Sterling Water System

Public Water System
Emergency Response Plan

Location: Sterling, CT
PWS ID: CT1360011
Created: 7/10/2024

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Section 1:
Emergency Response Mission and Goals

Use the mission statement and goals to help focus on emergency planning and response.

Emergency Response Mission and Goals:

Mission Statement:	In an emergency, the mission of the public water system is to protect the health of our consumers by being prepared to respond immediately to a variety of events that may result in contamination of the water or disruption of supplying water.
Goal 1:	Be able to quickly identify an emergency and initiate timely and effective response action.
Goal 2:	Be able to quickly notify local, state, and federal agencies to assist in the response.
Goal 3:	Protect public health by being able to quickly determine if the water is not safe to drink or use and being able to immediately notify consumers effectively of the situation and advise them of appropriate protective action.
Goal 4:	To be able to quickly respond and repair damages to minimize system down time.

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Section 2:
System Information

Keep this basic information readily available for when you need it for emergency responders, repair people, and the news media.

System Information:

Public Water System Identification Number (PWSID):	CT1360011
System Name:	Sterling Water System
Address of System:	327 Sterling Road, Sterling CT
Directions to system:	From RT 395, South (Killingly) take 395 South to exit 32, merge onto CT-14East, follow CT-14 East for 4.3 miles to Sterling. Water station has a gated access driveway on the left , in park ,field area.
Service Connections:	105
Population Served:	370
System Owner/Manager:	Link Cooper Sterling First Selectman 860-564-2904 Ext. 102
Operator:	Robert Wittenzellner Operator for WhiteWater Inc. (508) 259-8888

Basic Description and Location of System Facilities:

Sterling Water System is supplied by three gravel pack wells. The three wells are in the vicinity of the lower pump station by Sterling Road and Main Street. The three wells are designated as: Well, 1A, Well 2, and Well 3. The water from these wells is pumped into a 400,000-gallon atmospheric storage tank located on the top of Industrial Park Road North, Exter Road. The system pressure is around 125 psi by the lower station, when the tank calls for water, the well will pump against the system head pressure and will refill the tank on the top of the hill.

Typically, Well 1A is in service, and Wells 2 and 3 are primarily backup wells which produce less than well 1A. The storage tank has a level transducer, which sends a signal through a telemetry system that has solar panel power on top of the tank.

The chemical feed treatment technique consists of chlorination potassium Hydroxide along with phosphate injection.

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Section 3:
Chain of Command – Lines of Authority

The first response step in any emergency is to inform the person at the top of the list, who is responsible for managing the emergency and making key decisions.

Chain of Command:

Name, Title & Contact Information	Responsibilities During Emergency
Eric Smith Water System General Manager; WhiteWater Inc (508) 439-3938; esmith@rhwhite.com	Responsible for WhiteWater Inc. management and decision making for the water system. The Water System Manager is the lead for managing the emergency, providing information to regulatory agencies, the public and news media. All communications to external parties are to be approved by the water system manager.
Robert Wittenzellner Water System Manager/ Backup Operator, WhiteWater Inc (774)272-3257; rwittenzellner@rhwhite.com	In charge of operating the water system, performing inspections, maintenance and sampling and relaying critical information, assessing facilities, and providing recommendations to the water system manager.
Stuart Harkins Primary Operator; WhiteWater Inc (508) 248-2892; rwittenzellner@rhwhite.com	In charge of operating the water system, performing inspections, maintenance and sampling and relaying critical information, assessing facilities, and providing recommendations to the water system manager.
Elycia Hood WhiteWater Inc (888) 377-7678 ehood@rhwhite.com	Responsible for administrative functions in the office including receiving phone calls and keeping a log of events. This person will provide a standard carefully pre-scripted message to those who call with general questions. Additional information will be released through the water system manager.
Link Cooper First Selectman Town of Sterling (860)564-2904; lcooper@sterlingct.us	Responsible for the town of Sterling including the management of the property the water system serves. This person will be involved in the decision making with the Operators and Water System Manager for any adjustments or changes made to the system.
Local Police/Fire/Ambulance 911	Immediate response to life-threatening emergencies.

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Section 4:
Events that Cause Emergencies

The events listed below may cause water system emergencies.

Events that Cause Emergencies:

Type of Event	Probability of Risk (High-Med-Low)	Comments
Earthquake	Low	Unlikely to experience an earthquake in the area.
Flood	High	Water Station located by the Moosup River flood plan area.
High Winds	Med	Med / Lower overhead main lines
Ice Storms	Low	May damage power, onsite generators
Drought	Med	Extended drought could alter well yields
Terrorism	Low	Low profile target. Conventional controls no Scada /PLC interfaced with phone lines
Construction Incident	Low	Would have to take out power grid, or damage system sources
Chemical Spills	Low	Residential area, limited chemical deliveries, low exposures, light commercial a mile away.

Section 5:
Severity of Emergencies

Emergencies usually have a wide range of severity. Defining categories of severity can significantly aid in determining appropriate response actions. Knowing the severity of the emergency and being able to communicate it to others will help system personnel keep their response balanced and effective.

Deciding on severity should be collaborative among system personnel. The information for making the decision will accumulate over time and may result in the level of severity being changed. Once a level of severity is decided, it must be communicated to all those dealing with the emergency.

Level I – Normal (Routine) Emergencies

The public water system considers the following as Level I emergencies:

- Distribution line breaks
- Short power outages
- Minor mechanical problems in pump-houses

Other minor situations where it is not likely that public health will be jeopardized. The system has specific responses for this level of emergency including proper sampling, disinfection, and pressure testing activities. System personnel are advised and are directed to work on the problem and are usually capable of resolving the problem within 24 hours. If it is determined that the problem will take longer than 24 hours to resolve and storage is likely to be drawn down below a safe operating level, the situation will be elevated to Level II.

Level II – Minor Emergencies (Alert Status)

The public water system considers the following as Level II emergencies:

- Disruption in supply, such as pump failure with a potential for backflow and loss of pressure
- Storage is not adequate to hand disruption in supply.
- Access to system fire hydrants.
- An initial positive Total Coliform or E. Coli sample
- An initial primary chemical contaminant sample
- A minor act of vandalism
- Drought, with a noticeable and continuing decline of the water level in the well

Level III – Significant Emergencies

The public water system considers the following as Level III emergencies:

- A verified acute confirmed Total Coliform MCL or E. Coli / Fecal positive sample requiring immediate consideration of a health advisory notice to consumers.
- A confirmed sample of another primary contaminant requiring immediate consideration of a health advisory notice to consumers.
- Loss of storage water levels that eliminate or restrict the use of fire hydrants.
- A loss or complete malfunction of the water treatment facilities
- A major line break or other system failure resulting in a water shortage or requiring system shutdown.
- A prolong fire event, as the system provides fire protection in water service area.
- An act of vandalism or terrorist threat such as intrusion or damage to a primary facility
- Severe drought significantly affecting well yield.

Level IV – Catastrophic Disaster / Natural Disaster / Major Emergencies

The public water system considers the following as Level IV or major emergencies:

- Earthquake that shuts down the system or impacts sources, lines, etc.
- Act of terrorism possibly contaminating the water system with biological or chemical agents
- Flood that infiltrates system facilities and sources
- Chemical spill within 2000 feet of the system's sources
- Storm that significantly damages power grid and system facilities
- Mudslide or other earth shift that causes loss of water in well

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Section 6:
Emergency Notification

Use these lists to notify important parties during an emergency.

Notification Procedures:

Responsible Party:	The Sterling First Selectman will consult with the water system manager for ultimately making the decision to notify consumers regarding a potential water shortage and the need for water use restrictions. The water system manager should consult with field staff to make the decision. Once the decision is made procedures for notification will be initiated.
Procedures:	• Water system manager confers with first selectmen along with key staff to verify problems. • Water system manager organizes staff to develop the message to be delivered to the consumers. • Water system manager consults with state drinking water staff regarding the problem. • Water system manager with assistance from staff prepares door hangers, signs and radio message, if applicable. • Water system operator continues to investigate problem and make repairs as necessary. • The water shortage notification will be distributed by: 1. Field staff placing “water shortage notices” on doors and along travel routes. 2. Staff will place signs on main travel routes into the community. 3. Water system manager contacts WINY / WNLC radio and requests issuance of the water shortage notice and request to curtail water use, if applicable. 4. Administrative support person will provide a pre-scripted message to phone callers and log in each phone call. • Water system operator continuously updates the water system manager on water shortage. • Once water shortage is resolved, re-notify consumers.

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Notification Lists:

WhiteWater Inc Notification List:

Name	Title	Phone Number	Email Address
Eric Smith	WhiteWater General Manager	(508) 439-3938	esmith@rhwhite.com
Robert Wittenzellner	Water Systems Area Manager	(774) 272-3257	rwittenzellner@rhwhite.com
Stuart Harkins	Chief Operator	(508) 259-8888	sharkins@rhwhite.com
Tim Costa	Operator	(508)713-3632	tcosta@rhwhite.com
Elycia Hood	Service Coordinator	(888) 377-7678	ehood@rhwhite.com

Town of Sterling Notification List:

Name	Title	Phone Number	Email Address
Link Cooper	1st Selectman	(860) 564-2904 ext.102	lcooper@sterlingct.us
Susan Tetreault	Administrative Assistant	(860)564-2904 ext. 101	stetreault@sterling.us

Local Notification List:

Organization	Phone Number
Immediate Response Police/Fire/Ambulance	911
Non-Emergency Fire	(860) 564 -7435
Fire Marshall -James Sweet	(860) 564-2704
Local Health Department - NE District DOH	(860) 774 -7350
Water Testing – Phoenix Laboratory	(860) 645-1102

State Notification List:

Organization	Phone Number
Connecticut State Police Danielson	(860) 779- 4900
Connecticut Department of Health	(860) 509-8000 (860) 692 -2333

Situations, Responsible Parties & Procedures:

Situation	Responsible Party	Procedure
Alert consumers:	WhiteWater Inc & Town of Sterling	Follow the guidance outlined by Local and CT Department of Health.
Alert local law enforcement, state drinking water officials, and local board of health:	WhiteWater Inc & Town of Sterling	Determine nature of the problem and/or emergency and report to necessary entities.
Contacting service & repair contractors:	WhiteWater Inc & Town of Sterling	Determine nature of problem and/or emergency and contact the appropriate repair contractors.
Other Procedures as Necessary:	WhiteWater Inc & Town of Sterling	To be determined on a case-by-case basis.

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Section 7:
Water Quality Sampling

If contamination is suspected, notify and work with the local health jurisdiction and CT DPH to help identify what testing should be done. This may help prevent illness or even death.

Laboratory analysis is provided by Phoenix Environmental Laboratories, 587 East Middle Turnpike in Manchester CT 06040. They can be contacted at (800) 645-0823. The lab provides all bottles and chains of custody. Frequency of all sampling is determined by the sampling plan approved by CT DPH and all sampling sites are CT DPH-approved sampling sites or are sites selected to address the specific emergency.

The EPA sampling guide for First Responders can be found at the following link: http://www.newwa.org/Links/Research_Orgs.htm. This guide is utilized by WhiteWater employees.

Water Quality Sampling

Sampling Parameter	Are there procedures?	Basic Steps to Conduct Sampling
Coliform Bacteria	Yes	All WhiteWater Operators are well versed with proper water sample collection procedures and techniques. All samples are also properly handled and transported.
Heterotrophic Plate Count (HPC)	Yes	“”
Chlorine Residual	Yes	“”
Chlorine Demand	Yes	“”
Nitrate/Nitrite	Yes	“”
Total Organic Carbon (TOC)	Yes	“”
Total Halogenated Organic Carbon (TOX)	Yes	“”
Cyanide	Yes	“”

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Section 8:
Effective Communication

Communication with consumers, the news media, and the general public is a critical part of emergency response.

Designated Public Spokesperson:

Spokesperson: Link Cooper

Alternative 1: WPCA Spokesperson

Alternative 2: Robert Wittenzellner

Key Messages:

- We are taking this incident seriously and doing everything we can to resolve it.
- Our primary concern is protecting our consumers' health.
- Another important concern is keeping the system operational and preventing damage.
- What we know right now is…..
- The information we have is incomplete. We will keep you informed as soon as we know more.
- We have contacted state and local officials to help us respond effectively.
- We are sampling the water and doing tests to determine whether there is contamination.
- If you think you may be ill or need medical advice, contact a physician.

Health Advisories:

During events when water quality and human health are in question, it may be necessary to issue a health advisory that gives advice or recommendations to water system consumers on how to protect their health when drinking water is considered unsafe. These advisories are issued when the health risks to the consumers are sufficient, in the estimation of the water system or state or local health officials, to warrant such advice.

Health advisories usually take the form of a drinking water warning or boil water advisory. Communication during these times is critical. Health advisories should always be well thought out and provide very clear messages.

The Drinking Water Section has put together a number of tools, including fact sheets, brochures, forms, and templates to help prepare for a health advisory. These are on the web at https://portal.ct.gov/DPH/Drinking-Water/DWS/Drinking-Water-Section.

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Section 9:
The Vulnerability Assessment

The vulnerability assessment is an evaluation of each water system component to identify weaknesses or deficiencies that may make them susceptible to damage or failure during an emergency. It also assesses facilities for security enhancements that may guard against unauthorized entry, vandalism, or terrorism.

Facility Vulnerability Assessment and Improvements Identification

For more detail on system assets, conditions, estimated life expectancy, estimated remaining life expectancy, probability of failure, system impact, and risk, please see the Sterling Water System Fiscal & Asset Management Plan.

System Component	Description & Condition	Vulnerability	Improvements or Mitigating Actions	Security Improvements
Source	Three (3) 12" gravel pack wells (Well 1A, Well 2, Well 3,	Wells are most susceptible to above ground activities.	Safeguard well heads, to vehicular /heavy equipment	Install bollards around well 2-3 heads, locked fence area around well 1A.
Storage	400,000-gallon cement atmospheric tanks	Tanks are most susceptible to above ground activities.	Safeguards to vehicular /heavy equipment Locked access gate.	Tanks are partially buried, security fence, locked access hatches
Treatment	Three (3) Pumps, Sodium hypochlorite, potassium hydroxide, phosphate all peristaltic style pumps operating on a 4-20 mA flow signal.	Vandalism, unauthorized entry to station	Buildings are locked, key box has a lock box with key code. (3) spare pumps on site.	Ensure that the doors are locked, make sure that no one is on site without an escort.
Pump House & Pumping Facilities	Three (3) concrete and wood pumphouses with metal roof materials	Vandalism, unauthorized entry to station	Buildings are always kept locked, inside fenced area.	Ensure that the doors and fence gates are locked, make sure that no one is on site without an escort.
Other Considerations	Station Flooding	Upper Station low elevation	Must have duplicate sump pumps	Ensure pumps are operational

Section 10:
Response Actions for Specific Events

In any event, there are a series of general steps to take:

1. Confirm and analyze the type and severity of the emergency.
2. Take immediate action to save lives.
3. Take actions to reduce injuries and system damage.
4. Make repairs based on priority demand.
5. Return the system to normal operation.

This public water system will assess each Level I and Level II emergency on a case-by-case basis prior to determining if it will close or not. All Level III and Level IV emergencies will result in closure.

Loss of Source / Lack of Water or Pump Failure of Well:

In the event that the well pump or water source should fail, a pump technician will be called on for expert recommendations and repair. The backup wells would be put in service if the primary well fails. Generally, the tank stores a few days of normal water usage.

Also, a tanker truck could be connected to the distribution system and operate with a constant pressure until the well problem is resolved.

Power Failure:

The water system has Kohler 80 KW liquid propane backup generators with an automatic transfer switch. In the event of lost power, the water system will rely on the backup generators until regular power can be restored.

Storage Tank Failure:

The water system has a 400,000-gallon cement flat bottom storage tanks. An emergency tank would have to be utilized in the event that the storage tanks is taken off-line for an extended period of time due to maintenance or failure. The existing tank would be valved off and isolated until it could be placed back into service or replaced. The wells have high GPM pumping rates.

Contamination:

In the event of chemical or biological contamination event of the drinking water supply system, the wells, storage tank, or distribution system, the system should be disinfected. Additional temporary chlorination and flushing practices could be implemented. Contamination not removable by disinfection would be dealt with on a case-by-case basis with DPH and the appropriate local authorities. Options would potentially include boil water orders, public notices, and supplying bulk water.

Water Main Break:

Response. WhiteWater has RH White Underground Division on call, for all underground emergency water main/service line repairs.

Drought:

In the event of a severe drought, a water conservation program would be implemented. The (2) backup wells could be utilized to provide additional water. Whitewater can call Connecticut Water Company (Plainfield) or Irish Springs for any supplemental emergency water hauling for any time that the well yields cant keep up with system demand.

Staffing Shortage:

WhiteWater Inc. has a sufficient number of licensed operators to staff the system at all times. In the event that the Primary or Secondary operators could not be available, WhiteWater Inc would have other licensed operators step in to assist in operations.

Interconnection:

There is no public water systems that are close enough for interconnecting water systems for supplemental emergency use.

Connecticut Water Plainfield division is approximately 1 mile away from Sterling Water well field.

Section 11:
Alternative Water Sources

Any alternative water source would have to be developed. This would entail finding and identifying possible new well locations for future use. This would be a Long-Term solution as proper planning along with a CT DPH approval would need to be in place before any well locations could be developed into a possible new source.

Emergency Water Source includes Potable Water Hauling. The water hauler would be able to fill the storage tank either through the hydrants, Siamese connections by the tank driveway gate,or directly into tank through tank hatch..

Section 12:
Curtailing Water Uses

Efforts for curtailing or reducing water usage could be implemented for various reasons. This includes having written notifications passed onto all of the residents, along with postings in any common areas.

The residents should be continually advised to keep up on any plumbing fixtures that may be leaking or wasting potable water. Also state and national organizations have hand outs and water conversation, water saving kits that can be distributed to the residents

Section 13:
Returning to Normal Operation

Returning to Normal Operations:

1. Inspect, Flush and Disinfect the System.

Water system operator and support staff are to inspect all system facilities, ensure that all water quality tests have been done, and the system has been flushed and disinfected. If necessary, the water system operator would make a report to the water system manager. Water system manager would make the final decision on the current condition of the water system.

2. Verification of Water Quality.

The water system operator, manager, and support staff are to verify the water quality sampling results to ensure that the contaminants are at a safe level for consumption.

3. Coordinate with CT DPH Drinking Water Program.

Water system operator, manager, or support staff are to report to CT DPH on the system condition and water quality results.

4. Notify the Consumers.

The water system operator, manager, or support staff are to write a notice to consumers. The notice is to be sent to the on-site contact for distribution and/or posting for all consumers.

5. Write an Emergency Report.

The water system operator, manager, or compliance support staff can write an emergency report and submit to CT DPH if necessary.

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Section 14:
Training and Rehearsals

Staff Positions, Training Needs & Expectations:

Position	Training Needs & Expectations
Water System Manager	Emergency response communications, emergency response planning, issuing health advisories.
Water System Operator	Emergency response communications, emergency response planning, issuing health advisories.
Water System Backup Operator	Emergency response communications, emergency response planning, issuing health advisories.
On-Site Contact	Emergency response communications, emergency response planning, issuing health advisories.
Field Support Staff	Emergency response communications, emergency response planning, issuing health advisories.
Administrative Support Staff	Emergency response communications, emergency response planning, issuing health advisories.

Emergency Training & Rehearsals:

Schedule for drills, tabletop exercises, trainings, and other ways to practice and expand on emergency response:

Event	Description	People and Organizations Involved	Date

Section 15:
Plan Approval

This plan is officially in effect once reviewed, approved, and signed by the following:

Name	Title	Signature	Date