
LEAD SERVICE LINE REPLACEMENT PROJECT PLAN

STATE FY2024 DRINKING WATER STATE REVOLVING FUND LOANS

December 2022



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A. PURPOSE

The Northern Kentucky Water District (NKWD or District) Engineering Department created this Lead Service Line Replacement (LSLR) Plan to provide guidance for activities administered to comply with the Lead and Copper Rule Revisions (LCRR or Rule) in support of the projects submitted to the Kentucky Infrastructure Authority (KIA) 2024 Drinking Water State Revolving Funds Call for Projects – Lead Service Line Replacement.

B. SCOPE

The plan serves as an overview of the lead service line replacement plan to be used by the District for administering projects submitted under the State Fiscal Year 2024 Call for Projects. The plan is organized into three chapters.

- Chapter 1 – Introduction
- Chapter 2 – Project Funding Plan and Strategy
- Chapter 3 – Customer Engagement

The appendices contain additional information that may be used by District staff such as right-of-entry agreements and customer communication templates.

C. PROJECT NUMBERS

This plan applies to the following project profiles within the portal:

- WX21037012 – Newport Water Main and Full Lead Service Line Replacement
- WX21037013 – Newport Private Lead Service Line Replacement
- WX21117011 – Covington Private Lead Service Line Replacement

Three projects were developed by District staff and submitted for consideration for funding lead service line replacements as part of the 2024 Call for Projects. This chapter outlines the District's project funding plan and strategy for utilizing all of the LSLR requested funding. The process for selecting the projects and detailed project information is described below.

A. DISADVANTAGED COMMUNITIES

The District's overall LSLR plan is being prioritized based on starting with communities that already qualify or may qualify as a disadvantaged community based on socioeconomic factors. Since lead has a more pronounced health effect on younger children, areas having a high number of children under the age of 5 are also being given high priority along with low income. The District is using the EPA's EJScreen tool to identify census tract areas that have a high number of children under the age of 5 as compared to the national density. The map colors in the exhibits below represent the following:

- pink = over 95th percentile under age 5
- orange = 90th to 95th percentile under age 5
- yellow = 80th to 90th percentile under age 5

B. PROJECT DESCRIPTIONS

A description of each project is presented below:

Project 1 – Newport Water Main and Full Lead Service Line Replacement

This project is located within the City of Newport, which qualifies as a disadvantaged community based on Kentucky's current definition. The project involves water main replacement which focuses on addressing older water mains that have a high rate of failure. It is expected the project will have lead service lines on both the utility side and the customer side on a majority of the households.

This project will replace 15,365 feet of water main plus switchover services (from 6" to 12" on 16th Street) and abandon another 1,700 feet of water main. The project will impact a total of approximately 578 households. Using the EJScreen Tool, these streets serve areas that have a density of 70th percentile or higher children under the age of five and/or have a low income of 80th percentile or higher as compared to the national MHI.

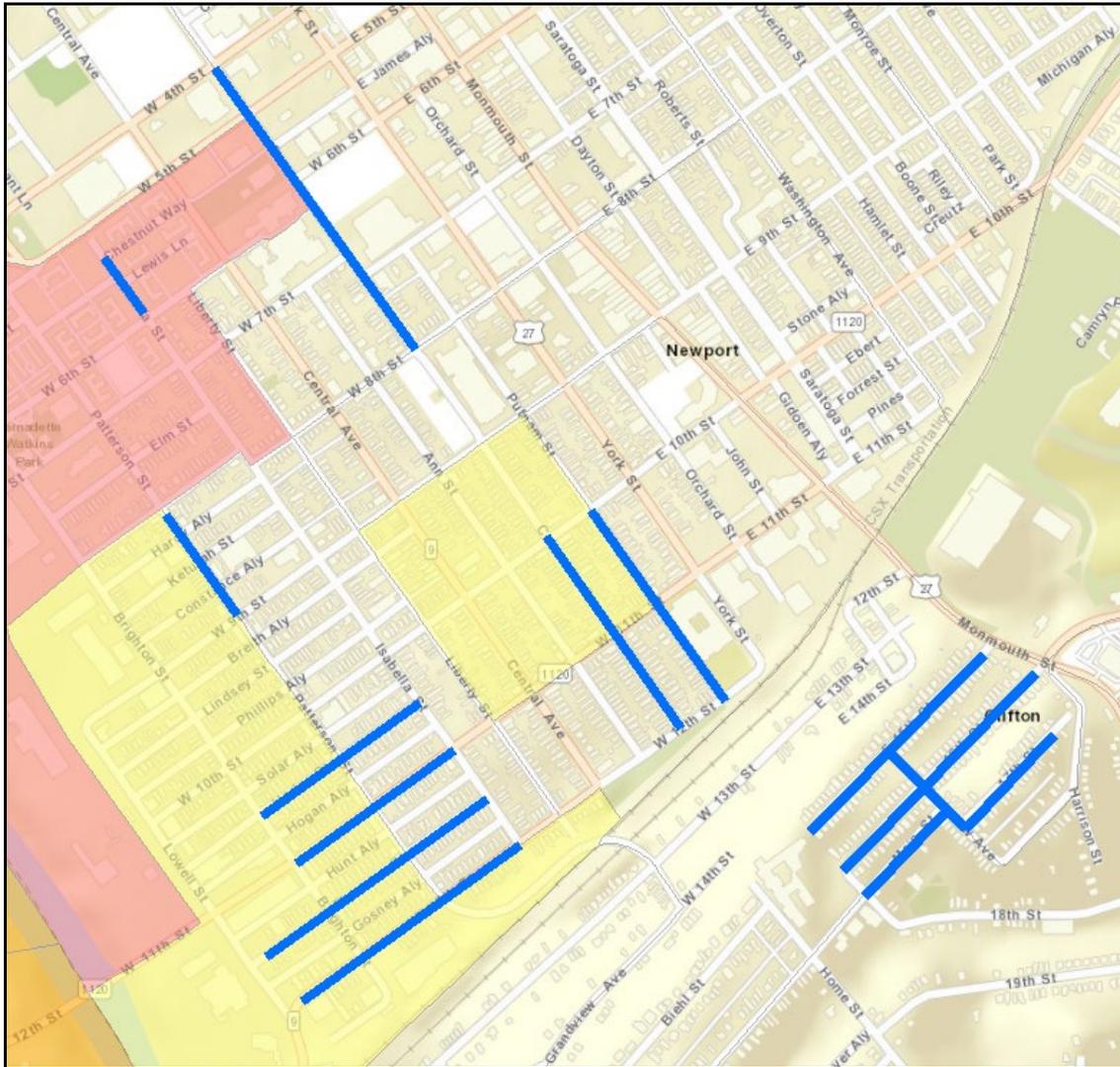
The total project cost is \$7,320,000 including engineering design and contingencies plus construction of improvements. The estimated cost for the water main replacement,

service switchover, and replacement of the utility side of the service lines is \$4,200,000. The District is asking for \$3,650,000 in low-interest loans to pay for the construction cost of water main replacement and utility service line replacement. The District will fund the remaining \$550,000 in project costs for engineering and contingencies through conventional loans or cash.

It is anticipated that 520 private service lines will be made of lead. The estimated cost to replace 520 private service lines is \$3,120,000 at an estimated cost of \$6,000 per private lead service line replacement. The District is requesting \$3,120,000 in principal forgiveness loan money to pay for 100% of the private lead service line replacement.

Any principal forgiveness loan funds not spent on this project would be used to pay for private lead service line replacement within the City of Newport or other areas in the system with priority given to disadvantaged communities.

Proposed Streets: 15th Street, 16th Street, 17th Street, Parkview Avenue, Main Street, Thornton Street, Hodge Street, Patterson Street, Columbia Street, Putnam Street, Isabella Street, Columbia Street, W. 11th Street, W. 12th Street



Project 1 Map – Newport Water Main and Full Lead Service Line Replacement Proposed Streets

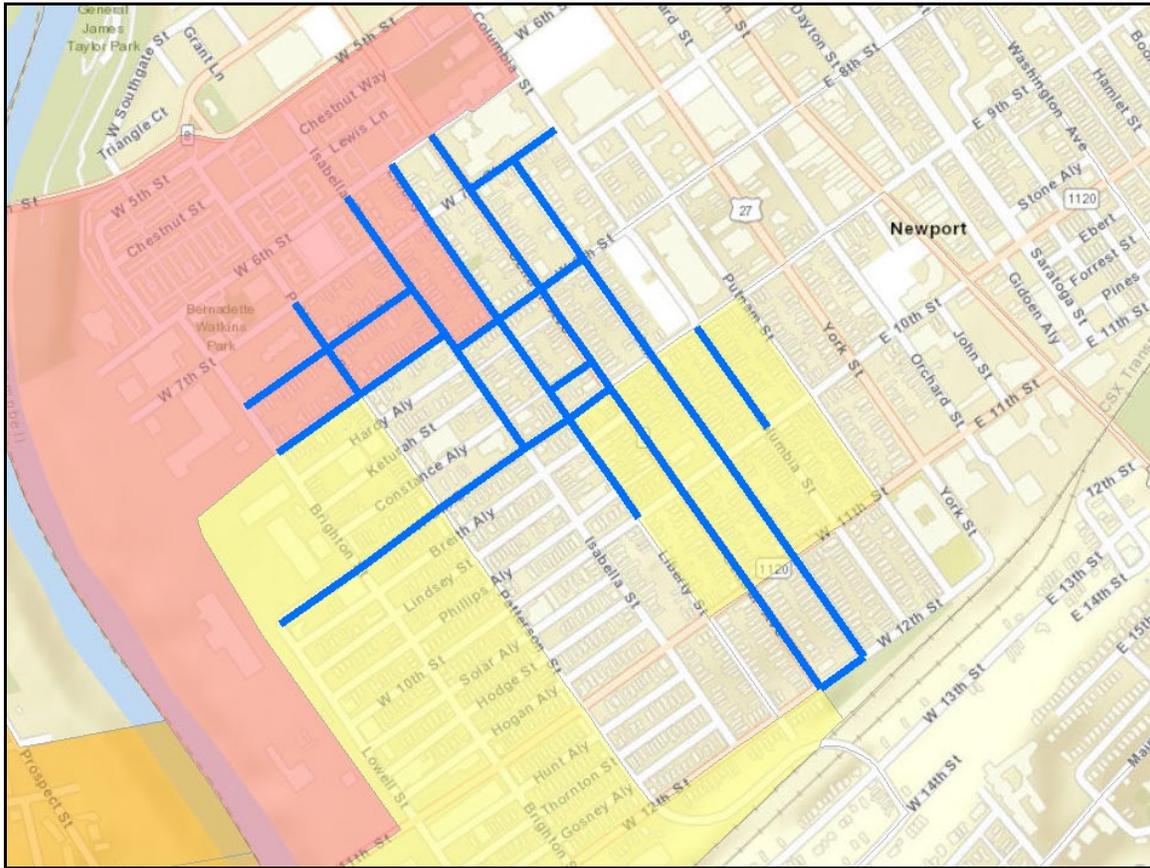
Project 2 – Newport Private Lead Service Line Replacement

This project is located within the City Newport, which qualifies as a disadvantaged community based on Kentucky's current definition. The project involves replacement of private lead service lines where the utility side of the service line has already been replaced in previous projects. Using the EJScreen Tool, these streets serve areas that have a density of 80th percentile or higher of children under the age of five and/or have a low income of 80th percentile or higher as compared to the national MHI. The proposed streets involve approximately 723 households.

It is expected that at least 600 of the customer-owned service lines will be made of lead. The District is requesting \$4,500,000 in principal forgiveness loans to pay for 100% of the private lead service line replacement at an estimated average cost of \$7,500 per service line.

Any principal forgiveness loan funds not spent on this project would be used to pay for private lead service line replacement within the City of Newport or other areas in the system with priority given to disadvantaged communities.

Proposed Streets: Patterson St., Isabella St., Liberty St., Central Ave., Ann St., Columbia St., 7th St., Elm St., 8th St., Constans Aly, 9th St., 12th St.



Project 2 Map – Newport Private Service Line Replacement Proposed Streets

Project 3 – Covington Private Lead Service Line Replacement

This project is located within the City of Covington and replaces private lead service lines where the utility side of the service line has already been replaced as part of a water main replacement project. Using the EJScreen Tool, these streets serve areas that have a density of 80th percentile or higher of children under the age of five and/or have a low income of 80th percentile or higher as compared to the national MHI. The proposed streets involve approximately 758 households.

It is expected that around 720 of the customer-owned service lines will be made of lead. The District is requesting \$5,400,000 in principal forgiveness loans to pay for 100% of the private lead service line replacement at an estimated average cost of \$7,500 per service line.

Any principal forgiveness loan funds not spent on this project would be used to pay for private lead service line replacement within the City of Covington or other areas in the system with priority given to disadvantaged communities.

Proposed Streets: Bakewell St., 9th St., Madison Ave., Prospect St., Wheeler St., Maryland Ave., 8th St., 10th St., Robbins St., 11th St., Bush St., 13th St., 17th St., Thomas St., 18th St., 19th St., Eastern Ave, Russell St., Decoursey Ave., 39th St., 41st St., & Church St.

C. PROJECT SCHEDULES

The anticipated schedules for these projects are as follows:

Project 1 – Newport Water Main Replacement and Full Lead Service Line Replacement

- Design Start – February 2024
- Construction Start – April 2025
- Construction Complete – April 2027

Project 2 – Newport Private Lead Service Line Replacement

- Design Start – February 2024
- Construction Start – February 2025
- Construction Complete – October 2025

Project 3 – Covington Private Lead Service Line Replacement

- Design Start – February 2024
- Construction Start – February 2025
- Construction Complete – December 2025

D. STRATEGY FOR UTILIZING ALL FUNDING

The District will need to secure approval from all of the applicable entities to proceed with the project. The project funding and construction may need to be approved by the Kentucky Public Service Commission.

The project plan includes conducting LSLRs for streets that are anticipated to utilize all requested funding. For planning purposes, the District has assumed the cost of private LSLR is \$6,000 per household when combined with a water main replacement project and \$7,500 per household as a stand-alone lead service line replacement project. The actual LSLR cost will not be known until bids are received and the LSLR installation is completed. If commitments from customers on the proposed streets are not sufficient to utilize all of the funds requested or more funds are available after bids received, additional streets will be added to the project with priority given to disadvantaged communities.

The bids will need to be structured in such a way that households can be added to the project through the same bid or the District will conduct additional bids so that all funds received may be fully spent. If bids for private lead service line replacement should be over budget, then either additional principal forgiveness loans will be requested in future funding cycles or the project modified to stay within budget.

This chapter includes the procedures for notifying customers before the project and for engaging the customer to agree to replace the private LSL as well as documenting property owners who decline to participate in the LSLR on the private owned portion of the service line. The procedure for flushing the service line and premise plumbing is included.

A. CUSTOMER NOTIFICATION OF PROJECT

This section outlines the strategy that will be used for informing customers before the LSLR. The customer account information for the active and inactive accounts is contained in the Customer Information System (CIS), which is the record of origin for customer names, addresses, and contact information. This information will be used for customer engagement. The Lucity work order system will be the record of origin for the utility-owned and customer-owned service lines and the source of identification.

The District is in the process of implementing a software solution to assist with managing the collection and reporting of service line inventory and LSLR. The proposed software solution is leadCAST™. It is anticipated the program will be available to use internally as well as providing the public facing components on the website. It is anticipated the leadCAST™ software will be ready to “go live” in the first quarter of 2023.

As soon as the software is ready (anticipated February 2023), the District will mail customers within these three project areas a notice to self-report their service line material using the leadCAST™ portal. If the customer does not respond, the District will send a second mailing. If these notices are unsuccessful, the District will begin a campaign to go door-to-door in an effort to reach the customer at home. If we do not reach them at home, we will leave behind information to contact the District. The District will offer to send staff to enter the home and identify the service line material, if requested by the customer.

If the District is successful in securing the requested funding and the necessary funding approvals are secured, the customers will be informed of the project and asked to sign a right-of-entry agreement giving the District permission to replace the private LSL. An example of the notification letter is included in Appendix A. An example of the right-of-entry agreement is included in Appendix B. The customers will be invited to an informational public meeting held in conjunction with the local city officials to try to answer questions on the project and to solicit their commitment to participate in the project through completion of the right-of-entry document. The District will attempt to get a signature from customers who refuse to participate in the LSLR program using the

example form in Appendix C. In the absence of getting a signed refusal form from the customer, the District will have documentation of a good-faith effort to reach the customer using the two letters delivered plus any door-to-door visits.

The District will proceed with designing the project and collecting the right-of-entry documents from customers to replace the private LSLs. Each project will be publicly advertised and bid for construction. Customers will be informed of the anticipated start of construction, and work on the customer's property will be scheduled by the contractor with the District Inspector's oversight.

B. FLUSHING PROCEDURE

The District will conduct flushing of the lead service line and issue a pitcher and filter cartridges at the completion of the project and offer to conduct lead testing at no cost to the customer. The District will also request the customer to continue flushing following the project. The proposed flushing procedure is included in Appendix D. The flushing procedure may be modified if additional guidance is made available by industry organizations or if recommended flushing procedures are provided by the EPA or the Kentucky Division of Water.

APPENDIX A

Example - Preconstruction Letter

_____, 2022

Customer Name

Address

City, KY _____

Dear Occupant and/or Property Owner:

The Northern Kentucky Water District is preparing to replace lead service lines on your street. We expect to begin work in approximately ___ days. Our records indicate the water service line serving your home may be made of lead. The service line is the pipe that connects to the water main and brings water into your home. Lead service lines can increase your risk of exposure to lead through drinking water. Enclosed is important information for your review. Please share this information with all other occupants at this property.

If found to be made of lead, we will be replacing the service line with a new copper service line at no expense to you. In almost every instance, a portion of the water service line is owned by the Northern Kentucky Water District and a portion is owned by the property owner. We will confirm the portion of the service line owned by the District is made of copper or replace any that are found to be made of lead. To facilitate replacement of the portion of the service line owned by you, we request you complete the enclosed right-of-entry document giving us permission to complete the work. This document needs to be returned to us by _____ using the enclosed self-addressed, pre-paid postage envelope.

The District will utilize a contractor to replace the service lines. As with any construction project, access to roads will be affected and interruption of water service will be inevitable. We will make every effort to minimize any inconvenience to you. Parking may be restricted in areas of the construction, and "No Parking" signs will be posted when needed. Work will generally be completed between the hours of 8:00 a.m. and 6:00 p.m.

Prior to turning off your water, we will attempt to reach you at the property or leave a notice on your front door. We schedule planned outages 48 hours in advance. Following replacement of the service line, we will attempt to reach you again at the property or will leave a notice on your front door with instructions for flushing your plumbing. We encourage you to watch for these important notices.

If you have any questions about this project, please contact me at (859) 578-7891 or the project Inspector _____ at (859) ___ - ___ during normal business hours. For emergencies after-hours and on weekends, please use our main number (859) 578-9898 to reach our answering service.

Sincerely,

Name

Construction Supervisor

_____, 2023

Customer Name

Address

City, KY _____

Dear Occupant and/or Property Owner:

The Northern Kentucky Water District is preparing to replace the water main that serves your property. We expect to begin work in approximately ___ days. Our records indicate the water service line serving your home may be made of lead. The service line is the pipe that connects to the water main and brings water into your home. Lead service lines can increase your risk of exposure to lead through drinking water. Enclosed is important information for your review. Please share this information with all other occupants at this property.

If found to be made of lead, we will be replacing the service line with a new copper service line at no expense to you. In almost every instance, a portion of the water service line is owned by the Northern Kentucky Water District and a portion is owned by the property owner. To facilitate replacement of the service line owned by you, we request you complete the enclosed right-of-entry document giving us permission to complete the work. This document needs to be returned to us by _____ using the enclosed self-addressed, pre-paid postage envelope.

The District has contracted with _____ to replace the water main and service lines on the following streets: _____. As with any construction project, access to roads will be affected and interruption of water service will be inevitable. We will make every effort to minimize any inconvenience to you. Some streets may be closed to through traffic but will remain open for access for local traffic. Parking may be restricted in areas of the construction, and "No Parking" signs will be posted when needed. Work will generally be completed between the hours of 8:00 a.m. and 6:00 p.m.

Prior to turning off your water, we will attempt to reach you at the property or leave a notice on your front door. We schedule planned outages 48 hours in advance. Following replacement of the service line, we will attempt to reach you again at the property or will leave a notice on your front door with instructions for flushing your plumbing. We encourage you to watch for these important notices.

If you have any questions about this project, please contact me at (859) 578-7891 or the project Inspector _____ at (859) ___ - ___ during normal business hours. For emergencies after-hours and on weekends, please use our main number (859) 578-9898 to reach our answering service.

Sincerely,

Name

Construction Supervisor

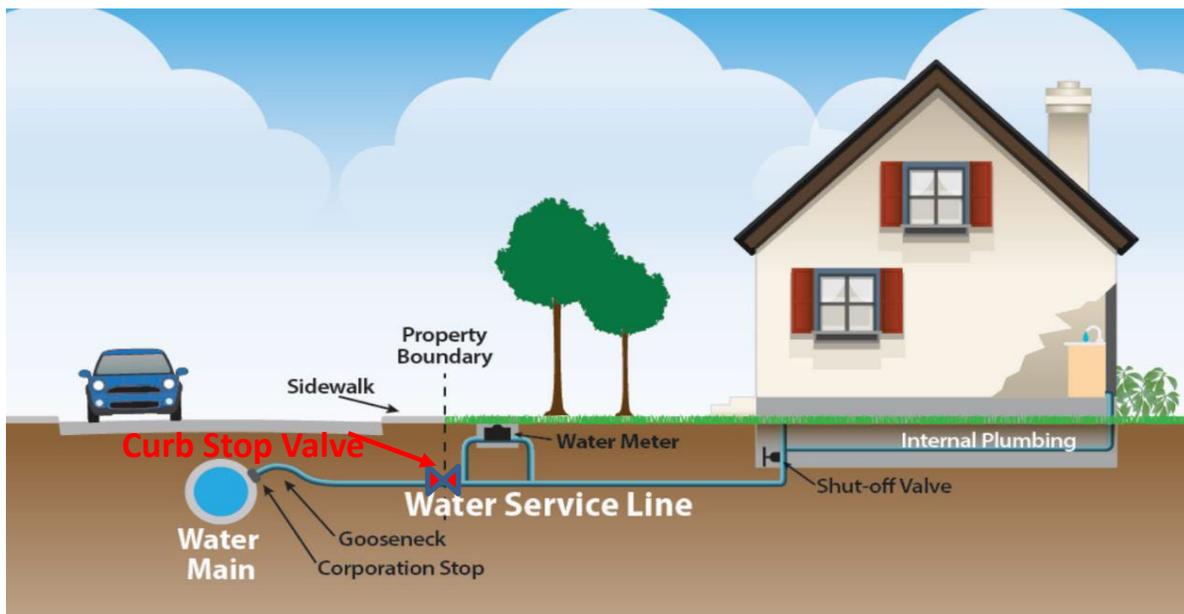
FREQUENTLY ASKED QUESTIONS FOR LEAD SERVICE LINE REPLACEMENT WORK

Why is lead a health risk?

Lead is a toxic metal that can cause immediate effects at high doses and long-term effects if it builds up in the body over many years. Young children are particularly vulnerable because the physical and behavioral effects of lead occur at lower exposure levels in children than in adults. Wherever possible steps should be taken to reduce or eliminate your household's exposure to lead. Because it is colorless and tasteless, lead is not readily apparent in water. In fact, the only way to know for certain whether your drinking water contains lead is to have your water tested by a certified laboratory.

What is a water service line and who owns it?

The service line is the small line that connects your home to the public water main. A portion of the service line from the water main to the water meter is owned by the Northern Kentucky Water District (NKWD). The remainder is privately owned. The property owner is responsible for the private portion from the water meter to the home. For meters found inside the home, NKWD is responsible up to the curb stop or the property line if no curb stop is present.



I'm concerned my home may have lead pipes. How can I find out?

Plumbing inside the home, such as lead pipes and copper pipes with lead-based solder and faucets with internal components having lead, are potential sources of lead in water. If you're concerned your home plumbing may contain lead pipes, try scratching the pipe with a house key or screwdriver. Lead pipe is a dull gray color that is soft enough to be easily scratched with a house key, but the scratch marks will appear bright silver. Using a magnet can also help identify if a pipe is lead, because even a strong

magnet will not cling to lead. We encourage you to become educated on lead service lines and plumbing fixtures in your home and the possible health risks of elevated exposure and to contact a licensed plumber regarding the service line and plumbing on your property.

What if I do not allow the utility to replace my lead service line?

We will notify you immediately following the utility side of the service line work by leaving a door hanger that indicates whether the service line remaining in place appears to be made of lead or not. If you are a customer with a lead service line and you do not allow us to replace your lead service line at the same time, then you should follow the flushing recommendations provided.

You may also wish to use a filtering pitcher or in-line home filter, certified by NSF/ANSI to remove lead, for water to be used for drinking and cooking, particularly if you are pregnant or have children under age six. This includes water used for making ice, beverages, and infant formula. Following notice of service line replacement, we will provide at no charge to you a water filtering pitcher and two replacement cartridges that are certified for lead removal for a reasonable period of time. You may pick up these items from our office located at 2835 Crescent Springs Road in Erlanger during normal business hours Monday through Friday 8 a.m. to 5 p.m.

What if I want my water tested for lead?

You may contact a state-certified laboratory to request a test for lead, or you may contact our laboratory at (859) 441-0482 to request an initial free water test. There may be a charge assessed for multiple tests.

Where can I find more information on lead?

Information on lead is particularly important for those who are pregnant or have children under age six. Additional information including recommended flushing procedures following lead service line replacement is available on NKWD's website at www.nkywater.org. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is also available from the U.S. EPA Safe Drinking Water Hotline 1-800-426-4791 or at <http://www.epa.gov/lead/learn-about-lead>.

APPENDIX B

Example - Right-of-Entry Agreement

TEMPORARY EASEMENT AND RIGHT OF ENTRY

This **Temporary Easement and Right of Entry Agreement** (“Agreement”) is entered into and made effective as of Month Day, Year, by and between **NORTHERN KENTUCKY WATER DISTRICT** (“District”) having a notice mailing address of 2835 Crescent Springs Road, P.O. Box 18640, Erlanger, Kentucky 41018, and Name (“Owner”), having a notice mailing address of Address, City, KY Zip.

WHEREAS, Owner is the fee simple owner of that certain real property located at Address, City, KY Zip (PIDN: xxx-xx-xx-xxx.xx /GROUP: xxxx) and as described in the attached Exhibit A, (“Property”);

WHEREAS, the District will replace the Owner’s private service line as part of the water main replacement project requiring excavation, service line installation, and restoration to be performed on the Owner’s Property;

WHEREAS, the DISTRICT needs temporary access to the Property to complete the construction of the service line replacement; and

NOW THEREFORE, in consideration of the premises and of the promises and agreements set forth below and other valuable consideration, the receipt and sufficiency of which are expressly acknowledged, the parties hereby agree as follows:

1. The Owner hereby grants to the District, its contractors, and agents the right to enter upon and use the Property for the installation and construction of the Owner’s water service line and other facilities and appurtenances on the Property, a temporary easement and right of entry and use in the area described and/or depicted as the Temporary Construction Easement on Exhibit A attached hereto and incorporated herein
2. The Owner understands and agrees that the new water service line running from the meter setting to the Owner’s residence on the Property, will be owned and maintained by the Owner once the contractor’s warranty period expires.
3. The Temporary Construction Easement will automatically terminate and revert upon completion of the installation and construction of the Owner’s water service line and other facilities and appurtenances on the Property.
4. To the fullest extent reasonably possible, the District, through its contractors and agents, will restore any portion of the Property disturbed by the District or its contractors or agents to the condition it was in prior to the disturbance. Such restoration will include grading any disturbed portion of the Property to its grade prior to the disturbance, replacing or repairing any concrete or asphalt damaged by the District or its contractors or agents, and planting grass seed and covering the seed with straw to restore any damaged grass.

- The temporary easement and right of entry and use granted by this Agreement will continue in full force and effect until the completion of the installation and construction of the water service line and other facilities and appurtenances on the Property or until the Owner provides the District with written notice of termination (addressed to Northern Kentucky Water District, 2835 Crescent Springs Road, P.O. Box 18640, Erlanger, Kentucky 41018) at least 180 days prior to the proposed date of termination.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the _____ day of Month, Year.

OWNER:

DISTRICT

By: _____
 Name: _____
 Title: Owner

By: _____
 Name: _____
 Title: _____

COMMONWEALTH OF KENTUCKY :
 : SS
 COUNTY OF _____ :

The foregoing instrument was subscribed and sworn by Owner Name before me this _____ day of _____ 202__.

 Notary Public, Kentucky at Large
 Notary ID Number: _____
 My Commission Expires: _____

COMMONWEALTH OF KENTUCKY :
 : SS
 COUNTY OF _____ :

The foregoing instrument was subscribed and sworn by _____ before me this _____ day of _____ 202__.

 Notary Public, Kentucky at Large
 Notary ID Number: _____
 My Commission Expires: _____

PREPARED WITHOUT EXAMINATION OF TITLE BY:

Tom Edge, Esq. (KBA #95534)
Manager of Legal, Compliance, and Regulatory Affairs
Northern Kentucky Water District
2835 Crescent Springs Rd.
Erlanger, Kentucky 41018
Phone: (859) 578-5457
Email: tedge@nkywater.org

Return Recorded Document to:

NKWD Engineering Dept
2835 Crescent Springs Road
Erlanger, Kentucky 41018

APPENDIX C

Example - Customer Refusal

APPENDIX D

Proposed Flushing Procedure



FLUSHING PROCEDURE FOLLOWING LEAD SERVICE LINE REPLACEMENT

INITIAL FLUSHING BY UTILITY IMMEDIATELY FOLLOWING SERVICE LINE WORK

This flushing procedure will be used by the construction crew upon installation of the service line:

After all connections have been completed, flush the water from an outside connection (such as hose-bib or hose leading from the house side of the meter installation) to remove any particles in the service line and near point-of-entry. The flushing is best done, if possible and practical, before the meter is connected in the service using a “jumper” or straight pipe in place of the meter. Flush at full velocity for 10 minutes.

INITIAL FLUSHING BY CUSTOMER IMMEDIATELY FOLLOWING SERVICE LINE WORK PRIOR TO USING WATER AND EVERY 2 WEEKS FOR THE NEXT 3 MONTHS:

To minimize potential exposure to lead following the replacement of a lead service line, this flushing procedure should be used by the customer:

Flush all your faucets using these steps:

1. If possible, remove faucet screens from all cold water taps in the home.
2. Beginning in the lowest level of the home, fully open the cold water taps throughout the home.
3. Let the water run for at least 30 minutes at the last tap you opened (top floor).
4. Turn off each tap starting with the taps in the highest level of the home. Be sure to run water in bathtubs and showers as well as faucets.
5. Do not consume tap water, open hot water faucets, or use icemaker or filtered water dispenser until after flushing is complete.
6. Replace faucet screens, if removed for flushing.

Consider having your water tested before returning to normal use of water for cooking and drinking activities. If you would like to request a free analysis for lead in your water, please contact our laboratory at (859) 441-0482 during normal business hours. You may also wish to use a filtering pitcher or in-line home filter, certified by NSF/ANSI to remove lead, for water to be used for drinking and cooking, particularly if you are pregnant or have children under age six. This includes water used for making ice, beverages, and infant formula.

REGULAR DAILY FLUSHING FOR AT LEAST 6 MONTHS:

1. Each day for at least 6 months following the completion of the service line work, flush your plumbing for 5 to 10 minutes daily by opening at least one cold water faucet. This flushing can also be accomplished by showering or using outdoor irrigation.
2. It is recommended to remove and regularly clean faucet screens.