

IN THE MATTER OF : **SUPPLEMENTAL COMPLIANCE**
CITY OF NEWARK - DEPARTMENT : **AGREEMENT & ORDER**
OF WATER AND SEWER UTILITIES :

NEA-180002

This Supplemental Compliance Agreement and Order (SCAO) is entered into pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection ("Department") by N.J.S.A. 13:1D-1 et seq., the Safe Drinking Water Act (N.J.S.A. 58:12A-1 et seq.), specifically N.J.S.A. 58:12:A-9(c) and (i) and N.J.S.A. 58:12A-10, the Safe Drinking Water Act regulations (N.J.A.C. 7:10-1 et seq.), and the National Primary Drinking Water Regulations (40 CFR § 141.1 et seq.), and is duly delegated to the Chief of the Northern Bureau of Water Compliance and Enforcement pursuant to N.J.S.A. 13:1B-4.

FINDINGS

1. The City of Newark ("Newark") through its Department of Water and Sewer Utilities owns and operates a public community water system ("system"), as defined by N.J.A.C. 7:10-1.3, with Public Water System Identification number 0714001, located in the City of Newark, Essex County, New Jersey. The system is considered a large water system because it serves more than 50,000 people. See 40 C.F.R. § 141.2.
2. Newark is served by two distinct sources of water: the Pequannock Treatment Plant serves the western portion of the city ("Pequannock service area") and North Jersey District Water Supply Authority, also known as Wanaque North, serves the eastern portion ("Wanaque service area"). (See Exhibit A). To prevent the leaching of lead from pipes, the two sources have implemented different forms of corrosion control treatment ("CCT"). The Pequannock Treatment Plant uses silica and pH adjustments and North Jersey District Water Supply uses orthophosphate for CCT.
3. The New Jersey Safe Drinking Water regulations, specifically N.J.A.C. 7:10-5.1, -5.2(a)(9), incorporate by reference, the Lead and Copper Rule ("LCR") at 40 C.F.R. § 141.80 et seq.
4. On March 31, 2009, the Department and Newark executed an Administrative Consent Order, which required Newark to study options to bring its finished reservoir into compliance with 40 C.F.R. § 141.714.

Lead

5. On July 25, 2018, Newark and the Department entered into a Compliance Agreement and Order ("CAO") pertaining to Newark's obligations under the LCR. As discussed in the CAO, the entire Newark water system exceeded the lead action level in the first half of 2017. Although the LCR requires Newark to submit a CCT study and recommendation by October

31, 2019, Newark agreed to submit the study and recommendation by April 30, 2019 for the entire water system under the CAO. Newark also agreed to submit preliminary CCT studies prior to this deadline, including a final report on the Corrosion Control Optimization Desktop Analysis (“CCODA”) by October 15, 2018, an initial coupon study report by October 15, 2018 (to be followed with a final coupon study report by January 31, 2019), and an initial report on pipe scale testing by October 15, 2018 (to be followed with a final pipe scale testing report by January 31, 2019). This Supplemental Compliance Agreement and Order (“SCAO”) incorporates the Findings set forth in the CAO. As described below, Newark and the Department have had frequent communications regarding Newark’s ongoing CCT studies. On March 18, 2019, Newark requested a force majeure extension to certain deadlines related to the CCT studies under the CAO. Based on the findings set forth below, the Department hereby grants the extension and incorporates the new deadlines set forth in paragraph 33 below. Newark has been in substantial compliance with the CCT requirements specified by the Department in the CAO, as modified by this SCAO.

6. On October 1, 2018, the Department received a notification from the Environmental Protection Agency (“EPA”) regarding the results of sequential monitoring conducted at two residences in the Pequannock service area. The sequential monitoring involved taking ten samples in sequence from kitchen taps to determine the volume of water that would need to be flushed through a lead service line before the lead concentration would be reduced. Thereafter, on October 2, 2018, the Department received the EPA’s pipe scale analysis for the Pequannock service area and spoke with Newark’s consultants, CDM Smith, about the preliminary results of the CCODA for the Pequannock service area. The sequential monitoring and pipe scale analysis were part of the CCODA. The results of the sequential monitoring and the pipe scale analysis indicated that the usual recommendation to flush lead service lines to reduce exposure to lead may not be effective in the Pequannock service area. Newark informed the Department that it took immediate action to replace the lead service lines at the two homes where sequential monitoring was conducted. The pipe scale analysis conducted by EPA indicated that the silicate chemical used for corrosion control was no longer effective as a physical barrier in the lead service lines in the Pequannock service area.
7. On October 11, 2018, Newark submitted a draft CCT study and recommendation (Pequannock WTP Corrosion Control Review and Recommendations-Draft), dated October 10, 2018, to the Department. The report includes a CCT study for the Pequannock service area. The report indicates that corrosion control in this service area is no longer effective, as described in the previous paragraph.
8. On October 12, 2018, Newark started distributing free National Sanitation Foundation-certified (“NSF-certified”) water filters, which remove lead, to eligible residents in the Pequannock service area who have or may have lead service lines or lead plumbing elements, and any resident with a Newark-administered test that indicates a water lead level at 15 parts per billion or above.
9. Newark’s filter distribution program has provided filters door-to-door and at eight distribution centers throughout the city for pick-up. As of the execution of this SCAO, Newark has distributed approximately 35,000 filters under the program. On October 12, 2018, Newark

first informed residents about the availability of filters during a press conference and via public notice, and created a dedicated website (www.newarkleadsviceline.com) to provide residents with information about the program. Distribution began on October 12, 2018 at Newark City Hall and 239 Central Avenue. On October 13, 2018, three locations (329 Central Avenue, 916 South Orange Avenue, and 110 William Street) began distribution from 9:00am to 10:00pm. At these locations, education on filter installation and use was provided via video, written educational materials were provided to residents, and health and water department personnel were present to address questions. During the week of October 15, 2018, public notices were mailed to all residents and distributed to schools. Tele-townhall and Facebook Live events were held on October 15 and October 17, 2018. Between October 12 and December 14, 2018, Newark held six community meetings on the filter program. Each community meeting was preceded by a robo-call providing information on filter distribution, among other information. A city-wide public notice on the filter program was distributed on October 22, 2018. Newark has distributed information on the filter program to health clinics and family planning centers as well as the following hospitals: Beth Israel, St. Michael's, and University of Medicine and Dentistry of New Jersey. Newark has also utilized social media to inform residents about the filter program. Between October 12 and November 6, 2018, Newark posted 22 Facebook messages and 28 Twitter posts on the filter program. Newark issued its most recent press release on the filter program on March 21, 2019.

- A. The current filter and cartridge distribution center locations are: (i) Boylan Recreation Center – 916 South Orange Avenue; (ii) John F. Kennedy Recreation Center – 211 West Kinney Street; (iii) Vince Lombardi Center of Hope – 201 Bloomfield Avenue; (iv) St. Peter's Recreation Center – 378 Lyons Avenue; (v) Hayes Park West Recreation – 179 Boyd Street; (vi) Water & Sewer Facility – 239 Central Avenue; (vii) Department of Health & Community Wellness – 110 William Street; and (viii) City Hall – 920 Broad Street.

- i. Current pick-up hours at these locations are:

- 1. Recreations centers: Tuesday – Friday 11am to 8pm and Saturday 11am to 6pm;
 - 2. Health Department: Monday – Friday 8am to 4:30pm;
 - 3. Water & Sewer Facility: Monday – Sunday 8am to 8pm; and
 - 4. City Hall – Monday – Friday 9am to 5pm.

- 10. On October 26, 2018, the Department sent a letter to Newark responding to the draft CCT study and recommendation. (Exhibit B). The letter requires Newark to provide additional studies and information, including sequential sampling for the Wanaque service area and a recommendation regarding whether a pipe scale analysis is required for the Wanaque. The letter also directed Newark to submit additional studies and information for the Pequannock service area regarding: stabilizing the pH, addressing buffer capacity, the effect of CCT on the lime feed system, how operational issues affect fluctuating pH levels, addressing the pre-chlorination and pre-oxidation process, how Newark will achieve compliance with all other applicable safe drinking water regulations while conducting CCT, filter performance, the effect of iron and manganese in the distribution mains, maintaining adequate chlorine residual, and addressing consecutive system impacts.

11. On November 8, 2018 Newark submitted documentation in response to the October 26, 2018 letter, referenced in the previous paragraph. The Department reviewed the submission and responded to Newark with a follow-up letter dated November 30, 2018 requiring Newark to submit and/or address the following:
- A. Submission of a CCT report for the Wanaque Gradient by January 15, 2019. The CCT report was to include and/or address the following: sequential sampling and pipe scale analysis from “likely blending”, “potential blending” and “no blending” zones in the Wanaque Gradient. If results of the sampling and pipe scale analysis require additional optimization, a plan of action must be developed.
 - B. Effective transition from silicate to orthophosphate including whether special water quality parameter sampling will be conducted by Newark in their consecutive systems and what the optimum values would be;
 - C. Implementation of an effective distribution flushing program for Newark’s consecutive systems to ensure that the silicate is flushed out.
 - D. Determination of whether special lead/copper sampling should be conducted by Newark for their consecutive systems.
 - E. Acknowledgement that the silicate feed at the Pequannock Water Treatment Plant shall not be discontinued until Newark implements an alternative CCT for Pequannock Township Water Department.
 - F. Implementation of requirements outlined in the Department’s Source Water Changes and Treatment Modifications Guidance.
 - G. Acknowledgement that written notification be provided to Newark’s consecutive systems thirty days before and again five days before implementing the orthophosphate treatment.
 - H. A comprehensive flushing program for Newark’s distribution system prior to implementing a flushing program.
 - I. A final CCTR prior to the issuance of a treatment approval to add orthophosphate into the distribution system of the Pequannock Gradient at the Valley Road Rechlorination Station.
12. Newark initiated its CCT studies for the Wanaque Gradient. However, the federal government shutdown delayed work on the pipe scale analyses.¹ As such, on January 9, 2019, Newark requested an extension of the January 15, 2019 deadline to complete the Wanaque studies and committed to sending a draft CCT report within two weeks of receiving the pipe scale analysis results. On January 15, 2019, Newark submitted an additional letter stating that the sequential

¹ The federal government was shutdown for thirty-four days, from December 22, 2018 to January 25, 2019.

sampling data was undergoing quality assurance/quality control (“QA/QC”) review and that additional data was forthcoming. On January 25, 2019, Newark requested a three-day extension to February 1, 2019 to submit the initial Wanaque Gradient CCT Report due to laboratory testing issues associated with the sequential sampling. On February 1, 2019, Newark submitted a draft report entitled *Wanaque Gradient Corrosion Control Review and Recommendations* (“Draft Report”).

13. On February 13, 2019, the Department sent a letter in response to the Draft Report. (Exhibit E). The Department directed Newark to submit a schedule to conduct additional sequential monitoring and pipe scale analyses in the Wanaque Gradient and to provide a final report.
14. On March 6, 2019, Newark sent a letter to the Department proposing to perform the additional testing for the Wanaque Gradient and to submit a draft CCT report for the Wanaque Gradient by June 28, 2019. On March 18, 2019, Newark submitted a force majeure request under paragraph 45 of the CAO for an extension of paragraph 28.B of the CAO, which required Newark to submit the results of its CCT study and a final CCT recommendation by April 30, 2019. The Department hereby grants an extension of this deadline with regards to the Wanaque service area and incorporates the new deadline under paragraph 33 below.

HAA5 and TTHM

15. On October 31, 2018, revised November 5, 2018, the Department issued a Notice of Non-Compliance (“NONC”) (Exhibit C) to Newark for failing to comply with the Maximum Contaminant Level (“MCL”) for Total Haloacetic Acids (“HAA5”) under 40 C.F.R. 141.64(b). Specifically, the locational running annual average for HAA5 exceeded the MCL of 60 micrograms per liter (“ug/L”) during the July 1, 2018 to September 30, 2018 monitoring period at the following sampling locations by the following levels: SM11 (74 ug/L), SM12 (77 ug/L), SM19 (76 ug/L), SM5 (62 ug/L), STAGE1#204 (74 ug/L), STAGE1#203 (81 ug/L), STAGE1#202 (70 ug/L) and STAGE1#201 (73 ug/L). The individual monitoring results are as follows:

<u>Monitoring Period</u>	SM11 (ug/L)	SM12 (ug/L)	SM19 (ug/L)	SM5 (ug/L)
4th quarter 2017	55.0	47.9	46.8	35
1 st quarter 2018	34	33.0	36	31.8
2 nd quarter 2018	96.0	122.6	121.5	87.1
3 rd quarter 2018	109.2	103.1	100.7	95
LRAA	74	77	76	62

<u>Monitoring Period</u>	STAGE1 #204 (ug/L)	STAGE1 #202 (ug/L)	STAGE1 #203 (ug/L)	STAGE1 #201 (ug/L)
4th quarter 2017	39.4	45.8	55.5	41.8
1 st quarter 2018	24.6	26.5	30.6	22.9
2 nd quarter 2018	119.2	109.4	130.6	116
3 rd quarter 2018	112.0	98.0	106.5	113
LRAA	74	70	81	73

16. The NONC required Newark to conduct Tier 2 public notification of the HAA5 MCL violation by November 19, 2018, in accordance with 40 C.F.R. 141.201 et seq. and to submit a Remedial Measures Report Form (BWSE-40) and detail all proposed and completed remedial measures to the Department within 30 days of receiving the NONC. Newark was advised to consider how its actions may impact compliance with other contaminants by using EPA's guidance document, *Simultaneous Compliance Guidance Manual for the Long Term 2 and Stage 2 DPB Rules*. Newark submitted a Remedial Measures Report dated January 8, 2019, which the Department received on January 9, 2019. The Department reviewed the report and issued a response on March 1, 2019.

17. Pursuant to N.J.A.C. 7:10-5.7(a), Newark is required to take any action necessary to comply with the HAA5 MCL by October 18, 2019, including monitoring at the interconnections with its consecutive systems.

18. Newark exceeded the Operational Evaluation Level (OEL) under the Stage 2 Rule, 40 C.F.R. 141.626, for Trihalomethanes ("TTHM") at 10 locations during the third quarter of 2018. Data is provided in the table below.

Monitoring Period	STAGE1#203	STAGE1#201	SM12	STAGE1#204	STAGE1#202
1 st quarter 2018	27.2	20	31.7	26.3	32
2 nd quarter 2018	110	87.1	98.2	98.7	101.1
3 rd quarter 2018 *	93.5	124	103	107.5	106.2
3 rd quarter 2018 *	93.5	124	103	107.5	106.2
OEL LRAA (µg/L)	81.1	88.8	84	85	86.4

Monitoring Period	Site 4	SM5	SM11	SM19	SM7
1 st quarter 2018	39.8	32	30.5	36.1	47
2 nd quarter 2018	96.7	104	92.4	105.6	75.8
3 rd quarter 2018 *	98.1	104.7	111.5	108.8	102
3 rd quarter 2018 *	98.1	104.7	111.5	108.8	102
OEL LRAA (µg/L)	83.2	86.4	86.5	89.8	81.7

**The 3rd quarter results above have been calculated as a monitoring period average because duplicate samples were collected at each site during the 3rd quarter. Not listed here because the LRAA did not exceed, only one result was reported for SM17.*

19. Newark exceeded the OEL under the Stage 2 Rule for TTHM at 9 locations during the fourth quarter of 2018. Data is provided in the table below.

Monitoring Period	STAGE1#203 (University Hospital)	STAGE1#201 (Beth Israel)	SM12 (801 North 6 th Street)	STAGE1#204 (Essex County Park)	STAGE1#202 (Senior Center)
<i>2nd quarter 2018</i>	<i>110</i>	<i>87.1</i>	<i>98.2</i>	<i>98.7</i>	<i>101.1</i>
<i>3rd quarter 2018 *</i>	<i>93.5</i>	<i>124</i>	<i>103</i>	<i>107.5</i>	<i>106.2</i>
<i>4th quarter 2018</i>	<i>64.3</i>	<i>63.9</i>	<i>64.2</i>	<i>66.8</i>	<i>64.0</i>
<i>4th quarter 2018</i>	<i>64.3</i>	<i>63.9</i>	<i>64.2</i>	<i>66.8</i>	<i>64.0</i>
OEL LRAA (µg/L)	83.0	84.7	82.4	85.0	83.8

Monitoring Period	Site 4 (239 Central Ave)	SM5 (94 William St)	SM11 (521 Ivy Hill Plaza)	SM19 (311 South 10 th St.)
<i>2nd quarter 2018</i>	<i>96.7</i>	<i>104</i>	<i>92.4</i>	<i>105.6</i>
<i>3rd quarter 2018 *</i>	<i>98.1</i>	<i>104.7</i>	<i>111.5</i>	<i>108.8</i>
<i>4th quarter 2018</i>	<i>65.3</i>	<i>64.7</i>	<i>65.5</i>	<i>64.9</i>
<i>4th quarter 2018</i>	<i>65.3</i>	<i>64.7</i>	<i>65.5</i>	<i>64.9</i>
OEL LRAA (µg/L)	81.4	84.5	83.7	86.1

20. On January 9, 2019, the Department issued a NONC (Exhibit D) to Newark for failing to comply with the Maximum Contaminant Level (“MCL”) for Total Haloacetic Acids (“HAA5”) under 40 C.F.R. 141.64(b). Specifically, the locational running annual average for HAA5 exceeded the MCL of 60 micrograms per liter (“ug/L”) during the period 10/01/2018 to 12/31/2018 for the following sample point IDs: 4, SM11, SM12, SM19, SM5, STAGE1#204, STAGE1#203, STAGE1#202, and STAGE1#201. Specifically, the LRAAs for during the 4th quarter of 2018 exceeded the MCL of 60 micrograms per liter (µg/L) at these locations: 4 (62 µg/L), SM11 (76 µg/L), SM12 (80 µg/L), SM19 (78 µg/L), SM5 (68 µg/L), STAGE1#204 (81 µg/L), STAGE1#202 (74 µg/L), STAGE1#203 (82 µg/L), and STAGE1#201 (79 µg/L).

Reporting Period	4 (µg/L)	SM11 (µg/L)	SM12 (µg/L)	SM19 (µg/L)	SM5 (µg/L)
1 st quarter 2018	26.3	34	33.0	36	31.8
2 nd quarter 2018	109.4	96.0	122.6	121.5	87.1
3 rd quarter 2018	51	109.2	103.1	100.7	95
4 th quarter 2018	59.9	65.6	60.8	55.2	59.2
LRAA	62	76	80	78	68

Reporting Period	STAGE1 #204 (µg/L)	STAGE1 #202 (µg/L)	STAGE1 #203 (µg/L)	STAGE1 #201 (µg/L)
1st quarter 2018	24.6	26.5	30.6	22.9
2nd quarter 2018	119.2	109.4	130.6	116
3rd quarter 2018	112.0	98.0	106.5	113
4th quarter 2018	69	64	61.1	66
LRAA	81	74	82	79

21. The NONC required Newark to conduct Tier 2 public notification of the HAA5 MCL violation by February 3, 2019 in accordance with 40 C.F.R. 141.201 et seq. and to submit a Remedial Measures Report Form (BWSE-40) and detail all proposed and completed remedial measures to the Department within 30 days of receiving the NONC.
22. Newark conducted Tier 2 public notification by February 3, 2019 and submitted a Remedial Measures Report dated January 8, 2019, which the Department received on January 9, 2019 and conditionally approved on March 1, 2019.
23. Based on the facts set forth in these FINDINGS, the Department and Newark have agreed to enter into this SCAO to memorialize a schedule of actions Newark will take, including those actions which surpass what is required by the Lead and Copper rules, N.J.A.C. 7:10-5.1, -5.2(a)(9), -5.4(a) and 40 CFR 141.80 et seq. Newark has agreed to the entry of this SCAO and to be bound by its terms and conditions.

ORDER

NOW, THEREFORE, IT IS HEREBY ORDERED AND AGREED THAT:

A. ENFORCEMENT COMPLIANCE SCHEDULE

24. All provisions of the March 31, 2009 Administrative Consent Order and the July 25, 2018 CAO remain in full force and effect, and Newark shall continue to be bound by them, except as otherwise expressly set forth below.

Water Filter Distribution

25. By May 15, 2019, Newark shall provide or attempt to provide a free NSF-certified water filter to remove lead and a one-year supply of filter cartridges that are NSF-certified to remove lead to each qualified residence, as described in paragraph 27 below. Thereafter, replacement cartridges shall continue to be provided or attempted to be provided to all qualified residences so that each qualified residence has a functioning filter cartridge until corrosion control has been installed and reviewed by the Department and optimal water quality parameters (“WQPs”) have been designated by the Department. Newark shall distribute the water filters and filter cartridges at no cost to the qualified residences.

26. To remedy the initial backlog of water testing requests from residents, Newark has requested the services of Garden State Laboratories, Inc., Agra Environmental and Laboratory Services, and the North Jersey District Water Supply Commission, which are certified laboratories, to process the backlog of testing requests and coordinate with those certified labs to determine appropriate reporting procedures. Newark shall continue to retain the services of these labs or at least three other certified labs until corrosion control has been installed and reviewed by the Department and WQPs have been designated by the Department.
27. Newark shall provide or attempt to provide the NSF-certified water filter and a one-year supply of cartridges to every qualified residence, as described in this paragraph by May 15, 2019.
- A. “Residence” means any single-family residence or multi-family residence having a service line less than 3 inches in diameter.² “Qualified residences” are residences in the Pequannock service area: (i) that receive water through a lead service line; (ii) that receive water through a service line whose lead content is unknown; and (iii) that has or may have lead solder or plumbing. Qualified residences also include every residence whose tap tested by Newark Water Department has a result at or above 15 ppb for lead, regardless of whether the residence is located in the Pequannock or Wanaque service area or diameter of service line. Any service line found to contain lead, regardless of its diameter size, shall be considered a qualified residence.³
 - B. Unless a qualified residence picked up their filter and one-year supply of cartridges at a distribution center, Newark shall deliver or attempt to deliver the filter and cartridges to every qualified residence by May 15, 2019.
 - C. Newark shall be deemed to have attempted to deliver a filter and one-year supply of cartridges to qualified residences, if Newark (i) documents at least two attempts to deliver the filter and replacement cartridges and (ii) leaves a door hanger. Door hangers shall contain information on how to obtain a water filter. Newark will revise the door hangers to add updated information on how to obtain filter replacement cartridges. Going forward, Newark shall use the updated door hangers. After making the initial two attempts to deliver the filters and cartridges, Newark shall document its attempt to notify every qualified residence on how to obtain the filter and replacement cartridges at least once every six months until the filter program ends under paragraph I below.
 - D. Newark shall continue to make the filters and cartridges available at distribution centers until May 15, 2019. Newark shall ensure that at least one distribution center

² Based on discussions with Newark and review of U.S. EPA and industry guidance, the Department understands that service lines in Newark three inches or greater in diameter are unlikely to contain lead.

³ The October 10, 2018 CCT study titled Pequannock WTP Corrosion Control Review and Recommendations-Draft concluded that CCT in the Pequannock service area is no longer effective. As such, the normal recommendation under 40 C.F.R. 141.85(a)(iv)(A) to flush the tap before consuming the water is not currently an effective precaution for minimizing exposure to lead for customers served by a lead service line in the Pequannock service area. However, flushing is still an effective precaution for customers in this service area who are not served by a lead service line.

will be open to distribute filters and cartridges until the filter program ends under paragraph I below.

- E. After May 15, 2019, Newark shall provide or attempt to provide a filter within five (5) days of anyone requesting a filter based on lead testing of their tap water over 15 ppb in either the Pequannock or the Wanaque service areas, where the testing was conducted by Newark. This paragraph shall remain effective until the filter program ends under paragraph I below.
- F. Newark has represented that when initial filters were distributed, it did not yet have replacement cartridges for distribution. As such, Newark shall ensure that a one-year supply of filters is distributed to qualified residences who have already received filters, but did not yet receive replacement cartridges. Going forward all filters will be distributed or attempted to be distributed with a one-year supply of replacement cartridges.
- G. Newark shall notify residents who have received filters that they may receive a replacement cartridge upon reaching the end of the useful life of the cartridges supplied by Newark. Newark shall provide replacement cartridges for pickup at the Water & Sewer Facility (239 Central Avenue) and City Hall (920 Broad Street). Qualified residents who are disabled or elderly may request delivery of replacement cartridges. Newark shall provide a replacement cartridge to such residents within five (5) days of the request. This paragraph shall remain effective until the filter program ends under paragraph I below.
- H. Within one (1) month of executing this SCAO, Newark shall provide for scheduling of appointments (via telephone) for home visits to qualified residences requesting assistance with installation, use, or maintenance of filters or replacement cartridges. If an adult resident is not present or Newark is refused entry two (2) or more times for a scheduled home visit, Newark must leave written materials on installation, use, and maintenance of filters and replacement cartridges after each attempt, and may opt to decline future appointment requests from that residence.
- I. Newark shall submit for the Department's review and approval: (i) within 30 days of the execution of the SCAO a proposed testing plan, which shall include sufficient sequential monitoring, pipe scale analyses, and WQP monitoring to determine whether designated optimal CCT has been achieved and WQPs have been stabilized, and (ii) within 180 days of the execution of the SCAO, a protocol proposing technical criteria and guidelines for ending the filter program ("filter protocol"). The Department, in its discretion, may rescind and order Newark at any time to revise the filter protocol to account for new information, facts, circumstances, or expert opinion. Any revised filter protocol is subject to Department review and approval. The filter program described above shall continue until the designated optimal CCT has been installed and its efficacy is reviewed and deemed optimized through the Department's designation of optimal water quality parameters ("OWQPs") in accordance with 40 C.F.R. 141.81(e)(7). Newark may request permission from the Department to end the "Water Filter Distribution" program in this section prior to the Department's designation of OWQPs. Prior to requesting permission to end the Water Filter Distribution program, Newark should seek a determination from the Department whether revisions are necessary for the currently-approved filter protocol. The Department shall approve the end of "Water

Filter Distribution” program in this section once the approved filter protocol described above in (ii) or any Department-approved revised filter protocol is met.

- J. The approved testing plan referenced in paragraph I above shall be enforceable under this SCAO.
28. Newark shall document each residence that receives a filter and cartridges and provide the Department with weekly updates on the total number distributed. Newark shall provide a monthly report that documents each residence in a Microsoft Excel compatible spreadsheet: filter distribution by address; service area (Pequannock or Wanaque); addresses requesting a home visit for assistance with installation, use, or maintenance of a filter or cartridges; and, whether the filter was distributed due to the presence of lead service lines, lead plumbing/fixtures, unknown service line material, or testing over 15ppb.⁴ If a tested residence is part of the compliance sampling pool, Newark shall include the PBCU identification number. In addition, the spreadsheet will indicate whether the filter was provided at a distribution center or via delivery.
29. Except for large residential buildings for which Newark already has documentation on the metallurgical constitution of the building’s service line, Newark shall inspect all large residential buildings in the Pequannock service area built prior to 1953 (according to Newark, lead service lines (“LSLs”) ceased being installed in Newark in 1953) to determine whether the building is served by a lead service line. Newark shall document the date, inspector and results of each inspection. Such inspections shall be completed within 60 days of the execution of the SCAO. Within 14 days of completing the inspections, Newark shall submit to the Department the documentation concerning the service line metallurgical constitution and inspections. If any of these buildings are found to have lead service lines, they shall be considered a qualified residence and Newark shall deliver a filter to each residence in the building within 30 days of the inspection as provided in paragraph 27 above.

Corrosion Control Treatment

30. Newark shall comply with any future Department request for additional information or studies to support the CCT recommendation and shall respond by the deadline set forth in the Department request. Such Department requests and any deadlines set forth therein, or deadline extensions granted by the Department, shall be considered incorporated into this SCAO and shall be enforceable against Newark under the enforcement provisions of this SCAO. Likewise, any schedule required and approved by the Department regarding CCT shall be considered incorporated by reference into this SCAO and shall be enforceable against Newark under the enforcement provisions of this SCAO.
- A. Within thirty days of the execution of this SCAO, Newark shall provide proof that it replaced the lead service lines at the homes where it conducted sequential monitoring as described above in paragraph 6.

⁴ These weekly and monthly filter distribution reports are separate and apart from the obligations required under paragraph 54.

31. On January 31, 2019, Newark submitted a temporary treatment approval request to the Department to install the CCT for the Pequannock service area. Newark shall fully install and operate under the temporary treatment approval within 60 days of the Department's issuance of the temporary treatment approval. Newark submitted the final CCT recommendation for the Pequannock service area on March 18, 2019.
32. Newark shall fully install and operate the CCT for the Pequannock service area within 12 months of the Department designating such treatment in accordance with the LCR.
33. Newark shall submit a draft CCT report and recommendation for the Wanaque service area by June 28, 2019. Newark shall submit the final CCT results and CCT recommendation for the Wanaque service area by October 31, 2019.
34. Newark shall fully install and operate the CCT for the Wanaque service area within 12 months of the Department designating such treatment in accordance with the LCR.
35. Pursuant to 40 C.F.R. § 141.81(e)(6), Newark shall complete follow-up sampling in accordance with 40 C.F.R. §§ 141.86(d)(2) and 141.87(c)) within 36 months after the Department designates CCT.
 - A. Newark agrees to expedite this deadline and will complete follow-up sampling within 24 months.
36. Pursuant to 40 C.F.R. § 141.81(e)(8), Newark shall operate its water system in compliance with the optimal WQPs once designated by the Department.
37. Newark is required to re-evaluate its CCT and submit a CCT recommendation to the Department for review and approval, as required by 40 C.F.R. § 141.90(a)(3) after it selects an alternative for the uncovered finished reservoir (see paragraph 48 of the CAO) and for any other source or treatment change.

Public Education/Public Notification

38. Under paragraph 38 of the CAO, Newark is required to conduct public education within 60 days after the end of each monitoring period in which a lead action level exceedance occurs. Newark must conduct the public education in accordance with 40 C.F.R. § 141.85, except that Newark shall not recommend flushing for customers in the Pequannock service area that have or may have a lead service line. Newark must provide draft public education to the Department for review and approval two weeks in advance of anticipated distribution.
39. Newark agrees to take the following steps beyond what is required by the LCR:
 - A. Within fourteen days of the execution of this SCAO, Newark shall submit a draft letter to the Department that contains the information in paragraph C below. Newark shall modify the letter in accordance with the comments provided by the

Department and send the letter to all water customers within fourteen (14) days of receiving the Department's comments.

- B. Newark shall continue to post on its website and social media information that is consistent with paragraph C below. Newark will also maintain video and written instructions on filter installation, use, and maintenance on its website.
- C. Newark shall provide the following information to its customers:
 - i. Newark is providing NSF-certified water filters to remove lead to its water customers, free of cost, to (a) any single-family residence in the Pequannock service area that receives or may receive water through a lead service line or that may have lead solder or plumbing, (b) any multi-family residence in the Pequannock service area with a water service line less than 3 inches in diameter and that receives or may receive water through a lead service line or that may have lead solder or plumbing, and (c) any residence whose tap tested by Newark Water Department has a result at or above 15 ppb for lead, regardless of whether the residence is located in the Pequannock or Wanaque service area;
 - ii. information regarding replacement timeframes for filter cartridges;
 - iii. information on how qualified residences may request an appointment for assistance with installation, use, and maintenance of filters or cartridges;
 - iv. the locations and hours of operation of locations that filters and replacement cartridges are being distributed;
 - v. a recommendation that customers in qualified residences should use filtered or bottled water for drinking and cooking;
 - vi. a recommendation that children under the age of 6 and pregnant individuals in qualified residences should use bottled water until a filter is installed;
 - vii. a recommendation that bottled water should be used in qualified residences to prepare infant formula until a filter is installed;
 - viii. an instruction that hot water should not be run through filters;
 - ix. an instruction that boiling water will not remove lead;
 - x. a recommendation, consistent with the NJ Department of Health guidance, that parents of children under the age of 18 have each child's blood lead levels tested;
 - xi. the normal recommendation to flush pipes before consuming water is not recommended in the Pequannock service area for residences that receive, or may receive, water from a lead service line. Flushing is recommended for residences in the Pequannock service area that do not have a lead service line and for all residences in the Wanaque service area, based on currently available data;
 - xii. customers may receive free water tap testing for lead. Newark shall provide the phone number to arrange for the testing;
 - xiii. customers may receive free blood-testing for lead for any child aged eighteen or under. Newark shall provide the locations for the blood-testing and the phone number to make an appointment;
 - xiv. residences with children whose blood tests are equal to or above 5 micrograms per deciliter (ug/dL) will be provided with nurse case management and an inspection of the home by the Newark Department of

Health and Community Wellness to determine if there are sources of lead within the home;

- xv. Newark shall provide a phone number for any questions concerning Newark's lead program, and sources for general information regarding lead safety; and
 - xvi. the information in paragraph 39.C. shall be provided to customers in English, Spanish, and Portuguese.
40. Newark shall ensure that in all public education undertaken pursuant to the LCR, information is provided relating to the current status of corrosion control until the filter program ends under paragraph 27(I) above. Clear and separate public education shall be provided to both service areas, Pequannock and Wanaque.

Lead and Copper Monitoring

41. Newark shall include the following statement in their sampling instructions for lead and copper monitoring: "The water sample shall not be taken from a faucet that has a point-of-use filter and must instead be taken from a kitchen or bathroom tap that does not have a filter."
42. Newark shall include a question on its chain-of-custody form regarding whether the sample was taken from a tap that has a point-of-use or point-of-entry filter designed to remove inorganic contaminants.
43. Newark shall submit draft sampling instructions and chain of custody form to the Department within two weeks of the effective date of this SCAO.
44. Any sample from a tap that has a point-of-use or point-of-entry filter designed to remove inorganic contaminants shall not count toward determining lead or copper 90th percentile levels under 40 C.F.R. § 141.80(c)(3) or toward Newark meeting the minimum monitoring requirements under § 141.86(c). If taken, those sample results must be reported to the Department using the Non-Compliance Lead and Copper Tap Monitoring Form (BWSE-16) within 10 days after receipt of the results. Newark shall document the reasons for any sample that it finds to be invalid.

Lead Service Line Replacement Program

45. In late March 2018, Newark applied for \$7,447,630 in Drinking Water State Revolving Funding through the Department to offset some of the cost of LSL replacements for property-owners. Since March 2018, the Department has certified three projects for Newark's Phase 1 LSL replacement program, which are estimated to cost a total of \$12,175,000. Since Newark has a lead action level exceedance and a population greater than 100,000, it is eligible for 90% principal forgiveness for the total loan amount with a cap of \$10 million per application, i.e. 90% of \$10 million. Newark may submit a loan application for additional money each year. However, principal forgiveness funds are only available to systems under the existing funding program until the LSL program funds are depleted. Newark shall submit to the Department by June 30, 2019 a funding strategy (that will be subject to funding availability and approval) for

the replacement of lead service lines in its system over eight years, at a cost to property owners of no more than \$1,000.00 per line as set forth in paragraphs 34 through 37 of the CAO.

Additional Monitoring Requirements

Consecutive Systems

46. Pursuant to the October 26, 2018 letter referenced in paragraph 10, above, Newark was required to evaluate the current and potential impacts of CCT on consecutive systems. On November 8, 2018 Newark provided a response identifying the anticipated impacts regarding the addition of proposed CCT to the Pequannock source of supply for Pequannock Water Department, Belleville Water Department, Bloomfield Water Department, City of Elizabeth (c/o New Jersey American Water – Liberty) and Nutley Township. For each Department designation of CCT pursuant to paragraphs 32 and 34 of this SCAO, Newark shall submit within 30 days of the Department designation a draft letter to the Department that describes the designated CCT measures and the schedule for its full installation and operation. Newark shall modify the letter in accordance with the comments provided by the Department and send the letter to all consecutive systems within seven days of receiving the Department's comments.
47. Newark shall sample for HAA5, TTHMs, and water quality parameters at the interconnection for all of its consecutive systems that receive water from the Pequannock service area on a quarterly basis beginning the second quarter of 2019, April 1, 2019-June 30, 2019. The results of the sampling shall be provided to the consecutive systems within one week of receiving the results.
48. Newark must obtain and evaluate water quality data results, including HAA5, TTHM, and water quality parameters, from the consecutive systems that purchase water from Newark as part of its remedial measures to address the HAA5 MCL violation and TTHM OEL.

HAA5

49. On February 2, 2019, Newark conducted public notification for the second HAA5 exceedance.
50. On February 19, 2019, Newark submitted a completed Public Notification Certification Form indicating that the public notification for the second HAA5 exceedance was completed.
51. In accordance with N.J.A.C. 7:10-5.7, Newark shall respond to all future Department correspondences pertaining to the Remedial Measures Report Form (BWSE-40) and all proposed or completed remedial measures as referenced in paragraphs 16 and 22.
52. Pursuant to the State Primary Drinking Water Regulations at NJAC 7:10-5.7, Newark is required to take any action necessary to bring the water into compliance with the HAA5 MCL

violation within one year after receipt of the results that demonstrate an exceedance that constitutes a violation. Because Newark received notice on October 18, 2018, Newark is required to come into compliance with the MCL no later than October 18, 2019. Remedial actions may include, but are not limited to, providing treatment to remove the levels detected, removing the contaminated source from service, and/or using an alternate source(s) of water supply, such as connecting to another public water system.

TTHM

53. Newark exceeded the Operational Evaluation Level (OEL) under the Stage 2 Rule for TTHM at 9 locations during the fourth quarter of 2018. On March 1 and 18, 2019, Newark submitted an Operational Evaluation for TTHM. The Department is currently reviewing the Operational Evaluation. Newark shall comply with any future requests for additional information regarding the Operational Evaluation.

B. PROGRESS REPORTS

54. In addition to the quarterly progress reports required under the CAO and the reporting requirements under paragraph 28 above, Newark shall also submit monthly progress reports by e-mail in accordance with this SCAO. The monthly reports shall include, but not be limited to, the following:
- A. identification of site and reference to this SCAO;
 - B. status of permitting and planning approvals and any work at the site and progress to date;
 - C. difficulties or problems encountered during reporting period and actions taken to rectify;
 - D. activities planned for the next reporting period;
 - E. required and actual completion date for each item required by this SCAO;
 - F. an explanation of any non-compliance with the compliance schedule; and
 - G. evaluation of all corrective measures implemented to date.

C. STIPULATED PENALTIES

55. Newark shall pay stipulated penalties to the Department, as set forth below, upon the Department's written demand, only for Newark's failure to comply with (i) paragraph 27 regarding sampling, but not paragraph 35.A, (ii) the HAA5 requirements in paragraph 51, and (iii) the TTHM requirements in paragraph 53, unless the Department has notified Newark in writing that a stipulated penalty will not be assessed pursuant to the force majeure provisions of this ACO.

Calendar Days After Due Date

Stipulated Penalties

1 st -7 th calendar days of failure to comply with the schedule	\$100 per calendar day
8 th -14 th calendar days of failure to comply with the schedule	\$200 per calendar day
15 th plus calendar days of failure to comply with the schedule	\$500 per calendar day

56. Within sixty (60) calendar days after Newark's receipt of a written demand from the Department for stipulated penalties, Newark shall submit payment by suitable financial instrument, made payable to "Treasurer, State of New Jersey" in the amount of the stipulated penalties demanded by the Department pursuant to paragraph 55 above. Payment shall be mailed with the bottom portion of the Penalty Invoice Form supplied with the written demand. Payment shall be made to the following address:

New Jersey Department of Treasury
Division of Revenue
P.O. Box 417
Trenton, New Jersey 08646-0417

57. If Newark fails to pay stipulated penalties pursuant to the preceding paragraphs, the Department may take action to collect same, including, but not limited to, instituting civil proceedings to collect such penalties pursuant to Rules Governing the Courts under R. 4:67 and R. 4:70, or assess civil administrative penalties for violations of this SCAO.
58. The payment of stipulated penalties does not alter Newark's responsibility to complete all requirements of this SCAO.

D. FORCE MAJEURE

59. If any event occurs which is beyond the control of Newark and which Newark believes will or may cause delay in the achievement of the compliance schedule provisions of this SCAO, Newark shall notify the Department in writing within seven (7) calendar days of becoming aware of the delay or anticipated delay, as appropriate. In the notification, Newark shall reference this paragraph, describe the anticipated length of the delay, the precise cause or causes of the delay, and any measures taken or to be taken to minimize the delay. Newark shall take all necessary action to prevent or minimize any such delay.
60. The Department may adjust the deadlines in the Enforcement Compliance Schedule of this SCAO for a period no longer than the delay if the Department finds that:
- A. Newark has complied with the notice requirements of the preceding paragraph;

- B. any delay or anticipated delay has been or will be caused by fire, flood, riot, strike, or other circumstances beyond the control of Newark; and
 - C. Newark has taken all necessary actions to prevent or minimize the delay.
61. If the Department denies Newark's force majeure request, Newark may be subject to civil and/or administrative enforcement actions. The burden of proving that any delay is caused by circumstances beyond the control of Newark and the length of any such delay attributable to those circumstances shall rest with Newark. Increases in the cost or expenses incurred by Newark in fulfilling the requirements of this SCAO shall not be a basis for an extension of time. Delay in an interim requirement shall not automatically justify or excuse delay in the attainment of subsequent requirements. Contractor's breach shall not automatically constitute force majeure. No force majeure adjustments will be granted for failure to timely submit progress reports.

E. GENERAL PROVISIONS

62. Nothing contained in this SCAO restricts the ability of the Department to raise the above Findings in any other proceeding, specifically including, but not limited to, proceedings pursuant to N.J.S.A. 13:1E-126 et seq., (commonly referred to as A-901).
63. This SCAO settles and resolves only the issues related to this SCAO, and is not a settlement of any other action rising from those violations. Nothing in this SCAO shall resolve or preclude prosecution of criminal actions against Newark, if any.
64. This SCAO shall be binding on Newark, its respective agents, successors, assigns, and any trustee in bankruptcy or receiver appointed pursuant to a proceeding in law or equity. Additionally, this SCAO shall be binding on any Newark officials, employees, principals, directors, and officers to the extent that any such individual is a responsible corporate official within the meaning of N.J.S.A. 58:10A-31.
65. This SCAO shall be fully enforceable as a final Administrative Order in the New Jersey Superior Court upon the filing of a summary action for compliance pursuant to N.J.S.A. 58:12A-9(b), (c), (i), 58:12A-10, and N.J. Ct. R. 4:67-6.
66. Newark agrees not to contest the terms or conditions of this SCAO except that Newark may contest the Department's interpretation or application of such terms or conditions in any action brought by the Department to enforce this SCAO's provisions.
67. This SCAO shall not relieve Newark from obtaining and complying with all applicable federal, state and local permits as well as all applicable statutes, codes, rule, regulations and orders, including but not limited to the statutes and regulations cited herein.

68. No modification or waiver of this SCAO shall be valid except by written amendment duly executed by Newark and the Department or by the Department's written modification pursuant to the force majeure provisions herein.
69. Unless otherwise specifically provided herein, Newark shall submit all documents required by this SCAO, except penalty payments, to the Department electronically or by certified mail, return receipt requested or by hand delivery with an acknowledgment of receipt form for the Department's signature to:

Donald Hirsch, Chief
don.hirsch@dep.nj.gov
New Jersey Department of Environmental Protection
Northern Bureau of Water Compliance and Enforcement
7 Ridgedale Avenue
Cedar Knolls, New Jersey 07927

The date the Northern Bureau of Water Compliance and Enforcement receives the certified mail or executes the acknowledgment will be the date the Department uses to determine Newark's compliance with this SCAO.

70. Unless otherwise specifically provided herein, any communication made by the Department to Newark pursuant to this SCAO shall be sent via email with a return receipt requested or by hand delivery to:

Kareem Adeem, Acting Director of Water & Sewer
Adeemk@ci.newark.nj.us
920 Broad Street, Room B31F
Newark, New Jersey 07102


71. Newark shall not construe any unwritten or informal advice, guidance, suggestions, or comments by the Department, or by persons acting on behalf of the Department, as relieving Newark of its obligations under its permit(s), this SCAO, the New Jersey Safe Drinking Water regulations, and/or the New Jersey Safe Drinking Water Act.
72. In addition to the Department's statutory and regulatory rights to enter and inspect, Newark shall allow the Department and its authorized representatives access to the site at all times for the purpose of determining compliance with this SCAO.
73. Nothing in this SCAO shall preclude the Department from taking enforcement action against Newark for matters not set forth in the findings of this SCAO.
74. No obligations or penalties imposed by this SCAO are intended to constitute debt(s) which may be limited or discharged in a bankruptcy proceeding. All obligations and penalties are imposed pursuant to the police powers of the State of New Jersey for the enforcement of the law and the protection of public health, safety, welfare and the environment.

75. Newark shall give written notice of this SCAO to any successor in interest thirty (30) calendar days prior to transfer of ownership or control of the facility or facilities which are the subject of this SCAO and shall simultaneously notify the Department that such notice has been given. This requirement shall be in addition to any other statutory or regulatory requirements arising from the transfer of ownership or control of Newark's facility. In addition, the parties agree that any contract, lease, deed or any other agreement that Newark enters into to convey the property/facility that is the subject of this SCAO shall include a provision which states that the successor, assignee, tenant or purchaser has agreed to assume the obligations imposed by this SCAO.
76. The Department reserves all statutory and common law rights to require Newark to take additional action(s) if the Department determines that such actions are necessary to protect public health, safety, welfare and the environment. Nothing in this SCAO shall constitute a waiver of any statutory or common law right of the Department to require such additional measures should the Department determine that such measures are necessary.
77. Performance of the terms of this SCAO by Newark is not conditioned in any way on the receipt by Newark of any federal or state funds.
78. Newark shall perform all work required by this SCAO in accordance with prevailing professional standards.
79. This SCAO shall be governed and interpreted under the laws of the State of New Jersey.
80. If any provision of this SCAO is found invalid or unenforceable, the remainder of this SCAO shall not be affected thereby and each provision shall be valid and enforced to the fullest extent permitted by law. The Department does, however, retain the right to terminate the remainder of this SCAO if, after such finding, it determines that the remaining SCAO does not serve the purpose for which it was intended.
81. This SCAO represents the entire integrated agreement between the Department and Newark on the matters contained herein.
82. The Department reserves the right to unilaterally terminate this SCAO in the event Newark violates its terms and to take any additional enforcement action it deems necessary.
83. This SCAO shall terminate upon receipt by Newark of written notice from the Department that all the requirements of this SCAO have been satisfied. Termination of this SCAO shall not relieve Newark of any liabilities for unpaid penalties as previously demanded by the Department pursuant to the terms and conditions of this SCAO, nor shall it affect in any way the Department's rights and abilities to collect said unpaid penalties.
84. This SCAO shall become effective upon the execution hereof by all parties.

CITY OF NEWARK

DATE: 3/29/2019

BY:



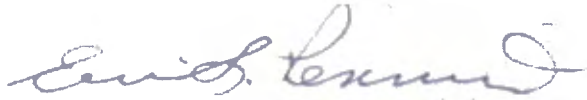
Kareem Adeem
Acting Director of Water and Sewer Utilities
City of Newark

By this signature, I certify that I have full authority
to execute this document on behalf of Newark.

CITY OF NEWARK

DATE: 3/29/2019

BY:



~~Kenyatta K. Stewart~~ Eric S. Pennington
~~Corporation Counsel~~ Business Administrator
City of Newark

By this signature, I certify that I have full authority
to execute this document on behalf of Newark.

**DEPARTMENT OF ENVIRONMENTAL
PROTECTION**

DATE:

3/29/2019

BY:



Donald Hirsch, Chief
Northern Bureau of Water
Compliance and Enforcement

By this signature, I certify that I have full authority
to execute this document on behalf of the
Department.

Exhibit A

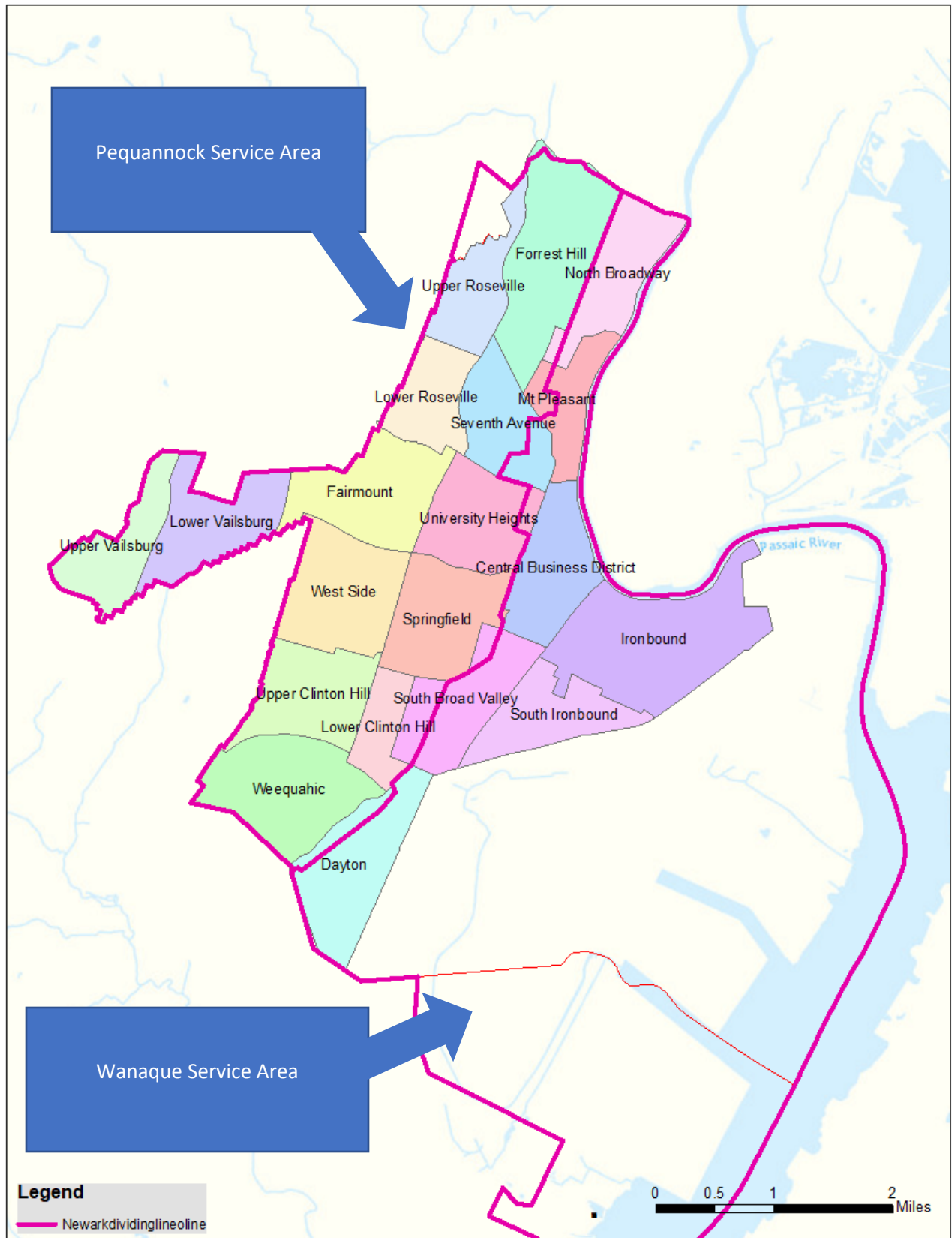


Exhibit B



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Mail Code 401-04Q

Division of Water Supply & Geoscience

Water System Operations Element

Bureau of Water System Engineering

401 E. State Street - P.O. Box 420

Trenton, New Jersey 08625-0420

Tel #: (609) 292-2957 - Fax #: (609) 633-1495

<https://www.nj.gov/dep/watersupply/>

PHILIP D. MURPHY
GOVERNOR

SHEILA Y. OLIVER
LT. GOVERNOR

CATHERINE R. McCABE
COMMISSIONER

October 26, 2018

Andrea Hall-Adebowale
Newark Water Department
920 Broad St, Rm B31-F
Newark, NJ 07102

**RE: Newark Water Department - PWSID: NJ0714001
Pequannock WTP - Draft Corrosion Control Review and Recommendation
Letter No. LCR180001**

Dear Andrea Hall-Adebowale:

The Bureau of Water System Engineering (Bureau) is in receipt of the DRAFT Pequannock WTP Corrosion Control Review and Recommendations document dated October 10, 2018 ("Draft Report") for the City of Newark Lead and Copper Rule Compliance prepared by CDM Smith. The Draft Report was submitted as a draft of the Corrosion Control Treatment Study authorized by the Department on April 20, 2018, which required an assessment of the optimization of corrosion control treatment (CCT) for the City of Newark's (Newark's) water supply. The CCT study is required pursuant to 40 C.F.R. 141.81 and paragraph (28) of the July 25, 2018 Compliance Agreement and Order.

Based upon review of the documentation provided, the Bureau requires a written response to the following comments prior to submission of a Final Report:

Wanaque Gradient

1. The Draft Report only includes a corrosion control evaluation for Newark's Pequannock Gradient. A CCT review and recommendations report is required to be conducted for Newark's Wanaque Gradient. The evaluation of the Wanaque Gradient must include sequential sampling along with determining if a pipe scale study is required. In addition, Newark must evaluate whether elevated lead levels in the Wanaque Gradient can be attributed to the influence of Pequannock Gradient water leaking through division gates. A schedule for completion of this task shall be submitted.

Pequannock Gradient

2. The primary recommendation in the Draft Report for achieving optimized CCT is the addition of an orthophosphate chemical feed system. However, the Draft Report also shows that the pH in Pequannock Gradient is highly variable. Newark's pH must be stabilized and become reliable before implementing any form of optimal corrosion control as pH influences other corrosion control related parameters such as buffer capacity, alkalinity and Oxidation Reduction Potential (ORP).
 - The Draft Report does not evaluate or make any specific recommendation to address buffer capacity. Buffer capacity is a measure of the water's resistance to changes in pH, which depends on the water's alkalinity and Dissolved Inorganic Carbons (DIC) values. Newark's raw water alkalinity is low, and variable as indicated in the trend graphs. Low alkalinity is directly related to pH control stability, which impacts the water's buffering capacity. Therefore, Newark must demonstrate how it plans to address the pH variability or demonstrate how current alkalinity/DIC levels are acceptable.
 - If the upgraded lime feed system is being utilized to optimize pH, Newark must demonstrate that the lime feed system can accommodate the addition of phosphoric acid and/or orthophosphate for corrosion control.
 - Newark had advised that the fluctuating pH levels were due to operational issues as opposed to a buffering capacity issue. If the issues were or are based on operational issues, then Newark must explain those operational issues and how those operational issues will be resolved.
 - Pre-chlorination with chlorine gas lowers pH. Newark must address why this treatment step continues to be utilized or explain how and when the process will be discontinued and what, if any pre-oxidation process will be installed in its place.
3. While any adjustments are implemented to stabilize the pH in the Pequannock Gradient, simultaneous compliance must be maintained with all other applicable rules (e.g. EPA's Stage 1 and Stage 2 Disinfectants and Disinfection Byproducts Rules, Surface Water Treatment Rules).
4. Newark's existing filter performance must be evaluated.
5. Iron and manganese potentially located within Newark's distribution mains must be evaluated to determine their impact on Newark's CCT.
6. Adequate chlorine residual within the distribution system must be maintained.
 - Distribution disinfectant residual levels should be examined closely. Decreasing pH in a distribution system can lead to unstable and low disinfection residuals, as seen in the data provided thus far. Low disinfectant residual levels could lead to microbially-induced corrosion, which could be contributing to lead releases into the drinking water.

7. Consecutive system impacts

- Newark must evaluate current and potential impacts, including changes to the CCT inhibitor and pH adjustment, to the Pequannock Water Department which is located upstream of the proposed orthophosphate injection location.
- Address how any changes to the corrosion control process impacts Newark's remaining consecutive systems {Belleville Water Department, Bloomfield Water Department and City of Elizabeth (Liberty Water Company c/o NJ American Water)}.
- For the evaluation of the above consecutive systems, Newark shall refer to the Department's Source Water Changes and Treatment Modifications Guidance available at <https://www.state.nj.us/dep/watersupply/pdf/change-source-treatment-guidance.pdf>

Newark Water Department must address the above comments and provide a response to the Bureau within 14 days of the date of this letter.

If you have any questions regarding the above, please contact Steven Pudney or myself of the Bureau of Water System Engineering at (609) 292-2957 or via e-mail at Steven.Pudney@dep.nj.gov or Joseph.Mattle@dep.nj.gov. When contacting the Department please reference PWSID No. NJ0714001 and Letter No. LCR180001.

Sincerely,



Joseph J. Mattle, Supervisor
Bureau of Water System Engineering

- c. Northern Bureau of Water Compliance and Enforcement
Linda Ofori, BWSE – Engineering
Steven Pudney, BWSE – Engineering
Kristin Hansen, BWSE – Water System Assistance

Exhibit C



State of New Jersey

PHILIP D. MURPHY
GOVERNOR

SHEILA Y. OLIVER
LT. GOVERNOR

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Mail Code 401-04Q
Division of Water Supply & Geoscience
Water System Operations Element
Bureau of Safe Drinking Water
401 E. State Street - P.O. Box 420
Trenton, New Jersey 08625-0420
Tel #: (609) 292-5550 - Fax #: (609) 633-1495
<https://www.nj.gov/dep/watersupply/>

CATHERINE R. MCCABE
COMMISSIONER

November 5, 2018

CERTIFIED MAIL/RRR
7018 0680 0000 8443 2993

Andrea Hall-Adebowale
Newark Water Department
920 Broad St, Rm B31-F
Newark, NJ 07102

RE: Notice of Non-Compliance - Haloacetic acids MCL Exceeded
Newark Water Department
PWSID: NJ0714001
Sample Point ID: Distribution System
EA ID #: PEA180004 - 0714001

REVISED from 10/31/2018 Notice – Corrected Details in Corrective Actions #1 & #5

Dear Andrea Hall-Adebowale:

Enclosed for service upon you is a Notice of Non-Compliance issued by the Department.

Mail your response to this Notice of Non-Compliance to the Bureau of Water System Engineering at the letterhead address indicated above. If you need further assistance contact Michael Bleicher at (609) 292-2957 or Michael.Bleicher@dep.nj.gov. When contacting the BWSE, reference PWSID NJ0714001 and EA ID #: PEA180004 so that we can assist you more efficiently.

Sincerely,

A handwritten signature in cursive script that reads "Felicia Fieo for".

Felicia Fieo, Section Chief
Bureau of Safe Drinking Water

Enclosure

cc: Northern Bureau of Water Compliance and Enforcement (via e-mail)
Jerry J. Notte, Licensed Operator



State of New Jersey

PHILIP D. MURPHY
GOVERNOR

SHEILA Y. OLIVER
LT. GOVERNOR

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Mail Code 401-04Q
Division of Water Supply & Geoscience
Water System Operations Element
Bureau of Safe Drinking Water
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Tel #: (609) 292-5550 - Fax #: (609) 633-1495
<http://www.nj.gov/dep/watersupply/>

CATHERINE R. MCCABE
COMMISSIONER

NOTICE OF NON-COMPLIANCE

EA ID #: PEA180004 - 0714001

Name: Newark Water Department
Location: Rt 23
Newfoundland, NJ 07480
Identifying #: NJ0714001

You are hereby Notified that a review of our records conducted on October 03, 2018, found that your facility was out of compliance with the regulations promulgated pursuant to the New Jersey Safe Drinking Water Act, NJSA* 58: 12A-1 et seq. This Notice of Non-Compliance has been recorded as part of the permanent enforcement history of Newark Water Department at the above location because your water system failed to comply with the following requirement:

Requirement: Comply with the Maximum Contaminant Level (MCL) for Total Haloacetic Acids as set forth in [40 CFR 141.64(b)].

Violation Details: LOCATIONAL RUNNING ANNUAL AVERAGE (LRAA) for TOTAL HALOACETIC ACIDS (HAA5) exceeded during the period 07/01/2018 to 09/30/2018 for the following sample point IDs: SM11, SM12, SM19, SM5, STAGE1#204, STAGE1#203, STAGE1#202, and STAGE1#201. Specifically, the LRAAs for during the 3rd quarter of 2018 exceeded the MCL of 60 micrograms per liter (µg/L) at these locations: SM11 (74 µg/L), SM12 (77 µg/L), SM19 (76 µg/L), SM5 (62 µg/L), STAGE1#204 (74 µg/L), STAGE1#203 (81 µg/L), STAGE1#202 (70 µg/L) and STAGE1#201 (73 µg/L) .

Reporting Period	SM11 (µg/L)	SM12 (µg/L)	SM19 (µg/L)	SM5 (µg/L)
4th quarter 2017	55.0	47.9	46.8	35
1 st quarter 2018	34	33.0	36	31.8
2 nd quarter 2018	96.0	122.6	121.5	87.1
3 rd quarter 2018	109.2	103.1	100.7	95
LRAA	74	77	76	62

* To locate citations: United States Code of Federal Regulations (CFR), see <http://www.gpoaccess.gov/cfr/index.html>. New Jersey Statutes Annotated (NJSA): Click on the STATUTES link at <http://www.njleg.state.nj.us/>. New Jersey Administrative Code (NJAC): http://www.nj.gov/dep/rules/rules/njac7_10.pdf

Reporting Period	STAGE1 #204 (µg/L)	STAGE1 #202 (µg/L)	STAGE1 #203 (µg/L)	STAGE1 #201 (µg/L)
4th quarter 2017	39.4	45.8	55.5	41.8
1 st quarter 2018	24.6	26.5	30.6	22.9
2 nd quarter 2018	119.2	109.4	130.6	116
3 rd quarter 2018	112.0	98.0	106.5	113
LRAA	74	70	81	73

In response to this Notice of Non-Compliance, the following corrective actions must be undertaken to achieve compliance:

1. A public water system exceeding the MCL for Haloacetic acids must report the violation to the Bureau of Safe Drinking Water (Bureau) within forty-eight (48) hours after becoming aware of the violation, in accordance with 40 CFR 141.31(b). *Your system complied with this reporting requirement on 10/18/2018.*
2. Tier 2 public notification requirements must be completed in accordance with 40 CFR 141.201 et seq. Public notification must be completed as soon as practical but no later than thirty (30) days after the system learns of the violation and must continue for the duration of the violation, but in no case for less than seven (7) days, even if the violation is resolved. *On October 19, 2018, Joseph duRocher of the Bureau forwarded a Tier 2 Public Notification template to Jerry Notte, Licensed Operator for Newark Water Department, which was subsequently reviewed and approved by Michael Bleicher of the Bureau of Water System Engineering. Public notification must be issued no later than November 19, 2018.*
3. Submit to the Bureau of Water System Engineering a representative copy(s) of each completed public notification that was distributed, posted, or otherwise made available to the persons served by your water system within ten (10) days of completing the public notification requirements. In addition, you must submit a completed Public Notification Certification Form (copy enclosed) for the specified violation in accordance with 40 CFR 141.31(d). The certification establishes that your water system has fully complied with the public notice content and delivery requirements pursuant to 40 CFR 141.201 et seq.
4. Submit a Remedial Measures Report Form (BWSE-40) and detail all proposed or completed remedial measures to the Bureau of Water System Engineering within thirty (30) calendar days of receipt of this letter. The report should include documentation (e.g., invoices, estimates, receipts) of the measures proposed or taken, and any corresponding analytical results that demonstrate the measures were effective. The Remedial Measures Report Form (BWSE-40) is available on the Bureau's website at <https://www.state.nj.us/dep/watersupply/pdf/bwse40.pdf>.
5. Pursuant to the State Primary Drinking Water Regulations at NJAC 7:10-5.7(a), you are required to take any action necessary to bring the water into compliance with the MCL within one year after receipt of the results that demonstrate an exceedance that constitutes a violation, i.e., **no later than October 18, 2019**. Remedial actions may include, but are not limited to, providing treatment to remove the levels detected, removing the contaminated source from service, demonstrating with analytical results that the current source of water no

longer exceeds the MCL (i.e. two (2) consecutive quarters where the Locational Running Annual Average is below the MCL at all HAA5 sample locations), and/or using an alternate source(s) of water supply, such as connecting to another public water system.

The Bureau has also reviewed recent Total Trihalomethane (TTHM) monitoring data and notes that the TTHM levels are also elevated in your water system at several locations. Although Newark Water Department has not incurred a TTHM MCL exceedance at this time, the TTHM MCL has been exceeded in the past and steps should be taken to address the elevated TTHM levels before the MCL is exceeded.

Please be advised that remedial measures undertaken to address a particular contaminant can adversely affect other analytes within the treatment train and/or distribution system. The United States Environmental Protection Agency has prepared a guidance document, "*Simultaneous Compliance Guidance Manual for the Long Term 2 and Stage 2 DBP Rules*", to assist water systems that need to address multiple analytes within their water system. This guidance manual can be accessed at <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=60000E2Q.txt>

This Notice of Non-Compliance does not constitute final agency action and may not be appealed or contested. The issuance of this Notice or your compliance therewith does not preclude the State of New Jersey or any of its agencies from initiating formal administrative and/or judicial enforcement action, including assessment of penalties, with respect to the items of non-compliance listed above or for any other violations. Violations of the above regulations are subject to penalties of up to \$25,000.00 per day/offense and in the event of formal administrative or enforcement action, you may appeal or contest such action and penalties.

Issued by: Felicia Fieo, Section Chief
Bureau of Safe Drinking Water

Signature: Jinda Doughty

Date: 11/5/18

BSD W 33

Address Updated
1/2014

Department of Environmental Protection – Division of Water Supply and Geoscience
Bureau of Safe Drinking Water
Mail Code 401-04Q - P.O. Box 420
Trenton, New Jersey 08625-0420
Tel # 609-292-5550 – Fax #609-292-1654

Office Use Only

Reviewed by:

Date:

Public Notification Certification Form – Tiers 1, 2 & 3

Requirements Pursuant to 40 CFR 141, Subpart Q and N.J.A.C. 7:10

**This form and a copy of your Notice to the Public must be submitted to the State within 10 days of notifying your customers. **

PWSID#: 0714001Water System Name: Newark Water DepartmentViolation #: 22943

Violation or Situation Date: _____

Individual Contaminant or Contaminant Group: Haloacetic acidsMonitoring Period: 07/01/2018 to 09/30/2018

Violation or Situation Type: (Check appropriate box) ☐ MCL ☐ Treatment Technique ☐ Water Main Break
☐ MRDL ☐ E. coli Positive Source Water Sample ☐ Monitoring and Reporting ☐ Other: _____

Violation or Situation Public Notification Tier: (Check appropriate box) ☐ Tier 1 ☐ Tier 2 ☐ Tier 3

Please check all that apply and provide information as indicated below:

1. ☐ Consulted with DEP within 24 hours (Tier 1) or 48 hours (Tiers 2 & 3) Date: _____
2. ☐ Distributed the notice by the following method(s), and on the following date(s) in accordance with 40 CFR 141.201 et seq:

- | | | |
|--------------------------|--|-------------|
| <input type="checkbox"/> | Reverse 911 | Date: _____ |
| <input type="checkbox"/> | Continuously Post | Date: _____ |
| <input type="checkbox"/> | Separate Mailing to Customers | Date: _____ |
| <input type="checkbox"/> | Hand Deliver Notice to Customers | Date: _____ |
| <input type="checkbox"/> | Publish Notice in Newspaper | Date: _____ |
| <input type="checkbox"/> | Release Notice to and Announced by Broadcast Media | Date: _____ |
| <input type="checkbox"/> | Post Notice on System Website | Date: _____ |
| <input type="checkbox"/> | Billing | Date: _____ |
| <input type="checkbox"/> | Annual Report (Consumer Confidence Report) | Date: _____ |
| <input type="checkbox"/> | Other: _____ | Date: _____ |

Note: Non-community water systems that serve a school, preschool or daycare must also hand deliver the notice to a parent or legal guardian of each child for Tier 1, 2 and 3 violations and situations. For more information reference EPA's Public Notification Handbook at: <http://www.epa.gov/safewater/publicnotification/compliancehelp.html>

3. ☐ **Content – 10 Required Elements Checklist:** 40 CFR 141 Subpart Q (Ensure all items are included in the notice)

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Description of violation or situation including contaminant and contaminant levels as appropriate |
| <input type="checkbox"/> | Date violation or situation occurred. |
| <input type="checkbox"/> | Potential adverse health risks, using mandatory language provided in the rule. |
| <input type="checkbox"/> | Required language for Monitoring and Reporting Violations, provided in the rule |
| <input type="checkbox"/> | The population at risk, including sub-populations particularly vulnerable if exposed. |
| <input type="checkbox"/> | Whether alternate water supply should be used. |
| <input type="checkbox"/> | What action consumers should take, including when to seek medical help, if known. |
| <input type="checkbox"/> | What the system is doing to correct the violation or situation. |
| <input type="checkbox"/> | When the system expects to return to compliance or resolve the situation. |
| <input type="checkbox"/> | Contact information: Owner name, business address, and phone number of the water system owner, operator or designee that can provide additional information concerning the notice. |
| <input type="checkbox"/> | A statement encouraging recipients to distribute the notice to other persons served, using standard language from the rule. |

4. ☐ Attach a copy of the posted Public Notice(s) to this certification form.

The public water system named above hereby certifies that public notification has been provided to its consumers in accordance with all delivery, content, and format requirements specified in 40 CFR Part 141 and N.J.A.C 7:10.

Owner/Operator: _____
(circle one) (Signature) (Print Name) (Phone Number)

Date of Certification: _____ Operator License # (if applicable) _____

Exhibit D



State of New Jersey

PHILIP D. MURPHY
GOVERNOR

DEPARTMENT OF ENVIRONMENTAL PROTECTION

CATHERINE R. MCCABE
COMMISSIONER

SHEILA Y. OLIVER
LT. GOVERNOR

Mail Code 401-04Q
Division of Water Supply & Geoscience
Water System Operations Element
Bureau of Water System Engineering
401 E. State Street - P.O. Box 420
Trenton, New Jersey 08625-0420
Tel #: (609) 292-2957 - Fax #: (609) 633-1495
<https://www.nj.gov/dep/watersupply/>

January 9, 2019

CERTIFIED MAIL/RRR
7017 2400 0000 0140 3540

Kareem Adeem
Newark Water Department
920 Broad St, Rm B31-F
Newark, NJ 07102

RE: **Operational Evaluation Level Exceedance**
Newark Water Department
PWSID No.: 0714001

Dear Kareem Adeem:

The New Jersey Department of Environmental Protection, Bureau of Safe Drinking Water (Bureau) is in receipt of sample results collected under the Stage 2 Disinfectants and Disinfection By-Products Rule (Stage 2 Rule), specifically 40 CFR 141.620, and submitted on 01/03/2019. These results show that Newark Water Department exceeded the Operational Evaluation Level (OEL) for Trihalomethanes (TTHMs) at the nine (9) sites below for the 4th quarter 2018. Based upon a locational running annual average (LRAA) of three (3) quarters of monitoring data, the OEL was calculated to exceed the allowable limit of 80 µg/L as summarized below.

Monitoring Period	STAGE1#203 (University Hospital)	STAGE1#201 (Beth Israel)	SM12 (801 North 6 th Street)	STAGE1#204 (Essex County Park)	STAGE1#202 (Senior Center)
2 nd quarter 2018	110	87.1	98.2	98.7	101.1
3 rd quarter 2018 *	93.5	124	103	107.5	106.2
4 th quarter 2018	64.3	63.9	64.2	66.8	64.0
4 th quarter 2018	64.3	63.9	64.2	66.8	64.0
OEL LRAA (µg/L)	83.0	84.7	82.4	85.0	83.8

Monitoring Period	Site 4 (239 Central Ave)	SM5 (94 William St)	SM11 (521 Ivy Hill Plaza)	SM19 (311 South 10 th St.)
2 nd quarter 2018	96.7	104	92.4	105.6
3 rd quarter 2018 *	98.1	104.7	111.5	108.8
4 th quarter 2018	65.3	64.7	65.5	64.9
4 th quarter 2018	65.3	64.7	65.5	64.9
OEL LRAA (µg/L)	81.4	84.5	83.7	86.1

**The 3rd quarter 2018 results above were calculated as a monitoring period average since multiple samples were reported during the 3rd quarter.*

Any water system that exceeds the OEL under the Stage 2 Rule is required to complete an Operational Evaluation within 90 days of being notified of the exceedance (**Due: 04/03/2019**). Consecutive systems that purchase water should sample incoming water from their wholesale system(s) as part of this evaluation. Operational Evaluations will be reviewed by the Bureau of Water System Engineering and correspondence regarding the findings will be provided. It is to your benefit to address the OEL in a timely manner to avoid potential Maximum Contaminant Level (MCL) violations and the associated public notification requirements.

If you have any questions or wish to discuss the above matters further, please do not hesitate to contact Syed Rizvi of the Bureau of Water System Engineering at (609) 292-2957 or Syed-Imteaz.Rizvi@dep.nj.gov. When contacting the Bureau of Water System Engineering please reference the PWSID No. 0714001 and Letter No. WAM180002.

Sincerely,



Matthew Wilson, Environmental Specialist 3
Bureau of Safe Drinking Water

cc: Syed Rizvi, BWSE
Northern Bureau of Water Compliance and Enforcement

Exhibit E



State of New Jersey

Department of Environmental Protection
Mail Code 401-04Q

Division of Water Supply & Geoscience
Water System Operations Element
Bureau of Water System Engineering
401 E. State Street - P.O. Box 420
Trenton, New Jersey 08625-0420

Tel #: (609) 292-2957- Fax #: (609) 633-1495
<https://www.nj.gov/dep/watersupply/>

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

CATHERINE R. McCABE
Commissioner

February 13, 2019

Kareem Adeem, Acting Director
Newark Water Department
920 Broad Street, Room B31-F
Newark, NJ 07102

**Re: Newark Water Department – PWSID: NJ0714001
Draft Report Wanaque Gradient Corrosion Control Treatment Recommendation –
Sequential Sampling
Letter No. LCR180001**

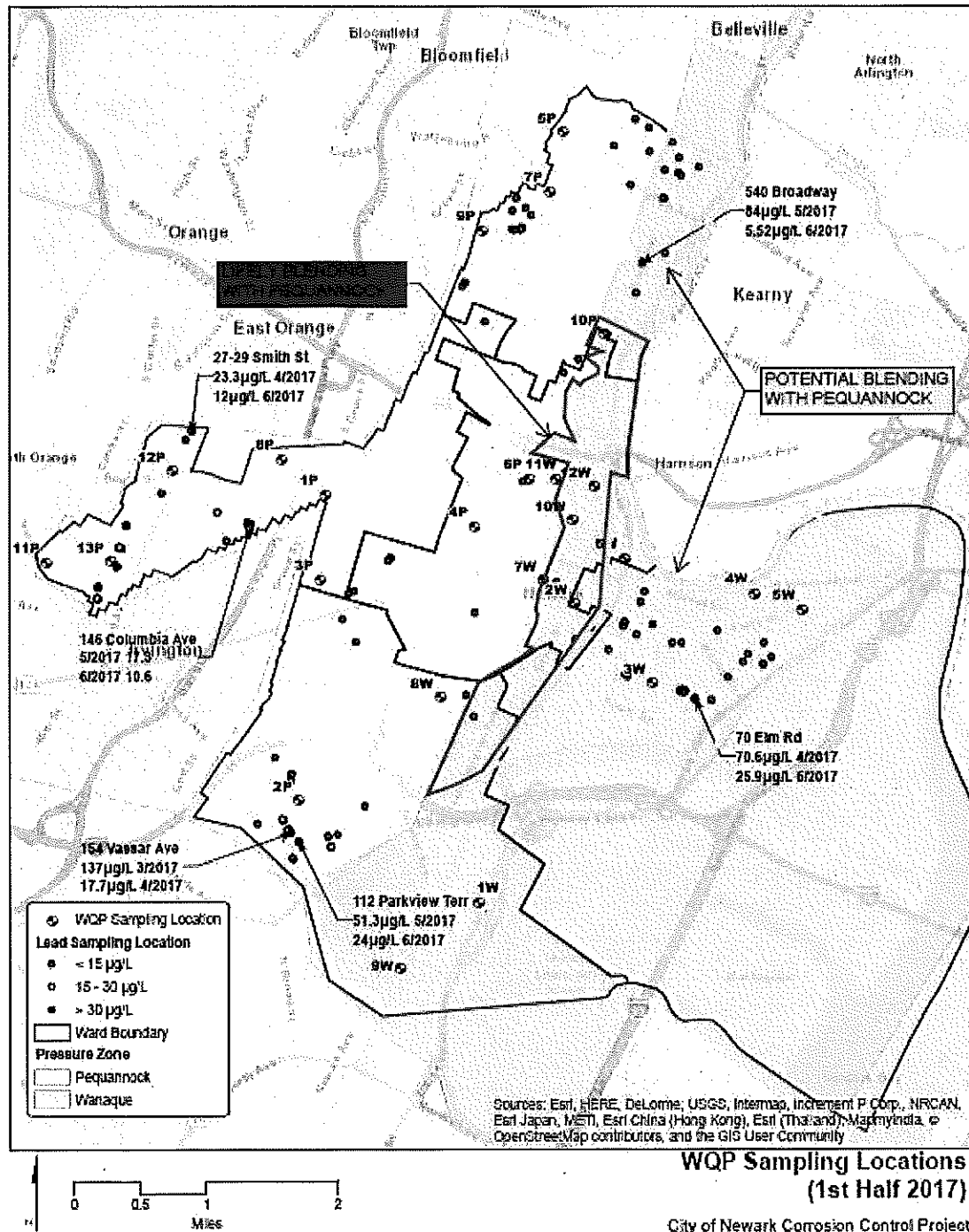
Dear Mr. Adeem:

As you are aware, due to the Newark Water Department's (Newark) lead action level exceedance (ALE), an assessment of the optimization of corrosion control treatment (CCT) is required pursuant to the Lead and Copper Rule, 40 C.F.R. 141.81. The Bureau of Water System Engineering (Bureau) authorized Newark's CCT study on April 20, 2018.

Newark originally submitted a draft Pequannock WTP Corrosion Control Review and Recommendations report, dated October 10, 2018. By letter, dated October 26, 2018, the Bureau provided comments on Newark's report and recommendations on the Pequannock gradient and noted that a CCT review and recommendation report was also required for the Wanaque gradient, which must include sequential sampling and pipe scale analyses, if appropriate. Further, Newark was required to evaluate whether elevated lead levels in the Wanaque gradient could be attributed to blending from the influence of the Pequannock gradient passing through division gates. A schedule for completion of the Wanaque study was due within fourteen (14) days of the letter.

Newark submitted a letter to the Bureau, dated November 8, 2018, stating that a CCT study for the Wanaque gradient would be submitted to the Bureau by January 15, 2019. It further noted that if the scale analysis was not complete by then, a supplemental memorandum would be provided upon completion of the analysis. To address the potential blending issue, Newark proposed to conduct sequential sampling and pipe scale analysis for homes with lead service lines ("LSL") in Wanaque gradient distribution system where Pequannock gradient water and the Wanaque gradient water were: (1) likely blending, (2) potentially blending, and (3) not blending.

By letter dated, November 30, 2018, the Bureau agreed with Newark's proposal to perform sequential sampling and pipe scale analyses in the identified zones, but found that while one sample location was sufficient in the "likely blending" and the "not blending" zones that Newark would need to sample one location from each of the two non-contiguous "potentially blending" zones as identified in Attachment 2 of Newark's November 8, 2018 correspondence to the Bureau (see figure below).



CDM
Smith

Attachment 2 - WQPs and Lead Sampling Results

Thereafter, Newark submitted a letter to the Bureau, dated January 9, 2019, noting that Newark had received word from the contractor performing the scale analysis with the United States Environmental Protection Agency (USEPA), Pegasus Technical Services, that they had received a stop-work notice as a result of the federal government shutdown. As such, Newark requested an extension of the January 15, 2019 deadline to complete the Wanaque Gradient Corrosion Control Treatment Recommendation (CCTR) and committed to sending a draft CCTR to the Bureau within two (2) weeks of receiving the pipe scale analysis results. Newark submitted an additional letter to the Bureau, dated January 15, 2019, noting that the sequential sampling data was undergoing QA/QC review and that additional data was forthcoming. Newark indicated that it was anticipated the sequential sampling data could be provided by January 29, 2019. The January 15, 2019 letter also noted that the pipe scale analysis continued to be delayed by the federal government shutdown and that a schedule for completion would be provided once USEPA's offices reopen. Subsequently, Newark submitted another letter to the Bureau, dated January 25, 2019, requesting a three-day extension from January 29, 2019 to February 1, 2019 to submit the initial Wanaque Gradient CCT Report due to laboratory testing inaccuracies associated with the sequential sampling.

The Bureau is now in receipt of the Newark's Draft Report entitled *Wanaque Gradient Corrosion Control Review and Recommendations*, dated February 1, 2019 (Draft Report). The Bureau recognizes the Draft Report was delayed, submitted in draft form, and is incomplete due to the QA/QC review of the sequential sampling data along with the delayed completion of pipe scale analyses at EPA's lab due to the Federal government shutdown as outlined in Newark's January 9 and January 15, 2019 letters.

Based upon a preliminary review of the Draft Report, the locations for testing and sampling do not fully comport with the Bureau's November 30, 2018 letter. Specifically, Newark has not provided sequential sampling data and pipe scale analysis locations within the Wanaque Gradient's "No Blending" Zone. Also, an additional pipe scale analysis was to be conducted in the second "Potentially Blending" Zone located within the Wanaque Gradient. The information required by the November 30, 2018 letter from the Bureau along with what was provided in the Draft Report are summarized in the following table. The asterisks identify outstanding information.

Wanaque Gradient - Blending with Pequannock Water	Sequential Sampling AND Pipe Scale Locations Requested by the Bureau (11/30/18 Letter)	Sequential Sampling Analysis Locations Conducted by Newark	Pipe Scale Analysis Locations Conducted by Newark
"Likely Blending" Zone	1	1	1
"Potentially Blending" (2 Zones)	2 (1 sample in each zone)	Total = 6 2 in the North Ward 4 in the East Ward	1*
"No Blending" Zone	1	0*	0*

To address the missing sequential sampling and pipe scale analyses, Newark shall provide a schedule and an outline for completion of these analyses to the Bureau within five (5) days from

the date of this letter. The Department will render a determination on Newark's extension request based on this submission.

The Bureau recognizes that Newark is waiting for EPA to conduct the pipe scale analyses on the two pipes that were submitted to EPA. Once the EPA provides its results to Newark or CDM Smith on these pipes and on the future pipes to be analyzed, Newark shall submit the results to the Bureau within two (2) days of receiving the results.

Please be advised that the Bureau is continuing to review the Draft Report and will provide additional responses as necessary. However, the Bureau will not have a final position on CCTR until Newark submits all of the requested sequential sampling and pipe scale analyses, as well as its recommendations, and such information is reviewed by the Bureau.

When contacting the Department please reference the PWSID No. NJ0714001 and Letter No. LCR180001.

Sincerely,

A handwritten signature in black ink that reads "Joe Mattle". The signature is written in a cursive, flowing style.

Joe Mattle, Supervisor
Bureau of Water System Engineering

cc: Don Hirsch, Northern Bureau of Water Compliance and Enforcement
Rich Paull, Land Use and Water Compliance and Enforcement
Tiffany M. Stewart, Esq., Newark Department of Water and Sewer Utilities
Sandra Kutzing, P.E., CDM Smith
Pat Gardner, Division of Water Supply and Geosciences
Linda Ofori, BWSE
Steve Pudney, BWSE – Engineering
Kristin Hansen, BWSE – Water System Assistance

NJEMS\sd_blank_letter_081511