

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, August 18, 2014 12:45 PM
To: 'bwright@cityofflint.com'
Cc: Michael Glasgow; Rosenthal, Adam (DEQ); Busch, Stephen (DEQ)
Subject: Sample results

Brent,

I need to clarify a discrepancy in my field notes concerning the single TC Positive result obtained last Thurs Aug 14th (the second set of 9 repeat samples). I noted last Friday that the positive result on that day was from Sample Site #4 – Taco Bell; however, during our call this morning; it was mentioned that the positive result was from Sample Site #5. Please confirm.

Also, I will be out today after 2pm for physician appt. Please contact Steve Busch and/or Adam Rosenthal concerning new sample results and/or additional information. I will be back in the office tomorrow morning at 7:00am.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

Rennaker, Joanne (DEQ)

From: Krisztian, George (DEQ)
Sent: Thursday, October 29, 2015 8:00 AM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Devereaux, Tracy Jo (DEQ); Graham, Lois (DEQ)
Cc: Edgerton, Shelly (LARA); Madziar, Joseph (LARA)
Subject: Saturday Sampling Event (10/31/15)
Importance: High

Hi everybody,

Well it's Thursday and I have nothing from GCHD so it looks like DEQ will be doing the sampling this weekend.

We are going to do two schools this weekend (Brownell STEM Academy and Eisenhower Elementary). I think we should continue to have a DEQ staff person accompany DLARA staff during the evaluation and it would be very helpful to have DLARA staff present for the sampling.

I believe that we should have two teams of three for the sampling consisting of two DEQ staff and one DLARA staff. The DLARA staff person can act as the timer and answer questions. We should have one team per school and sample the schools simultaneously.

If Tony Sitko can arrange it, I would like to go back and do the 3 sets of 10 sequential samples at Freeman elementary. I will not be part of the sampling teams at Brownell or Eisenhower but I can go back and get the sequential samples and go back and forth to see how things are going.

Saturday is Halloween so if anyone has plans and cannot attend please let me know so that we can find replacements. **I want to stress that this is voluntary duty and I do not want to guilt anyone into this.** If we cannot get two full teams together we may have to limit the sampling to just one school so we need to get a head count ASAP.

Steve,
Please work with Joe and Tony to ensure that we can access the schools.

Everyone please chime in if you have any questions, comments or concerns.

Thank you!
George

George L. Krisztian
 Flint Action Plan Coordinator
 Laboratory Director
 Michigan Department of Environmental Quality
 Desk ph (517) 284-6719
 Cell ph (517) 420-5897

Rennaker, Joanne (DEQ)

From: Thelen, Mary Beth (DEQ)
Sent: Tuesday, March 17, 2015 11:39 AM
To: Hollins, Harvey (GOV); Clayton, Stacie (GOV)
Cc: Wyant, Dan (DEQ); Wurfel, Brad (DEQ); Sygo, Jim (DEQ); Thelen, Mary Beth (DEQ)
Subject: SDWA Violations - Flint

Importance: High

Dear Harvey,

Director Dan Wyant asked that I send you the following information regarding Flint.

As requested, the following information has been gleaned from our database regarding violations:

In calendar years 2013 and 2014, we've identified 1100 violations (200 are standards violations, i.e., MCLs; and 910 other violations).

This represents 326 community water supplies that had violations over these two years.

Flint has 5 violations in those 2 years (TTHM MCLs at 2 sites and 2 bacti MCLs (1 with E. coli that counts as an additional violation)).

Please let us know if you need anything further. Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

Rennaker, Joanne (DEQ)

From: Krisztian, George (DEQ)
Sent: Wednesday, November 04, 2015 12:07 PM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Subject: see attached spreadsheet
Attachments: Freeman with sequentials.xlsx

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 420-5897

SAMPNO	ACODE	ANALYTE	RESULT	QUALIFY	Sample Description
LF88751	PB	Lead	0.01		CF022 RM 12
LF88752	PB	Lead	0.003		CF022 RM 12
LF88753	PB	Lead	0.001		CF022 RM 12
LF88754	PB	Lead	0.001		CF022 RM 12
LF88755	PB	Lead	0.004		CF021 RM 12
LF88756	PB	Lead	0.007		CF021 RM 12
LF88757	PB	Lead	Not detected		CF021 #12
LF88758	PB	Lead	Not detected		CF021 RM 12
LF88759	PB	Lead	0.009		CF009 RM 5
LF88760	PB	Lead	0.002		CF009 RM 5
LF88761	PB	Lead	0.002		CF009 RM 5
LF88762	PB	Lead	0.001		CF009 RM 5
LF88763	PB	Lead	0.102		CF015 RM 11
LF88764	PB	Lead	0.326		CF015 RM 11
LF88765	PB	Lead	0.014		CF015 RM 11
LF88766	PB	Lead	0.011		CF015 RM 11
LF88767	PB	Lead	0.003		CF016 RM 11
LF88768	PB	Lead	0.003		CF016 RM 11
LF88769	PB	Lead	0.005		CF016 RM 11
LF88770	PB	Lead	0.004		CF016 RM 11
LF88771	PB	Lead	0.009		CF027 RM 21
LF88772	PB	Lead	0.007		CF027 RM 21
LF88773	PB	Lead	Not detected		CF027 RM 21
LF88774	PB	Lead	Not detected		CF027 RM 21
LF88775	PB	Lead	0.012		CF010 RM 6
LF88776	PB	Lead	0.004		CF010 RM 6
LF88777	PB	Lead	0.002		CF010 RM 6
LF88778	PB	Lead	Not detected		CF010 RM 6
LF88779	PB	Lead	0.009		CF028 RM #21
LF88780	PB	Lead	0.002		CF028 RM #21
LF88781	PB	Lead	0.001		CF028 RM #21
LF88782	PB	Lead	0.001		CF028 RM #21
LF88783	PB	Lead	0.023		CF024 RM #19
LF88784	PB	Lead	0.003		CF024 RM #19
LF88785	PB	Lead	0.004		CF024 RM #19
LF88786	PB	Lead	0.003		CF024 RM #19
LF88787	PB	Lead	0.005		KC003 COMMUNITY ROOM
LF88788	PB	Lead	0.002		KC003 COMMUNITY ROOM
LF88789	PB	Lead	Not detected		KC003 COMMUNITY ROOM
LF88790	PB	Lead	Not detected		KC003 COMMUNITY ROOM
LF88791	PB	Lead	0.009		CF023 RM #19
LF88792	PB	Lead	0.009		CF023 RM #19
LF88793	PB	Lead	0.001		CF023 RM #19
LF88794	PB	Lead	Not detected		CF023 RM #19
LF88795	PB	Lead	0.015		DW002 HALLWAY
LF88796	PB	Lead	0.006		DW002 HALLWAY
LF88797	PB	Lead	0.004		DW002 HALLWAY
LF88798	PB	Lead	0.001		DW002 HALLWAY
LF88799	PB	Lead	0.002		CF012 RM #9
LF88800	PB	Lead	0.004		CF012 RM #9
LF88801	PB	Lead	0.002		CF012 RM #9
LF88802	PB	Lead	Not detected		CF012 RM #9
LF88803	PB	Lead	0.04		DW001 HALLWAY
LF88804	PB	Lead	0.006		DW001 HALLWAY

LF88805	PB	Lead	0.004	DW001 HALLWAY
LF88806	PB	Lead	0.001	DW001 HALLWAY
LF88807	PB	Lead	0.014	CF018 RM#15
LF88808	PB	Lead	0.005	CF018 RM#15
LF88809	PB	Lead	0.002	CF018 RM#15
LF88810	PB	Lead	0.002	CF018 RM#15
LF88811	PB	Lead	0.01	CF017 RM#15
LF88812	PB	Lead	0.014	CF017 RM#15
LF88813	PB	Lead	0.002	CF017 RM#15
LF88814	PB	Lead	0.002	CF017 RM#15
LF88815	PB	Lead	0.017	CF029 DHS OFFICE
LF88816	PB	Lead	0.012	CF029 DHS OFFICE
LF88817	PB	Lead	0.002	CF029 DHS OFFICE
LF88818	PB	Lead	Not detected	CF029 DHF OFFICE
LF88819	PB	Lead	0.013	CF008 RM#4
LF88820	PB	Lead	0.006	CF008 RM#4
LF88821	PB	Lead	0.001	CF008 RM#4
LF88822	PB	Lead	Not detected	CF008 RM#4
LF88823	PB	Lead	0.007	CF007 RM#3
LF88824	PB	Lead	0.006	CF007 RM #3
LF88825	PB	Lead	0.003	CF007 RM#3
LF88826	PB	Lead	0.002	CF007 RM#3
LF88827	PB	Lead	0.027	CF014 ROOM #10
LF88828	PB	Lead	0.007	CF014- ROOM #10
LF88829	PB	Lead	0.004	CF014-ROOM #10
LF88830	PB	Lead	0.003	CF014-ROOM #10
LF88831	PB	Lead	0.036	CF026 ROOM #14
LF88832	PB	Lead	0.03	CF026 ROOM #14
LF88833	PB	Lead	0.017	CF026 ROOM #14
LF88834	PB	Lead	0.004	CF026 ROOM #14
LF88835	PB	Lead	0.005	CF019 ROOM #17
LF88836	PB	Lead	0.003	CF019 ROOM #17
LF88837	PB	Lead	0.001	CF019 ROOM #17
LF88838	PB	Lead	Not detected	CF019 ROOM #17
LF88839	PB	Lead	Not detected	CF025 ROOM #14
LF88840	PB	Lead	0.003	CF025 ROOM #14
LF88841	PB	Lead	0.003	CF025 ROOM #14
LF88842	PB	Lead	0.002	CF025 ROOM #14
LF88843	PB	Lead	0.009	CF013 ROOM #10
LF88844	PB	Lead	0.018	CF013- ROOM #10
LF88845	PB	Lead	0.003	CF013 ROOM #10
LF88846	PB	Lead	0.003	CF013 ROOM #10
LF88847	PB	Lead	0.013	CF020 ROOM #17
LF88848	PB	Lead	0.004	CF020 ROOM #17
LF88849	PB	Lead	0.005	CF020 ROOM #17
LF88850	PB	Lead	0.003	CF020 ROOM #17
LF88851	PB	Lead	0.016	CF006 ROOM#2
LF88852	PB	Lead	0.003	CF006 ROOM #2
LF88853	PB	Lead	0.001	CF006 ROOM #2
LF88854	PB	Lead	0.001	CF006 ROOM #2
LF88855	PB	Lead	0.002	CF011 ROOM #7
LF88856	PB	Lead	Not detected	CF011 ROOM #7
LF88857	PB	Lead	0.002	CF011 ROOM #7
LF88858	PB	Lead	Not detected	CF011 ROOM #7
LF88859	PB	Lead	0.057	CF031 RAINBOW PRE K

LF88860	PB	Lead	0.003		CF031 RAINBOW PRE K
LF88861	PB	Lead	0.002		CF031 RAINBOW PRE K
LF88862	PB	Lead	Not detected		CF031 RAINBOW PRE K
LF88863	PB	Lead	0.01		CF030 RAINBOW PRE K
LF88864	PB	Lead	0.003		CF030 RAINBOW PRE K
LF88865	PB	Lead	0.007		CF030 RAINBOW PRE K
LF88866	PB	Lead	Not detected		CF030 RAINBOW PRE K
LF88867	PB	Lead	0.012		CF004 ROOM #1
LF88868	PB	Lead	0.007		CF004 ROOM #1
LF88869	PB	Lead	0.004		CF004 ROOM #1
LF88870	PB	Lead	0.002		CF004 ROOM #1
LF88871	PB	Lead	0.005		DW005 ROOM #1
LF88872	PB	Lead	0.003		DW005 ROOM #1
LF88873	PB	Lead	0.003		DW005 ROOM #1
LF88874	PB	Lead	0.002		DW005 ROOM #1
LF89553	PB	Lead	0.002		CF030
LF89554	PB	Lead	0.001		CF030
LF89555	PB	Lead	Not detected		CF030
LF89556	PB	Lead	Not detected		CF030
LF89557	PB	Lead	Not detected		CF030
LF89558	PB	Lead	Not detected		CF030
LF89559	PB	Lead	Not detected		CF030
LF89560	PB	Lead	Not detected		CF030
LF89561	PB	Lead	Not detected		CF030
LF89562	PB	Lead	Not detected		CF030
LF89563	PB	Lead	0.062		CF015
LF89564	PB	Lead	0.008		CF015
LF89565	PB	Lead	0.008		CF015
LF89566	PB	Lead	0.007		CF015
LF89567	PB	Lead	0.007		CF015
LF89568	PB	Lead	0.007		CF015
LF89569	PB	Lead	0.007		CF015
LF89570	PB	Lead	0.006		CF015
LF89571	PB	Lead	0.006		CF015
LF89572	PB	Lead	0.006		CF015
LF89573	PB	Lead	0.002		CF027
LF89574	PB	Lead	Not detected		CF027
LF89575	PB	Lead	Not detected		CF027
LF89576	PB	Lead	Not detected		CF027
LF89577	PB	Lead	Not detected		CF027
LF89578	PB	Lead	Not detected		CF027
LF89579	PB	Lead	Not detected		CF027
LF89580	PB	Lead	Not detected		CF027
LF89581	PB	Lead	Not detected		CF027
LF89582	PB	Lead	Not detected		CF027

SampleCollector	Site_Code
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P1
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P2
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F02
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P1
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P2
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F02
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P1
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P2
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F02
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P1
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P2
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F02
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P1
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P2
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F02
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P1
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P2
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F02
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P1
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P2
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F02
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P1
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P2
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F02
JOE MADZIAR/ANDY NEUMAN	P1
JOE MADZIAR/ ANDY NEUMAN	P2
JOE MADZIAR/ ANDY NEUMAN	F01
JOE MADZIAR/ ANDY NEUMAN	F02
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P1
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P2
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/ GEORGE KRISZTIA	F02
JOE MADZIAR/ ANDY NEUMAN	P1
JOE MADZIAR/ ANDY NEUMAN	P2
JOE MADZIAR/ ANDY NEUMAN	F01
JOE MADZIAR/ ANDY NEUMAN	F02
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	P1
TRACY JO DEVEREAUX/ GEORGE KRISZTIAN	P2
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F02
JOE MADZIAR/ ANDY NEUMAN	P1
JOE MADZIAR	P2
JOE MADZIAR/ ANDY NEUMAN	F01
JOE MADZIAR/ ANDY NEUMAN	F02
TRACY JO DEVEREAUX/ GEORGE KRISZTIA	P1
TRACY JO DEVEREAUX	P2

TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F01
TRACY JO DEVEREAUX/GEORGE KRISZTIAN	F02
JOE MADZIAR	P1
JOE MADZIAR/ ANDY NEUMAN	P2
JOE MADZIAR/ ANDY NEUMAN	F01
JOE MADZIAR/ ANDY NEUMAN	F02
JOE MADZIAR/ ANDY NEUMAN	P1
JOE MADZIAR/ ANDY NEUMAN	P2
JOE MADZIAR/ ANDY NEUMAN	F01
JOE MADZIAR/ ANDY NEUMAN	F02
JOE MADZIAR/ ANDY NEUMAN	P1
JOE MADZIAR/ ANDY NEUMAN	P2
JOE MADZIAR/ ANDY NEUMAN	F01
JOE MADZIAR/ ANDY NEUMAN	F02
JOE MADZIAR/ ANDY NEUMAN	P1
JOE MADZIAR/ ANDY NEUMAN	P2
JOE MADZIAR/ ANDY NEUMAN	F01
JOE MADZIAR/ ANDY NEUMAN	F02
JOE MADZIAR/ ANDY NEUMAN	P1
JOE MADZIAR/ ANDY NEUMAN	P2
JOE MADZIAR/ ANDY NEUMAN	F01
JOE MADZIAR/ ANDY NEUMAR	F02
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY / LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY/ LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY/ LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY/ LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY/ LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY / LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY/ LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY/ LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	P1

MIKE PRYSBY/ LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY/ LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY/ LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
MIKE PRYSBY/ LOIS GRAHAM	P1
MIKE PRYSBY/ LOIS GRAHAM	P2
MIKE PRYSBY/ LOIS GRAHAM	F01
MIKE PRYSBY/ LOIS GRAHAM	F02
TJD/GLK	CA1
TJD/GLK	CA2
TJD/GLK	CA3
TJD/GLK	CA4
TJD/GLK	CAS
TJD/GLK	CA6
TJD/GLK	CA7
TJD/GLK	CA8
TJD/GLK	CA9
TJD/GLK	CA10
TJD/GLK	CB1
TJD/GLK	CB2
TJD/GLK	CB3
TJD/GLK	CB4
TJD/GLK	CB5
TJD/GLK	CB6
TJD/GLK	CB7
TJD/GLK	CB8
TJD/GLK	CB9
TJD/GLK	CB10
TJD/GLK	CC1
TJD/GLK	CC2
TJD/GLK	CC3
TJD/GLK	CC4
TJD/GLK	CC5
TJD/GLK	CC6
TJD/GLK	CC7
TJD/GLK	CC8
TJD/GLK	CC9
TJD/GLK	CC10

Rennaker, Joanne (DEQ)

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Tuesday, September 09, 2014 9:47 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Cc: Brent Wright; Daugherty Johnson; Howard Croft
Subject: September 2014 Boil Water Notice Timeline
Attachments: Boil Water Advisory Event Timeline # 2.docx

Gentlemen,

Attached is a timeline of events that led us to the recent boil water notice. It shows all sampling and results from 9/2 thru today.

FYI:

I was just talking with a couple of employee's from the Water Service Center who have been helping us with our investigation of the the distribution system. It seems that they have found one of the possible causes of our recent issues. A 36" transmission main not far west of the treatment plant had a valve that was closed, and the 24" transmission main that leads west also has a valve that is closed. The 36" valve was opened, however the valve on the 24" is inoperable. With these valves closed, it appears the water leaving the plant has no direct route to the west side of the city (or the West Side Reservoir)

Mike Glasgow
City of Flint Water Plant

City of Flint Boil Water Advisory Event Timeline (Sept. 2014)

September 2nd – Routine distribution sampling yielded 1 sample positive for coliform bacteria.

Sample Site	Address	Free Chlorine	Total Chlorine
# 5	2501 Flushing Rd	0.0	0.1

September 3rd – Distribution repeat sampling along with upstream and downstream locations yielded 2 samples positive for coliform bacteria.

Sample Site	Address	Free Chlorine	Total Chlorine
# 5	2501 Flushing Rd.	0.0	0.2
# 5 Upstream	1117 N. Chevrolet	0.0	0.2
# 5 Downstream	2740 Flushing Rd.	0.1	0.3

September 4th – Sampling yielded four samples positive for coliform bacteria. Sampling included Site # 5 repeat sampling and the City Distribution sampling.

Sample Site	Address	Free Chlorine	Total Chlorine
# 5	2501 Flushing Rd.	0.1	0.2
# 5 Upstream	2205 Flushing Rd.	0.1	0.2
# 5 Downstream	2740 Flushing Rd.	0.1	0.3
# 6	3216 MLK Blvd.	0.1	0.2

September 5th – Notified DEQ of recent results. Resampled Site # 5 & # 6 along with upstream & downstream locations. Site # 5 and its downstream locations were positive for coliform bacteria. Site # 6 upstream & downstream locations were also positive for coliform bacteria. DEQ requires boil water notice to be issued tonight.

Sample Site	Address	Free Chlorine	Total Chlorine
# 5	2501 Flushing Rd	0.1	0.2
# 5 Upstream	2205 Flushing Rd.	0.1	0.3
# 5 Downstream	2740 Flushing Rd.	0.1	0.2
# 6	3216 MLK Blvd.	0.2	0.3
# 6 Upstream	3317 MLK Blvd.	0.1	0.2
# 6 Downstream	3110 MLK Blvd.	0.1	0.2

September 6th – Resampled Site # 5 & # 6 along with upstream & downstream locations. All samples were negative for coliform bacteria. Site #6 was closed, alternate site used.

Sample Site	Address	Free Chlorine	Total Chlorine
# 5	2501 Flushing Rd.	0.2	0.3
# 5 Upstream	2205 Flushing Rd.	0.2	0.3
# 5 Downstream	1274 Ballenger Hwy.	0.1	0.2
# 6 (alt)	104 E. Pasadena	0.1	0.2
# 6 Upstream	3317 MLK Blvd.	0.2	0.3
# 6 Downstream	3110 MLK Blvd.	0.0	0.1

September 7th – Resampled Site # 5 & # 6 along with upstream & downstream locations. . Site #6 was closed, alternate site used.

Sample Site	Address	Free Chlorine	Total Chlorine
# 5	2501 Flushing Rd.	0.2	0.3
# 5 Upstream	2205 Flushing Rd.	0.2	0.3
# 5 Downstream	1274 Ballenger Hwy.	0.0	0.2
# 6 (alt)	104 E. Pasadena	0.1	0.3
# 6 Upstream	3317 MLK Blvd.	0.1	0.3
# 6 Downstream	3110 MLK Blvd.	0.2	0.3

September 8th – Sampled all 10 sites in the distribution sampling plan, including Site # 5 downstream which was positive on the 7th.

Sample Site	Address	Free Chlorine	Total Chlorine
# 1	3742 Davison Rd.	0.1	0.2
# 2	822 S. Dort Hwy	0.2	0.4
# 3	3302 S. Dort Hwy	0.1	0.1
# 4	3606 Corunna Rd.	0.0	0.2
# 5	2501 Flushing Rd.	0.1	0.2
# 6	3216 MLK Blvd.	0.1	0.1
# 7	5018 Clio Rd.	0.1	0.1
# 8	6204 N. Saginaw St.	0.7	1.0
Cedar St. Reservoir	1100 Cedar St	0.6	0.9
West Side Reservoir	1416 Dupont St.	0.7	1.0
# 5 Downstream	1274 Ballenger Hwy	0.1	0.1

Sample results will be available @ 2pm on 9/9/15.

Rennaker, Joanne (DEQ)

From: Krisztian, George (DEQ)
Sent: Thursday, November 05, 2015 8:14 AM
To: Feuerstein, Heather (DEQ); Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ)
Subject: Spread Sheet for Freeman Elementary Lead and Copper Results
Attachments: Freeman Elementary Final Lead and Copper Results.xlsx

Importance: High

Attached is the spreadsheet for Freeman Elementary. Please note that the Lead Results and the Copper Results are on different tabs.

Heather will take a stab at reconciling the naming convention between the report and the spreadsheet to make it generic and easily understood to the lay person. We can then meet as a group to discuss.

Thank you!

George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 420-5897

Sample Number	ANALYTE	RESULT	Sample Description
LF88751	Lead	0.010	CF022 RM 12
LF88752	Lead	0.003	CF022 RM 12
LF88753	Lead	0.001	CF022 RM 12
LF88754	Lead	0.001	CF022 RM 12
LF88755	Lead	0.004	CF021 RM 12
LF88756	Lead	0.007	CF021 RM 12
LF88757	Lead	0.000	CF021 #12
LF88758	Lead	0.000	CF021 RM 12
LF88759	Lead	0.009	CF009 RM 5
LF88760	Lead	0.002	CF009 RM 5
LF88761	Lead	0.002	CF009 RM 5
LF88762	Lead	0.001	CF009 RM 5
LF88763	Lead	0.002	CF015 RM 11
LF88764	Lead	0.002	CF015 RM 11
LF88765	Lead	0.014	CF015 RM 11
LF88766	Lead	0.011	CF015 RM 11
LF88767	Lead	0.003	CF016 RM 11
LF88768	Lead	0.003	CF016 RM 11
LF88769	Lead	0.005	CF016 RM 11
LF88770	Lead	0.004	CF016 RM 11
LF88771	Lead	0.009	CF027 RM 21
LF88772	Lead	0.007	CF027 RM 21
LF88773	Lead	0.000	CF027 RM 21
LF88774	Lead	0.000	CF027 RM 21
LF88775	Lead	0.012	CF010 RM 6
LF88776	Lead	0.004	CF010 RM 6
LF88777	Lead	0.002	CF010 RM 6
LF88778	Lead	0.000	CF010 RM 6
LF88779	Lead	0.009	CF028 RM #21
LF88780	Lead	0.002	CF028 RM #21
LF88781	Lead	0.001	CF028 RM #21
LF88782	Lead	0.001	CF028 RM #21
LF88783	Lead	0.002	CF024 RM #19
LF88784	Lead	0.003	CF024 RM #19
LF88785	Lead	0.004	CF024 RM #19
LF88786	Lead	0.003	CF024 RM #19
LF88787	Lead	0.005	KC003 COMMUNITY ROOM
LF88788	Lead	0.002	KC003 COMMUNITY ROOM
LF88789	Lead	0.000	KC003 COMMUNITY ROOM
LF88790	Lead	0.000	KC003 COMMUNITY ROOM
LF88791	Lead	0.009	CF023 RM #19
LF88792	Lead	0.009	CF023 RM #19
LF88793	Lead	0.001	CF023 RM #19
LF88794	Lead	0.000	CF023 RM #19
LF88795	Lead	0.015	DW002 HALLWAY
LF88796	Lead	0.006	DW002 HALLWAY
LF88797	Lead	0.004	DW002 HALLWAY
LF88798	Lead	0.001	DW002 HALLWAY
LF88799	Lead	0.002	CF012 RM #9
LF88800	Lead	0.004	CF012 RM #9
LF88801	Lead	0.002	CF012 RM #9
LF88802	Lead	0.000	CF012 RM #9
LF88803	Lead	0.002	DW001 HALLWAY
LF88804	Lead	0.006	DW001 HALLWAY

LF88805	Lead	0.004	DW001 HALLWAY
LF88806	Lead	0.001	DW001 HALLWAY
LF88807	Lead	0.014	CF018 RM#15
LF88808	Lead	0.005	CF018 RM#15
LF88809	Lead	0.002	CF018 RM#15
LF88810	Lead	0.002	CF018 RM#15
LF88811	Lead	0.010	CF017 RM#15
LF88812	Lead	0.014	CF017 RM#15
LF88813	Lead	0.002	CF017 RM#15
LF88814	Lead	0.002	CF017 RM#15
LF88815	Lead	0.017	CF029 DHS OFFICE
LF88816	Lead	0.012	CF029 DHS OFFICE
LF88817	Lead	0.002	CF029 DHS OFFICE
LF88818	Lead	0.000	CF029 DHF OFFICE
LF88819	Lead	0.013	CF008 RM#4
LF88820	Lead	0.006	CF008 RM#4
LF88821	Lead	0.001	CF008 RM#4
LF88822	Lead	0.000	CF008 RM#4
LF88823	Lead	0.007	CF007 RM#3
LF88824	Lead	0.006	CF007 RM #3
LF88825	Lead	0.003	CF007 RM#3
LF88826	Lead	0.002	CF007 RM#3
LF88827	Lead	0.027	CF014 ROOM #10
LF88828	Lead	0.007	CF014- ROOM #10
LF88829	Lead	0.004	CF014-ROOM #10
LF88830	Lead	0.003	CF014-ROOM #10
LF88831	Lead	0.036	CF026 ROOM #14
LF88832	Lead	0.030	CF026 ROOM #14
LF88833	Lead	0.017	CF026 ROOM #14
LF88834	Lead	0.004	CF026 ROOM #14
LF88835	Lead	0.005	CF019 ROOM #17
LF88836	Lead	0.003	CF019 ROOM #17
LF88837	Lead	0.001	CF019 ROOM #17
LF88838	Lead	0.000	CF019 ROOM #17
LF88839	Lead	0.000	CF025 ROOM #14
LF88840	Lead	0.003	CF025 ROOM #14
LF88841	Lead	0.003	CF025 ROOM #14
LF88842	Lead	0.002	CF025 ROOM #14
LF88843	Lead	0.009	CF013 ROOM #10
LF88844	Lead	0.018	CF013- ROOM #10
LF88845	Lead	0.003	CF013 ROOM #10
LF88846	Lead	0.003	CF013 ROOM #10
LF88847	Lead	0.013	CF020 ROOM #17
LF88848	Lead	0.004	CF020 ROOM #17
LF88849	Lead	0.005	CF020 ROOM #17
LF88850	Lead	0.003	CF020 ROOM #17
LF88851	Lead	0.016	CF006 ROOM#2
LF88852	Lead	0.003	CF006 ROOM #2
LF88853	Lead	0.001	CF006 ROOM #2
LF88854	Lead	0.001	CF006 ROOM #2
LF88855	Lead	0.002	CF011 ROOM #7
LF88856	Lead	0.000	CF011 ROOM #7
LF88857	Lead	0.002	CF011 ROOM #7
LF88858	Lead	0.000	CF011 ROOM #7
LF88859	Lead	0.057	CF031 RAINBOW PRE K

LF88860	Lead	0.003	CF031 RAINBOW PRE K
LF88861	Lead	0.002	CF031 RAINBOW PRE K
LF88862	Lead	0.000	CF031 RAINBOW PRE K
LF88863	Lead	0.010	CF030 RAINBOW PRE K
LF88864	Lead	0.003	CF030 RAINBOW PRE K
LF88865	Lead	0.007	CF030 RAINBOW PRE K
LF88866	Lead	0.000	CF030 RAINBOW PRE K
LF88867	Lead	0.012	CF004 ROOM #1
LF88868	Lead	0.007	CF004 ROOM #1
LF88869	Lead	0.004	CF004 ROOM #1
LF88870	Lead	0.002	CF004 ROOM #1
LF88871	Lead	0.005	DW005 ROOM #1
LF88872	Lead	0.003	DW005 ROOM #1
LF88873	Lead	0.003	DW005 ROOM #1
LF88874	Lead	0.002	DW005 ROOM #1
LF89553	Lead	0.002	CF030
LF89554	Lead	0.001	CF030
LF89555	Lead	0.000	CF030
LF89556	Lead	0.000	CF030
LF89557	Lead	0.000	CF030
LF89558	Lead	0.000	CF030
LF89559	Lead	0.000	CF030
LF89560	Lead	0.000	CF030
LF89561	Lead	0.000	CF030
LF89562	Lead	0.000	CF030
LF89563	Lead	0.002	CF015
LF89564	Lead	0.008	CF015
LF89565	Lead	0.008	CF015
LF89566	Lead	0.007	CF015
LF89567	Lead	0.007	CF015
LF89568	Lead	0.007	CF015
LF89569	Lead	0.007	CF015
LF89570	Lead	0.006	CF015
LF89571	Lead	0.006	CF015
LF89572	Lead	0.006	CF015
LF89573	Lead	0.002	CF027
LF89574	Lead	0.000	CF027
LF89575	Lead	0.000	CF027
LF89576	Lead	0.000	CF027
LF89577	Lead	0.000	CF027
LF89578	Lead	0.000	CF027
LF89579	Lead	0.000	CF027
LF89580	Lead	0.000	CF027
LF89581	Lead	0.000	CF027
LF89582	Lead	0.000	CF027

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for e

Results in RED exceed 15 ppb

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CC1
CC2
CC3
CC4
CC5
CC6
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ase of sorting

SAMPNO	ANALYTE	RESULT	Sample Description
LF88751	Copper	0.32	CF022 RM 12
LF88752	Copper	0.17	CF022 RM 12
LF88753	Copper	0.15	CF022 RM 12
LF88754	Copper	0.15	CF022 RM 12
LF88755	Copper	0.09	CF021 RM 12
LF88756	Copper	0.15	CF021 RM 12
LF88757	Copper	0.14	CF021 #12
LF88758	Copper	0.15	CF021 RM 12
LF88759	Copper	0.31	CF009 RM 5
LF88760	Copper	0.28	CF009 RM 5
LF88761	Copper	0.08	CF009 RM 5
LF88762	Copper	0.07	CF009 RM 5
LF88763	Copper	0.43	CF015 RM 11
LF88764	Copper	0.66	CF015 RM 11
LF88765	Copper	0.19	CF015 RM 11
LF88766	Copper	0.13	CF015 RM 11
LF88767	Copper	0.99	CF016 RM 11
LF88768	Copper	0.89	CF016 RM 11
LF88769	Copper	0.16	CF016 RM 11
LF88770	Copper	0.13	CF016 RM 11
LF88771	Copper	0.19	CF027 RM 21
LF88772	Copper	0.21	CF027 RM 21
LF88773	Copper	0.16	CF027 RM 21
LF88774	Copper	0.15	CF027 RM 21
LF88775	Copper	0.24	CF010 RM 6
LF88776	Copper	0.22	CF010 RM 6
LF88777	Copper	0.17	CF010 RM 6
LF88778	Copper	0.12	CF010 RM 6
LF88779	Copper	0.17	CF028 RM #21
LF88780	Copper	0.16	CF028 RM #21
LF88781	Copper	0.15	CF028 RM #21
LF88782	Copper	0.15	CF028 RM #21
LF88783	Copper	0.23	CF024 RM #19
LF88784	Copper	0.17	CF024 RM #19
LF88785	Copper	0.16	CF024 RM #19
LF88786	Copper	0.16	CF024 RM #19
LF88787	Copper	0.31	KC003 COMMUNITY ROOM
LF88788	Copper	0.27	KC003 COMMUNITY ROOM
LF88789	Copper	0.14	KC003 COMMUNITY ROOM
LF88790	Copper	0.13	KC003 COMMUNITY ROOM
LF88791	Copper	0.13	CF023 RM #19
LF88792	Copper	0.18	CF023 RM #19
LF88793	Copper	0.15	CF023 RM #19
LF88794	Copper	0.15	CF023 RM #19
LF88795	Copper	0.21	DW002 HALLWAY
LF88796	Copper	0.10	DW002 HALLWAY
LF88797	Copper	0.07	DW002 HALLWAY
LF88798	Copper	0.00	DW002 HALLWAY
LF88799	Copper	0.23	CF012 RM #9
LF88800	Copper	0.16	CF012 RM #9
LF88801	Copper	0.11	CF012 RM #9
LF88802	Copper	0.08	CF012 RM #9
LF88803	Copper	0.41	DW001 HALLWAY
LF88804	Copper	0.29	DW001 HALLWAY

LF88805	Copper	0.17	DW001 HALLWAY
LF88806	Copper	0.00	DW001 HALLWAY
LF88807	Copper	0.20	CF018 RM#15
LF88808	Copper	0.17	CF018 RM#15
LF88809	Copper	0.14	CF018 RM#15
LF88810	Copper	0.14	CF018 RM#15
LF88811	Copper	0.17	CF017 RM#15
LF88812	Copper	0.29	CF017 RM#15
LF88813	Copper	0.17	CF017 RM#15
LF88814	Copper	0.15	CF017 RM#15
LF88815	Copper	0.59	CF029 DHS OFFICE
LF88816	Copper	0.40	CF029 DHS OFFICE
LF88817	Copper	0.08	CF029 DHS OFFICE
LF88818	Copper	0.00	CF029 DHF OFFICE
LF88819	Copper	0.28	CF008 RM#4
LF88820	Copper	0.54	CF008 RM#4
LF88821	Copper	0.17	CF008 RM#4
LF88822	Copper	0.15	CF008 RM#4
LF88823	Copper	0.17	CF007 RM#3
LF88824	Copper	0.27	CF007 RM #3
LF88825	Copper	0.09	CF007 RM#3
LF88826	Copper	0.07	CF007 RM#3
LF88827	Copper	0.11	CF014 ROOM #10
LF88828	Copper	0.10	CF014- ROOM #10
LF88829	Copper	0.10	CF014-ROOM #10
LF88830	Copper	0.08	CF014-ROOM #10
LF88831	Copper	0.75	CF026 ROOM #14
LF88832	Copper	0.66	CF026 ROOM #14
LF88833	Copper	0.35	CF026 ROOM #14
LF88834	Copper	0.20	CF026 ROOM #14
LF88835	Copper	0.16	CF019 ROOM #17
LF88836	Copper	0.15	CF019 ROOM #17
LF88837	Copper	0.14	CF019 ROOM #17
LF88838	Copper	0.14	CF019 ROOM #17
LF88839	Copper	0.14	CF025 ROOM #14
LF88840	Copper	0.25	CF025 ROOM #14
LF88841	Copper	0.17	CF025 ROOM #14
LF88842	Copper	0.18	CF025 ROOM #14
LF88843	Copper	0.06	CF013 ROOM #10
LF88844	Copper	0.07	CF013- ROOM #10
LF88845	Copper	0.10	CF013 ROOM #10
LF88846	Copper	0.19	CF013 ROOM #10
LF88847	Copper	0.19	CF020 ROOM #17
LF88848	Copper	0.16	CF020 ROOM #17
LF88849	Copper	0.16	CF020 ROOM #17
LF88850	Copper	0.14	CF020 ROOM #17
LF88851	Copper	0.17	CF006 ROOM#2
LF88852	Copper	0.22	CF006 ROOM #2
LF88853	Copper	0.11	CF006 ROOM #2
LF88854	Copper	0.11	CF006 ROOM #2
LF88855	Copper	0.20	CF011 ROOM #7
LF88856	Copper	0.15	CF011 ROOM #7
LF88857	Copper	0.11	CF011 ROOM #7
LF88858	Copper	0.06	CF011 ROOM #7
LF88859	Copper	0.38	CF031 RAINBOW PRE K

LF88860	Copper	0.21	CF031 RAINBOW PRE K
LF88861	Copper	0.27	CF031 RAINBOW PRE K
LF88862	Copper	0.19	CF031 RAINBOW PRE K
LF88863	Copper	0.38	CF030 RAINBOW PRE K
LF88864	Copper	0.42	CF030 RAINBOW PRE K
LF88865	Copper	0.59	CF030 RAINBOW PRE K
LF88866	Copper	0.21	CF030 RAINBOW PRE K
LF88867	Copper	0.27	CF004 ROOM #1
LF88868	Copper	0.25	CF004 ROOM #1
LF88869	Copper	0.21	CF004 ROOM #1
LF88870	Copper	0.08	CF004 ROOM #1
LF88871	Copper	0.10	DW005 ROOM #1
LF88872	Copper	0.09	DW005 ROOM #1
LF88873	Copper	0.09	DW005 ROOM #1
LF88874	Copper	0.06	DW005 ROOM #1
LF89553	Copper	0.45	CF030
LF89554	Copper	0.37	CF030
LF89555	Copper	0.22	CF030
LF89556	Copper	0.22	CF030
LF89557	Copper	0.21	CF030
LF89558	Copper	0.21	CF030
LF89559	Copper	0.20	CF030
LF89560	Copper	0.20	CF030
LF89561	Copper	0.20	CF030
LF89562	Copper	0.20	CF030
LF89563	Copper	0.40	CF015
LF89564	Copper	0.14	CF015
LF89565	Copper	0.13	CF015
LF89566	Copper	0.13	CF015
LF89567	Copper	0.13	CF015
LF89568	Copper	0.13	CF015
LF89569	Copper	0.13	CF015
LF89570	Copper	0.12	CF015
LF89571	Copper	0.12	CF015
LF89572	Copper	0.12	CF015
LF89573	Copper	0.16	CF027
LF89574	Copper	0.14	CF027
LF89575	Copper	0.14	CF027
LF89576	Copper	0.14	CF027
LF89577	Copper	0.14	CF027
LF89578	Copper	0.15	CF027
LF89579	Copper	0.15	CF027
LF89580	Copper	0.15	CF027
LF89581	Copper	0.15	CF027
LF89582	Copper	0.15	CF027

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for €

None of the results for Copper exceeded 1.3 PPM

[illegible]

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Rennaker, Joanne (DEQ)

From: Howard Croft <hcroft@cityofflint.com>
Sent: Wednesday, October 07, 2015 9:43 PM
To: Amy Hovey; Andy Leavitt; Brent Wright; Darren Lytle; Dayne Walling; donna. cole; edwardsm; Gerald (Jed) Natzke; Howard Croft; James Henry; Jamie Gaskin; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Lawrence Reynolds; Lawrence Reynolds; Michael Glasgow; Michael Wright; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; schock.michael@epa.gov; Sean Kammer; Busch, Stephen (DEQ); Warren Green; John Monsees
Subject: TAC Team Summary 10_7_15
Attachments: Flint Corrosion Presentation final.pdf

All,

I want to personally thank everyone for participating in today's meeting, it is encouraging to see the commitment that exists to address the concerns around health. I apologize for the poor phone reception we experienced today, I will have that corrected at the next meeting.

I am sending a summary of today's meeting and have attempted to chronicle the highlights or major points that we discussed. I have also included an electronic version of Marc Edwards presentation and will forward any other documents that are requested.

Please look for continued communication from me as we work to move forward as fast as possible. I expect to have November and December dates selected very soon and will maintain the stream of information to this team as it becomes available.

Please do not hesitate to email or call me with any questions or requests.

Thank you,

--

Howard Croft
 Public Works Director
 City of Flint
 1101 S. Saginaw Street
 Flint, MI 48502
 PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

**Synergistic Impacts of Corrosive Water and
Interrupted Corrosion Control on Chemical/
Microbiological Water Quality:
The Flint, MI Water Crisis**



NSF RAPID:

National Science Foundation

“used for proposals having a severe urgency...., including quick-response research on natural or anthropogenic disasters and similar unanticipated events.”

Flint
Water
is very
corrosive.

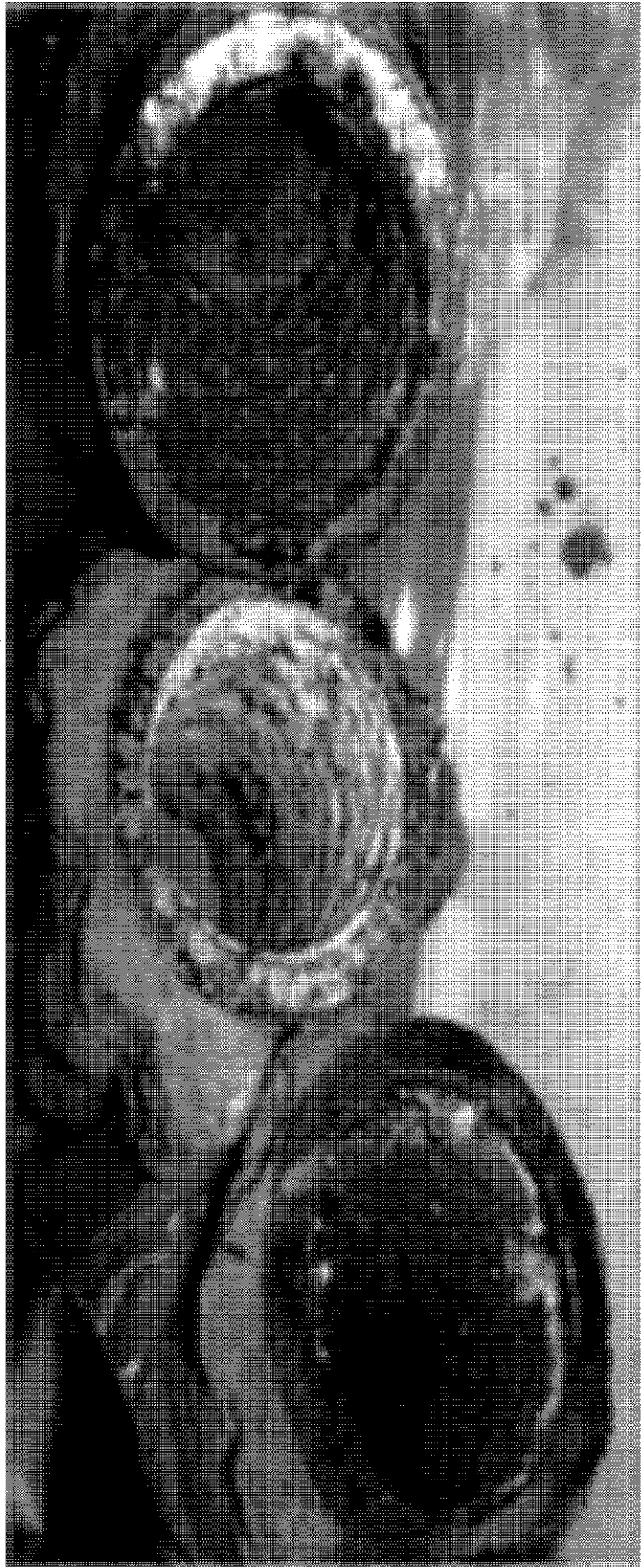
Detroit
water is
not.

Table 1. Water quality parameters for drinking water supplied in Flint, MI before and after the April 2014 switch

Parameter	Before ¹	After ²
pH	7.38	7.61
Hardness (mg/L as CaCO ₃)	101	183
Alkalinity (mg/L as CaCO ₃)	78	77
Chloride (mg/L)	11.4	92
Sulfate (mg/L)	25.2	41
CSMR ³	0.45	1.6
Inhibitor (mg/L as P)	0.35	NONE
Larson Ratio ⁴	0.5	2.3

¹Source: City of Flint Monthly Operation Report, June 2015. Available from www.cityofflint.com

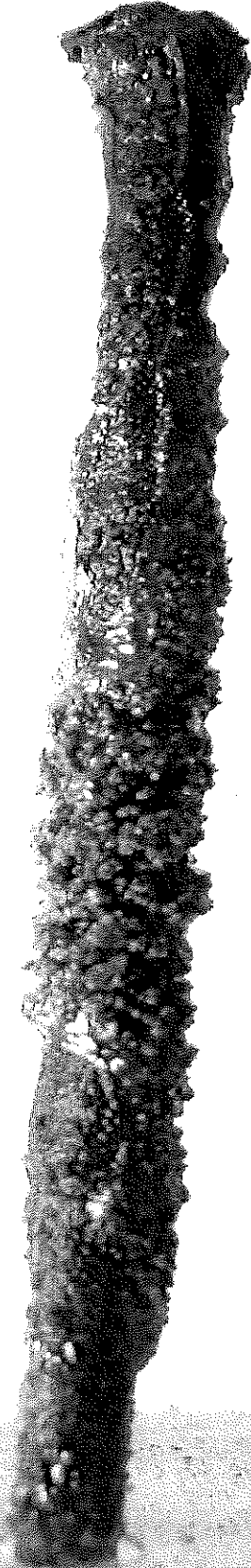
Corrosive Water: Destroys Pipe Infrastructure



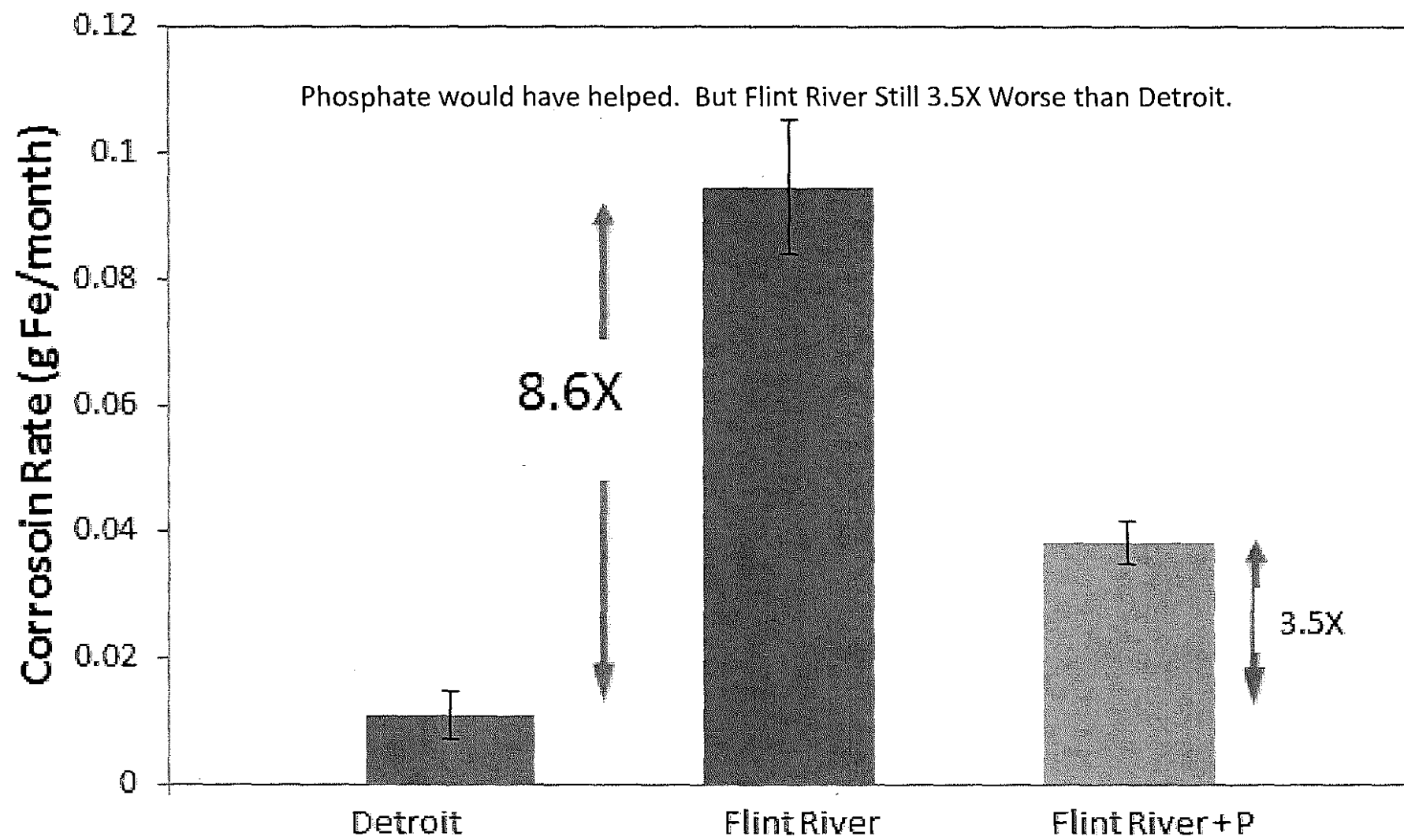
Detroit Water



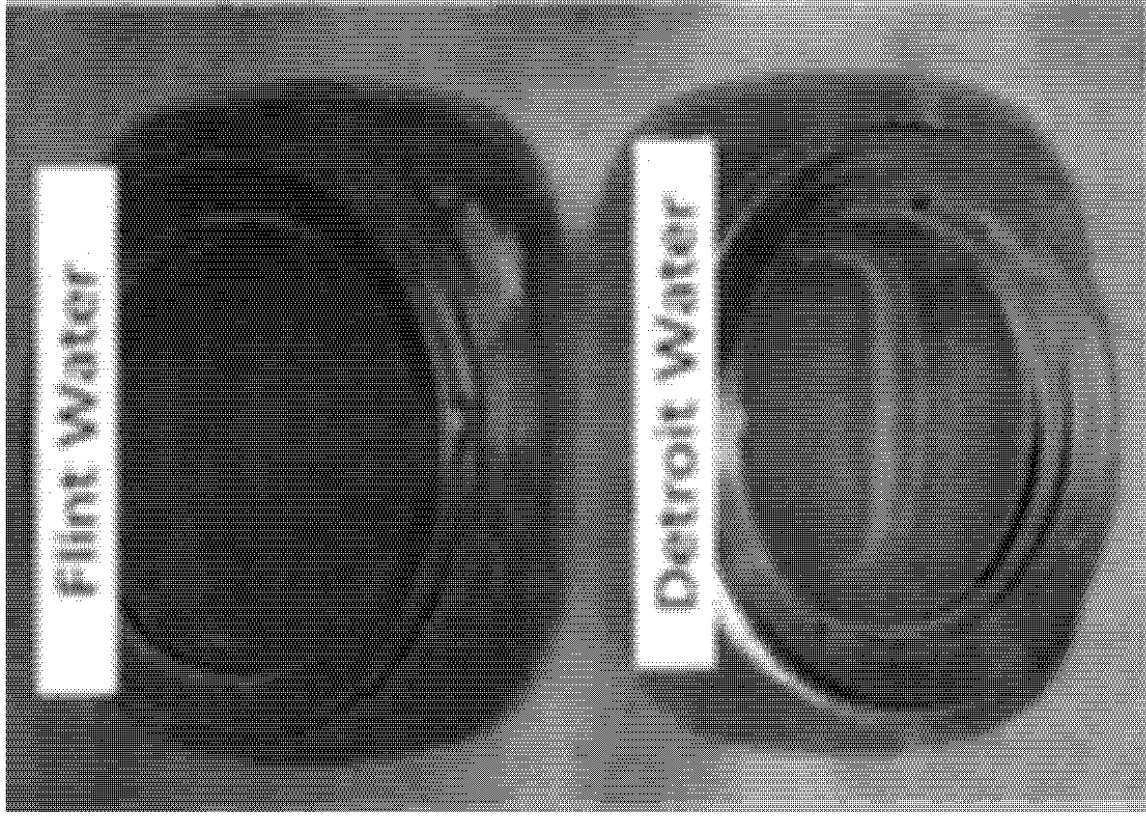
Flint Water



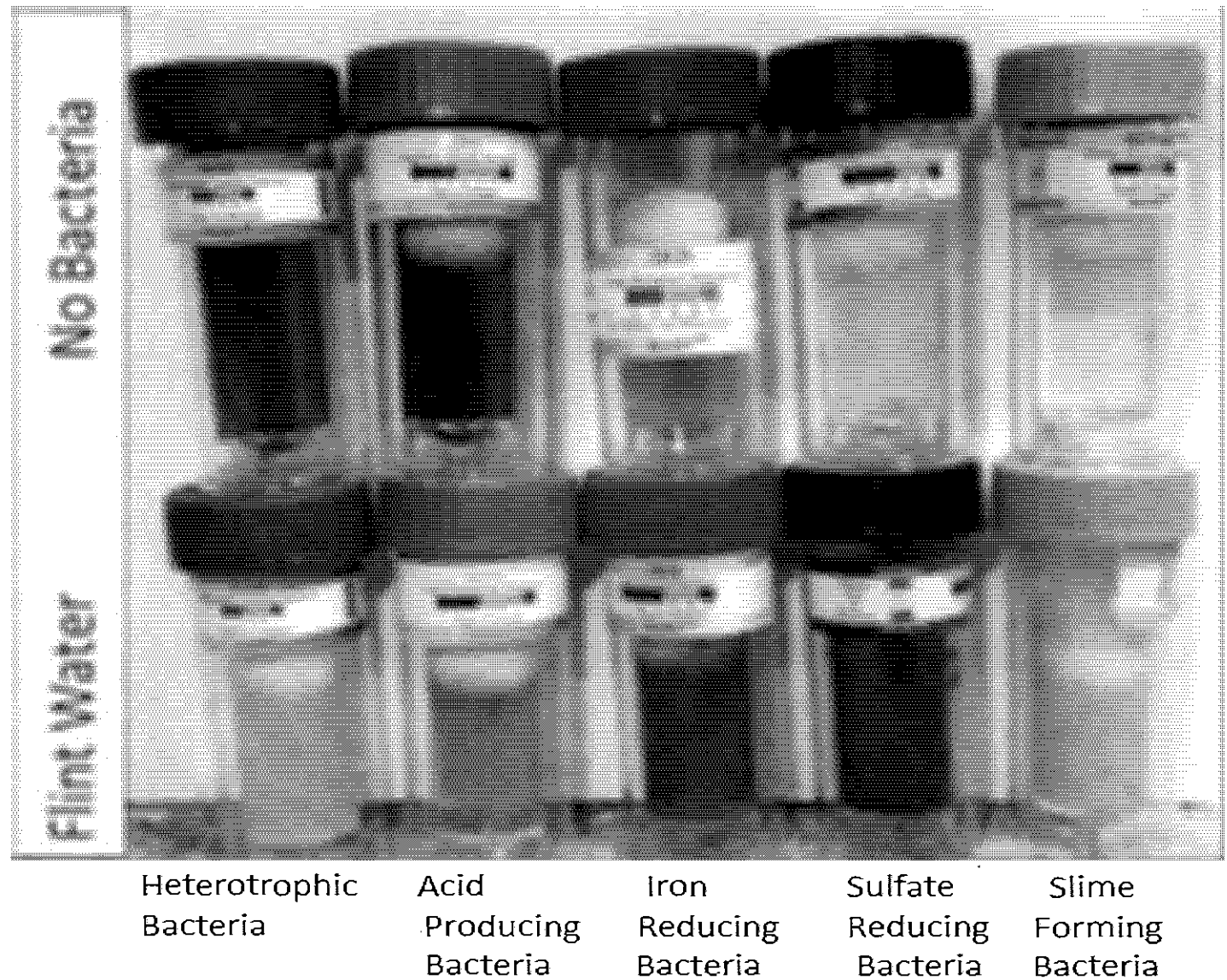
Steel Exposed One Month to Detroit vs. Flint River Water



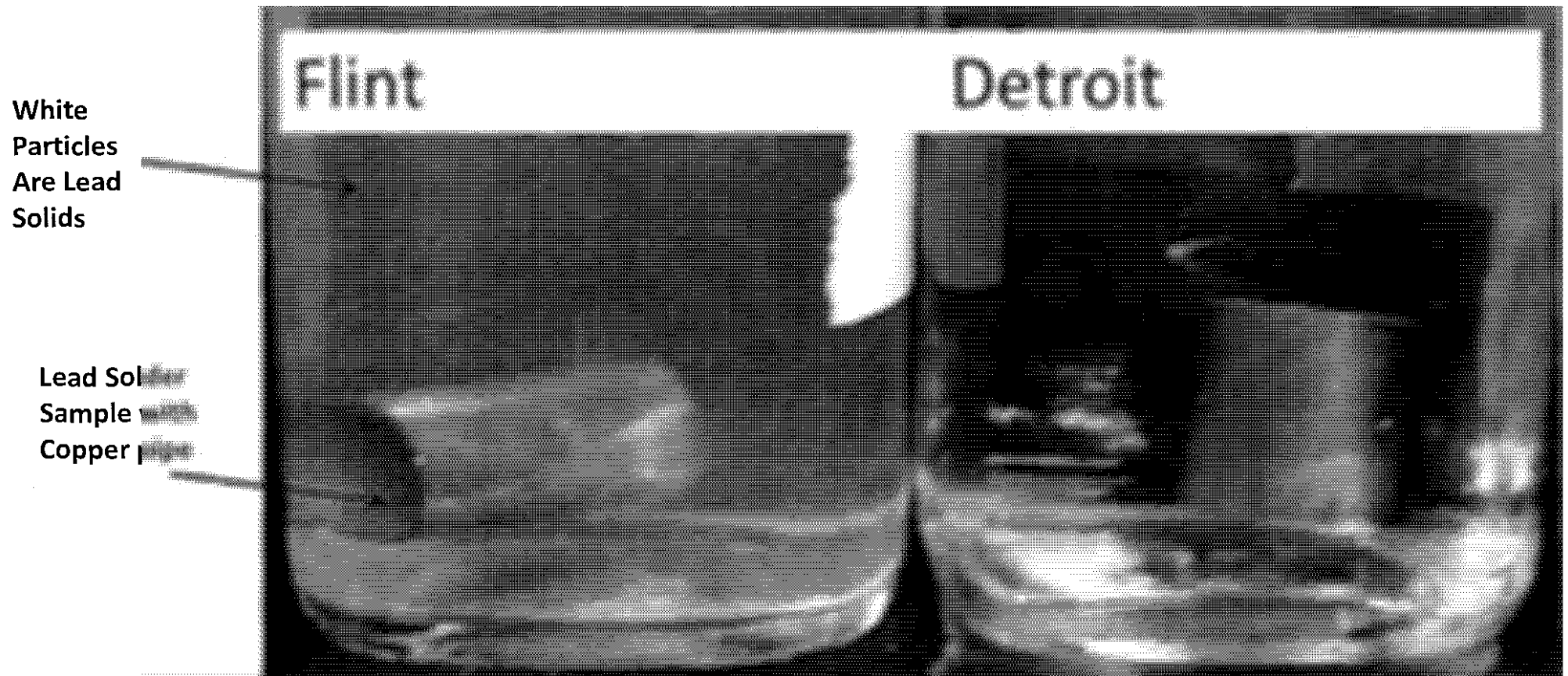
Corrosive Water:
Causes Odors,
Colors, Bad Tastes



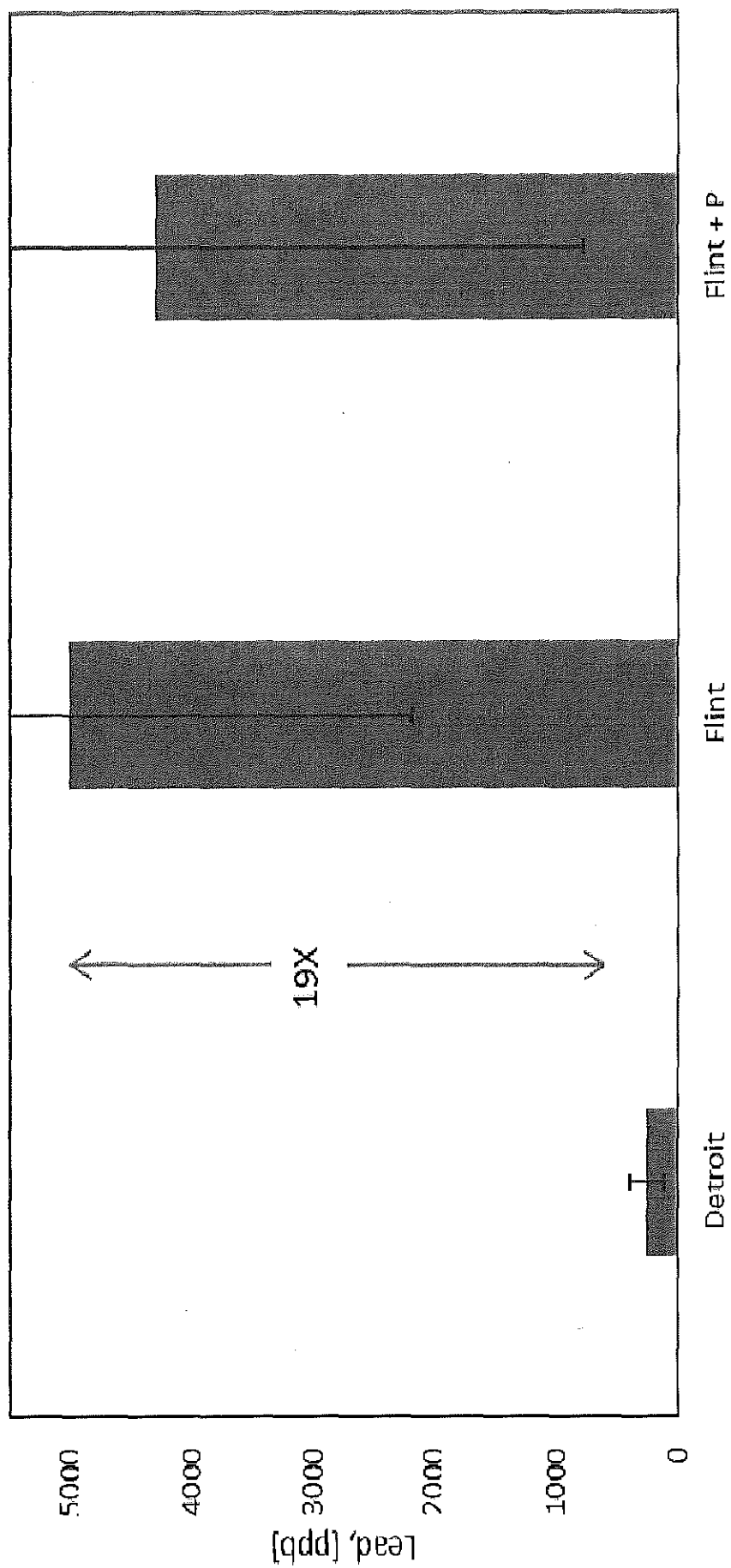
High Levels of Corrosion Causing Bacteria



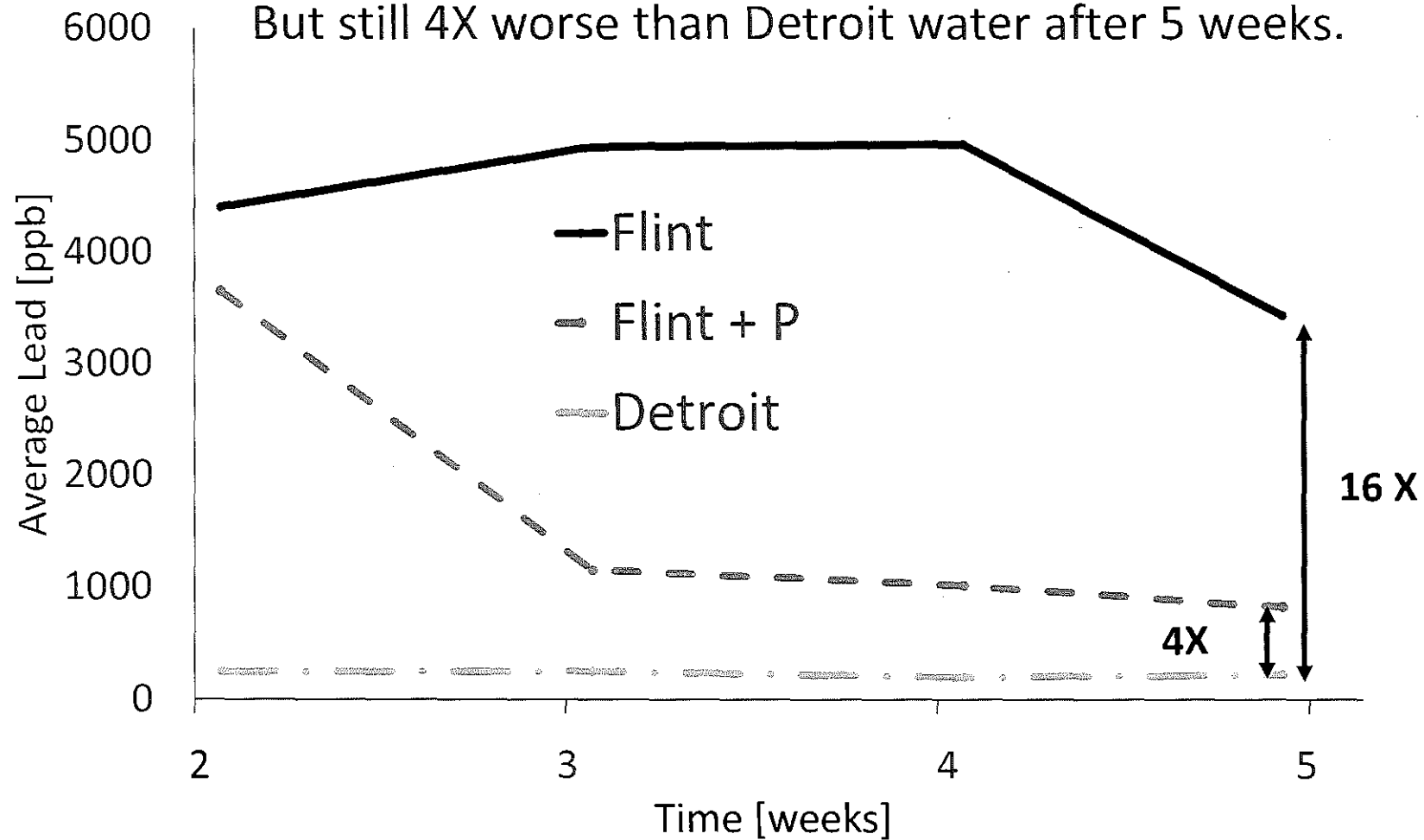
Corrosive Water: Increases Lead.
Effects VISIBLE immediately in lab tests!



5000 ppb = Hazardous Waste Levels of Lead



Phosphate (P) corrosion inhibitor would have helped.
But still 4X worse than Detroit water after 5 weeks.



INITIATED CONFIRMATION TESTING OF LEAD CORROSIVITY AT ONE LOCAL ELEMENTARY AND ONE HIGH SCHOOL

Vickie Weiss

City School ~ Room 00
11920 S. Saginaw
Grand Blanc MI – 48439

4-5th Graders
12+5 Bottles

Emily Cizmas

2283 E. Scottwood Ave.
Burton, MI 48529

Bendle High School,
Burton
14+5 Bottles

**Experimental Rigs has
also been sent to:**

Brad Wurfel

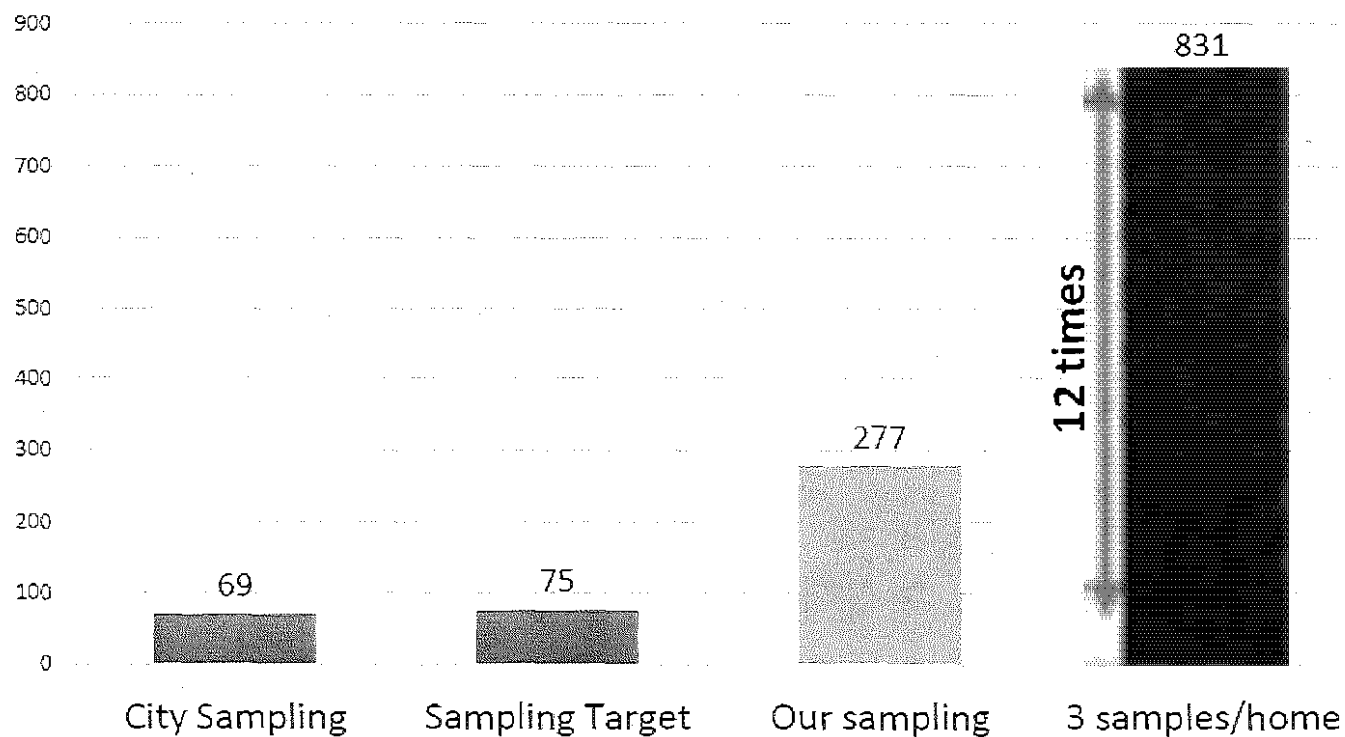
Director of
Communication
Michigan DEQ
P.O. Box 30473
Lansing, MI 48909-6700

9 Bottles

Aug 20 - Sep 8

#FlintWater sampling response from #FlintCitizenScientists

No. of samples tested for Lead



The Team in Flint and from ACLU-Michigan



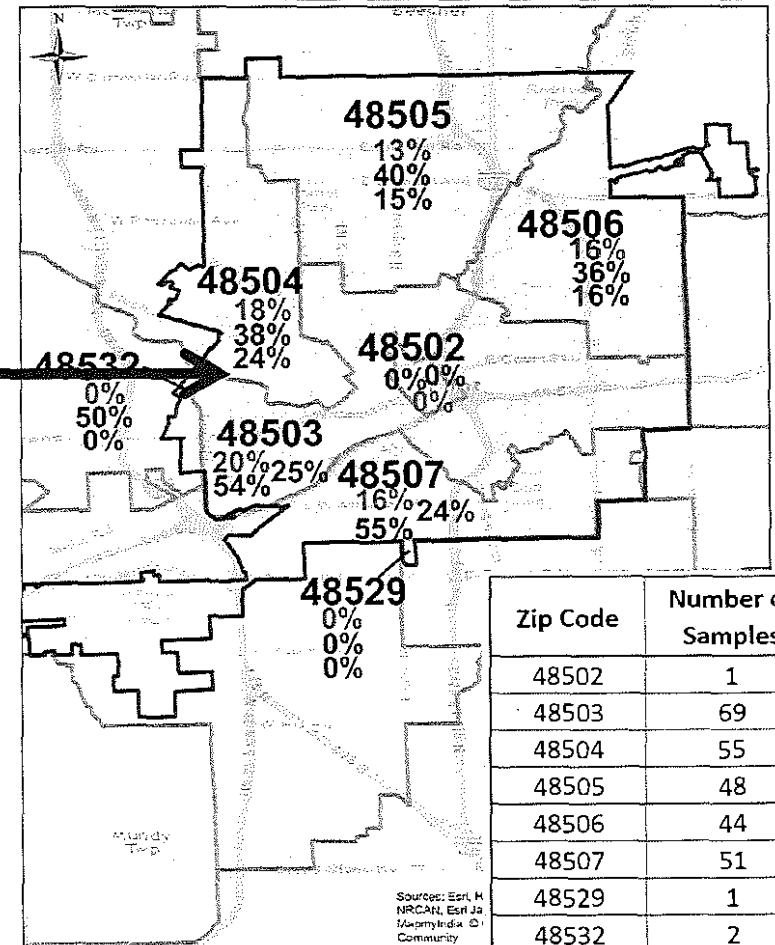
PEDIATRIC LEAD EXPOSURE IN FLINT, MI: CONCERNS FROM THE MEDICAL COMMUNITY

Higher Risk Zip Codes
For EBL

90%'ile from low risk homes
> EPA Action Level

Flint, MI

Legend:
Blue %: Percent First Draw Samples over 15 ppb
Black %: Percent Any Samples over 5 ppb
Red %: Percent Any Samples over 15 ppb



Zip Code	Number of Samples
48502	1
48503	69
48504	55
48505	48
48506	44
48507	51
48529	1
48532	2
TOTAL	271

Source: EBL, M
NRCA, EBL JA
Community

Corrosion control treatment to reduce lead in Flint water.

1. **Switch back to the non-corrosive Detroit water.**

Flint's lead levels would drop markedly in about one month.

2. Add orthophosphate to Flint River water. Orthophosphate will not reduce lead leaching from all lead plumbing sources. Based on experimental data, lead levels would likely be reduced by 5X, but still 4X higher than Detroit. Iron corrosion still much higher than Detroit.

If orthophosphate had been added to Flint water, continuing the corrosion control used in Detroit water, the Flint Water Crisis would not have occurred.

About us

Research Team

Undergraduate Students:

Margaret **Carolan**, Kim **Hughes**,
Rebecca **Jones**

Graduate Students

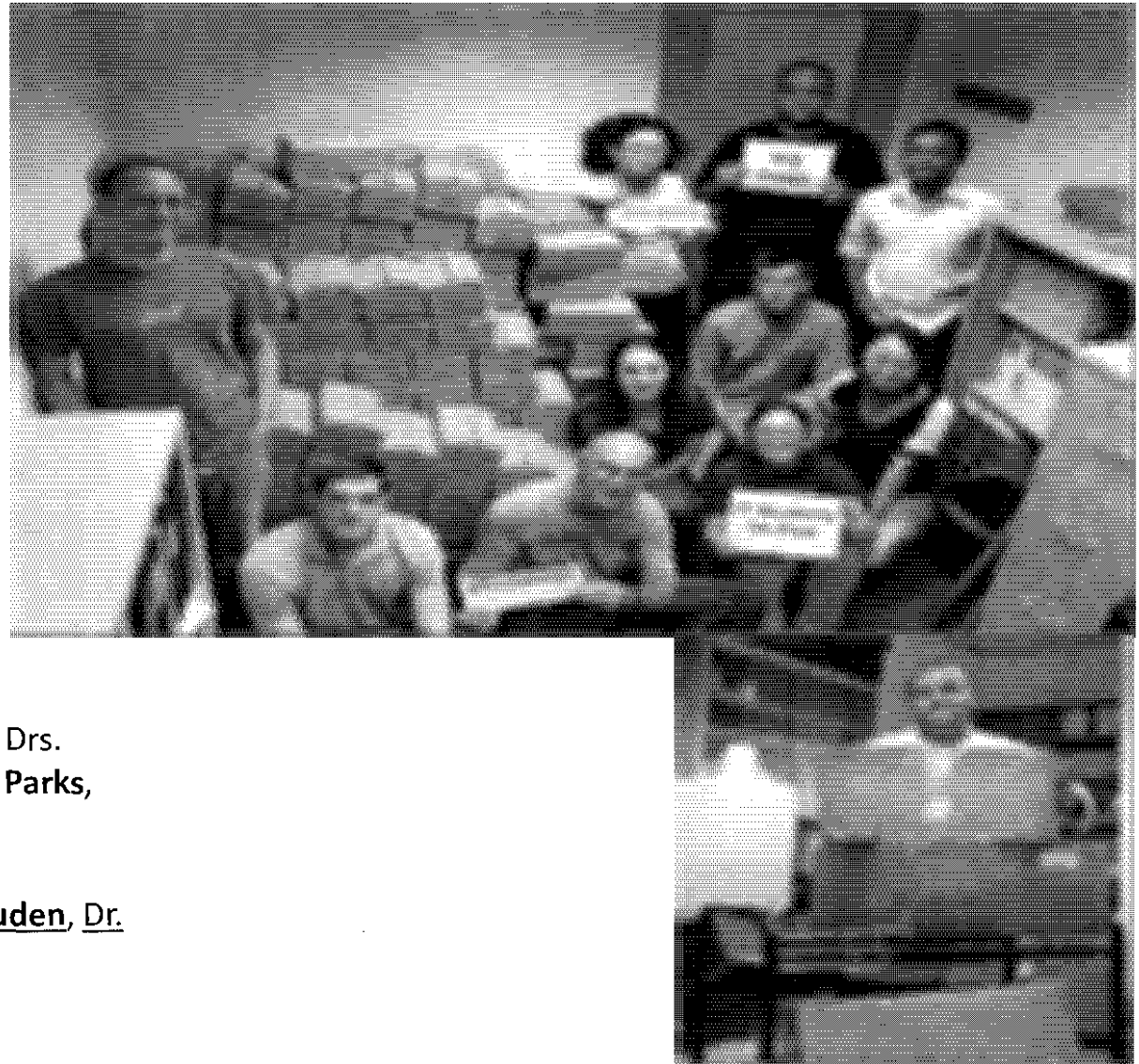
(in alphabetical order):

Christina **Devine**, Emily **Garner**,
Anurag **Mantha**, Rebekah **Martin**,
Colin **Richards**, William **Rhoads**,
Siddhartha **Roy**, Min **Tang**,
Ni “Joyce” **Zhu**

Post-docs/Research Scientists (in alphabetical order): Drs.

Brandi **Clark**, Dongjuan **Dai**, Sheldon **Masters**, Jeffrey **Parks**,
Kelsey **Pieper**, David “Otto” **Schwake**, Fei **Wang**

Principal Investigators: Dr. Marc **Edwards**, Dr. Amy **Pruden**, Dr. **Joseph Falkinham III**

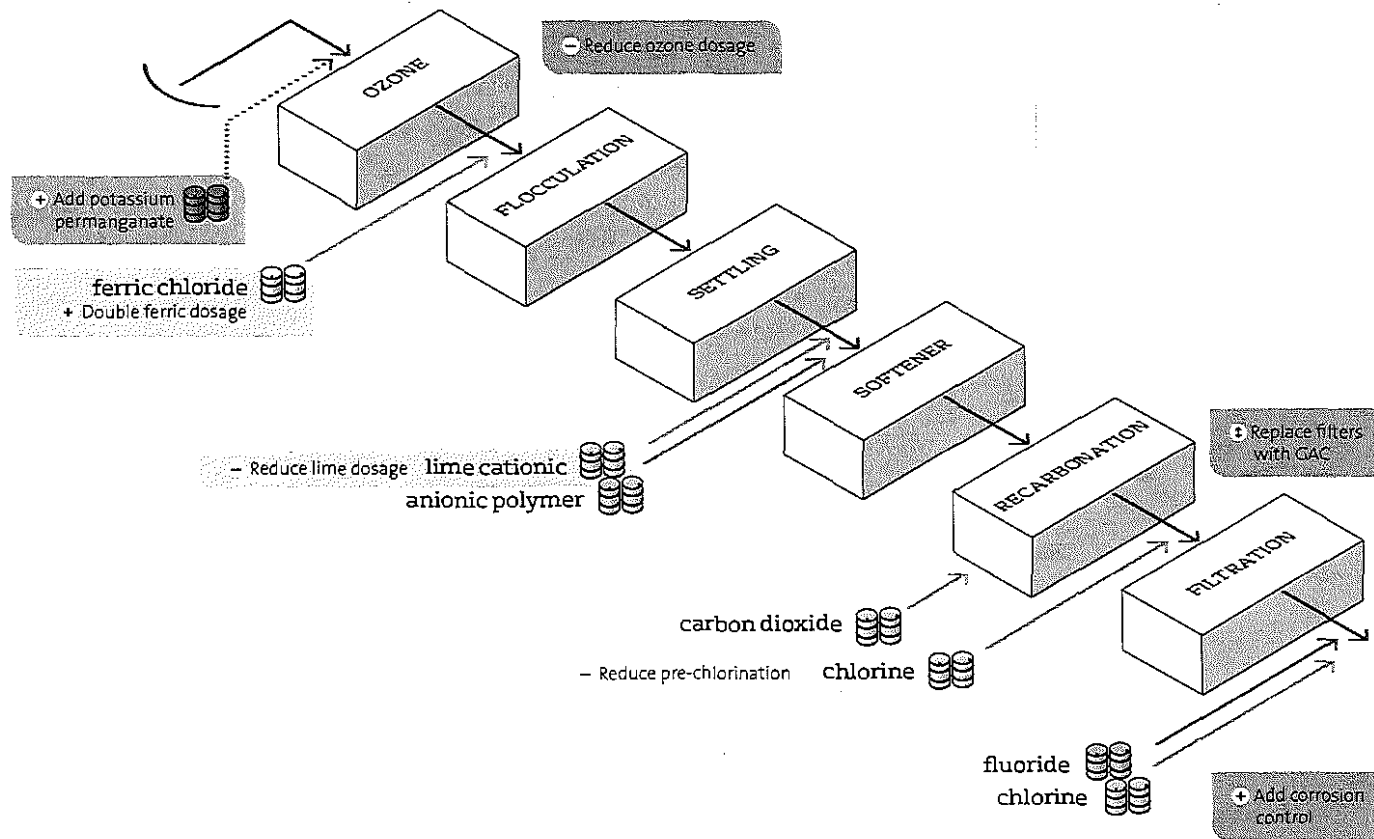




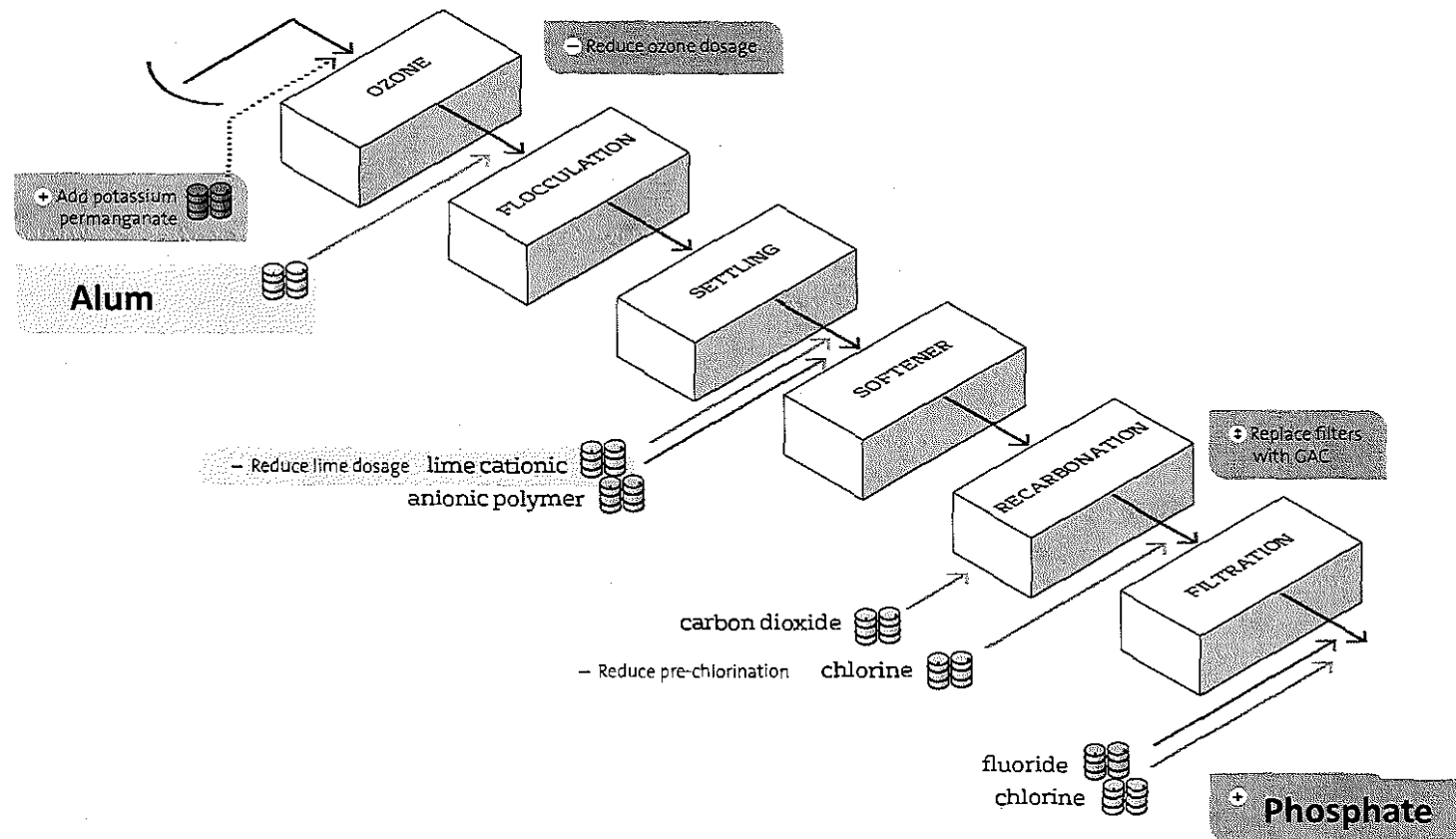
Acknowledgements

- NSF
 - Flint Citizens
 - Wateryoufightingfor (Melissa Mays and Lee-Anne Walters)
 - Miguel Del Toral (Region 5 EPA)
 - ACLU-MICHIGAN (Curt Guyette)
 - Senator Ananich and Dan Kildee (and Great Staff)
 - **Flint Medical Community (esp. Mona Hanna-Attisha and Hurley team)**
 - Genesee County Health Department
 - Concerned Pastors for Social Action
 - Democracy Defense League
 - Others
-
- City of Flint Water Department (Glasgow/Croft)

Treatment Option 1



Treatment Option 2



CSMR for Ferric Chloride vs Alum

	Cl ⁻	SO ⁻	CSMR
Ferric Chloride	80	27	2.96
Alum	44	77	0.57

Rennaker, Joanne (DEQ)

From: Howard Croft <hcroft@cityofflint.com>
Sent: Wednesday, October 28, 2015 3:28 PM
To: Amy Hovey; Andy Leavitt; Anthony Chubb; Brent Wright; Darren Lytle; Dayne Walling; donna. cole; Dykema, Linda D. (DHHS); Wells, Eden (DHHS); edwardsm; Krisztian, George (DEQ); Gerald (Jed) Natzke; Howard Croft; James Henry; Jamie Gaskin; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kevin J. Keane; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Lawrence Reynolds; Lawrence Reynolds; Michael Glasgow; Schock, Michael; Michael Wright; Mike Lane; Prysby, Mike (DEQ); MVALACAK@gchd.us; Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; Sean Kammer; Busch, Stephen (DEQ); Thompson, Sheryl D. (DHHS); Warren Green; Shawn McElmurry
Subject: TAC Team Update 10_28_15
Attachments: TAC Weekly Update 10_28_15.pdf

Team,

The next Technical Advisory Meeting is set for **Wednesday November 18th 2:00 pm** at Flint City Hall. The previous date being considered was Veterans Day and we encountered several conflicts. There will be a call in number available and I will send an agenda prior to the meeting.

There is a significant amount of new information included in this weekly report and I expect that trend to continue as we move forward. Several of the items mentioned such as the specific dosing level of phosphate will become targets of discussion at this next meeting in order to thoroughly evaluate the pros and cons and to help with public information.

The testing map continues to have information added as it becomes available and on the weekly report we have inserted a data table that will be updated regularly as well. Please let me know if anyone is interested in additional data being reported.

Please be prepared to give input on the potential of a December meeting which would have to be December 9th or December 16th.

Thank you,

--

Howard Croft
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hcroft@cityofflint.com



City of Flint Technical Advisory Committee - Weekly Report

October 28th, 2015

Last meeting: 10-7-2015

Next meeting: 11-18-2015, 2:00 pm

I. Overview –

Please note that we have set the date for the next meeting at **Wednesday November 18th** 2:00 pm at Flint City Hall (there will be a call in number). The previous date proposed is Veterans Day and there were several conflicts.

II. New Items this week

Technical Advisory Committee Addition

I have added Professor Shawn McElmurry, An Associate Professor at Wayne State University in the Dept. of Civil and Environmental Engineering to the TAC team. Professor McElmurry contacted me a few weeks ago and visited the Water Plant and took several samples from the Flint River and the distribution system.

Professor McElmurry's team has submitted a proposal to the National Institute of Environmental Health Sciences (NIEHS) for funding to evaluate how changes in the drinking water system are impacting water quality. Their project has the following goals:

- Define exposure within Flint's drinking water system using a combined sampling and modeling approach.
- Quantify how the concentrations of DBPs and Pb change over time within the water distribution system.
- Apply a high-throughput bioassay to evaluate toxicity of complex chemical mixtures (focused on DBPs).
- Communicate results to water utility operators, government officials (city, state, and federal), public health agencies and residents using principles of risk communication through a variety of channels including social media.

Given their goals and their proximity to Flint, I believe that adding Professor McElmurry to the Technical Advisory Team will bring added evaluation and data to our cause.

III. Ongoing Items of concern or in process

A. Detroit Water

Water from Detroit is now flowing through all of the transition mains and should be present at most taps throughout the City. We are flushing hydrants in a manner to help circulate water within the system, individual usage patterns will dictate water being at every household and business. We will be testing hardness and phosphate levels over the next several days across the city to verify the presence of Detroit water.

B. Service Lines

I want to clarify where we are regarding the service line data. The 45,000+ cards are only one aspect of the information and represent the original data. As work has occurred over the last several decades, the Service Center has built a second, partial set of cards with updated information. Both sets of cards are kept as permanent records with accurate data. We also have maps which were last updated in 1984 with additional information. Finishing what the City started has involved stitching together three sets of data and then putting that into a database.

U of M Flint has taken ownership of the project and they have measured how much labor it will take to complete the task. Professor Kaufman is working pro bono but has just submitted a proposal to the City for the labor required in order to complete the task. The proposal will be turned around ASAP for them to complete the work.

C. Corrosion Control

On October 19th 2015 our engineering consultant submitted a design package to the DEQ with recommended phosphate dosing. After EPA review, the comments were just returned and today LAN is discussing with DEQ when to expect final approval and permitting. There are questions regarding the elevated dose of phosphate that we will bring to the next Technical Advisory meeting for discussion. The questions will be largely around the pros and cons of the specified dose level and the public communication and expectations that should accompany the implementation.

Issue	Description	Action Item	Owner
Corrosion Control	To help recoat the piping	The final design has been sent to MDEQ for permitting.	LAN
Surge Protection	Main breaks are down.	Leak detection will continue for the next few months.	City Staff
KWA - Prep	Design and installation of final improvements needed	Internal November 5th meeting scheduled to discuss specifics. See item IV.	LAN/City
KWA - Transfer Station	Buffer for water supply from KWA	Internal November 5th meeting scheduled to discuss specifics. See item IV.	LAN
Hydraulic Model	Filling with data	Need to verify broken valve locations for model to be accurate.	LAN/City
SCADA Upgrades	Used to develop automation within the system.	First phase went in in FY15 second and final phase due to be installed prior to KWA's arrival.	City Staff

IV. **Needs for treating and using water from KWA**

The City is meeting with the engineering consultants on Thursday November 5th in order to build a project timeline of all items needed to be prepared for water delivery from KWA. The following items will be discussed:

- A. Design and construction of transfer station to Dort Reservoir (while in use).
 - Needed to buffer the volume of water that KWA is capable of delivering prior to their reservoir tank being activated.
- B. KWA access to the plant.
 - The current design calls for use of the pipe that was empty and is now in use. An alternate plan needs to be discussed and vetted.
- C. Alum feed system
 - Needed for coagulant change to raw water and to reduce chloride.

V. **Testing Data**

We will continue to update this data table weekly, if there is something that is missing or additional data that is requested please let me know and we will attempt to add it to the table.

Date	Flow (MGD)	pH (S.U.)	Total Hardness (mg/L)	Total Alkalinity (mg/L)	Non-carbonate Hardness (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Total Phosphate (mg/L)
Range GLWA	12 - 19	7.3 - 7.6	98 - 102	70 - 76	26 - 32	11 - 13	26 - 32	3.9 - 6.3	1.0 - 1.2
10/26/2015	12	7.36	102	74	28	11	30.5	6.3	1.14

Rennaker, Joanne (DEQ)

From: Howard Croft <hcroft@cityofflint.com>
Sent: Monday, October 12, 2015 4:41 PM
To: larry.koehler@mcc.edu; rosejo@msu.edu; schock.michael@epa.gov; Amy Hovey; Andy Leavitt; Brent Wright; Darren Lytle; Dayne Walling; donna. cole; edwardsm; Krisztian, George (DEQ); Gerald (Jed) Natzke; Howard Croft; James Henry; Jamie Gaskin; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; Laura Sullivan; Lawrence Reynolds; Lawrence Reynolds; Michael Glasgow; Michael Wright; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; Russell Hudson; Samir Matta; Sean Kammer; Busch, Stephen (DEQ); Warren Green; Kevin Keane; Shekter Smith, Liane (DEQ); Dykema, Linda D. (DHHS)
Subject: TAC Update 10_12_15
Attachments: TAC Update 10_12_15.pdf

All,

Here is the template that I anticipate using on a weekly basis to share information with the group. This aligns with other weekly updates that are provided by our engineering team and gives a good overview of the system as a whole. This is likely more information than some want and I will modify the report as requested to make sure everyone has adequate information going forward. The report is geared toward bringing KWA online and the goal of providing clean safe water for the residents.

I cannot commit to delivering this every Monday but I plan to get something out each week. Please let me know if there are items missing or that you would like to see added.

As always, comments are welcome.

Thank you,

--

Howard Croft
 Public Works Director
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City of Flint Technical Advisory Committee - Weekly Report

October 12, 2015

Last meeting: 10-7-15

Next meeting: 11-11-15, 2:00 pm (tentative)

I. Overview –

This weekly report will contain an overview of the water system or a narrative of events that are occurring. I intend to maintain this current format of identifying new issues, ongoing issues, needs to use KWA when ready, accomplishments, and testing data that is available. The weekly report will also be forwarded to Treasury each week and certain information will be posted on the website.

II. New Issues of concern this week

A. Transition from Flint River back to previous water source.

1. **Contractual** – Being worked on by Attorneys – expect final documents today.
2. **Operational** – Physically ready by Monday pending volume of water from Detroit.
3. **Corrosion Control** – Ready to begin equipment installation, evaluation of dosing to be discussed with engineering and DEQ. Jar testing has started in the Plant.
4. **Staffing** – Evaluation this week of personnel needed to run in pass-through mode. We will also be evaluating the needs when KWA is here with SCADA upgrades taking place in the Treatment Plant.

B. Shut off Plan

- The inability to perform shut offs due to a court ordered injunction is impacting collections and the system as a whole. A plan is required on how to safely re-engage this function including when and in what manor.

III. Ongoing Issues of concern or in process

Issue	Description	Action Item	Owner
Corrosion Control	To help rebuild bio-film	LAN has purchased chemicals and started jar testing to determine dosing.	LAN
Transfer Station	Buffer for water supply from KWA	Engineers are starting design and identifying the lead time items.	LAN
Surge Protection	Water hammer and transient events causing main breaks	Halfway through leak detection - Pursuing surge protection	City Staff
Prep for KWA	Design and installation of final improvements needed	See Item IV	LAN/City
High water loss	Unaccounted for water has numerous facets	Replacing meters, performing leak detection, pursuing theft to narrow down cause	City Staff
Bray Rd. Lime sludge removal	Remediation of site required by consent decree	Will not be needed when using Detroit water but consent decree is still in effect.	City Staff
Hydraulic Model	Filling with data	Need to verify broken valve locations for model to be accurate.	LAN/City
SCADA Upgrades	Used to develop automation within the system.	First phases went in in FY15 second and final phase due to be installed prior to KWA's arrival.	City Staff

IV. Needs for treating and using water from KWA

- A. Design and construction of transfer station to Dort Reservoir
 - Needed to buffer the volume of water that KWA is capable of delivering prior to their reservoir tank being activated (most significant item & longest lead time).
- B. Raw water line to pump station #4
 - Needed to connect into existing 72" for raw water to reach the Plant.
- C. Phosphoric acid feed system
 - Needed for corrosion control.
- D. Alum feed system
 - Needed for coagulant change to raw water and to reduce chloride.

V. Accomplishments

- A. We are installing new water meters for the next three weeks prior to suspending the contract due to budget. We will have installed ~4000 of the 9000 irregular reading meters by the end of the month.
- B. We are halfway through the leak detection by "echologics" that was a \$900,000 spend on a Distressed City Grant from Treasury. To date there have been over three dozen leaks detected that range from minor (1.5 gpm) to moderate (3.4 gpm).

VI. Testing Data

- A. The following test data is what we put together on a weekly basis while tracking the TTHM concerns. We will look to construct a different set of metrics going forward that can help track system status and hopefully convey when the entire system is on Detroit. The TTHM leaving the WTP on 8/06/15 clearly shows the impact of the GAC being installed and put into use.

Date	Flint River Water Temp	Flint River TOC	Chlorine Feed at WTP	TTHM Leaving WTP
10/7/15	14.8	-	4.5	32
10/1/15	17.3	-	4.5	30
9/23/15	20.3	-	4.5	38
9/17/15	22.0	8.2	4.7	46
9/10/15	23.7	-	4.5	42
9/03/15	-	-	-	-
8/27/15	-	-	-	-
8/20/15	25.1	9.25	6.0	25
8/13/15	24.4	9.8	5.4	20
8/06/15	24.4	10.0	5.5	20
7/29/15	27.8	-	9.1	81
7/23/15	24.8	12.5	6.8	73
7/17/15	23.8	10	7.1	80
7/08/15	23.3	12.2	6.7	60
7/02/15	21.6	8.59	6.8	60

Rennaker, Joanne (DEQ)

From: Howard Croft <hcroft@cityofflint.com>
Sent: Monday, October 19, 2015 6:59 PM
To: Amy Hovey; Andy Leavitt; Anthony Chubb; Brent Wright; Darren Lytle; Dayne Walling; donna. cole; Dykema, Linda D. (DHHS); Wells, Eden (DHHS); edwardsm; Krisztian, George (DEQ); Gerald (Jed) Natzke; Howard Croft; James Henry; Jamie Gaskin; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kevin J. Keane; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Lawrence Reynolds; Lawrence Reynolds; Michael Glasgow; Schock, Michael; Michael Wright; Mike Lane; Prysby, Mike (DEQ); MVALACAK@gchd.us; Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; Sean Kammer; Busch, Stephen (DEQ); Thompson, Sheryl D. (DHHS); Warren Green
Subject: TAC Update 10_19_15
Attachments: TAC Update 10_19_15.pdf; Monthly Report March_2013_DWSD Water.pdf; Monthly Report September_2015_Filnt River.pdf

All,

Here is the weekly update for the Technical Advisory Team.

Please note that we are tentatively scheduling the next meeting for Wednesday November 11th at City Hall at 2:00. I will look for feedback from everyone on their ability to make it, there will be a call in number available with better reception.

We are open for input on this report, I expect to have a regular data format available by next week. In this report I have included the last Monthly report that we sent to the state while previously on DWSD water (March 2014) and the last Monthly report we sent while on the river (September 2015).

I have tried to make sure that everyone is included on this email list, if there is an omission please let me know.

Thank you,

--

Howard Croft
 Public Works Director
 City of Flint
 1101 S. Saginaw Street
 Flint, MI 48502
 PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com



City of Flint Technical Advisory Committee - Weekly Report

October 19, 2015

Last meeting: 10-7-15

Next meeting: 11-11-15, 2:00 pm (tentative)

I. Overview –

Water from Detroit is now flowing into the Flint system. The final valve was actuated last Friday at approximately 5:00 pm and as of Monday morning we are drawing 15 – 16 Mgd from Detroit. The transition was seamless and without incident, the operational team did a tremendous job in executing the plan in such a short timeframe.

- Please note that we are tentatively scheduling the next Technical Advisory Meeting to be held at City Hall on Wednesday November 11th 2015 at 2:00. Please RSVP, there will be a call in number available.

II. New Issues this week

A. Task Groups

1. **Technical Advisory Committee** – Continuance of weekly reports and development of a format to report test data.
2. **Task Force** – Working in conjunction with the DEQ on additional protocols.
3. **Corrosion Control** – Final design has been submitted to the DEQ.
4. **Staffing** – Evaluation of personnel needed to run the Plant under current conditions without compromising the need for qualified operators in less than a year.

B. Public Education

- Working to finalize additional communication means and materials.

III. Ongoing Issues of concern or in process

Issue	Description	Action Item	Owner
Corrosion Control	To help rebuild bio-film	LAN has sent the final design to MDEQ for approval. Copies are included as part of this report.	LAN
Transfer Station	Buffer for water supply from KWA	Engineers are starting design and identifying the lead time items.	LAN
Surge Protection	Water hammer and transient events causing main breaks	Waiting for final results of leak detection	City Staff
Prep for KWA	Design and installation of final improvements needed	See Item IV	LAN/City
High water loss	Current avg. usage is ~15.5 Mgd	Replacing meters, performing leak detection, pursuing theft to narrow down cause	City Staff
Bray Rd. Lime sludge removal	Remediation of site required by consent decree	Will not be needed when using Detroit water but consent decree is still in effect.	City Staff
Hydraulic Model	Filling with data	Need to verify broken valve locations for model to be accurate.	LAN/City
SCADA Upgrades	Used to develop automation within the system.	First phases went in in FY15 second and final phase due to be installed prior to KWA's arrival.	City Staff

IV. Needs for treating and using water from KWA

- A. Design and construction of transfer station to Dort Reservoir
 - Needed to buffer the volume of water that KWA is capable of delivering prior to their reservoir tank being activated (most significant item & longest lead time).
- B. Raw water line to pump station #4
 - Needed to connect into existing 72" for raw water to reach the Plant.
- C. Phosphoric acid feed system
 - Needed for corrosion control.
- D. Alum feed system
 - Needed for coagulant change to raw water and to reduce chloride.

** I will eventually put this information into a chart format in order to better track the progress of each item.*

V. Accomplishments

- A. We continue with the leak detection by "echologics" that was a \$900,000 spend on a Distressed City Grant from Treasury. To date there have been over four dozen leaks detected that range from minor (1.5 gpm) to moderate (3.4 gpm).

VI. Testing Data

- A. In this update I have included the last monthly operating report that was sent to DEQ when using water from DWSD (March 2013) and the last monthly report when using water from the Flint River (September 2015).
- B. We will be developing a format that allows for weekly data to be included in this report within the next few days.
- C. I have included a link to our map series that shows the results of the lead testing that we have been doing and a link to the map showing the service lines. Both maps will be regularly updated.

Mar-13

[illegible]



Flouridation & Chlorination

WSSN 2310

Mar-13

D A T E	Fluorid e Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P	Sta II	Dort	3MG Well		Tap		
		Free	Free	Free				Free			Free				
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1		0.59					0.9	1.0	1.0	1.0			1.1		
2		0.58					1.0	1.1	1.1	1.0			1.1		
3		0.57					0.7	0.9	0.8	0.9			0.8		
4		0.58					0.9	1.0	0.9	0.8			1.0		
5		0.54					0.8	1.0	0.9	0.8			0.9		
6		0.56					0.9	1.0	0.9	0.9			1.0		
7		0.56					0.9	1.0	0.9	0.8			0.9		
8		0.62					0.9	1.1	1.0	0.9			1.1		
9		0.65					0.9	1.0	1.0	1.0			1.0		
10		0.68					0.7	1.0	1.0	0.9			0.9		
11		0.66					0.8	0.9	0.9	0.8			0.8		
12		0.65					0.7	1.0	0.9	0.8			0.9		
13		0.65					0.9	1.0	0.9	0.9			1.0		
14		0.60					0.7	1.0	0.9	0.9			0.9		
15		0.64					0.8	1.0	0.9	0.9			0.9		
16		0.64					0.7	0.9	0.9	0.8			0.8		
17		0.56					0.7	1.0	0.9	0.8			0.9		
18		0.64					0.9	1.1	1.0	0.9			1.1		
19		0.67					0.9	1.0	0.9	0.9			1.0		
20		0.70					0.9	1.0	0.9	0.9			1.0		
21		0.63					0.7	1.1	0.9	0.9			0.9		
22		0.65					0.9	1.1	1.0	0.9			1.1		
23		0.68					1.0	1.1	1.0	1.0			1.1		
24		0.65					0.5	1.0	1.0	0.9			0.9		
25		0.68					0.9	1.0	1.0	0.9			0.9		
26		0.70					0.7	1.1	1.0	0.9			1.0		
27		0.70					0.9	1.1	1.0	1.0			1.0		
28		0.65					1.0	1.1	1.0	0.9			1.0		
29		0.68					1.0	1.2	1.1	1.0			1.1		
30		0.67					0.9	1.1	1.0	1.0			1.1		
31		0.67					0.9	1.1	1.0	1.0			1.0		
AVG		0.64					0.8	1.0	1.0	0.9			1.0		
MAX		0.70					1.0	1.2	1.1	1.0			1.1		
MIN		0.54					0.5	0.9	0.8	0.8			0.8		



Chemical Analyses

WSSN 2310

Mar-13

D A T E	pH		Total Hard as CaCO ₃ mg/l		Total Alk as CaCO ₃ mg/l		NonCarbonate Hardness as CaCO ₃ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
1		7.24		96		64		32				32.1		3.9		
2		7.21		98		72		26				29.7		5.8		
3		7.20		100		72		28				32.1		4.9		
4		7.24		98		67		31				30.5		5.3		
5		7.25		100		71		29				31.3		5.3		
6		7.29		98		71		27				30.5		5.3		
7		7.22		98		73		25				32.1		4.4		
8		7.27		102		75		27				32.1		5.3		
9		7.31		102		69		33				37.7		4.4		
10		7.25		98		70		28				31.3		5.3		
11		7.31		100		72		28				33.7		3.9		
12		7.31		100		70		30				31.3		5.3		
13		7.41		98		71		27				31.3		4.9		
14		7.27		98		69		29				31.3		4.9		
15		7.18		104		72		32				32.9		5.3		
16		7.27		100		74		26				32.9		4.4		
17		7.33		98		70		28				32.9		3.9		
18		7.23		96		71		25				30.5		4.9		
19		7.22		98		70		28				29.7		5.8		
20		7.34		100		66		34				31.3		5.3		
21		7.30		98		72		26				29.7		5.8		
22		7.17		100		71		29				30.5		5.8		
23		7.23		98		71		27				32.1		4.4		
24		7.26		98		67		31				30.5		5.3		
25		7.38		98		70		28				29.7		5.8		
26		7.34		98		68		30				29.7		5.8		
27		7.30		98		69		29				29.7		5.8		
28		7.30		98		72		26				29.7		5.8		
29		7.20		94		66		28				30.5		6.8		
30		7.23		96		71		25				32.1		3.9		
31		7.20		96		70		26				27.3		6.8		
AVG		7.27		99		70		28				31.2		5.2		
MAX		7.41		104		75		34				37.7		6.8		
MIN		7.17		94		64		25				27.3		3.9		



Bacteriological & Physical Parameters

WSSN 2310

Mar-13

D A T E	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap						Raw					Tap	Raw	Tap	
	B&P		Dort	3MG Well	Pump	Lab Tap									
	60	61	62	63	64	65	66	67	68			69	70	71	72
1	1/0		2/0	2/0	2/0	2/0					9.2				
2	1/0		2/0	2/0	2/0	2/0					9.5				
3	1/0		2/0	2/0	2/0	2/0					10.1				
4	1/0		2/0	2/0	2/0	2/0					10.3				
5	1/0		2/0	2/0	2/0	2/0					10.0				
6	1/0		2/0	2/0	2/0	2/0			< 2		10.6				
7	1/0		2/0	2/0	2/0	2/0					10.5				
8	1/0		2/0	2/0	2/0	2/0					10.7				
9	1/0		2/0	2/0	2/0	2/0					10.1				
10	1/0		2/0	2/0	2/0	2/0					10.9				
11	1/0		2/0	2/0	2/0	2/0					10.7				
12	1/0		2/0	2/0	2/0	2/0					10.7				
13	1/0		2/0	2/0	2/0	2/0					10.7				
14	1/0		2/0	2/0	2/0	2/0					10.3				
15	1/0		2/0	2/0	2/0	2/0					10.3				
16	1/0		2/0	2/0	2/0	2/0					10.7				
17	1/0		2/0	2/0	2/0	2/0					10.3				
18	1/0		2/0	2/0	2/0	2/0					11.1				
19	1/0		2/0	2/0	2/0	2/0					10.8				
20	1/0		2/0	2/0	2/0	2/0					10.5				
21	1/0		2/0	2/0	2/0	2/0					9.9				
22	1/0		2/0	2/0	2/0	2/0					10.7				
23	1/0		2/0	2/0	2/0	2/0					11.0				
24	1/0		2/0	2/0	2/0	2/0					9.6				
25	1/0		2/0	2/0	2/0	2/0					11.2				
26	1/0		2/0	2/0	2/0	2/0					10.6				
27	1/0		2/0	2/0	2/0	2/0					10.7				
28	1/0		2/0	2/0	2/0	2/0					10.7				
29	1/0		2/0	2/0	2/0	2/0					12.3				
30	1/0		2/0	2/0	2/0	2/0					11.0				
31	1/0		2/0	2/0	2/0	2/0					10.6				
											10.5				
											12.3				
											9.2				



Distribution System Monitoring WSSN 2310

Mar-13

[illegible]

Mar-13

[illegible]



ROUTINE POSITIVE DISTRIBUTION SAMPLES

Mar-13

Total number of positive routine samples:				Total Coliform: <u>0</u>		Fecal Coliform: <u>0</u>	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform
Total number of routine distribution samples analyzed:				153			
Total number of routine distribution samples required:				100			

WSSN: 2310

[illegible]

Filter turbidity

City of Flint Water Treatment Plant

September 2015

Page 3

WSSN: 2310

Date	Turbidity, Units												
	Confluence Point, No.1 (N) North						Confluence Point, No.2 (S) South						Point of Entry
	Number of Samples	Avg.	Max	No. of 4 Hr. Compliance periods	No. of 4 Hr. Compliance periods >0.3 NTU	No. of Samples >0.3 NTU	Number of Samples	Avg.	Max	No. of 4 Hr. Compliance periods	No. of 4 Hr. Compliance periods >0.3 NTU	No. of Samples >0.3 NTU	Plant Tap NTU
1	6	0.11	0.13	6	0	0	6	0.11	0.11	6	0	0	0.10
2	6	0.11	0.13	6	0	0	6	0.11	0.13	6	0	0	0.10
3	6	0.10	0.14	6	0	0	6	0.10	0.10	6	0	0	0.09
4	6	0.11	0.13	6	0	0	6	0.10	0.11	6	0	0	0.10
5	6	0.10	0.12	6	0	0	6	0.11	0.12	6	0	0	0.09
6	6	0.10	0.10	6	0	0	6	0.10	0.10	6	0	0	0.10
7	6	0.11	0.12	6	0	0	6	0.10	0.11	6	0	0	0.09
8	6	0.10	0.13	6	0	0	6	0.09	0.10	6	0	0	0.09
9	6	0.10	0.11	6	0	0	6	0.10	0.10	6	0	0	0.09
10	6	0.10	0.12	6	0	0	6	0.09	0.10	6	0	0	0.09
11	6	0.10	0.11	6	0	0	6	0.11	0.12	6	0	0	0.09
12	6	0.12	0.16	6	0	0	6	0.11	0.12	6	0	0	0.10
13	6	0.12	0.12	6	0	0	6	0.11	0.12	6	0	0	0.10
14	6	0.11	0.14	6	0	0	6	0.11	0.14	6	0	0	0.10
15	6	0.11	0.12	6	0	0	6	0.11	0.12	6	0	0	0.10
16	6	0.10	0.12	6	0	0	6	0.10	0.11	6	0	0	0.09
17	6	0.10	0.11	6	0	0	6	0.09	0.11	6	0	0	0.09
18	6	0.09	0.11	6	0	0	6	0.09	0.10	6	0	0	0.09
19	5	0.08	0.09	5	0	0	5	0.07	0.08	5	0	0	0.08
20	6	0.08	0.10	6	0	0	6	0.08	0.09	6	0	0	0.08
21	6	0.09	0.09	6	0	0	6	0.09	0.14	6	0	0	0.08
22	6	0.10	0.12	6	0	0	6	0.10	0.12	6	0	0	0.09
23	6	0.09	0.10	6	0	0	6	0.09	0.10	6	0	0	0.09
24	6	0.09	0.11	6	0	0	6	0.08	0.10	6	0	0	0.08
25	6	0.10	0.10	6	0	0	5	0.09	0.10	5	0	0	0.09
26	6	0.10	0.12	6	0	0	6	0.10	0.14	6	0	0	0.09
27	6	0.09	0.09	6	0	0	6	0.09	0.10	6	0	0	0.09
28	6	0.09	0.10	6	0	0	6	0.09	0.10	6	0	0	0.08
29	6	0.10	0.11	6	0	0	6	0.09	0.10	6	0	0	0.09
30	6	0.09	0.09	6	0	0	6	0.09	0.10	6	0	0	0.08
Avg.	6	0.10	0.11	6	0	0	6	0.10	0.11	6	0	0	
Max.	6	0.12	0.16	6	0	0	6	0.11	0.14	6	0	0	0.10
Min.	5	0.08	0.09	5	0	0	5	0.07	0.08	5	0	0	

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, January 12, 2015 1:19 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ)
Subject: Tally of calls - Flint
Attachments: Calls from Public list.doc

Just a minor revision to the list showing the completed call to Jeanette Doll at DTMB earlier today.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

Flint TTHM Violation Completed Calls from the Public MFP

- 1/5: Mike P.-Ron Fonger – Flint Journal – Media inquiry
 1/5: Mike P. - Lawrence Reynolds – Mott Children's Health
 1/5: Mike P. - Walter Smith-Randolph – NBC 25 Flint News – Recorded interview
 1/5: Adam R. – Denise – Flint Resident
- 1/6: Mike P. - Arthur Woodston – resident – general questions, invite to res. Mtg
 1/6: Mike P. - Bradley - resident – ok to boil water for baby formula bottle?
 1/6: Mike P. - Raimy Elley – resident – gen info., most upset on city's delay to notify
 1/6: Mike P. - Reps. Sheldon Neeley and Phil Phelps – update State Reps for Flint Districts on TTHM issue. Richard Benzie and Sarah Howes participated.
 1/6: Steve B. – Cheryl Wormsman – friend of Flint resident- general questions/concerns
- 1/8: Mike P. – Sandra Wilkes – resident – excessive cost for poor quality, who can force Flint to re-connect to Detroit...
 1/8: Mike P – Arthur Woodston (2nd call). Recc. Not to drink water from doc...where do I go?
- 1/9: Mike P – Patricia Warner – Gen. info...excessive cost/poor WQ, better comm. from city needed
 1/9: Mike P – Jeanette Doll (DTMB) – left message to call me back concerning alt. water for state Bldg. in Flint. Answer ? pertaining to future TTHM results and PN. Call most likely to ensue on Monday 1/12. **** Completed call w. Jeanette on 1/12 and answered her question pertaining to future TTHM monitoring and how it will pertain to compliance.**

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Thursday, January 08, 2015 11:18 AM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ)
Subject: Tally of Flint calls (updated)
Attachments: Calls from Public list.doc

See updated list (attached).

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

**Flint TTHM Violation
Completed Calls from the Public
MFP**

- 1/5: Mike P.-Ron Fonger – Flint Journal – Media inquiry
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- 1/6: Steve B. – Cheryl Wormsman – friend of Flint resident- general questions/concerns

- 1/8: Mike P. – Sandra Wilkes – resident – excessive cost for poor quality, who can force Flint to re-connect to Detroit...

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, January 20, 2015 1:15 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ)
Subject: tally of Flint calls
Attachments: Calls from Public list.doc

See revised list....

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

Flint TTHM Violation Completed Calls from the Public MFP

- 1/5: Mike P.-Ron Fonger – Flint Journal – Media inquiry
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- 1/6: Steve B. – Cheryl Wormsman – friend of Flint resident- general questions/concerns

- 1/8: Mike P. – Sandra Wilkes – resident – excessive cost for poor quality, who can force Flint to re-connect to Detroit...
- 1/8: Mike P – Arthur Woodston (2nd call). Recc. Not to drink water from doc...where do I go?

- 1/9: Mike P – Patricia Warner – Gen. info...excessive cost/poor WQ, better comm. from city needed
- 1/9: Mike P – Jeanette Doll (DTMB) – left message to call me back concerning alt. water for state Bldg.. in Flint. Answer ? pertaining to future TTHM results and PN. Call most likely to ensue on Monday 1/12. **** Completed call w. Jeanette on 1/12 and answered her question pertaining to future TTHM monitoring and how it will pertain to compliance.**
- 1/14: Mike P – Mindy Blasdeed – resident – daughter with skin rash since being on DWSD water, On-going bladder infection – Mindy was at physician office and call was cut short. I will contact Mindy tomorrow to finish our call.
- 1/20: Mike P- Paris Glazer (Assoc. Attorney – LaRose Bosco law firm) – determining validity for Case claim (Fed. Statute claim) for Flint residents. Are there any way(s) to remediate high TTHM levels before KWA? Possible FOIA.....

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Wednesday, January 07, 2015 11:30 AM
To: Busch, Stephen (DEQ)
Subject: Tally of Flint calls
Attachments: Calls from Public list.doc

Steve,

Attached is a list of the calls from the public that I have taken to avoid duplication of efforts. I will update the list and re-send to you following each additional call received.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

**Flint TTHM Violation
Completed Calls from the Public
MFP**

- 1/5: Ron Fonger – Flint Journal – Media inquiry**
- 1/5: Lawrence Reynolds – Mott Children’s Health**
- 1/5: Walter Smith-Randolph – NBC 25 Flint News – Recorded interview**

- 1/6: Arthur Woodston – resident – general questions, invite to res. Mtg**
- 1/6: Bradley - resident – ok to boil water for baby formula bottle?**
- 1/6: Raimy Elley – resident – gen info., most upset on city’s delay to notify**
- 1/6: Reps. Sheldon Neeley and Phil Phelps – update State Reps for Flint
Districts on TTHM issue. Richard Benzie and Sarah Howes participated.**

- 1/7:**

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Thursday, January 08, 2015 3:17 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ); Shekter Smith, Liane (DEQ)
Subject: Tally of FLint calls
Attachments: Calls from Public list.doc

see revised list

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

**Flint TTHM Violation
Completed Calls from the Public
MFP**

- 1/5: Mike P.-Ron Fonger – Flint Journal – Media inquiry
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- 1/5: Mike P. - Walter Smith-Randolph – NBC 25 Flint News – Recorded interview
- 1/5: Adam R. – Denise – Flint Resident

- 1/6: Mike P. - Arthur Woodston – resident – general questions, invite to res. Mtg
- 1/6: Mike P. - Bradley - resident – ok to boil water for baby formula bottle? .
- 1/6: Mike P. - Raimy Elley – resident – gen info., most upset on city's delay to notify
- 1/6: Mike P. - Reps. Sheldon Neeley and Phil Phelps – update State Reps for Flint Districts on TTHM issue. Richard Benzie and Sarah Howes participated.
- 1/6: Steve B. – Cheryl Wormsman – friend of Flint resident- general questions/concerns

- 1/8: Mike P. – Sandra Wilkes – resident – excessive cost for poor quality, who can force Flint to re-connect to Detroit...
- 1/8: Mike P – Arthur Woodston (2nd call). Recc. Not to drink water from doc...where do I go?



Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Friday, January 09, 2015 1:37 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ)
Subject: tally of Flint calls
Attachments: Calls from Public list.doc

See updated list...

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

**Flint TTHM Violation
Completed Calls from the Public
MFP**

- 1/5: Mike P.-Ron Fonger – Flint Journal – Media inquiry
 1/5: Mike P. - Lawrence Reynolds – Mott Children's Health
 1/5: Mike P. - Walter Smith-Randolph – NBC 25 Flint News – Recorded interview
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- 1/9: Mike P – Patricia Warner – Gen. info...excessive cost/poor WQ, better comm. from city needed
 1/9: Mike P – Jeanette Doll (DTMB) – left Jeanette a message to call me back concerning alt. water
 for state bldg. in Flint. I intend to answer her ? pertaining to future TTHM results
 and PN. Call most likely to ensue on Monday 1/12.

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Wednesday, January 14, 2015 3:58 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ)
Subject: tally of Flint calls
Attachments: Calls from Public list.doc

See updated list....

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

Flint TTHM Violation Completed Calls from the Public MFP

- 1/5: Mike P.-Ron Fonger – Flint Journal – Media inquiry
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 1/5: Mike P. - Walter Smith-Randolph – NBC 25 Flint News – Recorded interview
 1/5: Adam R. – Denise – Flint Resident
- 1/6: Mike P. - Arthur Woodston – resident – general questions, invite to res. Mtg
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 1/6: Mike P. - Raimy Elley – resident – gen info., most upset on city's delay to notify
 1/6: Mike P. - Reps. Sheldon Neeley and Phil Phelps – update State Reps for Flint
 Districts on TTHM issue. Richard Benzie and Sarah Howes participated.
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 Bldg.. in Flint. Answer ? pertaining to future TTHM results and PN. Call most likely
 to ensue on Monday 1/12. **** Completed call w. Jeanette on 1/12 and answered her
 question pertaining to future TTHM monitoring and how it will pertain to
 compliance.**
- 1/14: Mike P – Mindy Blasdeed – resident – daughter with skin rash since being on DWSD water,
 On-going bladder infection – Mindy was at physician office and call was cut short.
 I will contact Mindy tomorrow to finish our call.

Rennaker, Joanne (DEQ)

From: Howard Croft <hcroft@cityofflint.com>
Sent: Tuesday, November 03, 2015 7:51 AM
To: Amy Hovey; Andy Leavitt; Anthony Chubb; Brent Wright; Darren Lytle; Dayne Walling; donna.cole; Dykema, Linda D. (DHHS); Wells, Eden (DHHS); edwardsm; Krisztian, George (DEQ); Gerald (Jed) Natzke; Howard Croft; James Henry; Jamie Gaskin; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kevin J. Keane; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Lawrence Reynolds; Lawrence Reynolds; Michael Glasgow; Schock, Michael; Michael Wright; Mike Lane; Prysby, Mike (DEQ); MVALACAK@gchd.us; Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; Sean Kammer; Shawn Patrick McElmurry; Busch, Stephen (DEQ); Thompson, Sheryl D. (DHHS); Warren Green; Anderson, Madhu (DEQ)
Subject: Technical Advisory Committee Meeting Reminder

Technical Advisory Committee Members,

This is a reminder that our next technical advisory committee meeting is scheduled for **Monday November 9th at 2:00 pm** in order to accommodate the attendance of the EPA representatives. The City is committed to having the best national and in-state experts at the table to ensure the challenges with Flint's water are fully addressed. Many have already confirmed their attendance, we will have a call in number available for those who cannot be present. We will still hold the meeting at Flint City Hall at 2:00 pm in the same location as the last meeting and I will have an agenda ready as part of this weeks update which you should expect in the next few days.

Thank you,

--

Howard Croft
 Public Works Director
 City of Flint
 1101 S. Saginaw Street
 Flint, MI 48502
 PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Rennaker, Joanne (DEQ)

From: Howard Croft <hcroft@cityofflint.com>
Sent: Wednesday, September 23, 2015 3:52 PM
To: Brent Wright; Dayne Walling; donna.cole; edwardsm; Gerald (Jed) Natzke; Howard Croft; James Henry; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; lytle.darrin@epa.gov; Michael Glasgow; Michael Wright; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; schock.michael@epa.gov; Sean Kammer; Warren Green; Busch, Stephen (DEQ)
Subject: Technical Advisory Meeting

Technical Advisory Team,

I am writing to inform everyone that we have scheduled the next Technical Advisory Committee meeting to be Wednesday October 7th 2015 from 2:00 – 4:30 pm. We are extending invitations to Marc Edwards of Virginia Tech along with two lead experts from the EPA (Darren Lytle & Michael Schock) to become a part of the technical team and we are hopeful that they will all be present at the upcoming meeting.

At the meeting we will discuss an overview of the City water system, compliance with the Safe Drinking Water Act, lead concerns, corrosion control, water testing, public education, capital improvement plans, the KWA pipeline, and next steps.

I will forward a specific location and agenda in the near future but we are firmly committing to the time and date. As with previous meetings we look forward to this group having positive dialogue that will benefit the community.

Thank you,

--

Howard Croft
 Public Works Director
 City of Flint
 1101 S. Saginaw Street
 Flint, MI 48502
 PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Rennaker, Joanne (DEQ)

From: Howard Croft <hcroft@cityofflint.com>
Sent: Tuesday, October 06, 2015 4:54 PM
To: Amy Hovey; Andy Leavitt; Brent Wright; Darren Lytle; Dayne Walling; donna. cole; edwardsm; Gerald (Jed) Natzke; Howard Croft; James Henry; Jamie Gaskin; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Michael Wright; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; schock.michael@epa.gov; Sean Kammer; Busch, Stephen (DEQ); Warren Green; Wells, Eden (DHHS)
Subject: Technical Committee Agenda and Number
Attachments: TAC Meeting_10_7_15_Agenda.pdf

Team,

We are looking forward to a very productive meeting on Wednesday with those in attendance and those calling in.

I am sending a brief document that includes an agenda and an anticipated attendance list as we expect most of the meeting to be good discussion.

Below is the call in information for those that cannot make it:

Number: (641) 715-3580

Access Code: 373-510

Thank you,

--

Howard Croft
 Public Works Director
 City of Flint
 1101 S. Saginaw Street
 Flint, MI 48502
 PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com



City of Flint

TECHNICAL ADVISORY COMMITTEE

Meeting
October 7th 2:00 pm

Agenda

Introductions

Comments - Natasha Henderson (City Administrator)

System Overview/Update - Howard Croft (DPW Director)

Purpose of Committee

TTHM Review

Lead Concerns

Virginia Tech Findings - Marc Edwards (VA Tech Lead Expert)

EPA Comments - Darren Lytle (EPA Lead Expert)

Open Discussion - Q & A

Solutions (short term & long term)

- DWSD Option - Natasha Henderson (City Administrator)
- Corrosion Control - Samir Matta (LAN Engineer)
- Update on Filter Efforts - Jamie Gaskin (United Way CEO)
- Service Line Replacement - Howard Croft (DPW Director)
- Update on KWA - John O'Brien (KWA Engineer PE)

Open Discussion - Q & A

Committee Recommendations

Next Meeting Dates

November Date

December Date

Close

TAC - Participants

Member	Organization	
Donna Cole	Greater Flint Health Coalition	
** Eden Wells	State of Michigan – Chief Medical Executive	
Gerald Natzke	Genesys	
** Jamie Gaskin	United Way	
Jim Henry	Genesee County Health Department	
JoAnne Herman	Genesys	
John O'Brien	Genesee County Drain Commission	
** Kevin Kilby	KWA Associate	
Kirk Smith	Greater Flint Health Coalition	
Larry Kohler	Mott Community College	
Laura Sullivan	Kettering University	
Mike Lane	University of Michigan Flint	
Mike Sargent	Flint Strong	
Norb Birchmeier	Hurley Medical Center	
Joan Rose	Michigan State University	
Pete Levine	Genesee County Medical Society	
Russell Hudson	McLaren Hospital	
Warren Green	Lockwood Andrews Newnam - Engineering	
Samir Matta	Lockwood Andrews Newnam - Engineering	
** Amy Hovey	U.S. Congressional Representative	
** Andy Leavitt	State Senate Representative	
Mike Prysby	DEQ	
** Jim Sygo	DEQ	
** George Krisztian	DEQ	
Michael Wright	EPA	By Ph.
** Darren Lytle	EPA	
** Michel Schock	EPA	Out
** Marc Edwards	Virginia Tech	By Ph.

**** New Member or Special Guest**

Rennaker, Joanne (DEQ)

From: Rennaker, Joanne (DEQ)
Sent: Thursday, March 05, 2015 1:38 PM
To: Busch, Stephen (DEQ)
Subject: The Flint letter
Attachments: City of Flint VN - MCL TTHM 3-5-15.pdf

Jo Anne Rennaker
Secretary
Department of Environmental Quality - Lansing District Office
Office of Drinking Water & Municipal Assistance
Office of Waste Management & Radiological Protection
517-284-6643



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

March 5, 2015

Mr. Brent Wright, Operations Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice (VN) – Maximum Contaminant Level for Total
Trihalomethanes (TTHM)
Operational Evaluation – Total Trihalomethanes
1st Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the city of Flint (City) is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels for disinfection byproducts (MCLs)*, of the 1979 Administrative Code.

In accordance with R 325.10610, *MCLs*, of the 1979 Administrative Code, the MCL for disinfection byproduct TTHM is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City's highest TTHM locational running annual average (LRAA), based on the last four quarters, ending February 28, 2015, is 0.105 mg/L which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R 325.10719I, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the DEQ not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that the TTHM OELs for the City exceed 0.080 mg/L at one of the City's eight sample site locations.

Mr. Brent Wright

2

March 5, 2015

TTHM Results (mg/L)						
	5/21/14	8/21/14	11/20/14	2/17/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.162	0.145	0.059	0.0162	0.096	0.059
DBP2 Liquor Palace 3302 S. Dort Highway	0.112	0.127	0.033	0.0168	0.072	0.049
DBP3 North Flint Auto 6204 N. Saginaw St.	0.097	0.118	0.041	0.0149	0.068	0.047
DBP4 University Market 2501 Flushing Road	0.106	0.196	0.094	0.0245	0.105	0.085
DBP5 Taco Bell 3606 Corunna Road	0.079	0.181	0.034	0.0151	0.078	0.063
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.088	0.144	0.054	0.0192	0.076	0.059
DBP7 Salem Housing 3216 MLK Boulevard	0.082	0.112	0.050	0.0285	0.068	0.055
DBP8 BP Gas Station 822 S. Dort Highway	0.075	0.112	0.036	0.0199	0.061	0.047

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on March 1, 2015, and will continue until TTHM LRAA is below the MCL at all sample sites.

We are encouraged by the results from the most recent round of compliance samples collected on February 17, 2015, which now show individual TTHM levels at less than half of the 0.080 mg/L standard at all locations throughout the City's system. Operational Evaluation Reports from December 2014, and February 2015, have identified possible causes and corrective measures for the previous elevated TTHM levels which we encourage the City to continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard at all sites by continuing these efforts.

Our office is currently reviewing the Operational Evaluation Report dated February 27, 2015, and will provide the City and their consultant with comments, as needed, to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719I (R 325.10719I) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than Friday, May 29, 2015.**

If you have any other factual information you would like us to consider regarding the violation identified in this VN, please provide them in a written response by March 19, 2015.

Mr. Brent Wright

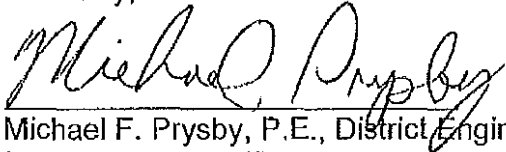
3

March 5, 2015

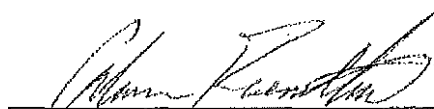
Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery and by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN which contains the minimum required language. The City is encouraged to include additional information regarding its response efforts to this violation. **Please notify your consumers by April 1, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice.** This violation must also be included in your 2015 Consumer Confidence Report, due by July 1, 2016. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below; at prysbym@michigan.gov; or rosenthala@michigan.gov; or at DEQ, P.O. Box 30242, Lansing, Michigan 48909-7742.

Sincerely,



Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water and Municipal
Assistance
517-290-8817



Adam Rosenthal, Environmental Quality
Analyst
Lansing District Office
Office of Drinking Water and Municipal
Assistance
517-284-6644

Enclosure

cc: Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Mr. Jerry Ambrose, Emergency Manager, City of Flint
Mr. Robert Bincsik, City of Flint
Mr. Howard Croft, City of Flint
Mr. Daughtry Johnson, City of Flint
Genesee County Health Department
Ms. Liane Shekter Smith, DEQ
Mr. Richard Benzie, DEQ
Mr. Stephen Busch, DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, November 20 of 2014, and February 17, 2015). The average of the results at ANY of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the MCL. The standard for TTHMs is 80 micro grams per liter ($\mu\text{g/L}$). The location reporting the highest TTHM level was 105 $\mu\text{g/L}$; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015. Our most recent individual sample results were all less than half the 80 $\mu\text{g/L}$ standard, however since compliance is calculated using a locational running annual average (LRAA) of the most recent four quarters, we are still out of compliance with the MCL at two of eight locations.

For more information, please contact Mr. Brent Wright at 517-787-6537, or the Flint Water Plant at 4500 North Dort Highway, Flint, Michigan 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature	Title	Date Distributed
Reminder to water supplier: This notice/certification must be sent to the Department of Environmental Quality.		

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, May 11, 2015 10:09 AM
To: sheila.bw@hotmail.com
Cc: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Devereaux, Tracy Jo (DEQ); Smith, Laura (DEQ)
Subject: Ticket #23002-490657
Attachments: Flint 2013 CCR.pdf

Shelia,

Based on the e-mail thread, Flint's Consumer Confidence Report (CCR) provided to Flint residents may address your question. Attached is Flint's 2013 CCR that summarizes the quality of the drinking water provided to residents (including detected contaminants) for the 2012 calendar year. We have not received Flint's 2015 CCR since the deadline for the city to distribute it to residents and the MDEQ is July 1, 2015. Also, our department is not involved with or have control on how monitoring results and/or violations are presented on other websites that may contain information on Flint's water quality. As always, if you have further questions concerning Flint's drinking water quality and detected contaminants, feel free to contact me.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE
**CONSUMER CONFIDENCE REPORT FOR COMMUNITY WATER SUPPLY
CERTIFICATE OF DISTRIBUTION**

Issued under authority of 1976 PA 399 and Administrative Rules, as amended.

Failure to submit certification is a violation of the Act and may subject the water supply to enforcement penalties.

Supply Name: City of Flint	County: Genesee	WSSN: 2310
Population: ☐ 500 or fewer people	☐ 501 – 9,999 people	☒ 10,000 or more people

Community water supplies must confirm that the Consumer Confidence Report (CCR) and any enclosed Public Notices (PN) or notices of CCR availability, have been distributed to customers by July 1 as required under administrative rules R 325.10415 and R 325.10404(c). Supplies must also certify that the information contained in the CCR is correct and consistent with the compliance monitoring data previously submitted to the Michigan Department of Environmental Quality (DEQ). Return the certification to the appropriate DEQ district office by October 1. For addresses, visit www.michigan.gov/deq, click on Locations.

Method of delivery to DEQ	
☒ Mail ☐ Email ☐ Hand Delivery ☐ Other _____	Date delivered: 6/25/2014
Method of delivery to Local Health Department	
☒ Mail ☐ Email ☐ Hand Delivery ☐ Other _____	Date delivered: 6/25/2014
Method or combination of methods to directly deliver CCR to each bill paying customer. Check all that apply.	
☒ Mail or hand deliver a paper copy of CCR. Date(s) mailed or hand delivered: 6/24/2014	
☐ Mail or hand deliver notification that the CCR is available at a direct URL. Date(s) delivered to customers: _____	
☐ Email notification that CCR is available at direct URL. Date(s) emailed: _____	
☐ Email notification that CCR is attached to the email. Date(s) emailed: _____	
☐ Email notification that CCR is embedded in the email. Date(s) emailed: _____	
If using notification of CCR availability:	
1. Mail a paper CCR to customers who request it and to customers known to be incapable of receiving electronically.	
2. Include a copy of the notification to the DEQ district office with this certification form.	
3. Explain the nature of the notification, prominently display the direct URL, include statement how to request a paper copy.	
Example of Notification of CCR Availability Subject Line: 2012 Drinking Water Quality Report Available. Message: Your annual report on the source and quality of your drinking water is available on the Web at www.anytown.gov/waterqualityreport. To have a copy mailed to you, contact Anytown at 555-111-1111 or water@anytown.gov.	
☐ Option for supplies serving fewer than 10,000 persons: Publish entire report in newspaper, and notify customers in newspaper(s) in which CCR published, mail, email or hand delivery that individual copies will not be mailed, and include statement how to request a paper copy. Date(s) of publication: _____	
☐ Option for supplies serving 500 or fewer persons: Notify customers via mail, email, hand delivery or, with DEQ approval, posting in public places, that a copy of the report is available from the water supply on request. Date(s) of notification: _____	
Post on Internet (required for supplies serving ≥100,000, optional for others)	
☒ Internet address: www.cityofflint.com/utilities/utilities.asp	Date accessible: 6/26/2014
"Good Faith" efforts to reach non-bill-paying consumers (in addition to the method(s) above). Check all that apply.	
☐ Mail the report to all postal patrons. Zip codes and dates mailed: _____	
☒ Mail to each service connection physical address. Date(s) mailed: 6/24/2014	
☐ Advertise the availability of the report in the newspapers, on TV, and on the radio.	
☐ Publish the report in a local newspaper.	
☐ Post the report in public places such as cafeterias in public buildings, libraries, churches, and schools.	
☐ Deliver multiple copies for distribution by single-bill customers, e.g., apartments or private employers.	
☐ Deliver the report to community organizations.	
☐ Other: _____	
Send to the DEQ a copy of the news articles, a list of channels broadcast and dates, and a list of locations/organizations reports delivered to and dates.	
A Tier 3 Public Notice is Distributed with this CCR	
☐ This CCR is being used to deliver a Tier 3 Public Notice for one or more violations. To use this Tier 3 delivery option, the CCR must be directly delivered to each bill paying customer or, with DEQ approval, continuously posted, and must be issued within 12 months of learning of the violation. A copy of this form must be delivered to the DEQ within 10 days of delivering the CCR to customers to meet the public notification requirements.	
Name/Title: Brent F. Wright / Water Plant Supervisor	
Signature:	
DEQ RESOURCE MANAGEMENT DIVISION Date: 6/25/2014	

See reverse side for U.S. EPA Expectations for Electronic Delivery of CCR JUN 27 2014

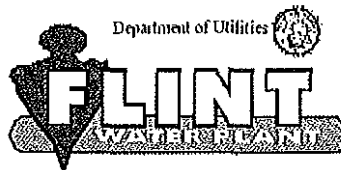
LANSING DISTRICT

EQP 5943 (Rev. 5/2014)

02310

CUSTOMER SERVICE CENTER
CITY HALL
1101 S. SAGINAW ST.
FLINT, 48501

DEQ
RESOURCE MANAGEMENT DIVISION
JUN 27 2014
LANSING DISTRICT



**City of Flint
Water Plant & Facilities**

2013 Consumers Annual Report on Water Quality

The City of Flint Department of Utilities is dedicated to providing high quality drinking water to the residents of the community. The Consumers Annual Report on Water Quality provides important information about your drinking water. This report includes information about the source of the water, health information, a chart summarizing United States Environmental Protection Agency (USEPA) required testing results, and a table giving explanations of important terms to understand when viewing the test results. The Flint Water Plant & Facilities operates and maintains a certified drinking water laboratory to assure compliance with all state and federal regulations and is committed to prompt and thorough notification to the consumers if there is any reason for concern about the quality of the drinking water.

Information about your drinking water is available at the City of Flint web page on the Internet at www.cityofflint.com or by calling the Flint Water Plant & Facilities at (810) 787-6537. The Safe Drinking Water Hotline at (800) 426-4791 is a resource for health related questions and water quality issues. General drinking water information can be found on the USEPA web site at www.epa.gov/safewater/.

Water Source

In 2013, The City of Flint purchased drinking water from the Detroit Water & Sewerage Department (DWSD) which operates several drinking water facilities. Following treatment to remove impurities, the water is pumped by DWSD to the Flint Water Plant, where the water is then monitored and distributed throughout the City.

The source water comes from the lower Lake Huron watershed. The watershed includes numerous short, seasonal streams that drain to Lake Huron. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water & Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of potential contamination. The susceptibility rating is a seven-tiered scale ranging from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards. If you would like to know more information or a complete copy of the report, contact the City of Flint Water Plant at (810) 787-6537.

General Information

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by the public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- ◆ **Microbial contaminants;** such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- ◆ **Inorganic contaminants;** such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- ◆ **Pesticides and herbicides;** which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- ◆ **Organic chemical contaminants;** including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- ◆ **Radioactive contaminants;** which can be naturally occurring or be the result of oil and gas production and mining activities.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Flint Department of Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize your potential exposure to lead in your water by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Lake Huron Water Treatment Plant

2013 Regulated Detected Contaminants Tables

Regulated Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation	Major Sources in Drinking Water
Inorganic Chemicals – Monitoring at Plant Finished Water Tap								
Fluoride	05/13/2013	ppm	4	4	0.55	n/a	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	05/13/2013	ppm	10	10	0.32	n/a	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	6/9/2008	ppm	2	2	0.01	n/a	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

Disinfection By-Products – Monitoring in Distribution System								
Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2013	ppb	n/a	80	37.8	11.5 – 43.8	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2013	ppb	n/a	60	17.0	6.0 – 19.0	No	By-product of drinking water disinfection

Disinfectant Residuals Monitoring in Distribution System								
Contaminant	Test Date	Units	Health Goal	Allowed Level	Highest RAA	Range of Detection	Violation	Major Sources in Drinking Water
Disinfectant Total Chlorine Residual	Jan-Dec 2013	ppm	MRDGL 4	MRDL 4	0.81	0.65-0.93	No	Water additive used to control microbes

2013 Turbidity – Monitored every 4 hours at Plant Finished Water Tap			
Highest Single Measurement Cannot exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation	Major Sources in Drinking Water
0.26 NTU	100%	No	Soil Runoff
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.			

2013 Microbiological Contaminants – Monthly Monitoring in Distribution System								
Regulated Contaminant	MCLG	MCL		Highest Number Detected		Violation	Major Sources in Drinking Water	
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples		In one month 1		No	Naturally present in the environment.	
<i>E. coli</i> or Fecal Coliform Bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or <i>E. coli</i> positive.		entire year 0		No	Human waste and animal fecal waste.	

2011 Lead and Copper Monitoring at Customers' Tap								
Regulated Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Samples Over AL	Violation	Major Sources in Drinking Water
Lead	2011	ppb	0	15	< 2.0	0	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2011	ppm	1.3	1.3	0.10	0	No	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.
*The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.								

Regulated Contaminant	Treatment Technique		Typical Source of Contaminant
Total Organic Carbon (ppm)	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month and because the level was low, there is no requirement for TOC removal.		Erosion of natural deposits

2013 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.52	Erosion of natural deposits

Collection, sampling result information and table provided by Detroit Water and Sewerage Department (DWSD) Water Quality Division, ML Semegen

Additional sample result information provided by the City of Flint Water Plant Laboratory, M Glasgow

2013 Key to the Detected Contaminant Tables

Symbol	Abbreviation for	Definition/Explanation
>	Greater than	
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAA5	Haloacetic Acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
LRAA	Locational Running Annual Average	
MCL	Maximum Contaminant Level	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
MRDL	Maximum Residual Disinfectant Level	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum Residual Disinfectant Level Goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
n/a	Not Applicable	
ND	Not Detected	
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
ppb	Parts Per Billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ppm	Parts Per Million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
RAA	Running Annual Average	
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on total.

Rennaker, Joanne (DEQ)

From: Crooks, Jennifer <crooks.jennifer@epa.gov>
Sent: Thursday, February 12, 2015 3:36 PM
To: Prysby, Mike (DEQ)
Cc: Busch, Stephen (DEQ); Poy, Thomas; Deltoral, Miguel
Subject: TTHM Health Effects
Attachments: TTHM PN template.pdf

Mike—Good talking with you this morning. I'm so glad I was able to snag Tom Poy to discuss the TTHM health effects issue with you.

Miguel said that TTHMs *MAY* cause miscarriages, which is more of an acute risk. Thus, the "pregnant" should be in the PN, so women know there could be risk, and can make their own decisions.

I included the link for PN Handbook, and a PDF of the PN template for TTHMs.

See page 104 of the PN Handbook (I also included as a PDF attached); here is the link:

<http://water.epa.gov/lawsregs/rulesregs/sdwa/publicnotification/upload/PNrevisedPNHandbookMarch2010.pdf>

Paul Joice, Paul.A.Joice@hud.gov

I don't have his phone number—perhaps you could call the Mayor's office to get Paul's phone number?

Eric Burneson, burneson.eric@epa.gov

202-564-5250

I think the Key Message here is that there are other studies out there that point to other Health Effects from TTHMs, but there's not enough information for EPA to say that these are definitely additional Health Effects to be concerned about, so EPA cannot put this in writing/in the PN.

Jennifer

312-886-0244

Stage 2 DBPR TTHM or HAA5 MCL Violation Notice – Template 2-19

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

[Contaminant, i.e., Total Trihalomethanes (TTHM) or Haloacetic Acid 5 (HAA5)] MCL Violation at [System]

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did (are doing) to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Testing results from [provide date range] show that our system exceeds the standard, or maximum contaminant level (MCL), for [TTHM/HAA5]. The standard for [TTHM/HAA5] is [MCL]. It is determined by averaging all the samples collected at each sampling location for the past 12 months. The level of [TTHM/HAA5] averaged at one of our system's locations for [provide date range] was [level].

What should I do?

- There is nothing you need to do. You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.
- If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from your health care providers about drinking this water.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

[TTHM are four volatile organic chemicals] [HAA5 are five haloacetic acid compounds] which form when disinfectants react with natural organic matter in the water.

*[*People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.*] Or*

*[*People who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.*]*

What is being done?

[Describe corrective action.] We anticipate resolving the problem within [estimated time frame] (or the problem was resolved on [give date]).

For more information, please contact [name of contact] at [phone number] or [mailing address].

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by [system]. State Water System ID#: _____.

Date distributed: _____.

Rennaker, Joanne (DEQ)

From: Daugherty Johnson <djohnson@cityofflint.com>
Sent: Monday, January 05, 2015 12:23 PM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Cc: Brent Wright; Michael Glasgow; Howard Croft; Robert Bincsik
Subject: TTHM notice and press release
Attachments: Flint Water TTHM Press Release Jan 2.pdf; TTHM Public Notification Final.pdf

Hello Steve and Mike. I have attached the press release sent to the media as well as the Public Notice that we mailed to all customers on Jan 2nd. We are planning a televised press conference tomorrow afternoon at the Water Plant. I will get you further info as details finalize. There will be an official letter to you detailing all of our notification steps. I just wanted to make sure you had this asap.

Duffy



CITY OF FLINT
OFFICE OF EMERGENCY MANAGER
DARNELL EARLEY
ICMA-CM, MPA

Jason Lorenz
Public Information Officer
(810) 237-2039
jlorenz@cityofflint.com

For Immediate Release:

City of Flint Takes Proactive Measures to Improve Water Distribution System and Address Compliance Issues

Flint, Michigan – January 2, 2015 – The City of Flint's Department of Public Works has been actively working to address upgrades and repairs to the city's water distribution system. These actions appear to have corrected several long time concerns with the system as well as known compliance issues with the system, including a recent temporary increase in the maximum contamination level (MCL) of trihalomethanes (TTHM) found in water samples collected from the system during a testing period which ended November 30, 2014. The public was notified of the violation as a precautionary measure as required by the Michigan Department of Environmental Quality (MDEQ).

TTHM is a common by-product of the water chlorination process. Increased levels in some water samples collected in the city were an indicator of weaknesses in the distribution system and treatment process, which were due to years of deferred repairs and upgrades to a very old system. The City of Flint's DPW is and has been pursuing a comprehensive plan to make critical upgrades to its water distribution system for the long term health and operation of the system and to mitigate any future issues.

–CONTINUE–

City Hall
1101 S. Saginaw Street - Flint, Michigan 48502
810-766-7346 FAX: 810-766-7218 www.cityofflint.com



CITY OF FLINT
OFFICE OF EMERGENCY MANAGER
DARNELL EARLEY
ICMA-CM, MPA

The levels of TTHM in the water were elevated marginally above the MCL in some samples, resulting in a less urgent "Tier 2" Environmental Protection Agency notification. This means that the EPA believes there is no immediate risk to consumers and/or the system may have already returned to acceptable levels by the time the notice was issued. Although TTHM is considered to be an environmental pollutant that can be carcinogenic, it can only be hazardous if consumed in water containing the elevated levels at a rate of two liters per person, per day for 70 years. The City of Flint wants to assure the public that according to the MDEQ the water is safe for drinking and all other purposes.

The City of Flint worked closely with the MDEQ to correct the issue by flushing hydrants and replacing key valves in the distribution system. These measures have shown to be effective in not only lowering the TTHM levels in the system, but have also improved the overall health of the system. The Michigan DEQ has acknowledged and appreciates the progress of the City's preemptive evaluation of operations which identified the deficiencies and the corrective measures being taken. The latest round of testing has shown a significant decrease in levels across the board, with most samples falling well below the MCL. It is expected that all sample levels will be well below the MCL in the next round of quarterly scheduled testing in March of 2015.

Flint's DPW welcomes the rigorous review of the MDEQ to ensure steady progress is made on this important issue. "Our proactive plan of replacing valves, flushing hydrants and making other adjustments to the system has shown both promising short term

—CONTINUE—



CITY OF FLINT
OFFICE OF EMERGENCY MANAGER
DARNELL EARLEY
ICMA-CM, MPA

results as well as strengthening our water distribution capability in the long term," said Flint DPW Director Howard Croft. Both the City of Flint and the MDEQ expect the corrective measures being implemented will resolve the issue by early 2015.

The improvements in MCL levels also mirror the increased consistency being seen in chlorine residuals, flow rates, and overall water quality within the city. As part of the DPW strategic plan and Capital Improvement Plan, there are additional improvements coming to the 600 miles of distribution main including, pipe replacements, leak detection, hydraulic modeling, and enhanced asset management features. The Department of Public Works will continue to provide public education and communication about the quality, the process, and the continual improvements occurring within the system as part of the overall management of the water system.

—END—

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system was recently found to be in violation of a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, and November 20 of 2014). The average of the results at ANY of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the Maximum Contaminant Level (MCL). The standard for TTHMs is 80 ug/L. The location reporting the highest TTHM level was 99 ug/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. In that case, you may be at increased risk and should seek advice about drinking water from your health care provider.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015.

For more information, please contact Mr. Brent Wright or Mike Glasgow at 810-787-6537 or the Water Plant at 4500 North Dort Highway, Flint, MI 48505.

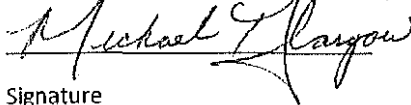
Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION: F1 S3

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules. Reminder to water supplier: This notice/certification must be sent to the DEQ.



Signature

ASSISTANT SUPERVISOR

Title

1/2/15

Date Distributed

Rennaker, Joanne (DEQ)

From: Brent Wright <bwright@cityofflint.com>
Sent: Monday, December 29, 2014 10:58 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Cc: Howard Croft; Daugherty Johnson; Michael Glasgow
Subject: TTHM Violation Notification

Mike, Steve

Concerning the violation notification for TTHM's the city needs clarification on the delivery of notification. In the last violation notification for Total Coliform the City published it in the local paper and posted it on the city website, this satisfied the DEQ requirements. Would this be adequate for the TTHM notification? Thank you for your prompt reply concerning this matter.

--

Brent Wright
Water Plant Supervisor
City of Flint
4500 N. Dort Hwy.
Flint, MI. 48505
Ph: 810.787.6537 ext. 3510
Fx: 810.787.3710

Rennaker, Joanne (DEQ)

From: Howard Croft <hcroft@cityofflint.com>
Sent: Saturday, March 21, 2015 11:02 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Cc: Natasha Henderson; Daugherty Johnson; Jason Lorenz; Brent Wright; Michael Glasgow
Subject: TTHM Violation
Attachments: Letter to Water Customers 3.20.15FINAL.docx

Mike,

I am sending you and Steve a copy of the letter that we plan to include with the violation notice. This is set to go out early next week and I wanted to get your opinion. We have considered some type of water summary to accompany this as well but I am not certain if I can pull that together in time unless you have a specific recommendation.

We continue to post the Monthly Operation Reports online within two weeks after the end of each month.

Thank you,

--

Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com



Water Quality Update



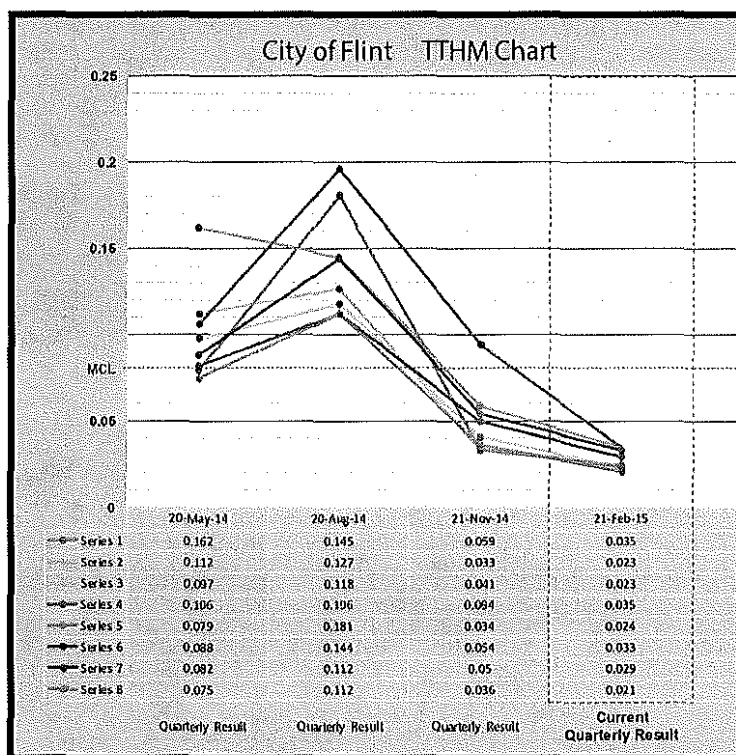
City of Flint Resident:

In January we alerted you to the presence at that time of excess TTHM (total trihalomethanes) in Flint's public water supply. TTHM – a byproduct of the water chlorination process – was found to be in excess of state guidelines (80 parts per billion) beginning in May 2014 and continuing into August. As soon as this excess concentration was discovered, we began taking steps to reduce it to within acceptable guidelines.

We are pleased to report that we have succeeded in bringing the water to within acceptable guidelines. While we continue to work on improving aesthetic qualities, such as discoloration or odor, you can be confident that the water provided to you today meets all state standards.

How did we do this? With the help of LAN engineering, we upgraded the ozone treatment process at the Water Treatment Plant; increased water main/hydrant flushing to reduce stagnation; conducted small-scale testing of treatment to identify areas of improvement; improved overall plant operations; and enhanced the distribution system through water-circulation modeling.

By November, all but one testing site was below the allowable levels and **our most recent testing in February showed that every testing site was well below allowable levels, as shown below:**



City of Flint



Water Quality Update



The Michigan Department of Environmental Quality (MDEQ) has been monitoring our progress, as noted in its March 5, 2015 letter to the city:

"We are encouraged by the results from the most recent round of compliance samples collected on February 17, 2015, which now show individual TTHM levels at less than half of the 0.080 mg/L standard at all locations throughout the City's system. Operational Evaluation Reports from December 2014, and February 2015, have identified possible causes and corrective measures for the previous elevated TTHM levels, which we encourage the City to continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard at all sites by continuing these efforts." MDEQ

However, because MDEQ monitoring of excess concentrations is based on four quarters of test results, we are required to again notify you that based on the most recent four quarters of test results (which includes excess concentrations beginning in April), the City's *annual* quarterly testing average is not yet below the state's allowable average.

The attached notice ("**Important Information about Your Drinking Water**") includes legally required language that summarizes the situation. Please review it and contact us with any questions.

In addition, included in this mailing is a list of Frequently Asked Questions. We also have created a place for regular updates on the city's website at cityofflint.com. We encourage residents who have concerns about the quality of their water to contact us immediately so on-site testing can be scheduled.

If you have questions about this report or would like a test done at your home, free of charge, please call us at 810-787-6537.

Maintaining safe water and improving its quality is a top priority, and we apologize for the concerns these notices have raised. We have taken many steps to improve the safety and quality of our water supply and will be taking more. As you may know, we have recently received a series of recommendations from several sources, including a report from international urban water system consultants, Veolia North America. We will be working with our recently created Citizen Advisory Committee and our Technical Advisory Committee to continue making improvements. Please track our progress on our website at cityofflint.com.

Sincerely,

??????

City of Flint

Rennaker, Joanne (DEQ)

From: Benzie, Richard (DEQ)
Sent: Wednesday, July 15, 2015 1:25 PM
To: Rosenthal, Adam (DEQ); Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Subject: TTHMs in Flint

Just had a call from a resident of Flint whose neighbor was told yesterday by the city to not drink the water because the TTHM level at her home was 95 ppb. The caller wanted to know if animals should be consuming the water. I told her she would have to consult with a toxicologist or someone familiar with veterinary medicine. I told her animals are less susceptible to some contaminants but more so to others, but as engineers and analysts, we were not the ones that would make that decision – we just pass it on if we find out.

She asked about other TTHM sampling locations and where they were in the city. I told her to contact one of you, starting with Adam.

Rennaker, Joanne (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Thursday, August 06, 2015 11:52 AM
To: Wurfel, Brad (DEQ); Sygo, Jim (DEQ); Pallone, Maggie (DEQ)
Cc: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Cook, Pat (DEQ); Devereaux, Tracy Jo (DEQ); Shaler, Karen (DEQ); Thelen, Mary Beth (DEQ); Feuerstein, Heather (DEQ)
Subject: University of Michigan inquiry re: Flint

Yesterday, Steve Busch and I participated in a conference call with Professors Lutgarde Raskin and Krista Wigginton (Dept. of Civil and Environmental Engineering) and Prof. Stuart Batterman (School of Public Health) and several of their graduate students.

They wanted to discuss recent events in Flint and are interested in possibly providing sampling, analysis, and education/outreach to address potential lead exposure issues, TTHM issues, possibly microbial activity and/or aesthetic problems. They are aware of the report published on the ACLU website identifying lead as an issue in Flint and were interested in helping to obtain analytical data to determine the potential extent of the problem and to help residents understand what it means for them.

We suggested they begin by having discussions with the City to determine what level of assistance might be helpful to the City.

If this moves forward, we would recommend that DEQ, DHHS staff, LHD staff, and a group of local residents/stakeholders be included in discussions to guide future activities.

Today, Steve provided UM with contacts at the City. UM is interested in quickly arranging a preliminary meeting to flesh out what might happen going forward.

We'll keep you updated if this progresses.

Liane

Liane J. Shekter Smith, P.E., Chief
 Office of Drinking Water and Municipal Assistance
 Michigan Department of Environmental Quality
 517-284-6543

Rennaker, Joanne (DEQ)

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Thursday, September 10, 2015 10:47 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)

Steve & Mike,

Good morning, I hope you enjoyed your holiday weekend. I am contacting you on behalf of Howard to request a "quote". Howard is preparing a presentation for the City Council on Monday night in regards to this recent lead & copper news. He would appreciate a statement in regards to why corrosion control was not required by the City at the onset of using the Flint River, and how it took two rounds of lead & copper sampling to determine that "optimization" is required. I have explained to him my understanding, although for the presentation he is looking for a brief statement of a couple sentences to reference or quote one of you.

Thank you,

--

Mike Glasgow
Utilities Administrator
City of Flint
1101 S. Saginaw St.
Flint, MI 48502
(810)766-7135 ext. 2602

Rennaker, Joanne (DEQ)

From: Poy, Thomas <poy.thomas@epa.gov>
Sent: Friday, October 03, 2014 2:46 PM
To: joleen.wagner-felkey@va.gov
Cc: Benzie, Richard (DEQ); Crooks, Jennifer; Busch, Stephen (DEQ)
Attachments: 9-23-14 Wagner-Felkey.pdf

Dear Ms. Wagner-Felkey:

I am responding to your inquiry about getting a contact for Flint drinking water quality. The Michigan Department of Environmental Quality implements the Drinking Water Program in the State of Michigan and works directly with Flint. You can contact Richard Benzie, Acting Chief of MDEQ's Field Operations Section at 517-284-6512 or Steve Busch, MDEQ District Supervisor at 517-643-23-14.

Tom Poy
Chief, Ground Water and Drinking Water Branch
USEPA - Region 5
(312) 886-5991



Department of Veterans Affairs
VA Ann Arbor Healthcare System
2215 Fuller Rd
Ann Arbor, MI 48105

Date: 9/23/14

In reply: 11G

To: U.S. Environmental Protection Agency
Office of Water (4101M)
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

From: JoLeen Wagner-Felkey, LCSW, ACSW
Geri PACT Social Worker-GRECC- 11G

Subj: Water Quality Concern

I am a Geriatric Social Worker assisting with the case of an elderly Veteran and this letter is being composed to kindly request that an Environmental Protection Agency (EPA) staff member telephone the following number: 734-845-5194 or send an email to joleen.wagner-felkey@va.gov, to provide the appropriate contact information for personnel concerned with monitoring water quality/ safety in the Flint, Michigan area.

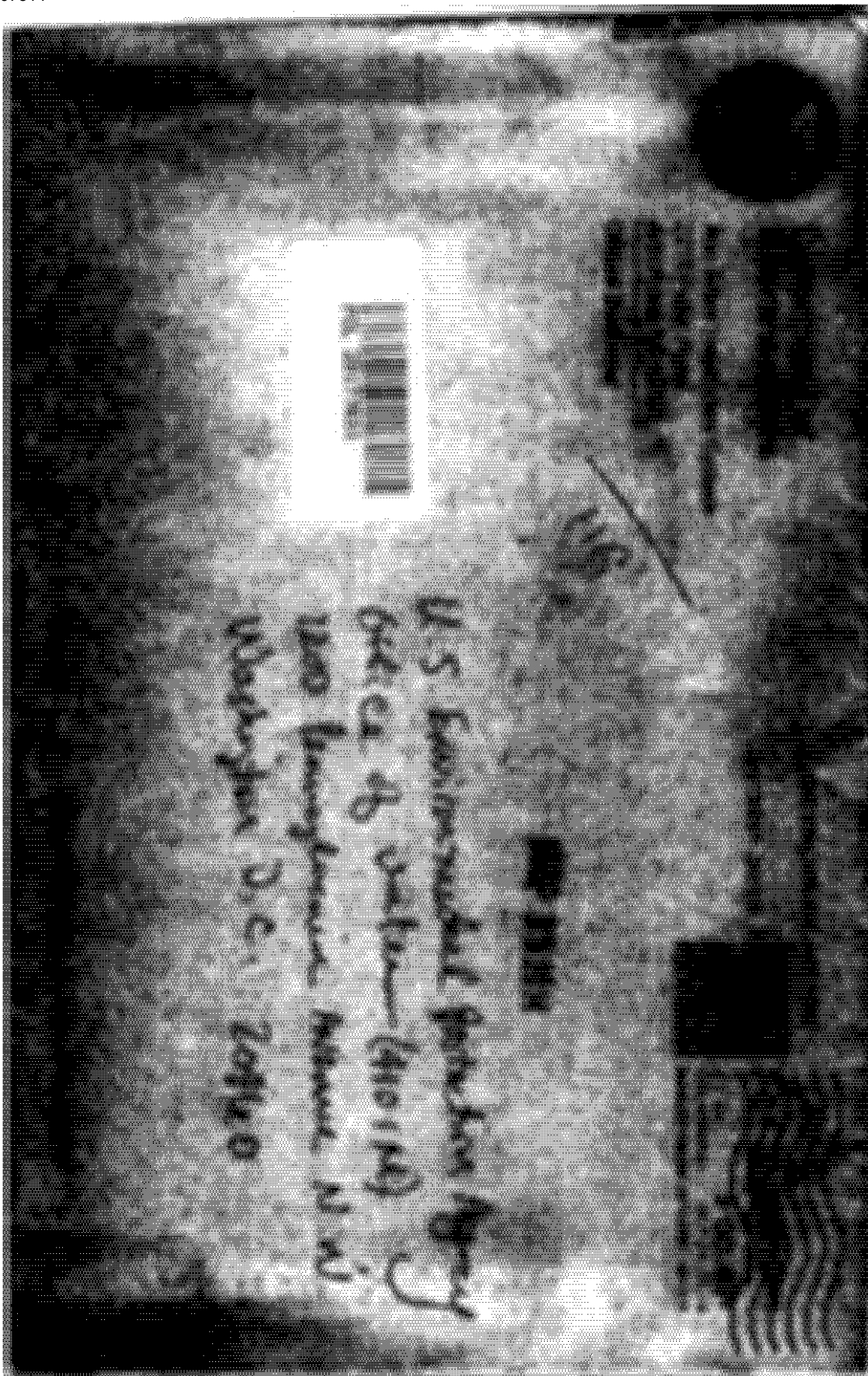
This letter is being forwarded subsequent to multiple, unsuccessful attempts to reach water management/ water quality contacts in Michigan to report concern(s) in hopes of being provided with the name and address for an EPA staff person, preferably in the Flint, MI area.

Thank you in advance for any assistance provided with this request.

Sincerely,

A handwritten signature in black ink, appearing to read "JoLeen Wagner-Felkey".

JoLeen Wagner-Felkey, LCSW, ACSW



Rennaker, Joanne (DEQ)

From: Crooks, Jennifer <crooks.jennifer@epa.gov>
Sent: Tuesday, March 10, 2015 5:52 PM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: Update: Call with White House Flint Liaison

Update on what's been happening here regarding Flint:

Paul Joice is the White House Flint Liaison for HUD, living in Flint and working in the mayor's office. He needed some background on the Flint drinking water issues, so Tom and I—along with 4 managers from Headquarters, briefed him. Tom prepared a summary of notes taken at the meeting FYI—see below.

Becki Clark for the Office of Ground Water and Drinking Water at HQ, requested that Dr. Michael Wright, toxicologist/epidemiologist, from Office of Research and Development, sit on the Flint Technical Advisory Counsel. I believe Mike Prysby is sitting on the committee too. Since Mike is out of the office until April, did you sit in on the first meeting of this Advisory Council, Steve? What did you think of the meeting?

I have also been inundated with controlled correspondence emails referred to me from the White House. Several have had some questions about the health effects, so I have been including a paragraph explaining the health effects, which I think provide exactly the right info related to TTHMs being a chronic contaminant. I have cc'd Mike and Steve on the letters, so you all will get them, but here is the paragraph FYI:

“In your e-mail, you noted concerns regarding the health effects of TTHMs. By law, the City must inform consumers of health standard exceedances. The TTHM health standard was exceeded so the City must let consumers know the potential risk, to give consumers the opportunity to make informed decisions. The risk of developing long-term health problems, such as liver, kidney, central nervous system, and cancer, is low for those in general good health and the concern for these illnesses are only after years of ingestion. The risk of developing health problems is higher for some sub-populations, such as the immune-compromised and pregnant women; therefore, this group may want to seek alternative sources of water, such as bottled water, or purchase a home water treatment device. Consumers may want to talk with their doctors to help them make individual health decisions.”

Thank you all for keeping us in the loop from your seat in Lansing.

Jennifer

From: Poy, Thomas
Sent: Monday, March 09, 2015 3:10 PM
To: Hyde, Tinka; Henry, Timothy
Cc: Crooks, Jennifer
Subject: Call with White House Flint Liaison

Tinka/Tim: We (R5 and OGWDW) had a call with the White House Strong Cities/Strong Communications Flint Liaison this morning. Below are my notes of the discussion.

Flint Drinking Water Conference Call – 3/9/15

Participants: R5/GWDWB – Tom Poy, Jennifer Crooks
 HQ/OGWDW – Eric Burneson, Elizabeth Corr, Becki Clark, Roy Simon
 White House Strong Cities/Strong Communications Flint Liaison – Paul Joice (HUD) (works directly with Flint's mayor)

Tom Poy summarized what has gone on with Flint's Drinking Water:

- Switching from finished Detroit water (Lake Huron source) to Flint River in April 2014.
- Karegondi pipeline will provide Flint with raw water from Lake Huron when completed in 2016.
- MDEQ has been working with Flint from the start to get their treatment plant running properly.
- Summer 2014, Flint had an E coli detect because of distribution system issues (broken valves causing stagnation of water).
 - o Chlorine levels increased which increases potential of forming disinfection byproducts when chlorine reacts with organic carbon.
 - o Flushing increased which can stir up sediment in the water mains.
- December 2014, Flint exceeded the MCL for TTHM which is based on a running annual average (RAA) (avg of 4 quarterly samples).
- MDEQ has worked with Flint since August 2014 when chlorine levels were increased, to tweak operations to reduce TTHM formation.
- February 2015 sampling has TTHM concentrations well below the MCL but since compliance is based on an RAA, it will take another quarter or two of lower concentrations to make the average go down below the MCL.
- Flint has hired a consultant to help with their PWS.
- Flint has formed a Technical Advisory Committee (TAC) to help with their PWS; Dr. Michael Wright (ORD toxicologist) is EPA's representative.
- The Technical Advisory Committee met last week for the first time.

Paul Joice said that he was at the TAC meeting but did not participate as there were not enough seats for the large crowd. He heard that it was a good meeting. Paul said that he would like Dr. Wright to be able to make a public statement about health effects. The public notice for the TTHM violations say that sensitive subpopulations should consult their physicians but the physicians don't have any info on TTHMs.

Paul had questions about Flint's drinking water:

- 1) What are the health effects of TTHMs and what level of exposure is a concern?
- 2) What message should be provided on TTHMs?
- 3) What can be done about Flint's aging infrastructure and falling population base?
- 4) What about citizen complaints about their water looking funny, tasting funny, and smelling funny?

Paul said that having Dr. Wright on the TAC will help resolve Q1 and Q2.

Paul said on Q4, that he lives in the city and his water looks and tastes fine. I said that taste and odor issues could be the result of the flushing that Flint had done due to the bacteria and TTHM problems. Flushing can stir up sediment in the pipes. I said that there have also been complaints about rashes from using the water but that this may not be solely due to high TTHM levels. It could be because of increased chlorine in the water, changes in water chemistry (pH, hardness, etc.). It would take some investigative work to determine what part of the distribution system is having these problems and would need additional health/medical data to try to figure out a cause. Paul said that many of the people who complained did not want to give out their home addresses.

On Q3, I said that many systems across the country have aging infrastructure and while there is SRF monies available, this money does not cover the needs out there. Paul asked about regionalization. Eric Burneson acknowledged that there are economies of scale with regionalization but the benefits are realized more for smaller systems than ones the size of Flint. We could not generalize whether regionalization was a good idea for Flint and other communities in Genessee County because it is a very site specific issue.

Paul said that our conference call helped him under the Flint situation better.

Tom Poy
Chief, Ground Water and Drinking Water Branch
USEPA - Region 5
(312) 886-5991

Rennaker, Joanne (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Monday, October 12, 2015 9:47 AM
To: hcroft@cityofflint.com
Cc: Devereaux, Tracy Jo (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Krisztian, George (DEQ)
Subject: Vendor Inquiries

Howard –

I anticipate that we will be receiving various inquiries from vendors that are interested in providing products or services to assist the City of Flint with water concerns. Since these contacts are more appropriately handled by the city, it is our intention to forward them City contact information so that they can connect with you directly.

As a reminder, you'll want to make sure that any products or devices being proposed for use are appropriately certified by NSF for drinking water use. The appropriate certification status should be established before any further consideration given.

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-284-6543

Rennaker, Joanne (DEQ)

From: Looney, Carolyn (DEQ)
Sent: Thursday, January 22, 2015 11:14 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: Voicemail from Ms. Ann Newell, 810-262-9459

I received a voicemail yesterday at 1:17 pm from Ms. Ann Newell, 810-262-9459. She is the Infection Control Manager at Hurley Medical Center in Flint. She would like a call back to let you know about the issues and concerns they are dealing with at the hospital regarding the bad water in Flint. Please give her a call. Thanks!!

Carolyn Looney
Secretary for the Environmental Health Section
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
Phone: 517-284-6535
Fax: 517-241-1328
Email: looneyc@mi.gov

Rennaker, Joanne (DEQ)

From: Looney, Carolyn (DEQ)
Sent: Thursday, January 15, 2015 7:59 AM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: Voicemail from Ms. Jacklyn Pemberton (sp?), 810-252-3732

Yesterday, I received a voicemail from Ms. Jacklyn Pemberton (sp?), 810-252-3732 regarding the water in Flint. Please give her a call.

Carolyn Looney
Secretary for the Environmental Health Section
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
Phone: 517-284-6535
Fax: 517-241-1328
Email: looneyc@mi.gov

Rennaker, Joanne (DEQ)

From: Henry, James <jhenry@gchd.us>
Sent: Thursday, October 29, 2015 7:26 PM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ); Krisztian, George (DEQ)
Subject: Water

I apologize for the slow responses. I've been pulled in many different directions over the past few days. Working with you and sampling the schools is my priority moving forward and my communications will be more prompt.

Mike, I left you a voicemail yesterday afternoon when I received the message that you left earlier in the day. Sorry my response wasn't sooner.

I'll be at my office by 8am tomorrow and I'd be happy to discuss anything.

George, I have the professional sanitarian staff to collect water at schools. The GCHD financial people calculated \$92/hr to cover costs. That didn't include 1 1/2 overtime pay. I can discuss this further.

I have the yellow copies of water (collection) forms used during our first round of sampling at the schools. I can fax, email or discuss them in detail.

If you need details from discussions between GCHD staff and the school staff during the sampling, I can have my staff to sit in on a conference call.

There seemed to be a lot of discrepancies regarding when/if and how long the fixtures were flushed.

The sanitarian that sampled Freeman Elementary told me that the drinking fountains appeared to have been used prior to him collecting the samples (there was water in the basins). Keep in mind, this was after the schools had prohibited use of the fountains. He told me that he assumed that students were randomly pushing the drinking fountain buttons as they walked by because they were told not too use them.

Steve, you made the expectations clear and detailed what everyone's role was with the first round. Of course some mistakes were expected, but the only consistency with flushing the water fixtures seemed to be the inconsistencies.

For example; The central kitchen was not informed and the fixtures were not flushed previous to our sampling. However; we sampled a prep sink that had not been used that morning, but the kitchen manager couldn't recall the last time it had been used.

I collected the samples at the school admin building and met with Tony Sitko. He wasn't sure, but thought the custodian flushed the drinking fountains and didn't know when they were flushed.

There are many similar experiences that my staff reported back to me. I don't mean this critically and this just confirms that mistakes and will occur regardless of how clear the instructions. I think your approach to limiting the different parties involvement with sampling will help reduce mistakes.

Thank Jim

Sent from my phone

Rennaker, Joanne (DEQ)

From: Howard Croft <hcroft@cityofflint.com>
Sent: Tuesday, January 20, 2015 3:13 PM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ); Green, Warren; John O'Brien; djansen@gcdcwws.com; rosejo@msu.edu
Cc: Elizabeth Murphy; Gerald Ambrose; Flint Mayor
Subject: Water Forum
Attachments: City of Flint_Public Forum (1).pdf

Here is the current agenda that I have assembled for our Wednesday night forum. I am looking for everyone to speak for about 10 minutes at the opening and then we will move to written questions. I have attempted to highlight each persons area of expertise as it relates to initial comments and I will moderate through the questions. We do not plan to have an open microphone.

Starting time is 7:00 in the Dome, I will be available in City Hall for those that arrive early.

Thank you all for participating,

--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7346 Ext.2043
hcroft@cityofflint.com



City of Flint Public Forum

Wednesday January 21, 2015
7:00 pm City Hall Dome

AGENDA

Opening COF – DPW Director - Howard Croft

- Forum Ground Rules
- Overview of Format (each guest to speak for ~10 minutes, written questions afterword)
- Introduction of Guests

1st Speaker DEQ – Local Representative - Mike Prysby, Steve Busch

- Water safety
- Explanation of violations (impact of being over MCL)
- Another violation coming in March due to the calculation method (what that means)
- Role of DEQ
- Other places in Michigan with violations?

2nd Speaker LAN – Lead Engineer - Warren Green

- Discuss Engineering role
- Discuss evaluation of Treatment Plant and Distribution system (as reflected in report)
- They are working with KWA and coordinate with DEQ regularly

3rd Speaker Health Expert – MSU Microbiologist – Dr. Joan Rose Ph.D.

- Risk Assessment (what do the numbers mean?)
- What to do if someone suspects they are at risk
- What about the elderly and those with a weak immune system
- What will the next violation mean (water is still safe)

4th Speaker GCDC – Jeff Wright

- What to expect from KWA raw water as source
- Update on KWA timeline

Final COF – DPW Director – Howard Croft

- Summary (Next Steps – Action Plans)
 - Hiring a consultant
 - Increasing communication
 - Strategic goals in Utility Dept. (importance of community supported CIP as it relates to infrastructure)
 - Funding (state funding through the DWRF, Federal opportunities)
- Questions (Expected to have an hour of panel response time)
- Conclusion - Thank the panel, (Additional follow up at next Public Works Committee meeting)

Rennaker, Joanne (DEQ)

From: Daugherty Johnson <djohnson@cityofflint.com>
Sent: Wednesday, November 27, 2013 9:35 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Subject: Water Plant Consent Order

Hello Steve and Mike. The City would like to entertain a Consent Order as part of our Water Plant upgrades as it relates to the use of Bray Rd. There are Bond implications that this may assist with. Our Attorney will be working with DEQ contacts to move toward this potential goal. We wanted you guys to have a heads up on this. Call me if you have any questions. (810) 577-8906

Daugherty 'Duffy'. Johnson
Utilities Administrator
City of Flint

Rennaker, Joanne (DEQ)

From: Wurfel, Brad (DEQ)
Sent: Monday, January 26, 2015 10:14 AM
To: Prysby, Mike (DEQ)
Cc: Busch, Stephen (DEQ); Shekter Smith, Liane (DEQ)
Subject: Wnem 5 re flint

Who can call Jim Wyatt?
989-258-2044

Sent from my iPhone

Rennaker, Joanne (DEQ)

From: Dickinson, Jordan <Jordan.Dickinson@mail.house.gov>
Sent: Wednesday, September 09, 2015 7:03 PM
To: Busch, Stephen (DEQ)
Subject: Congressman Kildee Letter on Lead in Flint Water
Attachments: 2015-09-09- Congressman Kildee Letter on Lead in Flint Water.pdf

Hi Mr. Busch,

Please see the attached letter from Congressman Kildee that you were cc'd on. I will forward along a physical copy in the mail.

Thank you,

Jordan Dickinson
Legislative Assistant
Congressman Dan Kildee (MI-05)
227 Cannon House Office Building
Washington, D.C. 20515
Phone: (202) 225-3611
www.dankildee.house.gov



Sign up for Congressman Dan Kildee's

*Steve's
E-Mails
Rule 2*

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

**COMMITTEE ON
FINANCIAL SERVICES**

**SUBCOMMITTEE ON
HOUSING AND INSURANCE**

**SUBCOMMITTEE ON
MONETARY POLICY AND TRADE**

SENIOR WHIP

**DEMOCRATIC POLICY AND
COMMUNICATIONS COMMITTEE**



Congress of the United States
House of Representatives
Washington, DC 20515
September 9, 2015

WASHINGTON OFFICE

227 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3611
(202) 225-6393 (FAX)

DISTRICT OFFICE

111 EAST COURT STREET #3B
FLINT, MI 48502
(810) 238-8627
(810) 238-8658 (FAX)

WWW.DANKILDEE.HOUSE.GOV

/REP DANKILDEE

@REP DANKILDEE

Ms. Gina McCarthy
Administrator
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Mr. Dan Wyant
Director
Michigan Department of Environmental Quality
P.O. Box 30473
Lansing, MI 48909

Administrator McCarthy and Director Wyant:

The attached June 24, 2015, memorandum between two Environmental Protection Agency (EPA) employees, Miguel A. Del Toral and Thomas Poy, published recently by the American Civil Liberties Union of Michigan, suggests that there are high lead levels in the city of Flint, Mich., water transmission lines. Furthermore, this document reflects that children consuming this water had levels of lead in their blood in excess of three times what they were prior to the city of Flint switching its source water from the Detroit Water and Sewage Department (DWSD) to the Flint River.

In addition, this memorandum makes recommendations to Mr. Poy, Chief of the Ground Water and Drinking Water Branch of EPA Region 5, to do three things. First, for the EPA to work with the Michigan Department of Environmental Quality (MDEQ) to provide technical assistance to the city of Flint to deal with water quality issues. Second, it suggests the EPA review the compliance status of the city of Flint in respect to its compliance with the Lead and Copper Rule (LCR). Third, the memorandum recommends that the EPA conduct a review of the city of Flint testing procedures to ensure they are compliant with the LCR.

Regarding this memorandum and the surrounding water quality issues in the city of Flint, I have the following questions:

- Was this memorandum actually sent to Mr. Poy?

- Are the findings in the memorandum regarding the lead levels in the city of Flint water accurate?
- If there were in fact high levels of lead in the water in the city of Flint, when did the EPA and/or MDEQ plan to alert the public?
- What, if any, of the recommendations has the EPA followed from the memorandum?
- Given the demonstrated level of lead in the water in Flint, MI, is the water safe?

Regardless, I am very troubled by recent tests suggesting high levels of lead in the city of Flint's water system. As you know, on the EPA's website it says that lead above the "action level" in drinking water can cause a variety of adverse health effects, including delays in physical and mental development in babies and children.

According to the Safe Drinking Water Act, the EPA has the responsibility of enforcing water quality standards. EPA, however, has given the primary responsibility of enforcing water quality standards to the state of Michigan via MDEQ. As such, it is the responsibility of these agencies to ensure that the people of the city of Flint have safe drinking water.

Thank you and I look forward to hearing from you soon.

Sincerely,



Dan Kildee
MEMBER OF CONGRESS

cc:

State Senator Jim Ananich
State Representative Sheldon Neeley
State Representative Phil Phelps
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

Rennaker, Joanne (DEQ)

From: Benzie, Richard (DEQ)
Sent: Friday, September 11, 2015 7:19 PM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ)
Cc: Devereaux, Tracy Jo (DEQ)
Subject: Congressman Kildee Response
Attachments: Congressman Kildee Response.docx

Here is my draft reply for the Director's signature. Steve, please correct anything you know to be in error or omitted. Liane, bleed at will.

There is a sentence in the paragraph near the end about the blood monitoring where we say that there is no change in blood lead levels "attributable to the change in water sources" or something like that. I am not sure we need the qualification that ends the sentence – if we could just say there is no change, it would seem to end any further discussion about it at this time. But I wasn't sure if there was a reason for that qualification so I did not remove it.

Dear Congressman Kildee,

Thank you for your correspondence of September 9, 2015 regarding water quality in the city of Flint. Your interest in this matter is appreciated. The Michigan Department of Environmental Quality (MDEQ) considers its responsibility to ensure safe drinking water for its citizens a top priority. The MDEQ maintains a robust public water supply regulatory program through long-standing partnerships with both the Region 5 Office of the Environmental Protection Agency (EPA) and the state's regulated public water systems to achieve the shared goal of compliance with drinking water standards.

The MDEQ cannot speak to the status of an internal EPA Memo. We never received copies of this draft memo from Region 5 EPA, nor would we expect to while it is only a draft. We became aware of the existence of this document because a reporter informed our Public Information Officer that it was available on the website of the American Civil Liberties Union. In subsequent discussions with EPA, our employees were told this draft memo was under further review by EPA Region 5 managers. We were informed they would send copies when the document was final. We have yet to receive the final version.

Regulations associated with lead, copper and corrosion control (LCR) require communities to monitor water quality at customer taps. Compliance is determined by analyzing samples collected from targeted, high risk residences that have been identified as having lead plumbing in the home, lead service connections, or copper piping with joints that used solder containing high concentrations of lead.

In an attempt to simulate worst case conditions, the LCR requires "first draw" samples be collected from designated taps after a period of no use that is representative of an overnight stagnation, typically 6 to 8 hours. If more than ten percent of these compliance samples report lead above the federally established Action Level (AL) of 15 parts per billion (ppb), a water supply has an AL exceedance that triggers other requirements, including public notification, additional water quality sampling, and possibly further treatment, but it is not a violation.

The compliance monitoring for lead within the city of Flint has never exceeded this AL, either before or after the city switched sources and treatment methods. However, based on the population served by the Flint public water supply system, the city is required to not only comply with the lead AL of 15 ppb, but to also provide optimized corrosion control treatment.

When the LCR was first implemented, the means for demonstrating optimized corrosion control was by sampling for lead concentrations using the monitoring requirements of this regulation. When Flint changed sources from Lake Huron to an inland river and modified the treatment from conventional filtration to lime softening, the city was afforded the same opportunity of conducting lead monitoring during the first two 6-month monitoring periods to see if they were already providing optimal corrosion control.

The two monitoring periods during which lead samples were collected throughout Flint in accordance with these requirements were July through December 2014 and January through June 2015. As indicated above, neither round of lead compliance monitoring exceeded the AL. However, the results were unable to demonstrate that the city had optimized corrosion control treatment.

At that point, MDEQ notified the city of Flint in correspondence dated August 17, 2015, that it must provide additional treatment to meet this optimized corrosion control requirement. Despite

the LCR allowing a period of two years to evaluate, select and implement optimal corrosion control treatment, the city of Flint has committed to having this treatment in place by January of 2016. They have also invited an EPA representative from the Office of Research and Development to consult with the city's Technical Advisory Committee that will oversee the installation of additional corrosion control treatment at the water treatment plant.

Under the LCR, public water supplies like Flint are required to provide individual lead results to those customers whose homes are sampled for compliance with the AL. Each customer with an individual sample result that exceeds 15 parts per billion is also provided information on actions they can take to limit lead exposure in their drinking water. Furthermore, results from the most recent lead compliance monitoring determination are included each year in the annual consumer confidence report, also known as their annual water quality report that each community must provide to customers. As required by EPA, this report also includes general consumer awareness information regarding lead. You may access the latest report from Flint at: <https://www.cityofflint.com/wp-content/uploads/CCR-2014.pdf>. This report covers the results of water quality monitoring during calendar year 2014.

Lead blood level monitoring is overseen by the Michigan Department of Health and Human Services (MDHHS). Their review of lead blood testing results for May 2014 – April 2015, the 12 month time frame just after the City of Flint changed its water source to the Flint River, in comparison with lead blood testing results for the previous three years, showed no change in lead poisoning rates attributable to changes in the City's drinking water source.

Additionally, analyses of water entering the distribution system after the water treatment plant continue to show no lead present. The lead being detected in water samples collected at peoples' homes in the compliance monitoring and for other reasons is coming from service connection piping and household plumbing, the majority of which is the responsibility of the homeowner. The Flint water department is responsible for providing high quality drinking water, but they cannot control the variety of materials used in plumbing components on private property. Even after the city initiates optimal corrosion control treatment, there will be circumstances where elevated lead may be present in their drinking water as long as there are lead materials and lead components associated with service lines and home plumbing. The MDEQ has contacted the MDHHS in an attempt to develop an outreach campaign designed to inform civic leaders and city residents in Flint as well as other cities in Michigan about the primary sources of lead and actions they may take to minimize exposure.

As for the overall acceptability of the drinking water in Flint, the city currently has no unresolved violations of state and federal drinking water standards. The MDEQ continues to assist the city of Flint in providing a safe, reliable, and adequate supply for protecting public health, enhancing public safety, and as a pillar for economic development to advance the quality of life in this community.

If you should have additional questions, please contact _____.

Sincerely,

Dan Wyant

Rennaker, Joanne (DEQ)

From: Pallone, Maggie (DEQ)
Sent: Sunday, September 13, 2015 9:57 PM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Benzie, Richard (DEQ)
Cc: Wurfel, Brad (DEQ); Sygo, Jim (DEQ)
Subject: Elected leaders Flint water briefing

Hi all-

Brad and I had a call with the Governor's office on Friday afternoon to discuss how to handle the Flint water letters we received from Congressman Kildee and from Senator Ananich and Reps. Phelps and Neeley.

As you are aware, the Michigan legislators letter was asking for a response by Monday. I am assuming we will not have a response vetted and ready to go by then. Instead, the Governor's office and us agreed the best course of action is an elected leaders briefing.

Congressman Kildee's office is checking his schedule, but I think this Friday in Flint might be the best time. Liane, when are you back? Will you have some availability while you are up north to have a conference call to plan this?

Please let me know your availability for the end of this week, or perhaps next Monday if we have to push it out that far.

Thanks,
Maggie

Maggie Pallone
Deputy Director
Policy and Legislative Affairs
Department of Environmental Quality
517-599-6190 (cell)
PalloneM@michigan.gov

Rennaker, Joanne (DEQ)

From: Graham, Lois (DEQ)
Sent: Friday, May 30, 2014 7:48 AM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Subject: Flint city water quality complaint

Leighton Jefferson, 810-252-3607

Voice message complaint about quality of Flint's community water after switching over to 'river water'
20-30 people he personally knows who have infections and rashes from the water. Concerned about TV reports, personally visited treatment plant to collect his own water sample.

Please call him back and thanks.

Lois Elliott Graham, R.S., M.S.A.
Office of Drinking Water & Municipal Assistance
Environmental Health Section
Noncommunity & Private Drinking Water Supplies Unit
P.O. Box 30241
Lansing, Michigan 48909-7741
Office: 517-284-6530
Fax: 517-241-1328
grahaml@michigan.gov
4-South, Pillar N8

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, June 02, 2014 2:37 PM
To: Busch, Stephen (DEQ)
Subject: Flint WQ complaints

Steve,

I attempted to contact each of the 3 individuals that have concerns regarding the water quality from the Flint WTP.

Don Moore – no answer, no answering machine (I will attempt to call him later today or else tomorrow morning)

Jason Peadergrass – no answer, left message

Latham Jefferson – no answer, voicemail full (I will attempt to call him later today or tomorrow morning)

O for 3

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, January 08, 2013 4:36 PM
To: Shekter Smith, Liane (DEQ)
Cc: Bloemker, Jon (DEQ); Busch, Stephen (DEQ)
Subject: Flint WTP

Liane,

Eric Kline from the Department of Treasury, Office of Fiscal Responsibility returned my call with several questions concerning the operating requirements of the Flint WTP. Eric is aware that Flint has been a DWSD customer since the 1960s and that the city is currently at the crossroads of either remaining a customer of DWSD (either blending or total DWSD purchase) or breaking away from DWSD and committing to the KWA project. The Department of Treasury is currently investigating these options to determine the best long term financial option for Flint.

Eric's first question:

Are there any scenarios where the DEQ would allow Flint to totally decommission their WTP?

My response first included a brief discussion of the history of the Flint WTP and the city's obligation to maintain and operate the facility on a test-run basis to provide an adequate back-up supply of water to the city and Genesee County in the event that the supply of water from Detroit (single transmission line) is interrupted. Eric appeared to already have a good understanding of this topic. Next, Flint could only decommission their WTP if the city was to establish 2 independent sources of drinking water – either DWSD with KWA (back-up) or vice versa. This option would be difficult since KWA's intention is to sell untreated water to members of the authority including Flint. In this scenario, Flint may need to become a customer of Genesee County, not KWA. Otherwise, the city would need to establish 2 independent sources from Detroit.

Q2: Does Genesee County currently have a water treatment facility?

A2: Genesee County currently purchases water from Flint as a wholesale customer; thus the county does not have their own WTP at this time.

Q3: Does the DEQ take any stance on the possibility of Flint blending treated water from its own WTP?

A3: The city of Flint may elect to utilize their WTP for the blending of treated water from the Flint River with water purchased

from DWSD or KWA provided that all applicable drinking water standards are maintained. The city would also be

encouraged to produce water of the same aesthetic quality to the water currently purchased from DWSD. Thus, DEQ

does not have an objection to the option of blending.

Eric indicated that he may contact me again if he has any further questions of which I will provide the necessary updates.

Michael Prysby, P.E.

District Engineer

Office of Drinking Water and Municipal Assistance

517 335-6122

Rennaker, Joanne (DEQ)

From: deq-assist
Sent: Monday, August 18, 2014 12:52 PM
To: Busch, Stephen (DEQ)
Subject: FW: Email Inquiry - Community Drinking Water Contamination Complaint
Attachments: Email Inquiry

Importance: High

Good Afternoon Stephen,
Please review and respond to the customer email attached, or if you determined it appropriate please forward to other staff for response.

Thank you for your assistance.

Tonya

Tonya Schelter, Department Analyst
Michigan Department of Environmental Quality
Office of Environmental Assistance
Environmental Assistance Center 1-800-662-9278
517-284-6873
Deq-assist@michigan.gov
scheltert@michigan.gov
517-284-7272 SARA Title III Program Phone
Deq-sara@michigan.gov

Thanks for contacting our Department of Environmental Quality, Office of Environmental Assistance. To help us improve our services, we encourage you to complete our short [customer service survey](https://www.surveymonkey.com/s/oeacs)
<https://www.surveymonkey.com/s/oeacs>

Rennaker, Joanne (DEQ)

From: BadAddress
Sent: Monday, August 18, 2014 10:59 AM
To: deq-assist
Subject: Email Inquiry

CompanyName:

FirstName: Raney
LastName: Russell
Email: raneyrussell@gmail.com
DayPhone: 810-407-0513
AltPhone:
Address: 2405 E. Court Street
City: Flint
State: MI
ZipCode: 48503
County: Genesee

YourMessage: I have it on good authority that the Flint City Council members are trying to cover-up a larger drinking water contamination, than that which was originally reported. On August 12, 2014 the new Flint Water Treatment Plant discharged a large amount of sewage into the Flint River (the same river where it gets its water). On August 16, 2014 the Flint Journal reported that a small area of the city's water was contaminated and that there is a boil advisory until further notice. The water in that area was found to have E. Coli. However, several people from areas in Flint, which are not under the boil water advisory, are getting sick. Three neighbors in the College/Cultural area in Flint, MI, 48503 are violently ill, reporting flu like symptoms. A dog has died and 2 dogs are ill in the area of Simcoe Ave, Flint, MI 48507, from consuming tap water. This issue is wider than the city is reporting and it needs to be investigated immediately.

Rennaker, Joanne (DEQ)

From: Rosenthal, Adam (DEQ)
Sent: Wednesday, April 02, 2014 3:50 PM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Subject: FW: Email Inquiry
Attachments: Email Inquiry

FYI. How do we respond?

Adam

From: deq-assist
Sent: Wednesday, April 02, 2014 3:34 PM
To: Rosenthal, Adam (DEQ)
Subject: FW: Email Inquiry

Adam,
I'm forwarding this email to you for response. If you determine it more appropriate to forward on to other staff please do so.

Thank you.

Tonya

Tonya Schelter, Department Analyst
Michigan Department of Environmental Quality
Office of Environmental Assistance
Environmental Assistance Center 1-800-662-9278
Office of Environmental Assistance
517-284-6873
Deq-assist@michigan.gov
schellert@michigan.gov
517-284-7272 SARA Title III Program Phone
Deq-sara@michigan.gov

Thanks for contacting our Department of Environmental Quality, Office of Environmental Assistance. To help us improve our services, we encourage you to complete our short [customer service survey](https://www.surveymonkey.com/s/oeacs).
<https://www.surveymonkey.com/s/oeacs>

Rennaker, Joanne (DEQ)

From: BadAddress
Sent: Wednesday, April 02, 2014 8:27 AM
To: deq-assist
Subject: Email Inquiry

CompanyName:**FirstName:** Herbert**LastName:** Lang**Email:** herbertlang@comcast.net**DayPhone:** 8102395070**AltPhone:** 8109192758**Address:** 706 Spellman Drive**City:** Flint**State:** MI**ZipCode:** 45803**County:** Genesee

YourMessage: Concern: The city of Flint is proposing using the Flint river as drinking water on April 18, 2014. The water that we're using now has a distinct odor to it, could you please check to make sure that the water we're drinking is safe and especially if they decide to use the Flint river as our water supply.

Rennaker, Joanne (DEQ)

From: Pallone, Maggie (DEQ)
Sent: Thursday, October 01, 2015 5:20 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ)
Subject: FW: Kildee Letter DRAFT
Attachments: Kildee Lead Flint DRAFT 09-30-2015.docx

Importance: High

Steve or Richard, please see the attached letter. Is that the correct wording for request #4?

Thanks,
Maggie

From: Brown, Eric (GOV)
Sent: Thursday, October 1, 2015 5:16 PM
To: Lyon, Nick (DHHS) <LyonN2@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>
Cc: Hertel, Elizabeth (DHHS) <HertelE@michigan.gov>; Pallone, Maggie (DEQ) <PalloneM@michigan.gov>; McBride, Bill (GOV) <mcbrideb@michigan.gov>
Subject: Kildee Letter DRAFT
Importance: High

Nick & Dan:

Please take a look at the attached draft letter to Congressman Kildee, particularly the 4 requests for federal action. Please edit/add as necessary. Thanks for your quick attention to this – we need to have this ready for the Governor's signature by 8:30am tomorrow. Sorry for the tight turnaround.

--Eric

Eric K Brown

Senior Federal Policy Representative
 State of Michigan – Governor Rick Snyder
 Washington D.C. Office
 202.624.5840 (office)
 202.480.7235 (mobile)

To: Congressman Kildee

From: Governor Snyder

Congressman Kildee:

As part of our ongoing dialogue related to the city of Flint's water, I want to make sure you are aware of the actions taken by the State of Michigan to ensure that the residents of Flint have access to safe, clean drinking water. These actions include:

1. Immediately test Flint public schools to ensure that drinking water is safe. Testing also will be available at no cost to any other school in Flint.
2. Expand health exposure testing of individual residences.
3. Offer water testing at no cost to Flint residents to assure water is safe.
4. Begin optimizing corrosion controls in the Flint drinking water system.
5. Convene a "Safe Drinking Water Technical Advisory Committee" to ensure the best technology, practices and science are being utilized, and add an expert from the EPA's Office of Research and Development to the group.
6. Accelerate water system improvements to address replacement of lead service lines.
7. Expedite completion of Karegnondi Water Authority.
8. Appointment of Dr. Eden Wells as the Flint Drinking Water Public Health Advisor.
9. Provide water filters to residents of Flint.
10. Expand a comprehensive lead education initiative.

While these actions will mitigate risk of lead exposure in the immediate and long term, there are a number of federal regulatory hurdles that impede our ability to further reduce risk. As the federal representative for the city of Flint, I would appreciate your assistance on the following federal items:

1. Ease and/or eliminate restrictions on the purchase of premixed baby formula for WIC recipients.
2. Make federal Drinking Water Revolving Loan funds available for the replacement of private service lines.
3. Ease and/or eliminate restrictions on the purchase of bottled water for SNAP and WIC recipients.
4. Request that EPA add recommendations for improvements in sampling protocol in its Lead and Copper Working Group report.

Thank you for your continued advocacy related to the city of Flint's water. I have appreciated the ongoing dialogue and am heartened to have a partner in ensuring that the residents of Flint have access to safe, clean drinking water. I look forward to continuing to work with you on this and many other issues of importance to Michiganders.

Sincerely,

/s/

Rick Snyder

Rennaker, Joanne (DEQ)

From: Devereaux, Tracy Jo (DEQ)
Sent: Monday, September 14, 2015 9:05 AM
To: Busch, Stephen (DEQ)
Cc: Rennaker, Joanne (DEQ); Benzie, Richard (DEQ)
Subject: FW: LEG00186 Kildee / Water quality issues in the city of Flint
Attachments: ODWMA 15 LEG00186I Kildee.pdf

Incoming log letter. Please have the draft to me ahead of the September 21, 2015, due date for formatting issues, etc. It should go through district clerical review before coming to Liane. Thanks!

From: DEQ-LogLetter
Sent: Thursday, September 10, 2015 1:22 PM
To: Devereaux, Tracy Jo (DEQ)
Cc: Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); Pallone, Maggie (DEQ); Wurfel, Brad (DEQ); DEQ-Legislative-Contact; Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Busch, Stephen (DEQ)
Subject: LEG00186 Kildee / Water quality issues in the city of Flint

Assigned to ODWMA

Original to Karen (T.F.)
2 hard copies to Mary Beth

Letter Buckslip

10-Sep-15

ID:	LEG00186	Deputy Director _____ Deputy's Mgmt. Asst. _____ Director's Office Staff _____ Division/Office Chief _____ Division/Office Chief's Mgmt. Asst. _____ Prepared by: _____ Division/Office _____ Exec. Div. File No. _____ ☐ Delogged
Date of letter:	9/9/2015	
Date received:	9/9/2015	
Date due:	9/21/2015	
Reply date:		
Last name:	Kildee	
First name:	Dan	
Organization:	United States Representative	
Subject:	Water quality issues in the city of Flint	
Reply to:		
Author:		
Owner:	SHALERK	

<u>Action</u>	<u>Action Date</u>	<u>Due Date</u>	<u>Entity</u>	<u>Signature</u>	<u>Owner</u>	<u>CCs</u>
Assigned 1	9/10/2015	9/21/2015	ODWM A	DIR	SHALERK	Thelen Sygo/Shaler Maggie Pallone Brad Wurfel DEQ-Legis-Contact Liane Shekter Smith Richard Benzie Steve Busch

Comments: Assigned to ODWMA

Note: Maggie Pallone will run the Director's response by Eric Brown, Governor's Washington office, for his approval before the Director signs.

Original to Shaler (T.F.)

LEG00186

Shaler, Karen (DEQ)

From: "Dickinson, Jordan" <Jordan.Dickinson@mail.house.gov>
Date: September 9, 2015 at 6:54:47 PM EDT
To: "Wurfelb@michigan.gov" <Wurfelb@michigan.gov>
Subject: FW: Congressman Kildee Letter on Lead In Flint Water

Hi Brad,

Can you please make sure the attached letter is passed along to Director Wyant? I will forward along a physical copy in the mail.

Thank you,

Jordan Dickinson
Legislative Assistant
Congressman Dan Kildee (MI-05)
227 Cannon House Office Building
Washington, D.C. 20515
Phone: (202) 225-3611
www.dankildee.house.gov

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

COMMITTEE ON
FINANCIAL SERVICES

SUBCOMMITTEE ON
HOUSING AND INSURANCE

SUBCOMMITTEE ON
MONETARY POLICY AND TRADE

SENIOR WHIP

DEMOCRATIC POLICY AND
COMMUNICATIONS COMMITTEE



Congress of the United States
House of Representatives
Washington, DC 20515
September 9, 2015

WASHINGTON OFFICE

227 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3611
(202) 225-6393 (Fax)

DISTRICT OFFICE

111 EAST COURT STREET #3B
FLINT, MI 48502
(810) 238-8627
(810) 238-8658 (Fax)

WWW.DANKILDEE.HOUSE.GOV

f /RepDanKildee

t @RepDanKildee

Ms. Gina McCarthy
Administrator
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Mr. Dan Wyant
Director
Michigan Department of Environmental Quality
P.O. Box 30473
Lansing, MI 48909

Administrator McCarthy and Director Wyant:

The attached June 24, 2015, memorandum between two Environmental Protection Agency (EPA) employees, Miguel A. Del Toral and Thomas Poy, published recently by the American Civil Liberties Union of Michigan, suggests that there are high lead levels in the city of Flint, Mich., water transmission lines. Furthermore, this document reflects that children consuming this water had levels of lead in their blood in excess of three times what they were prior to the city of Flint switching its source water from the Detroit Water and Sewage Department (DWSD) to the Flint River.

In addition, this memorandum makes recommendations to Mr. Poy, Chief of the Ground Water and Drinking Water Branch of EPA Region 5, to do three things. First, for the EPA to work with the Michigan Department of Environmental Quality (MDEQ) to provide technical assistance to the city of Flint to deal with water quality issues. Second, it suggests the EPA review the compliance status of the city of Flint in respect to its compliance with the Lead and Copper Rule (LCR). Third, the memorandum recommends that the EPA conduct a review of the city of Flint testing procedures to ensure they are compliant with the LCR.

Regarding this memorandum and the surrounding water quality issues in the city of Flint, I have the following questions:

- Was this memorandum actually sent to Mr. Poy?

- Are the findings in the memorandum regarding the lead levels in the city of Flint water accurate?
- If there were in fact high levels of lead in the water in the city of Flint, when did the EPA and/or MDEQ plan to alert the public?
- What, if any, of the recommendations has the EPA followed from the memorandum?
- Given the demonstrated level of lead in the water in Flint, MI, is the water safe?

Regardless, I am very troubled by recent tests suggesting high levels of lead in the city of Flint's water system. As you know, on the EPA's website it says that lead above the "action level" in drinking water can cause a variety of adverse health effects, including delays in physical and mental development in babies and children.

According to the Safe Drinking Water Act, the EPA has the responsibility of enforcing water quality standards. EPA, however, has given the primary responsibility of enforcing water quality standards to the state of Michigan via MDEQ. As such, it is the responsibility of these agencies to ensure that the people of the city of Flint have safe drinking water.

Thank you and I look forward to hearing from you soon.

Sincerely,



Dan Kildee
MEMBER OF CONGRESS

cc:

State Senator Jim Ananich
State Representative Sheldon Neeley
State Representative Phil Phelps
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION 5
 77 WEST JACKSON BOULEVARD
 CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

WG-15J

June 24, 2015

MEMORANDUM

SUBJECT: High Lead Levels in Flint, Michigan – Interim Report

FROM: Miguel A. Del Toral *WADT*
 Regulations Manager, Ground Water and Drinking Water Branch

TO: Thomas Poy
 Chief, Ground Water and Drinking Water Branch

The purpose of this interim report is to summarize the available information regarding activities conducted to date in response to high lead levels in drinking water reported by a resident in the City of Flint, Michigan. The final report will be submitted once additional analyses have been completed on pipe and water samples.

Following a change in the water source, the City of Flint has experienced a number of water quality issues resulting in violations of National Primary Drinking Water Regulations (NPDWR) including acute and non-acute Coliform Maximum Contaminant Level (MCL) violations and Total Trihalomethanes (TTHM) MCL violations as follows:

Acute Coliform MCL violation in August 2014
 Monthly Coliform MCL violation in August 2014
 Monthly Coliform MCL violation in September 2014
 Average TTHM MCL violation in December 2014
 Average TTHM MCL violation in June 2015

In addition, as of April 30, 2014, when the City of Flint switched from purchasing finished water from the City of Detroit to using the Flint River as their new water source, the City of Flint is no longer providing corrosion control treatment for lead and copper.

A major concern from a public health standpoint is the absence of corrosion control treatment in the City of Flint for mitigating lead and copper levels in the drinking water. Recent drinking water sample results indicate the presence of high lead results

in the drinking water, which is to be expected in a public water system that is not providing corrosion control treatment. The lack of any mitigating treatment for lead is of serious concern for residents that live in homes with lead service lines or partial lead service lines, which are common throughout the City of Flint.

In addition, following the switch to using the Flint River, the City of Flint began adding ferric chloride, a coagulant used to improve the removal of organic matter, as part of the strategy to reduce the TTHM levels. Studies have shown that an increase in the chloride-to-sulfate mass ratio in the water can adversely affect lead levels by increasing the galvanic corrosion of lead in the plumbing network.

Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water. When the City of Flint switched to the Flint River as their water source on April 30, 2014, the orthophosphate treatment for lead and copper control was not continued. In effect, the City of Flint stopped providing treatment used to mitigate lead and copper levels in the water. In accordance with the Lead and Copper Rule (LCR), all large systems (serving greater than 50,000 persons) are required to install and maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase.

The lack of mitigating treatment is especially concerning as the high lead levels will likely not be reflected in the City of Flint's compliance samples due to the sampling procedures used by the City of Flint for collecting compliance samples. The instructions from the City of Flint to residents direct the residents to 'pre-flush' the taps prior to collecting the compliance samples. A copy of the instructions provided by the City of Flint to residents will be included in the final report.

The practice of pre-flushing before collecting compliance samples has been shown to result in the minimization of lead capture and significant underestimation of lead levels in the drinking water. Although this practice is not specifically prohibited by the LCR, it negates the intent of the rule to collect compliance samples under 'worst-case' conditions, which is necessary for statistical validity given the small number of samples collected for lead and copper under the LCR. This is a serious concern as the compliance sampling results which are reported by the City of Flint to residents could provide a false sense of security to the residents of Flint regarding lead levels in the water and may result in residents not taking necessary precautions to protect their families from lead in the drinking water. Our concern regarding the inclusion of 'pre-flushing' in sampling instructions used by public water systems in Michigan has been raised with the Michigan Department of Environmental Quality (MDEQ). The MDEQ has indicated that this practice is not prohibited by the LCR and continues to retain the 'pre-flushing' recommendation in their lead compliance sampling guidance to public water systems in Michigan. A copy of the MDEQ guidance will be included in the final report.

In the case of the Flint resident that contacted U.S. EPA (Ms. Lee-Anne Walters), the initial results from drinking water samples collected by the City of Flint in her home

for lead were 104 ug/L and 397 ug/L. The level of iron in the water also exceeded the capability of the measurement (>3.3 mg/L). The lead results were especially alarming given that the samples were collected using the sampling procedures described above, which minimize the capture of lead. When contacted by U.S. EPA Region 5, the MDEQ indicated that the lead was coming from the Walters' plumbing. Ms. Walters had previously indicated that all of the plumbing in the home was plastic.

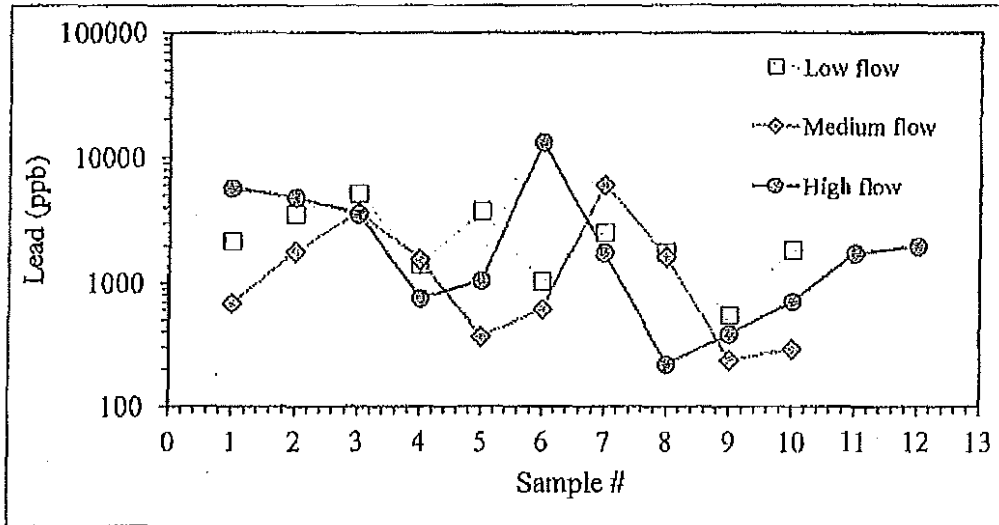
Following the confirmation of the initial high lead results, U.S. EPA Region 5 conducted two visits to the Walters' home on April 27, 2015 and May 6, 2015. Based on an inspection of the plumbing and subsequent sampling conducted at the Walters' residence, it was determined that except for a few minor metallic connectors, all interior plumbing, including the pipes, valves and connectors are made of plastic certified by the National Sanitation Foundation (NSF) for use in drinking water applications. Subsequent sampling showed that the faucets in the home appear to be compliant with the new lead-free requirements and are also not the source for the high lead levels. Our inspection of the interior plumbing and analysis of follow-up sampling results demonstrate that the home plumbing network is not the source of the high lead levels found at the Walters' residence. The photographs and all sampling results will be included in the final report.

Based on the U.S. EPA inspection and documentation of the plastic plumbing at the Walters' residence, it was suspected that the high lead was being introduced into the Walters' home plumbing from outside the home, likely from a lead service line. Three portions of the service line were extracted during a subsequent trip on May 6, 2015 and sent for analysis, when the Walters' service line was replaced. Analyses performed to date indicate that a portion of the service line is made of galvanized iron pipe. Inspection of the remaining portion from the water main to the external shut-off valve confirmed that the portion from the water main to the external shut-off valve is a lead service line.

Ms. Walters has also provided U.S. EPA with medical reports on her child's blood lead testing indicating that the child had a low blood lead level (2 ug/dL) prior to the source water switch and an elevated blood lead level following the switch (6.5 ug/dL). Redacted copies of these reports will also be included in the final report.

Subsequent to the discovery of high lead levels in the Walters' drinking water, the water to the Walters' home was shut off on April 3, 2015. The water was briefly turned back on to collect additional samples on April 28, 2015. Since the water had stagnated for an extended period of time, the kitchen tap was flushed for 25 minutes the night before collecting the samples. Three sets of samples were collected at different flow rates (10 at low flow, 10 at medium flow and 10 at high flow).

The drinking water samples collected from the Walters' residence on April 28, 2015 contained extremely high lead levels, ranging in value from 200 ug/L to 13,200 ug/L (see below).



Sample results and graph are provided courtesy of Virginia Tech

Additional sample results from resident-requested samples have also shown lead levels in excess of the lead action level. As with the samples collected by the City of Flint for compliance, the resident-requested samples are also being collected using the 'pre-flushing', so the lead levels captured in these samples likely do not represent the worst-case lead levels in the water and the actual lead levels at these homes may be much higher.

Pending completion of the final report, my interim recommendations are as follows:

1. The U.S. EPA should follow up with the MDEQ and the City of Flint on the recommendation made by U.S. EPA to MDEQ on June 10, 2015 to offer the City of Flint technical assistance on managing the different water quality issues in Flint, including lead in the drinking water. Although there have been two written assessments regarding water quality and operational issues in Flint at the time of this report, they do not address lead in drinking water. The first is an Operational Evaluation Report (OER) produced in November 2014 by Lockwood, Andrews and Newnam, Inc. to assess the factors contributing to high Total Trihalomethane (TTHM) levels in Flint following the source change. The focus of this report is to identify potential causes and remedial actions for lowering TTHM levels. The second report (Water Quality Report) produced by Veolia for the City of Flint on March 12, 2015, is an assessment of Flint's water quality and operations which provides advice to the City of Flint primarily focused on TTHM control and other operational issues. Both reports were written prior to the recent discovery of high lead results in Flint drinking water. As such, the reports do not take into account the potential effects on lead levels in drinking water.

As previously mentioned, the City of Flint currently has no mitigating treatment for lead and is also planning another source water change in the near future. U.S. EPA's Office of Research and Development in Cincinnati has extensive experience in corrosion and corrosion control treatment and distribution system issues and would be a valuable addition to the drinking water advisory group for the City of Flint. Copies of the qualifications and experience for Michael Schock and Darren Lytle have been forwarded to MDEQ.

2. U.S. EPA should review the compliance status of the City of Flint with respect to whether the system is in violation of the LCR requirement to install and maintain optimal corrosion control and whether the MDEQ is properly implementing the LCR provisions regarding optimal corrosion control treatment requirements for large systems. Pursuant to 40 CFR Section 141.82(i), the EPA Regional Administrator may review treatment determinations made by a State and issue federal treatment determinations consistent with the requirements of the LCR where the Regional Administrator finds: (1) A state has failed to issue a treatment determination by the applicable deadlines; (2) A State has abused its discretion in a substantial number of cases or in cases affecting a substantial population; or (3) The technical aspects of a State's determination would be indefensible in an expected Federal enforcement action taken against a system.
3. The U.S. EPA should review whether relevant resident-requested samples are being included by the City of Flint in calculating the 90th percentile compliance value for lead. Recent drinking water tests conducted at homes in Flint for lead that are not part of the compliance sampling pool have revealed high lead levels in the drinking water. The U.S. EPA memorandum signed on December 23, 2004 provides clarification on compliance determinations and states that customer-requested samples are to be included in the 90th percentile lead compliance calculation where the sampling is conducted during the monitoring period from sites and sampling procedures meeting the LCR criteria. Given the prevalence of lead service lines in the City of Flint, should these sample results be from homes with lead service lines, the sample results would be considered compliance samples under the LCR.

Also attached is a timeline of events for Flint, Michigan. Should you have any questions regarding the information or recommendations provided, please let me know.

cc: Liane Shekter-Smith (MDEQ)
 Pat Cook (MDEQ)
 Stephen Busch (MDEQ)
 Michael Prysby (MDEQ)
 Marc Edwards (Virginia Tech)
 Michael Schock, EPA-ORD
 Darren Lytle, EPA-ORD

Rennaker, Joanne (DEQ)

From: Pallone, Maggie (DEQ)
Sent: Wednesday, September 09, 2015 5:01 PM
To: Feuerstein, Heather (DEQ)
Cc: Howes, Sarah (DEQ); Busch, Stephen (DEQ); Wurfel, Brad (DEQ)
Subject: FW: Meeting with the Rep.

Heather-

Please call Candice and get this scheduled. Please include Steve, Sarah and Brad in the meeting.

Thanks,
 Maggie

From: Candice Mushatt [<mailto:cmushatt@house.mi.gov>]
Sent: Wednesday, September 9, 2015 4:50 PM
To: Howes, Sarah (DEQ) <HowesS1@michigan.gov>; Pallone, Maggie (DEQ) <PalloneM@michigan.gov>
Cc: Clyde Edwards <cedwards@house.mi.gov>
Subject: Meeting with the Rep.

Good Afternoon,

Representative Neeley would like to meet with someone from DEQ to follow up about the water dilemma in the city of Flint. He is looking to do so 2 weeks from now.

If you have any questions please do not hesitate to contact me directly.

Candice Mushatt, Constituent Services Director
 Office of State Representative Sheldon Neeley, 34th District
 N-798 House Office Building
 P. O. Box 30014
 Lansing, MI 48909
 Office: (517) 373-8808
 Toll Free: (844) 4-NEELEY
 FAX: (517) 373-5997
 Web: <http://neeley.housedems.com>

Rennaker, Joanne (DEQ)

From: Devereaux, Tracy Jo (DEQ)
Sent: Monday, July 20, 2015 9:14 AM
To: Butler, Sonya (DEQ); Donaldson, Kristina (DEQ); Busch, Stephen (DEQ)
Cc: Shekter Smith, Liane (DEQ); Winegar, Carla (DEQ)
Subject: FW: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint

Importance: High

Incoming Legislative Assignment...including Sonya as they mention funding; Kris as they mention Detroit; and Steve as they mention Flint. Please include everyone on this e-mail and those highlighted below with your response by 7/22/2015. Thanks.

Thanks,

Tracy Jo

From: DEQ-Legislative-Contact
Sent: Monday, July 20, 2015 9:03 AM
To: Devereaux, Tracy Jo (DEQ)
Cc: Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); Pallone, Maggie (DEQ); Howes, Sarah (DEQ); Shekter Smith, Liane (DEQ); DEQ-Legislative-Contact
Subject: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint
Importance: High

Due 7/22/15

Please have staff respond to Adam from Senator Pavlov's office regarding the question below.

Please keep all updated to any responses.

Thanks!

Heather Feuerstein

Management Assistant to

Maggie Pallone, Director of Legislative Affairs and

Brad Wurfel, Communications Director

Department of Environmental Quality

517.284.6715

From: Adam Skubik [<mailto:ASKubik@senate.michigan.gov>]
Sent: Thursday, July 16, 2015 11:01 AM
To: DEQ-Legislative-Contact
Subject: RE: Constituent Inquiry

Hi Heather,

The specific question I am looking to have answered is, does the city of Flint and Detroit pay anything to take the water from Lake Huron? If so, who do they make that payment to?

Thanks,

Adam Skubik
Legislative Aide
Senator Phil Pavlov
517-373-7708

From: DEQ-Legislative-Contact [<mailto:DEQ-Legislative-Contact@michigan.gov>]
Sent: Thursday, July 16, 2015 10:57 AM
To: Adam Skubik
Subject: RE: Constituent Inquiry

Hi Adam, I believe we have had involvement with this issue. Do you only want to know where the funding come from, or did you have additional questions.

I can send this down to our Office of Drinking Water and Municipal Assistance and see what they can tell us about it.

Thanks!
Heather Feuerstein
Management Assistant to
Maggie Pallone, Director of Legislative Affairs and
Brad Wurfel, Communications Director
Department of Environmental Quality
517.284.6715

From: Adam Skubik [<mailto:ASKubik@senate.michigan.gov>]
Sent: Thursday, July 16, 2015 10:54 AM
To: DEQ-Legislative-Contact
Subject: Constituent Inquiry

Hi Heather,

I am not sure if you are the correct person to ask this question. I had a constituent reach out who is looking for information on the water pipeline that runs from Lake Huron to Flint. Do you know who is responsible for funding the construction of this pipeline or who is responsible for paying to maintain the pipeline? Any insight that you are able to offer would be greatly appreciated.

Thank you,

Adam Skubik

Legislative Aide
Senator Phil Pavlov
517-373-7708

4

Rennaker, Joanne (DEQ)

From: Devereaux, Tracy Jo (DEQ)
Sent: Wednesday, September 30, 2015 4:55 PM
To: Busch, Stephen (DEQ)
Cc: Rennaker, Joanne (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ)
Subject: FW: ODWMA/LEG00210/Robertson/Flint Water Questions

Please respond to the incoming legislative assignment by the due date listed below. Please cc all those highlighted below.

Thanks,

Tracy Jo

From: DEQ-Legislative-Contact
Sent: Wednesday, September 30, 2015 4:37 PM
To: Devereaux, Tracy Jo (DEQ)
Cc: Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); Pallone, Maggie (DEQ); Howes, Sarah (DEQ); Shekter Smith, Liane (DEQ); DEQ-Legislative-Contact
Subject: ODWMA/LEG00210/Robertson/Flint Water Questions

Due 10/5/15

Please have staff respond to the appropriate portions of the concern below to Kirsten from Senator Robertson's office.

Please keep everyone updated on any responses.

Thanks!

Heather Feuerstein

Management Assistant to

Maggie Pallone, Deputy Director and

Brad Wurfel, Communications Director

Department of Environmental Quality

517.284.6715

From: Howes, Sarah (DEQ)
Sent: Wednesday, September 30, 2015 11:28 AM
To: VanDyke, Trevor (DNR); KDellaSantina@senate.michigan.gov
Cc: DEQ-Legislative-Contact
Subject: RE: Flint Water and Crime Concerns

Sure is!

Kirsten, I'll have staff from our Office of Drinking Water and Municipal Assistance reach out to you to discuss the current issues and steps that are being taken to address the situation with Flint's water.

Thanks for sending this over, Trevor.

Sarah

Sarah M. Howes | Legislative Liaison
Department of Environmental Quality
517.284.6707 O | C 517.282.9204

From: VanDyke, Trevor (DNR)
Sent: Wednesday, September 30, 2015 11:22 AM
To: Howes, Sarah (DEQ)
Subject: FW: Flint Water and Crime Concerns

Is this a DEQ issue?

Sincerely,

Trevor J. VanDyke, J.D.
Director, Legislative & Legal Affairs Office
Michigan Department of Natural Resources
Ph. 517.284.5808
Fx. 517.335.4242
vandyket1@michigan.gov



From: Kirsten DellaSantina [<mailto:KDellaSantina@senate.michigan.gov>] **On Behalf Of** The Office of Senator Robertson
Sent: Wednesday, September 30, 2015 10:38 AM
To: VanDyke, Trevor (DNR)
Subject: FW: Flint Water and Crime Concerns

Hello,

I wasn't sure who to contact, so I'm hoping maybe you could direct me. Do you know anything about the water situation in Flint?

Kirsten L. Della Santina
Director of Communications
Senator Dave Robertson - 14th Senate District
517-373-5077

From: mzsigohiggins@comcast.net [mailto:mzsigohiggins@comcast.net]
Sent: Wednesday, September 30, 2015 10:27 AM
To: The Office of Senator Robertson <SenDRobertson@senate.michigan.gov>
Subject: Flint Water and Crime Concerns

Dear Dave,

I trust you are doing fine. When you get to the Flint area we should have coffee and catch up.

I am very upset about the water in Flint. I am now a City of Flint resident (for the past 5 years) so I am an authority on the water concerns.

The first time they switched to the Flint River for its source, it backed up my basement with about 4" of water. I was not a happy person. I know it was a result of the change, but no one will take responsibility.

It tasted awful. I couldn't even use a simple purifier to make it taste better. So I began buying gallons and individual bottles of water to drink and use to cook. I will not even rinse my toothbrush with it. I should be able to deduct that off of my extremely high bill. Yesterday I received my bill and about gagged. \$88!!!!!!!!!!!!!! For water I cannot cook with nor drink! That is so wrong. I will not pay that entire amount! It's time I deducted for having to haul in gallons a week of decent water.

A few weeks ago I had a repaired pipe bust. More water in the basement-lovely. I am sure it's because of all the chemicals in the water. It is destroying my pipes!

Dave, please make this an immediate priority in your work. We must be returned to the Detroit Water System. There is no other way to fix this problem. Because the decision was made while the governor had appointed a city manager for the so-called help for Flint's financial situation, the State of Michigan/Governor should bite the bullet and pay to return Flint to DWS. As I said, no one can fix that Flint River water to be useable. It appears that Flint lives do not matter. The lies we've been told are detrimental to our lives. Please take immediate action to help us.

I love Flint. I realized how wonderful my neighborhood is when my garage was destroyed in August. The storm caused two of my neighbor's trees to fall on it. I had warned the property owner Richard Burris, who likes to be called Doc because he's a chiropractor, (yes it's a rental) that the next bad storm could damage my garage. Now I'm probably going to have to sue him for the extra it's costing me to replace it as it went over and above my homeowner's insurance. That's another problem-landlords who will not properly maintain their rental properties. Perhaps some laws on the books to give them an incentive to do so would help. Anyway my neighbors gathered and gave me moral support. I love the diversity and quality of the people in my immediate neighborhood. It's a wonderful feeling to know they really care. So many other places I lived took advantage of my disability.

Other concerns involve the crime rate in Flint. We do not need fewer police and firemen. We need more. Please allow for that when you consider the financial help to Flint. There are still many decent people who live here. Sometimes I would like the northern part of Flint to be merged with Beecher and call it a war zone, rope it off and make them pay for their own police since many of the murders happen there. It sickens me that there is such a total disregard of life.

I appreciate your work as our Senator. I continue to support your ideas. And you are the only republican I would vote for. LOL. Take care Dave and hope to hear from you soon.

Sincerely,

Mari Zsigo
2309 Mountain Avenue
Flint, MI 48503
810-962-2293

Rennaker, Joanne (DEQ)

From: Wurfel, Brad (DEQ)
Sent: Wednesday, September 09, 2015 10:09 PM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Wyant, Dan (DEQ); Pallone, Maggie (DEQ)
Subject: Fwd: Congressman Kildee Letter on Lead in Flint Water
Attachments: ATT00001.htm; ATT00002.htm; ATT00003.htm; ATT00004.htm; 2015-09-09-Congressman Kildee Letter on Lead in Flint Water.pdf; ATT00005.htm

Liane, need your team's help. We'll need a draft response, and possibly a briefing for the director tomorrow. I'll find you in the morning. Thanks!

b

Sent from my iPhone

Begin forwarded message:

From: "Dickinson, Jordan" <Jordan.Dickinson@mail.house.gov>
Date: September 9, 2015 at 6:54:47 PM EDT
To: "Wurfelb@michigan.gov" <Wurfelb@michigan.gov>
Subject: FW: Congressman Kildee Letter on Lead in Flint Water

Hi Brad,

Can you please make sure the attached letter is passed along to Director Wyant? I will forward along a physical copy in the mail.

Thank you,

Jordan Dickinson
 Legislative Assistant
 Congressman Dan Kildee (MI-05)
 227 Cannon House Office Building
 Washington, D.C. 20515
 Phone: (202) 225-3611
www.dankildee.house.gov

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

**COMMITTEE ON
FINANCIAL SERVICES**

**SUBCOMMITTEE ON
HOUSING AND INSURANCE**

**SUBCOMMITTEE ON
MONETARY POLICY AND TRADE**

SENIOR WHIP

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COMMUNICATIONS COMMITTEE**



Congress of the United States
House of Representatives
Washington, DC 20515
September 9, 2015

WASHINGTON OFFICE

227 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3611
(202) 225-6393 (FAX)

DISTRICT OFFICE

111 EAST COURT STREET #3B
FLINT, MI 48502
(810) 238-8627
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WWW.DANKILDEE.HOUSE.GOV

/REP.DANKILDEE

@REP.DANKILDEE

Ms. Gina McCarthy
Administrator
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Mr. Dan Wyant
Director
Michigan Department of Environmental Quality
P.O. Box 30473
Lansing, MI 48909

Administrator McCarthy and Director Wyant:

The attached June 24, 2015, memorandum between two Environmental Protection Agency (EPA) employees, Miguel A. Del Toral and Thomas Poy, published recently by the American Civil Liberties Union of Michigan, suggests that there are high lead levels in the city of Flint, Mich., water transmission lines. Furthermore, this document reflects that children consuming this water had levels of lead in their blood in excess of three times what they were prior to the city of Flint switching its source water from the Detroit Water and Sewage Department (DWSD) to the Flint River.

In addition, this memorandum makes recommendations to Mr. Poy, Chief of the Ground Water and Drinking Water Branch of EPA Region 5, to do three things. First, for the EPA to work with the Michigan Department of Environmental Quality (MDEQ) to provide technical assistance to the city of Flint to deal with water quality issues. Second, it suggests the EPA review the compliance status of the city of Flint in respect to its compliance with the Lead and Copper Rule (LCR). Third, the memorandum recommends that the EPA conduct a review of the city of Flint testing procedures to ensure they are compliant with the LCR.

Regarding this memorandum and the surrounding water quality issues in the city of Flint, I have the following questions:

- Was this memorandum actually sent to Mr. Poy?

- Are the findings in the memorandum regarding the lead levels in the city of Flint water accurate?
- If there were in fact high levels of lead in the water in the city of Flint, when did the EPA and/or MDEQ plan to alert the public?
- What, if any, of the recommendations has the EPA followed from the memorandum?
- Given the demonstrated level of lead in the water in Flint, MI, is the water safe?

Regardless, I am very troubled by recent tests suggesting high levels of lead in the city of Flint's water system. As you know, on the EPA's website it says that lead above the "action level" in drinking water can cause a variety of adverse health effects, including delays in physical and mental development in babies and children.

According to the Safe Drinking Water Act, the EPA has the responsibility of enforcing water quality standards. EPA, however, has given the primary responsibility of enforcing water quality standards to the state of Michigan via MDEQ. As such, it is the responsibility of these agencies to ensure that the people of the city of Flint have safe drinking water.

Thank you and I look forward to hearing from you soon.

Sincerely,



Dan Kildee
MEMBER OF CONGRESS

cc:

State Senator Jim Ananich
State Representative Sheldon Neeley
State Representative Phil Phelps
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

Rennaker, Joanne (DEQ)

From: Pallone, Maggie (DEQ)
Sent: Tuesday, September 15, 2015 7:25 PM
To: Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Howes, Sarah (DEQ); Wurfel, Brad (DEQ); Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Sygo, Jim (DEQ)
Subject: Fwd: EPA's response to Rep. Kildee re: Flint water
Attachments: Hon. Daniel Kildee 09-15-15.pdf; ATT00001.htm

Begin forwarded message:

From: "Fortin, Denise" <Fortin.Denise@epa.gov>
Date: September 15, 2015 at 6:28:38 PM EDT
To: "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>
Cc: "Beckmann, Ronna Erin" <beckmann.ronna@epa.gov>, "Deamer, Eileen" <deamer.eileen@epa.gov>
Subject: EPA's response to Rep. Kildee re: Flint water

Here you go, Maggie. I'll be sending this letter to Jordan Dickinson shortly.

Please keep me posted on the location for Monday's meeting.

Thanks,
Denise

Denise Fortin
Congressional Liaison
Office of Regional Administrator
U.S. Environmental Protection Agency
312-886-9859



United States Environmental Protection Agency
Regional Administrator
Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

SEP 15 2015

The Honorable Daniel Kildee
Member, U.S. House of Representatives
Washington, D.C. 20515-1313

Dear Congressman Kildee:

Thank you for your September 9, 2015 letter regarding drinking water quality in the City of Flint. EPA is actively working with the Michigan Department of Environmental Quality (MDEQ) to help the City provide clean and safe water.

Consistent with the recommendations in the internal memorandum cited in your letter, EPA is working with MDEQ to monitor Flint's compliance with the federal Lead and Copper Rule. On August 17, 2015, MDEQ notified Flint that additional treatment will be required to optimize corrosion control and the City is taking steps to do so. Experts from EPA's Office of Research and Development are providing technical assistance to Flint to implement those corrosion control improvements.

Flint residents who are concerned about lead in drinking water may request water sampling by the local water utility. General information about lead in drinking water and tips to reduce lead exposure are available at <http://water.epa.gov/drink/info/lead/index.cfm>

Again, thank you for your letter. We look forward to a more detailed discussion at the meeting that is being set up on Monday. In the meantime, if you have further questions, please contact me or your staff may contact Denise Fortin or Ronna Beckmann, the Region 5 Congressional Liaisons, at (312) 886-3000.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Hedman", is written over a horizontal line.

Susan Hedman
Regional Administrator

Rennaker, Joanne (DEQ)

From: Wyant, Dan (DEQ)
Sent: Tuesday, September 15, 2015 6:19 PM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ)
Cc: Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Subject: Fwd: Questions for Director Wyant

I will need to respond to this.

Sent from my iPhone

Begin forwarded message:

From: "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>
Date: September 11, 2015 at 7:14:12 PM EDT
To: "Wyant, Dan (DEQ)" <WyantD@michigan.gov>
Subject: FW: Questions for Director Wyant

I will also print for you – see below.

From: Jumana Vasi [mailto:JVasi@mott.org]
Sent: Friday, September 11, 2015 5:29 PM
To: Thelen, Mary Beth (DEQ)
Subject: Questions for Director Wyant

Hi Mary Beth –

Thank you for arranging my call with the Director. He's asked me to send my follow-up questions in writing, so here they are below. Could you please forward them to him?

Thank you,
 Jumana

Dan –

Thank you so very much for your time this afternoon. Here are the questions we've got concerning Flint drinking water.

- The Lead and Copper Rule requires water systems to obtain prior approval from the State to add a new source of water or make any long-term change in water treatment process prior to implementation. Did the DEQ have any concerns related to the switch from Detroit water to Flint River water in terms of potential increases in corrosion?
- The corrosivity of Flint's drinking water seems to be the main contributor to lead levels from residential faucets*. Does the state offer recommendations (treatment options, consumer use guidelines, etc.) for dealing with water that is considered to be "highly corrosive"?
- Are other Michigan cities using similarly corrosive water? What steps are they taking to protect residents from lead leaching from their home plumbing systems?

- Is Flint conducting compliance monitoring under the Lead and Copper Rule? If so, why have their test results differed from the Virginia Tech findings?
- What could the city be doing to better educate and protect its residents?

Thank you for all of your help. We are really looking forward to having you here next week.

Jumana

*<http://flintwaterstudy.org/2015/08/why-is-it-possible-that-flint-river-water-cannot-be-treated-to-meet-federal-standards/>

Jumana Vasi
Program Officer, Environment Program
C.S. Mott Foundation
503 S. Saginaw Street
Flint, MI 48503
(810) 766-1714

Rennaker, Joanne (DEQ)

From: Bloemker, Jon (DEQ)
Sent: Thursday, December 13, 2012 12:07 PM
To: Ashford, Stephen (DEQ); Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Cc: Shekter Smith, Liane (DEQ)
Subject: Genesee County Drain Commission - KWA

On December 13th, I received a phone call from John O'Malia, who will be coordinating the efforts between Wade Trim and AE COM for the Genesee County Drain Commission (a.k.a. KWA). The latter firm will be charged with developing the design criteria for the entire project and the preliminary transmission line route selection and the easement surveys. Wade Trim is involved with the intake construction project. The initial design criteria should be available in January or February of 2013. The present intent is to break the project down into several pieces for the actual design, such as having separate design projects for the low lift pump station, transmission line, reservoir, SCADA system(s) and treatment plant. The request for bids for the design work for each portion of the project may be advertised next month. There may be several consulting firms participating in the overall design. Genesee County will request to meet with ODWMA staff to discuss the design criteria early next year.

The city of Flint has provisionally accepted the offer to join the KWA. The city's approval is subject to the subsequent approval by the Department of Treasury. The state's approval (or possible hearings leading to the approval) is expected in January. There may be some opposition by DWSD about Flint participating in the project.

Genesee County has approved the sale of \$30 Million of bonds. The county is expecting to obtain a 3% APR for the bonds.

Jon B

Rennaker, Joanne (DEQ)

From: DEQ-LogLetter
Sent: Friday, September 11, 2015 2:08 PM
To: DEQ-Legislative-Contact
Cc: Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); Pallone, Maggie (DEQ); Wurfel, Brad (DEQ); Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Cook, Pat (DEQ)
Subject: LEG00188 Ananich / Safety and treatment of city of Flint's water
Attachments: EXE 15 LEG00188I Ananich.pdf

Assigned to EXE (Maggie Pallone)

Letter Buckslip

11-Sep-15

ID:	LEG00188	Deputy Director _____ Deputy's Mgmt. Asst. _____ Director's Office Staff _____ Division/Office Chief _____ Division/Office Chief's Mgmt. Asst. _____ Prepared by: _____ Division/Office _____ Exec. Div. File No. _____ ☐ Delogged
Date of letter:	9/10/2015	
Date received:	9/10/2015	
Date due:	9/21/2015	
Reply date:		
Last name:	Ananich	
First name:	Jim	
Organization:	Senator	
Subject:	Safety and treatment of city of Flint's water	
Reply to:		
Author:		
Owner:	SHALERK	

<u>Action</u>	<u>Action Date</u>	<u>Due Date</u>	<u>Entity</u>	<u>Signature</u>	<u>Owner</u>	<u>CCs</u>
Assigned 1	9/11/2015	9/21/2015	EXE	HAA	SHALERK	Thelen Sygo/Shaler Maggie Pallone Brad Wurfel DEQ-Legis-Contact Liane Shekter Smith Steve Busch Pat Cook 3-1 MI Sen. & Rep. File

Comments: Original to Maggie Pallone

The letter requests a response by 9/14/15, so Maggie has a call into Eric Brown and Dennis Muchmore about scheduling a briefing instead of sending a response letter from the Director.

LEG00188

Thelen, Mary Beth (DEQ)

From: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Sent: Thursday, September 10, 2015 12:57 PM
To: Wyant, Dan (DEQ); Pallone, Maggie (DEQ)
Cc: Jordan.Dickinson@mail.house.gov; mayor@cityofflint.com; HCroft@cityofflint.com; hedman.susan@epa.gov; poy.thomas@epa.gov; Schock,michael@epa.gov; Lytle.darren@epa.gov; fortin.denise@epa.gov; Shekter Smith, Liane (DEQ); Cook, Pat (DEQ); Busch, Stephen (DEQ); Wurfel, Brad (DEQ); Edwardsm@vt.edu
Subject: Letter Regarding Water in the City of Flint
Attachments: Flint Water Letter to DEQ 09102015.pdf

Director Wyant,

Please see the attached letter regarding water in the City of Flint. For your convenience, we are also mailing a hard copy of this letter to your office.

Thank you for your prompt consideration of this urgent matter impacting our community.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

Sheldon Neeley
State Representative
District 34

Phil Phelps
State Representative
District 49



STATE OF MICHIGAN

September 10, 2015

Michigan Department of Environmental Quality
Executive Division
DEQ Director: Dan Wyant
P.O. Box 30473
Lansing, MI 48909-7973

Director Wyant,

In light of recently released findings by the American Civil Liberties Union, independent researchers and a troubling Interim U.S. Environmental Protection Agency memo from June, we are requesting additional answers about the safety and treatment of the City of Flint's water.

Several disturbing points have been raised and we have a number of urgent questions, including:

- **When did the MDEQ become aware of the June 24, 2015, Interim EPA memo and whom was it shared with?**
 - Which Flint city officials also received this information?
 - Why was the memo not immediately shared with the public?
 - What response did MDEQ have to the EPA concerns raised in the memo?
 - Were any actions taken by the MDEQ as a result of the issues mentioned in the memo?
 - What steps, if any, were taken to determine the validity of the Virginia Tech study?
- **Please explain why the pre-flushing method of sampling was used in this instance.**
 - Is it the same method that is applied to all sampling or does the agency have the discretion to decide?
 - Who is responsible for making the decision to pre-flush?
 - The EPA memo references the Lead Copper Rule requirement that systems greater than 50,000 users maintain "corrosion control treatment." As the regulator, why did the MDEQ choose not to enforce that standard?
 - The EPA recommends allowing water to rest for at least six hours, but no more than 12 hours, before taking a sample. On MDEQ's Web site, it suggests flushing the line for five minutes before the six-hour rest. How did the department arrive at this method?
- **According to a July 9, 2015, article on DeadlineDetroit.com, "Scary: Leaded Water and One Flint Family's Toxic Nightmare,"**

"The EPA offered Flint officials the use of agency experts to help get the situation under control," said Del Toral, but added that, to his knowledge, the city has so far declined all help.

LeeAnne Walters said that when she asked why city officials weren't taking the EPA's offer of assistance, she was told, "We don't need it."



STATE OF MICHIGAN

Flint spokesman Lorenz, on the other hand, maintained "the city continues to work closely with the MDEQ and the EPA Regional Office."

- Who refused the EPA's offer of expert assistance and why?
- Is the damage done to the pipes (as described in the EPA report) accurate?
 - If yes, will damaged pipes continue to leach lead or will properly treated water safely reach consumers?
 - What is the plan and timeline to address it?
- And most importantly, what can be done immediately to ensure safe, affordable drinking water for the citizens of Flint?

Many of the decisions that led to the current situation occurred while a state-appointed manager was in control and MDEQ personnel were consulted about testing methods and how to address the situation. In addition, MDEQ also encouraged the method of water testing used by Flint officials. We believe that there is a heightened obligation by the state to make this right.

Due to the serious public health threats of this situation, we respectfully request a response to these matters by Monday, September 14, 2015.

We will do our best to accommodate meeting requests, if necessary, but would appreciate written responses to the above questions so that we can make informed decisions swiftly to address these serious concerns.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

Sheldon Neeley
State Representative
District 34

Phil Phelps
State Representative
District 49

cc:

U.S. Representative Dan Kildee
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

Rennaker, Joanne (DEQ)

From: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Sent: Thursday, September 10, 2015 12:57 PM
To: Wyant, Dan (DEQ); Pallone, Maggie (DEQ)
Cc: Jordan.Dickinson@mail.house.gov; mayor@cityofflint.com; HCroft@cityofflint.com; hedman.susan@epa.gov; poy.thomas@epa.gov; Schock.michael@epa.gov; Lytle.darren@epa.gov; fortin.denise@epa.gov; Shekter Smith, Liane (DEQ); Cook, Pat (DEQ); Busch, Stephen (DEQ); Wurfel, Brad (DEQ); Edwardsm@vt.edu
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Attachments: Flint Water Letter to DEQ 09102015.pdf

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District 27

Sheldon Neeley
State Representative
District 34

Phil Phelps
State Representative
District 49



STATE OF MICHIGAN

September 10, 2015

Michigan Department of Environmental Quality
Executive Division
DEQ Director: Dan Wyant
P.O. Box 30473
Lansing, MI 48909-7973

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STATE OF MICHIGAN

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Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

Sheldon Neeley
State Representative
District 34

Phil Phelps
State Representative
District 49

cc:

U.S. Representative Dan Kildee
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

Rennaker, Joanne (DEQ)

From: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Sent: Wednesday, October 21, 2015 12:46 PM
Subject: Letter Requesting EPA Review of Flint, MI Water
Attachments: 2015.10.21 EPA Review Request FINAL.PDF

Administrator McCarthy and Regional Director Hedman,

Please see the attached letter regarding a request for an EPA review of Flint, Michigan's water treatment.

Please do not hesitate to contact my office if you have any questions. Thank you for your time and attention.

Sincerely,

The Office of State Senator Jim Ananich
Michigan Senate Minority Leader
District 27

SENATE MINORITY LEADER
JIM ANANICH

517.373.0412
 senjananich@senate.michigan.gov
 senatedems.com/ananich

 /Jimananich  @Jimananich

October 21, 2015

Gina McCarthy
Administrator
 United States Environmental Protection Agency
 Ariel Rios Building
 1200 Pennsylvania Avenue, N.W.
 Mail Code 6106A
 Washington, DC 20460

Susan Hedman
Regional Administrator
 United States Environmental Protection Agency Region 5
 Ralph Metcalfe Federal Building
 77 West Jackson Boulevard
 Chicago, IL 60604

Re: EPA Review Needed on Flint, Michigan Water Treatment

Administrator McCarthy and Regional Director Hedman,

Today Congressman Dan Kildee requested that the United States Environmental Protection Agency conduct an investigation into the water system in Flint, Michigan. I agree that such an investigation is vital to ensuring that the people responsible for Flint's dangerous water quality are held accountable. Similar to Congressman Kildee's request, I am requesting the EPA conduct a review of the Michigan Department of Environmental Quality's (MDEQ) oversight of water treatment in Flint as provided for in the Lead and Copper Rule, 40 CFR Sec. 141.80.

After decades of relying on water from the Detroit Water and Sewerage Department (DWSD), Flint began treating its own water from the Flint River in April 2014 at the behest of state-appointed Emergency Managers. DWSD had used — and continues to use — anti-corrosion treatments in its water to prevent lead leaching from an aging infrastructure into residents' drinking water. For a number of reasons, raw water from the Flint River is significantly more corrosive than the lake water that DWSD uses. Despite this, Flint chose not to treat the raw Flint River water by any method traditionally associated with preventing lead corrosion. Multiple consultants and the EPA advised the city to use additional corrosion control measures, but that advice went unheeded by the City of Flint and the MDEQ.

Foreseeably, lead has been seeping into Flint's drinking water for more than a year, causing an alarming rise in the number of children in Flint with elevated blood lead levels. Independent research conducted by Virginia Tech professor Marc Edwards indicated high lead levels in tap water, and a study led by Hurley Medical Center pediatrician Dr. Mona Hanna-Attisha revealed that in high-risk areas of the city, the rate of lead overexposure among children more than doubled since switching water sources. State data have confirmed these results.

Additionally, several questions remain regarding how Flint and state officials conducted water sampling under the Lead and Copper Rule. Allegedly, officials did not target samples in high-risk Tier 1 locations or repeat locations in subsequent tests. Consumers were also instructed to pre-flush their taps prior to collecting samples, resulting in lower lead level results. It is unclear whether a sufficient number of samples were taken or why MDEQ excluded two high lead level samples from Flint's July 2015 water quality report.



SENATE MINORITY LEADER
JIM ANANICH

☎ 517.373.0412
 ✉ senjananich@senate.michigan.gov
 🌐 senatedems.com/ananich

📘 /jimananich 🐦 @jimananich

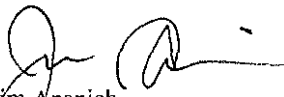
The State of Michigan has pledged to help reconnect the City of Flint to DWSD and take additional steps to help remediate the lead problem. However, these are stopgap measures that will never undo the damage already done.

Ultimately, the EPA retains the ability and responsibility to oversee the state's efforts to obtain and maintain safe drinking water for its residents. As such, I appreciate that the EPA has established the Flint Safe Drinking Water Task Force. However, it also is within the EPA's power to review the actions of MDEQ and the City of Flint as they pertain to lead testing and treatment under the Lead and Copper Rule. We want to ensure Flint remains compliant once it switches its permanent water source to the Karegnondi Water Authority.

I respectfully request that, under 40 CFR Sec. 142.19, Regional Administrator Hedman review MDEQ's determinations regarding corrosion control for lead in Flint, Michigan. Regardless of the findings, I am also requesting that Regional Administrator Hedman make public all evidence gathered during the course of that review. Michigan citizens deserve to know whether MDEQ is operating safely and effectively.

If you have any questions, please contact my office at senjananich@senate.mi.gov or (517) 373-0142. Thank you for your consideration.

Sincerely,


 Jim Ananich
 Senate Democratic Leader
 District 27

cc:

Governor Rick Snyder
 U.S. Representative Dan Kildee
 U.S. Senator Debbie Stabenow
 U.S. Senator Gary Peters
 State Representative Sheldon Neeley, District 34
 State Representative Phil Phelps, District 49
 Mayor Dayne Walling, City of Flint
 Howard Croft, City of Flint
 Susan Hedman, EPA
 Thomas Poy, EPA
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 Dan Wyant, MDEQ
 Liane Shekter-Smith, MDEQ
 Pat Cook, MDEQ
 Stephen Busch, MDEQ
 Brad Wurfel, MDEQ
 Marc Edwards, Virginia Tech

Rennaker, Joanne (DEQ)

From: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Sent: Monday, September 28, 2015 4:08 PM
To: Jordan.Dickinson@mail.house.gov; mayor@cityofflint.com; HCroft@cityofflint.com; hedman.susan@epa.gov; poy.thomas@epa.gov; Schock.michael@epa.gov; Lytle.darren@epa.gov; fortin.denise@epa.gov; Shekter Smith, Liane (DEQ); Cook, Pat (DEQ); Busch, Stephen (DEQ); Wurfel, Brad (DEQ); Edwardsm@vt.edu
Subject: Letter to Governor Regarding Flint Water
Attachments: 09.28.2015-letter-ananich-snyder-water-requests.pdf

Good Afternoon,

Please see the attached letter that my office sent to Governor Rick Snyder earlier today. The letter contains a series of short, medium, and long-term requests to ensure access to safe drinking water in the City of Flint.

As I said in a statement to the press, my constituents and I believe the state must act urgently to provide concrete solutions to the public health crisis in the City of Flint. In speaking with Governor Snyder and his key aides today, I stressed the need to work together on a number of initiatives that will ensure safe water for Flint residents. My formal request included immediate and long-term solutions, and strong consideration for switching back to the Detroit water source until the Karegnondi Pipeline Authority project is complete. Anything less than an aggressive, comprehensive approach is simply unacceptable.

Please do not hesitate to contact my office if you have any questions. Thank you for your time and attention.

Sincerely,

The Office of State Senator Jim Ananich
Senate Minority Leader
District 27

SENATE MINORITY LEADER
JIM ANANICH

☎ 517.373.0142
✉ senjananich@senate.michigan.gov
🌐 senatedems.com/vananich

September 28, 2015

State of Michigan
Executive Office of the Governor
P.O. Box 30013
Lansing, MI 48909

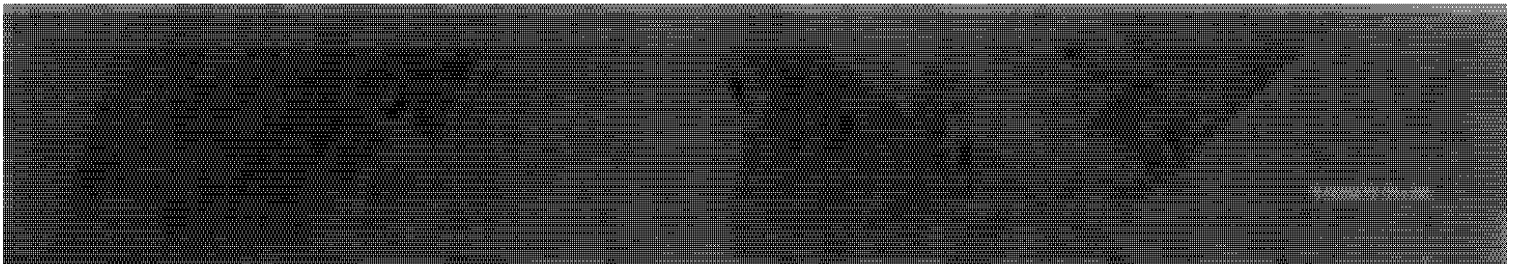
Governor Snyder,

Access to safe, affordable drinking water is a basic necessity for every community. It is completely unacceptable that respected scientific experts and our trusted local physicians have verified that the City of Flint's drinking water is dangerous for our citizens, especially our most vulnerable young people.

As a result, I am formally requesting assistance as suggested by the experts on the frontline of this public health crisis. Here are the top priorities we should work together to address:

1. **Swift transfer to a safe source of water until the Karegnondi Water Authority (KWA) project is complete next year.** Your administration has the ability to ensure a financially acceptable and responsible contract between Flint and the Detroit Water and Sewerage Department, particularly in light of the public health implications with the Flint River supply.
2. **Equally urgent is the need for corrosion control as recommended by independent scientific experts.** There are chemical treatment additives that could help reduce this corrosion. I urge you to help the city implement anti-corrosion methods immediately. The current emergency makes the January timeline unacceptable.
3. **Filters and bottled water assistance.** Flint water touches the entire city. Whether it's a person's home, work, school, restaurant or place of worship, access to safe, clean drinking water should not be hindered. Water filters, used in conjunction with corrosion control methods, are necessary to help guard against toxic exposure.

I have been working with the philanthropic community and private sector to secure donations to acquire filters and water; however, more funds will be necessary to effectively cover the thousands of residents impacted. I would like to formally request emergency funding to help supplement the acquisition of water filters and bottled water. Any and all appropriate state or federal money to help accomplish this feat should be considered.



SENATE MINORITY LEADER
JIM ANANICH

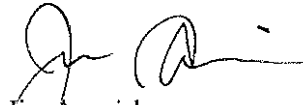
☎ 517.373.0142
✉ senjananich@senate.michigan.gov
🌐 senatedems.com/ananich

4. **Support for completion of the KWA pipeline.** It is presumed that the upcoming KWA pipeline will solve a number of problems associated with the current sourcing of Flint's water from the Flint River. I am requesting a meeting between representatives from your office, KWA board members and project engineers to discuss any options to expedite the pipeline's construction.
5. **A long-term commitment to addressing outdated infrastructure.** A recent EPA report just outlined the billions of dollars necessary over the next several decades to adequately secure safe water for our entire state. You have the position and opportunity to be a national leader on moving the debate forward on this topic so that we can avoid the type of catastrophe my community is grappling with today.

I look forward to working with you to deliver on these concrete and urgent action items to alleviate the public health crisis facing our residents.

We jeopardize any progress and comeback for our cities and state if we cannot ensure safe, basic necessities for our families or if we cannot come together swiftly to fix an identified, severe threat to the safety of our people.

Sincerely,



Jim Ananich
Senate Democratic Leader
District 27

cc:

U.S. Representative Dan Kildee
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

Rennaker, Joanne (DEQ)

From: DEQ-Legislative-Contact
Sent: Wednesday, September 16, 2015 5:06 PM
To: Jordan.Dickinson@mail.house.gov
Cc: Ananich, Senator Jim ; Neeley, Rep Sheldon; Phelps, Rep Phil; dwalling@cityofflint.com; hcroft@cityofflint.com; hedman.susan@epa.gov; poy.thomas@epa.gov; Schock.michael@epa.gov; Lytle.darren@epa.gov; fortin.denise@epa.gov; Edwardsm@vt.edu; Hollins, Harvey (GOV); McBride, Bill (GOV); Brown, Eric (GOV); Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); Anderson, Madhu (DEQ); Copen, Leigh (DEQ); Pallone, Maggie (DEQ); Howes, Sarah (DEQ); Wurfel, Brad (DEQ); Shekter Smith, Liane (DEQ); Devereaux, Tracy Jo (DEQ); Busch, Stephen (DEQ); Cook, Pat (DEQ)
Subject: MDEQ Response to Congressman Kildee Letter re: Flint Drinking Water
Attachments: Congressman Kildee Response re Flint Water.pdf

Attached please find the MDEQ's response to your September 9, 2015 letter regarding Flint drinking water.

Thank you,
Heather Feuerstein
Management Assistant to
Maggie Pallone, Deputy Director and
Brad Wurfel, Communications Director
Department of Environmental Quality
517.284.6715



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

September 16, 2015

VIA E-MAIL

The Honorable Daniel Kildee
United States House of Representatives
Washington, DC 20515

Dear Congressman Kildee:

Thank you for your September 9, 2015, letter regarding your concerns for the drinking water in the city of Flint (Flint). The Michigan Department of Environmental Quality (MDEQ) is working closely with Flint's water department as well as the U.S. Environmental Protection Agency (USEPA) to ensure Flint residents have ample water that meets state and federal drinking water standards.

The MDEQ's role is to administer its nearly 40-year-old state drinking water protection program based on federal guidelines. The MDEQ works with approximately 11,500 public water systems in the state to monitor for more than 90 primary drinking water contaminants and ensure that every supply consistently provides safe drinking water.

In Flint, the city made a decision 18 months ago to switch drinking water sources. This change required them to take specific measures under the federal Lead and Copper Rule, which was enacted in 1991 to monitor water as it interacts with lead service connections and home plumbing. Flint's test results were conducted according to the same testing protocols every Michigan community uses and the same protocols Flint has used to test its water every three years for the past 25 years.

While the results from Flint's testing show compliance with the federal action level for lead and copper, on August 17, 2015, the MDEQ instructed the city to move forward expeditiously with developing additional corrosion control treatment to minimize the corrosive effects between drinking water and lead service connections and home plumbing in the Flint service area.

We appreciate and share your concern for the situation, and the MDEQ looks forward to providing you a detailed briefing next week. If you have any additional questions in the meantime, please contact Ms. Maggie Pallone, Deputy Director, Policy and Legislative Affairs, at 517-284-6704 or pallonem@michigan.gov; or you may contact me.

Sincerely,

Dan Wyant
Director
517-284-6700

The Honorable Daniel Kildee

Page 2

September 16, 2015

cc: Senator Jim Ananich
Representative Sheldon Neeley
Representative Phil Phelps
Mayor Dayne Walling, City of Flint
Mr. Howard Croft, City of Flint
Dr. Susan Hedman, Regional Administrator, USEPA, Region 5
Mr. Thomas Poy, USEPA, Region 5
Ms. Denise Fortin, USEPA, Region 5
Mr. Michael Schock, USEPA
Mr. Darren Lytle, USEPA
Mr. Marc Edwards, Virginia Tech
Mr. Harvey Hollins, Governor's Southeast Michigan Office
Mr. Bill McBride, Governor's Washington Office
Mr. Eric Brown, Governor's Washington Office
Mr. Jim Sygo, Chief Deputy Director, MDEQ
Ms. Madhu R. Anderson, Deputy Director, MDEQ
Ms. Maggie Pallone, Deputy Director, MDEQ
Ms. Sarah M. Howes, Legislative Liaison, MDEQ
Mr. Brad Wurfel, Communications Director, MDEQ
Ms. Liane Shekter Smith, MDEQ
Mr. Stephen Busch, MDEQ
Mr. Pat Cook, MDEQ

Rennaker, Joanne (DEQ)

From: Feuerstein, Heather (DEQ)
Sent: Thursday, September 17, 2015 7:43 PM
To: 'Ananich, Senator Jim '; 'Neeley, Rep Sheldon'; 'Phelps, Rep Phil'
Cc: 'Jordan.Dickinson@mail.house.gov'; 'dwalling@cityofflint.com'; 'hcroft@cityofflint.com'; 'hedman.susan@epa.gov'; 'poy.thomas@epa.gov'; 'Schock.michael@epa.gov'; 'Lytle.darren@epa.gov'; 'fortin.denise@epa.gov'; 'Edwardsm@vt.edu'; Hollins, Harvey (GOV); McBride, Bill (GOV); Brown, Eric (GOV); Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); Anderson, Madhu (DEQ); Copen, Leigh (DEQ); Pallone, Maggie (DEQ); Howes, Sarah (DEQ); Wurfel, Brad (DEQ); Shekter Smith, Liane (DEQ); Devereaux, Tracy Jo (DEQ); Busch, Stephen (DEQ); Cook, Pat (DEQ)
Subject: MDEQ response to letter regarding Flint water
Attachments: Flint Water Response.pdf

Attached please find the MDEQ's response to your September 10, 2015, letter regarding Flint drinking water.

Thank you,
Heather Feuerstein
Management Assistant to
Maggie Pallone, Deputy Director and
Brad Wurfel, Communications Director
Department of Environmental Quality
517.284.6715



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

September 17, 2015

VIA E-MAIL

The Honorable Jim Ananich
State Senator
State Capitol
P.O. Box 30036
Lansing, Michigan 48909-7536

The Honorable Sheldon Neeley
State Representative
State Capitol
P.O. Box 30014
Lansing, Michigan 48909-7514

The Honorable Phil Phelps
State Representative
State Capitol
P.O. Box 30014
Lansing, Michigan 48909-7514

Dear Senator Ananich and Representatives Neeley and Phelps:

Thank you for your letter of September 10, 2015, regarding water quality in the city of Flint (City). Your interest in this matter is appreciated. The Michigan Department of Environmental Quality (MDEQ) takes seriously its responsibility to ensure safe drinking water for all Michigan residents. The MDEQ maintains a robust public water supply regulatory program through long-standing partnerships with the United States Environmental Protection Agency (USEPA) and the state's regulated public water systems.

With respect to the draft memo referenced in your letter, the MDEQ does not review or receive draft memos from the USEPA, nor would we expect to while it is a draft.

Regulations associated with lead, copper, and corrosion control require communities to monitor water quality at customer taps. The monitoring protocols for sampling home water attempt to represent actual home water use, and they allow the MDEQ to get consistent results for year-over-year comparisons.

It is important to recognize that any home with lead plumbing or service connections will impart some amount of lead to water samples. While the compliance monitoring for lead in the City has not exceeded the federally-established Action Level, either before or after the City switched sources and treatment methods, there has always been

The Honorable Jim Ananich
The Honorable Sheldon Neeley
The Honorable Phil Phelps
Page 2
September 17, 2015

detectable lead in the City's water sampling program for homes that have lead plumbing or service connections. The City's monitoring program's purpose is to show aggregated levels throughout the entire system, not individual home levels.

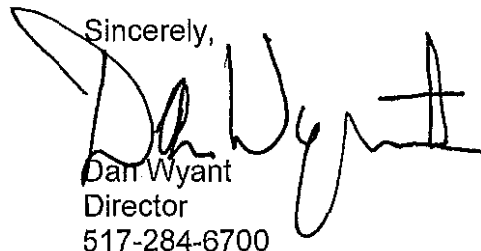
The law requires the City to provide individual lead results to customers whose homes are sampled for compliance with the Action Level. Each customer with an individual sample result that exceeds 15 parts per billion is provided information on actions they can take to limit lead exposure in their drinking water. System-wide results from the most recent lead compliance monitoring are included each year in the City's annual Consumer Confidence Report, which is provided to customers and available online.

It is important to note that the City performed extensive home water tests for lead and copper last year and this year, and is meeting state and federal drinking water standards. Local health departments also administer annual blood level testing on children in Flint; results show no discernable rise in levels that might be expected if there was an elevated lead level in the City water supply. The City currently has no unresolved violations of state and federal drinking water standards.

The MDEQ continues to work with the City and federal regulators on the shared goal of ensuring safe, reliable drinking water in this community.

I look forward to discussing this issue in greater detail at the meeting next week. If you should have additional questions before then, please contact Ms. Maggie Pallone, Deputy Director, Policy and Legislative Affairs, at 517-284-6715 or pallonem@michigan.gov; or you may contact me.

Sincerely,



Dan Wyant
Director
517-284-6700

The Honorable Jim Ananich
The Honorable Sheldon Neeley
The Honorable Phil Phelps
Page 3
September 17, 2015

cc: U.S. Representative Dan Kildee
Mayor Dayne Walling, City of Flint
Mr. Howard Croft, City of Flint
Dr. Susan Hedman, Regional Administrator, USEPA, Region 5
Mr. Thomas Poy, USEPA, Region 5
Ms. Denise Fortin, USEPA, Region 5
Mr. Michael Schock, USEPA
Mr. Darren Lytle, USEPA
Mr. Marc Edwards, Virginia Tech
Mr. Harvey Hollins, Governor's Southeast Michigan Office
Mr. Bill McBride, Governor's Washington Office
Mr. Eric Brown, Governor's Washington Office
Mr. Jim Sygo, Chief Deputy Director, MDEQ
Ms. Madhu R. Anderson, Deputy Director, MDEQ
Ms. Maggie Pallone, Deputy Director, MDEQ
Ms. Sarah M. Howes, Legislative Liaison, MDEQ
Mr. Brad Wurfel, Communications Director, MDEQ
Ms. Liane Shekter Smith, MDEQ
Mr. Richard Benzie, MDEQ
Mr. Stephen Busch, MDEQ
Mr. Pat Cook, MDEQ

Rennaker, Joanne (DEQ)

From: Dickinson, Jordan <Jordan.Dickinson@mail.house.gov>
Sent: Thursday, September 10, 2015 9:13 AM
To: Busch, Stephen (DEQ)
Subject: RE: Congressman Kildee Letter on Lead in Flint Water
Attachments: EPAFlintWaterReport062415.pdf; 2015-09-09- Congressman Kildee Letter on Lead in Flint Water.pdf

Hi Mr. Busch,

It appears the memo referenced in the letter was not attached. Both the memo and the letter are attached now. Sorry about the inconvenience.

Jordan

From: Dickinson, Jordan
Sent: Wednesday, September 09, 2015 7:03 PM
To: 'BuschS@michigan.gov'
Subject: Congressman Kildee Letter on Lead in Flint Water

Hi Mr. Busch,

Please see the attached letter from Congressman Kildee that you were cc'd on. I will forward along a physical copy in the mail.

Thank you,

Jordan Dickinson
Legislative Assistant
Congressman Dan Kildee (MI-05)
227 Cannon House Office Building
Washington, D.C. 20515
Phone: (202) 225-3611
www.dankildee.house.gov



[Sign up for Congressman Dan Kildee's e-newsletter](#)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION 5
 77 WEST JACKSON BOULEVARD
 CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

WG-15J

June 24, 2015

MEMORANDUM

SUBJECT: High Lead Levels in Flint, Michigan – Interim Report

FROM: Miguel A. Del Toral *[Signature]*
 Regulations Manager, Ground Water and Drinking Water Branch

TO: Thomas Poy
 Chief, Ground Water and Drinking Water Branch

The purpose of this interim report is to summarize the available information regarding activities conducted to date in response to high lead levels in drinking water reported by a resident in the City of Flint, Michigan. The final report will be submitted once additional analyses have been completed on pipe and water samples.

Following a change in the water source, the City of Flint has experienced a number of water quality issues resulting in violations of National Primary Drinking Water Regulations (NPDWR) including acute and non-acute Coliform Maximum Contaminant Level (MCL) violations and Total Trihalomethanes (TTHM) MCL violations as follows:

Acute Coliform MCL violation in August 2014
 Monthly Coliform MCL violation in August 2014
 Monthly Coliform MCL violation in September 2014
 Average TTHM MCL violation in December 2014
 Average TTHM MCL violation in June 2015

In addition, as of April 30, 2014, when the City of Flint switched from purchasing finished water from the City of Detroit to using the Flint River as their new water source, the City of Flint is no longer providing corrosion control treatment for lead and copper.

A major concern from a public health standpoint is the absence of corrosion control treatment in the City of Flint for mitigating lead and copper levels in the drinking water. Recent drinking water sample results indicate the presence of high lead results

in the drinking water, which is to be expected in a public water system that is not providing corrosion control treatment. The lack of any mitigating treatment for lead is of serious concern for residents that live in homes with lead service lines or partial lead service lines, which are common throughout the City of Flint.

In addition, following the switch to using the Flint River, the City of Flint began adding ferric chloride, a coagulant used to improve the removal of organic matter, as part of the strategy to reduce the TTHM levels. Studies have shown that an increase in the chloride-to-sulfate mass ratio in the water can adversely affect lead levels by increasing the galvanic corrosion of lead in the plumbing network.

Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water. When the City of Flint switched to the Flint River as their water source on April 30, 2014, the orthophosphate treatment for lead and copper control was not continued. In effect, the City of Flint stopped providing treatment used to mitigate lead and copper levels in the water. In accordance with the Lead and Copper Rule (LCR), all large systems (serving greater than 50,000 persons) are required to install and maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase.

The lack of mitigating treatment is especially concerning as the high lead levels will likely not be reflected in the City of Flint's compliance samples due to the sampling procedures used by the City of Flint for collecting compliance samples. The instructions from the City of Flint to residents direct the residents to 'pre-flush' the taps prior to collecting the compliance samples. A copy of the instructions provided by the City of Flint to residents will be included in the final report.

The practice of pre-flushing before collecting compliance samples has been shown to result in the minimization of lead capture and significant underestimation of lead levels in the drinking water. Although this practice is not specifically prohibited by the LCR, it negates the intent of the rule to collect compliance samples under 'worst-case' conditions, which is necessary for statistical validity given the small number of samples collected for lead and copper under the LCR. This is a serious concern as the compliance sampling results which are reported by the City of Flint to residents could provide a false sense of security to the residents of Flint regarding lead levels in the water and may result in residents not taking necessary precautions to protect their families from lead in the drinking water. Our concern regarding the inclusion of 'pre-flushing' in sampling instructions used by public water systems in Michigan has been raised with the Michigan Department of Environmental Quality (MDEQ). The MDEQ has indicated that this practice is not prohibited by the LCR and continues to retain the 'pre-flushing' recommendation in their lead compliance sampling guidance to public water systems in Michigan. A copy of the MDEQ guidance will be included in the final report.

In the case of the Flint resident that contacted U.S. EPA (Ms. Lee-Anne Walters), the initial results from drinking water samples collected by the City of Flint in her home

for lead were 104 ug/L and 397 ug/L. The level of iron in the water also exceeded the capability of the measurement (>3.3 mg/L). The lead results were especially alarming given that the samples were collected using the sampling procedures described above, which minimize the capture of lead. When contacted by U.S. EPA Region 5, the MDEQ indicated that the lead was coming from the Walters' plumbing. Ms. Walters had previously indicated that all of the plumbing in the home was plastic.

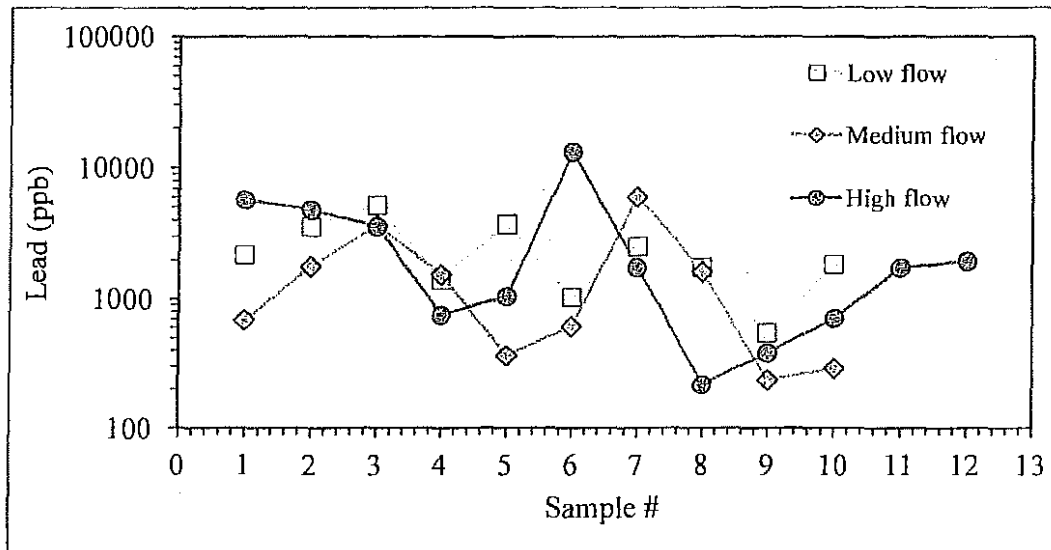
Following the confirmation of the initial high lead results, U.S. EPA Region 5 conducted two visits to the Walters' home on April 27, 2015 and May 6, 2015. Based on an inspection of the plumbing and subsequent sampling conducted at the Walters' residence, it was determined that except for a few minor metallic connectors, all interior plumbing, including the pipes, valves and connectors are made of plastic certified by the National Sanitation Foundation (NSF) for use in drinking water applications. Subsequent sampling showed that the faucets in the home appear to be compliant with the new lead-free requirements and are also not the source for the high lead levels. Our inspection of the interior plumbing and analysis of follow-up sampling results demonstrate that the home plumbing network is not the source of the high lead levels found at the Walters' residence. The photographs and all sampling results will be included in the final report.

Based on the U.S. EPA inspection and documentation of the plastic plumbing at the Walters' residence, it was suspected that the high lead was being introduced into the Walters' home plumbing from outside the home, likely from a lead service line. Three portions of the service line were extracted during a subsequent trip on May 6, 2015 and sent for analysis, when the Walters' service line was replaced. Analyses performed to date indicate that a portion of the service line is made of galvanized iron pipe. Inspection of the remaining portion from the water main to the external shut-off valve confirmed that the portion from the water main to the external shut-off valve is a lead service line.

Ms. Walters has also provided U.S. EPA with medical reports on her child's blood lead testing indicating that the child had a low blood lead level (2 ug/dL) prior to the source water switch and an elevated blood lead level following the switch (6.5 ug/dL). Redacted copies of these reports will also be included in the final report.

Subsequent to the discovery of high lead levels in the Walters' drinking water, the water to the Walters' home was shut off on April 3, 2015. The water was briefly turned back on to collect additional samples on April 28, 2015. Since the water had stagnated for an extended period of time, the kitchen tap was flushed for 25 minutes the night before collecting the samples. Three sets of samples were collected at different flow rates (10 at low flow, 10 at medium flow and 10 at high flow).

The drinking water samples collected from the Walters' residence on April 28, 2015 contained extremely high lead levels, ranging in value from 200 ug/L to 13,200 ug/L (see below).



Sample results and graph are provided courtesy of Virginia Tech

Additional sample results from resident-requested samples have also shown lead levels in excess of the lead action level. As with the samples collected by the City of Flint for compliance, the resident-requested samples are also being collected using the 'pre-flushing', so the lead levels captured in these samples likely do not represent the worst-case lead levels in the water and the actual lead levels at these homes may be much higher.

Pending completion of the final report, my interim recommendations are as follows:

1. The U.S. EPA should follow up with the MDEQ and the City of Flint on the recommendation made by U.S. EPA to MDEQ on June 10, 2015 to offer the City of Flint technical assistance on managing the different water quality issues in Flint, including lead in the drinking water. Although there have been two written assessments regarding water quality and operational issues in Flint at the time of this report, they do not address lead in drinking water. The first is an Operational Evaluation Report (OER) produced in November 2014 by Lockwood, Andrews and Newnam, Inc. to assess the factors contributing to high Total Trihalomethane (TTHM) levels in Flint following the source change. The focus of this report is to identify potential causes and remedial actions for lowering TTHM levels. The second report (Water Quality Report) produced by Veolia for the City of Flint on March 12, 2015, is an assessment of Flint's water quality and operations which provides advice to the City of Flint primarily focused on TTHM control and other operational issues. Both reports were written prior to the recent discovery of high lead results in Flint drinking water. As such, the reports do not take into account the potential effects on lead levels in drinking water.

As previously mentioned, the City of Flint currently has no mitigating treatment for lead and is also planning another source water change in the near future. U.S. EPA's Office of Research and Development in Cincinnati has extensive experience in corrosion and corrosion control treatment and distribution system issues and would be a valuable addition to the drinking water advisory group for the City of Flint. Copies of the qualifications and experience for Michael Schock and Darren Lytle have been forwarded to MDEQ.

2. U.S. EPA should review the compliance status of the City of Flint with respect to whether the system is in violation of the LCR requirement to install and maintain optimal corrosion control and whether the MDEQ is properly implementing the LCR provisions regarding optimal corrosion control treatment requirements for large systems. Pursuant to 40 CFR Section 141.82(i), the EPA Regional Administrator may review treatment determinations made by a State and issue federal treatment determinations consistent with the requirements of the LCR where the Regional Administrator finds: (1) A state has failed to issue a treatment determination by the applicable deadlines; (2) A State has abused its discretion in a substantial number of cases or in cases affecting a substantial population; or (3) The technical aspects of a State's determination would be indefensible in an expected Federal enforcement action taken against a system.
3. The U.S. EPA should review whether relevant resident-requested samples are being included by the City of Flint in calculating the 90th percentile compliance value for lead. Recent drinking water tests conducted at homes in Flint for lead that are not part of the compliance sampling pool have revealed high lead levels in the drinking water. The U.S. EPA memorandum signed on December 23, 2004 provides clarification on compliance determinations and states that customer-requested samples are to be included in the 90th percentile lead compliance calculation where the sampling is conducted during the monitoring period from sites and sampling procedures meeting the LCR criteria. Given the prevalence of lead service lines in the City of Flint, should these sample results be from homes with lead service lines, the sample results would be considered compliance samples under the LCR.

Also attached is a timeline of events for Flint, Michigan. Should you have any questions regarding the information or recommendations provided, please let me know.

cc: Liane Shekter-Smith (MDEQ)
 Pat Cook (MDEQ)
 Stephen Busch (MDEQ)
 Michael Prysby (MDEQ)
 Marc Edwards (Virginia Tech)
 Michael Schock, EPA-ORD
 Darren Lytle, EPA-ORD

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

**COMMITTEE ON
FINANCIAL SERVICES**

**SUBCOMMITTEE ON
HOUSING AND INSURANCE**

**SUBCOMMITTEE ON
MONETARY POLICY AND TRADE**

SENIOR WHIP

**DEMOCRATIC POLICY AND
COMMUNICATIONS COMMITTEE**



Congress of the United States
House of Representatives
Washington, DC 20515
September 9, 2015

WASHINGTON OFFICE

227 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
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(202) 225-6393 (FAX)

DISTRICT OFFICE

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Ms. Gina McCarthy
Administrator
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Mr. Dan Wyant
Director
Michigan Department of Environmental Quality
P.O. Box 30473
Lansing, MI 48909

Administrator McCarthy and Director Wyant:

The attached June 24, 2015, memorandum between two Environmental Protection Agency (EPA) employees, Miguel A. Del Toral and Thomas Poy, published recently by the American Civil Liberties Union of Michigan, suggests that there are high lead levels in the city of Flint, Mich., water transmission lines. Furthermore, this document reflects that children consuming this water had levels of lead in their blood in excess of three times what they were prior to the city of Flint switching its source water from the Detroit Water and Sewage Department (DWSD) to the Flint River.

In addition, this memorandum makes recommendations to Mr. Poy, Chief of the Ground Water and Drinking Water Branch of EPA Region 5, to do three things. First, for the EPA to work with the Michigan Department of Environmental Quality (MDEQ) to provide technical assistance to the city of Flint to deal with water quality issues. Second, it suggests the EPA review the compliance status of the city of Flint in respect to its compliance with the Lead and Copper Rule (LCR). Third, the memorandum recommends that the EPA conduct a review of the city of Flint testing procedures to ensure they are compliant with the LCR.

Regarding this memorandum and the surrounding water quality issues in the city of Flint, I have the following questions:

- Was this memorandum actually sent to Mr. Poy?

- Are the findings in the memorandum regarding the lead levels in the city of Flint water accurate?
- If there were in fact high levels of lead in the water in the city of Flint, when did the EPA and/or MDEQ plan to alert the public?
- What, if any, of the recommendations has the EPA followed from the memorandum?
- Given the demonstrated level of lead in the water in Flint, MI, is the water safe?

Regardless, I am very troubled by recent tests suggesting high levels of lead in the city of Flint's water system. As you know, on the EPA's website it says that lead above the "action level" in drinking water can cause a variety of adverse health effects, including delays in physical and mental development in babies and children.

According to the Safe Drinking Water Act, the EPA has the responsibility of enforcing water quality standards. EPA, however, has given the primary responsibility of enforcing water quality standards to the state of Michigan via MDEQ. As such, it is the responsibility of these agencies to ensure that the people of the city of Flint have safe drinking water.

Thank you and I look forward to hearing from you soon.

Sincerely,



Dan Kildee
MEMBER OF CONGRESS

cc:

State Senator Jim Ananich
State Representative Sheldon Neeley
State Representative Phil Phelps
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, August 19, 2014 10:36 AM
To: Busch, Stephen (DEQ)
Subject: RE: Email Inquiry - Community Drinking Water Contamination Complaint

Steve,

I attempted to contact Mr. Russell this morning to discuss his concerns regarding the BWA in Flint. I left him a message to return my call.

Michael Prysby, P.E.
 District Engineer
 Office of Drinking Water and Municipal Assistance
 517 290-8817

From: Busch, Stephen (DEQ)
Sent: Monday, August 18, 2014 1:05 PM
To: Prysby, Mike (DEQ)
Subject: FW: Email Inquiry - Community Drinking Water Contamination Complaint
Importance: High

Mike could you please respond to the attached complaint. I would suggest via the phone number provided.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: deq-assist
Sent: Monday, August 18, 2014 12:52 PM
To: Busch, Stephen (DEQ)
Subject: FW: Email Inquiry - Community Drinking Water Contamination Complaint
Importance: High

Good Afternoon Stephen,
 Please review and respond to the customer email attached, or if you determined it appropriate please forward to other staff for response.

Thank you for you assistance.

Tonya

Tonya Schelter, Department Analyst
 Michigan Department of Environmental Quality
 Office of Environmental Assistance
 Environmental Assistance Center 1-800-662-9278

517-284-6873

Deq-assist@michigan.gov

scheltert@michigan.gov

517-284-7272 SARA Title III Program Phone

Deq-sara@michigan.gov

Thanks for contacting our Department of Environmental Quality, Office of Environmental Assistance. To help us improve our services, we encourage you to complete our short customer service survey.

<https://www.surveymonkey.com/s/oeacs>

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, August 18, 2014 3:45 PM
To: BadAddress
Cc: Busch, Stephen (DEQ)
Subject: Re: Email Inquiry

Raney,

I will contact you tomorrow morning concerning Flint's water quality issue.

Sent from my iPhone

On Aug 18, 2014, at 10:58 AM, BadAddress <BadAddress@michigan.gov> wrote:

CompanyName:

FirstName: Raney

LastName: Russell

Email: raneyrussell@gmail.com

DayPhone: 810-407-0513

AltPhone:

Address: 2405 E. Court Street

City: Flint

State: MI

ZipCode: 48503

County: Genesee

YourMessage: I have it on good authority that the Flint City Council members are trying to cover-up a larger drinking water contamination, than that which was originally reported. On August 12, 2014 the new Flint Water Treatment Plant discharged a large amount of sewage into the Flint River (the same river where it gets its water). On August 16, 2014 the Flint Journal reported that a small area of the city's water was contaminated and that there is a boil advisory until further notice. The water in that area was found to have E. Coli. However, several people from areas in Flint, which are not under the boil water advisory are getting sick. Three neighbors in the College/Cultural area in Flint, MI, 48503 are violently ill, reporting flu like symptoms. A dog has died and 2 dogs are ill in the area of Simcoe Ave, Flint, MI 48507, from consuming tap water. This issue is wider than the city is reporting and it needs to be investigated immediately.

Rennaker, Joanne (DEQ)

From: Rosenthal, Adam (DEQ)
Sent: Wednesday, April 02, 2014 4:06 PM
To: Busch, Stephen (DEQ)
Subject: RE: Email Inquiry

ok, just wasn't sure if it needed to go up the chain or not.

thanks,

Adam

From: Busch, Stephen (DEQ)
Sent: Wednesday, April 02, 2014 3:54 PM
To: Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Subject: RE: Email Inquiry

Please contact the individual by phone. You should explain that the City provides extensive treatment in order to meet all of the required standards, they will not be drinking Flint River water directly.

Thanks.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Rosenthal, Adam (DEQ)
Sent: Wednesday, April 02, 2014 3:50 PM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Subject: FW: Email Inquiry

FYI. How do we respond?

Adam

From: deq-assist
Sent: Wednesday, April 02, 2014 3:34 PM
To: Rosenthal, Adam (DEQ)
Subject: FW: Email Inquiry

Adam,
I'm forwarding this email to you for response. If you determine it more appropriate to forward on to other staff please do so.

Thank you.

Tonya
Tonya Schelter, Department Analyst

Michigan Department of Environmental Quality
Office of Environmental Assistance
Environmental Assistance Center 1-800-662-9278
Office of Environmental Assistance
517-284-6873
Deq-assist@michigan.gov
scheltert@michigan.gov
517-284-7272 SARA Title III Program Phone
Deq-sara@michigan.gov

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<https://www.surveymonkey.com/s/oeacs>

Rennaker, Joanne (DEQ)

From: Benzie, Richard (DEQ)
Sent: Wednesday, September 09, 2015 6:36 PM
To: Wurfel, Brad (DEQ); Busch, Stephen (DEQ); Shekter Smith, Liane (DEQ); Prysby, Mike (DEQ)
Cc: Cook, Pat (DEQ)
Subject: RE: june 24 memorandum

Sorry this reply is so long. I didn't plan to do so, but I wanted to provide you with some information in case you feel the need to reply in part today.

Brad,

Mike Prysby is on annual leave for a couple of weeks, Steve Busch was in his Jackson office today and probably on his way home now, Liane took this afternoon off to attend to personal business in Marshall, and Pat Cook is gone for the day. Do you need an answer today?

Since this memo is based on the unofficial draft report, do we want to comment? We should probably meet to discuss before anyone responds.

As you know, we have agreed to disagree with EPA on a couple of the issues raised by this memo covering an unofficial EPA report.

To begin, when the lead and copper rules (LCR) were first implemented, large systems were allowed to collect two sets of lead and copper samples in consecutive 6 month monitoring periods and if their 90th percentile lead level was within 5 milligrams per liter of the lead level in their source water, they did not have to further "optimize" corrosion control treatment. When Flint changed water sources from the Great Lakes to an inland river and employed water treatment that was significantly different (precipitative softening vs. direct filtration) than that supplied by Detroit, we granted Flint as a "new supply" the same consideration to determine if their treatment already provided optimal corrosion control.

As you know, their first 6 month monitoring results complied with the Action Level for lead and were close to demonstrating optimal corrosion control treatment (OCCT). Since the city would be averaging results from the two consecutive monitoring periods for the purposes of OCCT determination, we awaited their second set of results to see what they would reveal. After getting the second set, it was determined that Flint was again in compliance with the lead and copper Action Level but they did not qualify as already practicing OCCT.

Under the original regulatory schedule for implementing OCCT, a community serving more than 50,000 people was given a year to conduct treatment studies and submit them to DEQ. We then have 6 months to review their studies and designate their OCCT. They then have 2 years to install that treatment. During all that time, no monitoring is required. Our response to the concerns raised in that memo but also more significantly, in formal discussions with Region 5 EPA Managers, was to encourage Flint to not take the time we believe they were entitled to have for this process but to move as quickly as possible to implement some OCCT.

Second, we continue to disagree with EPA on sampling protocols. We have attempted to ensure compliance with EPA guidance (I believe it was provided in the preamble to their lead and copper regulations) that said that household use should be "typical" for a residential customer on the day before sample collection for lead and copper. Early in the implementation of the LCR, we had encountered too many situations where compliance samples had been collected from kitchen and bathroom taps that had not been used in days and in some cases, even weeks, resulting in excessively stagnated water and correspondingly high lead levels that did not represent typical exposure expected after overnight stagnation. Further complicating this issue was the

media spectacle that was arising over EPA's direct implementation of the LCR in Washington, D.C., where lead results were not always being included in compliance calculations and subsequently, invalidation of samples was becoming more difficult. In order to avoid that complicated process, we devised our current recommendations for ensuring appropriate but not excessive stagnation for LCR monitoring.

We continue to believe it is appropriate to flush these taps the day before sample collection to simulate and/or ensure typical household use before the tap is allowed to sit overnight to achieve the expected stagnation time the regulation stipulates (~8 hours) prior to collecting the first draw sample. The LCR does not say the result should represent the "absolute worst case" condition – it talks about sampling the highest risk locations (lead plumbing, lead service lines, high lead content solder piping, etc.) after overnight stagnation and then collecting a first draw sample so as not to flush elevated lead from that tap at that point in time. Until EPA changes this rule, we are satisfied with our sampling protocol.

I am leaving now, so you can use this information as you see fit, or wait until tomorrow to discuss with Steve, Liane, Pat and me. We have an all-day ODWMA managers meeting starting at 9 AM Thursday, although Liane is also attending a meeting first thing in the morning with Jim Sygo, Bob Wagner and Jon Allen.

Richard

From: Wurfel, Brad (DEQ)

Sent: Wednesday, September 09, 2015 4:52 PM

To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Prysby, Mike (DEQ)

Subject: FW: june 24 memorandum

Heads up

b

From: Ronald Fonger [<mailto:RFONGER1@mlive.com>]

Sent: Wednesday, September 09, 2015 1:28 PM

To: Wurfel, Brad (DEQ)

Subject: june 24 memorandum

Brad:

I know you said the state would not comment on unofficial draft reports from U.S. EPA staff, but since the attached June 24 memorandum was sent to four DEQ staff members, can you comment about what – if anything – the state has done in response?

Was the city of Flint notified of the issues raised in the memorandum directly by DEQ?

Was there a written response from DEQ to U.S. EPA to the memo?

Thanks, we are looking further into some of the issues raised in this document.

Ron Fonger

MLive Media Group

Reporter

mobile 810.347.9963

email rfonger1@mlive.com

address 540 S. Saginaw St. #101, Flint MI 48502

Rennaker, Joanne (DEQ)

From: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Sent: Wednesday, November 18, 2015 1:20 PM
To: hedman.susan@epa.gov; fortin.denise@epa.gov
Cc: Jordan.Dickinson@mail.house.gov; mayor@cityofflint.com; poy.thomas@epa.gov; Schock.michael@epa.gov; Lytle.darren@epa.gov; Wyant, Dan (DEQ); aaron_suntag@stabenow.senate.gov; Bentley_Johnson@peters.senate.gov; repphelps@house.mi.gov; SheldonNeeley@house.mi.gov; snyder@michigan.gov; Sygo, Jim (DEQ); Wurfel, Brad (DEQ); Busch, Stephen (DEQ); Cook, Pat (DEQ); Edwardsm@vt.edu; Davis.CatherineM@epa.gov; deamer.eileen@epa.gov; beckmann.ronna@epa.gov
Subject: RE: Letter Requesting EPA Review of Flint, MI Water
Attachments: 2015.11.18 Ananich EPA Response FINAL.pdf

Regional Director Hedman,

Thank you for responding to my review request. Please see the attached response to your November 16, 2015 letter.

Please do not hesitate to contact my office if you have any questions. Thank you for your consideration.

Sincerely,

The Office of State Senator Jim Ananich
 Michigan Senate Minority Leader
 District 27

From: Fortin, Denise [<mailto:Fortin.Denise@epa.gov>]
Sent: Monday, November 16, 2015 6:57 PM
To: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Cc: Davis, CatherineM <Davis.CatherineM@epa.gov>; Deamer, Eileen <deamer.eileen@epa.gov>; Beckmann, Ronna Erin <beckmann.ronna@epa.gov>
Subject: RE: Letter Requesting EPA Review of Flint, MI Water

Hello:

Please find attached a response to your October 21, 2015 letter to EPA Regional Administrator Susan Hedman.

Let me know if you have additional questions.

Thanks,

Denise Fortin
 Congressional Liaison
 Office of Regional Administrator
 U.S. Environmental Protection Agency
 312-886-9859

From: Fortin, Denise
Sent: Wednesday, November 04, 2015 5:13 PM

To: 'The Office of Senator Ananich' <SenJAnanich@senate.michigan.gov>

Cc: Davis, CatherineM <Davis.CatherineM@epa.gov>; Deamer, Eileen <deamer.eileen@epa.gov>; Beckmann, Ronna Erin <beckmann.ronna@epa.gov>

Subject: RE: Letter Requesting EPA Review of Flint, MI Water

Hello:

I'm writing to thank you for your October 21, 2015 letter to Administrator Gina McCarthy and Regional Administrator Susan Hedman regarding drinking water quality issues in Flint, Michigan.

EPA expects to be in a position to respond to your letter sometime next week. In the meantime, RA Hedman has asked me to share the two attached documents with you.

Please let us know if you have questions.

Thanks,

Denise Fortin
Congressional Liaison
Office of Regional Administrator
U.S. Environmental Protection Agency
312-886-9859

From: The Office of Senator Ananich [<mailto:SenJAnanich@senate.michigan.gov>]

Sent: Wednesday, October 21, 2015 11:43 AM

To: Hedman, Susan <hedman.susan@epa.gov>; McCarthy, Gina <McCarthy.Gina@epa.gov>

Cc: Jordan.Dickinson@mail.house.gov; mayor@cityofflint.com; HCroft@cityofflint.com; Poy, Thomas <poy.thomas@epa.gov>; Schock, Michael <Schock.Michael@epa.gov>; Lytle, Darren <Lytle.Darren@epa.gov>; Fortin, Denise <Fortin.Denise@epa.gov>; WyantD@michigan.gov; aaron_suntag@stabenow.senate.gov; Bentley_Johnson@peters.senate.gov; Davis, CatherineM <Davis.CatherineM@epa.gov>; repphelps@house.mi.gov; SheldonNeeley@house.mi.gov; snyder@michigan.gov

Subject: Letter Requesting EPA Review of Flint, MI Water

Administrator McCarthy and Regional Director Hedman,

Please see the attached letter regarding a request for an EPA review of Flint, Michigan's water treatment.

Please do not hesitate to contact my office if you have any questions. Thank you for your time and attention.

Sincerely,

The Office of State Senator Jim Ananich
Michigan Senate Minority Leader
District 27



**THE SENATE
STATE OF MICHIGAN**

JIM ANANICH

27TH DISTRICT
P.O. BOX 30036
LANSING, MI 48909-7536
PHONE: (517) 373-0142
FAX: (517) 373-3938

November 18, 2015

Susan Hedman
Regional Administrator
United States Environmental Protection Agency Region 5
Ralph Metcalfe Federal Building
77 West Jackson Boulevard
Chicago, IL 60604

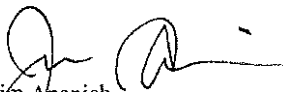
Regional Director Hedman,

Thank you for responding to my review request; I appreciate your and your agency's commitment to conduct an audit of MDEQ's implementation of the Safe Drinking Water Act. I look forward to reading the audit report once it is completed. These are important steps toward ensuring accountability and preventing another disaster like this from happening ever again.

However, I would like to reiterate my request that all evidence gathered during the course of the audit be made public, regardless of the findings of the audit. Michigan residents, and especially the residents of Flint, deserve to know whether they should trust MDEQ.

If you have any questions, please contact my office at senjananich@senate.mi.gov or (517) 373-0142. Thank you for your consideration.

Sincerely,


 Jim Ananich
Senate Democratic Leader
District 27

cc:

Governor Rick Snyder
U.S. Representative Dan Kildee
U.S. Senator Debbie Stabenow
U.S. Senator Gary Peters
State Representative Sheldon Neeley, District 34
State Representative Phil Phelps, District 49
Mayor Karen Weaver, City of Flint
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Dan Wyant, MDEQ
Jim Sygo, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

Rennaker, Joanne (DEQ)

From: Benzie, Richard (DEQ)
Sent: Monday, July 20, 2015 11:20 AM
To: Busch, Stephen (DEQ)
Cc: Devereaux, Tracy Jo (DEQ); Shekter Smith, Liane (DEQ); Donaldson, Kristina (DEQ)
Subject: RE: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint

It was inconsequential in the overall scheme of the amount of money that was going to be spent and already has been on this project, but KWA did pay a fee of \$2000 (I believe) for a water withdrawal permit from WRD under Act 327 (Great Lakes Preservation Act). They chose this route rather than just registering a large quantity withdrawal (LQW) or getting a construction permit under Act 399 that included the water withdrawal authorization even though both of these alternatives would have been without a fee.

KWA chose to pay the fee because Act 327 permit does not expire. The LQW registration option expires after 18 months if the applicant is not withdrawing the water and the construction permit under Act 399 expires after 2 years if construction has not begun. The Act 339 permit also requires plans and specifications to be submitted, which requires engineering work that may not be underway at the stage an applicant wants to ensure they have access to the desired quantity, and these services likely cost more than \$2000.

If you think this information is pertinent, feel free to forward it.

From: Busch, Stephen (DEQ)
Sent: Monday, July 20, 2015 10:15 AM
To: Pallone, Maggie (DEQ); Howes, Sarah (DEQ); DEQ-Legislative-Contact; Sygo, Jim (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ); Rennaker, Joanne (DEQ)
Cc: Shekter Smith, Liane (DEQ); Winegar, Carla (DEQ); Devereaux, Tracy Jo (DEQ); Donaldson, Kristina (DEQ); Butler, Sonya (DEQ); Benzie, Richard (DEQ)
Subject: RE: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint

In response to the constituent request below from Senator Pavlov's office, I called Adam back at 9:20 this morning.

I briefly explained that there are two pipelines, a new one being constructed by the Karegnondi Water Authority (KWA) and the existing Detroit Water and Sewerage Department (DWSD) pipeline from their Lake Huron Water Treatment Plant that brings water into and currently serves portions of Genesee County.

Adam's questions were specifically regarding the KWA pipeline.

I explained that KWA obtained a water withdrawal permit from the DEQ for their Lake Huron intake, the beginning source of the pipeline.

His other questions were about payment for the pipeline.

I explained that KWA obtained bond funds through Genesee County for the project, and that the customers of KWA would pay that back through customer rates. (These rates would be to wholesale customers, but would be passed on to the retail customers, Flint, Genesee County, etc. customers.)

I provided Adam with the following contacts at Genesee County and KWA.

John O'Brien, Genesee County 810-732-7870

Jeff Wright, KWA CEO (Genesee County Drain Commissioner)

Adam indicated he had no further questions.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Busch, Stephen (DEQ)
Sent: Monday, July 20, 2015 9:20 AM
To: Devereaux, Tracy Jo (DEQ); Butler, Sonya (DEQ); Donaldson, Kristina (DEQ)
Cc: Shekter Smith, Liane (DEQ); Winegar, Carla (DEQ)
Subject: RE: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint

I will respond to Adam and follow up with any additional questions.

I know how the KWA line is funded, but the existing DWSD Lake Huron WTP pipeline into Genesee County I assume was paid for by DWSD with funds recovered by rate payers? If it's the DWSD line in question, I'll be in touch.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Devereaux, Tracy Jo (DEQ)
Sent: Monday, July 20, 2015 9:14 AM
To: Butler, Sonya (DEQ); Donaldson, Kristina (DEQ); Busch, Stephen (DEQ)
Cc: Shekter Smith, Liane (DEQ); Winegar, Carla (DEQ)
Subject: FW: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint
Importance: High

Incoming Legislative Assignment...including Sonya as they mention funding; Kris as they mention Detroit; and Steve as they mention Flint. Please include everyone on this e-mail and those highlighted below with your response by 7/22/2015. Thanks.

Thanks,

Tracy Jo

From: DEQ-Legislative-Contact
Sent: Monday, July 20, 2015 9:03 AM
To: Devereaux, Tracy Jo (DEQ)
Cc: Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); Pallone, Maggie (DEQ); Howes, Sarah (DEQ); Shekter Smith, Liane (DEQ); DEQ-Legislative-Contact
Subject: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint
Importance: High

Due 7/22/15

Please have staff respond to Adam from Senator Pavlov's office regarding the question below.

Please keep all updated to any responses.

Thanks!

Heather Feuerstein

Management Assistant to

Maggie Pallone, Director of Legislative Affairs and

Brad Wurfel, Communications Director

Department of Environmental Quality

517.284.6715

From: Adam Skubik [<mailto:ASkubik@senate.michigan.gov>]

Sent: Thursday, July 16, 2015 11:01 AM

To: DEQ-Legislative-Contact

Subject: RE: Constituent Inquiry

Hi Heather,

The specific question I am looking to have answered is, does the city of Flint and Detroit pay anything to take the water from Lake Huron? If so, who do they make that payment to?

Thanks,

Adam Skubik

Legislative Aide

Senator Phil Pavlov

517-373-7708

From: DEQ-Legislative-Contact [<mailto:DEQ-Legislative-Contact@michigan.gov>]

Sent: Thursday, July 16, 2015 10:57 AM

To: Adam Skubik

Subject: RE: Constituent Inquiry

Hi Adam, I believe we have had involvement with this issue. Do you only want to know where the funding come from, or did you have additional questions.

I can send this down to our Office of Drinking Water and Municipal Assistance and see what they can tell us about it.

Thanks!

Heather Feuerstein

Management Assistant to

Maggie Pallone, Director of Legislative Affairs and

Brad Wurfel, Communications Director

Department of Environmental Quality

517.284.6715

From: Adam Skubik [<mailto:ASkubik@senate.michigan.gov>]

Sent: Thursday, July 16, 2015 10:54 AM

To: DEQ-Legislative-Contact

Subject: Constituent Inquiry

Hi Heather,

I am not sure if you are the correct person to ask this question. I had a constituent reach out who is looking for information on the water pipeline that runs from Lake Huron to Flint. Do you know who is responsible for funding the construction of this pipeline or who is responsible for paying to maintain the pipeline? Any insight that you are able to offer would be greatly appreciated.

Thank you,

Adam Skubik
Legislative Aide
Senator Phil Pavlov
517-373-7708

Rennaker, Joanne (DEQ)

From: Butler, Sonya (DEQ)
Sent: Monday, July 20, 2015 9:25 AM
To: Busch, Stephen (DEQ); Devereaux, Tracy Jo (DEQ); Donaldson, Kristina (DEQ)
Cc: Shekter Smith, Liane (DEQ); Winegar, Carla (DEQ)
Subject: RE: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint

You can also let Adam know that Revolving Loan is not involved in funding this project.

From: Busch, Stephen (DEQ)
Sent: Monday, July 20, 2015 9:20 AM
To: Devereaux, Tracy Jo (DEQ); Butler, Sonya (DEQ); Donaldson, Kristina (DEQ)
Cc: Shekter Smith, Liane (DEQ); Winegar, Carla (DEQ)
Subject: RE: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint

I will respond to Adam and follow up with any additional questions.

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Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

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Sent: Monday, July 20, 2015 9:14 AM
To: Butler, Sonya (DEQ); Donaldson, Kristina (DEQ); Busch, Stephen (DEQ)
Cc: Shekter Smith, Liane (DEQ); Winegar, Carla (DEQ)
Subject: FW: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint
Importance: High

Incoming Legislative Assignment...including Sonya as they mention funding; Kris as they mention Detroit; and Steve as they mention Flint. Please include everyone on this e-mail and those highlighted below with your response by 7/22/2015. Thanks.

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To: Devereaux, Tracy Jo (DEQ)
Cc: Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); Pallone, Maggie (DEQ); Howes, Sarah (DEQ); Shekter Smith, Liane (DEQ); DEQ-Legislative-Contact
Subject: ODWMA/LEG00139/Pavlov/Use of Lake Huron by Detroit and Flint
Importance: High

Due 7/22/15

Please have staff respond to Adam from Senator Pavlov's office regarding the question below.

Please keep all updated to any responses.

Thanks!

Heather Feuerstein

Management Assistant to

Maggie Pallone, Director of Legislative Affairs and

Brad Wurfel, Communications Director

Department of Environmental Quality

517.284.6715

From: Adam Skubik [<mailto:ASKubik@senate.michigan.gov>]

Sent: Thursday, July 16, 2015 11:01 AM

To: DEQ-Legislative-Contact

Subject: RE: Constituent Inquiry

Hi Heather,

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Thanks,

Adam Skubik

Legislative Aide

Senator Phil Pavlov

517-373-7708

From: DEQ-Legislative-Contact [<mailto:DEQ-Legislative-Contact@michigan.gov>]

Sent: Thursday, July 16, 2015 10:57 AM

To: Adam Skubik

Subject: RE: Constituent Inquiry

Hi Adam, I believe we have had involvement with this issue. Do you only want to know where the funding come from, or did you have additional questions.

I can send this down to our Office of Drinking Water and Municipal Assistance and see what they can tell us about it.

Thanks!

Heather Feuerstein

Management Assistant to

Maggie Pallone, Director of Legislative Affairs and
Brad Wurfel, Communications Director
Department of Environmental Quality
517.284.6715

From: Adam Skubik [<mailto:ASkubik@senate.michigan.gov>]
Sent: Thursday, July 16, 2015 10:54 AM
To: DEQ-Legislative-Contact
Subject: Constituent Inquiry

Hi Heather,

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Thank you,

Adam Skubik
Legislative Aide
Senator Phil Pavlov
517-373-7708

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, October 09, 2015 10:46 AM
To: cookp@michigan.gov; Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov)
Subject: 11:00 Call on School Priority List

FYI in case you want to join. I have a conference call with Flint and Linda D. and Kory at HHS at 11:00 to confirm our universe of schools and prioritize the school testing/inspections.

Conference Call #
1-888-251-2909.
Code 1196738#

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, October 09, 2015 10:07 AM
To: Dykema, Linda D. (DHHS); Howard Croft (hcroft@cityofflint.com)
Cc: Krisztian, George (DEQ)
Subject: 11:00 School Sampling Priority Call
Attachments: Flint Schools list.xlsx; Copy of 2015-2016 FCS Telephone Address Lists.pdf

We will conference call at 11:00. Need to ensure we have the correct "universe" of facilities identified, and prioritize a list of those who have requested the detailed testing. As it will take time to get through each facility we don't need to have all of them in order at this time, but at least know which types should get higher priority.

Conference Call #
1-888-251-2909.
Code 1196738#

Attached is a spreadsheet with the universe of "school" facilities we have identified in Flint. It is broken into down into 5 categories (see the tabs on the spreadsheet).

- PreK and Daycares
- K-5
- 6-12
- Universities
- Others (boy scouts, transportations centers, etc.)

There are also a few that need to be checked on regarding to what category they belong in.

I also attached the list of Flint Schools that were screen tested with a few samples each, this past week. These will be the first priority.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

StatusName	EntityTypeName	OriginalEntityCode
Open-Active	PSA School	08721
Open-Active	PSA School	08732
Open-Active	PSA School	08739
Open-Active	ISD Unique Education Provider	02658
Open-Active	ISD School	06156
Open-Active	LEA School	07576
Open-Active	LEA School	05950
Open-Active	LEA School	03554
Open-Active	LEA School	02777
Open-Active	LEA School	03033
Open-Active	LEA School	03129
Open-Active	LEA School	03108
Open-Active	LEA School	02670
Open-Active	LEA School	01320
Open-Active	LEA School	01098
Open-Active	LEA School	00974
Open-Active	LEA School	07710
Open-Active	LEA School	00980
Open-Active	LEA Unique Education Provider	01220
Open-Active	LEA School	00031
Open-Active	LEA School	03147
Open-Active	LEA School	05009
Open-Active	LEA Unique Education Provider	09054
Open-Active	LEA School	00949
Open-Active	LEA School	01230
Open-Active	LEA School	01993
Open-Active	LEA School	06282
Open-Active	LEA School	01543
Open-Active	LEA School	06235
Open-Active	LEA School	05928
Open-Active	LEA Non-Instructional Ancillary Facility	09053
Open-Active	LEA Non-Instructional Ancillary Facility	09052
Open-Active	Nonpublic School	03956
Open-Active	Nonpublic School	06022
Open-Active	Nonpublic School	06217
Open-Active	Nonpublic School	06603
Open-Active	Nonpublic School	03991
Open-Active	Nonpublic School	01737
Open-Active	Nonpublic School	05098
Open-Active	State School	02548
Open-Active	LEA Unique Education Provider	08935
Open-Active	PSA School	09305
Open-Active	LEA Unique Education Provider	09347
Open-Active	PSA School	09450
Open-Active	LEA Non-Instructional Ancillary Facility	09513
Open-Active	ISD School	09725
Open-Active	ISD Unique Education Provider	09765
Open-Active	LEA School	09774

Open-Active	Other Non-School Recipient	250000041
Open-Active	Other Non-School Recipient	250000072
Open-Active	Other Non-School Recipient	82SC07500
Open-Active	Other Non-School Recipient	250000066
Open-Active	Other Non-School Recipient	25SPX0011
Open-Active	Other Non-School Recipient	250000018
Open-Active	Other Non-School Recipient	25SPX0006
Open-Active	Other Non-School Recipient	250000001
Open-Active	Other Non-School Recipient	250000038
Open-Active	Other Non-School Recipient	250000060
Open-Active	Other Non-School Recipient	253300000
Open-Active	Other Non-School Recipient	250000016
Open-Active	Other Non-School Recipient	25SPX0003
Open-Active	Other Non-School Recipient	250000058
Open-Active	Other Non-School Recipient	25SC04500
Open-Active	Other Non-School Recipient	810000039
Open-Active	Other Non-School Recipient	25SPX0014
Open-Active	Other Non-School Recipient	25SPX0022
Open-Active	Other Non-School Recipient	990000070
Open-Active	Other Non-School Recipient	250008005
Open-Active	Other Non-School Recipient	250008002
Open-Active	Other Non-School Recipient	990000089
Open-Active	Other Non-School Recipient	25SPX0025
Open-Active	Other Non-School Recipient	990000160
Open-Active	Other Non-School Recipient	250005113
Open-Active	Other Non-School Recipient	990000204
Open-Active	Other Non-School Recipient	990000208
Open-Active	PSA School	09947
Open-Active	ISD Unique Education Provider	00055
Open-Active	Other Non-School Recipient	990000250
Open-Active	Other Non-School Recipient	990000653
Open-Active	Other Non-School Recipient	990000662
Open-Active	Other Non-School Recipient	990000918
Open-Active	Other Non-School Recipient	990001001
Open-Active	Other Non-School Recipient	990001106
Open-Active	Other Non-School Recipient	990001202
Open-Active	Other Non-School Recipient	990001218
Open-Active	Other Non-School Recipient	990001417
Open-Active	Other Non-School Recipient	990001939
Open-Active	Other Non-School Recipient	990001945
Open-Active	PSA School	01402
Open-Active	Other Non-School Recipient	990002480
Open-Active	LEA School	01795
Open-Active	ISD Unique Education Provider	01804
Open-Active	ISD Unique Education Provider	01810
Open-Active	Other Non-School Recipient	990002690
Open-Active	PSA School	01751
Open-Active	LEA School	01915

Open-Active	LEA School	01916
Open-Active	LEA School	01917
Open-Active	PSA School	01882
Open-Active	PSA School	02031
Open-Active	ISD Unique Education Provider	02258
Open-Active	Other Non-School Recipient	990004408
Open-Active	Other Non-School Recipient	990004592
Open-Active	PSA School	02434
Open-Active	LEA Unique Education Provider	02564
Open-Active	LEA Unique Education Provider	02565
Open-Active	Other Non-School Recipient	990004905
Open-Active	Other Non-School Recipient	990005147
Open-Active	Other Non-School Recipient	990005280
Open-Active	Other Non-School Recipient	990005379
Open-Active	LEA School	02745
Open-Active	LEA Unique Education Provider	02746
Open-Active	LEA School	02790
Open-Active	PSA Unique Education Provider	02801

EntityOfficialName	ActualGradeList
Northridge Academy	KG, 1-8
International Academy of Flint (K-12)	KG,1-12
Linden Charter Academy	KG, 1-8
Special Education Services-South	DevK, DevK-Part, KG, KG-Part, 1-5
Elmer A. Knopf Learning Center	DevK, DevK-Part, KG, KG-Part, 1-12
Mott Middle College High School	9-12
Accelerated Learning Academy	7-12
Southwestern Classical Academy	7-12
Northwestern High School	9-12
Pierce School	KG, KG-Part, 1-6
Doyle/Ryder School	KG-Part, 1-6
Potter School	KG,KG-Part,1-7
Neithercut Elementary School	KG-Part, 1-6
Freeman School	KG, KG-Part, 1-6
Eisenhower School	KG, KG-Part, 1-6
Durant Tuuri Mott School	KG-Part,1-7
Bendle/Carman-Ainsworth Alternative Education	6-12
Dye Elementary School	KG, KG-Part, 1-5
The Learning Community	
Carman-Ainsworth Middle School	6-8
Randels Elementary School	KG, KG-Part, 1-5
Carman-Ainsworth High School	8-12
Stalker Elementary	
Kate Dowdall Elementary School	KG,1-3
Leota Fiedler Elementary School	1, 4-5
Kearsley High School	9-12
Armstrong Middle School	6-8
Hamady Middle School	7-8
Hamady Community High School	9-12
Colonel Donald McMonagle Elementary School	KG,1-6
Carman-Ainsworth Service Center	
Carman-Ainsworth Transportation Building	
St. Paul Lutheran School	KG-Part, 1-8
Fr. Luke M. Powers High School	9-12
St. John Vianney School	KG-Part, 1-8
First Flint SDA School	1-2,4-6,8
St. Pius X School	KG-Part, 1-8
Holy Rosary School	KG-Part, 1-8
Fairhaven SDA School	1-2,4-8
Michigan School for the Deaf	KG, 1-12
Thelma Buffey Early Childhood Center	
Richfield Public School Academy	3-8
Northwestern Early Childhood Education Center	KG
Madison Academy Elementary/Middle School	KG-Part,1-8
Coates Administration Center	
Special Services - North	KG,KG-Part,1-12
Genesee ISD Transition Center	
Genesee Early College	9-12

BERRY CHILD CARE CENTER	
CASTILLO ENTERPRISE LLC	
GREAT LAKES FIELD SERVICES-DAUCH SCOUT CENTER	
FOOD BANK OF EASTERN MICHIGAN INC	
GLORIAS LITTLE ANGELS INC	
GENESEE CHRISTIAN DAY CARE	
KIDDIE KAT CHILDRENS CENTER LLC	
LAZY LEOPARD-FLINT DAY CARE CENTER	
MARY MCGEE	
MIRIAM D CLEMONS/SAND CASTLES	
Michigan School for the Deaf and Blind	
Genesee County Community Action Resource Department	
SHELTER OF FLINT INC	
SOUTH FLINT TABERNACLE INC	
TALL PINE COUNCIL	
U OF M EARLY CHILDHOOD DEV. CENTER	
WEE LITTLE QUACKERS CHILD CARE CTR	
Eagle's Nest Child Care Center	
Connexion, Incorporated	
Genesee Valley Regional Center	
Whaley Children's Center	
Jireh Outreach Ministries Int	
BRIDONS CHILD DEVELOPMENT CENTER I	
Children First Child Care Center Corp.	
Flint Institute of Music	
SUNNY PATCH LEARNING CENTER, LLC	
Michigan Organization on Adolescent Sexual Health	
Richfield Public School Academy K-2	KG,1-2
Health, Safety and Nutrition Services	
Alutiiq Professional Services, LLC	
Living Word Ministry Enrichment	
Honey Bee Palace Child Care Center, Inc.	
Motherly Intercession	
HJ&G LLC, Bright Beginnings	
Positive Start Child and Development Center	
T-Care's Daycare	
Mott Community College	
village childcare Academy	
Wayne L. Rankins Preschool	
Flint Boy's and Girl's Preparatory Academy	
The New Standard Academy	KG,1-8
Alpha Montessori School	
Gateway to College-Mott Community College	9-12
Early On	
Early On / Special Education	
Lifetime Learning Incorporated	
Greater Heights Academy	KG,1-6
Academy West Alternative Education	6-12

Brownell STEM Academy	KG,1-2
Holmes STEM Academy	3-7
WAY Academy - Flint, Flint Campus	7-12
Genesee STEM Academy	KG,1-7
Genesee Career Institute	11-12
Eagles Nest Academy	
Genesee Area Focus Fund, Inc.	
Eagle's Nest Academy	KG,1-4
Genesee County Jail	9-12
Genesee Valley Regional Center	5-12
KIDDIE TIME CHILDCARE CENTER	
uniquely created children's center Llc	
Genesee ISD Head Start	
Michigan Crossroads Council, Inc., Boy Scouts of America	
Milton E. Tucker Middle School	5-8
Beecher Adult Education Center	
Carman Park-Baker Career Academy	9-12
Richfield Public School Academy Pre-K	DevK

ActualEducationalSettings	PhysicalAddress1	PhysicalAddress2
Alt, GenEd, PK, SpecEd	530 W Pierson Rd	
GenEd,SpecEd	2820 SOUTH SAGINAW ST	
GenEd,SpecEd	3244 NORTH LINDEN RD	
PK,SpecEd,SpecEdCtPr	5089 PILGRIM RD	
SpecEd,SpecEdCtPr	1493 WEST MAPLE AVE	
Alt, GenEd	1401 EAST COURT ST	
AdultEd, Alt	G2138 W. Carpenter Road	
Alt, GenEd	1420 WEST 12TH ST	
21CCL, Alt, GenEd, SpecEd	G2138 WEST CARPENTER RD	
21CCL, GenEd, PK, SpecEd	1101 WEST VERNON DR	
GenEd, PK, SpecEd	1040 NORTH SAGINAW ST	
21CCL, GenEd, PK, SpecEd	2500 NORTH AVERILL AVE	
21CCL, GenEd, PK, SpecEd	2010 CRESTBROOK LN	
21CCL, GenEd, PK, SpecEd	4001 OGEMA AVE	
21CCL, Alt, GenEd, PK, SpecEd	1235 PERSHING ST	
21CCL, GenEd, PK, SpecEd	1518 UNIVERSITY AVE	
AdultEd, Alt	3493 Beveridge Rd # G	
GenEd,SpecEd	1174 SOUTH GRAHAM RD	
PK,SpecEd	1181 WEST SCOTTWOOD AVE	
Alt, GenEd, SpecEd	1409 WEST MAPLE AVE	
GenEd,SpecEd	6022 BROBECK ST	
Alt, GenEd, SpecEd	1300 NORTH LINDEN RD	
PK	3329 BURNELL AVE	
GenEd,Alt	3333 SHILLELAGH DR	
GenEd,Alt	6317 NIGHTINGALE DR	
GenEd,Alt	4302 UNDERHILL DR # G	
Alt, GenEd	6161 HOPKINS RD # G	
Alt, GenEd, SpecEd	3223 WEST CARPENTER RD # G	
Alt, GenEd, SpecEd	3223 WEST CARPENTER RD # G	
Alt, GenEd, PK, SpecEd	3484 NORTH JENNINGS RD	
	G3475 WEST COURT ST	
	1409 WEST MAPLE AVE	
GenEd, PK	402 SOUTH BALLENGER HWY	
GenEd	1505 W Court St	
GenEd, PK	2319 BAGLEY ST	
GenEd	G4285 BEECHER RD	
GenEd, PK	G3139 HOGARTH AVE	
GenEd	5191 RICHFIELD RD	
GenEd	G-1379 WEST LOUIS AVE	
PK, SpecEd	1235 W. COURT ST.	
PK	4235 Crosby Rd	
GenEd, PK, SpecEd	3807 NORTH CENTER RD	
GenEd, PK	G2138 W Carpenter Rd	
Alt, GenEd, SpecEd	6170 Torrey Rd	
	G5285 SUMMIT ST	
SpecEd,SpecEdCtPr	2413 W Maple Ave	
SpecEd,SpecEdCtPr	3136 SOUTH LINDEN RD	
Alt, GenEd, SchlChoice	2413 W Maple Ave	

	KATHRYN BERRY	617 HEMPHILL RD
	BRIGHT BEGINNINGS LEARNING	G3393 CLIO RD
	507 W Atherton Rd	
	2312 LAPEER RD	
	ATTN VENITA HILER	2440 LIPPINCOTT BLVD
	MAIN OFFICE	G-3237 BEECHER ROAD
	5003 EAST CARPENTER RD	
	930 EAST MYRTLE AVE	
	MS MARYS ECCC	G-5248 N SAGINAW
	3129 CLIO RD	
	1235 W Court St	
	719 HARRISON ST	
	924 Cedar Street	
	DAYSTAR CHILDCARE CENTER	PO BOX 7008
	BOY SCOUTS OF AMERICA	507 W ATHERTON ROAD
	509 Harrison St	
	4406 Lennon Rd	
	6103 Eagle Ridge Ln	
	1110 ELDON BAKER DR	
	4287 WEST PASADENA AVE	
	1201 NORTH GRAND TRAVERSE ST	
	925 AVON ST	
	817 EAST KEARSLEY ST	SUITE 3C
	1081 HOURAN ST	
	1025 EAST KEARSLEY ST	
	1160 DONALDSON BLVD	
	2015 Gold Ave	
BSAS, GenEd, PK, SchlChoice, SpecEd	4358 Richfield Rd	
BSAS, FamResCtr, PK	5075 Pilgrim Rd	
	2400 N. Saginaw St.	
	2001 W Carpenter Rd	
	642 E Pierson Rd	
	817 E Kearsley St	
	G3393 Clio Rd	
	3500 W Pasadena Ave	
	5711 Fleming Rd	
	1401 E Court St	
	G4544 BEECHER RD	
	6436 Bray Rd	
	1185 E Foss Ave	
GenEd, PK, SpecEd	2040 W. Carpenter	
	310 E 3rd St	
Alt,AdultEd	1401 E Court St	
PK,SpecEd,SpecEdCtPr	5089 Pilgrim Rd	
PK,SpecEd,SpecEdCtPr	5089 Pilgrim Rd	
	1726 Laurel Oak	
GenEd, SpecEd	3196 W Pasadena Ave	
AdultEd, Alt	3400 N Jennings Rd	

GenEd,PK	6302 Oxley Dr
GenEd,PK	6602 Oxley Dr
Alt	817 E Kearsley St
GenEd, PK, SpecEd	310 W Oakley St
GenEd	5081 Torrey Rd
	5005 Cloverlawn Dr
	519 S Saginaw St
GenEd, SpecEd	5005 Cloverlawn Dr
AdultEd, Alt, Locked	1002 S. Saginaw
Alt,JuvDtn	4287 W. Pasadena Ave.
	915 S Dort Hwy
	2040 w carpenter rd
	5075 Pilgrim Rd
	507 W Atherton Rd
GenEd	G5159 Summit Street
AdultEd	1020 W. Coldwater Road
GenEd	3375 Van Campen Rd
GenEd, PK, SpecEd	6103 Eagle Ridge Lane

PhysicalCity	PhysicalState	PhysicalZip
Flint	MI	485053114
FLINT	MI	485035708
FLINT	MI	485041753
FLINT	MI	485073909
FLINT	MI	485075613
FLINT	MI	485036208
Flint	MI	485051977
FLINT	MI	485071425
FLINT	MI	485051977
FLINT	MI	485032840
FLINT	MI	485031736
FLINT	MI	485063010
FLINT	MI	48507
FLINT	MI	485072887
FLINT	MI	485033533
FLINT	MI	485046208
Flint	MI	48532
FLINT	MI	485323533
FLINT	MI	485073615
FLINT	MI	485075613
FLINT	MI	485324006
FLINT	MI	485322341
FLINT	MI	485044303
FLINT	MI	485062246
FLINT	MI	485061714
FLINT	MI	485061534
FLINT	MI	485061657
FLINT	MI	485041247
FLINT	MI	485041247
FLINT	MI	485041757
FLINT	MI	485324742
FLINT	MI	485075613
FLINT	MI	485323637
Flint	MI	485035002
FLINT	MI	485044613
FLINT	MI	485322711
FLINT	MI	485325132
FLINT	MI	485062114
FLINT	MI	48505
FLINT	MI	485035015
FLINT	MI	485061530
FLINT	MI	485062642
Flint	MI	485051977
Flint	MI	485075954
FLINT	MI	485051328
Flint	MI	485073429
FLINT	MI	485073004
Flint	MI	48507

FLINT	MI	48507
FLINT	MI	48504
Flint	MI	485072404
FLINT	MI	485034221
FLINT	MI	48507
FLINT	MI	48532
FLINT	MI	485064521
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FLINT	MI	485047184
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Flint	MI	485021715
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Flint	MI	485056740
FLINT	MI	485071923
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FLINT	MI	485031312
FLINT	MI	485032701
FLINT	MI	485032076
FLINT	MI	485323630
FLINT	MI	485031922
FLINT	MI	485043217
Flint	MI	485032133
Flint	MI	485062016
Flint	MI	485073909
Flint	MI	48505
Flint	MI	50479
Flint	MI	51900
Flint	MI	485032076
Flint	MI	485041894
Flint	MI	485042353
Flint	MI	485045002
Flint	MI	485032089
FLINT	MI	48532
Flint	MI	485051813
Flint	MI	485052324
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Flint	MI	485021711
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Flint	MI	485073909
Flint	MI	485073909
Flint	MI	485072211
Flint	MI	485042330
Flint	MI	485041757

Flint	MI	485041698
Flint	MI	485041674
Flint	MI	485032076
Flint	MI	485033915
Flint	MI	485075999
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Flint	MI	485042342
Flint	MI	485032800
flint	MI	485051908
Flint	MI	485073909
Flint	MI	48507
Flint	MI	485051429
Flint	MI	485054831
Flint	MI	48507
Flint	MI	48505

BERRY CHILD CARE CENTER		
BRIDONS CHILD DEVELOPMENT CENTER I		
CASTILLO ENTERPRISE LLC		
Children First Child Care Center Corp.		
Eagle's Nest Child Care Center		
Early On		PK,SpecEd,SpecEdCtPr
Early On / Special Education		PK,SpecEd,SpecEdCtPr
FOOD BANK OF EASTERN MICHIGAN INC		
GENESEE CHRISTIAN DAY CARE		
Genesee ISD Head Start		
GLORIAS LITTLE ANGELS INC		
GREAT LAKES FIELD SERVICES-DAUCH SCOUT CENTER		
HJ&G LLC, Bright Beginnings		
Honey Bee Palace Child Care Center, Inc.		
Jireh Outreach Ministries Int		
KIDDIE KAT CHILDRENS CENTER LLC		
KIDDIE TIME CHILDCARE CENTER		
LAZY LEOPARD-FLINT DAY CARE CENTER		
MARY MCGEE		
MIRIAM D CLEMONS/SAND CASTLES		
Positive Start Child and Development Center		
Richfield Public School Academy Pre-K	DevK	GenEd, PK, SpecEd
SOUTH FLINT TABERNACLE INC		
SUNNY PATCH LEARNING CENTER, LLC		
T-Care's Daycare		
The Learning Community		PK,SpecEd
Thelma Buffey Early Childhood Center		PK
U OF M EARLY CHILDHOOD DEV. CENTER		
uniquely created children's center Llc		
village childcare Academy		
Wayne L. Rankins Preschool		
WEE LITTLE QUACKERS CHILD CARE CTR		
Whaley Children's Center		

617 HEMPHILL RD	FLINT	MI	48507
817 EAST KEARSLEY ST, STE 3C	FLINT	MI	485032076
G3393 CLIO RD	FLINT	MI	48504
1081 HOURAN ST	FLINT	MI	485323630
6103 Eagle Ridge Ln	Flint	MI	485056740
5089 Pilgrim Rd	Flint	MI	485073909
5089 Pilgrim Rd	Flint	MI	485073909
2312 LAPEER RD	FLINT	MI	485034221
G-3237 BEECHER ROAD	FLINT	MI	48532
5075 Pilgrim Rd	Flint	MI	485073909
2440 LIPPINCOTT BLVD	FLINT	MI	48507
507 W Atherton Rd	Flint	MI	485072404
G3393 Clio Rd	Flint	MI	485041894
642 E Pierson Rd	Flint	MI	51900
925 AVON ST	FLINT	MI	485032701
5003 EAST CARPENTER RD	FLINT	MI	485064521
915 S Dort Hwy	Flint	MI	485032800
930 EAST MYRTLE AVE	FLINT	MI	485055519
G-5248 N SAGINAW	FLINT	MI	48505
3129 CLIO RD	FLINT	MI	485047184
3500 W Pasadena Ave	Flint	MI	485042353
6103 Eagle Ridge Lane	Flint	MI	48505
PO BOX 7008	FLINT	MI	485070008
1160 DONALDSON BLVD	FLINT	MI	485043217
5711 Fleming Rd	Flint	MI	485045002
1181 WEST SCOTTWOOD AVE	FLINT	MI	485073615
4235 Crosby Rd	FLINT	MI	485061530
509 Harrison St	Flint	MI	485021715
2040 w carpenter rd	flint	MI	485051908
G4544 BEECHER RD	FLINT	MI	48532
6436 Bray Rd	Flint	MI	485051813
4406 Lennon Rd	Flint	MI	485071029
1201 NORTH GRAND TRAVERSE ST	FLINT	MI	485031312

Brownell STEM Academy	KG,1-2	GenEd,PK
Colonel Donald McMonagle Elementary School	KG,1-6	Alt, GenEd, PK, SpecEd
Doyle/Ryder School	KG-Part, 1-6	GenEd, PK, SpecEd
Durant Tuuri Mott School	KG-Part,1-7	21CCL, GenEd, PK, SpecEd
Dye Elementary School	KG, KG-Part, 1-5	GenEd,SpecEd
Eagle's Nest Academy	KG,1-4	GenEd, SpecEd
Eisenhower School	KG, KG-Part, 1-6	21CCL, Alt, GenEd, PK, Sp
Elmer A. Knopf Learning Center	DevK, DevK-Part, KG, k	SpecEd,SpecEdCtPr
Fairhaven SDA School	1-2,4-8	GenEd
First Flint SDA School	1-2,4-6,8	GenEd
Freeman School	KG, KG-Part, 1-6	21CCL, GenEd, PK, SpecEd
Genesee STEM Academy	KG,1-7	GenEd, PK, SpecEd
Greater Heights Academy	KG,1-6	GenEd, SpecEd
Holmes STEM Academy	3-7	GenEd,PK
Holy Rosary School	KG-Part, 1-8	GenEd
International Academy of Flint (K-12)	KG,1-12	GenEd,SpecEd
Kate Dowdall Elementary School	KG,1-3	GenEd,Alt
Leota Fiedler Elementary School	1, 4-5	GenEd,Alt
Linden Charter Academy	KG, 1-8	GenEd,SpecEd
Madison Academy Elementary/Middle School	KG-Part,1-8	Alt, GenEd, SpecEd
Michigan School for the Deaf	KG, 1-12	PK, SpecEd
Milton E. Tucker Middle School	5-8	GenEd
Neithercut Elementary School	KG-Part, 1-6	21CCL, GenEd, PK, SpecEd
Northridge Academy	KG, 1-8	Alt, GenEd, PK, SpecEd
Northwestern Early Childhood Education Center	KG	GenEd, PK
Pierce School	KG, KG-Part, 1-6	21CCL, GenEd, PK, SpecEd
Potter School	KG,KG-Part,1-7	21CCL, GenEd, PK, SpecEd
Randels Elementary School	KG, KG-Part, 1-5	GenEd,SpecEd
Richfield Public School Academy	3-8	GenEd, PK, SpecEd
Richfield Public School Academy K-2	KG,1-2	BSAS, GenEd, PK, SchlChc
Special Education Services-South	DevK, DevK-Part, KG, k	PK,SpecEd,SpecEdCtPr
Special Services - North	KG,KG-Part,1-12	SpecEd,SpecEdCtPr
St. John Vianney School	KG-Part, 1-8	GenEd, PK
St. Paul Lutheran School	KG-Part, 1-8	GenEd, PK
St. Pius X School	KG-Part, 1-8	GenEd, PK
Stalker Elementary		PK
The New Standard Academy	KG,1-8	GenEd, PK, SpecEd

6302 Oxley Dr	Flint	MI	485041698
3484 NORTH JENNINGS RD	FLINT	MI	485041757
1040 NORTH SAGINAW ST	FLINT	MI	485031736
1518 UNIVERSITY AVE	FLINT	MI	485046208
1174 SOUTH GRAHAM RD	FLINT	MI	485323533
5005 Cloverlawn Dr	Flint	MI	485042084
1235 PERSHING ST	FLINT	MI	485033533
1493 WEST MAPLE AVE	FLINT	MI	485075613
G-1379 WEST LOUIS AVE	FLINT	MI	48505
G4285 BEECHER RD	FLINT	MI	485322711
4001 OGEMA AVE	FLINT	MI	485072887
310 W Oakley St	Flint	MI	485033915
3196 W Pasadena Ave	Flint	MI	485042330
6602 Oxley Dr	Flint	MI	485041674
5191 RICHFIELD RD	FLINT	MI	485062114
2820 SOUTH SAGINAW ST	FLINT	MI	485035708
3333 SHILLELAGH DR	FLINT	MI	485062246
6317 NIGHTINGALE DR	FLINT	MI	485061714
3244 NORTH LINDEN RD	FLINT	MI	485041753
6170 Torrey Rd	Flint	MI	485075954
1235 W. COURT ST.	FLINT	MI	485035015
G5159 Summit Street	Flint	MI	485051429
2010 CRESTBROOK LN	FLINT	MI	48507
530 W Pierson Rd	Flint	MI	485053114
G2138 W Carpenter Rd	Flint	MI	485051977
1101 WEST VERNON DR	FLINT	MI	485032840
2500 NORTH AVERILL AVE	FLINT	MI	485063010
6022 BROBECK ST	FLINT	MI	485324006
3807 NORTH CENTER RD	FLINT	MI	485062642
4358 Richfield Rd	Flint	MI	485062016
5089 PILGRIM RD	FLINT	MI	485073909
2413 W Maple Ave	Flint	MI	485073429
2319 BAGLEY ST	FLINT	MI	485044613
402 SOUTH BALLENGER HWY	FLINT	MI	485323637
G3139 HOGARTH AVE	FLINT	MI	485325132
3329 BURNELL AVE	FLINT	MI	485044303
2040 W. Carpenter	Flint	MI	48505

Academy West Alternative Education	6-12	AdultEd, Alt
Accelerated Learning Academy	7-12	AdultEd, Alt
Armstrong Middle School	6-8	Alt, GenEd
Bendle/Carman-Ainsworth Alternative Education	6-12	AdultEd, Alt
Carman Park-Baker Career Academy	9-12	GenEd
Carman-Ainsworth High School	8-12	Alt, GenEd, SpecEd
Carman-Ainsworth Middle School	6-8	Alt, GenEd, SpecEd
Flint Boy's and Girl's Preparatory Academy		
Fr. Luke M. Powers High School	9-12	GenEd
Genesee Career Institute	11-12	GenEd
Genesee Early College	9-12	Alt, GenEd, SchlChoi
Hamady Community High School	9-12	Alt, GenEd, SpecEd
Hamady Middle School	7-8	Alt, GenEd, SpecEd
Kearsley High School	9-12	GenEd,Alt
Mott Middle College High School	9-12	Alt, GenEd
Northwestern High School	9-12	21CCL, Alt, GenEd, S
Southwestern Classical Academy	7-12	Alt, GenEd
WAY Academy - Flint, Flint Campus	7-12	Alt

3400 N Jennings Rd	Flint	MI	485041757
G2138 W. Carpenter Road	Flint	MI	485051977
6161 HOPKINS RD # G	FLINT	MI	485061657
3493 Beveridge Rd # G	Flint	MI	48532
3375 Van Campen Rd	Flint	MI	48507
1300 NORTH LINDEN RD	FLINT	MI	485322341
1409 WEST MAPLE AVE	FLINT	MI	485075613
1185 E Foss Ave	Flint	MI	485052324
1505 W Court St	Flint	MI	485035002
5081 Torrey Rd	Flint	MI	485075999
2413 W Maple Ave	Flint	MI	48507
3223 WEST CARPENTER RD # G	FLINT	MI	485041247
3223 WEST CARPENTER RD # G	FLINT	MI	485041247
4302 UNDERHILL DR # G	FLINT	MI	485061534
1401 EAST COURT ST	FLINT	MI	485036208
G2138 WEST CARPENTER RD	FLINT	MI	485051977
1420 WEST 12TH ST	FLINT	MI	485071425
817 E Kearsley St	Flint	MI	485032076

Mott Community College

1401 E Court St

Gateway to College-Mott Community College 9-12

Alt,AdultEd

1401 E Court St

Flint	MI	485032089
Flint	MI	485032089

Beecher Adult Education Center		AdultEd
Carman-Ainsworth Service Center		
Carman-Ainsworth Transportation Building		
Coates Administration Center		
Flint Institute of Music		
Genesee County Community Action Resource Department		
Genesee County Jail	9-12	AdultEd, Alt, Locked
Genesee ISD Transition Center		SpecEd, SpecEdCtPr
Genesee Valley Regional Center		
Genesee Valley Regional Center	5-12	Alt, JuvDtn
Health, Safety and Nutrition Services		BSAS, FamResCtr, PK
Michigan Crossroads Council, Inc., Boy Scouts of America		
Michigan Organization on Adolescent Sexual Health		
Michigan School for the Deaf and Blind		
SHELTER OF FLINT INC		
TALL PINE COUNCIL		

1020 W. Coldwater Ro Flint	MI	485054831
G3475 WEST COURT S FLINT	MI	485324742
1409 WEST MAPLE AV FLINT	MI	485075613
G5285 SUMMIT ST FLINT	MI	485051328
1025 EAST KEARSLEY S FLINT	MI	485031922
719 HARRISON ST FLINT	MI	485021613
1002 S. Saginaw Flint	MI	485021499
3136 SOUTH LINDEN R FLINT	MI	485073004
4287 WEST PASADENA FLINT	MI	485042342
4287 W. Pasadena Ave Flint	MI	485042342
5075 Pilgrim Rd Flint	MI	485073909
507 W Atherton Rd Flint	MI	48507
2015 Gold Ave Flint	MI	485032133
1235 W Court St Flint	MI	485035015
924 Cedar Street Flint	MI	485033620
BOY SCOU1507 W ATH FLINT	MI	48507

Alpha Montessori School	310 E 3rd St	Flint
Alutiiq Professional Services, LLC	2400 N. Saginaw St.	Flint
Connexion, Incorporated	1110 ELDON BAKER DR	FLINT
Eagles Nest Academy	5005 Cloverlawn Dr	Flint
Genesee Area Focus Fund, Inc.	519 S Saginaw St	Flint
Lifetime Learning Incorporated	1726 Laurel Oak	Flint
Living Word Ministry Enrichment	2001 W Carpenter Rd	Flint
Michigan School for the Deaf and Blind	1235 W Court St	Flint
Motherly Intercession	817 E Kearsley St	Flint

MI	485021711
MI	48505
MI	485071923
MI	485042084
MI	485021815
MI	485072211
MI	50479
MI	485035015
MI	485032076


FLINT COMMUNITY SCHOOLS
Expect More. Achieve More.

923 E. Kearsley Street * Flint, MI 48503
 Phone: (810) 760-1000 / Fax: (810) 760-7601
www.flintschools.org

SCHOOL INFORMATION
2015-2016

SCHOOL	PHONE	FAX	ADDRESS	PRINCIPAL
SECONDARY SCHOOLS				
Northwestern High School	760-1780	760-6809	G-2138 W. Carpenter Rd., 48505	Tim Green
Accelerated Learning Academy (ALA)	760-8500	760-6809	G-2138 W. Carpenter Rd., 48505	Eddie Thomas
Southwestern Classical Academy	760-1400	760-7772	1420 W. Twelfth St., 48507	Cheryl Tate
ELEMENTARY SCHOOLS				
Brownell K-2 STEM Academy	760-1643	760-1538	6302 Oxley Dr., 48504	Darryl Grace
Doyle Ryder Elementary	760-5266	760-5118	1040 N. Saginaw St., 48503	Robert Bueche
Durant-Tuuri-Mott Elementary	760-1594	760-7729	1518 University Ave., 48504	Shelly Umphrey
Eisenhower Elementary	760-1607	760-7457	1235 Pershing St., 48503	Rachel Turner
Freeman Elementary	760-1797	760-6882	4001 Ogema St., 48507	Anita Miller
Holmes 3-6 STEM Academy	760-1968	760-1624	6602 Oxley Dr., 48504	Anna Johnson
Neithercut Elementary	760-1359	760-5133	2010 Crestbrook Ln., 48507	Debra Jackson-Noble
Pierce Elementary	760-1386	760-7147	1101 W. Vernon Dr., 48503	Shalonda Byas
Potter Elementary	760-1813	760-5156	2500 N. Averill Ave., 48506	Gretchen Shafer
OTHER BUILDINGS				
Administration Building	760-1000	760-7601	923 E. Kearsley St., 48503	
Central Kitchen	760-1073	760-7073	305 Walnut , 48503	

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, February 17, 2015 1:25 PM
To: 'Amy Lachance (LACHANCEA1@michigan.gov)'
Cc: Richard Benzie P.E. (BENZIER@michigan.gov); Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov)
Subject: 2014 Year in Review

Amy,

I don't have the electronic version of your FOS year in review but I would revise the last sentences on Flint to read as follows:

"Consumer confidence in Flint..." (drop the beginning part) and "...interacting with municipal officials, citizens, the press, EPA, members of the legislature, and other state agencies including DCH, DTMB, Treasury, and the Governor's Office, in order to provide..."

Other topics that should be considered for inclusion:

- Toledo Do Not Drink Advisory regarding Harmful Algal Blooms/Cyanotoxins
- DEQ Scorecard performance: % CWS in compliance, and Days for WM permit issuance
- District Email boxes
- FOS Strategic Plan
- Director's Visits to DW sites: City of Ann Arbor (asset management), NSF International, Gratiot Area Water Authority, ???
- Working with RRD to review triage sites for wellhead delineation overlaps regarding site closure activities
- Major Construction started/permitted: KWA, Gratiot Area Water Authority (GAWA), Bay County WTP, ???

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, September 05, 2014 3:12 PM
To: Juhasz, Michael (MDA); 'fricica@gchd.us'
Subject: City of Flint Boil Water Advisory
Attachments: Boil PN TC detected.pdf; Flint-Site5-BWA.pdf

Importance: High

The City of Flint is issuing a boil water advisory for an area of its water distribution system based on confirmed total coliform positive results in a portion of the system. Please see the attached.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

LOCALIZED DRINKING WATER WARNING

Coliform bacteria detected in localized area of Flint water system

BOIL YOUR WATER BEFORE USING

Our water system detected the presence of coliform bacteria in the water supply on September 3, 2014. We routinely monitor for the presence of drinking water contaminants. We took routine samples for coliform bacteria during on September 2, 2014 from all sampling locations throughout the city. The location near Flushing Road and Chevrolet Avenue showed the presence of coliform bacteria. We took three repeat samples at this location and at adjacent locations on September 3 and again on September 4, 2014. Two of the three samples on the 3rd showed the presence of total coliform bacteria and three of the three samples collected on the 4th in this same area showed the presence of total coliform bacteria. All other monitoring locations in the City continue to show no presence of Coliform bacteria.

What should I do?

DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST. Bring all water to a boil, let it boil for one minute, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, washing dishes, and preparing food. Boiling kills bacteria and other organisms in the water. **Continue using boiled or bottled water until further notice.** This boil notice is limited to the area bordered by Dayton Street (north), DuPont Street (east), Flint River (south), and LaVelle Road to Flint River (west).

If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from your health care providers about drinking this water.

What does this mean?

Total coliform bacteria are generally not harmful themselves. *Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.*

Usually, coliforms are a sign that there could be a problem with the treatment or distribution system (pipes). Whenever we detect coliform bacteria in any sample, we do follow-up testing to see if other bacteria of greater concern, such as fecal coliform or E. coli, are present. We did not find any of these bacteria in our subsequent testing. If we had, we would have notified you immediately. However, we are still finding coliforms in the drinking water.

What happened? What is being done?

We are still detecting coliform bacteria. We will inform you when our sampling shows that no bacteria are detected. We are flushing the system and increasing the chlorine residual within the affected area. We anticipate resolving the problem within the next two to three days. In the meantime, please continue using boiled or bottled water until we notify you otherwise.

If you have questions, you may contact Mr. Brent Wright of the City of Flint at 810-787-6537, bwright@cityofflint.com, 4500 North Dort Highway, Flint MI. 48505 or Daughtry Johnson, Utilities Administrator (810) 766-7135, ext. 2602. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at 1-800-426-4791.

CERTIFICATION:

WSSN: [enter Water Supply Serial Number]

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature

Title

Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

cc: [cc the local health department and the Michigan Department of Agriculture and Rural Development if the boil affects a municipal supply.]

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you as a precautionary measure by the City of Flint.

CERTIFICATION:

WSSN: [enter Water Supply Serial Number]

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature_____
Title_____
Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

cc: [cc the local health department and the Michigan Department of Agriculture and Rural Development if the boil affects a municipal supply.]



Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, March 26, 2013 8:29 AM
To: Richard Benzie P.E. (BENZIER@michigan.gov); prysbym@michigan.gov
Subject: Council approves 16 MGD

They do concede that DEQ will need to approve and that we wanted 18 MGD.

http://www.mlive.com/news/flint/index.ssf/2013/03/flint_city_council_approves_re.html

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, September 22, 2015 10:06 AM
To: nhenderson@cityofflint.com
Subject: DEQ Drinking Water Letters
Attachments: City of Flint PbCu15 8_17_15.pdf; Flint-TTHM-Compliance.pdf

Natasha,

Here are the two letters recently sent by our office regarding the City of Flint Water System. We will be sure to CC you on future correspondence.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

August 17, 2015

Mr. Brent Wright
City of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

Dear Mr. Wright:

SUBJECT: Flint, City of WSSN: 02310
Lead and Copper Monitoring of Drinking Water Taps

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), received your report for the monitoring period January 1, 2015, through June 30, 2015.

Action Levels	Results this monitoring period			
	90th Percentile	# of Samples Above Action Level	# of Samples Required	# of Samples Collected
Lead 15 parts per billion (ppb)	11 ppb	6	60	69
Copper 1.3 parts per million (ppm)	0.16 ppm	0	60	69

Ninety percent or more of the sites you tested are within action levels under the administrative rules promulgated under the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399). These results must be reported on your 2015 Consumer Confidence Report (CCR) due to our office, your customers, and the local health department, by July 1, 2016. Also include the following statement in the CCR, regardless of the lead and copper levels:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Flint is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.water.epa.gov/drink/info/lead>.

Mr. Brent Wright

2

August 17, 2015

Recent changes to the Lead and Copper Rule (LCR) require the water supply to provide individual lead tap results to people who receive water from sites that were sampled, even if lead was not detected, within 30 days of learning of results. You must also send us a certification that you met all the delivery requirements along with a sample copy of your customer notice by three months after the end of the monitoring period. To download the *Lead and Copper Report and Consumer Notice of Lead Result Certificate* in Microsoft Word or PDF format, visit <http://www.michigan.gov/deq>. Click on Water, Drinking Water, Community Water Supply, and Reporting Forms under the Manuals, Forms and Brochures heading. Water supplies that fail to distribute the Consumer Notice of Lead Results must include the following statement in their CCR, "During the year, we failed to provide lead results to persons served at the sites that were tested as required by the Lead and Copper Rule."

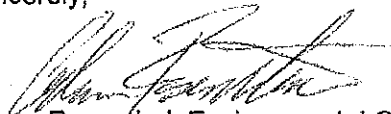
While the City's LCR compliance monitoring has continued to meet action level requirements, the LCR also requires all large systems (those serving over 50,000 people) to optimize corrosion control regardless of their 90th percentile lead concentration. One way to demonstrate fully optimized corrosion control treatment is through two consecutive six month rounds of LCR compliance monitoring in which the difference between the 90th percentile level and the highest source water lead concentration is less than the Practical Quantitative Level for lead (0.005 milligrams per liter). Since the City did not meet these criteria in both the July – December 2014, and January – June 2015, sampling periods, the City must now recommend a treatment to fully optimize corrosion control treatment within six months in accordance with requirements under Act 399, Administrative Rule 604f (R 325.10604f). **This recommendation must be provided to our office as soon as possible, but no later than January 1, 2016.**

However, given the past use of phosphate treatment by the Detroit Water and Sewerage Department (DWSD) to fully optimize corrosion control treatment when the City was a wholesale customer of DWSD, the ODWMA recommends the City select this as its recommended treatment option, and begin implementation as soon as possible to address ongoing concerns by customers regarding lead levels within their premise plumbing systems. Under the second step of this Rule, the DEQ can specify optimal corrosion control treatment.

Our office will inform you when monitoring needs to be conducted as part of the optimization of the implemented corrosion control treatment. Customer requested samples for lead shall continue to be collected and analyzed. Please make every attempt to select the same sites used in the previous monitoring period, giving Tier 1 sites first priority. If original sites are unavailable, select replacement sites based on the Tier 1, 2, and 3 criteria.

Please contact me at 517-284-6644 or rosenthala@michigan.gov at your earliest convenience to discuss how the City will be complying with the above requirements.

Sincerely,



Adam Rosenthal, Environmental Quality Analyst
Lansing District Office
Office of Drinking Water and Municipal Assistance

cc: Mr. Michael Glasgow, City of Flint



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

September 2, 2015

Mr. Brent Wright, Operations Supervisor
City Of Flint – Department of Public Works
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: City of Flint – Water Supply
Return to Compliance Total Trihalomethanes (TTHM)
3rd Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the City of Flint (City) has returned to compliance with the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels for disinfection byproducts (MCLs)*, of the 1979 Administrative Code.

In accordance with Administrative Rule 610 (R 325.10610, *MCLs for disinfection byproducts*), the MCL for the disinfection byproduct TTHM is 0.080 milligrams per liter (mg/L). Compliance is determined based on a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the LRAA all eight of the City's TTHM compliance sampling sites now comply with this standard based on the last four quarterly monitoring periods, ending August 31, 2015. This return to compliance regarding TTHM's began on September 1, 2015, and will continue as long as the LRAA at each of the City's TTHM compliance sampling sites remain below this standard.

TTHM Results (mg/L)	11/20/14	2/17/15	5/18/15	8/18/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.059	0.0162	0.0514	0.0755	0.050	0.055
DBP2 Liquor Palace 3302 South Dort Highway	0.033	0.0168	0.0635	0.0532	0.042	0.047
DBP3 North Flint Auto 6204 North Saginaw St.	0.041	0.0149	0.0452	0.0426	0.036	0.036
DBP4 University Market 2501 Flushing Road	0.094	0.0245	0.0598	0.0706	0.062	0.056
DBP5 Taco Bell 3606 Corunna Road	0.034	0.0151	0.0547	0.0619	0.042	0.049
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.054	0.0192	0.0605	0.0595	0.048	0.050
DBP7 Salem Housing 3216 MLK Boulevard	0.050	0.0285	0.0727	0.0903	0.060	0.070
DBP8 BP Gas Station 822 South Dort Highway	0.036	0.0199	0.0461	0.0549	0.039	0.044

Mr. Brent Wright

2

September 2, 2015

Corrective measures by the City have been successful in achieving compliance with this standard. These measures have included replacement of anthracite filter media with granular activated carbon as well as the optimization of water treatment plant and distribution system processes and operations as recommended through Operational Evaluations conducted by the City. It is important that the City continue to follow these recommendations in order to limit disinfection byproduct formation and maintain compliance with the MCL LRAA standards. While the MCL LRAA standard has now been met at all eight compliance sampling sites, an individual TTHM concentration above 0.080 mg/L was measured at one location, DBP 7, during peak month sampling in August 2015.

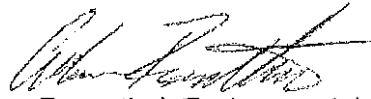
The DEQ encourages the City to continue informing customers about this updated water quality information and compliance with the TTHM MCL standard.

If you have any questions regarding this letter, please contact us at the numbers below; at prysbym@michigan.gov; or rosenthala@michigan.gov.

Sincerely,



Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-290-8817



Adam Rosenthal, Environmental Quality
Analyst
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-284-6644

cc: Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Mr. Robert Bincsik, City of Flint
Mr. Howard Croft, City of Flint
Mr. Michael Glasgow, City of Flint
Genesee County Health Department
Mr. Stephen Busch, DEQ

Rennaker, Joanne (DEQ)

From: Adams, Dominic <DADAMS5@mlive.com>
Sent: Friday, April 18, 2014 10:15 AM
To: Busch, Stephen (DEQ)
Subject: DEQ in Flint Friday

Mr. Busch:

Dominic Adams with The Flint Journal here. We've spoken about the Flint River becoming Flint's primary drinking water source in the past. I was told that the DEQ would be in Flint today testing the plant and making sure the work completed is doing everything needed. I'd like to talk to you following your tests today. When is a good time to talk? I can give you a call or you can feel free to call me at 810-241-8803.

Thanks a lot and have a great day!

Dominic Adams | metro reporter | [The Flint Journal](#) | 810-241-8803 | dadams5@mlive.com |
[On Twitter](#) | [On Facebook](#) |

Rennaker, Joanne (DEQ)

From: Daugherty Johnson <djohnson@cityofflint.com>
Sent: Thursday, April 24, 2014 12:03 PM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ); Howard Croft
Subject: DWSD back up agreement

Hello Steve and Mike. As you are aware, the City has undergone extensive upgrades to our Water Treatment Plant and it's associated facilities. Our intentions and efforts have been to operate our facility as the primary drinking water source for the City of Flint. Through consultation with your office and our engineering firm we've developed a system of redundant electrical systems, treatment processes and adequate finished water storage to negate the need for a signed back up agreement with DWSD due to their termination of our contract. Upon inspection of these facilities would you convey your concurrence that there is no regulatory requirement for us to sign a back up agreement with DWSD.

Thank you
Daugherty Johnson
Utilities Administrator
City of Flint

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Thursday, May 23, 2013 10:36 AM
To: Shekter Smith, Liane (DEQ)
Cc: Jon Bloemker P.E. (BLOEMKERJ@michigan.gov); Richard Benzie P.E. (BENZIER@michigan.gov); Kristina Donaldson P.E. (donaldsonk@michigan.gov); prysbym@michigan.gov
Subject: DWSD response on sunk costs and non-contracted rates
Attachments: SKMBT_65213051611350.pdf

Liane,

Attached is the letter from DWSD (Sue McCormick) to Treasurer Dillon regarding stranded or sunk costs and non-contracted water rates to the City of Flint and Genesee County water systems. These were requested by the Governor during the meeting I attended on April 20, though DWSD was supposed to provide actual figures by the April 24 response.

While the DEQ does not involve itself in rate negotiations between parties, continued delays in not having these costs and rates negotiated creates burdens on both sides which places the ability to complete other capital improvement and rehabilitation projects in limbo, creating the potential for compliance issues. Uncertainties regarding the future of the DWSD also add complexity to this situation.

As both the City of Flint and City of Detroit will continue to reside under auspices of emergency financial managers administered by the Treasury Department for the near future, it is hoped that resolutions to these issues can be reached in a timely manner.

We would greatly appreciate it if you and/or Director Wyant could relay these concerns as part of the DEQ's continued discussions with the Treasury Department and keep things moving forward. We of course, will continue to provide any technical assistance they might request.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
OFFICE OF THE DIRECTOR

735 RANDOLPH STREET
DETROIT, MICHIGAN 48226
WWW.DETROITMI.GOV

April 24, 2013

Mr. Andy Dillon, Treasurer
Michigan Department of Treasury
Lansing, Michigan 48922

Dear Mr. Dillon:

Regarding: Rate Proposal for Flint / Genesee County

As you are aware, during our meeting on Friday, April 20, 2013, the Detroit Water and Sewerage Department (DWSD) was requested to provide a rate proposal to Flint and Genesee County by today based upon the specifications that Flint provided to DWSD on Monday, April 22, 2013. Early this morning, DWSD responded to that request with several documents that were also provided to your office by electronic communication.

In addition to the proposal document, the State of Michigan requested that DWSD include cost figures concerning DWSD's stranded costs associated with capital investment made by DWSD over the years related to serving both Flint and Genesee County as water customers. This issue of "stranded costs" has received significant media attention over the past several months, and my impression is that the State was looking for a clear figure so that there could be subsequent discussion and negotiation over all costs associated with Flint's decision on whether to join Karegondi Water Authority (KWA).

As you may know, State law requires that public utilities such as DWSD must base their rates upon the actual cost of service to particular customers. Additionally, state law limits the length of utility contracts to thirty years, while the useful life of capital assets in the water utility can greatly exceed that thirty year term.

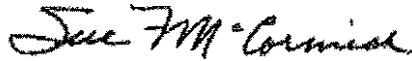
Unfortunately, the computation of stranded costs for DWSD's capital investments in capacity and transmission attributable to Flint's and Genesee's consumption of DWSD water, is a complex calculation that cannot be performed with any level of certainty over the short time period provided by the State of Michigan for this analysis. Further, I have been advised by DWSD's General Counsel that it would not be prudent to engage in a process of trying to guestimate a price range for such a complex computation.

Mr. Andy Dillon, State Treasurer
April 24, 2013
Page 2

Based upon DWSD's termination of Flint's existing water contract last week, DWSD has roughly twelve months to determine the appropriate cost structure for Flint and Genesee's water consumption over the remaining term of their non-contracted water service from DWSD. DWSD will, however, endeavor to finalize the rate impact of the stranded costs by the end of the current calendar year.

Please rest assure that DWSD's computation will be in accordance with State Law which dictates that such rates will not result in a rate structure that would generate a profit for DWSD. Our intent is simply to compute the rates so that costs properly attributable to Flint and Genesee County will not be borne by the remaining DWSD water customers.

Sincerely,



Sue McCormick
Director

xc: The Honorable Rick Snyder, Governor State of Michigan
Ed Kurtz, Emergency Financial Manager, City of Flint
Kevyn Orr, Emergency Financial Manager, City of Detroit
James Fausone, Chairman, Board of Water Commissioners
William Wolfson, DWSD General Counsel
Nicolette Bateson, DWSD Chief Financial Officer

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, April 02, 2013 2:13 PM
To: Prysby, Mike (DEQ); Benzie, Richard (DEQ)
Subject: DWSD-Flint News

FYI.

http://www.mlive.com/news/flint/index.ssf/2013/04/detroit_to_state_stop_flints_p.html

http://www.mlive.com/news/flint/index.ssf/2013/04/genesee_county_drain_commissio_28.html

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, July 07, 2015 1:45 PM
To: mglasgow@cityofflint.com
Cc: Howard Croft (hcroft@cityofflint.com); Brent Wright (bwright@cityofflint.com); nhenderson@cityofflint.com; prysbym@michigan.gov
Subject: EPA Drinking Water Needs Survey - City of Flint Water System
Attachments: 2015 DWINSA Lists of Codes.pdf; Documentation Policy Table (2-page).pdf; EPA Cover Ltr for 2015 DWINSA.PDF; Updating 2011 Survey Instructions Part 1.docx; Updating 2011 Survey Instructions Part 2.xlsm; MI0002310.xlsm; 2015 DWINSA Instructions for Systems.doc; Package Contents and Return Instructions.docx

Importance: High

Mike,

I am sending this out in Mike Prysby's absence. I believe he may have mentioned it to you previously.

The City of Flint community water system has been selected by EPA to participate in the 2015 Drinking Water Needs Survey. This survey documents the 20 year needs regarding all aspects of the City's public water supply system, including source, treatment, storage, distribution, customer metering, etc. The results of the Needs Survey are used to determine state allocation of federal revolving loan funds.

Attached you will find the following related documents:

- EPA Cover Letter
- City of Flint Needs Survey Spreadsheet form (MI0002310.xlsm)
- Package Contents and Return Instructions document
- Instructions for completing the Needs Survey
- Instruction for updating the 2011 Needs Survey form (Part 1, word and Part 2, spreadsheet)
- Needs Survey Code Listing
- Need Code Documentation Table

As the City of Flint participated in the previous Needs Survey conducted in 2011, we are asking the City of Flint to complete the 2015 Needs Survey and return it to our office by August 21, 2015. You will find that information from the 2011 survey has already been entered into the survey form, requiring you to just remove completed projects and add new projects.

To assist you in properly completing the 2015 Needs Survey, Mike Prysby will be available to meet at the City with staff and you may contact him to schedule a meeting.

In the interim, until Mike is back, you may contact me directly with any questions you may have.

We understand the work needed to complete this Needs Survey will utilize valuable staff time, and appreciate your cooperation in its completion.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance

MDEQ
517-643-2314

LIST 4 - DOCUMENTATION

Code Independent Documentation of Need and/or Cost

- 1 **Capital Improvement Plan or Master Plan.** The plan must address why the project is needed and/or provide a cost.
- 2 **Facilities Plan or Preliminary Engineering Report.** Excerpts justifying need and/or cost from the plan or report are acceptable if project-specific.
- 3 **Grant or Loan Application Form.** An application form is acceptable if it specifically describes a problem requiring capital expenditures.
- 4 **Engineer's Estimate or Bid Tabulation.** These must be project specific and independently generated. They must also be accompanied by an explanation of why the project is needed.

Code Independent Documentation of Need Only

- 5 **Intended Use Plan/State Priority List.** The excerpts must include a description of why the project is needed. Costs from IUPs will not be used - modeling parameters or other cost documentation must be provided.
- 6 **Comprehensive Performance Evaluation (CPE) or Sanitary Survey Results.** The results or recommendations may be used to justify need if the state concurs.
- 7 **Monitoring Results.** Monitoring results indicating an MCL exceedance or a trending toward an exceedance can demonstrate a need for a project if accompanied by a written statement explaining how the results demonstrate the need.
- 8 **Other Independent Document.** Use this code if documentation is independent but none of the codes listed above apply. Examples include: state enforcement order/notice of violation, engineering studies, watermain break report, repair reports, and distribution system studies.

Code Independent Documentation of Cost Only

- 9 **Cost of Previous Comparable Construction.** This may be used to justify costs if the costs are project-specific. It must include documentation of how the costs were derived.

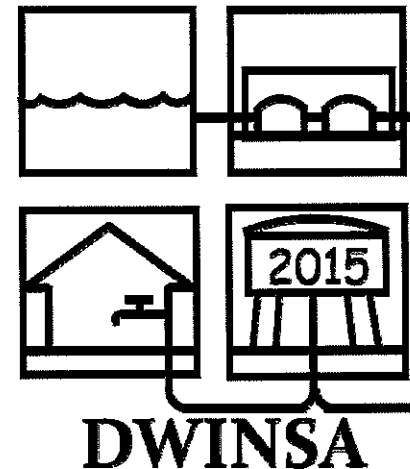
Code Survey-generated Documentation of Need Only

- 10 **Written by State.** Brief description and statement of need written by the state.
- 11 **Written by System.** Brief description and statement of need written by the system.

Code Documentation Submitted for Previous DWINSA

- 20 ~~**Project Relied on 2007 DWINSA Documentation.**~~ Code not applicable to the 2015 DWINSA. Resubmit documentation if it is needed.
- 21 **Project Relies on 2011 DWINSA Documentation.** Submit project-specific validation statement. Other documentation codes also apply if additional documentation is submitted for the 2015 DWINSA.

Lists of Codes



Use these instructions and lists of codes when you fill out the Drinking Water Infrastructure Needs Survey and Assessment (DWINSA) questionnaire. In your documentation, please be sure to include project descriptions. Also include copies of the breakdown of cost estimates, if available.

Instructions for Each Column on the 2015 Drinking Water Infrastructure Needs Survey and Assessment Questionnaire

Column Title	Instructions
Project Number	Number the projects in each category in sequence, using the following range of numbers for each category of need: - 1000's Source, treatment, storage, and pumping projects - 2000's Transmission and distribution projects - 3000's Meters, service lines, backflow prevention, valves, etc.
Project Name	Provide a name that briefly describes and identifies the project.
Type of Need	Refer to List 1 in the Lists of Codes and enter the code(s) that best identifies the project. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available. Codes not applicable to the 2015 DWINSA but that may appear in 2011 DWINSA data are shown in List 1 in italics and with strike-through to indicate they should not be used.
Reason for Need	Refer to List 2 in the Lists of Codes and enter the code(s) that best justifies the project. More than one code may apply to a project.
New, Replace, Expand/Upgrade, or ReHabilitate	Identify whether the project is for: - New infrastructure installation where none exists, enter 'N' - Resulting infrastructure is entirely new. - Replacement of existing infrastructure, enter 'R' - Existing infrastructure is replaced with similar infrastructure. - Expansion/Upgrade of a complete treatment plant, enter 'E' - Major improvements to an existing complete plant that adds or changes unit processes or results in an increase in capacity. Only use for complete treatment plants. - Rehabilitation of existing infrastructure, enter 'H' - Restore existing infrastructure to near-new condition.
Current or Future	Identify whether the project is: - Needed now, enter 'C' (even if you cannot start construction now) - Not needed now, enter 'F' (but will be necessary before 12/31/2034)
Regulation or Secondary Purpose	If the project is needed to maintain or obtain compliance with a regulation, secondary MCL, or state requirement, refer to List 3 in the Lists of Codes and enter the appropriate code. Enter '4A' if no code applies.
Design Capacity	Enter the design capacity when applicable: - million gallons per day (MGD) for source, treatment, and pumping; - million gallons (MG) for storage; - kilowatts (kW) for emergency power. For this survey, "design capacity" is the total volume or the flow that can be produced when all components of the project are operating (e.g., for disinfection, record the volume of water treated in MGD).

LIST 3 - REGULATION OR SECONDARY PURPOSE

Code Regulation or Secondary Purpose

EXISTING SDWA REGULATIONS

- 1A Surface Water Treatment Regulations (Surface Water Treatment Rule, Interim Enhanced Surface Water Treatment Rule, Filter Backwash Recycling Rule, Long Term 1 Enhanced Surface Water Treatment Rule, or Long Term 2 Enhanced Surface Water Treatment Rule)
- 1B Total Coliform Rule or Revised Total Coliform Rule
- 1C Nitrate or Nitrite Standard
- 1D Lead and Copper Rule
- 1E Arsenic Rule
- 1F Stage 1 or Stage 2 Disinfectants/Disinfection Byproducts Rules
- 1G Other Regulated VOCs, SOCs, IOCs, or Radionuclides (excludes Radon)
- 1H Ground Water Rule

OTHER

- 2A Secondary Contaminants (e.g., iron, taste and odor, or color)
- 2B State Requirements

IF NONE OF THE ABOVE CODES APPLY

- 4A Use this code if none of the codes above apply

PROPOSED AND RECENTLY PROMULGATED SDWA REGULATIONS

Needs associated **solely** with the **Proposed Radon Rule** are not allowable and should not be included. The costs for these needs, estimated for the rule's Economic Analysis, will be added to the total national need.

As of January 1, 2015, there were no other proposed rules or recently promulgated rules applicable to the 2015 DWINSA.

LIST 2 - REASON FOR NEED

Code	Reason the Project is Needed
A1	Project is for existing infrastructure that is or will be old or deteriorated by 12/31/2034.
A2	Project is to correct a deficiency in source water quantity caused by current user demand.
A3	Project is to correct a deficiency in storage capacity caused by current user demand.
A4	Project is to correct existing pressure problems (not related to fire flow).
A5	Project needed as a result of or in preparation for a natural disaster.
A6	Project is to obtain or maintain compliance with an existing regulation (enter the regulation code from List 3 in the Lists of Codes in the regulation column of the questionnaire).
A7	Project is to obtain or maintain compliance with a secondary standard (e.g., iron, taste and odor, and color) (enter regulation code 2A in the regulation column of the questionnaire).
A8	Project is for consolidation with and/or connection to an existing public water system.
A9	Project is for extending service to existing homes without adequate water quantity or quality.
~~A10~~	<i>[A10 is not applicable to the 2015 DWINSA but may appear in 2011 DWINSA data. A10 referred to security-related needs]</i>
A11	Use this code if codes A1-A9 do not apply.

Column Title	Instructions
Diameter	Enter the diameter (in inches, using decimals) if the project is for pipe, valves, backflow prevention, or meters. Use a separate project number and line for different sizes of infrastructure if a documented cost is not available. Diameter is not needed for service lines.
Length	Enter the length of pipe (in feet) that must be rehabilitated, replaced, or installed as new. Use a separate project number and line for different sizes of pipe if a documented cost is not available.
Number Needed	If you have multiple identical projects at the same capacity or multiple identical items, indicate the total number needed (e.g., rehabilitate 10 wells each with a 0.5 MGD capacity, or replace 1,000 0.625-inch meters). If you use this column and provide a project cost, the cost should reflect the entire project (i.e., <i>all</i> 10 wells or <i>all</i> 1,000 meters, not the cost of an individual well or meter).
Cost Estimate	If an existing cost estimate is available, enter the documented cost estimate for this project. Do not use cost estimates that were prepared prior to January 1, 2005. If no cost estimate is provided and modeling parameters are recorded, EPA will use models to estimate the cost. Do not develop a cost estimate for this survey.
Cost Date	If a documented cost estimate is provided, enter the month and year (MM/YYYY) of the cost estimate. EPA will adjust costs to current-year dollars.
Documentation	Refer to List 4 in the Lists of Codes and enter the code(s) that applies to the type of documentation provided that explains why the project is needed. If a cost estimate is provided, also enter the code that applies to the type of cost documentation. More than one code may apply to a project.
Remove, Modify, or Validate	This column appears for systems that participated in the 2011 DWINSA. An asterisk (*) indicates the project must be removed, modified, or have a project-specific validation for the 2015 DWINSA.

Important Notes:

- **What is a "need"?** Installation or rehabilitation of capital infrastructure needed over the next 20 years to obtain or maintain service to existing customers or to existing homes with inadequate or unsafe water that are not currently connected. Projects *substantially* for meeting anticipated future population growth or for fire flow are not allowed for the DWINSA.
- **What is "independent documentation"?** Documents generated through a process independent of the DWINSA (e.g., CIP, master plan, sanitary survey report).
- **What is "survey-generated documentation"?** Documents generated specifically for the survey that are written by the system or the state.

Please use the **Documentation Summary** tab of the Questionnaire to provide survey-generated documentation of need and/or provide information on the independent documentation for the project. A description of each project or a copy of the documentation must be provided and be clearly identified by project number.

LIST 1 - TYPE OF NEED

Code Type of Need

RAW/UNTREATED WATER SOURCE

- R1 Well (including pump and appurtenances)
 R2 Well Pump
~~R3 Well House¹~~
~~R4 Eliminate Well Pit¹~~
~~R5 Abandon Well¹~~
 R6 Aquifer Storage and Recovery Well
 R7 Surface Water Intake
 R8 Raw Water Pump
 R9 Off-Stream Raw Water Storage²
 R10 Spring
~~R11 Destratification¹~~

TREATMENT: Disinfection

- T1 Chlorination
 T2 Chloramination
 T3 Chlorine Dioxide
 T4 Ozonation
 T5 Mixed Oxidant Type Equipment
 T6 Ultraviolet Disinfection
 T7 Contact Basin for CT
 T8 Dechlorination of Treated Water
 T9 Chlorine Gas Scrubber

TREATMENT: Complete Plants (N/R/E require independent documentation)

- T10 Conventional Filter Plant (includes CAC technologies)
 T11 Direct or In-line Filter Plant
 T12 Slow Sand Filter Plant
 T13 Diatomaceous Earth Filter Plant
 T14 Membrane Technology for Particulate Removal
 T15 Cartridge or Bag Filtration Plant
 T16 Lime Softening
 T17 Reverse Osmosis
 T18 Electrodialysis
 T19 Activated Alumina
 T20 Manganese Green Sand (or other oxidation/filtration technology)
 T21 Ion Exchange
 T22 Groundwater Chemical-feed
 T23 Iron Adsorption
 T24 Aeration

TREATMENT: Other Components / Equipment / Processes

- T30 Zebra Mussel Control
 T31 Corrosion Control (chemical addition)
 T32 Powdered Activated Carbon
 T33 Aeration (component)
 T34 Sequestering for Iron and/or Manganese

¹ These codes are not applicable to the 2015 DWINSA but may appear in 2011 DWINSA data.² Cost must be provided; cost of this infrastructure cannot be modeled.

LIST 1 - TYPE OF NEED (cont.)

Code Type of Need

TREATMENT: Other Components / Equipment / Processes

- T35 Chemical Feed
 T36 Chemical Storage Tank
 T37 Fluoride Addition
 T38 Presedimentation Basin
 T39 Sedimentation/Flocculation
 T40 Granular Activated Carbon
 T41 Membrane Filtration (not complete plant)
 T42 Media Filters
 T43 Waste Handling/Treatment: Mechanical (not included in another project)
 T44 Waste Handling/Treatment: Nonmechanical or Connection to a Sanitary Sewer (not included in another project)
 T45 Type of Treatment Unknown
 T46 Other (Please include an explanation)²

TRANSMISSION MAINS: (Any mains that transport raw water to the treatment plant, or treated water from the plant to the distribution system grid.)

- X1 Raw Water Transmission
 X2 Finished Water Transmission

DISTRIBUTION

- M1 Distribution Mains (any mains that transport water through a piping grid serving customers; see "transmission" above)
 M2 Lead (Pb) Service Line Replacement
 M3 Service Lines (other than lead service lines)
~~M4 Hydrants¹~~
 M5 Valves (gate, butterfly, etc.) (not included in a pipe project)
 M6 Control Valves (PRVs, altitude, etc.)
 M7 Backflow Prevention Devices/Assemblies
 M8 Water Meters

FINISHED/TREATED WATER STORAGE

- S1 Elevated Finished/Treated Water Storage
 S2 Ground-level Finished/Treated Water Storage
 S3 Hydropneumatic Storage
 S5 Cover for Existing Finished/Treated Water Storage

PUMP STATION AND FINISHED WATER PUMP

- P1 Finished Water Pump
 P2 Pump Station (booster or raw water pump station-may include clearwell, pumps, housing)

OTHER INFRASTRUCTURE NEEDS

- ~~W1 Laboratory Capital Costs for Labs Owned by the System¹~~
 W2 Computer and Automation Costs (SCADA)
~~W3 Pump Controls Telemetry¹~~
 W4 Emergency Power (enter design capacity as kilowatts)
~~W5 Fencing and Security-related needs¹~~
~~W6~~
 W10 Other (Please include an explanation)²

Codes R99, S99, T99, and M99 may be added by EPA to assign a category of need. They are in some 2011 DWINSA projects but do not affect cost or allowability of the project.

Acceptable Documentation of Need by Type of Need Code

Code	Need Type	New		Replacement	Rehabilitation
SOURCE					
R1	Well	Weight of evidence (*) - Substantial portion not for growth - Specific deficiency discussed		Weight of evidence (*) - Age, condition, history - Specific deficiency discussed	Weight of evidence (*) - Age, condition, history
R10	Spring Collector				
R2	Well Pump	Weight of evidence (*) - Substantial portion not for growth - Specific deficiency discussed		All forms of documentation accepted	
R8	Raw Water Pump				
R6	Aquifer Storage and Recovery Well	Weight of evidence (*) - Independent Documentation Required - Substantial portion not for growth - Specific deficiency discussed		Weight of evidence (*) - Age, condition, history - Specific deficiency discussed	Weight of evidence (*) - Age, condition, history
R7	Surface Water Intake				
R9	Off-Stream Raw Water Storage	Weight of evidence (*) - Independent Documentation Required - Specific deficiency discussed - Cost estimate required		All forms of documentation accepted (cost estimate required) (* Did the project start?)	
TREATMENT COMPONENTS					
T1 – T9	Disinfection	Weight of evidence (*) - Independent Documentation Required - Specific deficiency discussed - Not for new/recent regulation		All forms of documentation accepted	
T30 – T44	Treatment components				
T45	Treatment Unknown			N/A	
T46	Other			All forms of documentation accepted (cost estimate required)	
COMPLETE TREATMENT PLANTS					
Code	Need type	New	Expansion or Upgrade	Replacement	Rehabilitation
T10 – T24	Complete Treatment Plants	Weight of evidence (*) - Independent Documentation Required - Substantial portion not for growth - Specific deficiency discussed			All forms of documentation accepted
PUMPING					
Code	Need Type	New		Replacement	Rehabilitation
P1	Finished Water Pump	Weight of evidence (*) - Substantial portion not for growth - Specific deficiency discussed		All forms of documentation accepted	
P2	Pump Station	Weight of evidence (*) - Independent Documentation Required - Substantial portion not for growth or fire - Specific deficiency discussed		Weight of evidence (*) - Age, condition, history of pump station or system	All forms of documentation accepted

() Indicates projects accepted for the 2011 DWINSA must have project-specific validation for the 2015 DWINSA. Projects without an (*) that are not changed from the 2011 survey can be documented by simple statement that the project is still needed and is within the same scope as submitted for the 2011 DWINSA. If you changed information, please provide a short explanation.*

Acceptable Documentation of Need by Type of Need Code				
Code	Need Type	New	Replacement	Rehabilitation
PIPE				
X1	Raw Water Transmission	Weight of evidence (*) - Independent Documentation Required - Substantial portion not for growth - Specific deficiency discussed	All forms of documentation accepted within 10% limit (*) independent documentation required over 10% limit (*) If any project relies on survey-generated documentation, the total system-wide rehab and replacement rate may not exceed 10% for the 20-year period.	
X2	Finished Water Transmission			
M1	Distribution Mains			
M2	Lead Service Lines	N/A	All forms of documentation accepted (* Update the number needed)	N/A
M3	Service Lines	All forms of documentation accepted (*) (statement of system's responsibility required if for service lines between the curb stop and the building; statement that not included in pipe projects if from pipe to the curb stop.) Weight of evidence if significant amount of new backflow or replacing over 10% of service lines (*) Weight of evidence if more than one meter per connection All forms of documentation accepted if ≤ 1 meter per connection		(Rehabilitation not allowed – considered O&M)
M7	Backflow Prevention			
M8	Water Meters			
M5	Valves	Weight of evidence (*) - Clear indication not included in pipe - Specific deficiency and history of replacement if over 10% of existing or significant amount of new	(Rehabilitation not allowed – considered O&M)	
M6	Control Valves	All forms of documentation accepted		(Rehabilitation not allowed – considered O&M)
FINISHED / TREATED WATER STORAGE				
S1	Elevated Storage	Weight of evidence (*) - Independent Documentation Required - Substantial portion not for growth/fire - Specific deficiency discussed	Weight of evidence (*) - Age, condition, history of tank - Specific deficiency discussed	All forms of documentation accepted
S2	Ground-level Storage			
S3	Hydropneumatic Storage	Weight of evidence (*) - Substantial portion not for growth - Specific deficiency discussed	All forms of documentation accepted	
S5	Cover for Existing Finished / Treated Water Storage	All forms of documentation accepted (includes rehab of the tank) (* Did the project start?)		N/A
OTHER				
W2	SCADA	All forms of documentation accepted		(Rehabilitation not allowed – considered O&M)
W4	Emergency Power	Weight of evidence (*) - Clear indication of need (necessary to operate critical infrastructure to maintain pressure and provide water)	All forms of documentation accepted	(Rehabilitation not allowed – considered O&M)
W10	Other	Case-by-case basis (Cost required)		Case-by-case basis (Cost required)
Type of Need codes not applicable to the 2015 DWINSA but used in the 2011 State DWINSA: R3 Well House, R4 Eliminate Well Pit, R5 Abandon Well, R11 Destratification, M4 Hydrants, W1 Laboratory Capital Costs, W3 Pump Controls/Telemetry, W5-W9 Fencing and Security-related codes. Codes R99, S99, T99, and M99 may be added by EPA to assign a category of need. They are in some 2011 DWINSA projects but do not affect cost or allowability of the project.				



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 10 2015

OFFICE OF
WATER

Dear Water System Professional:

In partnership with the states, Puerto Rico, the District of Columbia and the U.S. territories (Guam, U.S. Virgin Islands, Northern Mariana Islands and American Samoa), we are conducting the sixth nationwide survey of drinking water systems' capital investment needs.

Your water system is one of approximately 2,800 systems across the country that we have selected to participate in the 2015 Drinking Water Infrastructure Needs Survey and Assessment. Although participation is voluntary, **your response will determine the amount of money your state or EPA Region receives under the Drinking Water State Revolving Fund (DWSRF)**, which enables states and EPA Regions to provide low interest loans and other forms of financial assistance to water systems. Your participation is critical to the success of the drinking water program in your state and EPA Region.

Please work with your state or, if a US Territory, EPA Regional Office to fill out the enclosed questionnaire and provide the needed supporting documentation. You can also contact the Needs Survey contractor at 1-406-443-9194 if you have questions.

Thank you in advance for your help with the 2015 Assessment.

Sincerely Yours,

A handwritten signature in black ink, which appears to read "R. W. Barles".

Robert Barles, National Project Manager
2015 Drinking Water Infrastructure Needs Survey

2015 Drinking Water Infrastructure Needs Survey and Assessment

Updating Your 2011 Survey

If you participated in the 2011 Needs Survey, first of all - Thank you! Second - The good news is that for the 2015 Survey, you only need to update your information to reflect your system's needs as of 2015.

Reviewing the file sent by the state

Attached in this survey packet is the data for your system from 2011.

Take a look at the front page of the questionnaire and see if any of the information needs to be updated.

- Population served should include your direct retail population and also any consecutive populations you may serve. If your system only provides a percentage of water to another system through a consecutive connection, apply that same percentage to the population served for a total population served by your system. Please do not include emergency connections.
- Input any updated information on the right-hand side of the form.

Take a look at the project table from 2011. Be aware that this table may vary from what was originally submitted in 2011. This is because the survey has certain policies that we adhere to, and we may have needed to adjust your project data to meet these policies.

- You can modify this project table with updated information about existing projects and include new projects as appropriate. New projects should use unique project numbers that were not used in 2011.

Updating the Project Table

Projects commonly needed in every 20-year survey period

Projects that are likely to be needed every 20-year survey period have no asterisk in the "Remove/Modify/Validate" column. Therefore, these projects require very little documentation. Take a brief look to make sure that these projects are still valid needs for your system. If they are, a simple statement such as "Project is needed within the next 20 years and scope is the same as in 2011" will suffice to document these needs. Your statement can be provided in the documentation summary table at the end of the questionnaire or in a separate attachment.

Projects not needed in every 20-year period

If there is an asterisk in the "Remove/Modify/Validate" column, this means that the project is not generally considered to be needed within each 20-year survey. We ask that you look at these projects and determine if they have already started construction, if they are still needed, and if the scope is the same.

Remove

If a project has started construction prior to January 1, 2015, and the infrastructure does not have further needs within the 20-year survey period, remove it from the survey altogether. Please do not reuse that project number. We suggest you delete all of the project information and enter "Deleted" as the project name.

Modify

If a project was completed, but that infrastructure will have needs within the next 20 years, modify the project to reflect its new needs. For example, if a tank was built it may need a rehab within 20 years.

Validate

If a project is still needed and has not started construction, please let us know that this is the case and confirm that the scope of the project is the same. Your validation statement can be provided in the documentation summary table at the end of the questionnaire or in a separate attachment.

Changes to project data

If a project has changed from how it was recorded for the 2011 Survey, regardless of whether there is an asterisk in the remove/modify/validate column, please change the data accordingly and provide information about an updated cost, if available, and the need for the project. Some projects may have been modified by EPA in 2011 to meet the survey's policies. These can be updated for 2015 as long as adequate documentation of need for the project type is provided in 2015.

Reinstating a project that was deleted in 2011

If a project has data in the first four columns but no other project data, it means that the project was not accepted by EPA due to policy issues. These deletions may have been due to insufficient documentation of need. You may want to reinstate the project and provide updated documentation of need and cost.

Adding a new project

If your system has additional needs that were not reported in the 2011 survey, add projects into the project table. Additional projects must be assigned new project numbers. Please do not reuse project numbers from 2011. Also, keep in mind that infrastructure cannot be accounted for more than once in the table. Please check to see if the new project may overlap with an existing project already on the table. Also please consider whether any green infrastructure or climate resiliency-related projects should be added that you may not have normally considered for the survey.

Provide documentation

The need for each project must be documented. There is a template documentation page (a tab in the spreadsheet) in the questionnaire file. Some projects can be documented with only a simple statement of need. Others must have more project-specific information which may include an independent document supporting the need. See the document, "2015 DWINSA Instructions for Systems" for more information about what types of documentation are needed to explain specific types of projects.

Example

Attached is an example survey with a front and back page, a project table from 2011, an updated project table for 2015, and a documentation summary table. This example shows what an existing survey from 2011 might look like and how the survey could be updated for the 2015 survey. The 2015 project table has changes from 2011 in highlighted cells.

2015 Drinking Water Infrastructure Needs Survey And Assessment

U.S. Environmental Protection Agency
Washington, DC 20460

Federal PWSID No.:

OMB No.:

Approval Expires:

XX1234567

Please verify or correct the following information:

	Check if Correct as Printed	Corrected Information (Fill in only if preprinted information is missing or incorrect)
Name of System (Community): City of Stauton	☒	
Name of Contact: Carl Smith		
Street Address: 2783 Main Street	☒	
City, State, and Zip: Stauton, MT 59601		
Population Served (if wholesaler, include consecutive population as appropriate): 156,922	☐	157,258
Number of Connections (not including consecutive systems): 53,657	☐	53,825
Total System Design Capacity (in MGD): 73 MGD	☒	
Total Length of Pipe in System (in Feet): 475,200	☐	475,600
Source Water Type (Ground, Surface/GWUDI, etc.): SURFACE	Check All That Apply: ☒ Ground ☐ Purchased Ground	☒ Surface/GWUDI ☐ Purchased Surface/GWUDI
Ownership Type: PUBLIC	Check All That Apply: ☒ Public ☐ Federal Government	☐ Investor-Owned or Private Non-Profit
Public reporting burden for this collection of information is estimated to average 5.53 hours per response. This estimate includes time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collected. Burden means the total time, effort, or financial resources expended by person(s) to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information; adjust the existing ways to comply with any previously applicable instructions; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, OPPI, Regulatory Information Division, U.S. Environmental Protection Agency (1804A), Ariel Rios Building, 1200 Pennsylvania Ave., NW, Washington, DC 20460; and Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, N.W., Washington, DC 20503.		
State Use Only State Reviewer: _____ Telephone Number: _____		

Information provided for this survey can be requested by the public. It is our experience that this information is rarely requested.

Example 2011 Project Table														
												Federal PWSID No.:		XX1234567
Project Number	Project Name	Type of Need	Reason for Need	N,E,R,H (New, Expand, Replace, Re Hab)	C or F (Current, Future)	Regulation	Design Capacity (MG, MGD, or kW)	Diameter (inches)	Length (feet)	Number Needed	Cost Estimate	Cost Date (mm/yyyy)	Documentation	Remove Modify or Validate
1000	New Conventional Treatment Plant	T10	A1, A6	N	C	1A	63			1	\$67,900,000	7/2010	1, 10	*
1001	South Street GW Plant	T22	A1	H	C	4A	10			1			1, 10	
1002	Rehab Well 7 at South Street Well Field	R1	A1	H	C	4A	2			1			2, 10	*
1003	Rehab 37th and Fairlawn BPS	P2	A1	H	F	4A	3			1			10	
1004	Replace Meriden BPS	P2	A4	R	C	4A				1	\$406,000	7/2010	1,10	*
1005	Rehab 29th & California Elevated Tank	S1	A1	H	F	4A	0.25			1			10	
1006	Rehab Quincy, Croco, Sherwood, Montara, 46th St. Storage Tanks	S1	A1	H	F	4A	0.5			5			10	
1007	Replace South Hills Storage	S1	A1	H	F	4A	0.75			1			10	
2000	Replace Deteriorated Water Lines	M1	A1	R	F	4A		8	47,520				10	
2001	Water Main Extension	M1	A4	N	C	4A		8	4,000		\$500,000	7/2010	1, 4, 10	*
2002	Replace Service Lines	M3	A1											
3000	Replace Meters	M8	A1	R	F	4A		0.625		53657			10	

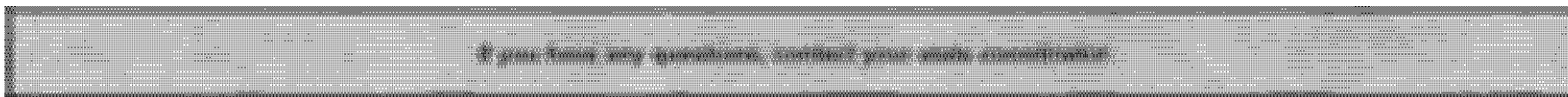
				Example 2015 Project Table							Federal PWSID No.: XX1234567		
Project Number	Project Name	Type of Need	Reason for Need	N,E,R,H (New, Expand, Replace, ReHab)	Current or Future	Regulation	Design Capacity (MG, MGD, or kW)	Diameter (inches)	Length (feet)	Number Needed	Cost Estimate	Cost Date (mm/yyyy)	Documentation
1000	Rehab Conventional Treatment Plant	T10	A1, A6	H	F	1A	63			1			10
1001	South Street GW Plant	T22	A1	H	C	4A	10			1			10
1002	Pump Replacement	R2	A1	R	F	4A	2			1			10
1003	Rehab 37th and Fairlawn BPS	P2	A1	H	F	4A	3			1			10
1004	Replace Meriden BPS	P2	A4	R	C	4A				1	\$406,000	7/2010	21,10, 1
1005	Rehab 29th & California Elevated Tank	S1	A1	H	F	4A	0.25			1			10
1006	Rehab Quincy, Croco, Sherwood, Montara, 46th St. Storage Tanks	S1	A1	H	F	4A	0.5			5			10
1007	Replace South Hills Storage	S1	A1	R	F	4A	0.75			1			10, 8
2000	Replace Deteriorated Water Lines	M1	A1	R	F	4A		8	47,560				10
2001	deleted												
2002	Replace Service Lines	M2	A6	R	C	1D				40			7,10
3000	Replace Meters	M8	A1	R	F	4A		0.625		53,825			10
3001	Generator at Meriden Pump Station	W4	A1	N	C	4A	100			1			10

Respondent Information

Please provide the following information in case we need to contact you for clarification or additional explanation of any of your responses.

Contact Person (Person who completed this questionnaire):

Signature:	<u>Carl Smith</u>	Telephone Number:	<u>406-448-2658</u>
Name (please print):	<u>Carl Smith</u>	Fax Number:	<u></u>
Title:	<u>City Utilities Manager</u>	E-mail Address:	<u>Csmith@cityofstauton.gov</u>
Mailing Address:	<u>2783 Main Street</u>	Best Time to Reach You:	<u></u>
(Street Address)	<u>Stauton, MT 59601</u>		
	<u></u>		



CLOSING: Thank you for your help. Did you remember to?

- ☒ Identify, by project number, available documentation for all needs and costs reported?
- ☒ Email the questionnaire and email or mail the documentation to your state?

Summary of Survey-Generated and Independent Documentation for Each Project					
				Federal PWSID No.:	XX1234567
Project Number	Project Name	Documentation Code(s)	State/System Survey-Generated Statement	Independent Document Name	Independent Documentation Page Number(s)
1000	Rehab Conventional Treatment Plant	10	We completed this WTP project in 2013. It will need some rehabilitation within the next 20 years.		
1001	South Street GW Plant	10	Needed within next 20 years and scope is the same.		
1002	Pump Replacement	10	This well was rehabbed in 2012 and will not need to be rehabilitated again within 20 years. However, the pump will need to be replaced within 20 years so we have changed the project to a well pump replacement.		
1003	Rehab 37th and Fairlawn BPS	10	Needed within next 20 years and scope is the same.		
1004	Replace Meriden BPS	21,10, 1	This pump station replacement project did not get completed due to budget constraints. We still need to complete this project as the issues with inadequate pressures noted in our CIP still persist. The scope is still the same and the cost is still valid.	2011 CIP	page 6.8
1005	Rehab 29th & California Elevated Tank	10	Needed within next 20 years and scope is the same.	2011 CIP	page 4.3
1006	Rehab Quincy, Croco, Sherwood, Montara, 46th St. Storage Tanks	10	Rehab of each of these five tanks will be needed within next 20 years, and scope is the same.		
1007	Replace South Hills Storage	10, 8	This storage tank was submitted as a replacement project in 2011 but was changed to a rehab. This tank is 40 years old and is beyond its useful life. It is past the point of rehabilitation. We need to replace it. See the attached inspection report from 2012.	2012 Inspection Report	Section 4
2000	Replace Deteriorated Water Lines	10	We have updated the amount of water main replacement needed based on 10% of the new total length of pipe in the system.		
2001	deleted		Project 2001 from the 2011 Survey: These water mains were completed, therefore this project was removed. The new pipe is now added to the total length of pipe in the system.		
2002	Replace Service Lines	7,10	This project was mis-coded in 2011. They are lead service lines that are the responsibility of the system. These lines still need replacement.	lead and copper monitoring results summary	
3000	Replace Meters	10	These meters will need to be replaced within the next 20 years. We've updated the number based on new connections since 2011.		
3001	Generator at Meriden Pump Station	10	The Meriden Pump Station is critical infrastructure for the upper pressure zone of our system. In the case of a power outage, we need an emergency power generator at this site.		

2015 Drinking Water Infrastructure Needs Survey And Assessment

U.S. Environmental Protection Agency
Washington, DC 20460

OMB Control No.: 2040-0274
Approval Expires: 06/30/2018
Federal PWSID No.: MI0002310

MI0002310

Please verify or correct the following information:

	Check if Correct as Printed	Corrected Information (Fill in only if preprinted information is missing or incorrect)
Name of System (Community): FLINT, CITY OF	☐	
Name of Contact: WRIGHT, BRENT	☐	
Street Address: Flint Water Plant, 4500 North Dort Highway	☐	
City, State, and Zip: FLINT, MI, 48505	☐	
Population Served (if wholesaler, include consecutive population as appropriate): 102,434	☐	
Number of Connections (not including consecutive systems): 35,132	☐	
Total System Design Capacity (in MGD):	☐	
Total Length of Pipe in System (in Feet): 2,927,860	☐	
Source Water Type (Ground, Surface/GWUDI, etc.): Surface/GWUDI	Check All That Apply: ☐ Ground ☐ Surface/GWUDI ☐ Purchased Ground ☐ Purchased Surface/GWUDI	
Ownership Type: Public	Check All That Apply: ☐ Public ☐ Investor-Owned or ☐ Federal Government ☐ Private Non-Profit	
Public reporting burden for this collection of information is estimated to average 5.53 hours per response. This estimate includes time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collected. Burden means the total time, effort, or financial resources expended by person(s) to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information; adjust the existing ways to comply with any previously applicable instructions; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, OPPI, Regulatory Information Division, U.S. Environmental Protection Agency (1804A), Ariel Rios Building, 1200 Pennsylvania Ave., NW, Washington, DC 20460; and Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, N.W., Washington, DC 20503.		
State Use Only State Reviewer: _____ Telephone Number: _____		

Information provided for this survey can be requested by the public. It is our experience that this information is rarely requested.

						Project Table					Federal PWSID No.: MI0002310			
Project Number	Project Name	Type of Need	Reason for Need	N,E,R,H (New Expand Replace Re Hab)	C or F (Current Future)	Regulation	Design Capacity (MG, MGD, or kW)	Diameter (Inches)	Length (feet)	Number Needed	Cost Estimate	Cost Date (mm/yyyy)	Documentation	Remove Modify or Validate
Ex. 1	Replace wells 5 and 8 at 0.5 MGD each	R1	A1	R	C	4A	0.5			2			6, 10	
Ex. 2	Replace Deteriorated Transmission Main	X2	A1	R	C	4A		24	20,000		\$4,200,000	06/2015	1	
1000	TREATMENT PLANT PROCESS SCADA	W2	A1	R	F	4A					\$978,000	09/2011	2, 10	
1001	WTP EXP	T10	A1	E	F	4A					\$40,258,000	09/2011	2, 10	*
1002	PS3 PUMP #1 REPLACE	M99, P1	A1, A4	R	F	4A	8			1			20	
1003	PS3 PUMP #2 REPLACE	M99, P1	A1, A4	R	F	4A	12			1			20	
1004	PS3 PUMP #3 REPLACE	M99, P1	A1, A4	R	F	4A	16			1			20	
1005	PS3 STAND-BY POWER	M99, W4	A11	N	F	4A	20			1			10, 20	*
1006	PS5 STAND-BY POWER	M99, W4	A11	N	F	4A	20			1			10, 20	*
1007	REPLACE SWITCHGEAR @ PS3	P2	A1											
1008	REHAB TORREY RD BOOSTER STA.	P2	A1	H	C	4A				1	\$241,000	07/2011	2, 3, 10	
1009	CEDAR ST. RESERVOIR REHAB	S2	A1	H	F	4A	20			1			20	
1010	WEST-SIDE RESERVOIR REHAB	S2	A1	H	F	4A	12			1			20	
1011	PUMP STATION 5 REHAB	P2	A1	H	F	4A	24			1			20	
2000	UPGRADE 3-FOOT & 4-INCH MAINS WITH 8-INCH	M1	A1	R	C	4A					\$12,000,000	02/2007	20	*
2001	REPLACE CRITICAL 6-INCH MAINS WITH 8-INCH	M1	A1	R	C	4A					\$1,000,000	02/2007	20	*
2002	LOOP EXSISTING 6-INCH MAINS WITH 8-INCH	M1	A1	N	C	4A		8	3025				10	*
2003	LOOP EXSISTING 12-INCH MAINS	M1	A1	N	C	4A		12	800				10	*

						Project Table						Federal PWSID No.: MI0002310		
Project Number	Project Name	Type of Need	Reason for Need	N.E.R.H (New Expand Replace ReHab)	C or F (Current Future)	Regulation	Design Capacity (MG, MGD, or kW)	Diameter (inches)	Length (feet)	Number Needed	Cost Estimate	Cost Date (mm/yyyy)	Documentation	Remove Modify or Validate
2004	REPLACE EXISTING 6-INCH MAINS WITH 8-INCH	M1	A1	R	C	4A		8	91000				20	*
2005	REPLACE 8-INCH MAINS	M1	A1	R	C	4A		8	45500				20	*
2006	REPLACE 10-INCH & 12-INCH MAINS WITH 12-INCH	M1	A1	R	F	4A		12	15600				20	*
2007	REPLACE 14-INCH AND 16-INCH MAINS WITH 16-INCH	M1	A1	R	F	4A		16	10400				20	*
2008	REPLACE 18-INCH MAINS	M1	A1	R	F	4A		18	4160				1, 2, 20	*
2009	REPLACE 24-INCH MAINS	X2	A1	R	C			24	7800				20	*
2010	REPLACE 30-INCH MAINS	X2	A1	R	C			30	1040				20	*
2011	REPLACE 36-INCH MAINS	X2	A1	R	C	4A		36	715				20	*
2012	LOOP EXSISTING 8-INCH MAINS	M1	A1	N	C	4A		8	400				10	*
2013	REPLACE 42-INCH MAINS	X2	A1	R	F	4A		42	95				20	*
2014	REPLACE 72-INCH MAINS	X2	A1	R	C	4A		72	3744				20	*
3000	REPLACE RESIDENTIAL METERS	M8	A1	R	C	4A		0.625		32931			10	
3001	REPLACE RESIDENTIAL METERS	M8	A1	R	C	4A		1		471			10	
3002	REPLACE RESIDENTIAL METERS	M8	A1	R	C	4A		1.5		393			10	
3003	REPLACE RESIDENTIAL METERS	M8	A1	R	C	4A		2		20			10	
3004	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		0.625		439			10	
3005	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		1		281			10	
3006	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		1.5		350			10	
3007	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		2		368			10	

						Project Table						Federal PWSID No.: MI0002310		
Project Number	Project Name	Type of Need	Reason for Need	N,E,R,H (New Expand Replace ReHab)	C or F (Current Future)	Regulation	Design Capacity (MG, MGD, or kW)	Diameter (inches)	Length (feet)	Number Needed	Cost Estimate	Cost Date (mm/yyyy)	Documentation	Remove Modify or Validate
3008	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		3		107			10	
3009	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		4		71			10	
3010	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		6		47			10	
3011	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		8		3			10	
3012	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		10		6			10	
3013	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		16		1			10	
3014	REPLACE COMMERCIAL METERS	M8	A1	R	F	4A		24		1			10	
3015	LEAD SERVICE REPLACEMENT	M2	A1, A6	R	C	1D		1		18000			10	*
3017	OTHER SERVICE LINE REPLACEMENT	M2	A1	R	F	4A		1		3238			10	*
3018	REPLACE SERVICE LINES > 1-INCH	M2	A1	R	F	4A				275			10	*

Source, Treatment, Storage, and Pumping Inventory

To ensure all potential source, treatment, and storage projects are considered, it may be helpful to complete some or all of this inventory table. However, completion of this table is not required.

- **Source Projects** are all projects related to collecting and pumping raw water. This includes wells, surface water intakes, springs, off-stream raw water storage, and pumps.
- **Treatment Projects** are all projects related to disinfection, filtration, or other treatment processes for ground or surface water sources, or for treatment applied in the distribution system.
- **Storage and Pumping Projects** are related to finished or treated water storage, and booster pump stations.

Source Water			
Inventory	Needing Replacement	Needing Rehabilitation	New Infrastructure Needs
Total Number and Capacity of Existing Wells or Springs:	Wells (pumps included) or Springs:	Wells (pumps included) or Springs:	Does your system have additional source water capacity needs to meet the needs of current users? ☐ Yes ☐ No If yes, how many additional sources are necessary?
Total Number and Capacity of Existing Surface Water Sources:	Existing Surface Water Intakes (excluding pumps):	Existing Surface Water Intakes (excluding pumps):	
Total Number and Capacity of Existing Pumps (excluding booster pump stations):	Existing Groundwater Pumps (if wells not listed):	Existing Groundwater Pumps (if wells not listed):	
	Existing Raw Surface Water Pumps:	Existing Raw Surface Water Pumps:	
Treatment			
Inventory	Needing Replacement	Needing Expansion/Upgrading or Rehabilitation	New Infrastructure Needs
For the sources identified above, enter the number of locations where the following treatment is applied:			Does your system have additional treatment needs for provisions of additional public health protection or for aesthetic concerns? ☐ Yes ☐ No If yes, how much additional treatment is necessary?
Disinfection (including booster disinfection):	Disinfection:	Disinfection:	
Filtration:	Filtration:	Filtration:	
Chemical removal or addition:	Chemical treatment:	Chemical treatment:	
Storage and Pump Stations			
Inventory	Needing Replacement	Needing Rehabilitation	New Infrastructure Needs
Total Number and Capacity of Existing Storage Tanks:	Number of Existing Elevated or Ground-Level Storage Tanks:	Number of Existing Elevated or Ground-Level Storage Tanks:	Does your system have additional storage capacity and/or booster pumping needs to meet the needs of current users? ☐ Yes ☐ No If yes, how much additional finished water storage or booster pumping capacity is necessary?
Total Number and Capacity of Existing Booster Pump Stations:	Number of Existing Booster Pump Stations:	Number of Existing Booster Pump Stations:	

Transmission and Distribution Inventory

Transmission and distribution projects are the piping needs of a water system. Projects for **valves, backflow prevention devices and assemblies, and meters** that are not part of a transmission or distribution project listed in this table should be recorded in the table under the tab titled "Inventory Table 3".

On the table below, please provide an estimate of the total feet or miles of pipe in your system, if possible. Completion of this table is not required, but it may be helpful to ensure all potential transmission and distribution pipe projects are considered.

Note: The total feet or miles of pipe in your system is required information if any pipe projects are submitted based solely on survey-generated documentation (documentation codes 10 or 11).		☐ feet Total Pipe ☐ miles in System <i>(Check feet or miles)</i>			
<u>Total Pipe in System</u> <i>(Check feet or miles)</i>		<u><=6 inch</u>	<u>8-12 inch</u>	<u>15-42 inch</u>	<u>>=48 inch</u>
☐ feet ☐ miles <u>Plastic</u> % of total pipe _____	Amount of PVC by pipe size % of this category/size pipe currently in poor condition or beyond useful life _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %
☐ feet ☐ miles <u>Ductile Iron</u> % of total pipe _____	Amount of ductile iron by pipe size % of this category/size pipe currently in poor condition or beyond useful life _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %
☐ feet ☐ miles <u>Cast Iron</u> % of total pipe _____	Amount of cast iron by pipe size % of this category/size pipe currently in poor condition or beyond useful life _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %
☐ feet ☐ miles <u>Asbestos Cement</u> % of total pipe _____	Amount of asbestos cement by pipe size % of this category/size pipe currently in poor condition or beyond useful life _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %
☐ feet ☐ miles <u>Other</u> % of total pipe _____	Amount of other by pipe size % of other currently in poor condition or beyond useful life _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %	☐ feet ☐ miles _____ %

Meters, Service Lines, Backflow Prevention Devices/Assemblies, Valves, etc.

Projects for meters, service lines, backflow prevention devices and assemblies, valves, and other miscellaneous projects are recorded in this section to accommodate entries of multiple identical items on one line in the project table.

Record only projects that are not a part of another project (e.g., water main replacement projects will already include valves and other appurtenances).

EPA requires documentation of all projects provided. Applicable types of documentation are presented in List 4 of the Lists of Codes.

Use only existing documentation of cost. We do not expect you to develop new cost estimates.

To ensure all potential projects are considered, it may be helpful to complete some or all of this inventory table. However, completion of this table is not required.

Inventory	Needing Replacement	New Infrastructure Needs
Total Number of Existing Water Meters:	Number of Water Meters:	Number of Water Meters:
Total Number of Existing Backflow Prevention Devices/Assemblies:	Number of Backflow Prevention Devices/Assemblies:	Number of Backflow Prevention Devices/Assemblies:
Total Number of Valves:	Number of Valves:	Number of Valves:
Total Number of Lead Service Lines:		

Respondent Information

Please provide the following information in case we need to contact you for clarification or additional explanation of any of your responses.

Contact Person (Person who completed this questionnaire):

Signature: _____

Telephone Number: _____

Name (please print): _____

Fax Number: _____

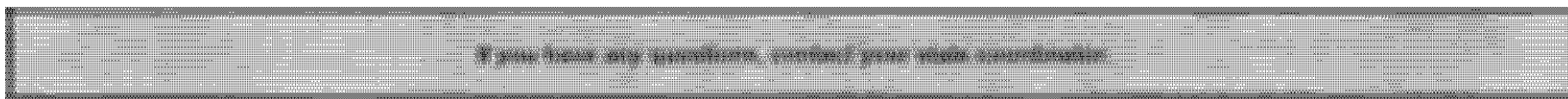
Title: _____

E-mail Address: _____

Mailing Address: _____

Best Time to Reach You: _____

(Street Address) _____



CLOSING: Thank you for your help. Did you remember to?

- ☐ Identify, by project number, available documentation for all needs and costs reported?
- ☐ Email the questionnaire and email or mail the documentation to your state?

Summary of Survey-Generated and Independent Documentation for Each Project				Federal PWSID No.:	MI0002310
<i>Project Number</i>	<i>Project Name</i>	<i>Documentation Code(s)</i>	<i>State/System Survey-Generated Statement</i>	<i>Independent Document Name</i>	<i>Independent Documentation Page Number(s)</i>
1000	TREATMENT PLANT PROCESS SCADA	2, 10			
1001	WTP EXP	2, 10			
1002	PS3 PUMP #1 REPLACE	20			
1003	PS3 PUMP #2 REPLACE	20			
1004	PS3 PUMP #3 REPLACE	20			
1005	PS3 STAND-BY POWER	10, 20			
1006	PS5 STAND-BY POWER	10, 20			
1007	REPLACE SWITCHGEAR @ PS3				
1008	REHAB TORREY RD BOOSTER STA.	2, 3, 10			
1009	CEDAR ST. RESERVOIR REHAB	20			
1010	WEST-SIDE RESERVOIR REHAB	20			
1011	PUMP STATION 5 RE- HAB	20			
2000	UPGRADE 3-FOOT & 4- INCH MAINS WITH 8- INCH	20			
2001	REPLACE CRITICAL 6- INCH MAINS WITH 8- INCH	20			
2002	LOOP EXSISTING 6- INCH MAINS WITH 8- INCH	10			
2003	LOOP EXSISTING 12- INCH MAINS	10			
2004	REPLACE EXISTING 6- INCH MAIONS WITH 8- INCH	20			
2005	REPLACE 8-INCH MAINS	20			

<i>Project Number</i>	<i>Project Name</i>	<i>Documentation Code(s)</i>	<i>State/System Survey-Generated Statement</i>	<i>Independent Document Name</i>	<i>Independent Documentation Page Number(s)</i>
2006	REPLACE 10-INCH & 12-INCH MAINS WITH 12-INCH	20			
2007	REPLACE 14-INCH AND 16-INCH MAINS WITH 16-INCH	20			
2008	REPLACE 18-INCH MAINS	1, 2, 20			
2009	REPLACE 24-INCH MAINS	20			
2010	REPLACE 30-INCH MAINS	20			
2011	REPLACE 36-INCH MAINS	20			
2012	LOOP EXSISTING 8-INCH MAINS	10			
2013	REPLACE 42-INCH MAINS	20			
2014	REPLACE 72-INCH MAINS	20			
3000	REPLACE RESIDENTIAL METERS	10			
3001	REPLACE RESIDENTIAL METERS	10			
3002	REPLACE RESIDENTIAL METERS	10			
3003	REPLACE RESIDENTIAL METERS	10			
3004	REPLACE COMMERCIAL METERS	10			
3005	REPLACE COMMERCIAL METERS	10			
3006	REPLACE COMMERCIAL METERS	10			
3007	REPLACE COMMERCIAL METERS	10			
3008	REPLACE COMMERCIAL METERS	10			

<i>Project Number</i>	<i>Project Name</i>	<i>Documentation Code(s)</i>	<i>State/System Survey-Generated Statement</i>	<i>Independent Document Name</i>	<i>Independent Documentation Page Number(s)</i>
3009	REPLACE COMMERCIAL METERS	10			
3010	REPLACE COMMERCIAL METERS	10			
3011	REPLACE COMMERCIAL METERS	10			
3012	REPLACE COMMERCIAL METERS	10			
3013	REPLACE COMMERCIAL METERS	10			
3014	REPLACE COMMERCIAL METERS	10			
3015	LEAD SERVICE REPLACEMENT	10			
3017	OTHER SERVICE LINE REPLACEMENT	10			
3018	REPLACE SERVICE LINES > 1-INCH	10			

Project Table (Compare 2011 to 2015)

Federal PWSID No.: MI0002310

<i>Project Number</i>	<i>Project Name</i>	<i>Type of Need</i>	<i>Reason for Need</i>	<i><u>N,E,R,H</u> (<u>N</u>ew <u>E</u>xpand <u>R</u>eplace <u>R</u>eHab)</i>	<i><u>C</u> or <u>F</u> (<u>C</u>urrent <u>F</u>uture)</i>	<i>Regula- tion</i>	<i>Design Capacity (MG, MGD, or kW)</i>	<i>Diameter (inches)</i>	<i>Length (feet)</i>	<i>Number Needed</i>	<i>Cost Estimate</i>	<i>Cost Date (mm/yyyy)</i>	<i>Documen- tation</i>	<i>Remove Modify or Validate</i>

2015 Drinking Water Infrastructure Needs Survey and Assessment

Instructions

Please take a few minutes to read through these *Instructions*, the *Lists of Codes*, and the questionnaire before beginning.

What is the Purpose of the Survey?

- The 2015 Drinking Water Infrastructure Needs Survey and Assessment (DWINSA or Assessment), captures the 20-year (January 1, 2015 through December 31, 2034) infrastructure needs of public water systems eligible for Drinking Water State Revolving Fund (DWSRF) monies. The DWSRF provides low interest loans and other forms of financial assistance to water systems.
- The results of the Assessment document the total national, state-specific, American Indian, and Alaska Native Village infrastructure need for drinking water systems. The results are reported to Congress and are used to allocate DWSRF monies for fiscal years 2018 through 2021. *Your participation is critical to the success of the survey and to your state's or EPA Region's DWSRF allotment.*

What is a "need?"

For the purposes of the Assessment, a "need" is a project related to installation or major rehabilitation of capital infrastructure required now or within the next 20 years to continue to provide safe drinking water to your current consumers. Infrastructure needs, based on sound engineering practices, are those that will preserve the physical integrity of the water system and protect public health. Do not include needs for future growth (anticipated or speculative); however, projects necessary for existing customers can be **sized** for reasonably anticipated growth.

How Does the Assessment Work?

- Approximately 2,800 of the 52,000 community water systems in states, District of Columbia, Puerto Rico, Northern Mariana Islands, American Samoa, Guam and the U.S. Virgin Islands have been selected to participate in the Assessment.
- The needs of each participating system are extrapolated and added to the needs of other systems that were surveyed in previous Assessments to represent the state-specific, American Indian, and Alaska Native Village need.

What is My Role?

- Your role is to assess your water system's infrastructure and record projects necessary to continue to meet the needs of current water users over the next 20 years. Do not include projects substantially associated with future (anticipated or speculated) population growth.
- Each project must be documented or described to show how it would address a current or future water quality and/or quantity deficiency for existing customers. Whenever possible, please use existing documentation such as a Capital Improvement Plan (CIP), Master Plan, or a sanitary survey report.
- If at all possible, please provide any existing project cost estimates. However, do not generate a cost estimate for this Assessment. If a project does not have a documented cost estimate, please provide design parameters (e.g., length and diameter of pipe needed) so EPA can model the costs.

What am I asked to do?

- Read these *Instructions*, the *Lists of Codes*, and the questionnaire.
- Identify 20-year project needs from January 1, 2015 through December 31, 2034.
- Record projects and identify the type of documentation submitted for each project.
- Send the completed questionnaire and documentation to your designated Assessment coordinator by August 21, 2015, or call them to make other arrangements.

How Do I Identify Projects to Be Included?

- Begin by reviewing your system inventory and consider projects that you will need to address within the next 20 years. The inventory tables in the questionnaire are optional but are provided to help you identify your needs.
- Next, refer to any planning documents available for your system. Many projects listed in your CIP or Master Plan may be allowable needs. If you participated in the 2011 survey, your state will provide you with your data from that survey as a starting point.
- Use “List 1 - Type of Need” in the accompanying *Lists of Codes* to help prompt you to consider the types of projects to be included.
- Include projects as necessary for **new** infrastructure; to **replace** or **rehabilitate** existing infrastructure; or in the case of a complete treatment plant, to **expand/upgrade** the plant.
- Current and Future Needs – Include projects that are needed now as well as projects that will be necessary over the next 20 years to address the needs of your existing customer base.
- Include only one project to address any given piece of infrastructure. For example, if you have a project for the construction of a tank, do not include the subsequent rehabilitation of that tank in the future.
- Include only projects that did not begin construction as of January 1, 2015. You may, however, include future phases of a project if it will be built in phases.

How is the Questionnaire Organized?

- The questionnaire consists of a projects table on which infrastructure projects are recorded. The table addresses the categories listed below:
 - Source, Treatment, Storage, and Pumping Projects.
 - Transmission and Distribution Projects.
 - Meters, Service Lines, Backflow Prevention Devices/Assemblies, Valves, etc.
- The questionnaire includes a documentation summary page for you to record information about the need for each project. See page 3 for information about documenting the need for each project.
- The questionnaire also includes water system inventory tables. While NOT REQUIRED, completing these tables can help you to consider your system’s entire inventory and assess which of your system’s infrastructure may need attention within 20 years.

What Types of Projects Should Not Be Included?

- Projects or costs that are not DWSRF-eligible:
 - A project with a substantial portion of the reason for the project being for fire flow, fire protection, or Insurance Services Office (ISO) ratings.
 - A project with a substantial portion of the reason for the project being to meet demand of expected future (anticipated or speculated) growth or to encourage future expansion or development that is not also necessary to meet the needs of existing customers.
 - Projects intended for land acquisition unrelated to the siting of another project. However, land purchase as part of a project, such as to locate a tank, would be eligible.
 - Projects required for dams or raw water reservoirs.
- Projects or costs that are not for capital improvements, such as:
 - Projects for studies or watershed control programs.
 - Operations and maintenance needs/costs, laboratory analytical costs, or sample collection.
 - Costs associated with staff.
 - Loan interest and fees.
- Projects that are not associated with maintaining or obtaining safe drinking water, such as:
 - Landscaping or other projects for appearance.
- If documentation implies a project is for one of the above reasons but you are aware of additional reasons the project is needed, you may provide a signed statement clarifying why the project would address an allowable need.

Current Need – projects that are needed now, even if you may not be able to start construction immediately due to budget or other issues.

Future Need – projects that you know will be necessary over the next 20 years, but are not needed immediately (example: a tank that is currently operational but will require rehabilitation in 15 years).

Future Growth – projects for which a substantial portion is needed to accommodate anticipated or speculated future growth. These projects are not DWSRF-eligible and are not included in the Assessment.

How Do I Provide Project Documentation?

Every project recorded on the questionnaire must be accompanied by documentation that discusses the reason(s) the project is needed. In addition, in order to assign a cost to a project, you must provide either an existing documented cost estimate (e.g. from an Engineer's Estimate or Capital Improvement Plan) or sufficient information for the project to be assigned a cost using cost models.

Please mark-up the documentation indicating where each project is discussed. Use tabs, highlighters, or simply write the project number in the margin of each applicable page.

- **Documentation Types** - See List 4 in the *Lists of Codes* for specific types of documentation. The two categories of documentation are:

- A. **Independent** – generated through a process independent of the Assessment (examples include a CIP, Master Plan, laboratory results, sanitary survey report, or bid tabulation).

Some project types require independent documentation of need. These include:

- New Surface Water Intakes
- New Aquifer Storage and Recovery Wells
- New Off-Stream Raw Water Storage
- New Treatment Plants and Treatment Components
- Replacement or Expansion/Upgrade of an Existing Treatment Plant
- New Raw and Finished Transmission Mains and New Distribution Mains
- Pipe Replacement and Rehabilitation in Excess of 10 percent of Your Pipe Inventory
- New Storage Tanks
- New Pump Stations

- B. **Survey-generated** – written specifically for the purposes of this Assessment. It must include project details such as age, condition, or associated problems to explain why the project is needed.

Independent documentation often does not directly address the allowability of the need for the purposes of this Assessment; therefore, survey-generated documentation may be added to clarify the need for the project.

Example of Survey-generated Documentation:

"Project 1006 is for a well to replace the existing well. The existing well was drilled in 1957. It has never had major work done other than replacing the pump. It has lost production capacity substantially due to iron build-up on the screen. In addition, development with on-site septic systems in the area of the well has compromised the source's water quality. We need to replace this well with a new source in the northeast section of town."

Pipe Projects and Survey-generated Documentation:

If any pipe replacement or rehabilitation project relies solely on survey-generated documentation, please include:

- The total length of pipe in your system on the Transmission and Distribution inventory table or the questionnaire cover sheet, and
- Length (in feet) for each of your pipe rehab or replacement projects listed on the questionnaire.

- **Documentation of Need**

- Documentation must provide enough information to indicate that the project is for an allowable need (i.e., project addresses a current or future water quality and/or water quantity deficiency facing existing customers). If an independent document is not available or does not specifically address why a project is needed, please provide survey-generated documentation which consists of a signed statement indicating why the project is needed (please refer to the example of survey-generated documentation).
- Documentation of need must ***be less than 4 years old***. If you have documentation dated prior to January 1, 2011, it may be used if supplemented with a signed statement indicating the project is still needed, construction has not started as of January 1, 2015, and that the project is still within its original scope.

■ **Documentation of Cost**

- EPA needs either a cost estimate or sufficient information to model the cost of each project.
- Cost estimates must be from independent documentation such as a CIP, Master Plan, or bid tabulation. See List 4 in the *Lists of Codes* for a list of common cost documentation types. Please indicate the date the estimate was generated (which is often the date of the documentation), and EPA will adjust to current year dollars. Do not adjust costs yourself.
- Cost estimates must be less than 10 years old (after January 1, 2005).
- If there is no independent estimate of cost for a project, simply include the modeling parameters (design capacity in MG or MGD, length and diameter in feet and inches, or number needed as applicable) so EPA can estimate the cost using cost models.

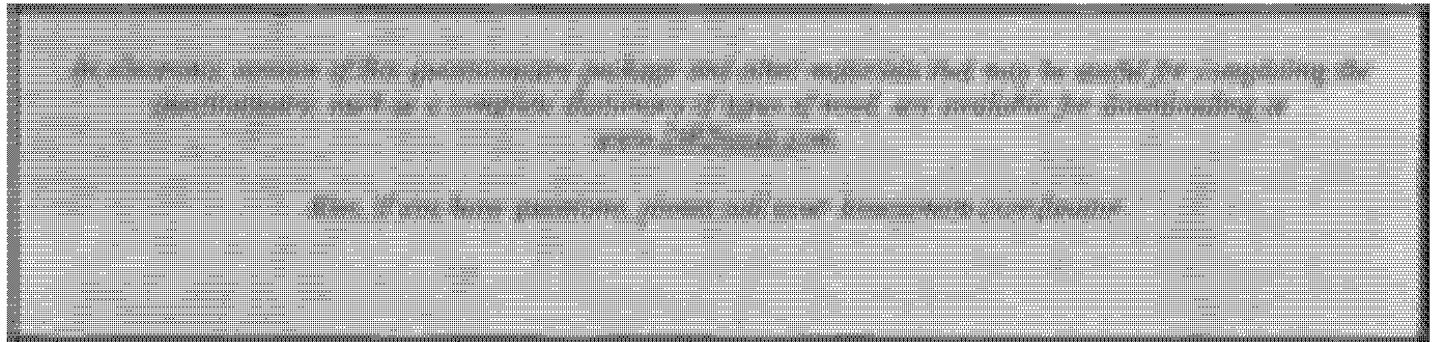
How do I submit large pieces of documentation?

If you're using a large document such as a CIP, you may submit the entire document or make copies of the pertinent pages.

If you choose to send only pertinent pages, be sure to include a copy of the cover page with the document title and date.

How Do I Represent a Project on the Questionnaire?

- Familiarize yourself with the *Lists of Codes* and the questionnaire.
 - Pages 1 and 2 of the *Lists of Codes* have important information about the data collected on the questionnaire.
 - See page 5 of these instructions for examples of how to list projects.
- Enter a project name and the appropriate codes across each row for each project you have identified.
- Document the need for all projects and any cost estimates that are recorded. Identify each piece of documentation by the related project number.
- Enclose the necessary documentation for each project with the completed questionnaire in your submittal.
- For project examples and helpful hints, refer to the following two pages.



Project Examples and Helpful Hints

Project Number	Project Name	Type of Need	Reason for Need	<u>N,E,R,H</u> (New Expand Replace ReHab)	<u>C or F</u> (Current Future)	Regulation	Design Capacity (MG, MGD, or kW)	Diameter (inches)	Length (feet)	Number Needed	Cost Estimate	Cost Date (mm/yyyy)	Documentation
1000	Rehabilitate Wells 3 and 8	R1	A1	H	F	4A	0.5			2			6, 11
1001	New storage tank and pump station	S1, P2	A4	N	C	4A					\$1,700,000	08/2014	1
2000	Replace 8" mains	M1	A1, A6	R	C	1B		8	50,000		\$6,500,000	02/2015	1, 10
3000	Replace residential meters	M8	A1	R	F	4A		0.625		13,866			10

Descriptive project name is used.

The appropriate codes are identified in each column.

Regulation code or 'other' code is recorded when applicable, or 4A is used if none apply.

Two wells at 0.5 MGD capacity each need to be rehabilitated and the cost will be modeled.

All applicable types of documentation are recorded.

More than one type of need may be appropriate if cost is provided. However, if you do not have a documented cost, please list only one type of need per project number so EPA can assign a cost.

Two reasons for need are recorded; more than one code can be used.

Modeling parameters are provided when available, even if cost is also provided.

Cost and date of cost provided. Date allows cost to be adjusted to 01/2015 dollars by EPA.

Package Contents

- EPA Cover Letter
- State Cover Letter
- Instructions
- Questionnaire
- Lists of Codes
- Updating 2011 Survey Data

Returning the Questionnaire

Please return your completed questionnaire and associated documentation to your state coordinator by August 21, 2015.

The electronic version of the questionnaire and any documents that can be e-mailed can be sent to the e-mail address below, and hard copy files can be mailed directly to the state coordinator/MDEQ District Staff at:

Michael Prysby, District Engineer
MDEQ-ODWMA-Lansing District
525 West Allegan Street, P.O. Box 30242
Lansing, MI 48909-7742
prysbym@michigan.gov

Before you send your submittal, make sure your package is complete.

- Include the questionnaire
- Include all pertinent pages of documentation
- Provide your name and contact information on the last page of the questionnaire

Thank you for participating in the 2015 Drinking Water Infrastructure Needs Survey and Assessment. Your response is vital to its success and will have a direct effect on the amount of funds your state will receive to loan to water systems.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, March 31, 2014 11:52 AM
To: Adam Rosenthal (rosenthala@michigan.gov); prysbym@michigan.gov
Subject: EPA Lead Copper Info

The following site has the following documents pertinent to Flint:
<http://water.epa.gov/lawsregs/rulesregs/sdwa/lcr/compliancehelp.cfm>

LCR Guidance Manual Vol II (multiple pdf files)

Revised Guidance Manual for Selecting Lead & Copper Control Strategies, 2003 (EPA 816-R-03-001)

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, March 15, 2013 3:22 PM
To: prysbym@michigan.gov; Jon Bloemker P.E. (BLOEMKERJ@michigan.gov); Stephen Ashford P.E. (ASHFORDS@michigan.gov)
Cc: Richard Benzie P.E. (BENZIER@michigan.gov)
Subject: Flint - KWA - Decision Delayed

FYI.

http://www.mlive.com/news/flint/index.ssf/2013/03/flint_city_council_delays_deci.html

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Thursday, April 09, 2015 9:09 AM
To: prysbym@michigan.gov
Subject: Flint - Michigan Radio

FYI. Not sure if you would have heard this. It was on yesterday afternoon and this morning.

<http://michiganradio.org/post/flint-pastors-want-city-turn-tap-flint-river>

While they didn't go into detail to provide further explanation, it sounds a little weird to hear them say Flint can't afford to connect to DWSD, but then counter with the City is spending millions to improve its treatment.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, May 04, 2015 3:04 PM
To: prysbym@michigan.gov
Subject: Flint 24inch transmission

Mike,

After doing a little digging, Phase 1 of the transmission main replacement project is out to bid and will close on May 14. The contractor will have 6 months to finish once awarded the contract.

The City has also budgeted \$2.5 million for each of FY16, FY17, and FY18 for the other 3 phases of the project.

We can keep an eye on it for now until the bid closing
<http://flintweb2.cityofflint.com/Purchasing/bids.asp>

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, February 18, 2014 11:40 AM
To: Brim, Richard (DEQ)
Cc: Craig, John (DEQ); Arduin, Jim (DEQ)
Subject: Flint ACO DW Statement of Purpose revision

Revised language for the last paragraph of the statement of purpose is shown below.

Finally, if the Respondent proposes to reconstruct the system for the non-mechanical dewatering of its WTP residuals at the Site, then the Respondent will submit plans and specifications and secure from the DEQ, Office of Drinking Water and Municipal Assistance ("ODWMP"), a public water supply construction permit issued under Section 4 of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399), MCL 325.1001 *et seq.*, and the administrative rules under Act 399 prior to initiating any construction, alteration, addition, or improvement to such system. A residuals management plan for the historical disposal of lime sludge and other WTP residuals, as well as lime sludge and any other WTP residuals generated in the future, must also be included as part of the construction permit application. The Respondent's proposal is based on its participation in the Karegnondi Water Authority (KWA) to receive source water from Lake Huron for its drinking water supply and the use of its water treatment plant to meet treatment requirements under Act 399. It will be approximately four years before the KWA infrastructure is built and water is available to the Respondent from KWA. The respondent plans to use the Flint River as its temporary source of untreated water supply until KWA water is available. The respondent must undertake the KWA public improvement project or undertake other public improvement projects to continue to use the Flint River, such as additional water treatment plant public improvements, source water protection public improvements and public improvements to obtain back-up water supply, in order to comply with Act 399.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, September 10, 2014 11:14 AM
To: 'Rennaker, Joanne (DEQ) (RENNAKERJ@michigan.gov)'
Subject: Flint Compliance Communication Letter
Attachments: CC-Flint-OEL.docx

Jo Anne,

Please finalize the attached letter for Mike's signature. He may have titles and addresses if you need them.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Mr. Brent Wright, Water Treatment Plant Superintendent
City of Flint WTP

SUBJECT: COMPLIANCE COMMUNICATION
Total Trihalomethane Operational Evaluation Requested

Under the Stage 2 Disinfectants and Disinfection Byproduct Rule the City of Flint has been required to collect samples for the analysis of Total Trihalomethane (TTHM) and Haloacetic Acids (HAA5) at eight sites within the City's water distribution system. The City has completed two quarterly monitoring periods since changing its source water to the Flint River effective April 25, 2014.

Normally an Operational Evaluation Level (OEL) would be calculated in accordance with the Michigan Safe Drinking Water Act (Public Act 399, 1976, as amended) Administrative Rule 7196 (R 325.107196), each quarter once three quarters of results have been obtained and compared with the respective maximum contaminant level (MCL) for TTHM. Normally the calculation would be made as follows:

$$(2 \times \text{current quarter} + \text{sum of 2 previous quarters}) \text{ divided by } 4$$

As the City of Flint currently has only two quarters of data the calculation has been modified as follows:

$$(2 \times \text{current quarter} + \text{previous quarter}) \text{ divided by } 4$$

The resulting OEL for each site is listed in the table below, all results are in parts per billion (ppb):

		TTHM			HAA5	
	5/21/14	8/21/14	Mod. OEL	5/21/14	8/21/14	Mod. OEL
DBP1 McDonalds 3719 Davison	162.4	145.3	113	64	43	38
DBP2 Liquor Palace 822 S. Dort Highway	111.6	112	84	52	40	33
DBP3 North Flint Auto 3302 S. Dort Highway	96.5	127.2	88	48	31	28
DBP4 University Market 3606 Corunna	106.4	181.3	117	55	24	26
DBP5 B&P Gas Station 2501 Flushing	75.1	196.2	117	38	17	18
DBP6 Salem Housing 3216 MLK Boulevard	82.2	112.4	77	41	25	23
DBP7 Kroger 5018 Clio Road	88.2	144.4	94	49	30	27
DBP8 Taco Bell 6204 N. Saginaw	79.2	118.3	79	50	37	31

As shown in the table above, even with this less restrictive modified method, six of the City's eight sites already exceed the OEL limit of 80 ppb for TTHM. In addition, the City's two other sites are both more than 95% of the TTHM OEL limit.

The Maximum Contaminant Level (MCL) for TTHM and HAA5 is based on a locational running annual average for each site, essentially the average at each site over the four previous quarterly monitoring periods. However, with TTHM levels of this magnitude, it is likely the MCL will be exceeded for at least one of these eight sites from just three quarters of monitoring results. For TTHM, four quarters at the MCL of 80 ppb (4×80) would provide 320 ppb allowable. As an example, site DBP1 through just two quarterly monitoring periods has a total of 307 ppb ($162+145$), leaving only 13 ppb over two more quarterly monitoring periods to maintain compliance with the MCL.

Therefore, this office is requesting the City of Flint complete an Operational Evaluation in accordance with Administrative Rule 719I (R325.10179I). The Operational Evaluation Report shall be submitted to this office no later than November 28, 2014. The report shall not be limited in scope and shall include the following:

Examination of Treatment Operational Practices

- Changes in source water quality
- Treatment changes
- Storage tank operations
- Excess storage capacity
- Treatment problems that contribute to TTHM formation

Examination of Distribution Operational Practices

- Storage tank operations
- Excess storage capacity
- Distribution system flushing

The report shall also include steps the City could consider to minimize future exceedances.

Additional guidance on completing the Operational Evaluation Report, including a number of forms that can be used to gather and evaluate water system information is provided in the EPA's Operational Evaluation Guidance Manual. This document is available on the EPA's website at the following link:

http://www.epa.gov/ogwdw/disinfection/stage2/pdfs/draft_guide_stage2_operationalevaluation.pdf

Be advised, failure to submit an Operational Evaluation Report by this deadline is a reporting violation subject to Tier 3 Public Notification.

The OEL is an indicator of operational performance. The water system must take proactive steps to be able to comply with the MCL's for TTHM and HAA5. While it is recognized that removal of Total Organic Carbon (TOC) disinfection byproduct precursors as part of the treatment process has performed above minimum removal requirements under the treatment technique, around 4 parts per million of organic carbon are still present in the treated water and may be leading to additional TTHM formation in the City's distribution system.

While health effects associated with disinfection byproducts contaminants are based on chronic exposure, the City has available alternatives that must be considered to achieve compliance with this drinking water public health standard.

If you have any questions regarding this information, please contact me at the number below.

Sincerely

Michael Prysby, P.E.

CC: Darnell Early, Emergency Manager, City of Flint
Daughtry Johnson
Howard Croft
Robert Bincsik, Water Distribution Supervisor, City of Flint
Liane Shekter Smith, P.E.
Richard Benzie, P.E.
Stephen Busch, P.E.
Genesee Co. Health Dept.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, April 09, 2014 4:13 PM
To: Samir Matta
Cc: Prysby, Mike (DEQ); Daugherty Johnson
Subject: Flint Construction Permits

Samir,

The revisions provided on 4/8 addressed the remaining comments regarding construction of the proposed facilities.

Act 399 construction permit nos. 141025 and 141026 have been issued for the WTP and Bray Road facility improvements, respectively, today 4/9 and a copy is being mailed to the city.

Please contact our office at completion of the proposed work for final inspection prior to startup of the WTP.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Sent from my iPhone

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Thursday, August 06, 2015 10:54 AM
To: 'raskin@umich.edu'
Cc: 'stuartb@umich.edu'; Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov)
Subject: Flint Contacts

Per our discussion yesterday here are the contacts you requested. I will contact Mike to let him know you will be in touch.

City contacts include:

Mike Glasgow, Utilities Administrator, City of Flint
mglasgow@cityofflint.com
810-766-7135 Ext. 3512

Howard Croft, Public Works Director, City of Flint
hcroft@cityofflint.com
810-766-7135 Ext. 2043

Natasha Henderson, City Administrator, City of Flint
nhenderson@cityofflint.com
810-766-7346

Consultant contacts for the City include the following (the consultants will likely need to get permission from their client, the City, prior to engaging with you on your proposals.)

J. Warren Green with Lockwood, Andrews & Newman, Inc.
JWGreen@lan-inc.com
630-918-2494
and
Marvin Gnagy with Veolia North America
419-450-2931

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, October 20, 2015 2:55 PM
To: 'kaplan.robert@epa.gov'
Cc: Sygo, Jim (DEQ) (SygoJ@michigan.gov)
Subject: Flint corrosion control submittal
Attachments: RE: Flint WTP PH2 SEG4 - Corrosion Control; Preliminary and Deliberative: FW: Flint WTP PH2 SEG4 - Corrosion Control; Preliminary and Deliberative: FW: Flint Corrosion Control Plans and MDEQ Preliminary Comments.pdf

Bob,

Forwarding Flint Corrosion Control proposal info per Jim's request (see the 3 attached emails).

We had a conference call with Darren Lytle and Mike Schock this morning to get some things clarified and will be summarizing that conversation. I will include you and Jim when that gets sent out. Let us know if you need anything else.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

Rennaker, Joanne (DEQ)

From: Lytle, Darren <Lytle.Darren@epa.gov>
Sent: Monday, October 19, 2015 12:05 PM
To: Prysby, Mike (DEQ)
Cc: Schock, Michael; Kempic, Jeffrey; Busch, Stephen (DEQ)
Subject: RE: Flint WTP PH2 SEG4 - Corrosion Control

Mike,

Thank-you for giving us the opportunity to review the city of Flint's corrosion control plan.

We believe it is necessary that Flint boosts orthophosphate dosage. Given that the distribution system has not received orthophosphate in over a year, we expect that orthophosphate will need to be boosted to 1) meet the demand of the distribution system, 2) reach the service lines and other lead-containing components in premise plumbing, and 3) accelerate lead reduction at the consumer's taps. Orthophosphate should preferably be added in the same form as the Detroit source which is phosphoric acid from our understanding. This is the proposed case here, however, a simple test should be performed to make sure that the pH is not impacted in a significant way at the desired target dose.

We have not been able to obtain comprehensive water quality data for the finished water characteristics of the Detroit water that will be fed to Flint, to assess ranges of major chemical characteristic fluctuations. However, based upon the email trail, Detroit water entering the Flint system appears to only contain around 0.4 PO₄/L. This concentration range is entirely too low compared to that needed in studies presented and published in the last 20+ years that have focused on lead released directly from lead pipes, and the solubility of the most likely lead orthophosphate pipes scales. We also strongly feel that targeted dose of 0.8 mg PO₄/L is also too low, for the very same reason. We would be glad to share with you numerous standard corrosion control and treatment reference works, best practices guides and published results from US and international lead corrosion control field and pilot studies. Secondly, the basis for that target (other communities using Lake Huron source use the same dose) is not scientifically derived nor does it consider water quality and the current state of Flint's distribution system. We have reviewed the original Detroit corrosion study and have seen some of the LCR monitoring data, and besides the fact that it did not directly pertain to this water source, few dosages were tested in the cited 1994 pipe loop study, and the higher dosage than the one implemented in the field currently was more effective. Based on the limited amount of data on the quality of Detroit water, what we know about the history of Detroit corrosion control, we think an orthophosphate residual of 3 to 4 mg PO₄/L should be the minimum starting test target residual for pipe passivation. It is likely that, at least initially a higher dosage will be necessary to reach the far ends of the distribution system and sufficiently reduce lead solubility and release from all lead sources. To allow flexibility, we feel the design of the chemical feed and storage systems should be able to consistently deliver a maximum dose of 5 to 6 mg PO₄/L, if substantial orthophosphate loss is observed, if the starting dose is set for the desired residual level of 3 to 4 mg/L as PO₄. We suggest that jar tests be performed in advance of orthophosphate addition to Detroit water to evaluate the impact of orthophosphate dose on turbidity that could result from interactions between orthophosphate and background Detroit water quality parameters (e.g., aluminum, calcium, etc.).

We want to stress that immediately shifting to Detroit water and adding orthophosphate will not necessarily translate to immediate improvements. Furthermore, this is a change, albeit a return to past conditions. Nonetheless, a period of system upset should be anticipated. The need for a communication strategy and a distribution system plan are critical.

Lastly, we see no mention of a water quality monitoring program. Two programs need to be put in place immediately (before return to Detroit water) to 1) identify lead sources, 2) assess treatment effectiveness against lead release from all of the simultaneously operating mechanisms (solubility, particulate release, galvanic corrosion), and 3) assess orthophosphate levels and stability of water quality in the distribution system.

There are multiple sources of lead in the Flint distribution system to the consumers' taps, such as: pipes; leaded brass; leaded solder; accumulations on old galvanized steel pipes; possibly accumulated on copper or some plastic pipes. It is critical that the fate of orthophosphate in the distribution system is understood, and how effective it is against each type of lead source, so dosing adjustment can be properly made. For this purpose, we recommend that a number of residences throughout Flint that meet the following plumbing criteria, be identified for an assessment of the contribution lead from the different potential service line and interior plumbing sources, through detailed mapping of plumbing materials, lengths, sizes, and location and type of inline devices and faucets using profile sampling. For confidence in interpretation, probably at least 5 sites from each of the configurations will be necessary. The configurations we would estimate to be most important (but should be changed or added to if local construction practice indicates it's necessary): Lead service line, galvanized steel interior plumbing; lead service line, copper with leaded solder joints; lead service line, plastic interior plumbing. It is also possible that interior plumbing may differ from the material used for the customer-side service line segment. We would be glad to discuss the specifics of this sampling effort.

For the purpose of assessing stability of water quality in the distribution system and to inform on orthophosphate residual adjustment, we suggest that 8 to 10 locations in the distribution system be selected to measure pH, alkalinity, orthophosphate, turbidity and iron on a weekly basis. These could be collected from TCR sampling locations, or other readily-accessible buildings, should be located at a distribution of locations in the distribution system and should be collected after a flush sufficiently long to assure that "fresh" distribution system water is being measured. Research has shown that over time, orthophosphate can reduce disinfectant demand associated with corroding metallic distribution system materials. These measurements need to be performed in the field and can simply be done with a portable HACH test kit or spectrophotometer.

A lead sampling plan needs to be in place to access the effectiveness of water change and treatment boost. LCR monitoring sites with confirmed lead service lines can be in the sampling pool. Sampling should consist of a 1 liter first draw sample (LCR sample without 5 minute pre-flush), followed by an additional flushed sample or two depending on profile sample results which is intended to capture major lead source(s). The specific details of this effort need to be worked out by the technical committee as soon as possible. We would gladly work with Flint on establishing a water sampling program to identify and verify lead service line sites. The plan and initial sampling effort should be performed before the switch so that one baseline sample set is collected.

Lastly, our strength does not fall under full-scale pump and chemical feed delivery systems. We would only say that the systems need to be scaled-up in size to accommodate our suggested dosing needs. Also, there is some discussion about diverting water to the Dort reservoir and an associated orthophosphate feed system. We are not familiar with the reservoir but are wondering if it is an open reservoir?

Of course this is a lot of information to share and we would gladly be available to discuss the technical and scientific basis for our suggestions.

Let us know if you have any questions and thanks again,

Darren and Mike

Darren A. Lytle, Ph.D., P.E.
Branch Chief (Acting)
U.S. Environmental Protection Agency
26 West Martin Luther King Dr.
Cincinnati, Ohio 45268
Phone: (513) 569-7432
Fax: (513) 487-2543
email: lytle.darren@epa.gov

From: Prysby, Mike (DEQ) [mailto:PRYSBYM@michigan.gov]

Sent: Friday, October 16, 2015 1:32 PM

To: Lytle, Darren <Lytle.Darren@epa.gov>; Schock, Michael <Schock.Michael@epa.gov>
Cc: Busch, Stephen (DEQ) <BUSCHS@michigan.gov>
Subject: FW: Flint WTP PH2 SEG4 - Corrosion Control

Darren, Michael

We have received Flint's corrosion control proposal from their consultant. If you have comments, please provide them to me by Monday morning.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Matta, Samir [<mailto:SFMatta@lan-inc.com>]
Sent: Friday, October 16, 2015 12:02 AM
To: Prysby, Mike (DEQ)
Subject: Flint WTP PH2 SEG4 - Corrosion Control

Hi Mike,

Please see attached plans for the Corrosion Control Plan for the City of Flint. I will have the official submittal package to you tomorrow afternoon after I get Brent or Mike's signature on the permit application. I will call you when I get back in Lansing to drop the package. Is three sets of full size plans adequate? Would you like some half size plans? Let me know.

Basis of Design

Given that Flint will require lead and copper corrosion control and given that Detroit utilizes orthophosphate for their corrosion control methodology, and that Flint will be receiving Detroit water for the immediate future, orthophosphate is the appropriate corrosion control methodology for Flint. A dosage of 0.8 mg/l as PO₄ has been recommended for the Detroit water. Numerous utilities utilizing Lake Michigan water have a target dosage of 0.9 mg/l as PO₄. Therefore, a target dosage in the range of 0.8 to 0.9 mg/l appears appropriate.

It is expected that, at least initially, there will be a significant PO₄ demand in the system. This will require a significantly higher dosage until this demand is satisfied and the target residual can be maintained. We are therefore designing for capability of a maximum dosage of 1.5 mg/l.

The arriving Detroit water will likely have some residual PO₄ when it arrives at Flint. It has been reported that this residual will be approximately 0.4 mg/l. The system must therefore be capable of a minimum dosage of 0.4 mg/l.

Based upon the usage of 75% Phosphoric Acid and a flow range of 4 MGD to 25 MGD, with an average day of 16 MGD, the expected feed rate will be 1.35 to 32 gpd. Average Phosphoric Acid feed is expected to be 10.8 gpd, requiring 30 days storage of 325 gal.

Orthophosphate will need to be applied at two locations. Detroit water will enter the Flint system at Control Station CS2, and supplementary phosphate will be applied there. However, on occasion some incoming water may need to be diverted to the Dort Reservoir, bypassing CS2. This water would then be introduced to the system through High Service Pump Station PS4 and phosphate would be introduced at this location.

Please let me know if the information is adequate or you require additional information.

Thanks.

Samir F. Matta, PE

Team Leader



**Lockwood, Andrews
& Newnam, Inc.**

A LEO A DALY COMPANY

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2121 University Park Dr, Suite 100 • Okemos, MI 48864-6901

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Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, November 07, 2014 12:22 PM
To: JWGreen@lan-inc.com
Subject: Flint DBP Results
Attachments: FlintDBP.PDF

Warren,

Flint DBP results are attached.

While chloroform is the primary contributor, we are seeing significant contributions from Chlorodibromomethane and Dichlorobromomethane that you may want to consider when making adjustments to the ozone equipment.

Thanks again for hosting the meeting this morning.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

MCDONALDS
3719 DAVISON RD.
FLINT MI

Sample Number: LLF19422

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 5/21/2014 9:28:00 AM
Arrival Date: 5/22/2014 1:18:47 PM

Site Code: DBP1
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: SINK
Collector: Public Water Supply Operator
Collected By: MICHAEL GLASGOW

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.016	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	ND	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.005	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.036	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.064	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.023	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0014	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.019	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.097	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.045	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1624	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:36:09 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

LIQUOR PALACE
3302 S DORT HWY
FLINT MI 48507

Sample Number: LLF19423

Sample/Collection Information:

WSSN: 02310

County: Genesee

Township:

Section:

Well #:

Collection Date: 5/21/2014 11:06:00 AM

Arrival Date: 5/22/2014 1:18:47 PM

Site Code: DBP2

Water Source: Public Community Water Supply

Sample Reason: Routine Monitoring

Sample Point: Treated Public Distribution System

Point Description: SINK

Collector: Public Water Supply Operator

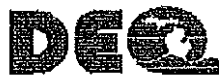
Collected By: NICOLE ALEXANDER

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.012	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	ND	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.003	0.001	mg/L	EPA 552.1/552.2
79-43-8	DICHLOROACETIC ACID	0.026	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.052	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.023	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0016	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.019	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.055	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.036	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1116	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 388 of 1978 as amended.

Print Date: Fri Nov 7 10:36:22 EST 2014



Michigan Department of Environmental Quality

***Replicate Laboratory Report for
Lansing Drinking Water Laboratory***

Owner/Location Information:

NORTH FLINT AUTOMOTIVE
6204 N SAGINAW ST
FLINT MI 48505

Sample Number: LLF19424

Sample/Collection Information:

WSSN: 02310

County: Genesee

Township:

Section:

Well #:

Collection Date: 5/21/2014 12:16:00 PM

Arrival Date: 5/22/2014 1:18:48 PM

Site Code: DBP3

Water Source: Public Community Water Supply

Sample Reason: Routine Monitoring

Sample Point: Treated Public Distribution System

Point Description: SINK

Collector: Public Water Supply Operator

Collected By: NICOLE ALEXANDER

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.012	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	ND	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.004	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.023	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.048	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.021	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0015	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.018	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.044	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.033	0.0005	mg/L	EPA 524.2
YTHM-00-C	TOTAL TRIHALOMETHANES	0.0965	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:36:32 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

UNIVERSITY MARKET
2501 FLUSHING RD
FLINT MI 48504

Sample Number: LLF19425

Sample/Collection Information:

WSSN: 02310

Site Code: DBP4

County: Genesee

Water Source: Public Community Water Supply

Township:

Sample Reason: Routine Monitoring

Section:

Sample Point: Treated Public Distribution System

Well #:

Point Description: SINK

Collection Date: 5/21/2014 11:37:00 AM

Collector: Public Water Supply Operator

Arrival Date: 5/22/2014 1:18:48 PM

Collected By: NICOLE ALEXANDER

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.013	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	ND	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.004	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.026	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.055	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.025	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0014	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.017	0.0005	mg/L	EPA 524.2
87-66-3	CHLOROFORM	0.053	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.035	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1064	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:36:41 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

B & P GAS STATION
822 S DORT HWY
FLINT MI 48503

Sample Number: LLF19426

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 5/21/2014 10:56:00 AM
Arrival Date: 5/22/2014 1:18:48 PM

Site Code: DBP5
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: SINK
Collector: Public Water Supply Operator
Collected By: NICOLE ALEXANDER

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.010	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	ND	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.003	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.018	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.038	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.017	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0011	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.014	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.033	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.027	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.0751	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:36:50 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

SALEM HOUSING
3216 MLK BLVD
FLINT MI 48505

Sample Number: LLF19427

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 5/21/2014 11:52:00 AM
Arrival Date: 5/22/2014 1:18:49 PM

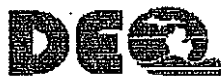
Site Code: DBP6
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: SINK
Collector: Public Water Supply Operator
Collected By: NICOLE ALEXANDER

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.011	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	ND	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.003	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.020	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.041	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.018	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0012	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.015	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.039	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.027	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.0822	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:36:58 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

KROGER
5018 CLIO RD
FLINT MI 48504

Sample Number: LLF19428

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 5/21/2014 12:04:00 PM
Arrival Date: 5/22/2014 1:18:49 PM

Site Code: DBP7
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: SINK
Collector: Public Water Supply Operator
Collected By: NICOLE ALEXANDER

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.012	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	ND	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.004	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.024	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.049	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.021	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0012	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.015	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.042	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.030	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.0882	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:37:06 EST 2014



Michigan Department of Environmental Quality

Replicate Laboratory Report for Lansing Drinking Water Laboratory

Owner/Location Information:

TACO BELL
3606 CORUNNA RD
FLINT MI 48532

Sample Number: LLF19429

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 5/21/2014 11:25:00 AM
Arrival Date: 5/22/2014 1:18:49 PM

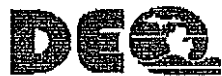
Site Code: DBP8
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: SINK
Collector: Public Water Supply Operator
Collected By: NICOLE ALEXANDER

CasNo	Analyte	Result	Detect	Units	Method
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.014	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	ND	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.004	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.024	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.050	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.022	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0012	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.015	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.036	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.027	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.0792	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:37:20 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

CITY OF FLINT -WATER PLANT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF19430

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 5/22/2014 8:30:00 AM
Arrival Date: 5/22/2014 1:19:53 PM

Site Code: LAB TAP
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: PLANT LAB
Collector: Public Water Supply Operator
Collected By: MICHAEL GLASGOW

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
16984-48-8	FLUORIDE (AUTOMATED)	0.16	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO ₃	209	20	mg/L	SM 2340 C
7440-23-5	SODIUM	15	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.03	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	79	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8
93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0003	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.002	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0003	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00008	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-86-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2

Laboratory Sample Report

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15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-8	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2
50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCOR 1254)	ND	0.0001	mg/L	EPA 525.2
11088-82-5	PCB (AROCOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2
74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0010	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.013	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-86-3	CHLOROFORM	0.022	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.020	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2

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	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-3	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2
75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
98-95-3	NITROBENZENE	ND	0.01	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.056	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0004	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	0.4	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	ND	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	25	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:37:35 EST 2014



Michigan Department of Environmental Quality

*Replicate Laboratory Report for
Lansing Drinking Water Laboratory*

Owner/Location Information:

CITY OF FLINT
DORT WELL
FLINT MI 48505

Sample Number: LLF27719

Sample/Collection Information:

WSSN: 02310

County: Genesee

Township:

Section:

Well #:

Collection Date: 7/15/2014 2:09:00 PM

Arrival Date: 7/17/2014 8:24:09 AM

Site Code:

Water Source: Public Community Water Supply

Sample Reason: Routine Monitoring

Sample Point: Public System Surface Water

Point Description: SAMPLE SIN

Collector: Public Water Supply Operator

Collected By: MICHAEL GLASGOW

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
75-25-2	BROMOFORM	0.0033	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.026	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.078	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.046	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1533	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:38:11 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

CITY OF FLINT
822 S DORT HWY
FLINT MI 48503

Sample Number: LLF34165

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 8/21/2014 10:45:00 AM
Arrival Date: 8/21/2014 3:03:50 PM

Site Code: SITE #2 - DBP #2
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: BATHROOM S
Collector: Public Water Supply Operator
Collected By: CHRIS BEATENHEAD

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.008	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	0.007	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	0.001	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.003	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.016	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.040	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.014	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0020	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.016	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.063	0.0005	mg/L	EPA 524.2
76-27-4	DICHLOROBROMOMETHANE	0.031	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1120	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:38:28 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

CITY OF FLINT
3719 DAVISON RD
FLINT MI 48506

Sample Number: LLF34166

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 8/21/2014 9:53:00 AM
Arrival Date: 8/21/2014 3:03:51 PM

Site Code: SITE #1 - DBP #1
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: KITCHEN SI
Collector: Public Water Supply Operator
Collected By: CHRIS BEATENHEAD

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.008	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	0.007	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	0.002	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.002	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.013	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.043	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.021	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0023	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.020	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.084	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.039	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1453	0.0005	mg/L	EPA 524.2

Laboratory Comments:

Additional volatile organic compound(s) were detected. For quantitation and confirmation request analysis for CXVO.

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:38:35 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

CITY OF FLINT
2501 FLUSHING RD
FLINT MI 48504

Sample Number: LLF34167

Sample/Collection Information:

WSSN: 02310

County: Genesee

Township:

Section:

Well #:

Collection Date: 8/21/2014 11:33:00 AM

Arrival Date: 8/21/2014 3:03:51 PM

Site Code: SITE #5 - DBP #5

Water Source: Public Community Water Supply

Sample Reason: Routine Monitoring

Sample Point: Treated Public Distribution System

Point Description: KITCHEN SI

Collector: Public Water Supply Operator

Collected By: KEVIN MC LEOD

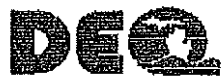
<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.001	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	ND	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.006	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.017	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.011	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0032	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.027	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.111	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.056	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1962	0.0005	mg/L	EPA 524.2

Laboratory Comments:

Quality control results were outside allowed limits due to matrix interferences.

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:38:41 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

CITY OF FLINT
3606 CORUNNA RD
FLINT MI 48532

Sample Number: LLF34168

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 8/21/2014 12:13:00 PM
Arrival Date: 8/21/2014 3:03:52 PM

Site Code: SITE 34 - DBP #4
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: BATHROOM S
Collector: Public Water Supply Operator
Collected By: CHRIS BEATENHEAD

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.002	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	0.006	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.007	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.024	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.011	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0033	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.026	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.094	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.058	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1813	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:38:47 EST 2014



Michigan Department of Environmental Quality

***Replicate Laboratory Report for
Lansing Drinking Water Laboratory***

Owner/Location Information:

CITY OF FLINT
6204 N SAGINAW ST
FLINT MI 48505

Sample Number: LLF34169

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 8/21/2014 10:25:00 AM
Arrival Date: 8/21/2014 3:03:52 PM

Site Code: SITE #8 - DBP #8
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: BATHROOM S
Collector: Public Water Supply Operator
Collected By: KEVIN MC LEOD

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-98-3	BROMOCHLOROACETIC ACID	0.009	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	0.006	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.004	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.018	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.037	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.009	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0023	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.016	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.064	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.036	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1183	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:38:53 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:

CITY OF FLINT
5018 CLIO RD
FLINT MI 48504

Sample Number: LLF34170

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 8/21/2014 10:45:00 AM
Arrival Date: 8/21/2014 3:03:53 PM

Site Code: SITE #7 - DBP #7
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: BATHROOM S
Collector: Public Water Supply Operator
Collected By: KEVIN MC LEOD

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.003	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	0.006	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	0.001	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.009	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.030	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.014	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0024	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.019	0.0003	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.082	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.041	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1444	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:39:02 EST 2014



Michigan Department of Environmental Quality

Replicate Laboratory Report for Lansing Drinking Water Laboratory

Owner/Location Information:

3216 M L KING BLVD
FLINT MI 48505

Sample Number: LLF34171

Sample/Collection Information:

WSSN: 02310
County: Genesee
Township:
Section:
Well #:
Collection Date: 8/21/2014 11:05:00 AM
Arrival Date: 8/21/2014 3:03:53 PM

Site Code: SITE #6 - DBP #6
Water Source: Public Community Water Supply
Sample Reason: Routine Monitoring
Sample Point: Treated Public Distribution System
Point Description: BATHROOM S
Collector: Public Water Supply Operator
Collected By: KEVIN MC LEOD

CasNo	Analyte	Result	Detect	Units	Method
79-08-3	BROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
5589-96-3	BROMOCHLOROACETIC ACID	0.001	0.001	mg/L	EPA 552.1/552.2
79-11-8	CHLOROACETIC ACID	0.005	0.002	mg/L	EPA 552.1/552.2
75-99-0	DALAPON	ND	0.001	mg/L	EPA 552.1/552.2
631-64-1	DIBROMOACETIC ACID	ND	0.001	mg/L	EPA 552.1/552.2
79-43-6	DICHLOROACETIC ACID	0.006	0.001	mg/L	EPA 552.1/552.2
THA-00-C	TOTAL HALOACETIC ACID (FIVE)	0.025	NA	mg/L	EPA 552.1/552.2
76-03-9	TRICHLOROACETIC ACID	0.014	0.001	mg/L	EPA 552.1/552.2
75-25-2	BROMOFORM	0.0024	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.016	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.059	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.035	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1124	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:39:15 EST 2014



Michigan Department of Environmental Quality

**Replicate Laboratory Report for
Lansing Drinking Water Laboratory**

Owner/Location Information:CITY OF FLINT
1416 DUPONT ST
FLINT MI 48503

Sample Number: LLF34172

Sample/Collection Information:

WSSN: 02310

County: Genesee

Township:

Section:

Well #:

Collection Date: 8/21/2014 11:18:00 AM

Arrival Date: 8/21/2014 3:04:02 PM

Site Code:

Water Source: Public Community Water Supply

Sample Reason: Water Quality Problem

Sample Point: Public System Well

Point Description: RESERVOIR

Collector: Public Water Supply Operator

Collected By: KEVIN MC LEOD

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
75-25-2	BROMOFORM	0.0024	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.019	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.076	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.037	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1344	0.0005	mg/L	EPA 524.2

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Fri Nov 7 10:39:25 EST 2014



Michigan Department of Environmental Quality

*Replicate Laboratory Report for
Lansing Drinking Water Laboratory*

Owner/Location Information:CITY OF FLINT
1100 CEDAR ST
FLINT MI 48503Sample Number: LLF34173

Sample/Collection Information:

WSSN: 02310

County: Genesee

Township:

Section:

Well #:

Collection Date: 8/21/2014 11:44:00 AM

Arrival Date: 8/21/2014 3:04:06 PM

Site Code:

Water Source: Public Community Water Supply

Sample Reason: Water Quality Problem

Sample Point: Public System Well

Point Description: RESERVOIR

Collector: Public Water Supply Operator

Collected By: CHRIS BEATENHEAD

<u>CasNo</u>	<u>Analyte</u>	<u>Result</u>	<u>Detect</u>	<u>Units</u>	<u>Method</u>
75-25-2	BROMOFORM	0.0033	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.025	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.080	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.055	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.1633	0.0005	mg/L	EPA 524.2

Laboratory Comments:

Results do not agree between vials. The concentration of chloroform was above the calibrated level of the instrument (80 ppb).

By authority of PA 366 of 1976 as amended.

Print Date: Fri Nov 7 10:39:35 EST 2014

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, April 26, 2013 12:16 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ); Donaldson, Kristina (DEQ)
Cc: Wurfel, Brad (DEQ)
Subject: Flint/Detroit Water

The latest news release on the Flint/Genesee Detroit water negotiations.

http://www.mlive.com/news/flint/index.ssf/2013/04/final_water_offer_wasnt_final.html

At this point I have not seen nor been asked to comment on this latest offer.

The reporter noted in the comments that they are seeking a response from the Governor's office. Given discussions that took place last week, I was anticipating a press conference would be held late today.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, December 17, 2014 4:28 PM
To: 'Wurfel, Brad (DEQ) (WurfelB@michigan.gov)'
Cc: prysbym@michigan.gov
Subject: Flint Drinking Water Actions

Brad,

Here are some of the actions Flint has been taking to address the TTHM levels.

1. Removed the 20 Million Gallon Dort storage reservoir from service to prevent stagnant water conditions.
2. Softening 100% of water instead of partial softening to reduce amount of chlorine needed
3. Modified operation of water storage tanks to increase turn over and reduce stagnant water volumes.
4. Increased frequency of water main flushing to reduce detention time and stagnant water conditions.
5. Repair transmission water mains and valves to allow direct flow patterns and reduce detention time.

The City is also working on these additional items:

1. Further optimization of the enhanced coagulation process, possible use of polymer chemicals
2. Optimization of the ozone treatment process
3. Enhanced cleaning of filters to help reduce amounts of chlorine needed for disinfection

Mike Prysby can provide additional information as needed.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, September 02, 2015 3:52 PM
To: Howes, Sarah (DEQ); Pallone, Maggie (DEQ); 'Wurfel, Brad (DEQ) (WurfelB@michigan.gov)'
Cc: Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov); Richard Benzie P.E. (BENZIER@michigan.gov); Sygo, Jim (DEQ) (SygoJ@michigan.gov)
Subject: Flint Drinking Water TTHM return to compliance
Attachments: Flint-TTHM-Compliance.pdf

Attached is a letter being mailed by ODWMA regarding the City of Flint returning to compliance with the drinking water standard for the disinfection byproduct, total trihalomethane. Compliance with the standard has now been achieved at all 8 of the City's compliance monitoring locations based on monitoring in August 2015.

As past compliance issues related to this drinking water standard have been communicated with members of the legislature and those in the media, it may be desirable to distribute this updated information. This information is expected to generate inquiries from water system customers, news media, and the general public.

We will be happy to answer any questions regarding this matter.

Stephen Busch, P.E.
 MDEQ Lansing District Coordinator
 Office of Drinking Water and Municipal Assistance
 Lansing and Jackson District Supervisor
 517-643-2314
buschs@michigan.gov



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

September 2, 2015

Mr. Brent Wright, Operations Supervisor
City Of Flint – Department of Public Works
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: City of Flint – Water Supply
Return to Compliance Total Trihalomethanes (TTHM)
3rd Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the City of Flint (City) has returned to compliance with the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels for disinfection byproducts (MCLs)*, of the 1979 Administrative Code.

In accordance with Administrative Rule 610 (R 325.10610, *MCLs for disinfection byproducts*), the MCL for the disinfection byproduct TTHM is 0.080 milligrams per liter (mg/L). Compliance is determined based on a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the LRAA all eight of the City's TTHM compliance sampling sites now comply with this standard based on the last four quarterly monitoring periods, ending August 31, 2015. This return to compliance regarding TTHM's began on September 1, 2015, and will continue as long as the LRAA at each of the City's TTHM compliance sampling sites remain below this standard.

TTHM Results (mg/L)	11/20/14	2/17/15	5/18/15	8/18/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.059	0.0162	0.0514	0.0755	0.050	0.055
DBP2 Liquor Palace 3302 South Dort Highway	0.033	0.0168	0.0635	0.0532	0.042	0.047
DBP3 North Flint Auto 6204 North Saginaw St.	0.041	0.0149	0.0452	0.0426	0.036	0.036
DBP4 University Market 2501 Flushing Road	0.094	0.0245	0.0598	0.0706	0.062	0.056
DBP5 Taco Bell 3606 Corunna Road	0.034	0.0151	0.0547	0.0619	0.042	0.049
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.054	0.0192	0.0605	0.0595	0.048	0.050
DBP7 Salem Housing 3216 MLK Boulevard	0.050	0.0285	0.0727	0.0903	0.060	0.070
DBP8 BP Gas Station 822 South Dort Highway	0.036	0.0199	0.0461	0.0549	0.039	0.044

Mr. Brent Wright

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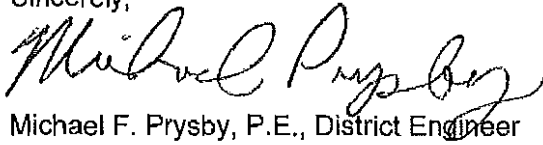
September 2, 2015

Corrective measures by the City have been successful in achieving compliance with this standard. These measures have included replacement of anthracite filter media with granular activated carbon as well as the optimization of water treatment plant and distribution system processes and operations as recommended through Operational Evaluations conducted by the City. It is important that the City continue to follow these recommendations in order to limit disinfection byproduct formation and maintain compliance with the MCL LRAA standards. While the MCL LRAA standard has now been met at all eight compliance sampling sites, an individual TTHM concentration above 0.080 mg/L was measured at one location, DBP 7, during peak month sampling in August 2015.

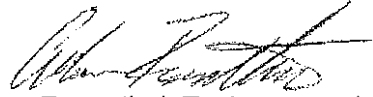
The DEQ encourages the City to continue informing customers about this updated water quality information and compliance with the TTHM MCL standard.

If you have any questions regarding this letter, please contact us at the numbers below; at prysbym@michigan.gov; or rosenthala@michigan.gov.

Sincerely,



Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-290-8817



Adam Rosenthal, Environmental Quality
Analyst
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-284-6644

cc: Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Mr. Robert Bincsik, City of Flint
Mr. Howard Croft, City of Flint
Mr. Michael Glasgow, City of Flint
Genesee County Health Department
Mr. Stephen Busch, DEQ

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Thursday, March 05, 2015 1:59 PM
To: Howes, Sarah (DEQ); 'Wurfel, Brad (DEQ) (WurfelB@michigan.gov)'; Datema, Maggie (DEQ)
Cc: prysbym@michigan.gov; Richard Benzie P.E. (BENZIER@michigan.gov); Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov); Adam Rosenthal (rosenthala@michigan.gov)
Subject: Flint Drinking Water TTHM Standard Violation - 1st quarter 2015
Attachments: City of Flint VN - MCL TTHM 3-5-15.pdf
Importance: High

Attached is a copy of the Violation Notice and Public Notice Template being mailed to the City of Flint by the DEQ Office of Drinking Water and Municipal Assistance regarding an exceedance of the Maximum Contaminant Level (MCL) standard for Total Trihalomethanes at certain locations within the City's drinking water distribution system.

This violation notice is in response to updated monitoring completed in February 2015, which shows the locational running annual average for two of the City's eight compliance sampling locations continue to exceed MCL standard of 0.080 mg/L. It is however, important to note that all individual compliance sample results collected in February were well below the 0.080 mg/L levels.

You are being provided an electronic copy of this notice as exceedance of this drinking water standard is expected to generate inquiries from water system customers, news media, and the general public.

Sarah Howes will be informing members of the Michigan legislature.

If you have any questions or would like any additional information, you may contact Michael Prysby, District Engineer, DEQ-ODWMA at 517-290-8817, or you may contact me at the number below.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

March 5, 2015

Mr. Brent Wright, Operations Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice (VN) – Maximum Contaminant Level for Total
Trihalomethanes (TTHM)
Operational Evaluation – Total Trihalomethanes
1st Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the city of Flint (City) is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels for disinfection byproducts (MCLs)*, of the 1979 Administrative Code.

In accordance with R 325.10610, *MCLs*, of the 1979 Administrative Code, the MCL for disinfection byproduct TTHM is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City's highest TTHM locational running annual average (LRAA), based on the last four quarters, ending February 28, 2015, is 0.105 mg/L which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R 325.10719I, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the DEQ not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that the TTHM OELs for the City exceed 0.080 mg/L at one of the City's eight sample site locations.

Mr. Brent Wright

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March 5, 2015

TTHM Results (mg/L)						
	5/21/14	8/21/14	11/20/14	2/17/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.162	0.145	0.059	0.0162	0.096	0.059
DBP2 Liquor Palace 3302 S. Dort Highway	0.112	0.127	0.033	0.0168	0.072	0.049
DBP3 North Flint Auto 6204 N. Saginaw St.	0.097	0.118	0.041	0.0149	0.068	0.047
DBP4 University Market 2501 Flushing Road	0.106	0.196	0.094	0.0245	0.105	0.085
DBP5 Taco Bell 3606 Corunna Road	0.079	0.181	0.034	0.0151	0.078	0.063
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.088	0.144	0.054	0.0192	0.076	0.059
DBP7 Salem Housing 3216 MLK Boulevard	0.082	0.112	0.050	0.0285	0.068	0.055
DBP8 BP Gas Station 822 S. Dort Highway	0.075	0.112	0.036	0.0199	0.061	0.047

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on March 1, 2015, and will continue until TTHM LRAA is below the MCL at all sample sites.

We are encouraged by the results from the most recent round of compliance samples collected on February 17, 2015, which now show individual TTHM levels at less than half of the 0.080 mg/L standard at all locations throughout the City's system. Operational Evaluation Reports from December 2014, and February 2015, have identified possible causes and corrective measures for the previous elevated TTHM levels which we encourage the City to continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard at all sites by continuing these efforts.

Our office is currently reviewing the Operational Evaluation Report dated February 27, 2015, and will provide the City and their consultant with comments, as needed, to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719I (R 325.10719I) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than Friday, May 29, 2015.**

If you have any other factual information you would like us to consider regarding the violation identified in this VN, please provide them in a written response by March 19, 2015.

Mr. Brent Wright

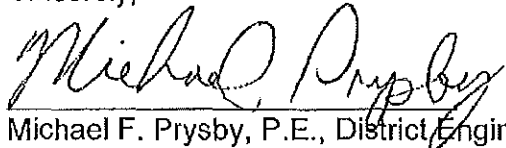
3

March 5, 2015

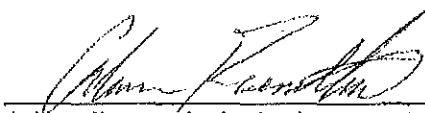
Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery and by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN which contains the minimum required language. The City is encouraged to include additional information regarding its response efforts to this violation. **Please notify your consumers by April 1, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice.** This violation must also be included in your 2015 Consumer Confidence Report, due by July 1, 2016. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below; at prysbym@michigan.gov; or rosenthala@michigan.gov; or at DEQ, P.O. Box 30242, Lansing, Michigan 48909-7742.

Sincerely,



Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water and Municipal
Assistance
517-290-8817



Adam Rosenthal, Environmental Quality
Analyst
Lansing District Office
Office of Drinking Water and Municipal
Assistance
517-284-6644

Enclosure

cc: Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Mr. Jerry Ambrose, Emergency Manager, City of Flint
Mr. Robert Bincsik, City of Flint
Mr. Howard Croft, City of Flint
Mr. Daughtry Johnson, City of Flint
Genesee County Health Department
Ms. Liane Shekter Smith, DEQ
Mr. Richard Benzie, DEQ
Mr. Stephen Busch, DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, November 20 of 2014, and February 17, 2015). The average of the results at ANY of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the MCL. The standard for TTHMs is 80 micro grams per liter (µg/L). The location reporting the highest TTHM level was 105 µg/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015. Our most recent individual sample results were all less than half the 80 µg/L standard, however since compliance is calculated using a locational running annual average (LRAA) of the most recent four quarters, we are still out of compliance with the MCL at two of eight locations.

For more information, please contact Mr. Brent Wright at 517-787-6537, or the Flint Water Plant at 4500 North Dort Highway, Flint, Michigan 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature	Title	Date Distributed
Reminder to water supplier: This notice/certification must be sent to the Department of Environmental Quality.		

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, June 09, 2015 12:39 PM
To: Howes, Sarah (DEQ); Pallone, Maggie (DEQ); 'Wurfel, Brad (DEQ) (WurfelB@michigan.gov)'
Cc: prysbym@michigan.gov; Richard Benzie P.E. (BENZIER@michigan.gov); Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov); Adam Rosenthal (rosenthala@michigan.gov); Thelen, Mary Beth (DEQ) (THELENM2@michigan.gov); Devereaux, Tracy Jo (DEQ)
Subject: Flint Drinking Water TTHM Standard Violation - 2nd quarter 2015
Attachments: Flint VN TTHM 6_9_15.pdf

Attached is a copy of the Violation Notice and Public Notice Template being mailed to the City of Flint by the DEQ Office of Drinking Water and Municipal Assistance regarding an exceedance of the Maximum Contaminant Level (MCL) standard for Total Trihalomethanes at certain locations within the City's drinking water distribution system.

This violation notice is in response to updated monitoring completed in May 2015, which shows the locational running annual average for one of the City's eight compliance sampling locations continues to exceed MCL standard of 0.080 mg/L. It is however, important to note that all individual compliance sample results collected in both May and February were below the 0.080 mg/L levels.

You are being provided an electronic copy of this notice as exceedance of this drinking water standard is expected to generate inquiries from water system customers, news media, and the general public.

Sarah Howes or Maggie Pallone will be informing members of the Michigan legislature.

If you have any questions or would like any additional information, you may contact Michael Prysby, District Engineer, DEQ-ODWMA at 517-290-8817, or you may contact me at the number below.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

June 9, 2015

Mr. Brent Wright, Operations Supervisor
City Of Flint – Department of Public Works
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice (VN) – Maximum Contaminant Level for Total
Trihalomethanes (TTHM)
2nd Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the city of Flint (City) is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels for disinfection byproducts (MCLs)*, of the 1979 Administrative Code.

In accordance with R 325.10610, *MCLs*, of the 1979 Administrative Code, the MCL for disinfection byproduct TTHM is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City's highest TTHM LRAA, based on the last four quarters, ending June 30, 2015, is 0.094 mg/L which exceeds the standard, and at this time only one of the eight sample site locations exceed the LRAA standard of 0.080 mg/L.

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on June 1, 2015, and will continue until the TTHM LRAA is below the MCL at all sample sites.

Mr. Brent Wright

2

June 9, 2015

TTHM Results (mg/L)	8/21/14	11/20/14	2/17/15	5/18/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.145	0.059	0.0162	0.0514	0.068	0.044
DBP2 Liquor Palace 3302 South Dort Highway	0.127	0.033	0.0168	0.0635	0.060	0.044
DBP3 North Flint Auto 6204 North Saginaw St.	0.118	0.041	0.0149	0.0452	0.055	0.037
DBP4 University Market 2501 Flushing Road	0.196	0.094	0.0245	0.0598	0.094	0.059
DBP5 Taco Bell 3606 Corunna Road	0.181	0.034	0.0151	0.0547	0.072	0.040
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.144	0.054	0.0192	0.0605	0.069	0.048
DBP7 Salem Housing 3216 MLK Boulevard	0.112	0.050	0.0285	0.0727	0.066	0.056
DBP8 BP Gas Station 822 South Dort Highway	0.112	0.036	0.0199	0.0461	0.054	0.037

We are encouraged by the results from the most recent round of compliance samples collected on May 18, 2015, which again show individual TTHM levels below 0.080 mg/L at all locations throughout the City's system. Operational Evaluation Reports from December 2014, February 2015, and May 2015, have identified possible causes and corrective measures for the previous elevated TTHM levels which we encourage the City to continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported for the most recent quarter in comparison to levels in May 2014, and suggest the City may be able to achieve compliance with the TTHM standard at all sites by continuing these efforts.

Our office is currently reviewing the Operational Evaluation Report dated May 29, 2015, and will provide the City and their consultant with comments, as needed, to help address this MCL violation.

Further, the TTHM operational evaluation level (OEL) calculated in accordance with R 325.10719I, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, is now below the 0.080 mg/L operational evaluation trigger at all eight sample site locations. However, our office is requesting that an operational evaluation again be conducted incorporating the most recent sample results, given the increase in TTHM levels from February 2015 results, and that the next monitoring period of August has been identified as the City's peak month for TTHM levels. **Please provide our office with an updated Operational Evaluation Report by Monday, August 31, 2015.**

If you have any other factual information you would like us to consider regarding the violation identified in this VN, please provide them in a written response by June 23, 2015.

Mr. Brent Wright

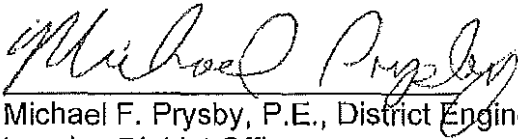
3

March 5, 2015

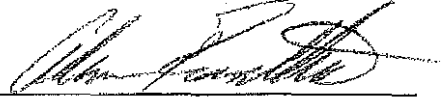
Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery **and** by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN which contains the minimum required language. The City is encouraged to include additional information regarding its response efforts to this violation. **Please notify your consumers by July 1, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the PN.** This violation must also be included in your 2015 Consumer Confidence Report, due by July 1, 2016. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below; at prysbym@michigan.gov; or rosenthala@michigan.gov; or at DEQ, P.O. Box 30242, Lansing, Michigan 48909-7742.

Sincerely,



Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-290-8817



Adam Rosenthal, Environmental Quality
Analyst
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-284-6644

Enclosure

cc: Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Mr. Robert Bincsik, City of Flint
Mr. Howard Croft, City of Flint
Mr. Michael Glasgow, City of Flint
Genesee County Health Department
Ms. Liane Shekter Smith, DEQ
Mr. Richard Benzie, DEQ
Mr. Stephen Busch, DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (August 21, November 20 of 2014, and February 17 & May 18 of 2015). The average of the results at **ANY** of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the MCL. The standard for TTHMs is 80 micro grams per liter (µg/L). The location reporting the highest TTHM level was 94 µg/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015. Our most recent individual sample results were all less than the 80 µg/L standard, however since compliance is calculated using a locational running annual average (LRAA) of the most recent four quarters, we are still out of compliance with the MCL at one of eight locations.

For more information, please contact Mr. Brent Wright at 517-787-6537, or the Flint Water Plant at 4500 North Dort Highway, Flint, Michigan 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature

Title

Date Distributed

Reminder to water supplier: This notice/certification must be sent to the Department of Environmental Quality.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, December 16, 2014 10:16 AM
To: Datema, Maggie (DEQ); 'Wurfel, Brad (DEQ) (WurfelB@michigan.gov)'
Cc: prysbym@michigan.gov; Richard Benzie P.E. (BENZIER@michigan.gov); Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov); Adam Rosenthal (rosenthala@michigan.gov)
Subject: Flint Drinking Water TTHM Standard Violation
Attachments: City of Flint VN - MCL TTHM 12_16_14.pdf

Attached is a copy of the Violation Notice and Public Notice Template being mailed to the City of Flint by the DEQ Office of Drinking Water and Municipal Assistance regarding an exceedance of the Maximum Contaminant Level standard for Total Trihalomethanes at certain locations within the City's drinking water distribution system.

You are being provided an electronic copy of this notice as exceedance of this drinking water standard is expected to generate inquiries from water system customers, news media, and the general public.

Maggie Datema will be informing members of the Michigan legislature.

If you have any questions or would like any additional information, you may contact Michael Prysby, District Engineer, DEQ-ODWMA at 517-290-8817, or you may contact me at the number below.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

December 16, 2014

Mr. Brent Wright, Operation Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, MI 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice – Maximum Contaminant Level for Total Trihalomethanes
Operational Evaluation – Total Trihalomethanes
4th Quarter 2014 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the City of Flint is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels (MCL) for disinfection byproducts*, of the 1979 Administrative Code.

In accordance with R.325.10610, *MCLs for disinfection byproducts*, of the 1979 Administrative Code, the MCL for disinfection byproduct total trihalomethanes (TTHM) is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City of Flint's highest TTHM locational running annual average (LRAA), based on the last three quarters, ending November 30, 2014, is 0.099 mg/l which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R325.10719I, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the department not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that TTHM operational evaluation levels for the City of Flint exceed 0.080 mg/L at four of the City's eight sample site locations.

TTHM Results (mg/L)					
	5/21/14	8/21/14	11/20/14	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.162	0.145	0.059	0.092	0.106
DBP2 Liquor Palace 3302 S. Dort Highway	0.112	0.127	0.033	0.068	0.076
DBP3 North Flint Auto 6204 N. Saginaw St.	0.097	0.118	0.041	0.064	0.074
DBP4 University Market 2501 Flushing Road	0.106	0.196	0.094	0.099	0.122
DBP5 Taco Bell 3606 Corunna Road	0.079	0.181	0.034	0.074	0.082
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.088	0.144	0.054	0.072	0.085
DBP7 Salem Housing 3216 MLK Boulevard	0.082	0.112	0.050	0.061	0.074
DBP8 BP Gas Station 822 S. Dort Highway	0.075	0.112	0.036	0.056	0.065

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on December 1, 2014, and will continue until TTHM LRAA is below the MCL at all sample sites.

We acknowledge and appreciate the city's cooperation with our recommendation to preemptively conduct an Operational Evaluation following the City's second quarterly round of monitoring in August. That Operational Evaluation report has identified possible causes and corrective measures for the elevated TTHM levels which we encourage the City continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard.

Our office is continuing to review the Operational Evaluation report that was submitted on December 1, 2014, and will provide the City and their consultant comments as needed to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719I (R325.10719I) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than March 1, 2015.**

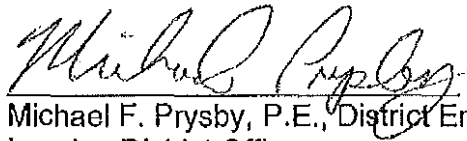
If you have any other factual information you would like us to consider regarding the violation identified in this Violation Notice (VN), please provide them in a written response by January 16, 2015.

Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery and by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN

which contains the minimum required language. The City is encouraged to include additional information regarding its response to this violation. **Please notify your consumers by January 10, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice.** This violation must also be included in your 2014 Consumer Confidence Report (CCR), due by July 1, 2015. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below.

Sincerely,



Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water & Municipal
Assistance
517-290-8817



Adam Rosenthal, EQA
Lansing District Office
Office of Drinking Water & Municipal
Assistance
517-284-6644

mfp/ar/jlr
Enclosure

cc: Mr. Darnell Early, Emergency Manager, City of Flint
Mr. Daughtry Johnson, City of Flint
Mr. Howard Croft, City of Flint
Mr. Robert Bincsik, City of Flint
Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Genesee County Health Department
Ms. Liane Shekter Smith, P.E., DEQ
Mr. Richard Benzie, P.E., DEQ
Mr. Stephen Busch, P.E., DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, and November 20 of 2014). The average of the results at ANY of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the Maximum Contaminant Level (MCL). The standard for TTHMs is 80 µg/L. The location reporting the highest TTHM level was 99 µg/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem by 2015.

For more information, please contact Mr. Brent Wright at 517-787-6537 or the Flint Water Plant at 4500 North Dort Highway, Flint, MI 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature

Title

Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, December 12, 2014 3:33 PM
To: Datema, Maggie (DEQ); 'Wurfel, Brad (DEQ) (WurfelB@michigan.gov)'
Cc: prysbym@michigan.gov; Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov); Sygo, Jim (DEQ); Richard Benzie P.E. (BENZIER@michigan.gov)
Subject: Flint Drinking Water TTHM Standard Violation
Attachments: Flint DBP MCL 4Q14.doc

Maggie,

The final violation notice we plan to mail on Monday to Flint is attached.

The Director had asked us to work with you to notify impacted members of the State legislature and answer any questions they might have so that they will be informed and able to answer questions from their constituents.

Please let us know if you have any questions or need any additional assistance.

Thanks.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

December 15, 2014

Mr. Brent Wright, Operation Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, MI 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice – Maximum Contaminant Level for Total Trihalomethanes
Operational Evaluation – Total Trihalomethanes
4th Quarter 2014 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the City of Flint is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels (MCL) for disinfection byproducts*, of the 1979 Administrative Code.

In accordance with R.325.10610, *MCLs for disinfection byproducts*, of the 1979 Administrative Code, the MCL for disinfection byproduct total trihalomethanes (TTHM) is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City of Flint's highest TTHM locational running annual average (LRAA), based on the last three quarters, ending November 30, 2014, is 0.099 mg/l which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R325.10719I, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the department not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that TTHM operational evaluation levels for the City of Flint exceed 0.080 mg/L at four of the City's eight sample site locations.

TTHM Results (mg/L)					
	5/21/14	8/21/14	11/20/14	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.162	0.145	0.059	0.092	0.106
DBP2 Liquor Palace 3302 S. Dort Highway	0.112	0.127	0.033	0.068	0.076
DBP3 North Flint Auto 6204 N. Saginaw St.	0.097	0.118	0.041	0.064	0.074
DBP4 University Market 2501 Flushing Road	0.106	0.196	0.094	0.099	0.122
DBP5 Taco Bell 3606 Corunna Road	0.079	0.181	0.034	0.074	0.082
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.088	0.144	0.054	0.072	0.085
DBP7 Salem Housing 3216 MLK Boulevard	0.082	0.112	0.050	0.061	0.074
DBP8 BP Gas Station 822 S. Dort Highway	0.075	0.112	0.036	0.056	0.065

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on December 1, 2014, and will continue until TTHM LRAA is below the MCL at all sample sites.

We acknowledge and appreciate the city's cooperation with our recommendation to preemptively conduct an Operational Evaluation following the City's second quarterly round of monitoring in August. That Operational Evaluation report has identified possible causes and corrective measures for the elevated TTHM levels which we encourage the City continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard.

Our office is continuing to review the Operational Evaluation report that was submitted on December 1, 2014, and will provide the City and their consultant comments as needed to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719I (R325.10719I) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than March 1, 2015.**

If you have any other factual information you would like us to consider regarding the violation identified in this Violation Notice (VN), please provide them in a written response by January 15, 2015.

Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery **and** by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN

which contains the minimum required language. The City is encouraged to include additional information regarding its response to this violation. **Please notify your consumers by January 10, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice.** This violation must also be included in your 2014 Consumer Confidence Report (CCR), due by July 1, 2015. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below.

Sincerely,

Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water & Municipal
Assistance
517-290-8817

Adam Rosenthal, EQA
Lansing District Office
Office of Drinking Water & Municipal
Assistance
517-284-6644

mfp/ar/jlr
Enclosure

cc: Mr. Darnell Early, Emergency Manager, City of Flint
Mr. Daughtry Johnson, City of Flint
Mr. Howard Croft, City of Flint
Mr. Robert Bincsik, City of Flint
Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Genesee County Health Department
Ms. Liane Shekter Smith, P.E., DEQ
Mr. Richard Benzie, P.E., DEQ
Mr. Stephen Busch, P.E., DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, and November 20 of 2014). The average of the results at **ANY** of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the Maximum Contaminant Level (MCL). The standard for TTHMs is 80 µg/L. The location reporting the highest TTHM level was 99 µg/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem by 2015.

For more information, please contact Mr. Brent Wright at 517-787-6537 or the Flint Water Plant at 4500 North Dort Highway, Flint, MI 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature

Title

Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, December 15, 2014 3:34 PM
To: Datema, Maggie (DEQ)
Cc: Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov)
Subject: Flint Drinking Water Violation Notification

Maggie,

Could you update me on where you are at on notifying impacted members of the legislature on our Violation Notice to the City of Flint regarding the drinking water standard violation.

Our letter needs to go out in order to provide the City time to meet notification requirements as notification is from the date of the violation not date of the letter.

If we can be of any assistance on this, please let us know. Thanks.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, December 15, 2014 3:34 PM
To: Datema, Maggie (DEQ)
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Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, September 10, 2014 10:58 AM
To: Thelen, Mary Beth (DEQ) (THELENM2@michigan.gov); Sygo, Jim (DEQ)
Subject: Flint drinking water

Mary Beth,

I spoke with Director Wyant briefly yesterday regarding a boil water advisory for the City of Flint's drinking water.

We have a separate compliance issue with the City of Flint regarding the drinking water standard for disinfection byproducts that I would like to inform the Director about as the City is still under a state appointed Emergency Manager.

Does Director Wyant have any time available to meet on this?

Please let me know. Thanks.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Thursday, April 24, 2014 9:25 AM
To: Busch, Stephen (DEQ)
Subject: Flint inspection - meeting

Steve,

As we discussed, I will visit the Flint WTP and the Bray Road site this afternoon to confirm that the remaining items discussed during last Friday's visit have been addressed and, more importantly, to confirm that the WTP is ready to distribute water to the Flint distribution system. For tomorrow's "switch-over ceremony", I will plan to drive separately to the WTP. The switch-over ceremony is at noon, so I plan on arriving between 11:30 – 11:45 timeframe. If there is any change in this schedule, I will inform you.

I will also complete and submit my timesheet today. I will make any modifications, as needed, on Monday to reflect earned comp time.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Saturday, April 13, 2013 7:24 PM
To: Prysby, Mike (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Bloemker, Jon (DEQ)
Cc: Wurfel, Brad (DEQ)
Subject: Flint KWA Decision

Importance: High

FYI. A decision has been made.

http://www.mlive.com/news/flint/index.ssf/2013/04/read_the_water_pipeline_letter.html

http://media.mlive.com/newsnow_impact/other/Flint%20-%20KWA%20Approval.pdf

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, April 30, 2013 3:56 PM
To: Wurfel, Brad (DEQ)
Subject: Flint/KWA

Brad,

FYI. The press release on Flint's decision regarding KWA and DWSD is being postponed until tomorrow. Jeff Wright, Genesee Co., is in Chicago today and Kurtz wanted him to be available to answer questions.

If something comes up my number is listed below.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, August 17, 2015 2:36 PM
To: 'Wurfel, Brad (DEQ) (WurfelB@michigan.gov)'
Cc: Sygo, Jim (DEQ) (SygoJ@michigan.gov); Richard Benzie P.E. (BENZIER@michigan.gov); cookp@michigan.gov; prysbym@michigan.gov; Adam Rosenthal (rosenthala@michigan.gov); Pallone, Maggie (DEQ); Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov)
Subject: Flint Lead Monitoring Letter
Attachments: City of Flint PbCu15 8_17_15.pdf

Brad,

As there has been much interest regarding lead related to Flint drinking water, I have attached our latest letter which covers the most recent January – June 2015 monitoring period. The City is in compliance with the 15 part per billion action level for lead. Yet based on these results, the treatment cannot be deemed to provide fully optimized corrosion control treatment, and the City will need to recommend additional treatment to achieve this optimization under the Lead and Copper Rule requirements established under the Michigan Safe Drinking Water Act. This is all spelled out in the attached letter.

If you have any questions or would like any additional information you may contact me at the number below.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

August 17, 2015

Mr. Brent Wright
City of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

Dear Mr. Wright:

SUBJECT: Flint, City of WSSN: 02310
Lead and Copper Monitoring of Drinking Water Taps

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), received your report for the monitoring period January 1, 2015, through June 30, 2015.

Action Levels	Results this monitoring period			
	90th Percentile	# of Samples Above Action Level	# of Samples Required	# of Samples Collected
Lead 15 parts per billion (ppb)	11 ppb	6	60	69
Copper 1.3 parts per million (ppm)	0.16 ppm	0	60	69

Ninety percent or more of the sites you tested are within action levels under the administrative rules promulgated under the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399). These results must be reported on your 2015 Consumer Confidence Report (CCR) due to our office, your customers, and the local health department, by July 1, 2016. Also include the following statement in the CCR, regardless of the lead and copper levels:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Flint is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.water.epa.gov/drink/info/lead>.

Mr. Brent Wright

2

August 17, 2015

Recent changes to the Lead and Copper Rule (LCR) require the water supply to provide individual lead tap results to people who receive water from sites that were sampled, even if lead was not detected, within 30 days of learning of results. You must also send us a certification that you met all the delivery requirements along with a sample copy of your customer notice by three months after the end of the monitoring period. To download the *Lead and Copper Report and Consumer Notice of Lead Result Certificate* in Microsoft Word or PDF format, visit <http://www.michigan.gov/deq>. Click on Water, Drinking Water, Community Water Supply, and Reporting Forms under the Manuals, Forms and Brochures heading. Water supplies that fail to distribute the Consumer Notice of Lead Results must include the following statement in their CCR, "During the year, we failed to provide lead results to persons served at the sites that were tested as required by the Lead and Copper Rule."

While the City's LCR compliance monitoring has continued to meet action level requirements, the LCR also requires all large systems (those serving over 50,000 people) to optimize corrosion control regardless of their 90th percentile lead concentration. One way to demonstrate fully optimized corrosion control treatment is through two consecutive six month rounds of LCR compliance monitoring in which the difference between the 90th percentile level and the highest source water lead concentration is less than the Practical Quantitative Level for lead (0.005 milligrams per liter). Since the City did not meet these criteria in both the July – December 2014, and January – June 2015, sampling periods, the City must now recommend a treatment to fully optimize corrosion control treatment within six months in accordance with requirements under Act 399, Administrative Rule 604f (R 325.10604f). **This recommendation must be provided to our office as soon as possible, but no later than January 1, 2016.**

However, given the past use of phosphate treatment by the Detroit Water and Sewerage Department (DWSD) to fully optimize corrosion control treatment when the City was a wholesale customer of DWSD, the ODWMA recommends the City select this as its recommended treatment option, and begin implementation as soon as possible to address ongoing concerns by customers regarding lead levels within their premise plumbing systems. Under the second step of this Rule, the DEQ can specify optimal corrosion control treatment.

Our office will inform you when monitoring needs to be conducted as part of the optimization of the implemented corrosion control treatment. Customer requested samples for lead shall continue to be collected and analyzed. Please make every attempt to select the same sites used in the previous monitoring period, giving Tier 1 sites first priority. If original sites are unavailable, select replacement sites based on the Tier 1, 2, and 3 criteria.

Please contact me at 517-284-6644 or rosenthala@michigan.gov at your earliest convenience to discuss how the City will be complying with the above requirements.

Sincerely,



Adam Rosenthal, Environmental Quality Analyst
Lansing District Office
Office of Drinking Water and Municipal Assistance

cc: Mr. Michael Glasgow, City of Flint