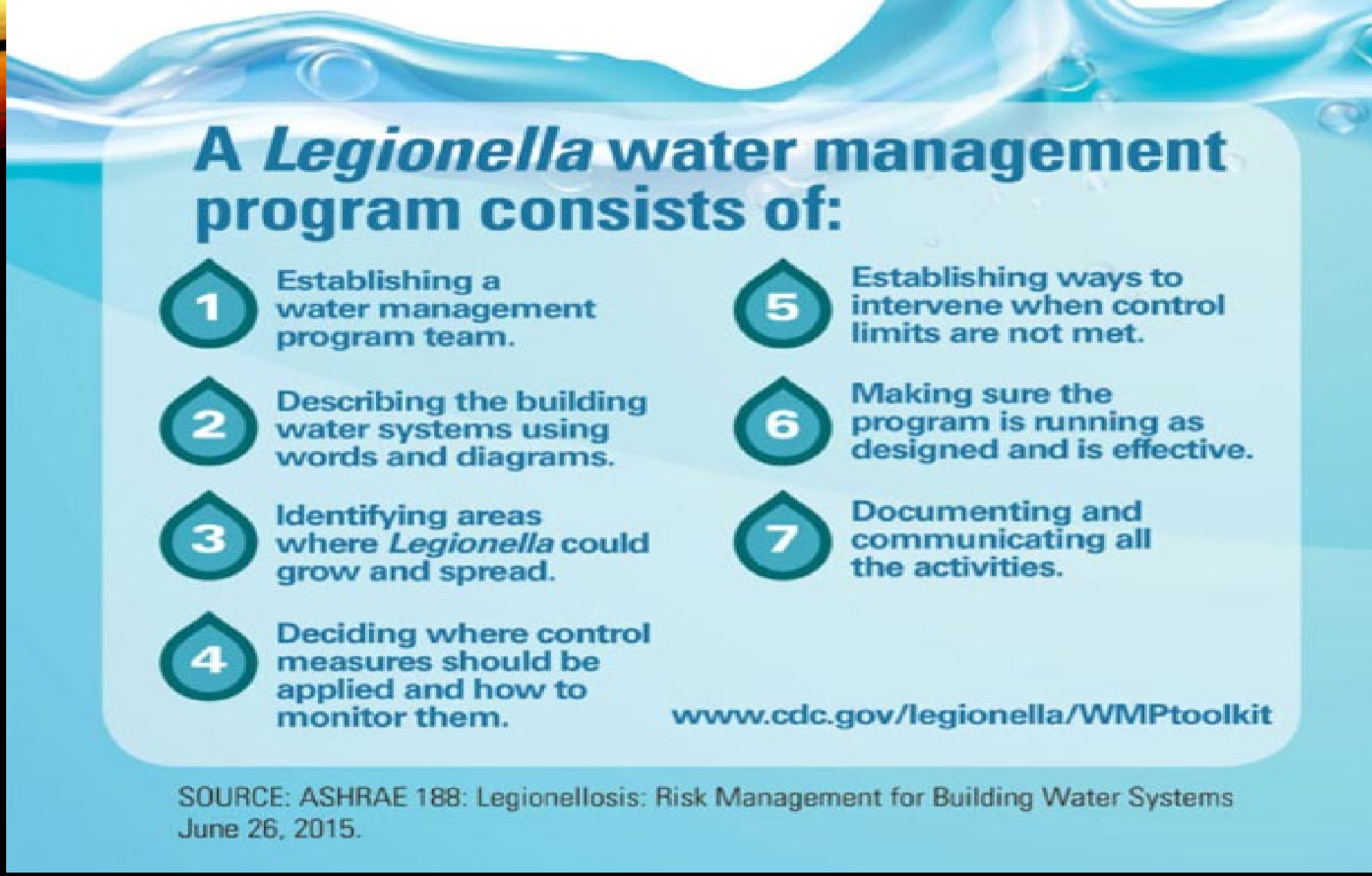
7 KEY ELEMENTS TO BUILDING AN EFFECTIVE WATER MANAGEMENT PROGRAM

OKLAHOMA
State Department of Health

Objectives:

- Name the seven key elements of a Water Management Program (WMP)
- Discuss each of the seven key elements

Seven Key Elements



SOURCE: ASHRAE 188: Legionellosis: Risk Management for Building Water Systems June 26, 2015.

1 Establish a Water Management Program Team

Source: Centers for Disease Control and Prevention

2 Describe Your Building Water Systems Using a Flow Diagram

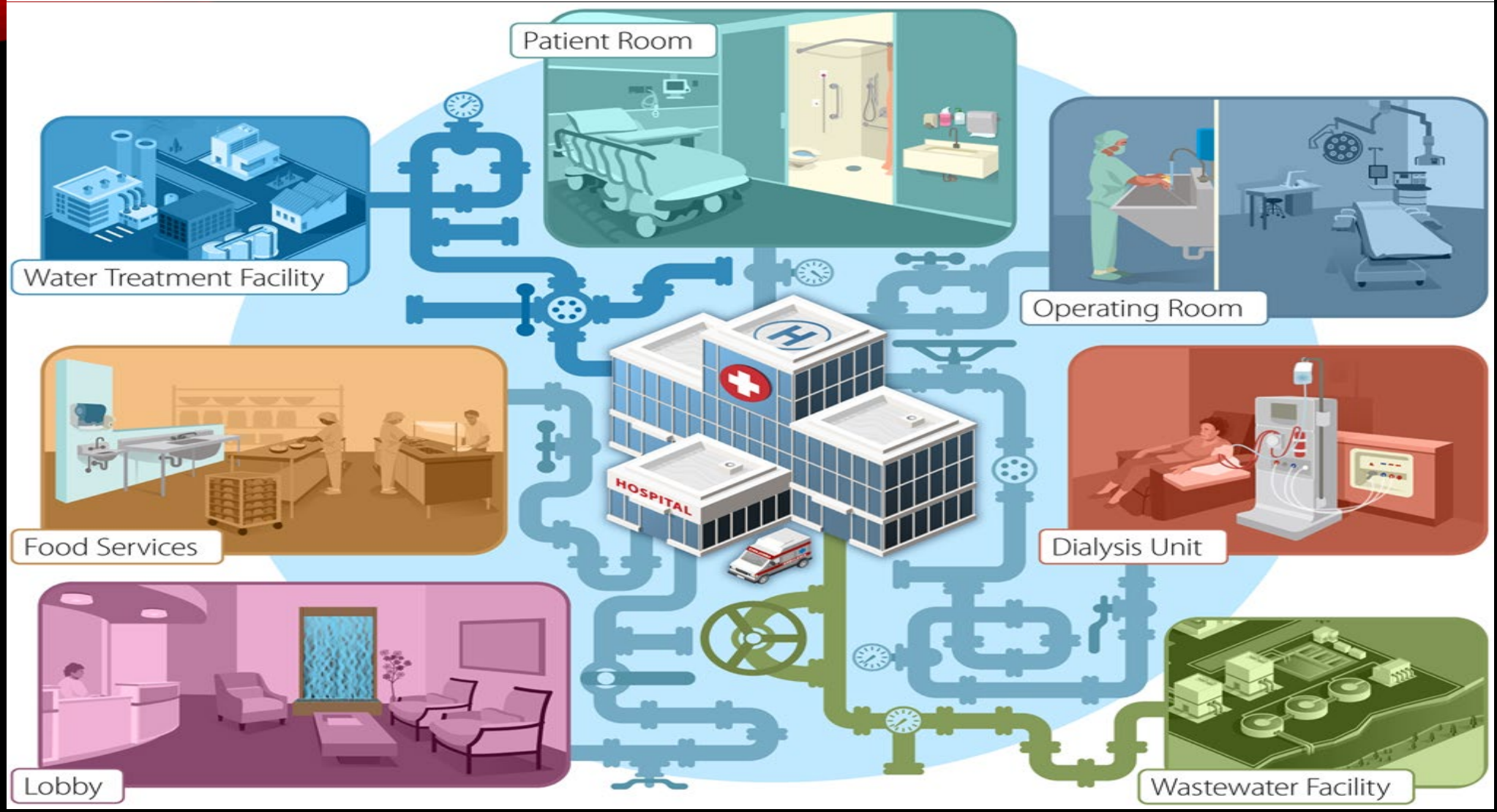
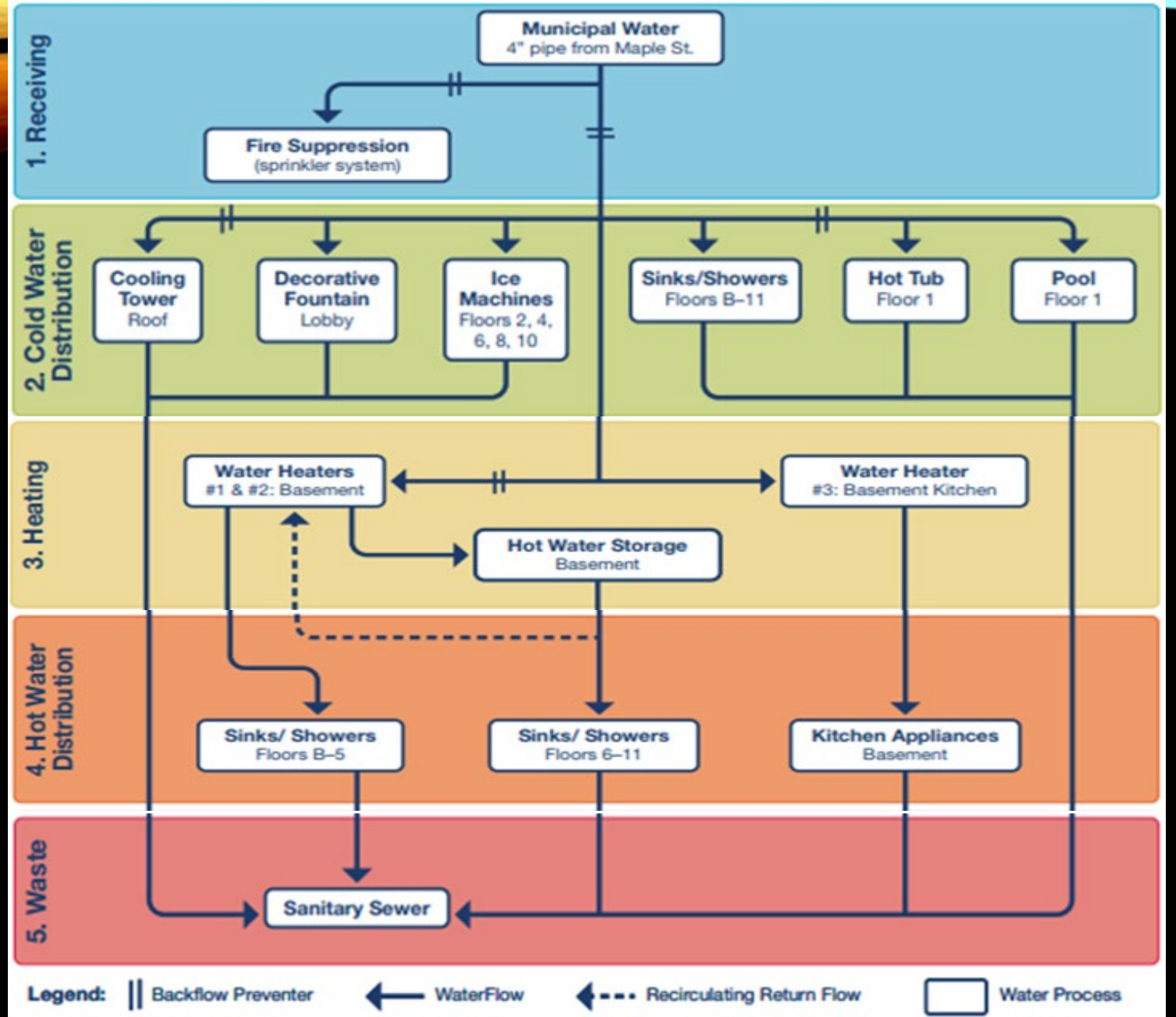


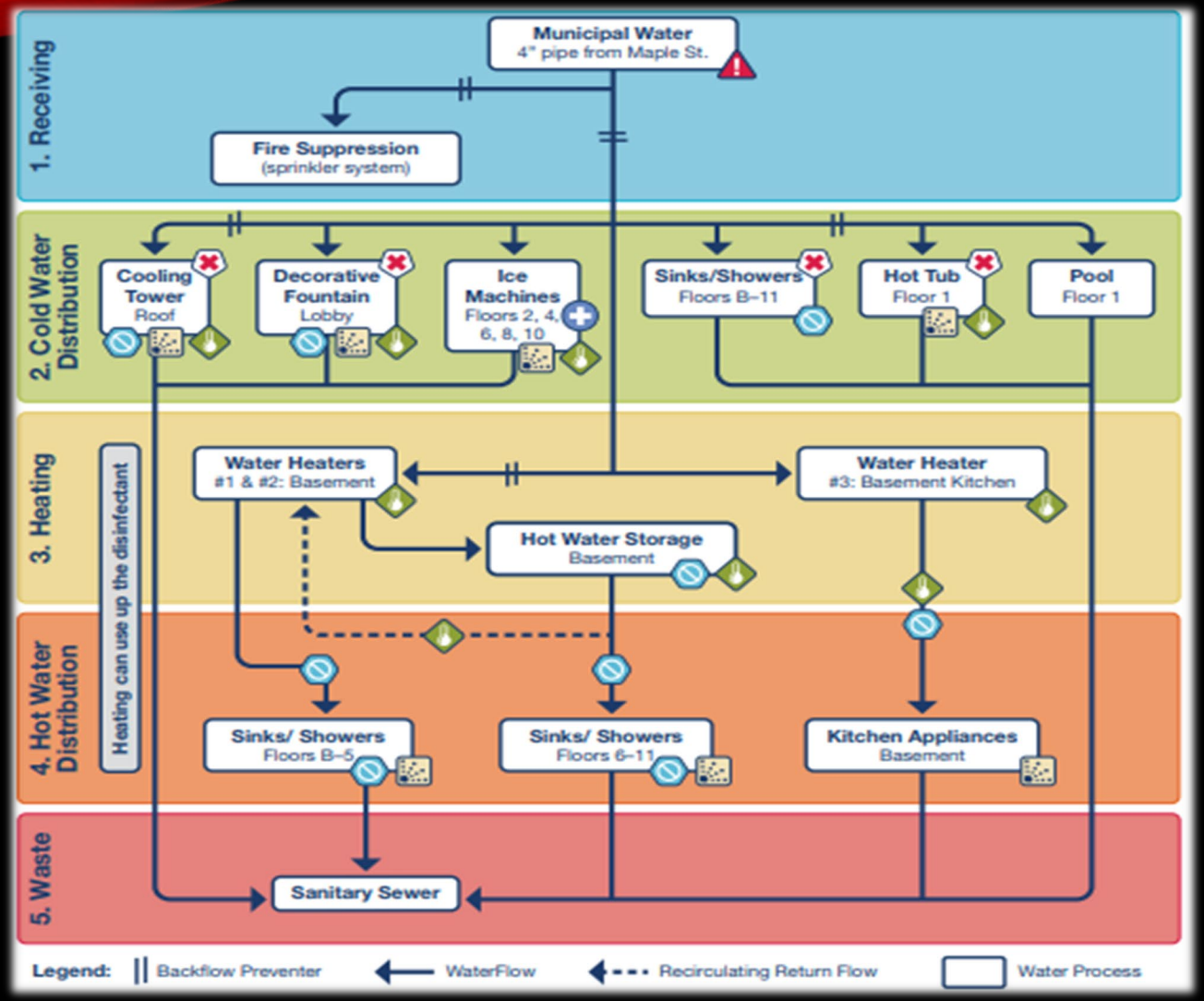
Photo source: Centers for Disease Control and Prevention



Disclaimer: Example content is provided for illustrative purposes only and is not intended to be relevant to all buildings.

Reference: ASHRAE 188: *Legionellosis: Risk Management for Building Water Systems* June 26, 2015. ASHRAE: Atlanta. www.ashrae.org

3 Identify Areas Where *Legionella* Could Grow & Spread



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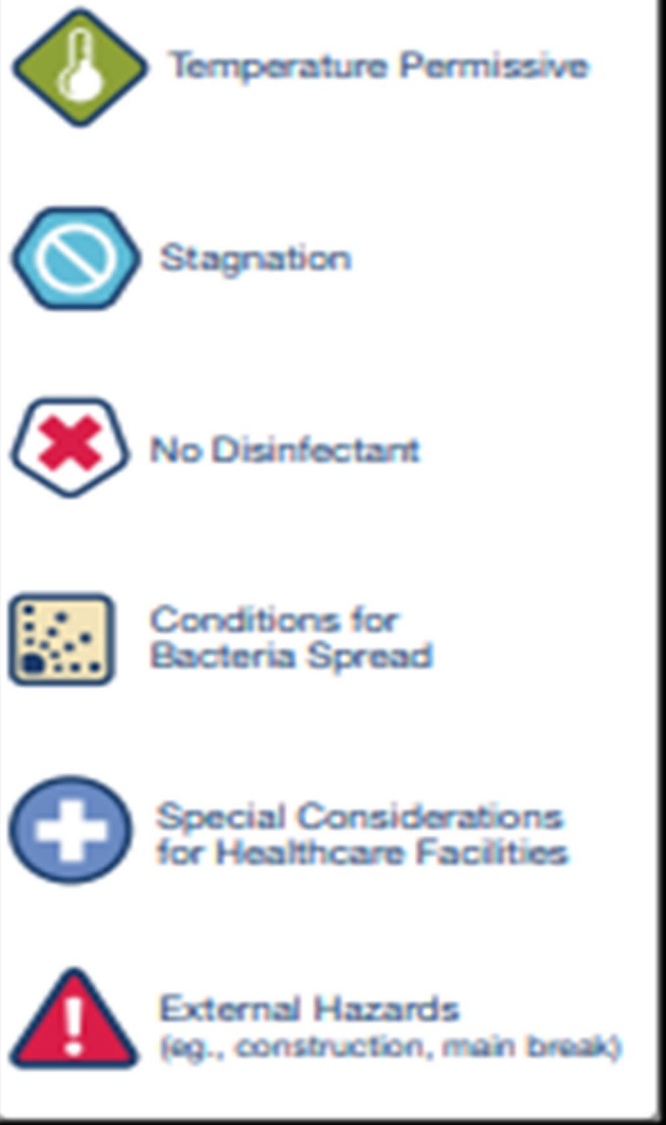
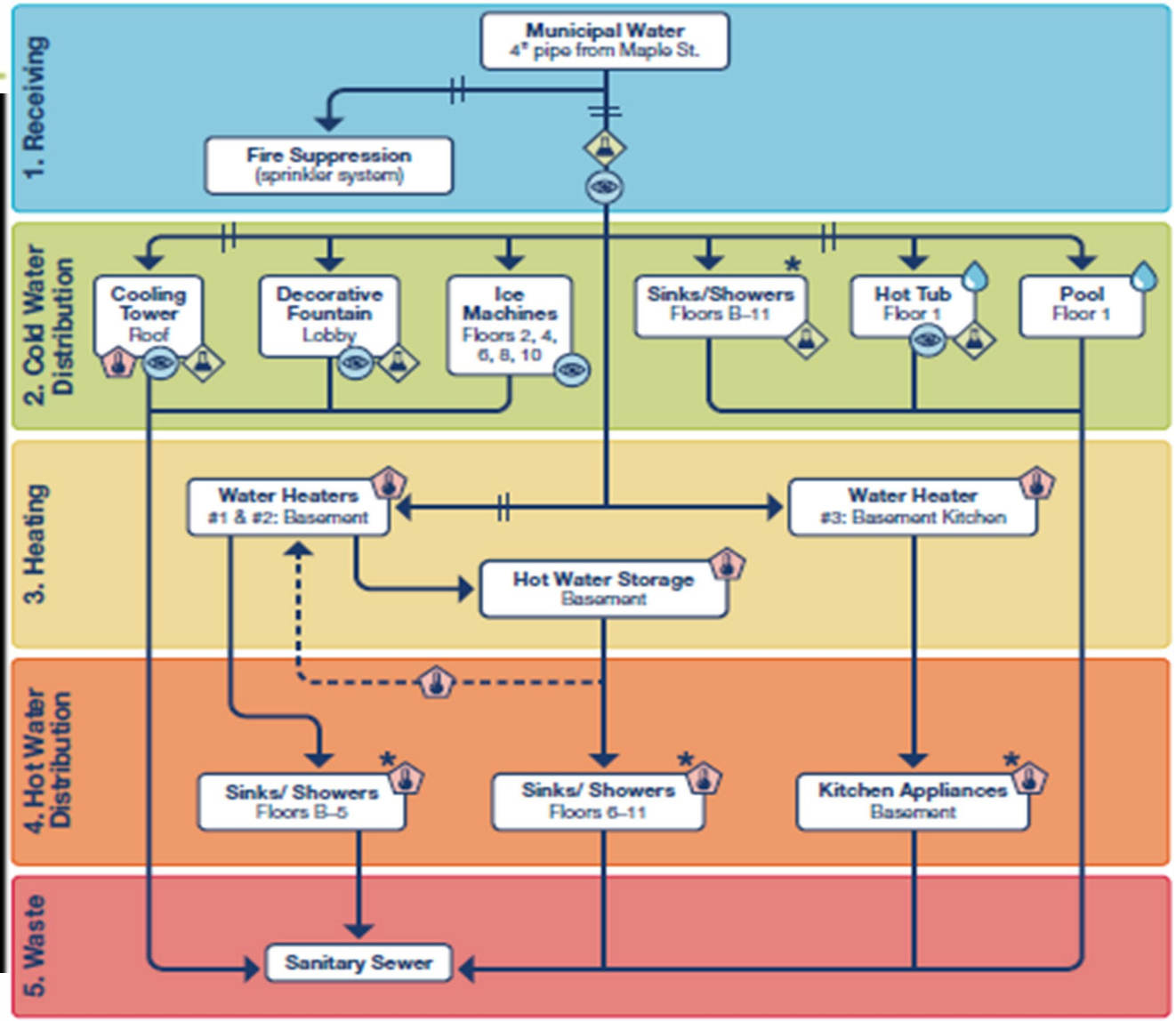


4 Decide Where Control Measures Should Be Applied

- Control measures and limits should be established for each control point.
- You will need to monitor to ensure your control measures are performing as designated.

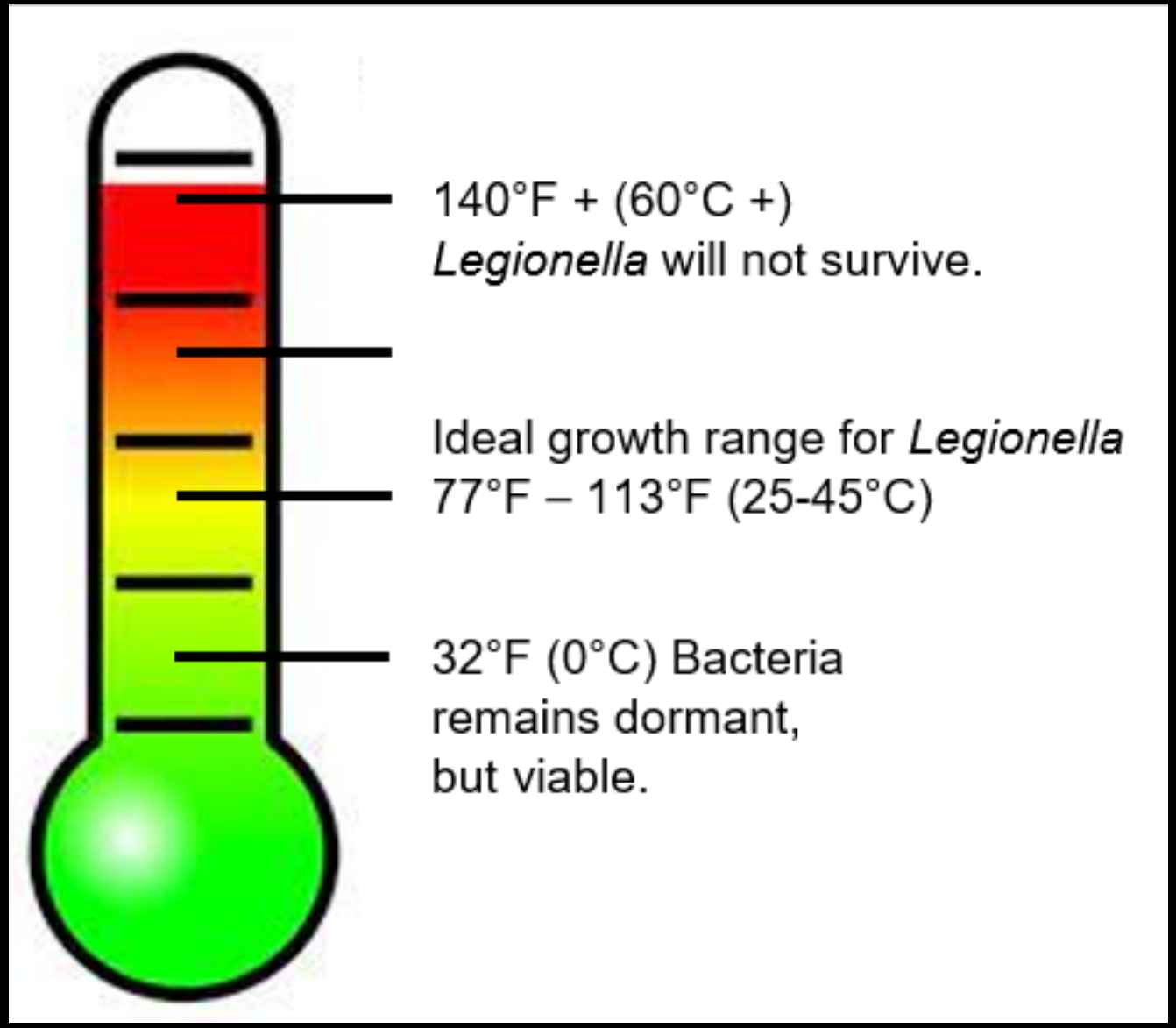


Legend:
Backflow Preventer
WaterFlow
Visual Inspection
Check Disinfectant Levels
Check Temperature

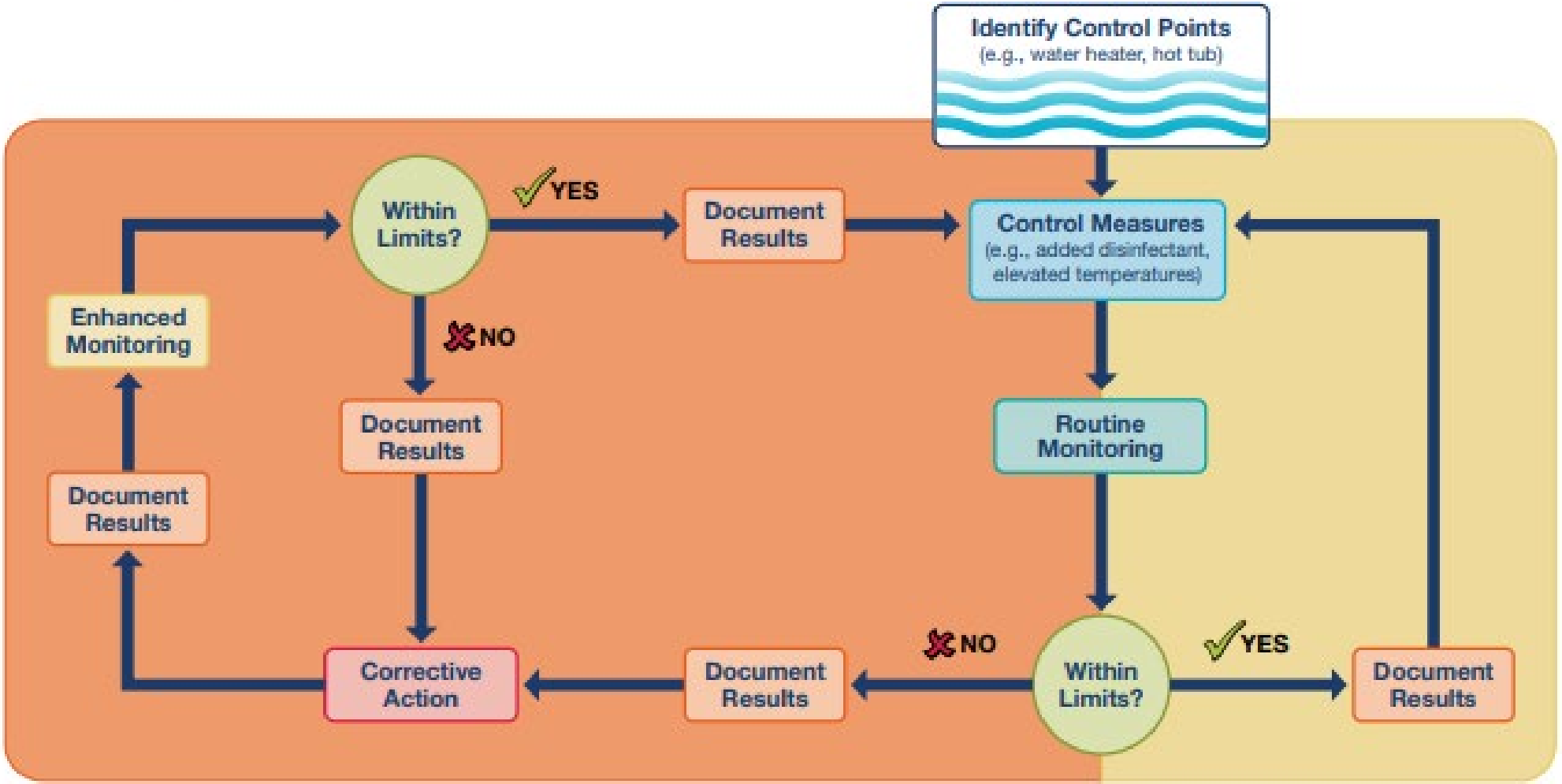
Chemical and Physical Control Measures & Limits to reduce the risk of *Legionella* growth:

- Water quality
- Water heaters
- Decorative fountains
- Disinfectant and other chemical levels

Maintain water temperatures outside the ideal range for *Legionella* growth (77–113°F)



5 Establish Ways to Intervene When Control Limits Are Not Met



Example 1—Biofilm growth in the decorative fountain

1. During her weekly inspection of the fountain in the first floor lobby, Michelle Patterson notes that the fountain walls have accumulated a slimy growth.

2. As dictated by her water management program, Michelle immediately shuts off the fountain, drains it to the sanitary sewer, and scrubs it with a detergent recommended by the manufacturer.

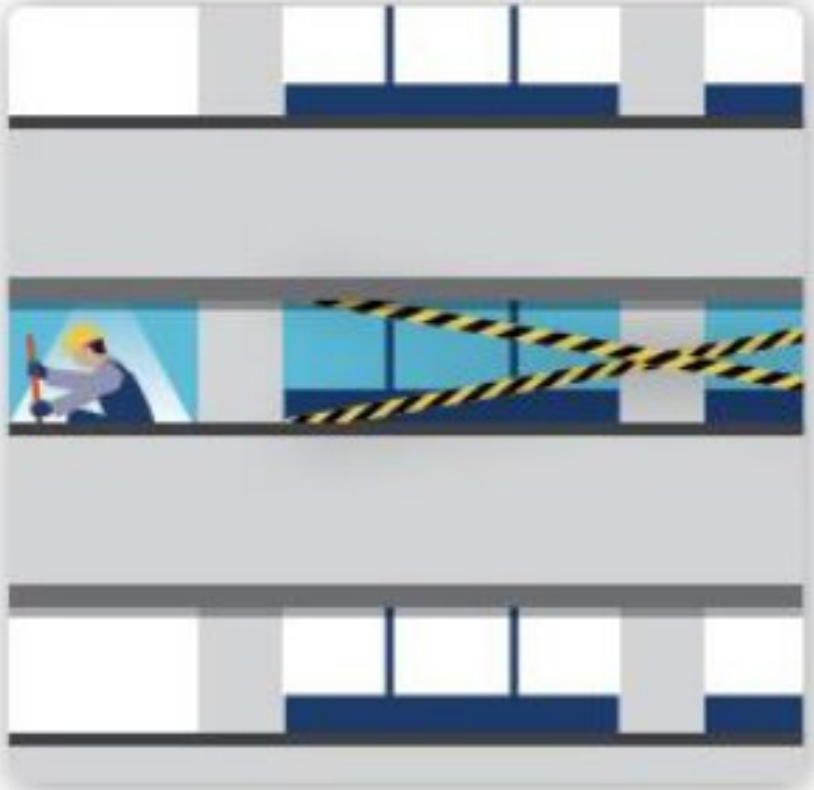
Photo source: Centers for Disease Control and Prevention

3. She then follows the program's start up procedure to refill the fountain with water and checks the residual disinfectant levels to make sure that they are within control limits.

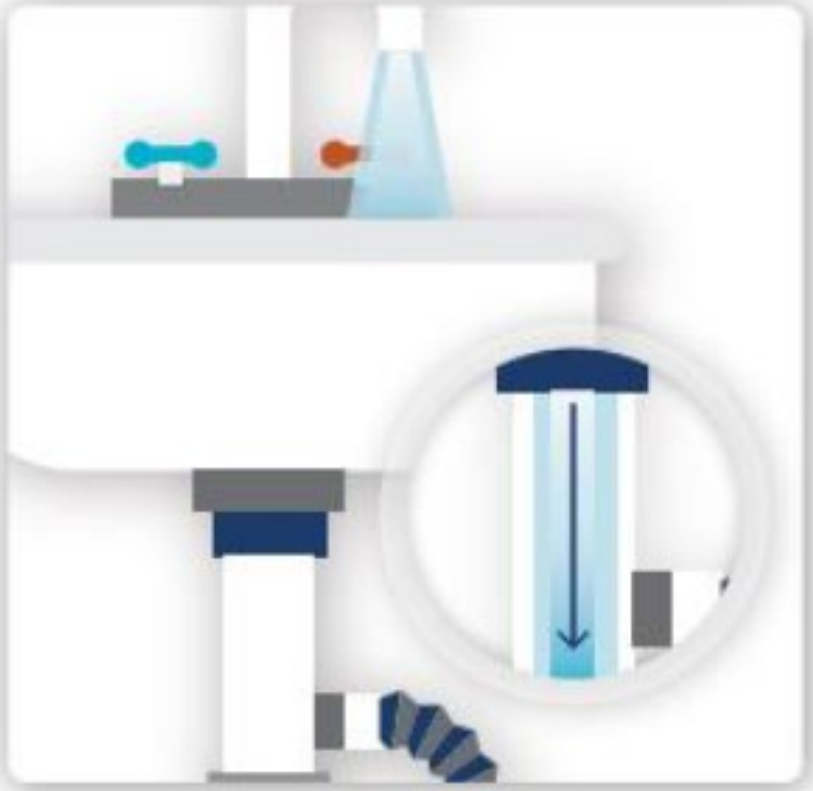
4. Michelle documents her observations and the performance of interim cleaning in her log book. She informs her supervisor.

Photo source: Centers for Disease Control and Prevention

Example 2—Unoccupied floor



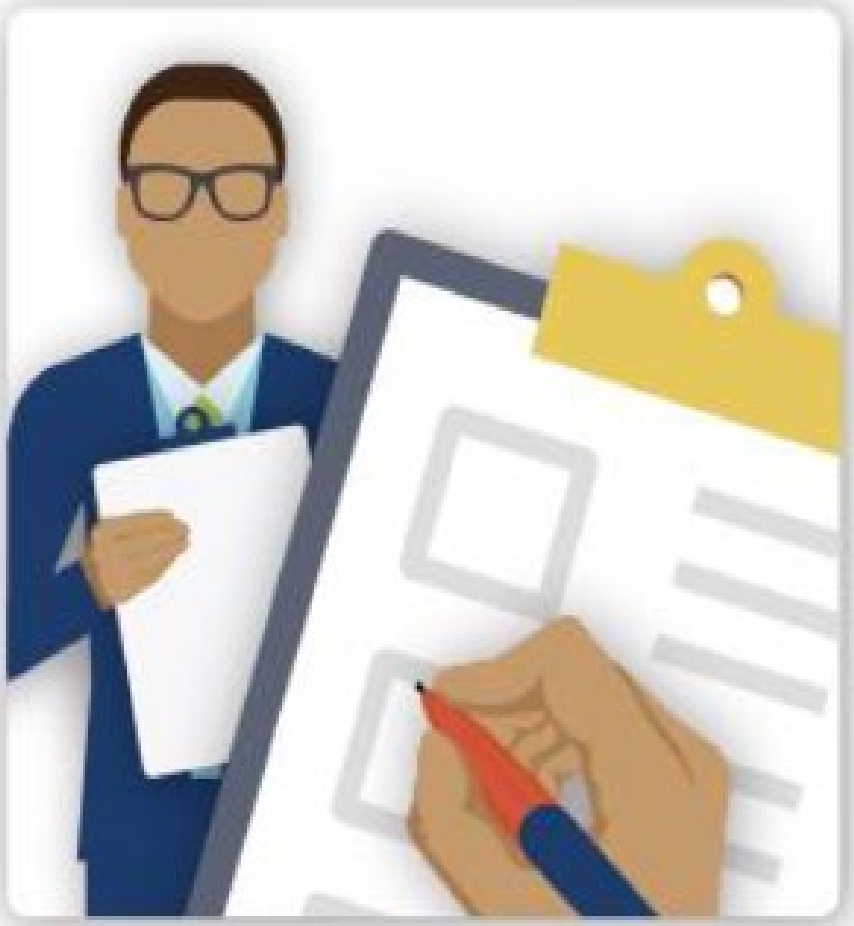
1. The eighth floor of the building is being renovated and is closed to the public. Jason Hernandez understands that this may cause a temporary hazardous condition because water usage will decrease, which means that stagnation is possible.



2. After discussing the issue with his supervisor, Jason counteracts the potential for stagnation by daily flushing of the sinks and fixtures with hot and cold water in several rooms including those at the end of the hall, which are farthest from the vertical pipe serving that floor (riser).

Photo source: Centers for Disease Control and Prevention

3. Jason also increases the frequency of measuring temperature and chlorine levels on the eighth floor from weekly to daily for the duration of the renovation.



4. He documents the method and duration of flushing and records his daily temperature and chlorine readings in his log book. He reviews his documentation with his supervisor.

Photo source: Centers for Disease Control and Prevention

Make Sure the Program Is Running as Designed & Is Effective

Verification

Are we doing what we said we would do?

Validation

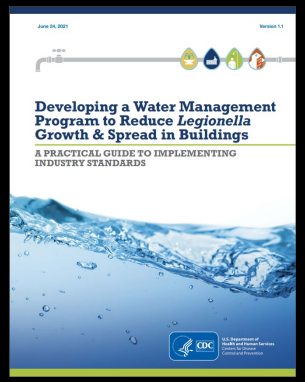
Is our program actually working?

7 Document & Communicate All the Activities of Your Water Management Program

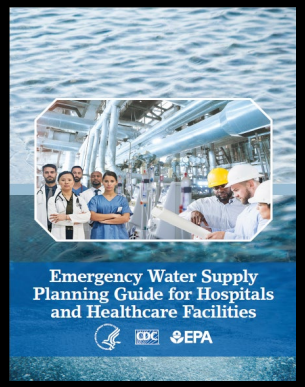
Your written program should include at least the following:

- **Program team**
- **Building description**
- **Water System description**
- **Control Measures**
- **Confirmatory Procedures**
- **Collection and Transport Methods and which lab will perform the testing if environmental testing is conducted.**

Learn more from CDC's toolkit:



www.cdc.gov/control-legionella/media/pdfs/toolkit.pdf



Emergency Water Supply Planning Guide for Hospitals and Healthcare Facilities | Water, Sanitation, and Hygiene (WASH)-related Emergencies and Outbreaks | CDC

Resources:

CDC Legionella Toolkit:
www.cdc.gov/control-legionella/media/pdfs/toolkit.pdf

ASHRE Standard:
ANSI/ASHRAE Standard 188-2021, Legionellosis: Risk Management for Building Water Systems

Questions?

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Thank You!