

## PROPOSED CAPITAL PROJECTS

### 1) **Stafford Run Creek Sanitary Sewer Rehabilitation**

The District's main gravity trunk lines that carry wastewater directly to the wastewater treatment plant are the biggest priority for rehabilitation as they are at their anticipated service life. Breaks, cracks, or the collapse of a trunk line can cause major problems for the District's wastewater treatment plant and the localized area around the failure. These failures are costly to the District and are very difficult to budget for. The District has prioritized rehabilitation of the 36-inch and 42-inch sanitary sewer lines along Stafford Run Creek because they allow large amounts of rain water and sediment to enter the District's wastewater treatment plant and are the main cause of sanitary sewer overflows during rain events. When rain water makes its way into the pipes the District has to expend the same amount of money per gallon on rain water as they do a gallon of wastewater. By rehabilitating these large lines the District can keep the rain water out of the system and reduce the yearly energy and chemical costs at the wastewater treatment plant.

### 2) **Missouri City Estates Water and Sewer Rehabilitation**

The water and sanitary sewer lines in the Missouri City Estates subdivision are 40 years old and no longer function efficiently. Due to their age, the lines in Missouri City Estates require costly maintenance and repairs on a yearly basis. With rehabilitation, the District can significantly reduce the cost of maintenance of these lines and extend their useful life for another 50 years. The District plans to utilize trenchless methods to rehabilitate these water and sewer lines to limit the impact on the neighborhood residents.

### 3) **Woodland West Water and Sewer Rehabilitation**

The water and sanitary sewer lines in the Woodland West subdivision are 50 years old and no longer function efficiently. Due to their age, the lines in Woodland West require costly maintenance and repairs on a yearly basis. With rehabilitation, the District can significantly reduce the cost of maintenance of these lines and extend their useful life for another 50 years. The District plans to utilize trenchless methods to rehabilitate these water and sewer lines to limit the impact on the neighborhood residents.

### 4) **Kingsway Water and Sewer Rehabilitation**

The water and sanitary sewer lines in the Kingsway subdivision are 30 to 35 years old and no longer function efficiently. The lines in the Kingsway Subdivision are not as old as other lines in the District but were not constructed as soundly as they should have been. Due to the construction methods used at the time of installation, these lines cost the District as much in yearly maintenance and repairs as some of the older subdivisions. With rehabilitation, the District can significantly reduce the cost of maintenance of these lines and extend their useful life for another 50 years. The District plans to utilize trenchless methods to rehabilitate these water and sewer lines to limit the impact on the neighborhood residents.

### 5) **WWTP Generator Replacement**

In a case of a power outage, the District is required to maintain the ability to operate its wastewater treatment plant. If the plant is without power for an extended period of time, wastewater can back up in the system, and then into the streets and homes of residents. Therefore, it is imperative that the wastewater treatment plant be able to remain operational in times of emergency or power outages. The District's existing generator is 25 to 30 years old and has a high number of operational hours on it. While the generator is well maintained it has exceeded its anticipated service life and is becoming difficult to find parts for.

**6) Portable Lift Station Generators**

This project entails the purchase of portable generators to operate lift stations in the event of a power outage, or under emergency conditions. In 2008, when Hurricane Ike hit, portions of the District were without power for days. Lift stations needed to be pumped to avoid overflows and backups into the streets and the houses of residents. The District needs the ability to operate its lift stations even in emergency conditions. The portable generators will allow the operator to pump down the lift stations within the District in series to continue to keep the sanitary sewer system flowing under emergency conditions.

**7) Brand Lane Waterline Improvements**

The existing waterline along Brand Lane has exceeded its' anticipated service life and needs to be rehabilitated or replaced. The proposed line will be placed in an easement outside of the right of way to prepare for the City of Stafford's planned widening of Brand Lane. This project will upsize the existing line from a 6-inch to a 12-inch waterline and will provide better fire protection for the businesses, schools and apartment complexes along Brand Lane.

**8) Murphy Road Sanitary Sewer Rehabilitation**

One of the District's oldest trunk lines sits directly underneath the driving lanes of FM-1092, one of the busiest roads in the District. Breaks, cracks, or the collapse of this line would be a major problem for the District's and the traffic flow in the area around the failure. This possible failure would be very costly to the District and are very difficult to repair in a timely manner. Due to these concerns, the District has identified this as a needed project and by scheduling the rehabilitation of these large 27-inch and 30-inch lines we can avoid a costly repair and limit the impact on the traveling public and business along FM-1092.

**9) Surface Water Transmission Line Ph. II**

The Surface Water Transmission Line project will only have one 24-inch line supplying surface water to the District. The scope of this project is the construction of a second 24-inch waterline for the Surface Water Treatment Plant. The proposed waterline will follow a similar alignment along the south bank of Stafford Run Creek up to the CenterPoint Corridor. The redundancy is necessary in case one of the waterlines ever has a problem or breaks. In this case, the waterline can be isolated by valves, and the second waterline can still deliver surface water to the District, while repairs are made.

**10) Brand Lane Water Plant Connection**

This project will begin where the Surface Water Transmission Lines Ph I project ends, at the intersection of Promenade and Stafford Run Creek. It will continue the 20-inch surface water transmission line along Stafford Run Creek, from Promenade to Brand Lane. From Brand Lane, the waterline will reduce to a 16-inch and run north on Brand Lane and tie into the Brand Lane Water Plant. This portion of the project will serve as a dual waterline along Brand Lane, and also as a transmission line to supply surface water to the Brand Lane water plant. The Brand Lane Water Plant will then be able to store surface water and re-pump it into its' service area. This will increase the number of customers that will be using surface water, therefore increasing the conversion percentage of the District.

**11) Sludge Processing Additions to Wastewater Treatment Plant No.1**

This entails additions to Wastewater Treatment Plant No. 1 sludge processing facilities. The Surface Water Treatment Plant, as well as the future proposed Wastewater Treatment Plant No. 2, will produce sludge in their processes. This sludge will be transported to Wastewater Treatment

Plant No. 1's sludge processing facilities for treatment. Cost savings can be achieved with a regional sludge processing facility due to economies of scale, and reduced labor costs to operate a single system instead of multiple systems. The existing facilities lack the capacity to handle this increased future load. Furthermore, the existing belt presses are nearing the end of their service life and becoming increasingly expensive to maintain. This project takes care of both problems by replacing the aged equipment with new, more efficient dewatering facilities with improved controls.

**12) Tertiary Filtration System @ WWTP No. 1**

The TCEQ and EPA have and will continue to require more stringent discharge limits from the District's Wastewater Treatment Plant. Through a request by the District and other entities on lower oyster creek we have been able to delay more stringent effluent limits for Total Suspended Solids and Biochemical Oxygen Demand. However, we anticipate future regulations for point source dischargers. A polishing filter will likely be needed as early as 2015 to meet TCEQ requirements. One benefit of a tertiary filter is the ability to produce type 1 effluent and utilize the District's Wastewater Treatment Plant for re-use for the purpose of irrigation.

**13) Lakeview Business Park**

(Trammell Crow Commercial) Developer Reimbursement. Construction of 8" and 12" public waterlines to serve Lakeview Business Park This project also includes 6" to 15" public sanitary sewer lines. Phase I of this project has been completed and the reimbursement is for 50% of the eligible costs.

**14) ISGH Brand Lane Waterline**

(ISGH Everest School) Developer Reimbursement. Construction of 12" waterline along Brand Lane for ISGH Everest School. This project has been completed.

**15) Lift Station No. 9 Improvements**

(Gateway Homes) Developer Reimbursement. Upgrade of pumps and controls at Lift Station No. 9 to meet increased residential demand on Texas Parkway.

**16) Lift Station No. 27 and Force Main**

(Texas Instruments) Developer Reimbursement. Construction of a public lift station, force main and upgrades to the existing gravity sanitary sewer system to allow TI to discharge an additional one million gallons a day of wastewater to the District's Wastewater Treatment Plant.

**17) Cravens Road Phase I Waterline**

(Ben E. Keith) Developer Reimbursement. Construction of 16" waterline along Cravens Road for Ben E. Keith.

**18) Lift Station No. 5 Improvements**

(Kananaya Homes) Developer Reimbursement. The existing lift station on Staffordshire Road is overloaded and in need of enlargement. This project will relocate the lift station further away from the road and increase its capacity. This will allow for additional development along Staffordshire and the City of Stafford's planned road widening.