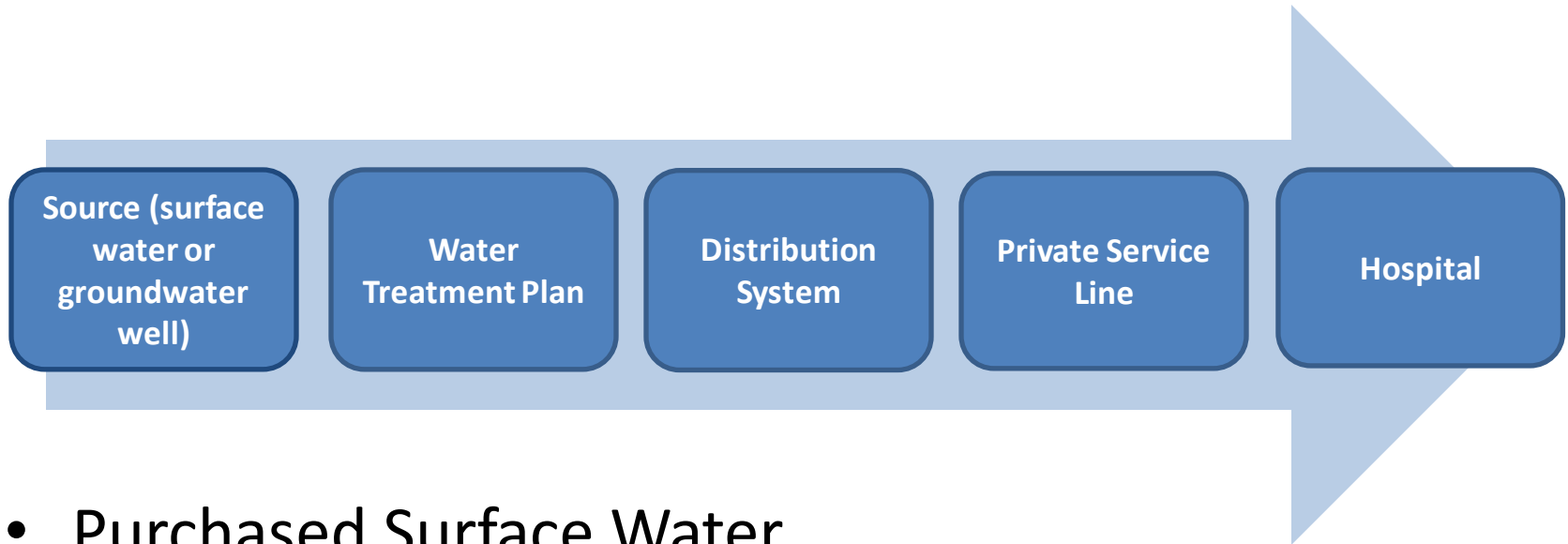


Reducing Legionella Growth & Spread in Buildings

Developing a Water Management Program

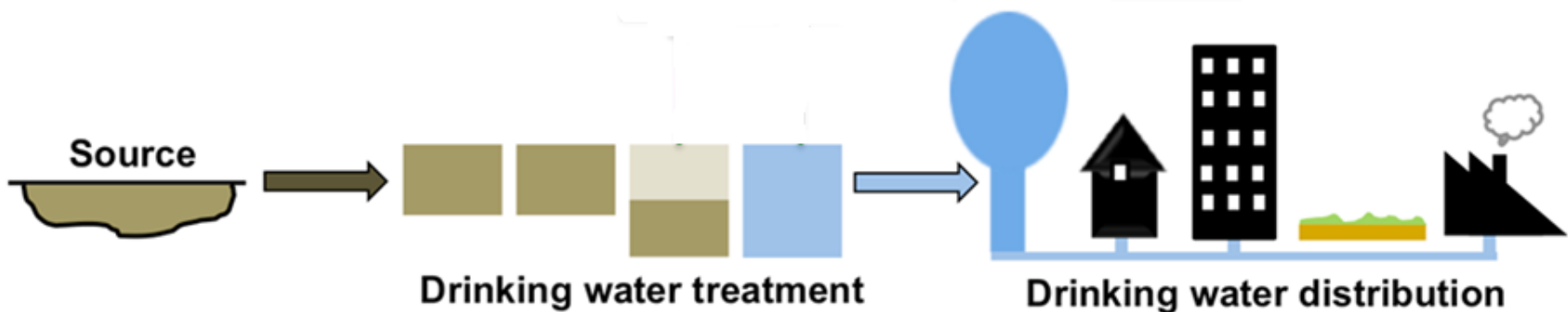
Source Water in Community Infrastructure



- Purchased Surface Water
- Purchased Groundwater

Type I Community Water Supply

- The majority of hospitals in Oakland County are served by a Community Water Supply



Type II Non-Community Water Supply

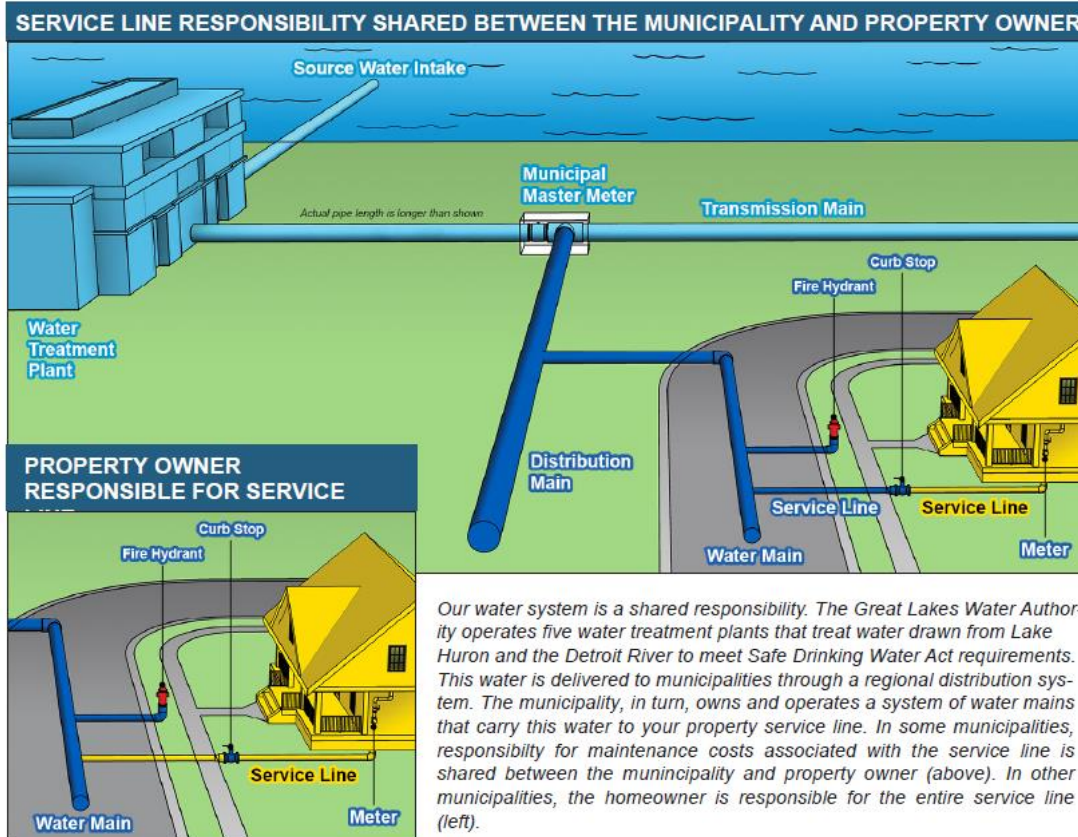
- Type II Water Supplies are regulated by OCHD through a contract with DEQ
- There are nearly 700 Type II supplies in Oakland County



Type I and Type II Public Water Supplies

Classification	Description	Examples
Type I Community Public Water Supply	Provides year-round service to not less than 25 residents OR not less than 15 living units	Municipalities, Apartments, Nursing Homes, Mobile Home Parks
Type II Noncommunity Public Water Supply	A public supply that is not a community supply, but has not less than 15 service connections or serves no less than 25 individuals on an average daily basis for not less than 60 days per year	Schools, Industries, Places of Employment Hotels and Restaurants (with less than 25 employees), Campgrounds
Type III Public Water Supply	Anything not considered a Type I or Type II water supply; serves less than 25 people AND 15 connections, or operates for less than 60 days per year	Small Apartment Complexes and Condominiums, Duplexes, all Others
Private Water Supply	Serves a single living unit	Single Family Home

Potential Water Main and Service Line Concerns



- Great Lakes Water Authority
- Municipality
- Property Owner



Additional Regulation

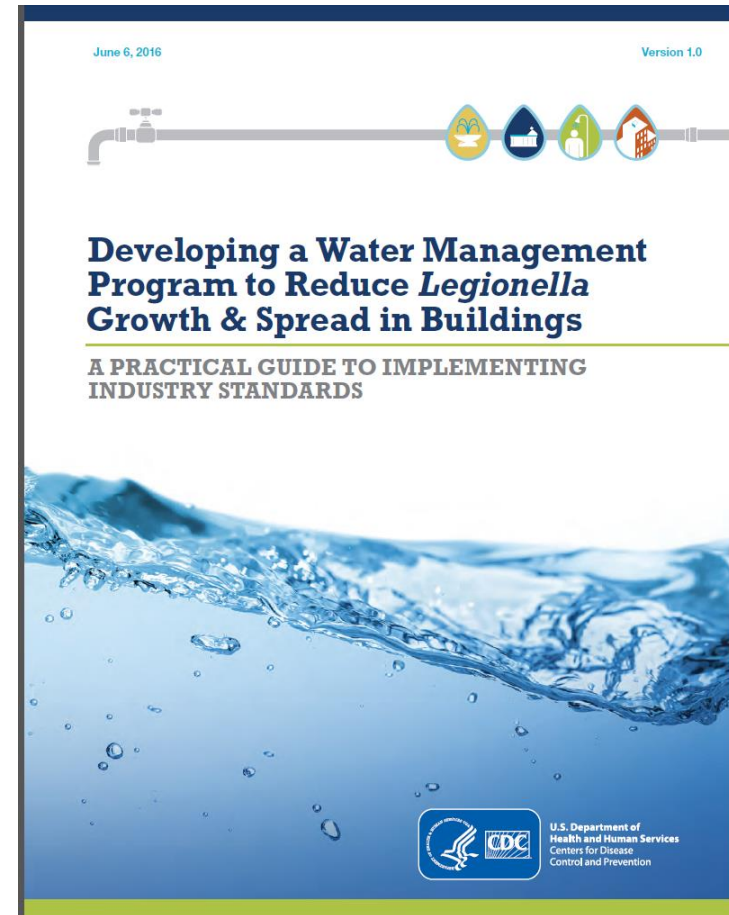
- DEQ regulation of treatment added to facility using Type I source.
- Type II treatment requirements
- Would be in perpetuity

Introduction to Water Treatment to Reduce Legionella

- Legionnaires' disease is on the rise in the United States
- Water management plans are becoming an industry standard for control of legionella.
- Tools and standards to assist:
 - CDC Toolkit
 - ASHRAE Standard 188

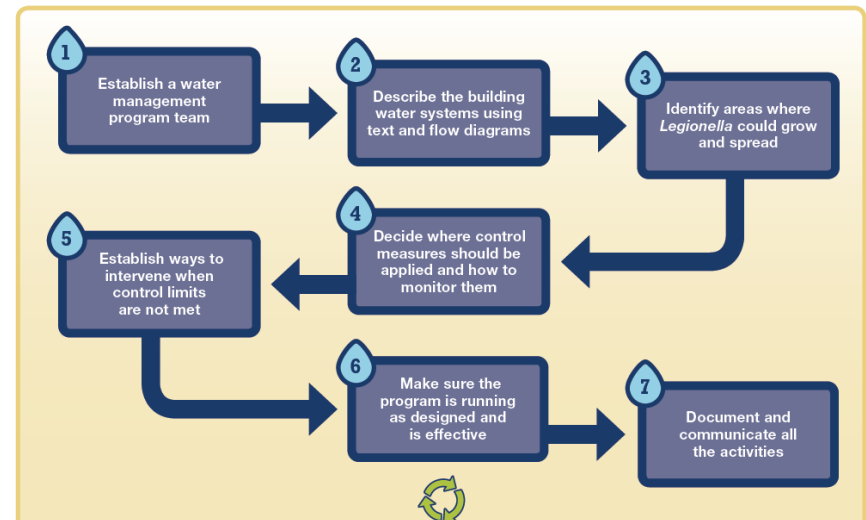
Tool Kit

- CDC Toolkit: *Developing a Water Management Program to Reduce Legionella Growth & Spread in Buildings: A practical guide to implementing industry standards (June 6, 2016)*
- ANSI/ASHRAE Standard 188-2015: *Legionellosis: Risk Management for Building Water Systems (June 26, 2015)*



Elements of a Water Management Program

- Do we really need a water management program to prevent *Legionella* growth?
 - If your building is a healthcare facility, the answer is **YES**.
- Developing and maintaining a water management program is a multi-step process:



Element 1:

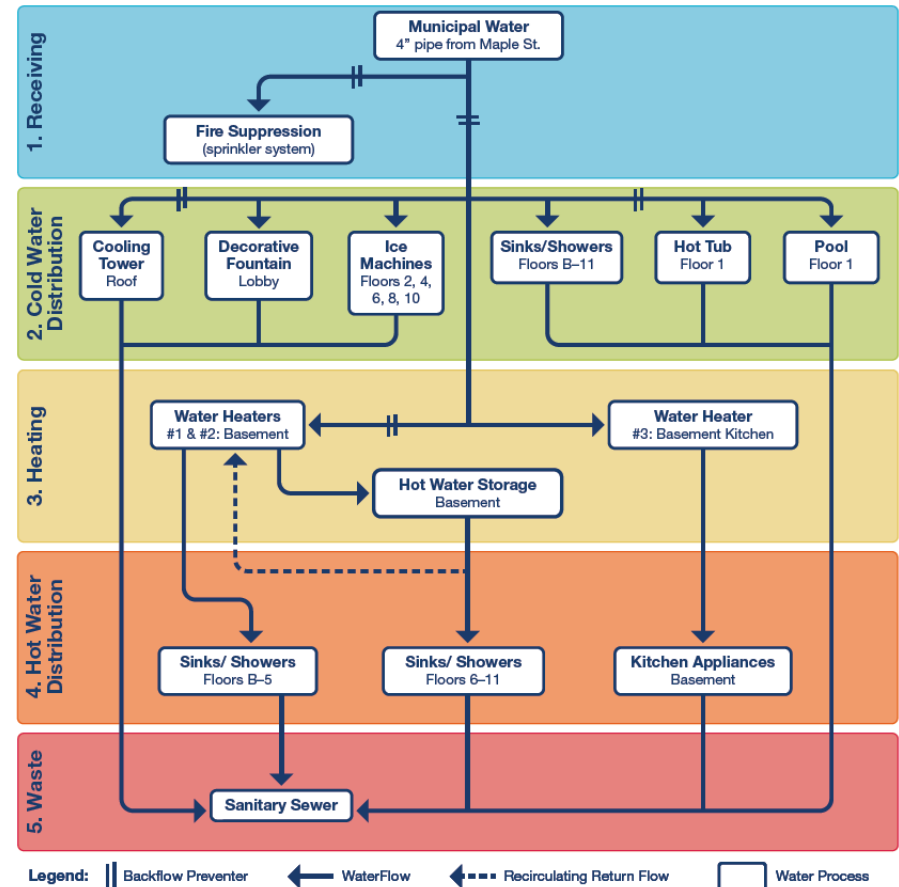
Establish a Water Management Program Team

- Identify the persons responsible for developing and implementing the program
 - Building owner/administration
 - Maintenance/Engineering
 - Equipment/chemical suppliers
 - Safety Officers
 - Consultants
- For Health Care Facilities:
 - Infection Prevention and Control
 - Risk Management
 - Someone knowledgeable in the accreditation or licensing standards

Element 2:

Describe the Building Water System Using Text and Diagrams

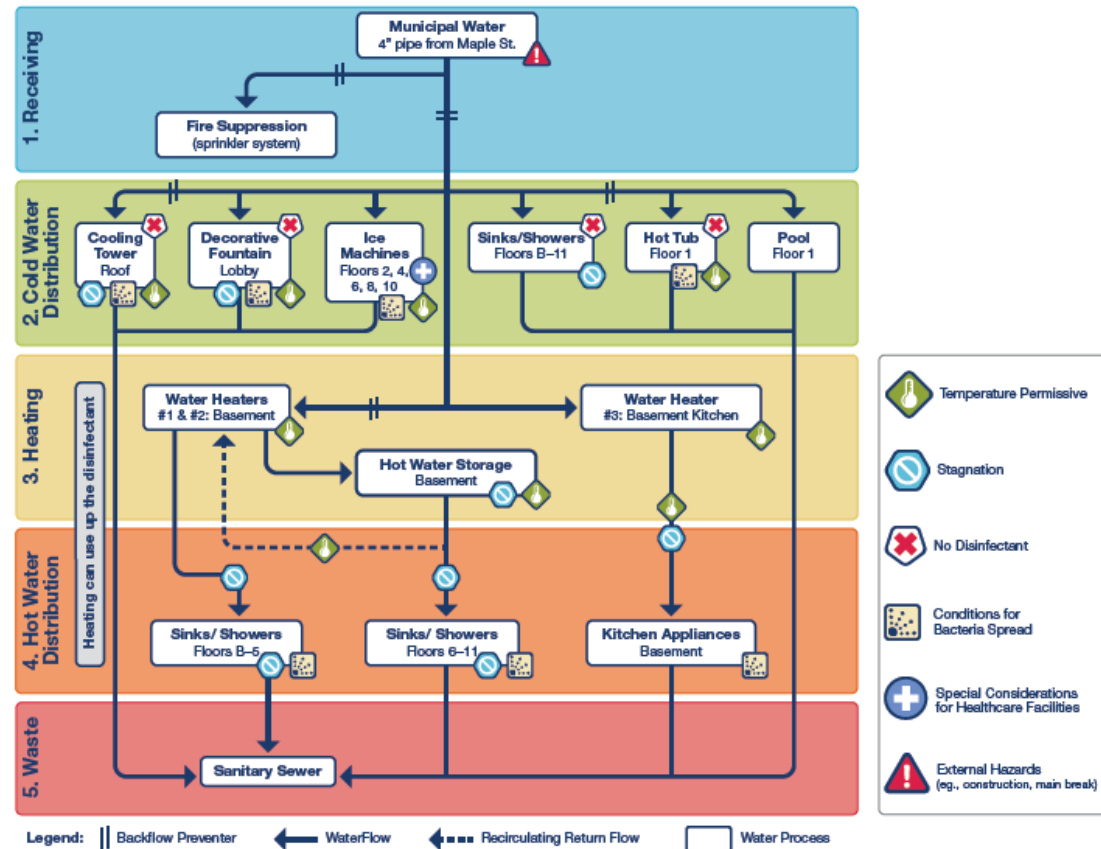
- Write a simple description of the building water system and how it is distributed throughout the building.
- The information from the written flow is then shown by diagram(s)



Element 3:

Identify Areas Where Legionella Could Grow and Spread

- Determine where in the water system is a risk or has potential for hazardous conditions of legionella growth.
- Establish control points, control limits and corrective actions for conditions outside of control limits.



Element 4:

Decide Where Control Measures Should be Applied

- Monitoring will be needed to ensure your control measures are performing as designed.
- Chemical or physical parameters must be maintained and have designated minimum and maximum values.
 - Water quality should be measured throughout (chlorine)
 - Water heaters maintained at proper temperature
 - Decorative fountains free of debris or biofilm
 - Disinfectant levels in cooling towers maintained
- Testing of patients with healthcare-associated pneumonia for Legionnaires' disease.

Element 5:

Establish Ways to Intervene When Control Limits Are Not Met

- Corrective Actions are taken in response to systems performing outside of control limits
- A contingency response is a reaction to control measures that are persistently outside of control limits
 - Always required when Legionnaires' occurs
 - Even the most closely monitored systems may sometimes require adjustments .

Element 6:

Make Sure the Program Is Running As Designed & Is Effective

- Verification: Are we doing what we said?
 - Confirm both initially and on an ongoing basis that the water management program is being implemented as designed
- Validation: Is our program actually working?
 - Confirm both initially and on an ongoing basis that the water management program effectively controls the hazardous conditions throughout the building water systems
 - Environmental testing
 - Infection control data

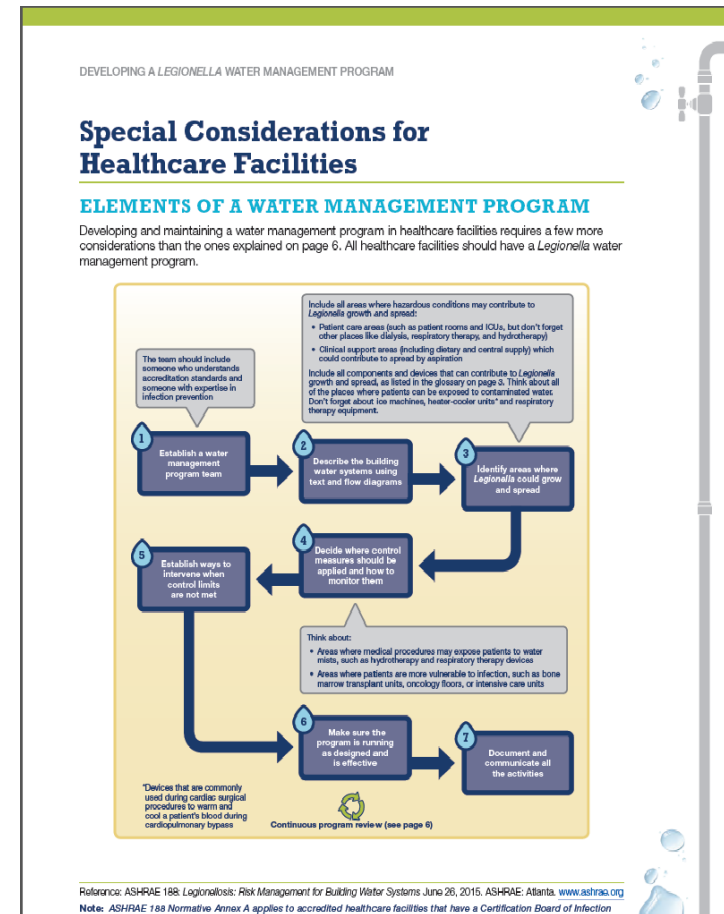
Element 7:

Document & Communicate All the Activities of Your Water Management Program

- Documentation – Your written program should include at least the following:
 - Program team including names, titles contacts information and roles
 - Building description including age, use, occupants and visitors
 - Water system description
 - Control measures
 - Confirmation procedures
 - Collection and transport of environmental samples; laboratory name/address/contact
- Communicate
 - Notify employees that you have a plan
 - Communicate the plan on regular basis and use this as opportunity for improvements

Special Considerations for HealthCare Facilities

- Both the CDC Toolkit and ASHRAE Standard have “Special Considerations for Healthcare Facilities”
 - Toolkit Appendix A
 - Standard 188 Normative Annex A



Stay Connected



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