



Bureau of Safe Drinking Water

# Disinfection Requirements Rule (DRR)

## DRR Sample Siting Plans Webinar

August 2018

# Webinar “Sound Check”

We have started talking – if you cannot hear us, try dialing in again or reconnecting the audio

# Webinar Logistics

- Phones on mute
- Save questions until end
- Session is being recorded

# Today's Staff

## Bureau of Safe Drinking Water

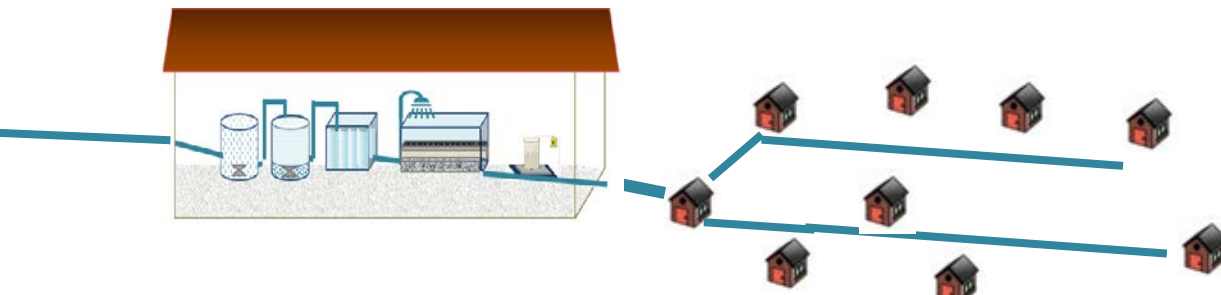
- **Bill McNamara**, *Training Section Chief*
- **Dawn Hissner**, *Operations and Monitoring Division Chief*
- **Jeff Allgyer**, *Operations Section Chief*

# Webinar Agenda

- Explain DRR sample siting plans
- Sample siting plan examples
- Web resources
- Q&A

# Disinfection Requirements Rule Background

- New rule is intended to **increase public health protection**
- The rule is intended to guard against microbial contamination by ensuring the:
  - Adequacy of disinfection treatment
  - Integrity of drinking water distribution systems



# Disinfection Requirements Rule Background

- Existing requirement is to maintain a detectable residual (defined as 0.02 mg/L)
  - Determined that this is not protective of public health
- New Requirement:
  - Maintain minimum residual disinfectant concentration of **0.2** mg/L throughout the distribution system beginning 4/29/2019

# Who is affected by the DRR?

- All community water systems
- Non-Transient Noncommunity Water Systems using chlorine disinfectant
- Transient Noncommunity Water Systems with:
  - Filtration of a Surface Water Source
  - Filtration of a GUDI (Groundwater Under the Influence of Surface Water) Source
  - 4-Log Disinfection of a Groundwater Source



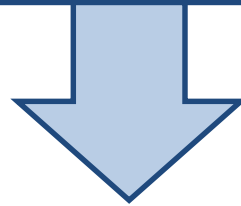
# Distribution Disinfectant Residual

**Collect disinfectant residual at least once/week**

- Begins April 29, 2019
- Collect at same time/location(s) as coliform samples
- Collect at least one additional disinfectant residual measurement each week that a coliform sample is not collected

# Sample Siting Plan

Submit a DRR Sample Siting Plan to DEP



- **By October 29, 2018**
- DEP has a template that is an addendum to the RTCR plan

# Required Elements of Plan

## 1. List of distribution system representative sample site locations

- Same locations as coliforms under Revised Total Coliform Rule (RTCR)
- Samples must be representative of distribution system

1. General Distribution Location
2. Dead ends
3. First service connection
4. Finished water storage tanks
5. Interconnections with other systems
6. Areas of high water age
7. Previous coliform detections
8. Mixing zones

# Required Elements of Plan

1. List of distribution system representative sample site locations
  - What if you only sample for coliforms under RTCR once or twice a month (only one or two locations)?
    - You can add additional representative locations for disinfectant residual sampling
    - And/or alternate between RTCR locations

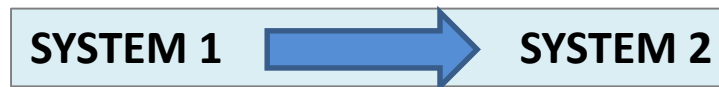
# Required Elements of Plan

2. Indicate whether each sample location is **also** used as a coliform, disinfection byproducts, or lead and copper sampling location.

Location also used for: (check all that apply)	
<input type="checkbox"/>	DRR only
<input type="checkbox"/>	RTCR
<input type="checkbox"/>	LCR
<input type="checkbox"/>	TTHM / HAA5

# Required Elements of Plan

3. Indicate if a sample location is within a mixing zone
  - This is for systems that use chlorine and purchase water from a system using chloramines, or
  - for systems using chloramines and purchasing water from a system using chlorine.



# Required Elements of Plan

4. Indicate whether on-line monitoring and recording will be substituted for grab sample measurements

# Required Elements of Plan

## 5. Sample collection schedule

- Just like RTCR, samples are to be representative through space and time
- Must be sampled weekly in the distribution
- Not sampling every location weekly: Plan asks you to identify which weeks you are sampling each location
- There isn't a solid 4 weeks in every month....

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4



# Required Elements of Plan

## 2018 July

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5 Week 1	6	7
8	9	10	11	12 Week 2	13	14
15	16	17	18	19 Week 3	20	21
22	23	24	25	26 Week 4	27	28
29	30	31	1	2	3	4

# Required Elements of Plan

## 2018 AUGUST

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2 Week 1	3	4
5	6	7	8	9 Week 2	10	11
12	13	14	15	16 Week 3	17	18
19	20	21	22	23 Week 4	24	25
26	27	28	29	30 Week 5	31	

# Addendum Form

## ADDENDUM D: DISINFECTION REQUIREMENTS RULE (DRR) SAMPLE SITING PLAN

### Part 2: DRR Sample Siting Plan

**Disinfectant Type:** (check all that apply)

Entry Point			Distribution System		
<input type="checkbox"/> Chlorine	<input type="checkbox"/> Chloramines	<input type="checkbox"/> Chlorine Dioxide	<input type="checkbox"/> Chlorine	<input type="checkbox"/> Chloramines	<input type="checkbox"/> Chlorine Dioxide

### Sample Location Information Table

Disinfection residual measurements must be taken weekly at the same time and location(s) as the total coliform samples listed in the *Coliform Sample Siting Plan*. If a total coliform sample is not required during any of the weeks in a month, the PWS may designate another location in the table below as the disinfectant residual sampling location for the week, or alternate between sample locations already identified.

Location ID	Site location - address & tap location (if Site <i>not</i> used for RTCR monitoring)	Location also used for: (check all that apply)	Representative Location Code (check all that apply)		On-line Analyzer or Grab Sample?	On-line Analyzer Recording Freq.	Grab Sampling Frequency*
<input type="checkbox"/>			<input type="checkbox"/> 1	<input type="checkbox"/> 5	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 2	<input type="checkbox"/> 6	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 3	<input type="checkbox"/> 7	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 4	<input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 1	<input type="checkbox"/> 5	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 2	<input type="checkbox"/> 6	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 3	<input type="checkbox"/> 7	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 4	<input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 1	<input type="checkbox"/> 5	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 2	<input type="checkbox"/> 6	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 3	<input type="checkbox"/> 7	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/> 4	<input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/> DRR Only <input type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input type="checkbox"/> 1	<input type="checkbox"/> 5	<input type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	<input type="checkbox"/>	<input type="checkbox"/>

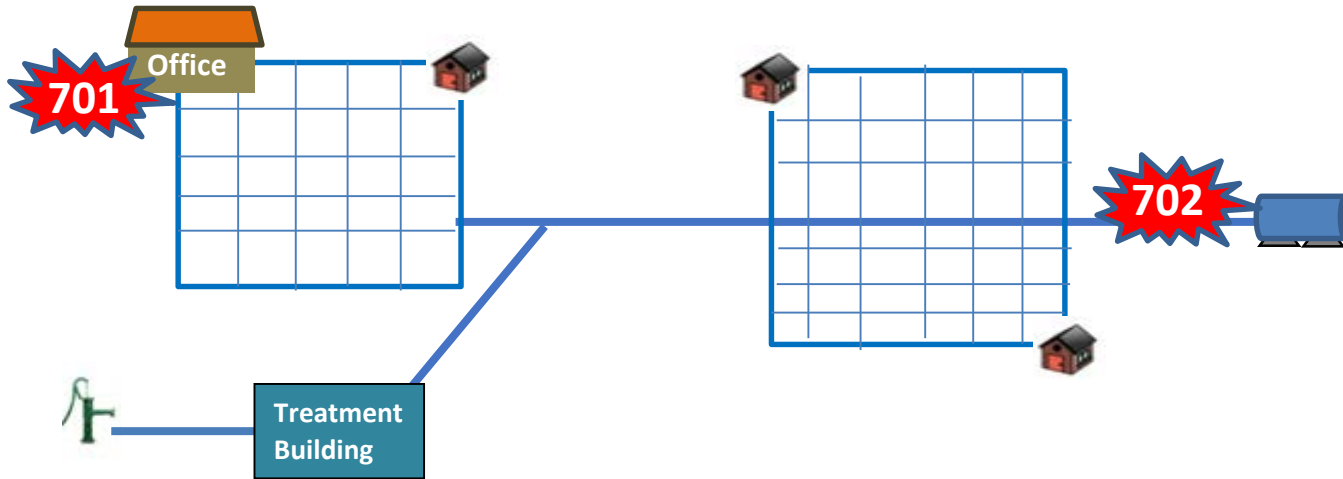
1. General Distribution Location
2. Dead ends
3. First service connection
4. Finished water storage tanks
5. Interconnections with other systems
6. Areas of high water age
7. Previous coliform detections
8. Mixing zones

\*NOTE: Weekly measurement means the disinfectant residual is measured from at least one location at least once every week. Some months will have a week 5 residual measurement at one or more locations.

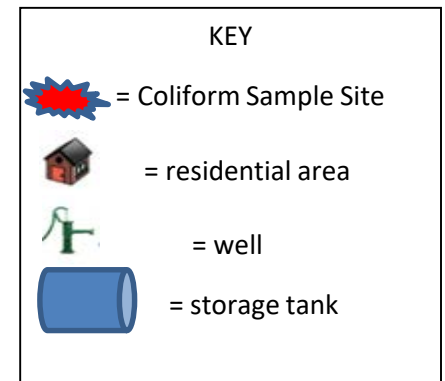
# Completing the DRR Plan

- You should first review your RTCR Sample Siting Plan.
  - Same “representative” sampling locations for RTCR and DRR
    - Do you want to add additional locations for disinfection monitoring?
  - Do you sample weekly for coliforms, or do you need to add to your schedule for disinfection monitoring?

# Example 1: Flowing Waters CWS



- **Population Served:** 617
- **Treatment:** Liquid Sodium Hypochlorite Disinfection
- **RTCR Sampling:** 1 sample /month (alternate at locations 701 and 702 different months)



# Flowing Waters RTCR Plan

3930-FM-BSDW0525 Rev. 6/2015  
Form

## Part 2: Sampling Information

### A. Sample Location Information Table

Location ID	Site location (address and tap location)	Sample Type (D) = Distribution (C) = Check*	Is site accessibility limited? (if yes, check box and describe in 2B)	Representative Location Code**
701	Housing Community Office -18 Corner Road Anytown, PA 17777 Kitchen sink faucet	D & C	<input type="checkbox"/>	1
	Residences from 12 to 14 Corner Road Kitchen sink	C	<input checked="" type="checkbox"/>	
	Residences from 15 to 17 Corner Road Both check samples are upstream because 18 Corner Road is at the end of the distribution Kitchen sink	C	<input checked="" type="checkbox"/>	
702	Storage Tank - 50 Walter Lane Anytown, PA 17777 Storage Tank Sampling Tap	D & C	<input type="checkbox"/>	4, 6
	Residences from 44 to 49 Walter Lane Kitchen sink	C	<input checked="" type="checkbox"/>	
	Residences from 51 to 55 Walter Lane Kitchen sink	C	<input checked="" type="checkbox"/>	

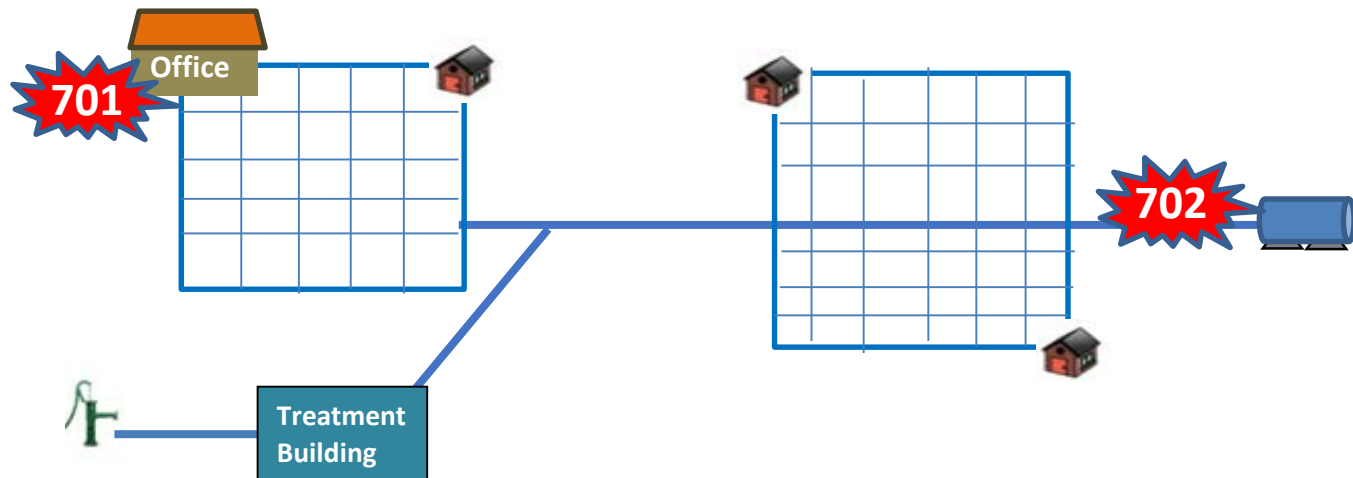
System alternates between 2 locations for their RTCR sampling – sites 701 and 702

# Locations

Their RTCR plan captures “representative locations”.

- ✓ storage facilities
- ✓ areas of high water age
- ✓ areas with previous coliform detects

**However, they only sample once per month for coliforms**



# Once a Month Coliform Sampling

## + Once a Week Residual Sampling

March							
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
				1	2	3	
Week 1	4	5	6	7	8	9	10
Week 2	11	12	13	14	15	16	17
Week 3	18	19	20	21	22	23	24
Week 4	25	26	27	28	29	30	31



# Schedule

2018 July						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3 Week 1	4	5	6	7
8	9	10 Week 2	11	12	13	14
15	16	17 Week 3	18	19	20	21
22	23	24 Week 4	25	26	27	28
29	30	31 Week 5	1	2	3	4

Must collect sample during “partial week”

# Example 1: Flowing Waters CWS

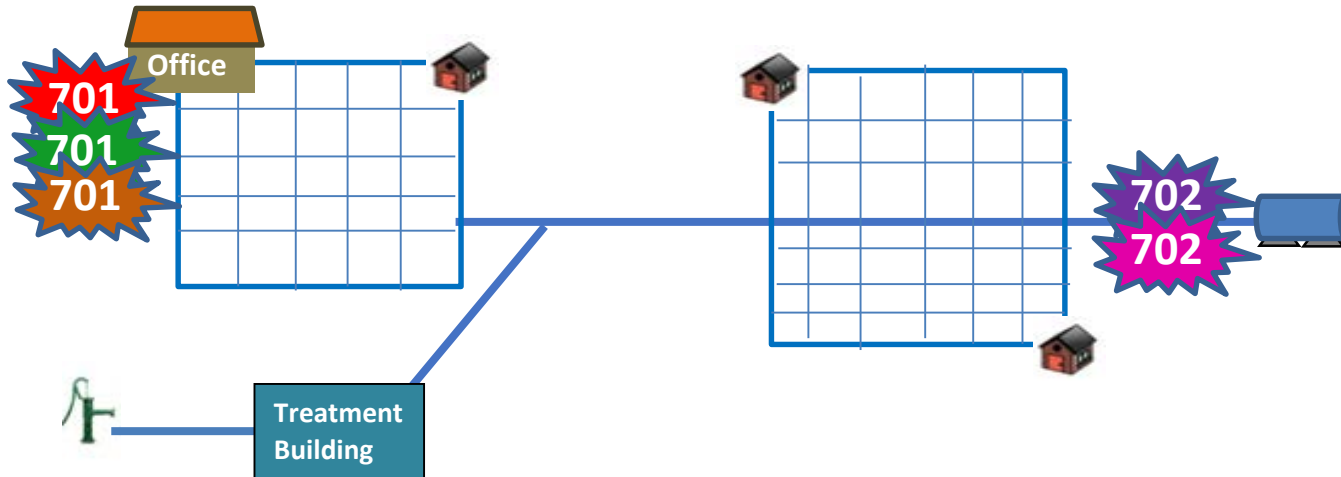
Week 1

Week 2

Week 3

Week 4

Week 5



- **Population Served:** 617
- **Treatment:** Liquid Sodium Hypochlorite Disinfection
- **RTCR Sampling:** 1 sample /month (alternate at locations 701 and 702 different months)

KEY



= residential area



= well



= storage tank

# Flowing Waters DRR Plan

## Part 2: DRR Sample Siting Plan

**Disinfectant Type:** (check all that apply)

Entry Point			Distribution System		
<input checked="" type="checkbox"/> Chlorine	<input type="checkbox"/> Chloramines	<input type="checkbox"/> Chlorine Dioxide	<input checked="" type="checkbox"/> Chlorine	<input type="checkbox"/> Chloramines	<input type="checkbox"/> Chlorine Dioxide

### Sample Location Information Table

Disinfection residual measurements must be taken weekly at the same time and location(s) as the total coliform samples listed in the *Coliform Sample Siting Plan*. If a total coliform sample is not required during any of the weeks in a month, the PWS may designate another location in the table below as the disinfectant residual sampling location for the week, or alternate between sample locations already identified.

Location ID	Site location - address & tap location (if Site <i>not</i> used for RTCR monitoring)	Location also used for: (check all that apply)	Representative Location Code (check all that apply)	On-line Analyzer or Grab Sample?	On-line Analyzer Recording Freq.	Grab Sampling Frequency*
701	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 2 (Jan, Mar, May, Jul, Sep, Nov) and week 1 and week 4
702	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input checked="" type="checkbox"/> TTHM / HAA5	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 2 (Feb, Apr, Jun, Aug, Oct, Dec) and Week 3 and Week 5

System uses same locations (701 & 702) as in RTCR Sample Plan for their DRR sampling

# Flowing Waters DRR Plan

## Part 2: DRR Sample Siting Plan

**Disinfectant Type:** (check all that apply)

Entry Point			Distribution System		
<input checked="" type="checkbox"/> Chlorine	<input type="checkbox"/> Chloramines	<input type="checkbox"/> Chlorine Dioxide	<input checked="" type="checkbox"/> Chlorine	<input type="checkbox"/> Chloramines	<input type="checkbox"/> Chlorine Dioxide

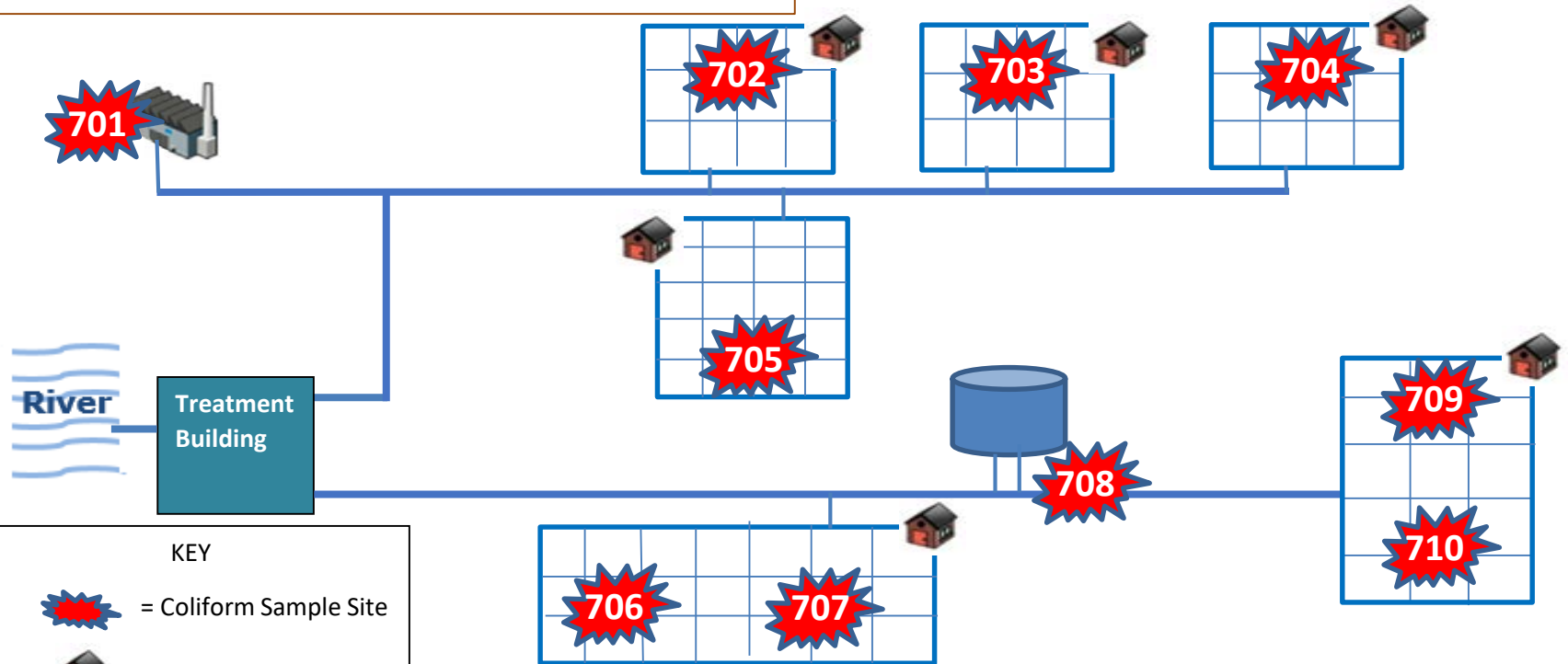
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701	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 2 (Jan, Mar, May, Jul, Sep, Nov) and week 1 and week 4
702	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input checked="" type="checkbox"/> TTHM / HAA5	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 2 (Feb, Apr, Jun, Aug, Oct, Dec) and Week 3 and Week 5

# Example 2: Upper Woods Water System

- **CWS Population Served: 10,000**
- **Treatment:**
  - Conventional Filtration
  - Chloramine Disinfection
- **RTCR Sampling: 10 samples /month**



## KEY

 = Coliform Sample Site

 = residential area

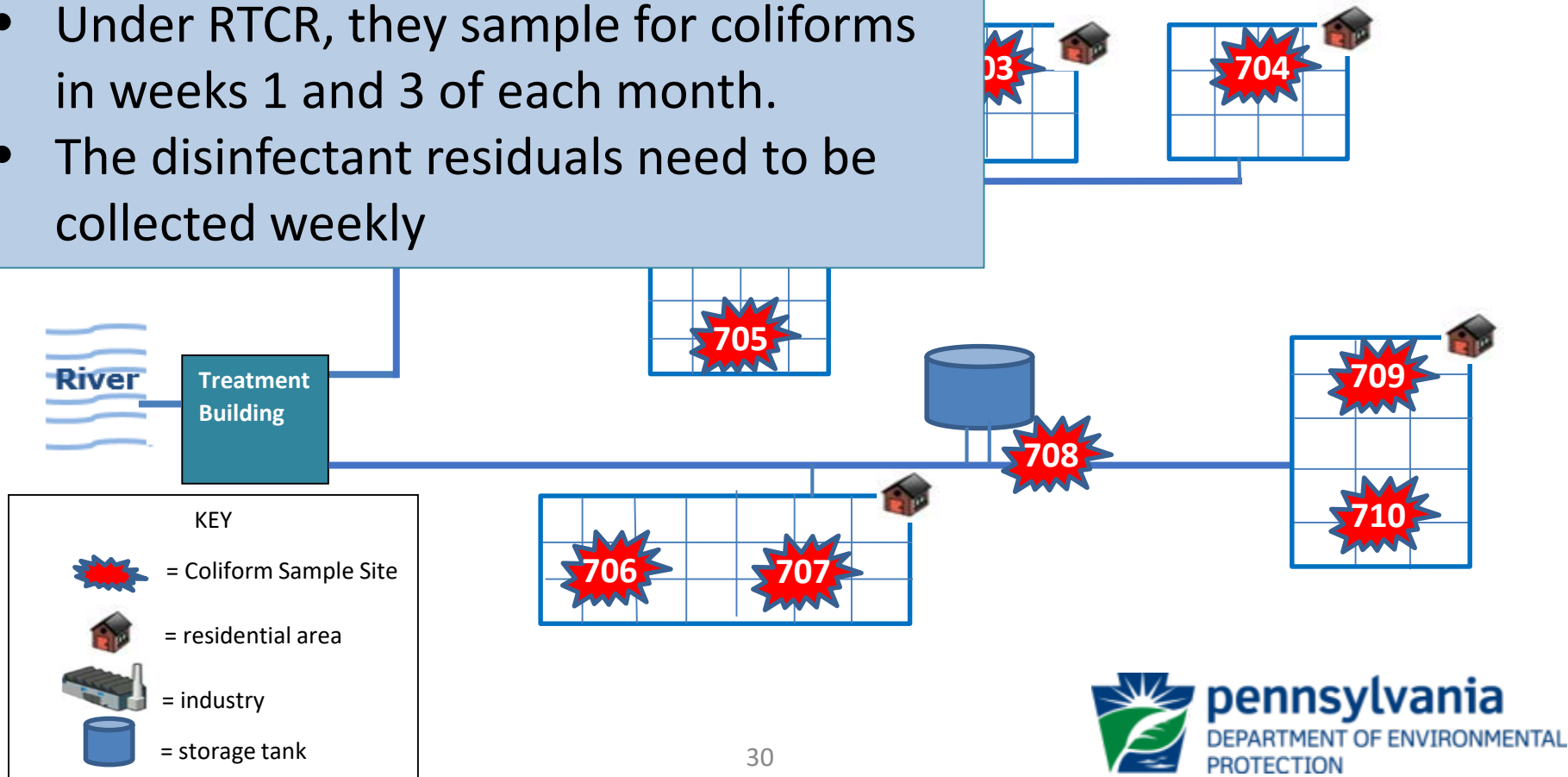
 = industry

 = storage tank

# Upper Woods: RTCR Plan

This system has 10 locations (and 10 samples required) in their RTCR Sampling Plan

- Under RTCR, they sample for coliforms in weeks 1 and 3 of each month.
- The disinfectant residuals need to be collected weekly



# DRR: Upper Woods Water System

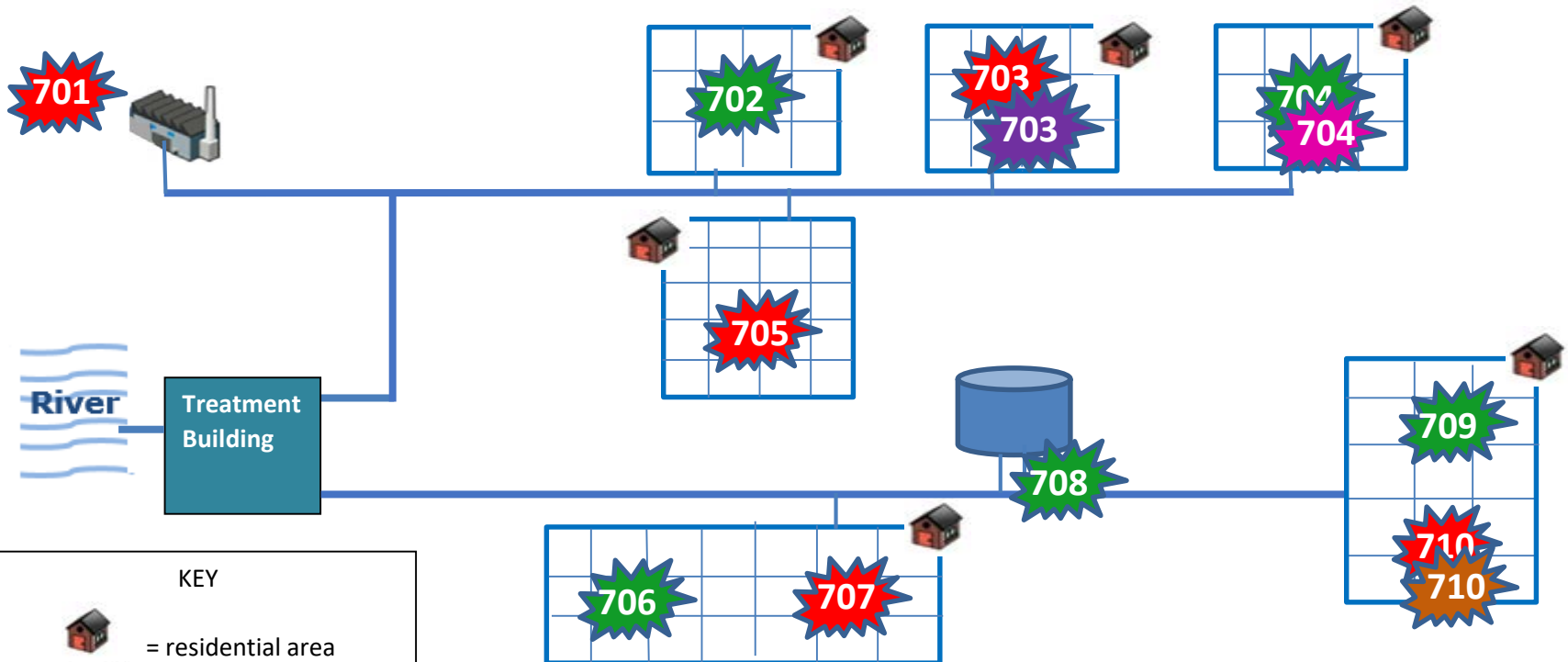
Week 1

Week 2

Week 3

Week 4

Week 5



KEY



= residential area



= industry



= storage tank

# Upper Woods: DRR Plan

Location ID	Site location - address & tap location (if Site <i>not</i> used for R/CR monitoring)	Location also used for: (check all that apply)	Representative Location Code (check all that apply)	On-line Analyzer or Grab Sample?	On-line Analyzer Recording Freq.	Grab Sampling Frequency*
706	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample	█	Week 3
707	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample	█	Week 1
708	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample	█	Week 3
709	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 7 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample	█	Week 1
710	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample	█	Week 3, 5



# Upper Woods: DRR Plan

## Page 1

Location ID	Site location - address & tap location (if Site <i>not</i> used for R1CR monitoring)	Location also used for: (check all that apply)	Representative Location Code (check all that apply)	On-line Analyzer or Grab Sample?	On-line Analyzer Recording Freq.	Grab Sampling Frequency*
701	See R1CR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> R1CR <input type="checkbox"/> LCR <input checked="" type="checkbox"/> TTHM / HAA5	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 1
702	See R1CR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> R1CR <input type="checkbox"/> LCR <input checked="" type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 3
703	See R1CR Sam	<input type="checkbox"/> DRR only	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 1, 2
704	See R1CR Sam			<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 3, 4
705	See R1CR Sam			<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 1

### Grab Sample Frequency

Since they were doing all their coliform samples on weeks 1 & 3, they are now taking an extra disinfection distribution sample at some locations on additional weeks.

# Upper Woods: DRR Plan

## Page 2

Location ID	Site location - address & tap location (if Site <i>not</i> used for RTCR monitoring)	Location also used for: (check all that apply)	Representative Location Code (check all that apply)	On-line Analyzer or Grab Sample?	On-line Analyzer Recording Freq.	Grab Sampling Frequency*
706	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample	<input type="checkbox"/>	Week 3
707	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample	<input type="checkbox"/>	Week 1
708	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample	<input type="checkbox"/>	Week 3
709	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 7 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample	<input type="checkbox"/>	Week 1
710	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample	<input type="checkbox"/>	Week 3, 5

# Adjust RTCR

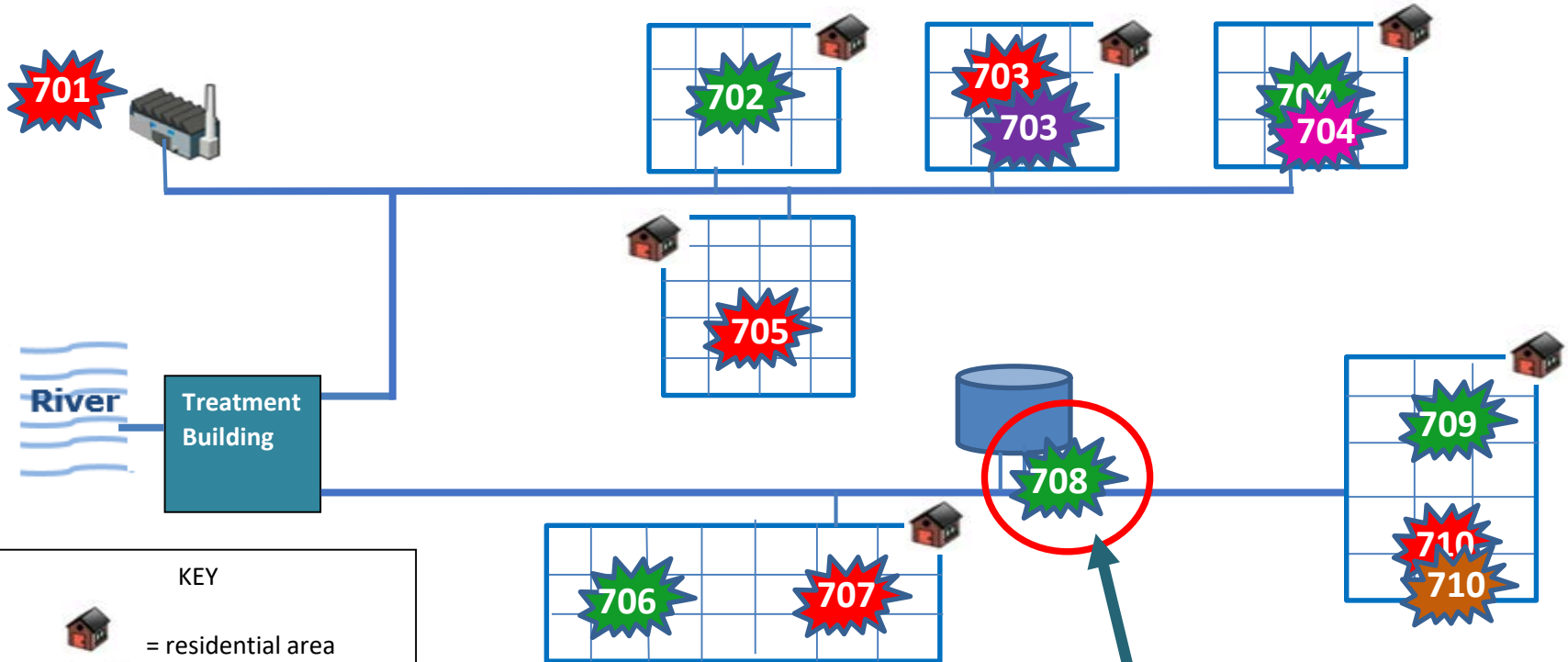
- Upper Woods samples for coliforms in weeks 1 and 3.
- Since they will be sampling for residual every week, they could decide to spread the coliform sampling throughout the month as well...

# Adjusting RTC




		Location
Week 1	Coliform and Residual	701, 702, 703
Week 2	Coliform and Residual	704, 705, 706
Week 3	Coliform and Residual	707, 708
Week 4	Coliform and Residual	709, 710
Week 5	Residual	702

**If you adjust coliform sampling, submit revised RTCR Sample Siting Plan and DRR Addendum Sample Siting Plan.**

# Online Analyzer Installed



KEY

-  = residential area
-  = industry
-  = storage tank

**Permitted online analyzer:**  
Records residual every 15 minutes

# Online Analyzer in Distribution

Location ID	Site location - address & tap location (if Site <i>not</i> used for RTCR monitoring)	Location also used for: (check all that apply)	Representative Location Code (check all that apply)	On-line Analyzer or Grab Sample?	On-line Analyzer Recording Freq.	Grab Sampling Frequency*
706	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 3
707	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 1
708	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 6 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 7 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 8	<input checked="" type="checkbox"/> On-line Analyzer <input type="checkbox"/> Grab Sample	every 15 min	N/A
709	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 3, 4
710	See RTCR Sample Siting Plan	<input type="checkbox"/> DRR only <input checked="" type="checkbox"/> RTCR <input type="checkbox"/> LCR <input type="checkbox"/> TTHM / HAA5	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input type="checkbox"/> On-line Analyzer <input checked="" type="checkbox"/> Grab Sample		Week 1, 5

# DEP Addendum Form or Your Own

- Instead of the DEP DRR Addendum form
- You can use your existing RTCR plan and add the required DRR sampling information
- The revised RTCR plan would then be submitted to DEP
- This may be the case for larger systems

# Web Resources

## DEP DRR web page:

- Google search “DEP DRR”
- Contains DRR Sample Siting Form
- Contains DRR Chlorine Residual Reporting Instructions
- Contains Method 334.0 information

[DEP > Businesses > Water > Bureau of Safe Drinking Water > Drinking Water Management > Regulations >](#)

### DISINFECTION REQUIREMENTS RULE (DRR)

The Disinfection Requirements Rule (DRR) was published in the PA Bulletin on April 28, 2018. The amendments are intended to protect public health through a multiple barrier approach designed to guard against microbial contamination by ensuring the adequacy of treatment designed to inactivate microbial pathogens and the integrity of drinking water distribution systems.

Safe drinking water is vital to maintaining healthy and sustainable communities. Proactively avoiding incidents such as waterborne disease outbreaks can prevent loss of life, reduce the incidents of illness and reduce health care costs. Proper investment in public water system infrastructure and operations helps ensure a continuous supply of safe drinking water, enables communities to plan and build future capacity for economic growth, and ensures their long-term sustainability.

The significant requirements of the DRR fall into two categories: provisions that are effective immediately and provisions that have delayed implementation dates.



# Further Information and Training

- The current focus is on sample siting plans
- DRR Compliance classroom training in first quarter of 2019
- Giardia Inactivation workshops in 2019 for surface water systems
- Continued Method 334.0 training

# DRR Plan Submission

- Submit plan by 10/29/18
- Submit plan to your local DEP office

# Questions?

- Type your questions into the Q&A chat box