

April 5, 2016

Jeff Goldy  
Environmental Health & Safety Coordinator  
Hopkins Public Schools  
1001 Highway 7  
Hopkins, MN 55305



**RE: 2016 Lead-in-Water Testing  
IEA Project #201510511**

Dear Mr. Goldy:

At the request of Hopkins Public Schools, IEA collected follow-up samples of drinking water on March 15, 2016, from Meadowbrook Elementary, North Junior High and West Junior High for lead analysis. The purpose of the sampling was to document lead content of water in four locations after replacing the fixtures, and to compare the results to initial “first draw” sampling conducted on March 11, 17, 19, 25 and June 10, 2015, and the EPA action level of 20 parts per billion (ppb). IEA had collected follow-up samples of drinking water on October 30, 2015 after the water fixtures had been replaced from Glen Lake Elementary, Meadowbrook Elementary, North Junior High and West Junior High for lead analysis.

## INTRODUCTION

The Lead Contamination Control Act (LCAA) of 1988 was created by the Environmental Protection Agency (EPA) to identify and reduce lead in drinking water. Both the EPA and the Minnesota Department of Health (MDH) recommend testing of potable water sources (water used for consumption) every five years for the presence of lead. Lead is a metal that usually enters drinking water through the distribution system, including pipes, solders, faucets, and valves. Lead levels in water may increase when the water is allowed to sit undisturbed in the system, such as in science, biology, or art areas. Exposure to lead is a significant health concern, especially to infants and young children whose growing bodies absorb more lead than adults do. Lead exposure can cause delays in physical and/or mental development in children and damage to the brain, kidneys, nervous system, and red blood cells. The EPA and MDH recommend that action be taken at a specific fixture when the lead concentration exceeds the EPA’s Action Level for schools of 20 parts per billion (ppb).

Some of the first draw samples collected at multiple district buildings on March 11, 17, 19, 25, 2015, June 10, 2015 and October 30, 2015 had elevated lead content above the EPA Action Level of 20 ppm.

- IEA collected 1,046 first-draw samples of approximately 500 milliliters (ml) in March, 2015 at District buildings. Of the 1,046 samples, 23 locations exceeded the EPA Action Level.
- On June 10, 2015, IEA collected 23 additional first-draw samples of approximately 500 milliliters (ml) to re-check taps with lead levels at or above 15 ppb during the initial sampling. Of the 23 samples, six samples exceeded the EPA Action Level.
- On October 30, 2015, IEA collected six additional first-draw samples of approximately 500 milliliters (ml) to sample following the fixtures being replaced over the summer.

On March 15, 2016, IEA collected four additional first-draw samples of approximately 500 milliliters (ml) to sample following the fixtures being replaced over the summer and confirm the results.

## METHODOLOGY

Samples were collected after the water was standing in the pipes for at least 8-hours, but not more than 18-hours, as recommended by the EPA. “First draw” means the samples are collected before the fixture is used or flushed during the day. The first draw sample results reflect a worst case scenario, i.e., the highest lead level that would be consumed.

Water samples were analyzed by Minnesota Valley Testing Laboratories (MVTL) in New Ulm, Minnesota, which uses EPA approved analytical methods and quality control/assurance procedures. Samples were analyzed using the ICP/MS EPA Method 200.8.

## RESULTS & DISCUSSION

Lead levels for the six fixtures that were replaced results ranged from 3.94 ppb to 147 ppb. Results for the four locations are displayed in *Table: Drinking Water Sample Results* and include the original sampling results. The laboratory report is provided in the Appendix A.

**Table 1: Water Testing Results Exceeding 20 ppb – Meadowbrook Elementary**

| Sample Number | Sampling Date | Sampling Location | Fixture Type      | Lead Results (ppb) |
|---------------|---------------|-------------------|-------------------|--------------------|
| 31115MB-87    | 3/11/15       | Room 116 - North  | Sink              | 29.7               |
| 06102015MB-4  | 6/10/15       | Room 116 – North  | Sink              | 20.6               |
| 10302015MB-2  | 10/30/15      | Room 116 – North  | Sink              | 24.3               |
| 03152016MB-1  | 3/15/16       | Room 116 – North  | Sink              | 15.6               |
| 31115MB-88    | 3/11/15       | Room 116 – North  | Drinking Fountain | 107                |
| 06102015MB-5  | 6/10/15       | Room 116 – North  | Drinking Fountain | 52.8               |
| 10302015MB-3  | 10/30/15      | Room 116 – North  | Drinking Fountain | 26.4               |
| 03152016MB-2  | 3/15/16       | Room 116 – North  | Drinking Fountain | 46.4               |

ppb – parts per billion

- Discussion of Results**

The lead level for the north sink in Room 116 was below the EPA Action Level following replacement. Lead levels for the north drinking fountain were still above the EPA Action Level following replacement.

**Table 2: Water Testing Results Exceeding 20 ppb – North Junior High School**

| Sample Number | Sampling Date | Sampling Location | Fixture Type | Lead Results (ppb) |
|---------------|---------------|-------------------|--------------|--------------------|
| 3252015NJ-9   | 3/25/15       | Room 607          | Sink         | 44.9               |
| 06102015NJ-1  | 6/10/15       | Room 607          | Sink         | 134                |
| 10302015NJ-1  | 10/30/15      | Room 607          | Sink         | 22                 |
| 03152016NJH-1 | 3/15/16       | Room 607          | Sink         | 3.94               |

ppb – parts per billion

- Discussion of Results**

The lead level for the sink in Room 607 was below the EPA Action Level following replacement.

**Table 3: Water Testing Results Exceeding 20 ppb – West Junior High School**

| Sample Number | Sampling Date | Sampling Location | Fixture Type | Lead Results (ppb) |
|---------------|---------------|-------------------|--------------|--------------------|
| 3172015WJ-76  | 3/17/15       | Room 403A East    | Sink         | 56.7               |
| 06102015WJ-2  | 6/10/15       | Room 403A East    | Sink         | 224                |
| 10302015WJ-1  | 10/30/15      | Room 403A East    | Sink         | 155                |
| 031516WJH-1   | 3/15/16       | Room 403A East    | Sink         | 147                |

ppb – parts per billion

- **Discussion of Results**

The lead level for the sink in Room 607 was still above the EPA Action Level following replacement.

## CONCLUSIONS & RECOMMENDATIONS

IEA recommends implementing one of the following treatment options for each fixture with lead levels exceeding the EPA action level of 20 ppb.

- Install a drinking water treatment unit certified to NSF/ANSI 53 for lead reduction:  
<http://info.nsf.org/Certified/DWTU/Listings.asp?TradeName=&Standard=053&ProductType=&PlantState=&PlantCountry=&PlantRegion=&submit3=Search&hdModlStd=ModlStd>
- Conduct flush testing in accordance with EPA or MDH guidelines to determine if flushing will reduce lead levels. If results indicate that flushing will reduce lead to acceptable levels, implement a flushing program which includes documentation of daily flushing and periodic program review.
- Investigate other potential sources for the lead upstream of the replaced fixtures and replace as warranted. Collecting a series of samples from fixture can assist in determining location of source.
- Remove fixture from service by disconnecting it from the water supply.

In addition, IEA recommends that a copy of the district's Lead-in-Drinking Water Testing Report be made available to the public through the district's administrative offices.

## GENERAL COMMENTS

The analysis and opinions expressed in this report are based upon data obtained from Hopkins Public Schools at the indicated locations. This report does not reflect variations in conditions that may occur across the site, property, or facility. Actual conditions may vary and may not become evident without further assessment.

The report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted Environmental Health & Safety practices. Other than as provided in the preceding sentence and in our Environmental, Health and Safety (EH&S) Proposal #4461 dated May 20, 2015, including the General Conditions attached thereto, no warranties are extended or made.

If you have any questions or would like further assistance in implementing any of the above recommendations, please do not hesitate to contact me at 763-315-7900.

Sincerely,

Reviewed by:

IEA, Inc.



Rachel Koehler  
Project Manager  
EH&S Division



Leslie Cloonan, MPH, CIH, LEED AP O+M  
Senior Project Manager  
Indoor Environments Division

RK/hh 040516

Enc.

# **Appendix A**

## **Laboratory Analysis Report**



# MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 N. Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890

2616 E. Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724

1201 Lincoln Highway ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

www.mvttl.com

MEMBER

ACIL

Report Date: 24 Mar 2016

Work Order #: 12-5043

Account #: 002190

HEIDI SOLBERG

IEA/BROOKLYN PARK

9201 W BDWY STE #600

BROOKLYN PARK MN 55445

Date Received: 15 Mar 2016

Date Sampled: 15 Mar 2016

Time Sampled: 6:40

Temperature at Receipt: 16.9C

PROJECT NAME: MEADOWBROOK ELEM

PROJECT NUMBER: 201510511

| LAB<br>NUMBER | SAMPLE<br>DESCRIPTION            | LEAD<br>RESULTS | MCL  | DATE<br>ANALYZED | ANALYST |
|---------------|----------------------------------|-----------------|------|------------------|---------|
| 16-A8156      | 03152016MB-1 ROOM 116 NORTH SINK | 15.6 ug/L       | 15.0 | 22 Mar 16        | RMV     |
| 16-A8157      | 03152016MB-2 ROOM 116 NORTH DF   | 46.4 ug/L       | 15.0 | 22 Mar 16        | RMV     |

Approved by:

Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards. The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

# = Due to concentration of other analytes

! = Due to sample quantity

+ = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 WI LAB # 999447680 ND MICRO # 1013-M ND WW/DW # R-040

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

AN EQUAL OPPORTUNITY EMPLOYER



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MEMBER

ACIL

Report Date: 24 Mar 2016

Work Order #: 12-5045

Account #: 002190

HEIDI SOLBERG

IEA/BROOKLYN PARK

9201 W BDWY STE #600

BROOKLYN PARK MN 55445

Date Received: 15 Mar 2016

Date Sampled: 15 Mar 2016

Time Sampled: 6:15

Temperature at Receipt: 16.9C

PROJECT NAME: N JR HS

PROJECT NUMBER: 201510511

| LAB<br>NUMBER | SAMPLE<br>DESCRIPTION       | LEAD<br>RESULTS | MCL  | DATE<br>ANALYZED | ANALYST |
|---------------|-----------------------------|-----------------|------|------------------|---------|
| 16-A8159      | 03152016NJH-1 ROOM 607 SINK | 3.94 ug/L       | 15.0 | 22 Mar 16        | RMV     |

Approved by:

Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards. The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix

! = Due to sample quantity

# = Due to concentration of other analytes

+ = Due to internal standard response

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1201 Lincoln Highway ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

www.mvttl.com

MEMBER

ACIL

Report Date: 29 Mar 2016

Work Order #: 12-5044

Account #: 002190

HEIDI SOLBERG

IEA/BROOKLYN PARK

9201 W BDWY STE #600

BROOKLYN PARK MN 55445

Date Received: 15 Mar 2016

Date Sampled: 15 Mar 2016

Time Sampled: 6:00

Temperature at Receipt: 16.9C

PROJECT NAME: W JR HS

PROJECT NUMBER: 201510511

| LAB<br>NUMBER | SAMPLE<br>DESCRIPTION           | LEAD<br>RESULTS | MCL  | DATE<br>ANALYZED | ANALYST |
|---------------|---------------------------------|-----------------|------|------------------|---------|
| 16-A8158      | 031516WJH-1 ROOM 403A EAST SINK | 147 ~ ug/L      | 15.0 | 28 Mar 16        | RMV     |

~Sample diluted due to result above calibration or linear range.

Approved by:

Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN

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CERTIFICATION: MN LAB # 027-015-125 WI LAB # 999447680 ND MICRO # 1013-M ND WW/DW # R-040

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AN EQUAL OPPORTUNITY EMPLOYER




## Chain of Custody

9201 West Broadway North, Suite 600  
Brooklyn Park, MN 55445  
763.315.7900  1.800.233.9513


[illegible]

## Chain of Custody

9201 West Broadway North, Suite 600  
Brooklyn Park, MN 55445  
763.315.7900  1.800.233.9513

[illegible]

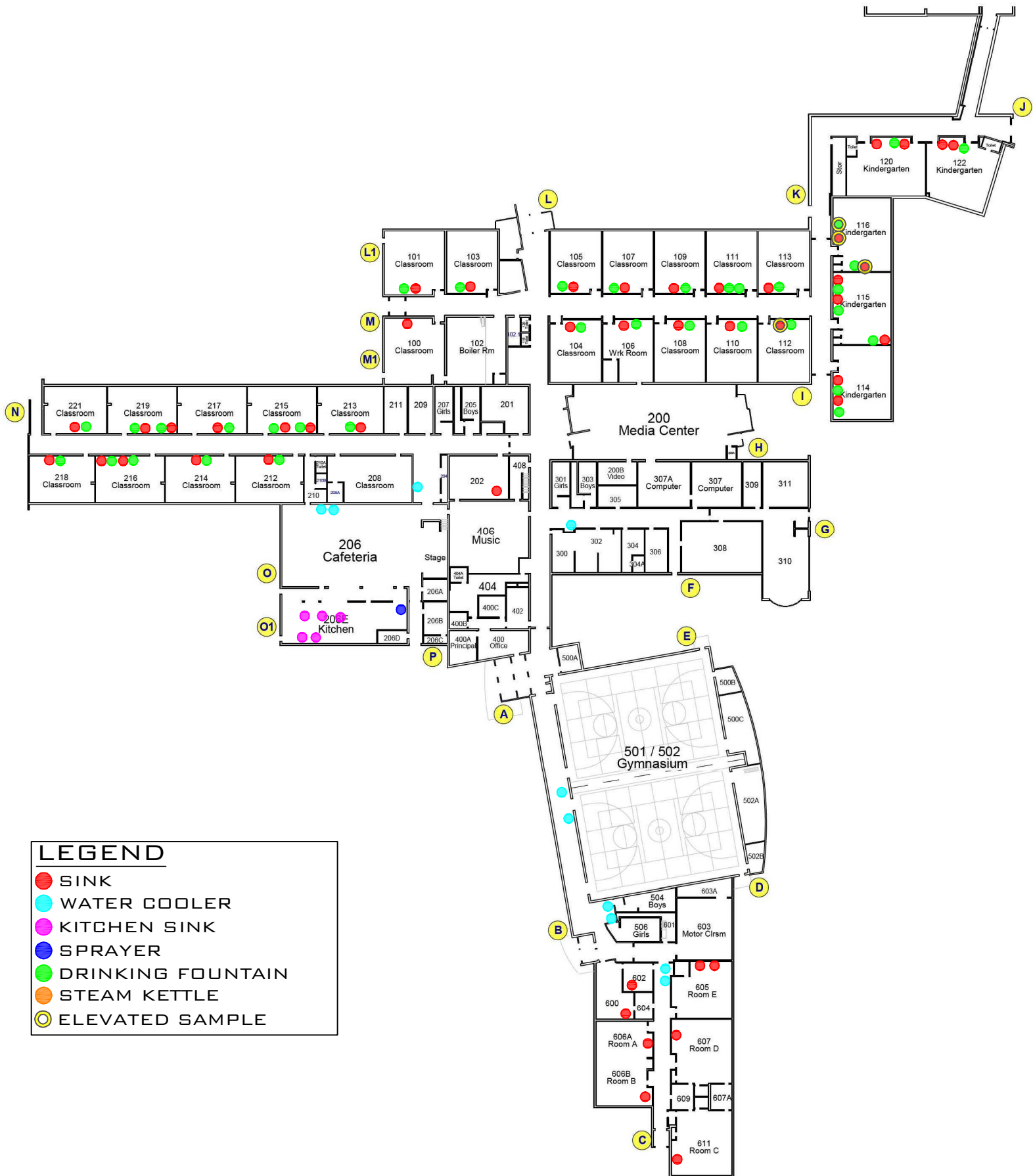
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Brooklyn Park, MN 55445  
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# **Appendix B**

## **Building Maps**



## LEGEND

- SINK
- WATER COOLER
- KITCHEN SINK
- SPRAYER
- DRINKING FOUNTAIN
- STEAM KETTLE
- ELEVATED SAMPLE

# LEGEND

- SINK
- WATER COOLER
- SPRAYER
- KITCHEN SINK
- STEAM KETTLE
- ELEVATED SAMPLE



LEGEND

SINK

WATER COOLER

KITCHEN SINK

DRINKING FOUNTAIN

SPRAYER

ELEVATED SAMPLE

