Thermal Plume, Toxic Pollutants, and Cold Water Protection (in part)
- Pre-design is complete, final design pending issuance of NPDES permit



Water Quality Temperature Trading

- Comprehensive riparian restoration / shading
- Resolves “Far Field” compliance issues – TMDL Temperatures, Biologically Based Numeric Criteria, Cold Water Protection
- Trading plan is complete and accepted by DEQ
- Restoration work is actively underway

Financial Impact

Actual Costs

- \$5,000 - NPDES Technical Support
- \$617,000 - Outfall Relocation
- \$264,000- Temperature Trading

Funding

- Wastewater Fund
- Clean Water State Revolving Fund Loan



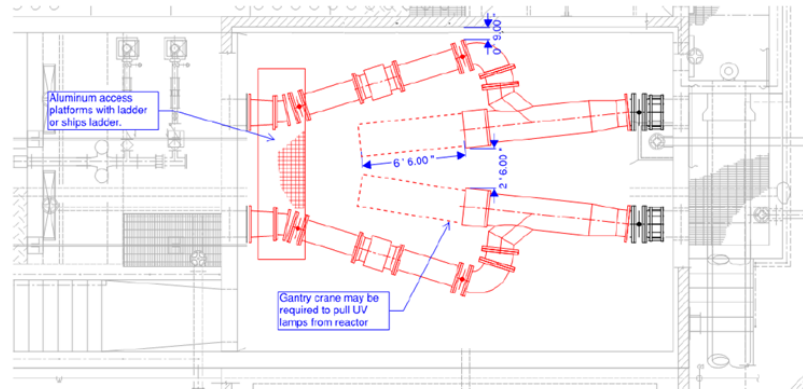
CITY OF ASHLAND
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TREATMENT PLANT

Ultraviolet (UV) Disinfection Project

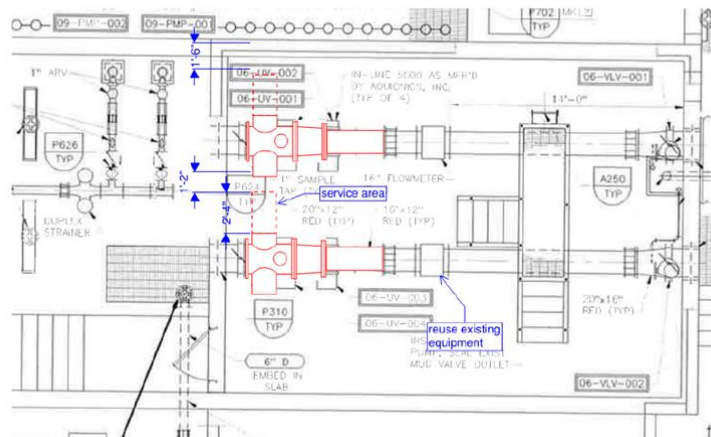
Background

- UV provides primary disinfection for the City's wastewater effluent
- Existing UV system installed in 2001
- End of useful life and obsolete
- Not energy efficient
- 2019 Wastewater Treatment Plan Facility Plan Update
- Primary recommendation to upgrade UV system

Conceptual Plan View – other systems



Conceptual Plan View – Aquionics



Preliminary Engineering

- Carollo Engineers
- Vendor solicitation document-focus on energy consumption reduction & minimize capital costs
- Four vendors responded with equipment specifications and cost
- Three low pressure high output systems (L-shape)
- One medium pressure high output system (flow through)
- All provide a substantial energy consumption reduction
- Life Cycle analysis

Life Cycle Costs

Table 1 Equipment Cost - Net Present Value Evaluation Summary

Equipment	Capital Cost	Parts and Replacement Cost	Labor Cost	Energy Consumption Annually (KW)	Energy Cost Annually	O&M Cost	Life Cycle Cost
Trojan UVFIT	1,462,000	42,039	7,294	117,034	7,022	56,355	\$2,305,000
WEDECO LBX	1,316,000	18,973	6,423	133,897	8,034	33,430	\$1,816,000
Evoqua UVLW	1,410,500	19,212	5,956	144,277	8,657	33,825	\$1,916,000
Aquionics ProLine	948,055	28,869	3,008	376,242	18,475	50,352	\$1,701,000

Next Steps

- Finalize construction plans and specifications for a public construction solicitation
 - Low Pressure vs. Medium Pressure
- Update Capital Improvement Plan and budget (2021-2023)
- Construct in fiscal year 2022.

Questions?
