

**Developer and Owner – WWOTC**

**Online Course – Instructor Led**

## **Primary Basics**

**October 3-4, 2023 (8:30 – 12:30 AST)**

### **Course Objective / Description**

This course is for wastewater treatment plant operators responsible for their plant's process operations, in particular addressing primary clarification. The material addresses the major Basis of Design parameters for assessing a primary clarifier's performance including surface overflow rate, weir overflow rate and hydraulic retention time. It also includes estimated costing for acquiring a clarifier, sludge collection and withdrawal from the clarifier and the fluent/effluent efficiency of a clarifier along with loading to an aeration system following primary treatment based on primary effluent flow and organic loading. Often the impact primary treatment can have on the secondary biological portion of the wastewater system is greatly underestimated. Understanding primary treatment basics can have huge benefit to the removal of BOD and solids and lessen any impact that may occur in the secondary biological portion of treatment.

What will be covered:

- Emphasis on the use of the Basis of Design (BOD) parameters for a primary clarifier
- Appreciation of as built drawings for obtaining and utilizing a clarifier's operating characteristics
- Calculate, summarize and present the basic operating parameters for a clarifier
- The clarifier as the source of organic loading to both aeration and stabilization processes
- Costs associated with obtaining and installing a clarifier

| <b>Lesson</b> | <b>Description</b>                      | <b>Contact Hours</b> |
|---------------|---|----------------------|
| <b>Day 1</b>  |   |                      |
| Lesson 1      | Introduction and Overview               | 0.5                  |
| Lesson 2      | Review Clarifier Drawings               | 0.5                  |
| Lesson 3      | Clarifier Calculations                  | 1.0                  |
|               | Break                                   | 0.5                  |
| Lesson 4      | Clarifier Calculations                  | 0.5                  |
| Lesson 5      | Scraper Arm Torque and Travelling Rates | 1.0                  |
| <b>Day 2</b>  |   |                      |
| Lesson 6      | Scraper Arm Torque and Travelling Rates | 0.5                  |
| Lesson 7      | Sludge Blankets and Accumulation        | 1.5                  |
|               | Break                                   | 0.5                  |
| Lesson 8      | Clarifier Efficiencies                  | 1.0                  |
|               | Exam                                    | 0.5                  |
|               | <b>Total Instruction/Contact Time:</b>  | <b>7.0</b>           |

**CEU: 0.7**



**ATLANTIC CANADA**  
**WATER & WASTEWATER ASSOCIATION**  
American Water Works Association  
Atlantic Canada Section



## Primary Basics

**October 3-4, 2023 (8:30 – 12:30 AST)**

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Company Mailing Address \_\_\_\_\_

City, Province: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

ACWWA Membership #: \_\_\_\_\_ WEF Membership #: \_\_\_\_\_

If no membership number is listed, you will be invoiced as a non-member. See pricing below.

### **Fee for ACWWA or WEF Members & Employees of UTILITY Members**

Course:  $\$355.00 + \$53.25 \text{ HST (15\%)} = \$408.25$

### **Fee for Non – Members**

Course:  $\$380.00 + \$57.00 \text{ HST (15\%)} = \$437.00$

**Invoices will be sent to the address listed above.**

**PO number to be included on the invoice** \_\_\_\_\_

**Payment can be made by Visa, Master Card or cheque.**

Card Holder's Name \_\_\_\_\_

Credit Card Number \_\_\_\_\_ Expiry \_\_\_\_\_

Signature \_\_\_\_\_

Email address for credit card receipt \_\_\_\_\_

**Cheques should be made payable to:**

**ACWWA**

PO Box 28141 · Dartmouth, NS · B2W 6E2

Phone 902-434-6002 Fax 902-435-7796