



LEAD FREE STOUGHTON ACTION PLAN

Stoughton Water Quality

- Lead Service Line Replacement Program

LEAD AFFECTS PUBLIC HEALTH THREAT

How lead effects childrens' health

Brain

Any exposure is linked to lowered **IQ, ADHD, hearing loss, and damaged nerves**. Acute exposures can cause convulsions, **loss of body movement, coma, stupor, hyperirritability, & death**.

Heart

Studies suggest that adults who endured lead poisoning as children had significantly higher risks of **high blood pressure** 50 years later.

Hormones

Lead disrupts levels of vitamin D, which can **impair cell growth, maturation, and tooth and bone development**.

Blood

Lead inhibits the body's ability to make hemoglobin, which can lead to anemia. This reduces oxygen flow to organs, causing **fatigue, lightheadedness, rapid heartbeat, dizziness, & shortness of breath**.

Stomach

Severe lead exposure can create intense **abdominal pain and cramping**.

Kidneys

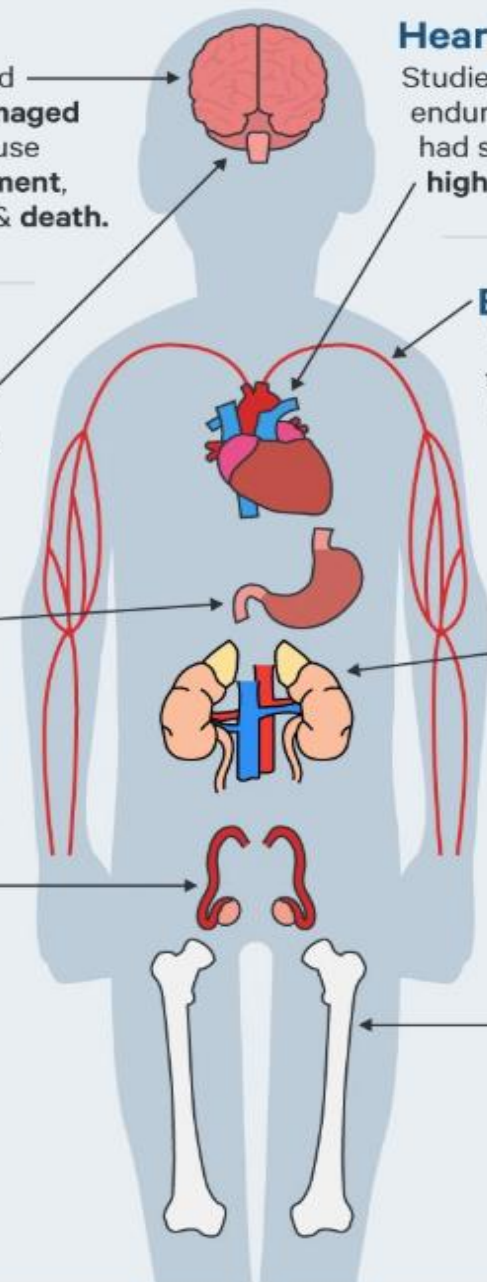
Chronic exposures can cause chronic inflammation, which can lead to **kidney failure, bloody urine, fever, nausea, vomiting, drowsiness, coma, weight gain, confusion, rash, and urinary changes**.

Reproductive System

A moderate exposure can not only **lower sperm count**, but also **damage them**. Chronic exposures can diminish the concentration, total count, and motility of sperm, though it's unclear how long these effects last after the exposure ends.

Bones

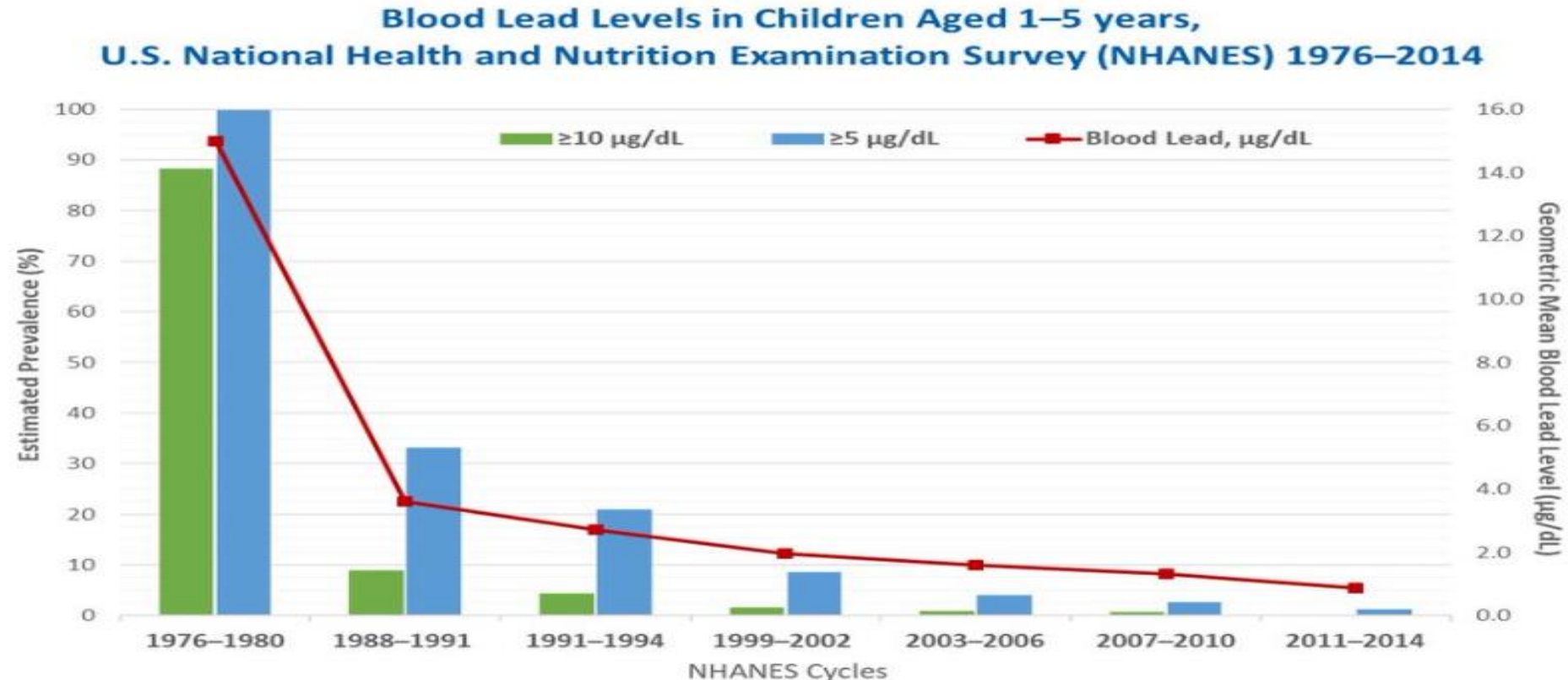
Lead may impair development and the health of bones, which can **slow growth in children**.



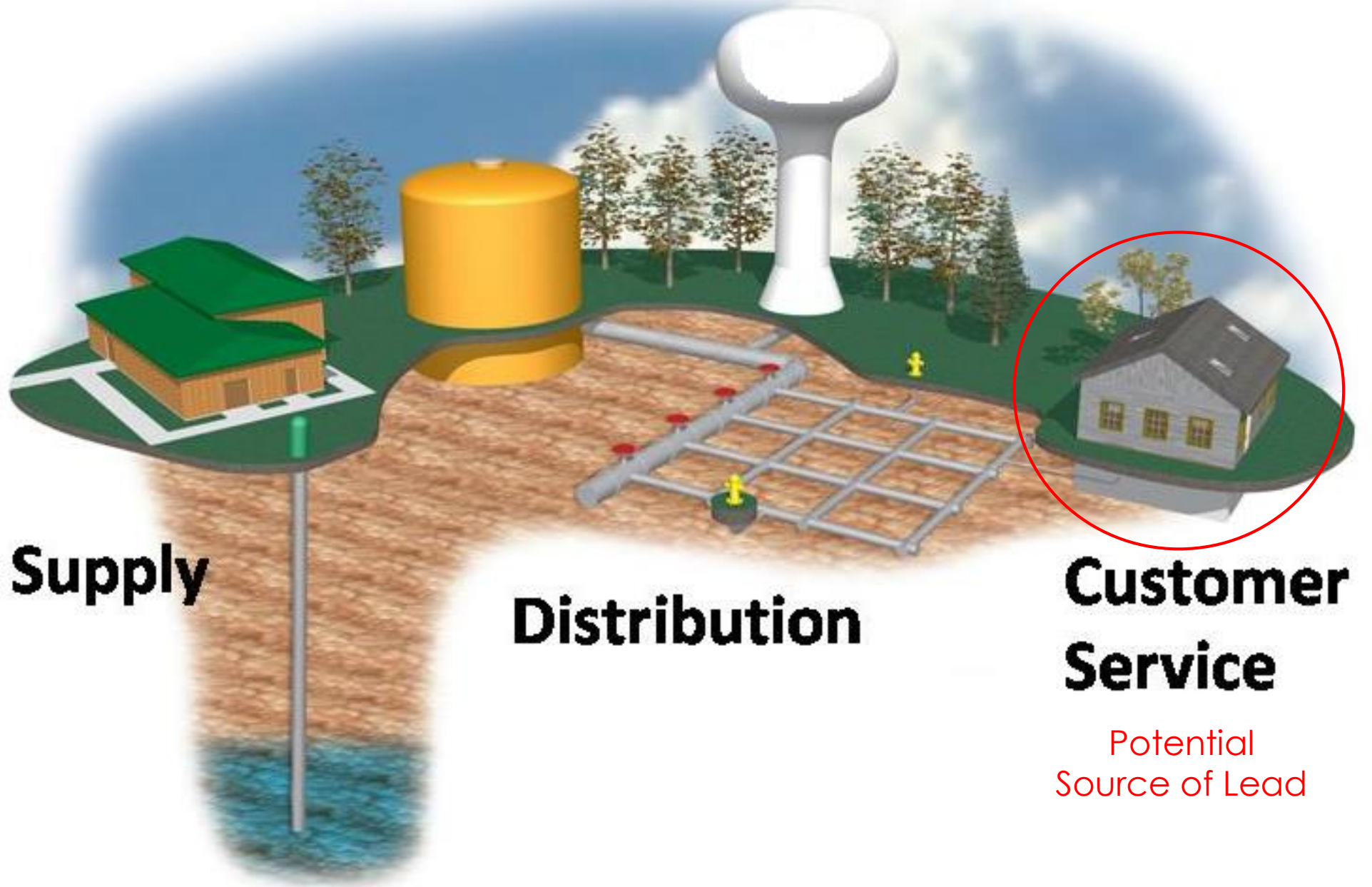
Results of Reduced Lead Usage

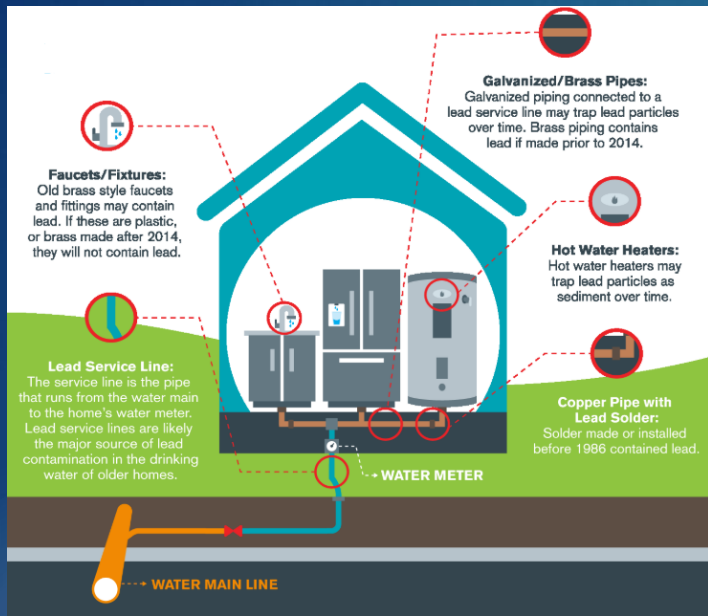
Increased Regulation Results in Reduced Health Risks

- ▶ 1973 – Lead in Gasoline Phased out
- ▶ 1978 – Residential Lead Paint Ban
- ▶ 1986 – Lead in Plumbing < 8%
- ▶ 1995 – Ban on lead solder in food cans
- ▶ 2014 – Lead Ban in all Plumbing (Fixtures/Meters)

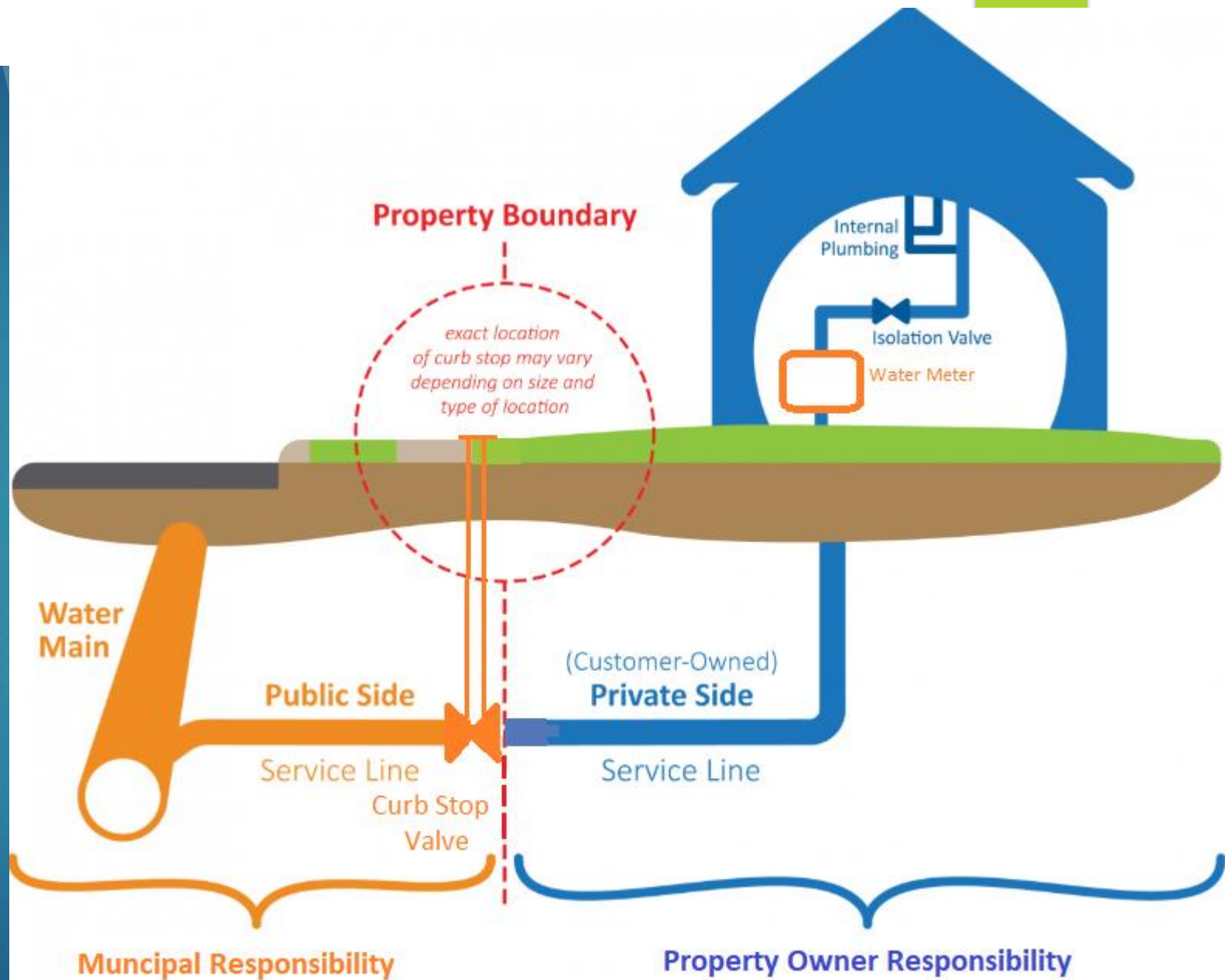


Municipal Drinking Water System





Water Service Pipe from Water Main into Property



PRESENT CONDITION

Revised Lead & Copper Rule (LCRR)

- ▶ Lead Action Level – Reduced 15 ppb to 10 ppb
- ▶ All sample sites must be served by lead service
- ▶ Lead Service Replacement – Required to be both private & public

Sample Site Investigation

- ▶ Some of the previously approved sample sites were copper services
- ▶ All new sample sites must be full lead services

DNR Requirements

- ▶ Corrosion Control Pilot Testing - \$80,000
 - ▶ Chemical treatment for lead sequestering - \$55,000 annual
- ▶ 7% Lead Service Replacement Annually

SOLUTION

ELIMINATE LEAD SERVICES

▶ GRANT

- ▶ \$60 Million available funding
- ▶ Monies provided in order application received
- ▶ Must have ordinance to achieve 100% replacement
- ▶ GRANT - If not obtained
 - ▶ Estimated 15-year completion (2021-2036) – 7% replacement required by DNR
 - ▶ Must still have ordinance to meet DNR mandated replacement
- ▶ Completed preliminary development in 2020 of construction specifications and bid packages

LEAD SERVICE ESTIMATE

Summary:

Total Laterals: 4,843

Total Public Lead: 469

Total Private Lead: 736

Breakdown:

Public & Private: 429

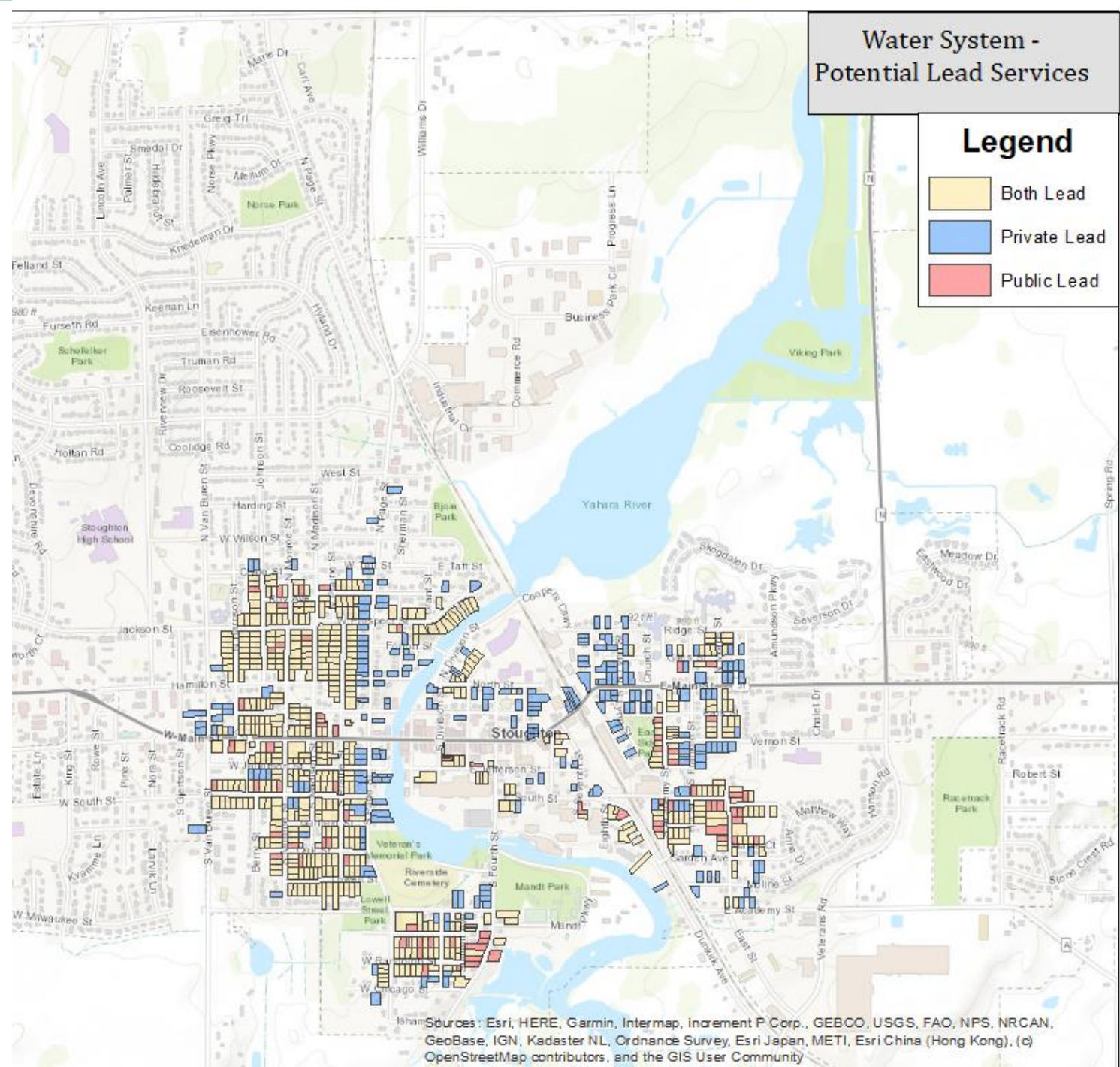
Public Only*: 40

Private Only: 307

Percentage of Households:

Public Lead: 9.7%

Private Lead: 15.89%



Historic Stoughton Lead & Copper Rule Results

IMPACT OF FUTURE REQUIREMENT

- Sample set included copper services
- 10 ppb – Exceeded annually except for two years

90th Percentile - Bold numbers

- Sample set included copper services
- 10 ppb – Exceeded every year except 2 years

	2005	2008	2011	2014	2015-1*	2015-2*	2016	2017	2018	2019
<i>Average</i>	4.70	2.29	3.51	4.18	4.19	4.09	2.16	3.66	2.55	5.39
1	30	54	20	33	30	41	29	25	77	26
2	15	40	12	24	27	22	28	22	19	26
3	13	11	11	20	21	18	26	17	16	18
4	12	9.8	8.4	19	21	15	12	15	11	18
5	9.9	9.7	8.4	13	21	13	8.3	14	5.6	17
6	8.9	8.6	8	12	16	10	5.2	11	5.5	16
7	7.7	8.6	7.3	11	15	8.9	4.2	8.6	4.9	14
8	7.4	6.1	5.8	8.7	11	8.9	3.9	7.4	4.8	10
9	6.8	5.4	5.7	7.5	10	7.7	3.6	6	4.8	12

* More than 30 samples taken – only highest 30 samples shown

SOLUTION

ELIMINATE LEAD SERVICES

► Present Efforts

- Increased educational efforts for the public
- Created a draft service line replacement ordinance, to be presented to the Committee, with anticipated adoption in June 2020.
 - Based on Madison, Manitowoc & Oregon Ordinances
- Replacement program that addresses all known lead services
 - Includes full service line replacement to ensure elimination of all lead
 - Estimated one-year completion in 2021 if grant funding is received
- Draft RFQ to create list of prequalified plumbers to help ensure eligibility for reimbursement to 2020 private lead service replacement with grant

ORDINANCE PROCESS

▶ Ordinance

- ▶ Public Nuisance – Lead is a threat to public health
- ▶ Process – SU Serve abatement orders – 30 days minimum of required abatement date
 - ▶ No response - Water Utility bids and contracts to have work completed – private side lead service line replacement
 - ▶ Objection – Apply to Circuit Court
- ▶ Costs
 - ▶ Grant funding pays if eligible
 - ▶ Special Assessments where no grant funding is available

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DNR RECOGNITION OF PROACTIVE SU EFFORT

'I would like to personally thank you for doing an EXCEPTIONAL job positioning yourself to be lead service line free by the end of 2021. I have copied the regional field supervisor, Eileen Pierce, our Field Integration Leader, Kyle Burton, and our Program Director, Steve Elmore, on this email because I would also like them to see the incredible progress you have made, highlighted in the blue text below. Please know that your efforts are recognized and sincerely appreciated by the department. We look forward to assisting you in this endeavor! Thank you!'

- Cathrine Wunderlich, PE

Chief, Public Water Engineering Section- Drinking Water and Groundwater
Wisconsin Department of Natural Resources

**GRANT
FUNDING
2021
CRITICAL TIMING**

- ▶ Continued dialog with DNR to finalize funding opportunities
 - ▶ Extremely positive engagement with DNR
- ▶ **Ordinance**
 - ▶ **May 18 – Utilities Committee**
 - ▶ **May 26 & June 9 – City Council**
- ▶ **Grant**
 - ▶ **May** - Complete eligibility paperwork
 - ▶ **May** – RFQ to create prequalified plumber list
 - ▶ **May 2020 – December 2021** - Public education regarding Lead Service Line Replacement Program and DNR Grant Funding – May 2020 – March 2021
 - ▶ **June 30** – Safe Drinking Water Loan Fund Deadline
 - ▶ **September*** – Lead Service Line Replacement Grant Application (Private) (*Not final)
 - ▶ **Fall 2020 – Spring 2021**
 - ▶ Grant Results
 - ▶ Bid Documents