

**Attachment N –
Prioritization Approach for Complete Piping
Replacement at Schools**

Attachment N

Seattle Public Schools
 Drinking Water Quality Program

Prioritization Approach for Piping Replacement at Schools

Draft – 12/21/2005

Purpose: Establish an approach for identifying and prioritizing the order scheduling of piping replacement for schools greater than 40 years old.

Criteria: Identification and prioritization of schools for piping replacement will be based on both physical and water quality criteria, as described below.

Physical Criteria

Criteria	General Description / Qualitative Criteria	Quantitative Criteria
1. Age of Piping	Piping has a finite physical life and can be expected to deteriorate with age	Some or all of the piping is greater than 40 years old. If it cannot accurately be determined what the piping age is, assume that the oldest piping is the same as the age of the school.
2. Piping Material	Older galvanized steel piping is often a source of iron and may also contribute to lead and cadmium levels in some cases. Copper piping installed before 1990 likely has lead:tin solder.	Some or all of the piping is galvanized steel. Copper piping, if present, was installed prior to 1990.
3. Flow	Restricted flow from drinking water fixtures indicate excessive corrosion scales on pipe interiors.	More than 25% of the drinking water fixtures have noticeable flow impairment or have previously been disabled because of low flow.
4. Staining of Fixtures	Staining of porcelain fixtures is indicative of excessive iron levels.	Staining observed in more than 25% of the fixtures (including fountain basins, sinks, and toilets).

Water Quality Criteria

Criteria	General Description / Qualitative Criteria	Quantitative Criteria (based on testing data prior to remediation)
5. Lead	Elevated Pb levels measured in flushed samples	More than 10% of flushed samples with Pb >10 ppb
6. Cadmium	Elevated Cd levels measured in flushed samples	More than 2 flushed samples >5 ppb
7. Iron (flushed samples)	Elevated Fe levels measured in flushed samples	Greater than 25% of 2-min. flushed samples with Fe >0.3 ppm, and/or greater than 10% with Fe >0.5 ppm.
8. Iron (first-draw samples)	Elevated Fe levels measured in first-draw samples	Greater than 25% of first-draw samples with Fe >0.3 ppm and/or greater than 10% with Fe >0.5 ppm.

Rating for Prioritization

In general for rating a school, the greater the number of criteria that are exceeded, the sooner the school should be scheduled for piping replacement. For the water quality criteria, it is assumed that health-related concerns are more critical than aesthetic-related concerns, so the criteria for lead and cadmium have greater importance (or weight) than those for iron. For the physical criteria, the flow criterion is more significant than the other criteria because if a fixture cannot be used for lack of flow, it negatively impacts the accessibility of water sources for students. Therefore, the scoring weights the criteria are as follows:

Criteria	Scoring Weight
1. Age of Piping	1
2. Piping Materials	1
3. Flow	2
4. Staining of Fixtures	1
5. Lead	2
6. Cadmium	2
7. Iron (flushed)	1
8. Iron (first-draw)	1

The sum of the scores establishes a numerical rating for a school. The schools with the higher ratings should then be scheduled for piping replacement sooner than schools with lower ratings.

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Drinking Water Quality Improvement Program**

Updated: 9/8/2006

Current Status of Water Quality Remediation

Currently On Regular Water Service

Adams	Loyal Heights
African American	Madison
Alki	Madrona
Aki Kurose	Mann
Arbor Heights	Maple
Bagley	McClure
Ballard	McGilvra
Beacon Hill	Meany
BF Day	Mercer
Blaine	Mihor
Boren	ML King
Brighton	Muir
Broadview-Thompson	North Beach
Bryant	Northgate
Coe	Olympic Hills
Columbia Annex	Olympic View
Concord	Orca
Cooper	Pathfinder
Decatur	Pinehurst
Denny	Rogers
Dunlap	Roosevelt
Eckstein	Roxhill
Emerson	Sacajawea
Franklin	Salmon Bay
Gatewood	Sanislo
Gatzert	Schmitz Park
Graham Hill	Sealth
Green Lake	Seward
Greenwood	Stevens
Hale	Summit
Hamilton	Thurgood Marshall
Hawthorne	Van Asselt
Hay (Old)	View Ridge
High Point	Viewlands
Highland Park	Washington
Ingraham	Wedgewood
John Hay	West Seattle
John Marshall	West Woodland
John Stanford	Whitman
JSCEE	Whittier
Kimball	Whitworth
Laurelhurst	Wilson Pacific
Lawton	Wing Luke
Leschi	
Lincoln	
Lowell	

Major Piping Remediation Scheduled for Summer 2006 or 2007
(To remain on bottled water until remediation is completed)

Dearborn Park
Falmount Park
Lafayette
Montlake
Rainier Beach
Rainier View

Under Renovation

Cleveland
Garfield

No Planned Work

Hughes
Magnolia
McDonald
Memorial Stadium
South Shore

