2017 Water Main Replacement (WMR) Plan

Project Overview:

The Board of Trustees goal is to replace one mile of failing water main a year. In 2017 the Water Department will be:

Installing new water main on the north side of 322nd Street commencing at J Place and terminating on K Place (approximately 300 feet); then

Replace water main on the west side of K Place commencing at the 322nd Street and terminating at 324th Place (approximately 300 feet); then

Replace water main on the south side of 324th Place commencing at K Place and terminating at T Place (approximately 2,300 feet); then

Replace water main on the west side of T Place commencing at 324th Place and terminating at 320th Place (approximately 1,000 feet); then

Replace water main on the south side of 320th Place commencing at T Place and terminating at N Place (approximately 1,600 feet)

In addition to replacing water main the Water Department will be installing fire hydrants at the following locations:

Intersection of: 322nd Place and K Place

Intersection of: 324th Place and N Place

Intersection of: 324th Place and Q Place

Intersection of: 323rd Place and T Place

Intersection of: 320th Place and T Place

Intersection of: 322nd Place and T Place

Project Schedule:

Work will commence in January, 2017 proceed until July, 2017. The Water Department Crew's water main replacement crew also installs new water services, makes customer service calls, makes repairs and performs preventative maintenance on the infrastructure.

List of Materials:

6 –inch C900 PVC Pipe ---------- 5,400 feet
Fire Hydrants ---------- 6 ea.
Ductile/Cast Iron Fittings ---------- 2,450 lbs.
Valves 8-inch ---------- 10 ea.
Valves 6-inch ---------- 6 ea.

High Level Budget:

High Level Project Milestones:

The nature of the WMR project does not include any project milestones. We order materials and the work proceeds without phases. The Water Department

installs water mains, valves, and fire hydrants until all of the materials are installed.

Labor	$ 51,000
Materials ---------- $45,000 from SHOA inventory	$109,000
Other	$ 0.00
Total	$160,000

Construction Sources:

All construction will be performed by Surfside Water Department personnel.

Project Expectations:

The expectation of the WMR project is detailed in Surfside Water System Plan 2015 version. Chapter 8 Improvements Program states:

In general, it is recommended that Surfside HOA continue their Water Main Replacement (WMR) program to maintain a manageable overall water distribution system age. The American Water Works Association (AWWA) reports the "typical" useful service life of pipes in a water distribution system inventory may vary widely, depending on pipe materials, water characteristics, soil characteristics, water main installation methods and materials, water main maintenance and repair practices, and other factors, a water main life expectancy of 65 to 85 years is reasonable However, as discussed in Chapter 3, the original water distribution system was almost all class 150 Asbestos Cement (AC) pipe with a useful life expectancy of 50 years or less. Most of Surfside HOA Water System was installed between 1962 and 1969. Therefore, the oldest parts of the Surfside HOA water distribution system are approximately 50-years old now, and replacing the oldest parts of the system is critical at this time. Once Surfside HOA completes replacement of the oldest parts of the distribution system, a WMR program based on a 65- to 85-year replacement schedule should be adequate to keep the water distribution system in good condition.

All water main replacements, no matter the reason for the replacement, constitute the WMR program. Water main replacements are to be scheduled based on water main replacement priorities. Existing failing water mains and existing system flow capacity deficiencies are the highest priorities. If all distribution system deficiencies have been addressed, the next priority would be water distribution system age. As water mains are replaced they will be sized to meet fire flow standards and fire hydrants will be installed to meet the hydrant spacing standard in cooperation with the local fire district.

Project Risks:

Potential risks for the project are few. The risks to project success are:

1. **Force Majeure.** Inability to complete all planned work due to disruptions from storms, earthquakes or other acts of nature.
2. **Lack of Management Control.** The Water System Manager, acting as Project Manager is responsible, in general for making sure the Project

is delivered in budget, on schedule, and within scope. The risks to management control include but are not limited to, lack of support for the Project from the Board of Trustees, inappropriate involvement in the management of the Project by individual Trustees.

3. **Unforeseen Conditions.** Even with the best engineering and planning, the potential for unforeseen conditions on a project cannot be eliminated. Unforeseen conditions may cause a delay in the schedule, an unexpected increase in project cost, or both.
4. **Loss of Key Employee.** The Water Department is made up of skilled and semiskilled employees. The loss of one or more of the skilled employees will greatly increase the cost of completing the project.

Outside Resources:

The need for outside Resources is not anticipated on the WMR project.

Map: