



## **Training Outline – Wastewater Treatment Optimization Workshop**

Instruction time – 4.0 hours

### **Summary**

This optimization workshop is part of the city of Cannon Beach WWTP's response to effluent BOD exceedances in the late summer of 2024. The workshop is intended to introduce attendees to new process control tools and develop treatment optimization efforts headed into the 2025 dry weather permit season. Specifically, identify required conditions to operate in a two-aeration basin configuration, the sequence of operation and timeline for transitioning.

### **Training Objectives**

- Operators understand the purpose and use of process control tools developed for the WWTP
- Develop a process control plan to transition from one activated sludge basin to a two basin operation.
- Understand the importance of sludge age, inventory, and food to mass ratio during the transition.
- Develop a sequence and timeline to facilitate a successful transition to two-basin operation.

### **Outline**

#### **Introduction (10 min)**

#### **Use of Process Control Tools (120 min)**

Understand how to use the following process control tools and how they apply to the Cannon Beach WWTP:

- WAS Calculator - Used to maintain a target solids residence time (SRT).
- OUR-SOUR - Provides respiration of biology to aid with assessing aeration requirements.
- Microscopic Exam - Identification of indicator organisms to understand biological conditions.
- Alkalinity Calculator - Use to maintain a target alkalinity dose to maintain nitrification in activated sludge.
- Sampling and Analysis Plan – Provides type and schedule for wastewater sampling and analysis.
- Process Memo - Provides unit process operating parameters, targets and response actions.

#### **Lunch Break (30 min)**

#### **How to transition to a two-basin activated sludge operation (120 min)**

- Discuss, develop and document required activated sludge process conditions for two basin operation.
- Identify operational constraints to transition to two basin operation.
- Create a sequence of operation for transition into two aeration basin operation.
- Develop a transition timeline for two basin operation.

#### **Wrap up (10 min)**