



City of Lawrence

**Municipal Services and
Operations Department**

**2018 Summary Report
Capital Improvement Projects**

Executive Summary

The City Commission adopted the 2018 – 2022 Capital Improvement Program (CIP) on August 8th 2017. The CIP identifies utility and public works improvements needed for functional integrity, regulatory compliance, capacity and to achieve city-wide goals. The Municipal Services and Operations Department (MSO) is responsible for the execution and implementation of CIP projects that encompass a wide range of City functions. This report is focused on utility projects (water, sewer, stormwater, lift stations, and treatment facilities), street improvements, and pedestrian improvements.

The 2018 Summary Report provides a year-end CIP status update, organized broadly within the following categories:

1. Utility – Capacity and Large Capital Projects
2. Utility – Maintenance and Reliability Projects
3. Streets – Capacity and Reconstruction Projects
4. Streets – Maintenance, Reliability, and Multi-Modal Projects
5. Other Capital Projects

Additional information on CIP Projects and MSO functions related to Facilities, Fleet Services, and Solid Waste is provided in separate reports specific to these services.

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1. Utility – Capacity and Large Capital Projects

PW17S2CIP – 13th and Brook Drainage Improvements

Project Description	Install open span structure to improve overall drainage.
Design Engineer	City Staff
Contractor	City Staff
Status	Deferred to 2019
Project Details	Originally scheduled for 2018 but was delayed to account for the stormwater portion of the east 9th Street Project. The major storm sewer line running west to east along 9th Street was completely replaced. This project was originally intended to be designed and completed with in-house forces.
Project Budget	\$275,000 (Completed - \$0)

PW1802 – Fiber Redundancy Project

Project Description	Combined City and University of Kansas fiber redundancy project to create a second connection to KanRen ISP for both organizations and to complete a fiber ring in eastern Lawrence as well as connect the Kansas River Waste Water Treatment Plant to the Wakarusa River Waste Water Treatment Plant. In addition, to connect to the existing internet back bone access point on Noria Road to expand access to multiple internet service providers for the City and the University of Kansas.
Design Engineer	City Staff
Contractor	Rylie Equipment
Status	Project Completed in March, 2019
Project Budget	\$218,821.00 (Completed - \$198,397.50)
Project Details	Installation of (3) 1 1/4" conduit, handholes and fiber optic cable in the City of Lawrence, Kansas from the intersection of West 23rd Street and Louisiana Street (conduit install beginning 650' north of 23rd & LA) to West 19th Street & Louisiana Street, then continuing west to West 19th & Illinois Street, then north to KU Price Hall at Sunnyside Drive and Illinois Street. The purpose of this project is to create a redundant fiber connection to KanRen, the internet service provider for the City and the University of Kansas and enable future connection to the traffic signal at the intersection of West 19th & Louisiana Street. Also from the intersection of West 23rd Street and Noria Road to the internet backbone access point just north of the railroad right-of-way at Noria Road. Then continuing along Greenway Circle from Noria Road west approximately 2,700 feet to the city drainage easement between 3780 Greenway Circle and 3800 Greenway Circle. Then

	north from Greenway Circle along the drainage easement to City Utilities Pump Station No. 25. The purpose of this project is to connect the city Kansas River and Wakarusa River sewage treatment plants and complete a redundant fiber ring in eastern Lawrence. In addition, to connect to the existing internet back bone access point to expand access to multiple internet service providers for the City and the University of Kansas.
Related Project	ITFIBER – Annual Fiber Projects

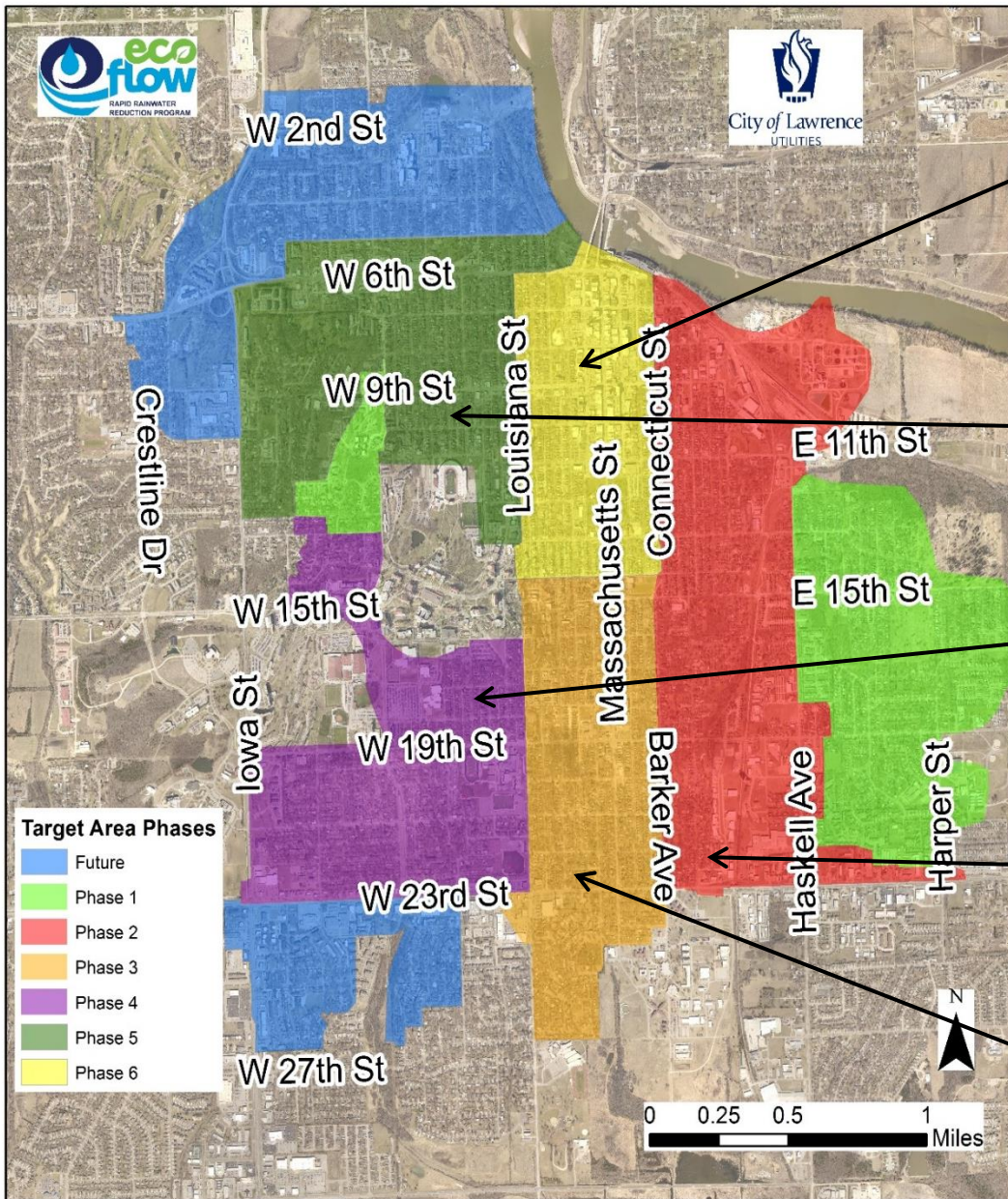
UT1304 – Wakarusa Wastewater Treatment Plant and Conveyance Corridor

Project Description	Design and construction of the new Wakarusa River Wastewater Treatment Plant (Wakarusa WWTP), the new Pump Station 10, related force mains, and improvements to the existing Kansas River Wastewater Treatment Plant (KS River WWTP). This project provides a second wastewater treatment plant and enhanced operational flexibility, with pump station functionality to divert flows between treatment plants as needed to meet changing operational needs. The project provides for future community growth, meets the regulatory requirements for wet weather treatment and nutrient removal and increases system reliability and resiliency in transporting and treating wastewater without negatively impacting the community or the environment.
Design Engineer	Black & Veatch/PEC/Bartlett & West
Contractor	Garney Construction (Wakarusa WWTP, Pump Station 10, KS River WWTP Improvements), Kings Construction (Site Fill) and BRB (Force Mains)
Status	Garney construction contract in 1-yr warranty period; Wakarusa WWTP Maintenance Building to be constructed in 2019
Project Budget	\$74.1 million (Completed - \$72.2 million)
Project Details	<p>In 2014, after eight years of planning, design and preliminary improvements, the project moved into the construction phase beginning with site fill placement and installation of force mains. In addition to the contractors identified, qualified department staff performed various inspection services; designed the automation, integration and programming systems; installed pipeline, and acquired various equipment as cost-saving measures and for enhanced in-house operational knowledge of new infrastructure functionality.</p> <p>KS River WWTP Improvements – Laboratory expansion started in late 2015 and completed in August 2016. Facility improvements also included final clarifier equipment replacement.</p> <p>Wakarusa WWTP and Pump Station 10 – Construction began in June 2015 and concluded in June 2018. Substantial completion and start-up took place in March 2018. The facilities are currently in the one-year warranty period. Construction was completed on schedule and under budget.</p>

UT1305 – EcoFlow: Rapid Rainwater Reduction Program

Project Description	Comprehensive, multiyear, multiphase, “find and fix” program to investigate and reduce rainwater entering the City’s sanitary sewer system from public and private sources. EcoFlow targets discrete geographic areas inside City limits, with six Phase areas identified to date and phasing of the future areas based on data from ongoing flow monitoring. The map below shows 2018 activities and 2019 scheduled activities. Public feedback and participation rates continues to be overwhelmingly positive.
Design Engineer	TREKK Design Group
Contractor	Eight Pre-qualified Plumbing Contractors & City Staff
Status	Initial Program scope to complete 2020, with ongoing evaluation/correction of to-be-identified future areas.
Project Budget	Original 2018 CIP Budget (UT9909CIP): \$2,830,000 2018 CIP Budget Transferred to Related Projects: \$1,050,000 2018 Budget: \$1,780,000 2018 Spent: \$1,713,954
Project Details	<p>Public sector investigation activities completed in 2018 included 377 manhole inspections, approximately 59,000 linear feet of sanitary sewer smoke testing, and approximately 5,000 linear feet of closed-circuit television (CCTV) sewer inspections. Completed public sector sewer repairs included 93 sanitary sewer point repairs, and approximately 67,000 linear feet of cured-in-place pipe (CIPP) rehabilitation. An additional 41,000 linear feet of sanitary sewer is currently under contract to install CIPP in this area as part of the larger Citywide project UT1807. A total of 337 manholes are currently under contract to be rehabilitated using varies types of methods as project UT1710. Repairs are ongoing and that project is scheduled to be completed in February 2019.</p> <p>Private sector activities completed in 2018 included over 900 private property evaluations. Of the defects identified, department staff repaired approximately 25 minor defects and EcoFlow plumbing contractors repaired 422 defects. Private sector investigations are planned to continue throughout 2019, targeting Phase 6 in the map below.</p>
Related Project	<p><u>UT1705 – 2017 CIPP Sewer Rehabilitation</u> <u>UT1807 – 2018 CIPP Sewer Rehabilitation</u> <u>UT9909CIP – Rapid I/I Reduction Program</u></p>

2018 EcoFlow and Related Activities



PHASE 6
 Completed
 • Smoke Testing
 Ongoing
 • Private Property Investigations & Repairs

PHASE 5
 Completed
 • Private Property Investigations & Repairs
 • Public Sector Investigations
 Scheduled (2019)
 • Main Sewer Public Sector Repairs

PHASE 4
 Ongoing
 • Main Sewer Public Sector Repairs (UT1807)
 Scheduled (2019)
 • Manhole Rehabilitation

PHASE 2
 Ongoing
 • Manhole Rehabilitation (UT1710)

PHASE 3
 Completed
 • Main Sewer Public Sector Repairs (UT1705)
 Ongoing
 • Manhole Rehabilitation (UT1710)
 Scheduled (2019)
 • 23rd and Massachusetts St Sewer Replacement (UT1805)

UT1307 – Oread Water Storage Tanks & Booster Pump Station Replacement

Project Description	Replacement of two aging water storage tanks and the booster pump station in the 1200 block of Oread Avenue proximate to the University of Kansas (KU) main campus. The 1931 tank located to the south stores 1,000,000 gallons; the 1954 tank located to the north end stores 1,300,000 gallons (Oread Tanks). The 1.8 million gallon per day (mgd) booster pump station transports water from the Oread Tanks to the West Hills service area. Structurally, the Oread Tanks exhibit severe corrosion, loss of structural members, exterior holes, deteriorated foundations and failing interior/exterior coatings. They also fail to meet current safety and American Water Works Association standards. The pump station has several electrical equipment, valving, maintenance and operational issues. Following preliminary design activities and extended staff consideration of alternate siting/storage strategies in consultation with KU, the City Commission approved an engineering services agreement with HDR, Inc. on March 27, 2015 for design services to replace all three structures at the existing site.
Design Engineer	HDR Inc., Lee’s Summit, MO
Contractor	Crossland Heavy Contractors
Status	Project Completion spring 2019
Project Budget	\$5,276,500 (Completed - \$4,310,000)
Project Details	This project was advertised and bid with UT1310 19th & Kasold Booster Pump Station Improvements. The projects were awarded to Crossland Heavy Contractors on April 18, 2017. During 2018, the south Oread Tank was demolished, reconstructed and put into service, the retaining wall, additional site piping, and the booster pump station was constructed and put into service achieving over 90% of project completion. In 2019, final grading, inspection of the north tank and mixer startup will take place.
Related Project	<u>UT1310-19th & Kasold Booster Pump Station Improvements</u>

UT1614 – CIS Replacement

Project Description	This project includes implementing a new billing system (CIS) and a meter data management system
Procurement Consultant	Soft Resources
Vendors	Advanced Utility Systems and SmartWorks
Status	Project Completion December 2019
Project Budget	Part of the UT1898CIP Project Budget of \$10.8 mil (Completed - \$710,716.32)

Project Details	<p>2018 Project Work With the assistance of SoftResources, a consulting firm, and in conjunction with the Utilities and Solid Waste department, the Finance department selected Advanced Utility System’s (AUS) CIS Infinity product as the new billing system software, as well as SmartWorks as the Meter Data Management system, which will provide communication between the advanced metering infrastructure software and the billing system.</p> <p>AUS provided Core Training to the Core Team, completed data conversion meetings, and conducted Discovery sessions for each of the functional areas, including required interfaces. The Core Team began testing Lawrence data in Infinity and reporting on any found issues.</p>
Related Project	<p>UT1898CIP – Automated Meter Reading Installation UT1813 – Automated Metering Infrastructure</p>

UT1813 – Automated Metering Infrastructure

Project Description	<p>This project includes the equipment, software, and infrastructure improvements required to deploy and manage automated metering infrastructure.</p>
Procurement Consultant	<p>UtiliWorks Consulting</p>
Vendor	<p>To Be Determined. Proposals received and preliminarily evaluated in December 2018.</p>
Status	<p>Project Completion Fall 2021</p>
Project Budget	<p>Part of the UT1898CIP Project Budget of \$10.8 mil (Completed - \$58,600; RFP Development and Proposal Evaluation)</p>
Project Details	<p>With the help of UtiliWorks Consulting, staff developed a complex and technical request for proposals (RFP) for a turnkey, fully-automated, two-way, fixed-base Advanced Metering Infrastructure (AMI) system, water meter equipment, installation services and/or installation support professional services. The quantity of water meter equipment includes 34,044 radios, 33,853 water meter lids, 25,618 water meters, and 6,870 water meter registers.</p>
Related Project	<p>UT1898CIP – Automated Meter Reading Installation UT1614 – CIS Replacement</p>

UT1892CIP – Naismith Valley Interceptor and Pump Station 8 Abandonment

Project Description	The Naismith Valley Interceptor and Pump Station 8 (PS 8) Abandonment project includes construction of a gravity sewer to intercept flows currently entering PS 8 and convey them south to Pump Station 10 (PS 10). The project also includes abandonment of PS 8 and associated piping located at 2233 Alabama St.
Design Engineer	Black & Veatch
Contractor	To Be Determined
Status	Currently in Design Phase, Project Scheduled for Completion in May 2020
Project Budget	\$4,610,000 (Completed - \$47,131)
Project Details	The Naismith Valley Interceptor and PS 8 Abandonment project will include construction of approximately 7,500 linear feet of 18-inch to 36-inch interceptor sewer from PS 8 to the connection with the Lower Naismith Interceptor project completed in 2017.
Related Project	(UT1812 – Department Project Number)

2. Utility - Maintenance and Reliability Projects

PW17S3CIP – Storm Water Culvert Lining

Project Description	Rehabilitate failing storm water culverts by rehabilitation without doing dig and replace.
Design Engineer	City Staff
Contractor	City Staff and Contract Maintenance
Status	Ongoing Program
Project Budget	\$250,000 (Completed - \$110,000)
Project Details	<p>This program is intended to address issues found with the new storm sewer TV inspection van. Some replacement and repair work would be completed by in house forces when practical, the remaining work and storm sewer lining to be contract maintenance projects.</p> <p>Work locations: 17th Street - Tennessee to Kentucky; 15th Street Emergency Repair; and 9th Street - alley between Connecticut & New York Streets.</p>
Related Project	<u>PW17E66CIP – E. 9th Street (New Hampshire Street to Pennsylvania Street)</u>

PW17E3CIP – 19th Street Reconstruction Harper to O’Connell – Water Improvements

Project Description	Replacement of approximately 2,700-feet of existing 12-inch cast iron waterline located on the south side of 19 th Street from Harper Street to O’Connell Road.
Design Engineer	BG
Contractor	To Be Determined
Status	Design consultant selected.
Project Budget	\$1,100,000 (Complete - \$0)
Project Details	Road project deferred. Waterline design to begin in 2019 and construction may be performed in 2020 prior to construction of the road improvements scheduled for 2021.
Related Project	<u>PW17E3CIP – 19th Street Reconstruction Harper to O’Connell – Street Improvements</u> (UT1811 – Department Project Number)

UT1310 – 19th & Kasold Booster Pump Station Improvements

Project Description	Evaluation of and improvements to booster pumping facilities to meet current conditions and future demands.
Design Engineer	HDR Inc., Lee’s Summit, MO
Contractor	Crossland Heavy Contractors
Status	Project Complete Fall 2018
Project Budget	\$1,035,000 (Completed - \$942,500)
Project Details	Replacement of the booster pumping facility at the water tower, located at 1800 Kasold Drive. This project was advertised and bid with the Oread Tank Replacement Project UT1307. The project was awarded to Crossland Heavy Contractors on April 18, 2017. Construction on this project was completed in fall 2018.

UT1503 – Kaw Water Treatment Plant Structural Maintenance Analysis

Project Description	Structural condition assessment of the Kaw Water Treatment Plant, including overall condition and potential liabilities, through visual review and non-destructive materials testing. Design of the repairs identified in the report are installation of a new slab in the carbon contact basin, installing topping slabs on the primary and secondary basins, crack injection on the basin walls, coating structural concrete, replacing guardrail in areas, and replacing the weirs on the primary basins. Assessed areas include carbon contact basin, presedimentation basin, primary treatment basins, secondary treatment basins, weir troughs and the surrounding walkways. Identified needed improvements to the carbon contact basin is included in the 2018 – 2022 CIP Plan, identified in Water Treatment Plant Process Improvements projects.
Design Engineer	Walter P Moore
Contractor	John Rohrer Contracting Company
Status	Project Complete Summer 2018
Project Budget	\$1,330,000 (Completed – 1,329,500)
Project Details	The project was awarded to John Rohrer Contracting Company on April 18, 2017. During 2018, construction reached completion. Repairs were completed in all treatment basins. Repairs included floor topping and partial depth repair, crack injection on vertical walls, walkway repair, and the removal of floc paddles and basin sweeps that were no longer in use.

UT1518 – 19th St Water and Sewer Replacement

Project Description	Replacement of an existing 10-inch cast iron water main on the south side of 19 th Street from Iowa to east of Naismith Dr; and an existing 10-inch cast iron main along Stewart Ave from 19 th Street to south of the fire station. Replacement of an existing VCP sanitary sewer main along the north side of 19 th Street from Ellis Dr to east of Naismith Dr.
Design Engineer	Professional Engineering Consultants
Contractor	R.D. Johnson
Status	Project Completion August 2019
Project Budget	\$580,464 (Completed - \$4,115 for Design in 2018)
Related Project	UT9902CIP – Watermain Replacement/Relocation Program PW18E7CIP – 19 th St – Iowa St to Naismith Dr.

UT1604 – Clinton WTP Sludge Building Improvements

Project Description	The Clinton Water Treatment Plant Sludge Building shows signs of structural concrete deterioration, necessitating structural condition assessment of the structural concrete between the sludge building and the clarifiers through visual review and non-destructive materials testing. Other project improvements include failing interior coatings and replacing the deteriorating access hatch.
Design Engineer	Walter P. Moore
Contractor	John Rohrer Contracting Company
Status	Project Completed Fall 2018
Project Budget	\$300,000 (Completed - \$269,000)
Project Details	Repair of structural concrete, replacement of access hatch and surrounding concrete slab and curb, and application of protective coatings on interior surfaces, piping and mechanical equipment. The project was designed in 2017 and was awarded to John Rohrer Contracting Company in March 2018.

UT1611 – OSI Software Analytics

Project Description	Developing software for compiling/analyzing wastewater and water treatment plant processes and laboratory data. The data will be used with OSISoft PI software for data analytics, chemical and electrical costs/usage, and performance analysis.
Design Engineer	Black & Veatch
Contractor	Black & Veatch

Status	Since spring of 2017, department staff have utilized the OSISoft PI and Asset360 software for Kansas River Wastewater Treatment Plant. Black & Veatch gives weekly reviews of process, quarterly reports and presentations to Department Staff outlining their observations, and provides recommendations for improvements in process performance and potential cost savings. The software implementation for the Kaw Water Treatment Plant has been implemented. Clinton Reservoir Water Treatment Plant is currently being implemented and reviewed by operations staff, following the software development and execution at the Kaw Water Treatment Plant. Software for the Wakarusa River Wastewater Treatment Plant is under development. A group has been formed comprising of SciTek, WQ, and Treatment Operations personnel to review the current implementation and provide feedback to enhance the product and increase the adoption and use of this product by Treatment Operations. There is currently no formal contract for ongoing services from B & V. City of Lawrence is waiting for B&V to provide.
Project Budget	\$88,000 (Complete \$85,375)
Project Details	Black & Veatch will deliver the following with the development of the OSI PI software; Data Integration Services – gathering of data from multiple sources to be analyzed, Software Services Provided – OSISoft PI System Tools, Asset360 Performance Analyst, Asset360 Activated Sludge Treatment Application; Setup and Training; Reporting – a quarterly report B&V process engineers will review plant data and trends. The data is analyzed for producing a performance report that summarizes overall plant performance. Recommendations are provided for treatment improvements or operational changes that may result in energy or chemical savings.

UT1704 – Kasold Drive (6th Street to Bob Billings Parkway)

Project Description	Replacement of approximately 7,000 feet of 8-inch and 12-inch cast iron watermain from the 1960's with 8-inch and 12-inch PVC to accommodate the reconstruction of Kasold Drive.
Design Engineer	CFS
Contractor	RD Johnson Excavating
Status	Project Completion spring 2019
Project Budget	\$1,000,000 (Completed - \$782,430)
Project Details	Existing waterline is 8-inch and 12-inch cast iron watermain from the 1960's. Replacement pipe will be 8-inch and 12-inch PVC.
Related Project	UT9902CIP – Watermain Replacement/Relocation Program PW17E1CIP – Kasold Reconstruction – 6th St to Bob Billings Pkwy

UT1705 – CIPP Sewer Rehabilitation - 2017

Project Description	Sewers are identified for rehabilitation through various assessment programs, including EcoFlow and CCTV inspection by city crews, based on such factors as existing defects, pipe age, pipe material, depth and ground conditions. The CIPP rehabilitation method lines the inside of old, vitrified clay pipe sanitary sewer mains – a more cost-effective rehabilitation method than open-trench excavation and replacement.
Design Engineer	City Staff
Contractor	SAK Construction (CIPP Installation) and Vito’s Plumbing (Point Repairs)
Status	Project Completed in April, 2018
Project Budget	\$2,026,058 (Total), \$1,309,668 (CIPP), \$716,390 (Point Repairs),
Project Details	CIPP rehabilitation of approximately 46,500 linear feet of sanitary sewer ranging in size between 8 inches and 24 inches in diameter. A total of 101 public sector point repairs were completed on the sewers associated with this project since the start of 2016. The project area is throughout the City with a focus on Phase 3 of the Rapid I/I Reduction Program.
Related Projects	UT9909CIP – Rapid I/I Reduction Program UT9908CIP – Clay Pipe/Manhole Rehabilitation

UT1710 – 2018 Manhole Rehabilitation Project

Project Description	The project will rehabilitate 337 sanitary sewer manhole structures throughout the City with a focus on the Phase 2 and Phase 3 Ecoflow Areas. The purpose of the project is to reduce the amount of rain and groundwater entering the sanitary sewer system and extend the useful design life of older structures with significant hydrogen sulfide (H2S) degradation.
Design Engineer	City Staff
Contractor	Utility Solutions, LLC
Status	Project Completion February 2019
Project Budget	\$600,000 (Completed - \$118,905)
Project Details	The rehabilitation work includes 184 frame/cover replacements or realignments, 230 manhole linings/coatings with various materials, and grout sealing 26 manholes.
Related Project	UT9908CIP – Clay Pipe/Manhole Rehabilitation

UT1714 – Kansas River WWTP Chemical Storage & Feed and Excess Flow Building Protective Maintenance Coatings

Project Description	Protective coatings applied to mechanical equipment and other structures prevent corrosion, maintain functionality, and extend useful life.
Design Engineer	City Staff
Contractor	MVP Painting
Status	Project Completion January 2018
Project Budget	\$165,000 (Completed - \$112,357)
Project Details	Protective coating applications to the interiors of and equipment in the Chemical Storage Building, Excess Flow Building and the Crane and Gantry at the Kansas River WWTP including walls, floors, stairs, pipes, pumps, and other appurtenances, with appropriate preparatory work. During January 2018 the project reached final completion.
Related Project	UT9906CIP – Kansas River WWTP Annual Improvements

UT1715 – Arkansas Street (W 24th Street to W 27th Street)

Project Description	Replacement of approximately 3,500 feet of 8-inch cast iron watermain from the 1960's with 8-inch PVC. Project was designed in 2017 and construction will start in spring 2018.
Design Engineer	PEC
Contractor	Westland Construction
Status	Project Completed Fall 2018
Project Budget	\$720,000 (Completed – \$641,388.73)
Related Project	UT9902CIP – Watermain Replacement/Relocation Program

UT1716 – Connecticut Street (W 10th Street to W 11th Street)

Project Description	Replacement of 750 feet of 8-inch cast iron watermain from the 1960's with 8-inch PVC. Project was designed in 2017 and construction was completed on July 23, 2018.
Design Engineer	PEC
Contractor	Hettinger Excavating
Status	Completed July 2018
Project Budget	\$245,000 (Completed - \$205,235)
Related Project	UT9902CIP – Watermain Replacement/Relocation Program

UT1719 – Louisiana St 12th to 13th Watermain Replacement

Project Description	Replacement of 670 feet of 16-inch transite watermain from the 1950s and 800 feet of 12-inch cast iron watermain from the 1970s. The project was designed in 2017 and construction was complete in November, 21018.
Design Engineer	SK Design
Contractor	Miles Excavating
Status	Project Completion November, 2018
Project Budget	\$410,000 (Complete - \$445,759)
Project Details	Improvements included street improvements, waterline replacement, and storm sewer installation
Related Project	UT9902CIP – Watermain Replacement/Relocation Program PW18E8CIP – Louisiana St 12 th to 13 th St – Street Reconstruction

UT1720 – 23rd Street (Louisiana Street to Barker Avenue)

Project Description	Replacement of approximately 2,500 feet of 12-inch cast iron watermain from the 1950s with 12-inch PVC. Project was designed in 2018 in conjunction with roadway improvements to be performed within the corridor.
Design Engineer	PEC
Contractor	Sunflower Paving, Inc.
Status	Project Completion Summer 2019
Project Budget	\$715,000 (Completed - \$113,764)
Related Project	PW18E10CIP – 23rd Street Center Turn Lane, Mass to Louisiana

UT1801 – In-House Watermain Replacement

Project Description	Identified watermain replacement projects are completed by department staff based on annual watermain condition assessments in consultation with department engineers and others. Project scope is typically watermains 8 inches and smaller located in low traffic neighborhoods.			
Design Engineer	City Staff			
Contractor	City Staff			
Status	Ongoing program			
Project Budget	\$1,120,000 (Completed - \$943,831)			
Project Details	Location	Status	Length (ft)	Project Cost
	Brush Creek Dr.	Complete	1,601	\$163,867.00
	W 20 th St	Complete	637	\$64,403.04
	Harper St	Complete	904	\$92,063.93
	Ash St.	Complete	230	\$9,571.67
	Perry St	Complete	1,432	\$127,406.33
	Inverness	Complete	2,032	\$240,625.04
	Maverick Ln	Complete	1,244	\$149,516.04
	Inverness & Clinton Pkwy	Complete	225	\$47,459.17
	Packer Ct	Complete	314	\$48,918.75
	Total		8,619	\$943,830.97

UT1802 – Manhole Replacement Project

Project Description	The purpose of this project is to add or replace manholes on existing sanitary sewers with limited access, blind turns, blind connections, and other atypical situations. Currently, City Staff is not able to complete standard maintenance activities, inspect or rehabilitate the sewers in these areas due to limited access.
Design Engineer	BG Consultants
Contractor	TBD
Status	Project Completion Fall 2019
Project Budget	\$278,000 (Completed – \$38,186)

Project Details	There are 12 separate sites currently included in the scope of this project. Most of the sites are located north of KU’s campus and west of Downtown. Each of the 12 locations will have a site specific design in order to improve the atypical situations. The improvements will include adding or replacing manholes and relatively minor pipe improvements.
Related Project	UT9908CIP – Clay Pipe/Manhole Rehabilitation

UT1803 – 2000 Block of Kasold Sanitary Sewer Replacement Project

Project Description	The purpose of this project is replace an 8” sanitary sewer currently serving the east side of the 2000 Block of Kasold Dr. The sewers included in this project have degraded beyond the point where other less costly sewer rehabilitation methods are possible.
Design Engineer	BG Consultants
Contractor	TBD
Status	Project Completion Summer 2019
Project Budget	\$150,000 (Completed - \$22,017)
Project Details	Replace approximately 880 feet of existing 8” sanitary sewer using pipe bursting construction method.
Related Project	UT9908CIP – Clay Pipe/Manhole Rehabilitation

UT1805 – 2300 Block of Massachusetts Sanitary Sewer Replacement Project

Project Description	The purpose of this project is to replace the existing 6” sanitary sewer with a new 8” sewer for the 2300 Block, between Massachusetts Street and Vermont Street.
Design Engineer	BG Consultants
Contractor	TBD
Status	Project Completion Fall 2019
Project Budget	\$623,000 (Completed - \$32,936)
Project Details	The sewers included in this project have a history of causing basement backups and other maintenance issues. Since the existing sewer is only 6” in diameter, compared to the currently required 8” diameter, City Staff are not able to complete CCTV inspection in order to determine the existing structural condition. In addition, the limited size of the sewer eliminates the possibility of using CIPP for rehabilitation. City staff believes this infrastructure has degraded and there is a likelihood of failure at some point in the future.
Related Project	UT9908CIP – Clay Pipe/Manhole Rehabilitation

UT1807 – 2018 Sanitary Sewer Rehabilitation CIPP Project

Project Description	Sewers are identified for rehabilitation through various assessment programs, including EcoFlow and CCTV inspection by city crews, based on such factors as existing defects, pipe age, pipe material, depth and ground conditions. The Cured-In-Place-Pipe (CIPP) rehabilitation method lines the inside of old, vitrified clay pipe sanitary sewer mains – a more cost-effective rehabilitation method than open-trench excavation and replacement.
Design Engineer	City Staff
Contractor	SAK Construction (CIPP Installation) and Vito’s Plumbing (Point Repairs)
Status	Project Completion Spring 2019
Project Budget	\$2,147,441 (Total), \$1,647,441 (CIPP), \$500,000 (Point Repairs) (Completed - \$848,200)
Project Details	CIPP rehabilitation of approximately 63,600 linear feet of sanitary sewer pipe ranging in size between 8 inches and 15 inches in diameter. A total of 51 public sector point repairs have been completed on the sewers associated with this project. It is anticipated that an additional 10-15 point repairs will be required to complete the project. The sewers included in this project are located throughout the City with a focus on the Phase 4 Ecoflow Area and the Sunset Hill Neighborhood
Related Project	UT9909CIP – Rapid I/I Reduction Program

UT1808 – Kansas River WWTP Bar Screen Replacement

Project Description	Replacement of mechanical bar screen at the Kansas River Wastewater Treatment Plant.
Design Engineer	Black & Veatch
Contractor	To Be Determined
Status	Currently in Design Phase, Project Scheduled for Completion in Fall 2019
Project Budget	\$2,400,000 (Complete - \$37,576)
Related Project	UT 9904 – Wastewater Failed Infrastructure Contingency

UT1810 – 2018 Sewer Point Repair Program

Project Description	Perform emergency open cut sanitary sewer point repairs throughout the City.
Design Engineer	City Staff
Contractor	Varies

Status	Completed (Fall 2018)
Project Budget	\$200,000 (Completed \$191,826)
Related Project	UT9908CIP – Clay Pipe/Manhole Rehabilitation

UT1814 – 9th Street (Arkansas Street to Emery Road & 1527 W 9th Street)

Project Description	Replacement of approximately 300 ft of existing 4-inch and 6-inch diameter, cast iron watermain along the south side of 9th Street from Arkansas Street to Emery Road, and 270 ft of existing 4-inch and 6-inch diameter, cast iron watermain serving 1527 W 9th Street.
Design Engineer	GBA
Contractor	To Be Determined
Status	Currently in Design Phase, Project Scheduled for Completion in November 2019
Project Budget	\$377,509 (Complete – \$17,697)
Related Project	UT9902CIP – Watermain Replacement/Relocation Program

UT1815 – Lawrence Avenue (6th Street to Bob Billings Parkway) and 9th Street (Lawrence Avenue to Schwartz Road)

Project Description	Replacement of approximately 7,000 feet of 1950’s 8-inch cast iron watermain with 8-inch PVC. Project design started in 2018 and construction will start in spring 2019.
Design Engineer	GBA
Contractor	To Be Determined
Status	Currently in Design Phase, Project Scheduled for Completion in November 2019
Project Budget	\$1,783,957 (Complete - \$55,630)
Related Project	UT9902CIP – Watermain Replacement/Relocation Program

UT1816 – Camelback Drive (Tam O’Shanter Drive to Quail Creek Drive)

Project Description	Replacement of an existing 6-inch cast iron water main on the east side of Camelback Dr from Tam O’Shanter Dr to Quail Creek Dr. The project is expected to include approximately 1,550 lineal feet of new 8” waterline.
Design Engineer	PEC
Contractor	To be Determined

Status	Currently in Design Phase, Project Scheduled for Completion in Spring 2019
Project Budget	\$450,000 (Complete – \$37,000)
Related Project	UT9902CIP – Watermain Replacement/Relocation Program

UT1817 – Louisiana Street (19th Street to 20th Street & 21st Street to 23rd Street)

Project Description	Replacement of an existing 8-inch and 12-inch cast iron water main on the east side of Louisiana Street from 19th St to 20th St and 21st St to 23rd St. The project is expected to include approximately 650 lineal feet of new 8-inch waterline and 1,450 lineal feet of 12-inch waterline.
Design Engineer	PEC
Contractor	To be Determined
Status	Currently in Design Phase, Project Scheduled for Completion in Summer 2019
Project Budget	\$736,393 (Complete - \$990)
Project Details	At it's southern end, this project will connect to a new 12-inch crossing of 23 rd Street installed as part of project number UT1720.
Related Project	UT9902CIP – Watermain Replacement/Relocation Program UT1720 – 23rd Street (Louisiana Street to Barker Avenue)

UT1818 – 14th Street (Massachusetts Street to Delaware Street)

Project Description	Replacement of an existing 2-inch, 4-inch, and 6-inch cast iron water main on the south side of 14th St from Rhode Island St to Delaware St; the west side of New Jersey St from 14th St to 15 th St; the west side of New Hampshire St from 13 th St to 14 th St; the west side of New York St from 14 th St to 15 th St; and a new 8" main along 14th from Massachusetts St to Rhode Island St. The project is expected to include approximately 3,400 lineal feet of new 8" waterline.
Design Engineer	PEC
Contractor	To be Determined
Status	Currently in Design Phase, Project Scheduled for Completion in Summer 2019
Project Budget	\$787,200 (Complete - \$1,329)
Related Project	UT9902CIP – Watermain Replacement/Relocation Program

UT1885CIP – Bowersock Dam Scour Hole Maintenance

Project Description	Repair and restoration of the existing scour hole on the downstream side of the Bowersock Dam.
Design Engineer	RFP process with a defined scope. The successful contractor will provide necessary plan for agency approvals.
Contractor	RFP is being reviewed
Status	RFP was received in November
Project Budget	\$1,000,000 (Water Funds, Completed - \$0) \$1,000,000 (G.O. Debt PW17E9CIP, Completed - \$0)
Project Details	Repair and stabilization of south bank of river below Abe and Jakes
Related Project	PW17E9CIP – Riverbank Stabilization East of Bowersock

UT1896CIP – Vermont Bridge and Concrete Main Assessment

Project Description	The Vermont Bridge Concrete Main Assessment project includes conducting a pipe condition and structural assessment of large diameter steel and concrete transmission mains.
Design Engineer	Black and Veatch
Contractor	To Be Determined
Status	Under Planning and Design
Project Budget	\$400,000 (Complete - \$0)
Project Details	Design and inspection team selected in early 2019. Field activities deferred to 2019.

3. Streets – Capacity and Reconstruction Projects

PW17E1CIP – Kasold Reconstruction – 6th St to Bob Billings Pkwy

Project Description	The project is a total reconstruction of Kasold from 6 th Street to Bob Billings Parkway. The improvements include concrete pavement, two lanes in each direction and a center turn lane, bike lanes, a sidewalk and multiuse path, storm sewer, signalization of the intersections at Harvard Road and Kasold Drive and 8 th Street and Kasold Drive, and water main replacement.
Design Engineer	CFS Engineers
Contractor	RD Johnson
Status	Spring 2019
Project Budget	\$8,075,000 (Completed - \$385,760 Design; \$5,111,110 Construction)
Project Details	The project began in the Spring of 2018 and is anticipated to be complete in the Spring of 2019.
Related Project	<u>UT1704 – Kasold Drive (6th Street to Bob Billings Parkway)</u> (PW 1505 – Department Project Number)

PW17E3CIP – 19th Street Reconstruction Harper to O’Connell

Project Description	The project is a total reconstruction of 19 th Street from Harper to O’Connell. The improvements include pavement (lane configuration to be determined by Engineering Study), bike/pedestrian accommodations, storm sewer and waterline improvements. In addition, traffic calming measures west of Harper Street will be evaluated, including consideration for roundabout vs. 4-way stop at the 19th Street/Harper Street intersection.
Design Engineer	BG Consultants
Contractor	TBD
Status	Design in 2019 Waterline Improvements in 2020 Roadway, Bike/Ped, Stormwater improvements in 2021
Project Budget	\$3,625,000 (Completed – \$0)
Project Details	Design awarded February 5, 2019.
Related Project	<u>PW17E3CIP – 19th Street Reconstruction Harper to O’Connell – Water Improvements</u> (PW1506 – Department Project Number)

PW17E66CIP – E. 9th Street (New Hampshire Street to Pennsylvania Street)

Project Description	The project is a total reconstruction of 9 th Street From New Hampshire to Pennsylvania and includes sidewalk improvements on 9 th Street between Pennsylvania and Delaware Streets. 2-3 lanes plus parking will be accommodated with new concrete pavement.
Design Engineer	Bartlett & West
Contractor	Pavers, Inc.
Status	Project Completion April 30, 2019
Project Budget	\$2,500,000 (Completed - \$175,036.75 Design; \$1,020,032.91 Construction)
Project Details	Construction began in the summer of 2018 and is anticipated to be complete by Spring 2019
Related Project	(PW1502 – Department Project Number)

PW18E7CIP – 19th St – Iowa St to Naismith Dr

Project Description	Phase B of reconstruction of 19 th Street from Naismith to Iowa. Improvements include a center turn lane, bike lanes, storm sewer, waterline, sewer line, a shared-use path on the north side of 19 th Street and sidewalk on the south side.
Design Engineer	Professional Engineering Consultants
Contractor	R.D. Johnson
Status	Construction to begin in Spring 2019 with completion in Summer 2019.
Project Budget	\$6,995,522.59 (Completed - \$205,000 Design; \$0 Construction)
Related Project	(PW1721 – Department Project Number) (PW1535 – Department Project Number) <u>UT1518 – 19th St Water and Sewer Replacement</u>

PW18E8CIP – Louisiana 12th to 13th

Project Description	The project consists of pavement and storm sewer, and sidewalk replacement on Louisiana Street from 12 th to 13 th Street.
Design Engineer	SK Design
Contractor	Miles Excavating
Status	Project Completed in November, 2018
Project Budget	\$450,000 (Complete - \$498,671)

Project Details	Replacement of 2,090 square yards of concrete pavement with 10" non-reinforced dowel-jointed PCCP. Storm sewer consisting of 15-inch, 18-inch and 24-inch storm sewer replacement and new installation. Project also included new curb and gutter, sidewalk, driveways, pavement parking and ADA ramps.
Related Project	(PW1724 – Department Project Number) UT1719 – Louisiana St 12th to 13th Watermain Replacement

PW18E10CIP – 23rd Street Center Turn Lane, Mass to Louisiana

Project Description	The project consists of mill and overlay activities to be performed from Ridge Court to Learnard Avenue. Additionally, a center turn lane and sidewalk will be installed between Louisiana Street and Massachusetts Street.
Design Engineer	PEC
Contractor	Sunflower Paving, Inc.
Status	Project Completion Summer 2019
Project Budget	\$1,395,000 (Completed - \$657,295)
Project Details	Mill and overlay as well as ADA ramp improvements from Ridge Court to Louisiana Street were completed in November 2018. Waterline construction began at the intersection of 23 rd and Louisiana Street in December 2018. Waterline, curb, and gutter installation has continued through the winter. This project requires utility relocations by Westar and Midco along the northern edge of the street to facilitate sidewalk construction from just east of Tennessee Street to Massachusetts Street.
Related Project	PW18E9CIP – Mill and Overlay 23rd St – Iowa to Ousdahl <u>UT1720 – 23rd Street (Louisiana Street to Barker Avenue)</u> (PW1722 – Department Project Number)

4. Streets – Maintenance, Reliability, and Multi-Modal Projects

PW1614 – Safe Routes to School, Crosswalks, and Sidewalk (Phase 2)

Project Description	The City of Lawrence was awarded Transportation Alternatives (TA) Program funding from Kansas Department of Transportation (KDOT) for a Safe Routes to School (SRTS) project. Rectangular Rapid Flashing Beacons (RRFB's) were installed at 9 existing school crossings where no crossing guards are present as part of this SRTS project. The RRFB's have LED lights that are push button activated and are accompanied with school crossing signs. Installation of sidewalk on safe routes to school along segments of 15 th Street east of Learnard Avenue and 7 th Street south of Locust Street were included.
Design Engineer	City Staff - LPA with Kansas Department of Transportation (KDOT) oversight
Contractor	Freeman Concrete Construction LLC
Status	Anticipated final completion of punch list (seeding) in Spring of 2019
Project Budget	\$317,392.20 (Completed - \$310,767.63)
Project Details	The project began in June of 2018 and is anticipated for final completion of punch list (seeding) in Spring of 2019.
Related Project	State Project No. U-2305-01

PW1801 – 2018 Milling, Patch, Overlay, Microsurfacing, and Concrete Maintenance Program

Project Description	The project included milling, various surface and full depth patching of deteriorated areas, overlay, microsurfacing, concrete pavement, and curb rehabilitation on several city residential, collector, and arterial streets. The maintenance work has restored street structural capacity, skid resistance, improved drainage, and ride quality to existing city streets.
Design Engineer	Steven Lashley, MSO Project Engineer - Infrastructure Management
Contractor	Sunflower Paving Inc.
Status	Project Completed in November, 2018
Project Budget	Final Completed Cost \$2,816,454.50
Project Details	This project was part of the city's street maintenance program for contracted maintenance. The project began in May of 2018 and was completed in November of 2018.
Related Project	PW17SM1CIP – Contracted Street Maintenance Program PW17SM4CIP – Contracted Milling for In-House Pavement Rehabilitation

PW17E7CIP – CDBG Sidewalk Gap Program

Project Description	Access Ramps and gaps at various locations including 11 th Street between Connecticut and Delaware. Rectangular Rapid Flashing Beacon and crosswalk improvements at 16 th and Haskell.
Design Engineer	Cook, Flatt, and Strobel
Contractor	Phoenix Concrete and Underground (Pending Award)
Status	Project Completion Spring 2019
Project Budget	\$138,000 (Completed – \$8,575)
Project Details	Design Consultant selected Summer 2018, Project let January 2019. Design funded under CIP CI09.
Related Project	CI09 – Sidewalk/Bike/Ped Improvements/ADA Ramps (PW1817 – Department Project Number) (PW1819 - Department Project Number)

PW17SM5CIP – IT5 Video Detection/Upgrade and Replacement

Project Description	Upgrade current video detection equipment at signalized intersections.
Design Engineer	City Staff
Contractor	City Staff
Status	Ongoing Program
Project Budget	\$153,000 (Completed - \$198,716)
Project Details	Current equipment is out dated, and the manufacture no longer supports equipment that is in the field.

PW18E10 – Massachusetts St & 13th Turn Lane Improvements

Project Description	Reconfiguration of lanes on Massachusetts Street from 11th to 14th Street to add a two way left turn lane at 13th St and add bike lanes. Project was partially funded through Federal-Aid Highway Safety Improvement Program Funds.
Design Engineer	Bartlett & West
Contractor	C-Hawkk Construction, Inc
Status	Project Completed in November 2018
Project Budget	\$150,000 (Completed - \$124,392)

Project Details	A mill and overlay was completed under the contracted street maintenance project (PW1801). This project installed new pavement marking that reduced the travel lanes to one in each direction in order to add a two-way left turn lane at 13th St and to add buffered bike lanes along the corridor. ADA ramps were also upgraded along the corridor.
Related Project	(PW1726 – Department Project Number)

PW1816 – 2018 Traffic Calming Project

Project Description	Construct speed humps in multiple locations
Design Engineer	City Staff
Contractor	Phillips Construction KC
Status	Project Completed in November 2018
Project Budget	\$84,450 (Completed - \$84,450)
Project Details	Construct speed humps on Arkansas St, Missouri St, Lincoln St and W 24th St. Associated curb and gutter and pavement markings are included.
Related Project	PW17E8CIP - Traffic Calming Remaining Traffic Calming Funds will be used in conjunction with <u>PW1818 for the 13th St Bicycle Boulevard</u>

PW1818 – Bike Boulevards

Project Description	Design and construct bicycle boulevards on 13th St from Massachusetts St to Haskell Ave and on 21st St from Iowa St to Massachusetts St
Design Engineer	Alta Planning + Design
Contractor	TBD
Status	In design. Project Completion Fall 2019.
Project Budget	\$450,000 (Completed - \$1,889)
Project Details	Design and construct 13th St from Massachusetts St to Haskell Ave and on 21st St from Iowa St to Massachusetts St. Design services include a public engagement process, presentation to Transportation Commission and City Commission and final construction plans. Project will include various bicycle boulevard elements which will be selected based on feedback from the community.
Related Project	PW17E8CIP - Traffic Calming CI09 - Sidewalk/Bike/Ped Improvements/ADA Ramps

5. Other Capital Projects

PW1430 – Santa Fe Train Station

Project Description	The Santa Fe Station project is a historic restoration project. Improvements include both site and building work: restoring existing brick parking lot on west side, removal of asphalt parking lot on west side, a landscaped area on the west side with lighting, sidewalk improvements, fencing and roof storm drainage, new roofing and insulation, improvements to fascia and planter, restoration of doors, windows, painting, restroom upgrades to meet ADA requirements, geothermal cooling system, boiler, solar system and electrical improvements.
Design Engineer	Bartlett & West; Hernly Architects
Contractor	First Construction
Status	Project Completed in February 2019
Project Budget	\$660,000 (Completed - \$481,649.50)
Project Details	The project utilized KDOT Transportation Enhancement funds, Amtrak ADA funds and historic tax credits.
Related Project	PW19E3CIP – Santa Fe Depot Parking Lot

UT1884CIP – MSO Field Operations Facility

Project Description	City Field Operations and Maintenance facilities are currently in 18 decentralized facilities which presents numerous challenges including insufficient space for existing and future operations, duplication of facilities, functions, and staff roles, and lack of security. A consolidated Field Operations and Maintenance campus would minimize these challenges and allow for future expansion, especially with the merger of the Public Works and Utilities Departments to Municipal Services & Operations (MSO).
Design Engineer	To Be Determined
Contractor	To Be Determined
Status	Currently in Study Phase, Design and Construction Phases To Be Determined
Project Budget	To Be Determined, \$7,360,000 Currently Available
Project Details	City staff conducted a space-needs analysis and determined an 80 to 100-acre site will be sufficient for current facility requirements as well as future expansion. A team of nine City staff is reviewing and studying ten potential sites for recommendation of three sites for further evaluation and selection of one site to begin design and construction of the facility.

Related Projects	PW18B7CIP – PW/Utilities/P&R Operations Center
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PW1617 – Taxiway C Reconstruction

Project Description	Removed deteriorated asphalt pavement and replace with 6" Concrete
Design Engineer	BG Consultants
Contractor	Freeman Construction
Status	Project Completed September 2018
Project Budget	Total Project Cost \$154,733.85 KDOT participation 90% - \$139,260.46 Final City Cost \$15,473.39
Project Details	Full depth reconstruction with 6" concrete pavement
Related Project	<u>PW1715 – Apron Reconstruction Improvements</u>

PW1715 – Apron Reconstruction

Project Description	PW1715 – Apron Reconstruction improvements – Remove deteriorated asphalt pavement. Apron holds water which freezes in winter. This apron is in front of KU hangar and City maintained.
Design Engineer	BG Consultants
Contractor	Freeman Concrete Construction
Status	Completed September 2018
Project Budget	Total Project Cost \$131,719.95 KDOT participation 90% - \$118,547.55 KU participation – \$6586.20 Final City Cost - \$6586.20
Project Details	Full depth reconstruction with 6" concrete
Related Project	<u>PW1617 – Taxiway C Reconstruction</u>

PW17A1 – Wildlife Fence

Project Description	PW17A1 – Install wildlife fence around perimeter of airport property
Design Engineer	ADG Consultants
Contractor	Amerifence Corporation
Status	Completed July 2018

Project Budget	Total Project Cost \$1,727,622.06 FAA participation 90% - \$1,554,859.85 City Cost \$172,762.21
Project Details	10 ft heavy duty fence with additional 5 ft buried underground fence with gates for access
Related Project	Airport Master Plan project.

PW18V01CIP – Farmland Pond Cap

Project Description	In 2018, Capital Improvement funding was allocated to cap the water storage ponds on the former Farmland Fertilizer site as part of the Remedial Action Plan overseen by the Kansas Department of Health and Environment (KDHE). Due to water storage issues, the capping project was delayed and the City issued a request for proposals for qualified consulting firms to perform additional analysis and develop a recommendation of environmental alternatives.
Design Engineer	GHD Inc.
Contractor	TBD
Status	Phase one of project estimated to be completed by summer 2019
Project Budget	\$1,000,000 (Completed \$196,000)
Project Details	The City plans to pursue changes to the long-term environmental remediation project at the former Farmland Nitrogen Fertilizer Plant. Phase one of this effort includes professional services related to site study, analysis of alternative remediation strategies and regulatory approvals for alternative strategies. The project scope includes site assessment, remediation alternative analysis, community engagement, and recommendation of appropriate remedial action. Project Phase One is scheduled for completion by summer 2019.
Related Project	Farmland Remediation Project - #FL1701