

Paul Rafuse

From: Paul Rafuse <prafuse@townsend.ma.us>
Sent: Thursday, July 06, 2017 11:17 AM
To: James Kreidler
Cc: Kelly Merrill (kmerrill@townsend.ma.us)
Subject: Water Department Meeting Tonight

Categories: Red Category
Tracking: Recipient

James Kreidler
Kelly Merrill (kmerrill@townsend.ma.us)

Read

Read: 7/6/2017 11:51 AM

Jim,

In the event of overflow of people in attendance tonight. Can we have audio set up in the downstairs meeting room?

Thank you

Paul Rafuse

Paul Rafuse
Superintendent
Townsend Water Department
540 Main St.
West Townsend, MA 01474
Tel: 978-597-2212
Fax: 978-597-5611
E-mail: prafuse@townsend.ma.us

This electronic message is confidential and intended for the named recipient only. Any dissemination, disclosure or distribution of the contents of this communication is unlawful and prohibited. If you have received this message in error, please contact by return email or telephone (978-597-2212), and delete the copy you received. Thank you.

Paul Rafuse

From: Paul Rafuse <prafuse@townsend.ma.us>
Sent: Wednesday, July 05, 2017 3:49 PM
To: 'Kelly Merrill'
Cc: 'James Kreidler'
Subject: RE: Chambers for July 6th

Categories: Red Category

Great Thank you.

From: Kelly Merrill [mailto:kmerrill@townsend.ma.us]
Sent: Wednesday, July 05, 2017 10:24 AM
To: 'Paul Rafuse' <prafuse@townsend.ma.us>
Cc: James Kreidler <jkreidler@townsend.ma.us>
Subject: RE: Chambers for July 6th

Good Morning Paul,
I will ensure Bassem is able to set up the microphones for your meeting tomorrow night.

Thank You,
Kelly

Kelly Merrill, Executive Assistant to the Town Administrator
Email: kmerrill@townsend.ma.us
Town of Townsend
272 Main Street
Townsend, MA 01469-1519
PH: 978-597-1701
FAX: 978-277-6368
Office Email: selectman@townsend.ma.us
Website: www.townsend.ma.us
Office Hours: Mon. - Fri. 9am - 4pm & Tues. evenings 6 - 8pm

This message (including any attachments) contains confidential information intended for a specific individual and purpose, and is protected by law. Any dissemination, disclosure or distribution of the contents of this communication is unlawful and prohibited. If you have received this message in error, please contact by return email or telephone (978-597-1700), and if you are not the intended recipient, you should delete this message. Thank you.

In Massachusetts, the term "public record" is broadly defined to include all documentary materials or data created or received by any officer or employee of any governmental unit, regardless of physical form or characteristics, unless it falls under one of the statutory exemptions to the Public Records Law. G.L.c. 4, 7(26). Consequently, email is subject to the disclosure, retention, and maintenance provisions as required by law. G.L.c. 66

From: Paul Rafuse [mailto:prafuse@townsend.ma.us]
Sent: Thursday, June 29, 2017 2:55 PM
To: Kelly Merrill <kmerrill@townsend.ma.us>
Cc: James Kreidler <jkreidler@townsend.ma.us>
Subject: FW: Chambers for July 6th

Hi Kelly,

One of my Commissioners had a personal commitment on the 5th and could not rearrange so, we would like the Selectmen's chambers for the July 6th please.
Could you or Jim find out if the microphones will be available for us?

Thank you

From: Paul Rafuse [mailto:prafuse@townsend.ma.us]
Sent: Thursday, June 29, 2017 11:42 AM
To: 'Kelly Merrill' <kmerrill@townsend.ma.us>
Cc: 'James Kreidler' <jkreidler@townsend.ma.us>
Subject: RE: Chambers for July 5th

Kelly,

I'm checking with my Chairman and will get back to you shortly.

Thank you

From: Kelly Merrill [mailto:kmerrill@townsend.ma.us]
Sent: Thursday, June 29, 2017 10:30 AM
To: Paul Rafuse <prafuse@townsend.ma.us>
Cc: James Kreidler <jkreidler@townsend.ma.us>
Subject: Chambers for July 5th

Good Morning Paul,

I have checked the schedule in the chambers, I can schedule you in there for 5-7:15 PM. As there is a meeting in there at 7:30PM. Please let me know if this will work for you? As I do understand the time sensitivity of this meeting the chamber are also open for the following evening July 6th if that is a possibility for you? Please let me know what is best for you and your Board.

All the Best,
Kelly

Kelly Merrill, Executive Assistant to the Town Administrator
Email: kmerrill@townsend.ma.us

Town of Townsend

272 Main Street

Townsend, MA 01469-1519

PH: 978-597-1701

FAX: 978-277-6368

Office Email: selectman@townsend.ma.us

Website: www.townsend.ma.us

Office Hours: Mon. - Fri. 9am - 4pm & Tues. evenings 6 - 8pm

This message (including any attachments) contains confidential information intended for a specific individual and purpose, and is protected by law. Any dissemination, disclosure or distribution of the contents of this communication is unlawful and prohibited. If you have received this message in error, please contact by return email or telephone (978-597-1700), and If you are not the intended recipient, you should delete this message. Thank you.

In Massachusetts, the term "public record" is broadly defined to include all documentary materials or data created or received by any officer or employee of any governmental unit, regardless of physical form or characteristics, unless it falls under one of the statutory exemptions to the Public Records Law. G.L.c. 4, 7(26). Consequently, email is subject to the disclosure, retention, and maintenance provisions as required by law. G.L.c. 66



Virus-free. www.avg.com

Paul Rafuse

From: Paul Rafuse <prafuse@townsend.ma.us>
Sent: Thursday, June 29, 2017 2:55 PM
To: Kelly Merrill (kmerrill@townsend.ma.us)
Cc: James Kreidler
Subject: FW: Chambers for July 6th

Categories: Red Category
Tracking: Recipient
Kelly Merrill (kmerrill@townsend.ma.us)
James Kreidler

Read
Read: 7/5/2017 10:24 AM

Hi Kelly,

One of my Commissioners had a personal commitment on the 5th and could not rearrange so, we would like the Selectmen's chambers for the July 6th please.
Could you or Jim find out if the microphones will be available for us?

Thank you

From: Paul Rafuse [mailto:prafuse@townsend.ma.us]
Sent: Thursday, June 29, 2017 11:42 AM
To: 'Kelly Merrill' <kmerrill@townsend.ma.us>
Cc: 'James Kreidler' <jkreidler@townsend.ma.us>
Subject: RE: Chambers for July 5th

Kelly,

I'm checking with my Chairman and will get back to you shortly.

Thank you

From: Kelly Merrill [mailto:kmerrill@townsend.ma.us]
Sent: Thursday, June 29, 2017 10:30 AM
To: Paul Rafuse <prafuse@townsend.ma.us>
Cc: James Kreidler <jkreidler@townsend.ma.us>
Subject: Chambers for July 5th

Good Morning Paul,

I have checked the schedule in the chambers, I can schedule you in there for 5-7:15 PM. As there is a meeting in there at 7:30PM. Please let me know if this will work for you? As I do understand the time sensitivity of this meeting the chamber are also open for the following evening July 6th if that is a possibility for you? Please let me know what is best for you and your Board.

All the Best,
Kelly

Kelly Merrill, Executive Assistant to the Town Administrator
Email: kmerrill@townsend.ma.us
Town of Townsend
272 Main Street
Townsend, MA 01469-1519
PH: 978-597-1701
FAX: 978-277-6368
Office Email: selectman@townsend.ma.us
Website: www.townsend.ma.us
Office Hours: Mon. - Fri. 9am - 4pm & Tues. evenings 6 - 8pm

This message (including any attachments) contains confidential information intended for a specific individual and purpose, and is protected by law. Any dissemination, disclosure or distribution of the contents of this communication is unlawful and prohibited. If you have received this message in error, please contact by return email or telephone (978-597-1700), and If you are not the intended recipient, you should delete this message. Thank you.

In Massachusetts, the term "public record" is broadly defined to include all documentary materials or data created or received by any officer or employee of any governmental unit, regardless of physical form or characteristics, unless it falls under one of the statutory exemptions to the Public Records Law. G.L.c. 4, 7(26). Consequently, email is subject to the disclosure, retention, and maintenance provisions as required by law. G.L.c. 66



Virus-free. www.avg.com

Paul Rafuse

From: Jim Kreidler <jkreidler@townsend.ma.us>
Sent: Thursday, June 29, 2017 8:02 AM
To: Paul Rafuse
Cc: Nathan Mattila; Steven Doucette; kmerrill@townsend.ma.us
Subject: Re: Selectman's Meeting 6/27

Categories: Red Category

Paul

I'm out this morning but am copying Kelly on this email. She will check and get back to you this morning.

Thanks,

Jim

Sent from Jim's iPhone

On Jun 29, 2017, at 7:32 AM, Paul Rafuse <prafuse@townsend.ma.us> wrote:

Jim,

Can you confirm if the Selectmen's chambers are available for our meeting on Wednesday July 5th @ 5:00 PM to address the Sanitary Survey so, we can post by the end of the day? If so, would it be possible to utilize the audio system (microphones)?

Thank you

From: Paul Rafuse [<mailto:prafuse@townsend.ma.us>]
Sent: Wednesday, June 28, 2017 1:01 PM
To: 'James Kreidler' <jkreidler@townsend.ma.us>
Cc: Nathan Mattila <generic556@gmail.com>; Steven Doucette (steve@dandllaw.com) <steve@dandllaw.com>
Subject: RE: Selectman's Meeting 6/27

Jim,

Is the Selectmen's Chambers available for the 5th? As for the joint meeting, we would like to get this resolved as soon as possible preferably, by July 14th. The dates we would be available are July 6th, 7th, 10th, 12th, 13th, or 14th.

Thank you

From: James Kreidler [<mailto:jkreidler@townsend.ma.us>]
Sent: Wednesday, June 28, 2017 11:41 AM
To: 'Paul Rafuse' <prafuse@townsend.ma.us>
Subject: RE: Selectman's Meeting 6/27

Paul,

The election booths and other election equipment is set up in the hall and will be until the election of the 18th.

As to the remaining issues left to discuss: union contract compliance, status update on the Water Commissioners implementation of Kinsherf Audit recommendations (inventory control, etc.) and Town

Meeting Article 20 implications, the board left it to me to arrange mutually agreeable times and dates to get both boards, counsel and the union in a room. So, what do you suggest we target as a date?

Jim

From: Paul Rafuse [mailto:prafuse@townsend.ma.us]
Sent: Wednesday, June 28, 2017 11:22 AM
To: 'Jim Kreidler'
Cc: 'Kelly Merrill'; 'Nathan Mattila'; 'Steven Doucette'
Subject: RE: Selectman's Meeting 6/27

Jim,

The soonest date available taking into consideration the availability of board members, posting requirements, number of residents that may attend, the holiday and Town Hall being closed Monday is Wednesday July 5, 2017 @ 5:00. Before I post it, is the Great Hall available Wednesday at this time? Please let me know so, I can post the agenda this afternoon.

My other question is what date did the Selectmen decide to have our joint meeting to discuss the independent status of the Water Department?

I look forward to your prompt response.

Thank you

From: Jim Kreidler [mailto:jkreidler@townsend.ma.us]
Sent: Tuesday, June 27, 2017 9:08 PM
To: Paul Rafuse <prafuse@townsend.ma.us>
Cc: Kelly Merrill <kmerrill@townsend.ma.us>; Nathan Mattila <generic556@gmail.com>; Steven Doucette <steve@dandllaw.com>
Subject: Re: Selectman's Meeting 6/27

Paul,

Please advise as soon as you have a date set for the commissioners to meet to discuss this matter. I will look forward to hearing you and the board explain and answer questions.

Jim

Sent from Jim's iPhone

On Jun 24, 2017, at 9:58 AM, Paul Rafuse <prafuse@townsend.ma.us> wrote:

Kelly/Jim,

Please thank the board for their invitation and we appreciate their concern. The Board of Water Commissioners will review the results of the survey and will discuss it at their next meeting. Therefore, I respectfully decline the Board's invitation at this time. However, please feel free for yourself and the board to attend the Board of Water Commissioners next meeting and we'll be happy to answer any of your questions.

Thank you

From: Kelly Merrill [mailto:kmerrill@townsend.ma.us]
Sent: Friday, June 23, 2017 12:34 PM

To: Paul Rafuse <prafuse@townsend.ma.us>

Subject: Selectman's Meeting 6/27

Per your conversation with Jim please invite yourself and the Board of Water Commissioners to the Selectman's Meeting Tuesday June 27 @ 6:05 Pm to Discuss the Water Sanitation Survey.

Best ,
Kelly

Kelly Merrill, Executive Assistant to the Town Administrator

Email: kmerrill@townsend.ma.us

Town of Townsend

272 Main Street

Townsend, MA 01469-1519

PH: 978-597-1701

FAX: 978-277-6368

Office Email: selectman@townsend.ma.us

Website: www.townsend.ma.us

Office Hours: Mon. - Fri. 9am - 4pm & Tues. evenings 6 - 8pm

This message (including any attachments) contains confidential information intended for a specific individual and purpose, and is protected by law. Any dissemination, disclosure or distribution of the contents of this communication is unlawful and prohibited. If you have received this message in error, please contact by return email or telephone (978-597-1700), and if you are not the intended recipient, you should delete this message. Thank you.

In Massachusetts, the term "public record" is broadly defined to include all documentary materials or data created or received by any officer or employee of any governmental unit, regardless of physical form or characteristics, unless it falls under one of the statutory exemptions to the Public Records Law. G.L.c. 4, 7(26). Consequently, email is subject to the disclosure, retention, and maintenance provisions as required by law. G.L.c. 66



Virus-free. www.avg.com

Paul Rafuse

From: James Kreidler <jkreibler@townsend.ma.us>
Sent: Monday, June 26, 2017 10:30 AM
To: 'Kathy Spofford'; 'Paul Rafuse'
Subject: RE: Records Request: DEP Survey

Categories: Red Category

Kathy,

I have 25 pages of responsive records and would require a half of an hour to locate, print and present.

25 pages @\$.05= \$1.25
½ hour @ \$25/hr.= \$12.50

Total- \$13.75

Jim

From: Kathy Spofford [mailto:kspofford@townsend.ma.us]
Sent: Monday, June 26, 2017 9:00 AM
To: 'James Kreidler'; 'Paul Rafuse'
Subject: FW: Records Request: DEP Survey

Hi Jim and Paul,
Could you please respond to this request. I do not have the report so I cannot supply this. Please copy me on your responses.
Thanks
Kathy

Kathleen M. Spofford
Town Clerk
Town of Townsend
272 Main Street
Townsend, MA 01469
978-597-1704
FAX: 978-597-8135

This message (including any attachments) contains confidential information intended for a specific individual and purpose, and is protected by law. If you are not the intended recipient, you should delete this message. In Massachusetts, the term "public record" is broadly defined to include all documentary materials or data created or received by any officer or employee of any governmental unit, regardless of physical form or characteristics unless it falls under one of the statutory exemptions to the Public Records Law MGL c. 4, s. 7(26). Consequently, email is subject to the disclosure, retention and maintenance provisions as required by law. MGL c. 66.

From: kellymkelly@comcast.net [mailto:kellymkelly@comcast.net]
Sent: Monday, June 26, 2017 7:28 AM
To: rao@townsend.ma.us
Subject: Records Request: DEP Survey

Today's Date: June 26, 2017
Town Clerk
Town of Townsend Massachusetts, 01469
RE: Massachusetts Public Records Request



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7650

DEVAL L. PATRICK
Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

December 4, 2013

Townsend Water Department
540 Main Street
Townsend, MA 01469
Attn: Mr. Paul Rafuse

RE: Town: **Townsend**
PWS Name: **Townsend Water Department**
PWS ID#: **2299000**
Program: **Sanitary Surveys**
NON-CE-13-5D149

Dear Public Water System Official:

Attached is a Summary of the Sanitary Survey including a Notice of Noncompliance performed at Townsend Water Department in Townsend on October 3, 2013. This summary identifies those items found during the survey that MassDEP has determined need to be corrected and the timeframe for completing them.

Please note that the signature on this cover letter indicates formal issuance of the attached document. If you have any questions regarding this letter, or would like a copy of the Sanitary Survey Evaluation, please contact Eugene Brunelle at (508) 767-2710 or eugene.brunelle@State.ma.us.

Sincerely,

Robert A. Bostwick
Acting Section Chief
Drinking Water Program

cc: PWS Sanitary Survey File (*stamped "File Copy"*)
Townsend Board of Health

MassDEP-DWP CERO and Boston Correspondence (*cover letter only*)
Cheryl Poirier – BRP Enforcement Coordinator
Denise Child – Office of Enforcement (electronic)
DWP Enforcement Book

File Name: Y:\DWP Archive\CERO\Townsend-2299000-SS--2013-12-04
W:\WSDW PROGRAM FILES\SANITARY SURVEYS\Final\Townsend-2299000-SS-Final--2013-12-04

Public Water System Summary of Sanitary Survey

Townsend Water Department	2299000	Townsend
<i>PWS Name</i>	<i>PWS ID#</i>	<i>PWS City/Town</i>

Survey Date: October 3, 2013	Report Date: December 4, 2013
Surveyor: Eugene Brunelle	Affiliation: CERO/DWP
Person Interviewed: Paul Rafuse	Title: Superintendent

PUBLIC WATER SUPPLIERS:

A completed Sanitary Survey Evaluation is on-file at the MassDEP CERO office for the above referenced Sanitary Survey Site Visit. A copy of the checklist will be provided upon request.

In addition to the "System Description" and "Statement of Zone I Compliance", this mailing includes a "Summary of Findings" specifying:

- ☒ Table A – Violations referenced as NON-CE-13-5D149
- ☒ Table B – Deficiencies
- ☒ Table C – Recommendations
- ☒ Water Supplier Response and Certification Form (To be completed and returned within 30 days of receipt, if Table A and/or Table B items included in Summary of Findings)

During the course of the Sanitary Survey, MassDEP observed conditions in the source, facilities, equipment, operation, or maintenance of the PWS that are violation(s) of a regulation or statute and that jeopardize the delivery of pure and safe water to all consumers (hereafter collectively referred to as "violations"). All violations found at the PWS are listed in the attached Summary of Findings Table A, which is also a Notice of Noncompliance (NON) pursuant to M.G.L. c.21A, §16 and 310 C.M.R. 5.00.

Notwithstanding this NON, MassDEP reserves the right to exercise the full extent of its legal authority in order to obtain full compliance with all applicable requirements. Noncompliance with the terms of the NON may result in further enforcement, including the assessment of administrative penalties of up to \$25,000 for each day after the effective date of the NON during which each violation continues or is repeated, and/or the issuance of a unilateral administrative order requiring the necessary corrective action(s) within a reasonable time period. Noncompliance with the terms of such an order may also result in further enforcement, including the imposition of penalties of up to \$25,000 for each day after the effective date of the Order during which each violation continues or is repeated.

Note: Systems are not relieved of their responsibility for meeting regulatory requirements that may not be covered in the "Summary of Findings".

SYSTEM DESCRIPTION

The Townsend Water Department (TWD) is a community public water system (PWS) located in the Town of Townsend, Massachusetts. Now serving a drinking water population of approximately 6,444 persons per day, the service area has 2,002 service connections consisting of 1,903 residential connections, 61 commercial/business, 3 agricultural, 7 industrial, and 28 municipal/institutional/non-profits connections. It is important to note for purposes of determining residential gallons per capita day (RGCD), that there are 14 residential connections that account for 286 additional units within multi-family residences. As reported in the 2012 ASR, the PWS uses an average of 0.552 million gallons per day (MGD), and maintains an interconnection on Proctor Road with the Pepperell Water Department (PWS ID# 2232000). All sources, service connections and the interconnection are metered, while system pressure of 50-100 psi is maintained by the two water storage tanks and the one booster station.

SOURCES & TREATMENT

Well 01G – Main St. (2299000-01G) is a vacuum primed tubular wellfield consisting of 52, two and a half-inch diameter wells that range in depth from 30 to 60 feet, with approximately 50% of the wells unscreened. Constructed in 1934, and approved by MassDEP on April 3, 1996, the PWS originated from this source and historically was used as the TWD main office. The priming system is used to expel excess air as necessary, while two pumps are maintained on-site for withdrawal of water. The first pump, also the primary pump, is a 50 horsepower (HP) centrifugal pump that was rebuilt by Maher Drilling & Pump Services in 2009 due to a broken shaft sleeve. A second, 60 HP centrifugal pump remains in place and is used only for emergency situations; however, since the addition of the new sources to the system, it is unlikely to be used as the station now pumps approximately four to five hours a day, and occasionally is not in use at all. A 6.25 HP Kohler vacuum pump is also kept on-site at this location for stand-by use, along with some additional equipment storage including paints and cleaning materials. The Well 01G-Main St. pumping station also serves as the fully automated treatment facility (2299000-01T) for corrosion control by chemical injection of Sodium Hydroxide (NaOH) for pH adjustment. The feed system for the 25% NaOH consists of a 1,600 gallon bulk storage tank with secondary containment, LMI Microprocessor, electronic pulse, chemical dosing pump, and a pH analyzer for continuous pH monitoring. This station is equipped with emergency disinfection using sodium hypochlorite (NaOCl) and also serves as the primary center for the PWS's alarm system network. In addition to monitoring alarm conditions at the Main St. Station, the main telemetry panel also receives alarm transmissions from the Cross Street Station (2299000-02T) and both water storage tanks. The Main St. Station then transmits a signal to the Police dispatch regarding the particular alarm, at which point the Police dispatcher contacts the PWS offices during business hours, or PWS personnel directly. The Main St. Station alarms in place include power failure and chemical system failure of both 01T and 02T, and high and low tank levels for

each storage tank. The system is designed such that the chemical feed pumps are interlocked with the well pump, and will shut down in the event of a high pH alarm and then manually restarted. However, during non-emergency alarms, such as low pH, the chemical feed pumps will shut down while the water pumps continue to operate. This station is equipped with an emergency generator.

Well 02G – Cross St. (2299000-02G) is a 24-inch diameter gravel packed well drilled to a depth of 43-feet with 38-feet of casing and a five foot long, 24-inch diameter screen. Constructed in 1980, and approved by MassDEP on April 3, 2006, the well has an approved pumping rate of 305 gallons per minute (gpm), and normally pumps at about 250 gpm. Water is drawn from the well by a 40 HP vertical turbine pump, which equipped with a Parco valve to control the amount of water pumped, is also treated within the pumping station. The Well 02G – Cross St. Treatment Facility (2299000-02T) treats for corrosion control by chemical injection of NaOH for pH adjustment. The feed system for the 25% NaOH consists of a 1,400 gallon bulk storage tank with secondary containment, LMI electronic pulse chemical dosing pump and a pH analyzer for continuous pH monitoring. The chemical feed pumps operate identical to the Main St. station. This station is also equipped with emergency disinfection using sodium hypochlorite (NaOCl) and an emergency generator.

Well 03G – Harbor Trace (2299000-03G) is a 24" diameter gravel packed well drilled to a depth of 60-feet with 50-feet of casing and a ten foot long screen. Constructed in 2006 and approved under New Source Approval (NSA) on November 2, 2007, the well has an approved pumping rate of 694 gpm or 1.0 million gallons per day (MGD). Water is drawn from the well by a 75 HP vertical turbine pump and is also treated within the pumping station. The Well 03G – Harbor Trace pumping station also serves as the fully automated water treatment facility (2299000-03T) for corrosion control by chemical injection of NaOH for pH adjustment and for disinfection with NaOCl; however, chemical injection of NaOCl is currently offline and not required. The feed system for the 25% NaOH consists of a 1,750 gallon bulk storage tank and 120 gallon day tank with secondary containment, two LMI electronic pulse chemical dosing pumps (one as backup) and a pH analyzer for continuous pH monitoring. The feed system for the 12.5% NaOCl consists of a 550 gallon bulk storage tank and 65 gallon day tank with secondary containment, two LMI electronic pulse chemical dosing pumps (one as backup) and a Scientific, Inc. in-line chlorine analyzer for continuous monitoring as necessary. The chemical feed pumps at this site are also interlocked with the well pump. The development of the Harbor Trace WTF also coincided with MassDEP's Energy Pilot Study and resulted in TWD being chosen as one of 13 water and wastewater systems to participate in an evaluation of energy efficiency measures and renewable energy generation. This led to the receipt of federal stimulus funds used for the installation of a 40 kilowatt (kW), solar photovoltaic, ground-mounted system installed at the site. These solar panels, with Solectra inverters, generate just over half the power required for the pumping station; however, the station is also further equipped with a back-up, diesel powered generator for emergencies.

Well 04G – Witches Brook Well #1 (2299000-04G) is a gravel packed well drilled to a depth of 60 feet located off of Ash Street. Purchased from the Witches Brook Water System in July 2007, Well 04G along with a second Witches Brook Water System source, were connected to the TWD on August 27, 2007. Water is drawn from the well by a 50 HP vertical turbine pump with variable frequency drive (VFD), which was last replaced in September 2006. The pump station also serves as the water treatment facility (2299000-04T) by chemical injection of 25% NaOH for corrosion control. The NaOH feed system consists of a 500 gallon bulk storage tank, LMI electronic pulse chemical dosing pump and a GLI Model 53 pH analyzer for continuous pH monitoring. The autodialed alarm system is designed for low and high pH, low and high chemical tank levels, flooding, and connected to the emergency eye wash as well. Although only one chemical dosing pump was on-site at this location, the system is equipped for another as a backup. The TWD installed a security surveillance camera system in 2009 to monitor activity around the area of both Wells 04G and 05G. Witches Brook Well #1 has been off line since February of 2011 due to esthetics related to taste and odor.

Well 05G – Witches Brook Well #2 (2299000-05G) was also purchased by TWD, along with Well 04G, and is a gravel packed well drilled to a depth of 58 feet located due east of Well 04G. Since the last Sanitary Survey in October of 2010, the TWD replaced the well pump and motor with a VFD, the station control panel, transfer switch and alarm system. The pump station also serves as the water treatment facility (2299000-05T) by chemical injection of 25% NaOH for corrosion control. The emergency generator housed within this pump station, serves as back-up power for both Wells 04G and 05G.

BOOSTER STATION

There is one booster station within the PWS known as the West Meadow Booster Station, which is located off of West Meadow Road. The booster station is equipped with two, 20 HP Grundfos booster pumps, one, 7.5 HP Grundfos booster pump, and an Amtrol Therm-X-Trol hydro pneumatic tank, which maintains adequate pressure to the nearby 42-46 unit condominium development. The booster station is equipped with a Kohler Power Systems generator for emergencies. A transfer switch will automatically start the generator if there is a power failure.

WATER STORAGE FACILITIES

TWD maintains two water storage tanks; the Highland Street Storage Tank and the Fitchburg Road Storage Tank. Constructed in 1978, the Highland St. Tank is a 1-million gallon concrete storage tank equipped with an altitude valve. The tank has a smooth nose tap for bacteria sampling located in an adjacent, locked vault. Constructed in 1934, the Fitchburg Rd. Tank is a 500,000 gallon riveted steel standpipe, also containing a smooth nose tap for bacteria sampling located in an

adjacent locked vault. Both storage tanks have single inlet/outlet pipes and are equipped with level transmitters and high/low level alarms connected to the telemetering system.

CAPACITY DETERMINATION

Capacity is the ability of a public water system to plan for, achieve, and maintain financial, managerial and technical compliance with applicable federal and state drinking water standards for the foreseeable future. Capacity also requires the demonstration of effective controls in all three areas.

This public water system is determined to have conditional capacity. Systems with conditional capacity currently meet MassDEP drinking water regulations but have issues that need to be improved.

STATEMENT OF ZONE I COMPLIANCE

☒ Your system is currently in compliance with Zone I requirements for the following well(s): 2299000-02G, 2299000-03G. Please be advised that any modifications to the Zone I or activities within are subject to MassDEP approval.

☒ You are hereby notified that Wells 2299000-01G, 2299000-04G and 2299000-05G are in non-compliance with MassDEP's requirement, 310 CMR 22.21(3)(b), that Zone I activities be limited to those directly related to the provision of public water or will have no significant adverse impact on water quality. Wells 2299000-01G, 2299000-04G and 2299000-05G will remain in non-compliance status until the non-conforming activities identified below have either ceased or are no longer within the Zone I. Pursuant to 310 CMR 22.04(1) and 310 CMR 22.21(1)(a), you or your designated representatives must notify MassDEP prior to a change in facility ownership or a change in land use within the Zone I, or any change that can impact the quality or quantity of the drinking water supply. You or your designated representative must obtain MassDEP approval prior to modifying or expanding the facility, or replacing any well or source. MassDEP will not approve any proposed modifications or expansions resulting in water quality withdrawals that exceed the designated MassDEP approved pumping rate. Refer to MassDEP BRP Policy #94-03A Implementation of Zone I Requirements <http://www.mass.gov/dep/water/laws/9403a.pdf>.

Non-conforming activities
documented within the Zone I:

Public Roadway

GENERAL SYSTEM COMMENTS

SYSTEM MANAGEMENT

Stantec has completed design of a SCADA control system and the project will be bid in 2013.

The system ERP requires modification and enhancement to detail response to identified emergency scenarios within the ERP.

SOURCES

The Townsend Water Department acquired Witches Brook Water Company (pws# 2299001) in July of 2007 which added Witches Brook Wells (2299000-04G and 2299000-05G) to the public water system. Source 2299000-04G has been off line since February 2011 due to esthetics (taste and odor) issues with the well.

The system is reminded that in accordance with MassDEP DWP source guidance, a source off line for 5 years or more requires approval from MassDEP DWP for reactivation. The reactivation process includes compliance with varying aspects of the new source approval process as determined on a case by case basis. Contact Barbara Kickham at 508-767-2724 to discuss how this requirement would apply to source 2299000-04G.

PUMPING STATIONS

There are floor drains in the pump stations for Harbor Trace Well (03G) and the two Witches Brook Wells (04-G, 05-G). Townsend Water Department must determine the discharge location of each floor drain and if determined to be below grade submit BRP WS-06 registration applications in compliance with the Under Injection Control regulation, 310CMR 27.00.

There is currently no formal meter replacement meter program in place. Meters are currently replaced as malfunctioning meters are identified. MassDEP DWP strongly recommends the implementation of a water meter replacement program.

Emergency contact numbers must be posted at all pump stations.

Recommend that a copy of the system ERP be kept at each pump station within the pws.

TREATMENT

Alarm testing on the date of the Sanitary Survey did not demonstrate compliance with Chapter 6 requirements established for Critical Chemical Feed Systems. Specifically: at Main Street Station (01G) and Cross Street Station (02G) chemical feed shutdown and pumping continued; Harbor Trace Station (03-G) did not dial out and Witches Brook (05-G) high pH alarm dialed out while chemical feed and pumping continued. Systems must be programmed to provide Chapter 6 compliance.

A SOP for alarm testing should be developed and kept at each chemical feed location.

Townsend Water Department switched from the use of NaOH from KOH in 2009. All chemical feed labeling must be changed to identify the current use of NaOH.

FINISHED WATER STORAGE

The Highland Street and Fitchburg Road Storage Tanks were last inspected in August of 2007. MassDEP DWP considers a five year interval between inspections of the tank interior and exterior by qualified tank inspectors is necessary to insure maintenance issues are identified on a timely basis to insure safe and reliable service for the pws. The tanks should be inspected in calendar 2014 and copies of the inspection reports submitted to MassDEP DWP for review. A schedule to address any issues identified in the reports should also be prepared and submitted to MassDEP DWP for Review.

DISTRIBUTION SYSTEM

Last reported system cross connection survey was completed in 1999. A survey of the system should be conducted to assure continued compliance with 310CMR-22.22.

Annual cross connection education has not been provided to customers as required. This requirement can be met by inclusion of cross connection information within the annual CCR.

The last leak detection survey was performed in 2007. A contract to conduct a complete leak detection survey of the water system had recently been executed just prior to the Sanitary Survey. A copy of the leak detection survey report should be sent to MassDEP DWP for review upon completion of the leak detection survey.

WATER QUALITY

Nitrate levels at Harbor Trace Well (03-G) and Witches Brook Well #2 (05-G) are approximately half of the MCL for nitrate. The sources are on quarterly nitrate testing to monitor the nitrate level at the source.

Investigation of taste and odor complaints led to identification of Witches Brook Well #1 (04-G) as the source of the problem. The well was taken off line and has been out of service since February of 2011.

OUTSTANDING ACTIONS

ENFORCEMENT ACTIONS

NONE

INSPECTION ACTIONS

NONE

SUMMARY OF FINDINGS
NOTICE OF NONCOMPLIANCE NON-CE-13-5D149

Table A – Violations

Please note that this document is also a Notice of Noncompliance (NON) pursuant to M.G.L. c.21A, §16 and 310 C.M.R. 5.00. Within 30 days of receipt of the NON and Summary of Sanitary Survey, you must fill-in the corrected date(s) and submit this form to MassDEP and the attached WATER SUPPLIER RESPONSE AND CERTIFICATION FORM, including all applicable attachments.

	Citation	TABLE A - CORRECTIVE ACTION	GWR Significant Deficiency†	Action Due Date*	Date Complete by PWS
1.	310 CMR 22.04(7) & Guidelines Chaps. 5, 6, 12	Alarms when tested during the Sanitary Survey did not function in compliance with the Chapter 6 Critical Chemical requirements of the Guidelines and Policies for Public Water Systems. Update alarm capabilities in accordance with the Guidelines for Public Water Systems, specifically Chapter 5 (revised 2008), Chapter 12 (new 2008), and Chapter 6 (revised 2009). The high and low alarms must shut down all pumping of sources in addition to shut down of all chemical feeds.	NO	1 JAN 2014	
2.	310 CMR 22.04	The Townsend Water Department must develop and implement a written monitoring alarm testing procedure. The program must detail the procedure to verify alarm testing for operational readiness. A copy of the testing procedure must be submitted to the Central Regional Office Of the MassDEP DWP for review.	NO	1 JAN 2014	
3.	310 CMR 22.04(13)	The ERP for the Townsend Water Department was found to not meet the requirements of the ERP compliance check list at the time of the Sanitary Survey. The Townsend Water must update the existing ERP to meet the requirements of the ERP checklist. Provide notice to MassDEP DWP when the ERP update is complete. Do not submit the updated ERP to MassDEP.	NO	1 MAR 2014	

	Citation	TABLE A - CORRECTIVE ACTION	GWR Significant Deficiency†	Action Due Date*	Date Complete by PWS
4.	310 CMR 22.22(3)(f)	Annual cross connection education has not been provided.. Provide annual cross connection education to customers of the Townsend Water Department.	NO	1 JUL 2014	

Table B – Deficiencies**

MassDEP has made note of several items that do not reflect good water system practice; and, if left unresolved, could lead to problems that are more serious and may be elevated to violations in subsequent surveys. Due to the item's importance an action due date has been established.

	Citation	TABLE B - CORRECTIVE ACTION	GWR Significant Deficiency†	Action Due Date*	Date Complete by PWS
1.	310 CMR 22.22 (2)(b)	The Main Street and Cross Street Stations had unprotected threaded faucets. All unprotected threaded faucets must be equipped with vacuum breakers.	NO	15 JAN 2014	
2.	310 CMR 22.27	Identify and report the discharge location of the floor drains at the Townsend Water Department pump stations. Should the drains terminate below grade, a BRP WS-06 UIC registration application must be submitted to MassDEP DWP for review and approval for each location.	NO	15 JAN 2014	
3.	310 CMR 22.04	Replace faded chemical placard at the Main Street Station.	NO	15 JAN 2014	
4.	310 CMR 22.04	Labeling of Chemical feed lines and tanks has not been changed to NaOH since the switch from KOH feed in 2009. Label all chemical feed lines and tanks for NaOH.	NO	15 JAN 2014	
5.	310 CMR 22.04	Provide a 24 mesh screen on The Harbor Trace Station pressure relief line.	NO	15 JAN 2014	
6.	310 CMR 22.04	Post emergency contact numbers at all pump stations.	NO	15 JAN 2014	

	Citation	TABLE B - CORRECTIVE ACTION	GWR Significant Deficiency†	Action Due Date*	Date Complete by PWS
7.	310 CMR 22.04	Submit a copy of the leak detection survey report once complete to MassDEP DWP for review and inclusion in the system file.	NO	15 JAN 2014	
8.	310-CMR 22.22	Department records indicate that the last cross connection survey on the Townsend water system was conducted in 1999. The Department recommends that another cross connection survey be conducted to assure compliance with the regulation.	NO	30 DEC 2014	
9.	310 CMR 22.04 & Guidelines Chap. 8	MassDEP DWP recommends tank inspections be performed every 5 years. The most recent inspection of tanks was performed in 2007. Fitchburg Road and Highland Street Tanks shall be inspected and inspection reports submitted to MassDEP DWP in 2014.	NO	30 DEC 2014	
10.	310 CMR 22.04 & Guidelines Chap. 8	Provide schedule to implement identified tank repairs from the 2014 tank inspection reports for review and acceptance to MassDEP DWP.	NO	1 MAR 2015	

** MassDEP reserves the right to exercise its Order authority under M.G.L. Chapter 111, Section 160, or to take other appropriate action as permitted by law, in order to prevent the pollution and to secure the sanitary protection of the water supply and to ensure the delivery of a fit and pure water supply to all consumers, including without limitation if sufficient progress to meeting a recommended deadline is not achieved.

Table C - Recommendations

MassDEP has included a list of recommendations you are encouraged to evaluate and follow in order to improve your system's ability to provide safe and pure drinking water. Failure to act on these recommendations may be elevated to deficiencies in subsequent surveys.

	Citation	TABLE C - RECOMMENDATIONS
1.	310 CMR 22.04	MassDEP DWP recommends that the system implement a service meter replacement program that provides meter replacement on a 10 year cycle.
2.	310 CMR 22.04	MassDEP DWP recommends that a copy of the ERP be kept at each station for immediate access and reference.

WATER SUPPLIER RESPONSE AND CERTIFICATION FORM

Within 30 days of receipt of this inspection report, you must complete and submit this form if your system has Table A – Violations and/or Table B – Deficiencies. Attach a copy of the completed table(s) listing the date that the corrective action was/or will be taken and all other applicable documentation. (310 CMR 22.04(12)).

The following corrective actions listed in the Summary of Findings Table A and/or Table B have been taken by the Public Water System. (Please check all that apply).

- ☐ My system has taken ALL of the corrective actions listed within the timeframes specified in the Summary of Findings.
- I have listed the completion date for each item within the table(s).
 - I have attached copies of supporting documentation as required.
- ☐ My system has taken SOME BUT NOT ALL of the corrective actions listed within the timeframes specified in the Summary of Findings.
- I have listed the actual or anticipated compliance date for each item within the table(s).
 - I have attached copies of supporting documentation as required.
 - I have attached a revised corrective action schedule establishing timelines for my system to address outstanding items and I will submit a written progress report each quarter (every 3 months) until all items have been addressed. I understand that my system may be subject to further enforcement.
- ☐ My system is UNABLE to comply with some or all of the corrective actions within the timeframes specified in the Summary of Findings. I understand that my system may be subject to further enforcement.
- An explanation is attached.

I hereby acknowledge receipt of the Summary of Sanitary Survey including the Summary of Findings for the sanitary survey conducted by Department of Environmental Protection's Drinking Water Program. I certify that under penalty of law I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best of my knowledge and belief.

Water Commissioner, Owner, Owner Representative or Other Responsible Party:

Signature: _____

Date: _____

Print Name: _____

Title: _____

Return this form, a copy the Summary of Findings and all attachments to:

MassDEP
BRP Drinking Water Program
627 Main Street
Worcester, MA 01608
Attention: Eugene Brunelle

CITY/TOWN:	Townsend	SURVEY DATE:	October 3, 2013
PWS NAME:	Townsend Water Department	SURVEYOR:	Eugene Brunelle
PWS ID#:	2299000	PERSON INTERVIEWED:	Paul Rafuse

- ☒ Prepare survey form by download information from WQTS
- ☒ Review treatment records and prepare treatment forms
- ☒ Review Coliform sampling plan
- ☒ Review sample schedule/book for outstanding monitoring
- ☒ Review current statistical report
- ☒ Operator/owner/contact changes
 - ☒ Cross-Connection reporting
 - ☒ Source withdrawal info (last 3-5 years)
- ☒ Review SWAP file and Zone I method assignment info
- ☒ Review GIS maps
- ☒ Verify well locations and Zone I, JWPA radii
 - ☒ Review potential land use threats.
- ☒ Check for completed GWUDI evaluation or exemption forms

--

SYSTEM MANAGEMENT

Who is the legally responsible party for the PWS? (Who would sign the Consent Order with MassDEP?)	Andrew Sheehan
Who is responsible for the day-to-day management of PWS?	Paul Rafuse
Are operational records available? (Operator Inspection, Maintenance, X-Conn & Complaints).	Yes
Are the records being kept correctly?	Yes
Is there a Master Plan?	Yes
If yes, what is the date of the Master Plan	2003
Is there a Capital Improvement Plan?	Yes
If yes, what is the date of the Capital Improvement Plan?	2003
Is there a Reserve Account in case of unbudgeted expenses?	Yes
Is Emergency Response Plan readily available? ^{GWR-19}	Yes
Does the Emergency Response Plan reconcile with the ERP Compliance Checklist?	No
Has a PWS Affidavit been recorded at Registry of Deeds? (Non-Municipal Only)	NA
Is there a "system" to monitor and operate the PWS remotely?	No
Does the system meet redundancy requirements? (COM Only)	Yes
Does the system have the ability to receive bulk deliveries of water?(Small COM only)	NA
Can the system provide a general schematic of full PWS?	Yes
Is system keeping a log of customer complaints? List context of complaints in comments.	Yes

Comments:

SYSTEM MANAGEMENT

Stantec has completed design of a SCADA control system and the project will be bid in 2013.

The system ERP requires modification and enhancement to detail response to identified emergency scenarios within the ERP.

OPERATOR COMPLIANCE

Does system have a certified operator? ^{GWR-21}	Yes
Are operator grades appropriate for system size and/or treatment type? ^{GWR-22}	Yes

Do the listed operators have current licenses?	Yes
Are Licensed Operator Services in-house?	Yes
Does the PWS Staffing Plan on file need to be updated?	No
Are Licensed Operator Services contracted out?	No
If Contract Operator, is an approved Certified Operator Compliance Notice on file?	NA
Is there a backup operator available for emergencies?	Yes
Who covers for contract operator?	

SOURCES

WELL INSPECTION

Source ID	Year Installed	Casing height (ft)	In Pit (Y/N)?	Well House?	Vent Screened?	Seasonal?	Condition?
2299000-01G	1934 & 1950	1.5	No	No	No	No	Good
2299000-02G	1980	1.5	No	Yes	Yes	No	Good
2299000-03G	2007	1.5	No	Yes	Yes	No	Good
2299000-04G	2007	1.5	No	Yes	Yes	No	Good
2299000-05G	2007	1.5	No	Yes	Yes	No	Good

Are there any unapproved groundwater sources being used? ^{GWR-4}	No
Are the sources correctly located in MassGIS?	Yes
Do all wells have a tight well cap with a screened vent?	Yes
Are there any unprotected openings in the sanitary well seal (e.g. vent for the well casing not screened and/or turned downward, unsealed conduit opening)? ^{GWR-2}	No
Is surface water runoff directed away from the source?	Yes
Is the wellhead, cap, and/or vent subject to flooding (this includes buried well casing)? ^{GWR-3}	No
Is there evidence of flooding or standing water in the pit or pump house that could result in the entrance of fecal contaminants? ^{GWR-16}	No
Does the wellhead appear damaged in a manner that would make the source susceptible to contamination? ^{GWR-1}	No
Has there been any maintenance work done on the well, if so what and when.	No

SOURCE PROTECTION

Does the PWS own or control its' Zone I(s)?	No - 22.21(3)(b)
Are all current land uses within the Zone I limited to those directly related to the provision of the public water system or to other land uses which the public water system has demonstrated have no significant impact on water quality? (For example banning the use of fertilizers/pesticides or non-water supply chemicals in Zone I?)	No - 22.21(3)(b)
Are there any open floor drains within the Zone I?	Yes - 22.21(3)(b)
Is UIC assistance needed? Contact Eugene.Brunelle@state.ma.us 508-767-2710 for assistance.	Yes
Are there any potential sources of pollution observed in the Zone I or IWPA other than those listed in the table above? Refer to GIS maps and MassDEP searchable online hazardous waste site list.	No
Are source water protection measures adequate?	Yes
List any waste water system components within the Zone I.	None
Is PWS protection area posted? (Table C only)	Yes
Have conditions changed since the last survey within the Zone I, IWPA or Zone II that may require a re-evaluation of waiver? If yes, list in comments.	No

Comments:

SOURCES

The Townsend Water Department acquired Witches Brook Water Company (pws# 2299001) in July of 2007 which added Witches Brook Wells (2299000-04G and 2299000-05G) to the public water system. Source 2299000-04G has been off line since February 2011 due to esthetics (taste and odor) issues with the well.

The system is reminded that in accordance with MassDEP DWP source guidance, a source off line for 5 years or more requires approval from MassDEP DWP for reactivation. The reactivation process includes compliance with varying aspects of the new source approval process as determined on a case by case basis. Contact Barbara Kickham at 508-767-2724 to discuss how this requirement would apply to source 2299000-04G.

ZONE I PICTURE FROM GIS ATTACHED ☐

SURFACE WATER SEPARATE CHECKLIST ATTACHED ☐

PUMPING STATIONS

Does system only have submersible pumps?	No
Does pump station appear to be adequately maintained?	Yes
Is pump station subject to flooding? (Either inside or outside infiltrating into the building) ^{GWR-16}	No
Electrical controls designed to avoid being subject to flooding?	Yes
Is pump station secured against unauthorized persons or animals?	Yes
Is wastewater from pump station operations (analyzers, floor drains, sump pumps, water cooling systems etc.) properly discharged to a sewer or dry well/outfall located outside of the Zone I? If the public water system (PWS) does not own land outside the Zone I, discharge may occur within the Zone I at least 100 ft. from the wellhead.	No - Chp 5.10.4
Is emergency back-up power available to operate the pump station?	Yes
How frequently are emergency power generators tested under load?	Monthly
Does the system maintain a contract to provide an emergency back-up generator?	NA
If yes, is there a prepared electrical connection for generator?	NA
Does the air/water relief valve discharge have an air gap? (Not hardpiped to floor drain) ^{GWR-17}	Yes
For remote pumping stations, does system have ability to add disinfectant?	Yes

METERS

Does system have master meter(s)?	Yes
Meter(s) read in? <input type="checkbox"/> Cu ft	<input checked="" type="checkbox"/> Gallons
Does master meter(s) account for all water withdrawn?	Yes
Where is the meter(s) located?	At each pump station.
Frequency of master meter(s) readings?	Daily
Is each source independently metered, or represent a totalized flow for more than one source?	<input checked="" type="checkbox"/> Individual <input type="checkbox"/> Totalized
What is the date of last master meter calibration or installation? (Whichever is more recent – enter year if only information available)	Sep 2012

Are there individual service meters?	Yes
If yes, what is the frequency of service meter reading?	Quarterly
Is there a service meter replacement program?	No - C

OPERATION AND MAINTENANCE

Is all critical infrastructure locked or sufficiently secured (e.g. pump house, well vault, chemical treatment building)? ^{GWR-20}	Yes
Is there an O&M (Operations & Maintenance) manual on-site?	Yes
Is there a PM (Preventative Maintenance) Program?	Yes
Is a current Emergency Contact List available?	Yes
Is there a plan/procedure for emergency repairs and spare parts?	Yes
Who performs emergency repairs?	Water Department Staff

Comments:

PUMPING STATIONS

There are floor drains in the pump stations for Harbor Trace Well (03G) and the two Witches Brook Wells (04-G, 05-G). Townsend Water Department must determine the discharge location of each floor drain and if determined to be below grade submit BRP WS-06 registration applications in compliance with the Under Injection Control regulation, 310CMR 27.00.

There is currently no formal meter replacement meter program in place. Meters are currently replaced as malfunctioning meters are identified. MassDEP DWP strongly recommends the implementation of a water meter replacement program.

Emergency contact numbers must be posted at all pump stations.

Recommend that a copy of the system ERP be kept at each pump station within the pws.

TREATMENT

Additional Treatment Checklists Added

No Treatment <input type="checkbox"/>	Treatment in QTS is correct <input type="checkbox"/>	Unapproved Treatment <input type="checkbox"/>
Hypo chlorination <input type="checkbox"/>	Chemical Feed <input checked="" type="checkbox"/>	Aeration <input type="checkbox"/>
Water Softening <input type="checkbox"/>	Surface Water Treatment <input type="checkbox"/>	Other – See Comment <input type="checkbox"/>

GENERAL TREATMENT QUESTIONS (ROLL-UP)

Is the treatment effectively removing/treating targeted contaminants?	Yes
Are raw water sample taps available for the collection of source samples for <u>all</u> wells? ^{GWR-5}	Yes
Does system have emergency chemical injection port(s)? ^{GWR-6}	Yes
Does the system utilize a sediment filter?	No
If yes, how often is the filter and/or filter media replaced?	NA
If treatment backwashed, where is it discharged (dry well, municipal sewer, ground surface, lagoon, septic, tight tank)	NA
Is there a treatment O&M manual available?	Yes
If yes, is it current?	Yes
Is chemical storage adequate?	Yes
Is safety adequate?	Yes
Is treatment equipment properly maintained?	Yes
Are there any unprotected by-passes at any point in the treatment process that could result in fecal contamination (i.e. filter backwash, membrane cleaning processes, etc)? ^{GWR-7}	No
Are chemical treatment forms (C-ADD) being submitted?	Yes
If yes, are they being completed properly?	Yes
Does Licensed Treatment Operator perform all treatment duties?	Yes
Is operator familiar with the treatment system and its operation?	Yes
Is system maintaining a log of maintenance? (e.g., backwashing, sediment, calibration of analyzers)	Yes
Has PWS demonstrated compliance with Chapter 6 for Critical Chemical Feed Systems?	No - Chp 6.1.3
Has PWS demonstrated compliance with Chapter 6 for Non-Critical Chemical Feed Systems?	NA

TREATMENT TECHNIQUE GWR AND SWTR

Has the system submitted GWR-A (CT Determination) or have they calculated their CT or Potential CT with emergency disinfection?	No
Are any sources approved for 4-log treatment under the GWR?	No
Has the system experienced the loss of membrane integrity or lack of monitoring of membrane integrity where 4-log treatment is required? ^{GWR-9}	NA
If 4-log disinfection is required, is the PWS operating, maintaining, and monitoring its disinfection process to ensure the required 4-log treatment is achieved? ^{GWR-8}	NA

Are GWR compliance monitoring forms submitted as required?	NA
Are any sources surface water or GWUDI?	No
Are SWTR compliance monitoring forms submitted as required?	NA

Comments:

TREATMENT

Alarm testing on the date of the Sanitary Survey did not demonstrate compliance with Chapter 6 requirements established for Critical Chemical Feed Systems. Specifically: at Main Street Station (01G) and Cross Street Station (02G) chemical feed shutdown and pumping continued; Harbor Trace Station (03-G) did not dial out and Witches Brook (05-G) high pH alarm dialed out while chemical feed and pumping continued. Systems must be programmed to provide Chapter 6 compliance.

A SOP for alarm testing should be developed and kept at each chemical feed location.

Townsend Water Department switched from the use of NaOH from KOH in 2009. All chemical feed labeling must be changed to identify the current use of NaOH.

FINISHED WATER STORAGE

Does the PWS only have hydropneumatic storage tanks?	No
--	----

ATMOSPHERIC TANKS ONLY

STORAGE TANK NAME	Proper Overflow Structure?	Is Hatch Covered/Locked?	Is Tank Vented/Screened?	Is Sample Tap at 18in?	High/Low Level Control Alarms?	By-pass for Repair/Cleaning?	Protected from flooding/run-off (>50ft)?	Fenced or otherwise secured? (comment)	Does tank need to be painted?	Date of Last Cleaning	Date of Last Inspection
HIGHLAND STREET STORAGE TANK	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	8/20/2007	8/20/2007
FITCHBURG ROAD STORAGE TANK	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8/20/2007	8/20/2007

Are in-ground storage tanks, tank overflows, drains, or hatches subject to flooding or run-off? ^{GWR-12}	No
Are there holes or other failures of the tank roof or structure? ^{GWR-13}	No
Is the tank entry hatch or access ladder locked/secured to prevent unauthorized access? ^{GWR-14}	Yes
Does the tank have proper screening or protection of overflow pipes, drains and vents? ^{GWR-15}	Yes
Is system maintaining a log of monthly tank inspections?	Yes

Does the system have sufficient usable storage capacity? (COM Only)	Yes
Has system implemented recommendations from last inspection report?	Yes

Comments:

FINISHED WATER STORAGE

The Highland Street and Fitchburg Road Storage Tanks were last inspected in August of 2007. MassDEP DWP considers a five year interval between inspections of the tank interior and exterior by qualified tank inspectors is necessary to insure maintenance issues are identified on a timely basis to insure safe and reliable service for the pws. The tanks should be inspected in calendar 2014 and copies of the inspection reports submitted to MassDEP DWP for review. A schedule to address any issues identified in the reports should also be prepared and submitted to MassDEP DWP for Review.

DISTRIBUTION SYSTEM

Is there a current distribution map on file?	Yes
What is the date of the map on file?	April 2008
Are valve, hydrant and dead-ends identified?	Yes
How many distribution systems are there?	One
How many pressure zones are there?	One
What is the standard operating pressure of the system?	50-100
Are there low (under 20 psi) or negative pressures under normal operating conditions in any part of the distribution system that could result in the entrance of fecal contaminants? <small>GWR-11</small>	No
Have changes been made to the distribution system that would require the TCR plan to be updated to represent the modifications? <small>GWR-18</small>	No
Are there any distribution system weaknesses or problems? If Yes, comment below.	Yes - Comment
What material is the distribution system piping made of?	CI, CLDI, Asbestos Cement, HDPE
Is there an adequate flushing program? MassDEP recommends flushing twice a year.	Yes
Date the system was last flushed?	Spring 2013
Date of the last leak detection survey:	2007
Percent of system surveyed:	100%
Are distribution valves exercised annually?	Yes

Is there a hydrant maintenance program?	Yes
---	-----

CROSS-CONNECTION/BACKFLOW PREVENTION

Does the system have an approved cross-connection plan on file?	Yes
Date of Last Cross-Connection Survey:	August 1999
Have all cross-connections identified in the survey been protected?	Yes
Under the cross connection control program have all high hazard facilities been identified, surveyed, and properly protected? ^{GWR-10}	Yes
Is a residential cross-connection education program in place (CCR or separate pamphlets)?	Yes
Are threaded taps at PWS owned facilities protected by a vacuum breaker? (Hose bib or atmospheric silcock)	No - 22.22(2)(b)
If the system has any testable devices (RPBP or DCVA), does the system keep on-site an inventory list of the devices, including type of device, location, and device test inspection dates?	Yes
Are all backflow prevention devices/assemblies tested as required? (annually for DCVA, semiannually for RPBP)	Yes
Has the system undergone any modifications since the last cross connection survey?	Yes - V
If subcontracted, is a current Sub-delegation Form on-file?	Yes

INTERCONNECTIONS (LARGE COMMUNITY SYSTEMS)

Does the system maintain a hard plumbed interconnection with another approved PWS?	Yes
Are all interconnections properly listed in WQTS?	Yes
Are interconnections metered?	Yes
Are interconnection valves regularly exercised and maintained?	Yes
Has an interconnection been established to comply with 310 CMR 22.21(3(a); if so, can the interconnection provide this system an average daily demand for at least 48 hours?	Yes

WATER QUANTITY

Does system have wells other than the ones listed on sample schedule (irrigation wells, fire wells)?	No
If yes, are these other sources metered?	NA
Has water use increased above MassDEP limits or approval rates?	No
If yes, by how much? Why? Did it exceed Zone I limits?	NA
Does the water use correlate to the calculated Zone I volume?	Yes

Is system properly reporting quantity data in their annual statistical report? (annual, max. month, and max. day)	Yes
Is the quantity of water supplied adequate?	Yes
Does the production from any source(s) decrease significantly during the year?	No
If yes, during which periods and how is it handled?	NA
Has the PWS implemented voluntary or mandatory water bans within the last two years?	No
If yes, why? What is long term solution??	

Comments:

DISTRIBUTION SYSTEM

Last reported system cross connection survey was completed in 1999. A survey of the system should be conducted to assure continued compliance with 310CMR-22.22.

Annual cross connection education has not been provided to customers as required. This requirement can be met by inclusion of cross connection information within the annual CCR.

The last leak detection survey was performed in 2007. A contract to conduct a complete leak detection survey of the water system had recently been executed just prior to the Sanitary Survey. A copy of the leak detection survey report should be sent to MassDEP DWP for review upon completion of the leak detection survey.

WATER QUALITY

Have there been any violations in the past 12 months, what is being done to correct them?	No
Have there been elevated levels of any contaminant (regulated/unregulated). Are they being satisfactorily addressed? (treatment or source protection etc.)	Yes - Comment
Have consumer complaints been made regarding water quality?	Yes - Comment
Does the PWS maintain a system to track consumer complaints?	Yes - Comment
Due to water quality issue(s), is the PWS routinely providing bottled water?	No

LEAD & COPPER RULE COMPLIANCE

If the PWS provides corrosion control treatment, is the PWS monitoring the following parameters (if adjusted) at each	pH field measurement	<input checked="" type="checkbox"/>
	Alkalinity	<input type="checkbox"/>

entry point and at locations in the distribution system (e.g. Coliform sampling sites)?	Orthophosphate residual	<input type="checkbox"/>
	Silica	<input type="checkbox"/>
	Not Applicable	<input type="checkbox"/>
Have there been any changes to the system, such that the approved Lead & Copper Sampling Plan needs to be updated? (e.g. > in population above next threshold – 22.06B(7)(c), addition of new source or change in treatment)		No
Please be reminded that any long-term changes in treatment require MassDEP notification at least 60 days in advance and may also require submittal of a permit application. Any short-term changes in corrosion control treatment require MassDEP notification within 24 hours; if change persists longer than 7 days then this constitutes a treatment technique violation.		

GROUND WATER RULE COMPLIANCE

Has a Ground Water Rule GWR significant deficiency been identified during the sanitary inspection? If so, explain potential corrective actions as provided in the GWR.	No
--	----

SWTR COMPLIANCE FOR GROUNDWATER SOURCES (GWUDI)

Have all sources been evaluated for GWUDI?	Yes
Have conditions been identified that would change the current Exemption Status? (i.e. surface water encroachment, well head condition, coliform detections in last 3 years, etc.)	No
Are all sources > 100 ft from the nearest surface water feature? Non-community	NA
Are all sources > 150 ft from the nearest surface water feature? Community (gravel, spring or dug)	No - Chp 4.18
Are all sources > 200 ft from the nearest surface water feature? Community (bedrock)	NA

SAMPLING

Does system have a copy of the most recent water quality sampling schedule?	Yes
Does the system have an approved Total Coliform Sampling Plan?	Yes
If Yes, does the Total Coliform Sampling Plan need updating?	No
Has the system submitted a map of the distribution system with locations of bacteria sampling sites, wells, treatment, and storage?	Yes
Is the system taking the correct number of bacteria samples?	Yes
Is the system using appropriate Coliform sample sites?	Yes
Is the system using appropriate source sample sites?	Yes
Are raw water sample taps available for all sources for <u>all</u> wells? ^{GWR-5}	Yes

Are manifolded wells reflected accurately on the sample schedule?	Yes
If wells are manifolded, are source water sample taps available to measure the water quality of each well independently?	NA
If sources are manifolded, how do they operate? (Confirm with sampling plan – if in conflict, notify Paula Caron)	NA Choose an item.
Is the PWS using proper codes to correctly identify sample sites on MassDEP reports?	Yes
Have changes been made to the distribution system that would require the TCR plan to be updated to represent the modifications? ^{GWR-18}	No
If any TC detects in past 3 years, was source of contamination determined?	NA

Comments:

WATER QUALITY

Nitrate levels at Harbor Trace Well (03-G) and Witches Brook Well #2 (05-G) are approximately half of the MCL for nitrate. The sources are on quarterly nitrate testing to monitor the nitrate level at the source.

Investigation of taste and odor complaints led to identification of Witches Brook Well #1 (04-G) as the source of the problem. The well was taken off line and has been out of service since February of 2011.

OUTSTANDING ACTIONS

ENFORCEMENT ACTIONS NONE
INSPECTION ACTIONS NONE

CCE-F: Chemical Feed Inspection Checklist

List Chemical Additive:	Sodium Hydroxide	Critical Chem - Yes
What are the operating parameters: pH	Target: pH 7.5	
If other:	Target:	
System Automation	Flow paced with alarms	
Are daily grab samples being taken?	Y	
If no, why not?		
Is chemical flow paced?	Y	
Are the pump motor controller(s), chemical metering pump(s) and chemical analyzer(s) electrically interlocked so that no chemical is injected if the water pump is not running?	Y	
Is there a flow meter or thermal type flow switch provided so that no chemical is injected if no flow is detected?	Y	
How often is/are the interlock(s) tested?	Monthly	
Are metering pumps powered so that they cannot be left to operate in manual mode?	Y	
If yes, how are they configured	Receptacle with twist lock plugs	
Are alarms provided?	Autodialer	
How frequently are the alarms tested (at least quarterly)?	Quarterly	
Is there a written alarm testing program?	N	
What are the alarm set points?	High High 8.5 High 8.0	
What is the shut down set point?	pH 8.5	
Does alarm notification/shut down require an "on-site" manual reset?	Y	
Is there continuous monitoring?	Y	
At what frequency is the in-line monitoring device calibrated?	Quarterly	
How is it recorded?	Log Book	
Have the pH buffer solutions expired?	N	
Are the chemical feed additives NSF approved?	Y	
Are chemicals being used prior to expiration date?	Y	
Are spare chemical feed pumps available?	Y	
Does the chemical feed pump have appropriate anti-siphon protection?	Y	
Is there at least 1 week's worth of chemical available?	Y	
If phosphates are used, is chlorine residual maintained in feed?	NA	
How frequently is backup power sources tested?	Weekly	
Has the system had any incidences of critical chemical overfeeds or	N	

underfeeds?

Note: DWP staff person will observe testing of critical alarms on one critical chemical feed system in accordance with the following protocols:

1. High and low critical alarms shall be tested using one of the following methods:
 - a. Adjust alarm set points on the analyzer
 - b. Change alarm sets points through the SCADA system
 - c. Use a chemical standard if the system uses an analyzer probe
2. Interlocks shall be tested to insure chemical feed systems perform as expected using the following methods:
 - a. *Interlock with Pump Starter* - Turn raw or finished water pump to off position and verify that corresponding critical chemical feed system is de-energized.
 - b. *Interlock with Flow Meter or Flow Switch* - Create a low or no flow condition on the raw or finished water pump and verify that the corresponding critical chemical feed system is de-energized.
 - c. *Interlock with Analyzer* - Create critical alarm condition, in accordance with the alarm testing protocols noted above, and verify that the corresponding critical chemical feed system and raw or finished water pump are de-energized.

List alarms and interlocks tested during the survey:

Did they work properly? N

Note: DWP staff person will observe testing of the device by having the PWS trigger an alarm which requires a shut down and recording the sequence in which the device contact the certified operator authorized to respond. The system does not need to test all alarm systems, but the sequence should be checked for all critical alarms.

Which alarm was tested for call-out? Did it work properly?

Safety

Is the chemical feed equipment in a separate room?	N
Is the room properly ventilated?	Y
Are the feed lines color-coded?	Y
Is there adequate containment for each chemical?	Y
Hard piped:	<input checked="" type="checkbox"/> Eyewash <input checked="" type="checkbox"/> Shower
Is eyewash bottle solution past expiration date?	NA
Is there appropriate safety and personnel protective equipment provided?	Y

Comments:

The NaOH alarms did not perform in accordance with Chapter 6 and the Townsend Water Department is directed to configure alarms in compliance with Chapter 6.

CCE-G: Hypochlorination Equipment Inspection Checklist

Location: Main Street, Cross Street, Harbor Trace - Emergency Disinfection

What is the target concentration? 1.0 mg/l

Automatic instrumentation (e.g., SCADA) ☐ Flow Paced

Are feed rates checked and adjusted?	Residual Test Daily	Y
Is there continuous chlorine residual recording?		Y
Is calibration procedure adequate?		Y
At what frequency is it calibrated?		
Is the chemical feed flow paced?		Y
Is there an interlock such that no flow would shut down the chemical feed?		Y
How often is the interlock tested?		
Are alarms provided?		N
Audible <input type="checkbox"/> Light <input type="checkbox"/> Autodialer <input type="checkbox"/> SCADA <input type="checkbox"/>		
What criteria triggers the alarms?	Not alarmed in place for Emergency Disinfection	
Are the chemical feed additives NSF approved?		Y
Are chemicals being use prior to expiration date?		Y
Is a standby chlorinator available?		Y
Is standby equal in capacity to regular		Y
Are spare parts and tools available?		Y
Are facilities properly maintained?		Y
Adequate chemical supply on hand?		Y
Is chemical supply properly stored?		Y
Is the room properly ventilated?		Y
Is it adequately heated? (min 60°F)		Y
Is there adequate containment?		Y
Eyewash <input checked="" type="checkbox"/> Shower <input checked="" type="checkbox"/>	Frequency tested:	Monthly
Are adequate safety and personnel protective equipment provided?		Y

Comments:

Operate upon positive flow signal.

Note: DWP staff person will observe testing of critical alarms on one critical chemical feed system in accordance with the following protocols:

1. High and low critical alarms shall be tested using one of the following methods:
 - a. Adjust alarm set points on the analyzer
 - b. Change alarm sets points through the SCADA system
 - c. Use a chemical standard if the system uses an analyzer probe
2. Interlocks shall be tested to insure chemical feed systems perform as expected using the following methods:
 - a. *Interlock with Pump Starter* - Turn raw or finished water pump to off position and verify that corresponding critical chemical feed system is de-energized.
 - b. *Interlock with Flow Meter or Flow Switch* - Create a low or no flow condition on the raw or finished water pump and verify that the corresponding critical chemical feed system is de-energized.
 - c. *Interlock with Analyzer* - Create critical alarm condition, in accordance with the alarm testing protocols noted above, and verify that the corresponding critical chemical feed system and raw or finished water pump are de-energized.

List alarms and interlocks tested during the survey: High and Low chlorine alarms and system interlocks functioned properly at all locations..

Did they work properly? .

Note: DWP staff person will observe testing of the device by having the PWS trigger an alarm which requires a shut down and recording the sequence in which the device contact the certified operator authorized to respond. The system does not need to test all alarm systems, but the sequence should be checked for all critical alarms.

Which alarm was tested for call-out? Did it work properly? High and Low chlorine alarms functioned properly all locations and dialed out of operators.

Safety

Is the chemical feed equipment in a separate room?	N
Is the room properly ventilated?	Y
Are the feed lines color-coded?	Y.
Is there adequate containment for each chemical?	Y.
Hard piped:	<input checked="" type="checkbox"/> Eyewash <input checked="" type="checkbox"/> Shower
Is eyewash bottle solution past expiration date?	NA
Is there appropriate safety and personnel protective equipment provided?	Y.

Comments:

The NaOCl chemical feed systems are in place to provide emergency disinfection if required.