



TO: 2022 GRADE III PRETREATMENT CERTIFICATION STUDENTS

FROM: NC-PC CERTIFICATION BOARD and GRADE III INSTRUCTORS

RE: REQUIRED PREPARATION PRIOR TO April 25 -April 29, 2022 CLASS

The NC-PC Grade III Pretreatment Certification Class contains over one day of training on conducting a Headworks Analysis (HWA). Even so, this is a great deal of information to cover in a short period of time, so the NC-PC Certification Board has outlined review and “homework” required before coming to the Grade III Certification class in April 2022. In the past, some of the formulas and calculations that were presented in NC-PC Certification Grade I and Grade II classes were reviewed in Grade III. *In 2022, such a review will not be conducted.* Each student in the Grade III class is expected to come prepared and with a working knowledge of the following calculations/information from the NC-PC Certification Grade I and Grade II classes:

1. *Conversions:*

mg/l to ug/l	(milligrams per liter to micrograms per liter)
ug/l to mg/l	(micrograms per liter to milligrams per liter)
ug/l to ng/l	(micrograms per liter to nanograms per liter)
cfs to gpd to MGD	(cubic feet per second to gallons per day to million gallons per day)

2. *Detention Time Formula and Calculation*

$$\frac{24 \text{ hr./day} * \text{Tank Volume}}{\text{Flow}}$$

3. *Removal Efficiency Formula and Calculation*

$$\frac{\text{Influent} - \text{Effluent}}{\text{Influent}} * 100$$

4. *Use of the Pounds formula including being able to solve for any unknown*

$$\text{Pounds} = \text{mg/l} * 8.34 * \text{Flow (in MGD)}$$

We are also requesting you bring the following items with you to class, if available:

- Pretreatment Program Summary Sheet. The State sends this sheet with the End of Year Mailing and it is required to be updated and included with the Pretreatment Annual Report. If you are not the Pretreatment Coordinator, please request a copy from your town’s PT Coordinator.
- Hardness data for Upstream and Effluent for the past two years. You may not have this data.

- The Effluent Metals Calculator for YOUR town. The Calculator is available on the DEQ website for you to enter your site-specific information.
<https://deq.nc.gov/about/divisions/water-resources/water-resources-permit-guidance/npdes-industrial-stormwater/metals-calculators>
- Your NPDES permit cover page and limits page and/or fact sheet.
- The latest Headworks Analysis spreadsheet performed for your facility.

Note: If you do not work for a North Carolina POTW, you will not have these items.

Most importantly, please begin working on Grade III Needs to Know answers. Several answers can be found using the internet. The **2020** updated Needs to Know is being provided with this memo and will also be available on the NC-PC website.

It would also be of assistance for students to have attended the DEQ/DWR Headworks Analysis Class that is offered periodically by the PERCS staff. The recent modifications to this class have resulted in a 6-hour class that is an excellent overview of the HWA process and the forms and spreadsheets available on the DEQ/DWR website. The PowerPoint Presentations used for the class are available on the DEQ/DWQ/PERCS website at: <http://portal.ncdenr.org/web/wq/swp/ps/pret/training>

Review of PERCS's PowerPoint Presentation is particularly important if you have no experience with Headworks Analysis.

During introductions, be prepared to:

- Give your name, how long you have been in Pretreatment and your current job duties (FOG only, Pretreatment, etc.)
- Give background on your POTW: How many POTWs? What is the POTW design flow? How many SIUs?
- What is the #1 thing you want to get out of Grade III class?

Don't forget your calculators and your enthusiasm!!!

We are looking forward to having you in the Grade III Class!