

Project: **Kiseno Street Water Main Replacement (across Hammer Slough)**

Department: Water

In the past, the Public Works department was the main installer of water mains throughout Petersburg. The material of choice prior to ductile iron mains being used was Asbestos Cement pipe, also known by the trade name of Transite. The material was the next step up from wood staved mains (wood pipe wrapped in wire) and was durable, immune to corrosion and easy to work with. However, with the advent of the health hazard discoveries for airborne asbestos fibers came the push toward even more durable and less hazardous materials. It has also been seen by Borough staff that Transite pipe that has been in the ground for long periods of time is more susceptible to fracturing and breakage due to differential settling under the pipe – especially since the practice long ago was to bed the pipe on top of lumber floated in the muskeg.

As was common practice, a Transite water main was installed across Hammer Slough to create a distribution loop from the north side of the creek to the south side. This pipe was dug in under the creek and buried. It is unknown what year this pipe was installed. The water utility is very nervous about this main that is buried under the creek in a tidal zone. Shifts in the creek bed in combination with Transite's tendency to be more fragile as it ages causes concern when the potential for leaks out of the system are not likely to be found right away and under certain circumstances of the fire department drafting water to fight a fire in the area and creating a negative pressure in the pipe could draw creek water and/or tidal water into the water system and cause a health hazard.

The project would install a new, high density polyethylene (HDPE) water main across Hammer Slough, with adequate bury depth and protections to prevent water currents from uncovering the pipe. The old pipe would be abandoned in place. Connections would be made to the Kiseno Street water main on the south side of the creek and to the Birch Street water main on the North side. The estimated cost of this work is \$300,000 due to permitting and environmental regulations, in combination with the difficult conditions encountered when working in a tidal zone.

Failure to complete this work prior to a failure of the pipe puts all customers of the water system in danger of a cross connection hazard – meaning the introduction of untreated water into the potable water system.



A recent blowout of a Transite water main.