



# 2012 COLLECTIONS Training Seminars

*Denver, Colorado  
February 9, 2012  
May 17, 2012*

*More Dates to be Announced*



**INDIGO  
WATER GROUP**

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Littleton, Colorado 80120

To Register: Call 303.762.6076, mail in the enclosed registration form, FAX to 303.484.3304, or register on-line at [www.indigowatergroup.com](http://www.indigowatergroup.com) Mail payment by check or pay on-line by credit card.



## Who Should Attend?

Collections systems training is rarely available in Colorado even through hidden pipes, pumps, and lift stations make up the bulk of our wastewater infrastructure. Learn to inspect and maintain this valuable resource. This course is suitable for:

- Utility Managers and Supervisors
- Collections Personnel
- Maintenance Personnel
- Road and Street Crews
- Those preparing for certification exams.

Anyone who wants to get the most from their collection system!



## Indigo Water Group

Indigo Water Group is a small, woman-owned business in Littleton, Colorado that specializes in water and wastewater treatment. We offer a wide range of services from utility plans to specialized on-site training to assistance with laboratory and water/wastewater operations to collection system and process modeling.

Visit our website to download our **FREE** math workbooks and **FREE** sample study questions for the certification exams.



## COLLECTIONS SYSTEM TRAINING

Indigo Water Group will be hosting a series of one-day COLLECTIONS TRAINING seminar. Collections seminars take place shortly before the certification exam dates in the same city as the scheduled exam. While we can't teach the test, we can give attendees solid background information in a variety of test topic areas. We've also included math in since math problems can make up a significant portion of the test.

Training Units for the full 1 day course have been APPROVED by the State of Colorado: **0.725 Collections TUs**, 0.425 Wastewater and Industrial TUs, 0.325 TUs in water and distribution.

### LOCATION

<b>Denver</b>	<b>Hotel VQ</b>
<b>February 9, 2012</b>	<b>1975 Mile High Stadium Cir.</b>
	<b>Denver, Colorado 80204</b>
<b>May 17, 2012</b>	<b>(800) 388-5381</b>

Additional dates and locations to be announced when OCPO publishes the certification exam schedule for Fall 2012.

### AGENDA

#### 8:00 – 8:30 Registration

**8:30 – 10:30 Collections Math** - This two hour class covers math basics including the Order of Operations, basic algebra and rearranging equations, dimensional analysis (unit conversions), tank geometries including areas, volumes, and perimeters, hydraulic retention time, velocities in pipes and open channels, pressure head, pump horsepower, and more.

**10:45 – 11:45 Collections Basics** - This one hour class presents an overview of the collection system and discusses its primary components and types. Placement of interceptors along natural

drainages, manhole placement, pump station function, and inflow and infiltration are discussed. Collection system architecture is compared to distribution system architecture. The following topics are also covered: minimum slopes for given pipe diameters, preferred d/D ratios, scour at peak hour flows, pipe materials, velocities in force mains, hydraulic gradeline, and causes of surcharging.

*Lunch provided by Indigo Water Group*

**12:15 - 1:45 Pumps and Lift Stations** - This ninety minute class discusses the different kinds of pumps used in water and wastewater treatment including centrifugal, positive displacement, peristaltic, and more. Components of each pump and mechanism of action are discussed as well as typical uses, and basic maintenance procedures. Wet and dry well pump station designs are presented with a discussion of lead/lag pump function, methods of monitoring level, and odor control strategies. Hydrogen sulfide corrosion is discussed along with galvanic corrosion and various control mechanisms. What would a talk on lift stations be without a serious discussion about confined space entry? We devote time to this important topic. Participants will complete a few math problems for pump horsepower, cost to run, and pump cycle time.

**2:00 – 4:30 Inspection, Testing, and Cleaning** - This two and a half hour course introduces participants to the purposes and methods of collection system inspection, testing, and cleaning including: closed circuit television inspections, smoke testing, dye testing, sewer balling, jetting, rodding, flushing, and bucket machines. The importance of maintaining good system records and maps of the collection system is emphasized. Collection system modeling and GIS concepts are introduced as they relate to maintenance records. Participants will learn to identify problems in existing pipelines, estimate inflow and infiltration, and identify deposits of oil and grease. Participants will view actual CCTV footage.

**4:30 – 5:00 Collections Jeopardy** – A rapid fire question session with attendees divided into teams helps to reinforce concepts learned during the seminar.

*Distribute Training Unit Certificates*

### HOW TO REGISTER

Registration may be done by mailing in the attached form, faxing, by telephone, or through our website at [www.indigowatergroup.com](http://www.indigowatergroup.com) We accept major credit cards through our website or checks by mail.

Registration fee is **\$135 per person per day up to three business days prior to the scheduled seminar date**. Breakfast, lunch, afternoon snack break, and a calculator are included. Seminars are scheduled to start at 8:30 am and run until 5:00 pm for a total of 0.725 training units approved by the State of Colorado. The seminar schedule includes thirty minutes for lunch and two 15 minutes breaks.

#### LOCATION:

Denver, February 9, 2012

Denver, May 17, 2012

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

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

Address: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

e-Mail: \_\_\_\_\_

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