



## Department of Environmental Protection

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# “Enhancing Resilience & Emergency Preparedness of Water Utilities through Improved Mapping”

## FREQUENTLY ASKED QUESTIONS (FAQ)

### **What is the MassDEP “Enhancing Resilience & Emergency Preparedness of Water Utilities through Improved Mapping” project?**

Commonly called the “GIS Infrastructure Mapping Project,” the “Enhancing Resilience & Emergency Preparedness of Water Utilities through Improved Mapping” project is a collaboration between MassDEP’s Water Utility Resilience Program (WURP) and Geographic Information Systems (GIS) Program that was initiated in 2016. It began as a statewide inventory of water utility (both drinking water and wastewater systems) map status and format(s) to better understand map availability throughout the Commonwealth, develop a uniform approach to tracking map availability, and improve internal access to water utility critical infrastructure. Ultimately, the information under development will be used to create a consistently formatted, statewide water utility infrastructure map for state agency use that is appropriately secured, and provide statewide service area maps showing general boundary information that will be publicly available.

### **How can this project help my Public Water System (PWS) or Publicly Owned Treatment Works (POTW)?**

The project assists water utilities with enhancing their ability to better manage infrastructure assets, plan for and respond to emergencies, and meet regulatory mapping requirements as necessary. Information within the statewide inventory, along with regional program recommendations, is used to prioritize systems potentially in need of GIS technical assistance. Technical assistance is then provided for free to water utilities that indicate interest in assistance using funds made available through the Water Management Act (WMA) grant program. All participating systems receive a hard copy paper map of their respective drinking water distribution or sewer collection system, along with a thumb drive that contains a pdf image of their map, the GIS data, and a GIS metadata description report.

- In fiscal year 2017 (FY17), this project secured \$300,000 as part of the WMA grant program, which resulted in jumpstarting GIS mapping for 49 water utilities in 32 communities, including 34 PWSs and 15 POTWs.
- In FY18, this project has secured \$500,000 through the WMA grant program to continue GIS technical assistance for up to 40 water utilities; provide quality control review of over 400 water utility service area maps with revisions as appropriate; investigate the map status of approximately 100 communities for development of water utility service area maps; and, develop a field use information report that offers opportunities for water utilities to access and enhance their system’s GIS data in real time.

**Is the GIS technical assistance provided to the water utility really free?**

Yes. There is no charge to the water utility for this technical assistance service. MassDEP does require that the water utility commit staff time to gathering information and materials that will be used to develop the GIS map of the system. In addition, water utility staff must be available to answer questions from the consultant developing the map; and, review and comment on a draft version of the map to ensure accuracy. The time of water utility commitment has widely varied depending upon the size of the system and the level of detail incorporated into the map. During the FY17 mapping round, systems reported a range of staff time spent from 2 hours up to 85 hours.

**Is MassDEP using information from this project for enforcement?**

No. It is very important to note that the information developed under this project is considered technical assistance to water utilities through WURP. As such, it is not being used to initiate enforcement through the drinking water or water pollution control programs. A copy of the final map for all participating systems is also submitted to MassDEP pursuant to the statement of work conditions; therefore, some systems have used their map deliverable to satisfy previous or anticipated MassDEP requirements.

**How will this project help MassDEP?**

MassDEP recognizes there are systems that may not require mapping assistance due to in-house resources; however, by compiling comprehensive water utility infrastructure information in a consistent, digital form, MassDEP will improve its ability to access information statewide. This access is of particular importance during large scale or emergency events when multiple MassDEP staff are involved, as well as for other statewide bureau programs, and general knowledge across regional boundaries. Subsequently, MassDEP will be more efficient in responding to water utility emergencies and assisting with routine technical assistance. This project will also provide WURP with the necessary tools to evaluate, prioritize and assist water utilities with critical infrastructure resilience planning and climate change adaptation.

**Is this project relative to all types of PWSs?**

The focus at this time for PWSs is on Community (COM) systems with priority to municipal suppliers; however, MassDEP has recently expanded the program to Non-Transient Non-Community (NTNC) systems, particularly those that potentially serve as a shelter during emergency events.

**Is this project relative to all types of wastewater systems?**

No, the current focus is on centralized Publicly Owned Treatment Works (POTWs) with priority to municipal systems. The project will not include any groundwater discharge permits at this time, or Title V systems, but anticipates inclusion of large groundwater dischargers subject to future funding.

**Does MassDEP perform the GIS mapping?**

No, not directly. MassDEP contracts this work to pre-qualified firms deemed eligible to provide services through the ITS53ProjServGIS Statewide Contract. MassDEP oversees all work performed for the project.

**Which firm performed the GIS mapping for FY17?**

Tighe & Bond, Inc.

### **How did MassDEP determine which water utilities would receive free GIS mapping?**

For FY17 funds, systems were initially prioritized based upon information within the statewide inventory. The systems were then reviewed based on factors that included system size, need(s), and interest in participation, and MassDEP regional program staff input.

In anticipation of available FY18 funds, MassDEP issued a Request for Interest (RFI) on November 7, 2017, which was focused upon soliciting interest from additional PWS and POTW suppliers to receive free technical assistance in developing GIS maps of their drinking water distribution or sewer collection systems from a private consulting firm. The RFI was posted to the MassDEP website at <https://www.mass.gov/service-details/water-management-act-grant-programs-for-public-water-suppliers> with additional direct email blasts sent out through the MassDEP drinking water and wastewater/Department of Public Works (DPW) listserv. Additional targeted emails were sent out by WURP to specific water utilities, which had been identified as potential priorities based upon information within the MassDEP mapping inventory and the FY17 final report recommendations.

### **What information was used to develop the statewide inventory?**

MassDEP utilized and combined the results of an internal file review, infrastructure information publicly available online, and historical water utility mapping initiatives.

### **What historical water utility information or mapping initiatives have been used in this project?**

- Pioneer Institute for Public Policy Research (2004): document referred to as the "Percent On Sewer" that documented percentage values of sewerage areas for many municipalities in the metrowest area.
- MassGIS – Public Water Supply Service Territories (February 2005): Information compiled by EarthTech as part of the Executive Office of Energy and Environmental Affairs (EOEEA) funded Water Assets Project. This included delineations of areas served by 131 water supply districts and municipalities, including areas served by MWRA. The data focuses mainly on eastern MA communities. See: <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/pwsterr.html>
- EOEEA Water Assets Project (2007): A collection of infrastructure linework for 84 communities (primarily in the southeast and western regions) that identify existing water and sewer lines. Data from the project was mainly developed through regional planning agencies (RPAs) within the state that work on varying community issues and needs, including challenges associated with water and wastewater systems.
- MDPH-BEH PWS roadway centerlines (2007): Information compiled from address matched billing addresses received from municipal water departments for 76 systems.
- Horsley Witten Group, Inc. (2008): Completed the Final Report: Water and Sewer Service Area Maps (by Town). Taunton River Watershed Project Phase I Final Report. Item 13. This was made available as part of Virtual Commons, the open-access institutional repository of Bridgewater State University. It provides the water and sewer service areas for 38 communities. See: [http://vc.bridgew.edu/cgi/viewcontent.cgi?article=1012&context=taunton\\_riv\\_ph1](http://vc.bridgew.edu/cgi/viewcontent.cgi?article=1012&context=taunton_riv_ph1)
- The Massachusetts Water Resources Authority (MWRA) provides wholesale water and sewer services to 61 metropolitan Boston cities and towns, which operate and maintain their own water and sewer

networks. For the MWRA list of municipalities served, see:

<http://www.mwra.state.ma.us/02org/html/locallist.htm>

- 310 CMR 14.00 (Financial Assistance to Municipalities for Correcting Failed On-site Disposal Systems): Specifically 310 CMR 14.17 (Municipal Priority List), which is a listing of municipalities with unsewered areas ranked in accordance with increasing percentage of sewerage areas.

**How do I know if my system or community was involved in any of the historical water utility mapping projects?**

COMING SOON! MassDEP is in the process of developing a map that depicts communities with this information. Please contact WURP for system specific questions.

**Are other state agencies involved with this project?**

Yes. The Massachusetts Department of Public Health (MDPH) Bureau of Environmental Health (BEH), which developed information in 2007 (see historical water utility information being used) received funding in 2016 to staff a temporary research assistant position that focuses on the determination of drinking water system boundaries. To eliminate any work redundancy and ensure a comprehensive assessment of PWSs, MassDEP and MDPH collaborated on the publicly available map review and statewide inventory portions of this project to take full advantage of limited resources. MassDEP and MDPH continue to collaborate on development of PWS service area maps. MDPH has not been involved in mapping developed for POTWs.

**Why is MDPH interested in PWS information?**

MDPH is interested in drinking water distribution system boundary information to support routine public health research and strengthen MDPH outreach and technical assistance capabilities.

**Will all information developed for water utilities participating in this project be published through MassGIS for public availability? What about water utilities that have GIS, and submitted digital data to MassDEP upon request?**

No. Detailed PWS infrastructure data submitted to MassDEP will be protected as critical infrastructure information for internal use only. However, data developed or submitted to MassDEP under this project will be used to develop the statewide, generalized service or boundary area maps, which will be publicly available. These service or boundary areas will be based on information submitted by the water utility or based on information already publicly available elsewhere. Generalized service or boundary areas will only include areas buffered around roadways that have service lines to generally show where in a municipality, water and/or sewer service is available. Pipes and other infrastructure will not be shown.

**Is my water utility required to submit infrastructure or mapping information through this project?**

No.

**I'm considering providing my system's infrastructure data to MassDEP, but I'm concerned about security of that data. What steps has MassDEP taken to ensure it will be secure?**

MassDEP has been and will continue to be particularly cognizant of security for this particular critical infrastructure information. As such, MassDEP has coordinated data security with the Commonwealth Fusion Center and the Department of Homeland Security (DHS) Critical Infrastructure program to safeguard access to detailed information both internally and externally. All detailed data developed for this critical infrastructure

sector is protected by state and federal laws, including an exclusion from public disclosure pursuant to M.G.L. c. 4 §7, Clause 26(n), the Critical Infrastructure Information Act of 2002 (see 6 C.F.R. Part 29), and/or Chemical Vulnerability Terrorism Information (see 6 C.F. R. 27.400 ff).

**How do I know what mapping information MassDEP has on file for my water utility?**

Please contact WURP directly to discuss, or send an email with the subject line “WURP-GIS” and your water utility name. See contact information below.

**How can my water utility participate in this project?**

Please contact WURP directly to discuss, or send an email with the subject line “WURP-GIS” and your water utility name. WURP will review and confirm information currently available to MassDEP for your particular system to determine if your GIS technical assistance needs can be met through this program. See contact information below.

**Who are the MassDEP contacts if I have further questions?**

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