

CITY OF BROKEN ARROW

BROKEN ARROW MUNICIPAL AUTHORITY

CAPITAL IMPROVEMENT PROGRAM (CIP)

UTILITY PROJECTS

JOINT SPECIAL COUNCIL/AUTHORITY MEETING

SEPTEMBER 27, 2016



September 23, 2016

Council Members/Authority Members
220 South 1st Street
Broken Arrow, OK 74012

**RE: SPECIAL JOINT COUNCIL-AUTHORITY MEETING
UTILITY RATE STUDY – CAPITAL IMPROVEMENTS PROGRAM PROJECTS**

Dear Council/Authority Member:

Enclosed is an overview of the Capital Improvement Program (CIP) proposed projects for the first five (5) year period beginning with Fiscal Year 2017 and extending through Fiscal Year 2021. This year Staff both revised and updated the CIP to better reflect the current conditions and future anticipated conditions of the community's utility infrastructure and extended our five (5) year planning horizon to a seven (7) year window. Our current program separates the needed improvements based upon the specific utility system.

In addition, the CIP separates the entire Water System Improvements into four distinct groups: (1) Water Treatment Plant, (2) Water Master Connections, (3) Water Distribution System, and (4) Water Storage System Projects. Likewise, the Wastewater System Improvements are both divided into the individual Haikey Creek or Lynn Lane Basins as well as into either the treatment plant or the basin.

An overall summary of each utility is provided as well as a year by year cost summary of the proposed improvements.

Lastly, individual Project Identification sheets for each project depicted in the CIP is included. This Project Identification sheet is intended to provide a specific project description, the purpose for the proposed project as well as a benefit to the City/Authority. Anticipated project costs, funding year and expected funding source, if known, is included.

The Project Identification sheet also includes a category. Staff defines the categories as follows: (1) Critical, (2) Essential, and (3) Beneficial.

We look forward to discussing our findings at the special meeting.

Respectfully,
CITY OF BROKEN ARROW

Kenneth D. Schwab, P.E., CFM
Assistant City Manager – Operations

KDS/gk

CAPITAL IMPROVEMENTS PROGRAM

OVERVIEW

**CITY OF BROKEN ARROW
PROJECTED UTILITY IMPROVEMENTS
CAPITAL BUDGET OUTLAY**

UPDATED: 07-06-16 (KDS)

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Total
Water System Improvement	\$7,655,750	\$5,280,000	\$8,175,000	\$2,275,000	\$3,635,000	\$6,805,000	\$10,075,000	\$3,325,000	\$47,225,750
Wastewater System Improvements	\$5,965,500	\$32,040,000	\$22,214,000	\$17,054,000	\$13,524,000	\$16,945,000	\$4,370,000	\$3,870,000	\$115,982,500
Stormwater System Improvements	\$880,000	\$2,122,500	\$1,875,000	\$2,557,500	\$2,012,500	\$1,060,000	\$1,013,000	\$683,000	\$12,203,500
	\$14,501,250	\$39,442,500	\$32,264,000	\$21,886,500	\$19,171,500	\$24,810,000	\$15,458,000	\$7,878,000	\$175,411,750

Five Year Utilities Budget Plan Total = **\$137,574,500**
Five Year Utilities Budget Plan Average = **\$27,514,900**

Eight Year Utilities Budget Plan Total = **\$175,411,750**
Eight Year Utilities Budget Plan Average = **\$21,926,469**

PUBLIC UTILITIES CIP



WATER SYSTEM IMPROVEMENTS

Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Totals	Comments
Water Plant Projects (BAMA)										
<i>Water Treatment Plant - Sludge Removal Phase I</i>										
Design		\$25,000							\$25,000	Remove sludge accumulation from Lagon Nos. 1&2; Rates
Construction		\$475,000							\$475,000	
Inspection		\$0							\$0	
<i>Water Treatment Plant - Sludge Removal Phase II</i>										
Design				\$25,000					\$25,000	Remove sludge accumulation from Lagon Nos. 1&3; Rates
Construction				\$475,000					\$475,000	
Inspection				\$0					\$0	
<i>Water Treatment Plant - Sludge Removal Phase III</i>										
Design							\$50,000		\$50,000	Remove sludge accumulation from Lagon Nos. 1&2; Rates
Construction							\$550,000		\$550,000	
Inspection							\$0		\$0	
<i>Water Treatment Plant - Copper Sulfate Feed</i>										
Design		\$30,000							\$30,000	Install automated copper sulfate feed system to pre-sedimentation basins
Construction		\$200,000							\$200,000	
Inspection		\$0							\$0	
<i>Water Treatment Plant - Plate Settler Extension</i>										
Design		\$340,000							\$340,000	Install automated copper sulfate feed system to pre-sedimentation basins
Construction		\$0	\$4,450,000						\$4,450,000	
Inspection		\$0	\$50,000						\$50,000	
<i>Water Treatment Plant - Maintenance Building</i>										
Design		\$25,000							\$25,000	O&M Funding
Construction		\$325,000							\$325,000	
Inspection		\$0							\$0	
<i>Water Treatment Plant - Membrane Expansion</i>										
Design									\$0	Additonal membranes
Construction	\$345,000								\$345,000	
Inspection									\$0	
<i>OOWA/Grand River Line Connection</i>										
Design						\$300,000			\$300,000	Not Funded
Construction							\$1,000,000	\$1,000,000	\$2,000,000	
Inspection									\$0	
Water Plant Sub-Totals	\$345,000	\$1,420,000	\$4,500,000	\$500,000	\$0	\$300,000	\$1,600,000	\$1,000,000	\$9,665,000	
Water Master Connection Projects										
<i>Primary Tulsa Water Connection - Phase II</i>										
Property Acquisition	\$0								\$0	Pressure Feed System at 163rd Street and Dearborn
Design	\$0								\$0	
Construction	\$60,000								\$60,000	
Inspection	\$0								\$0	
<i>Secondary Tulsa Water Connection - Phase I</i>										
Property Acquisition	\$200,000								\$200,000	Pressure Feed System at Albany and Olive
Design (Modeling)	\$45,000								\$45,000	
Construction		\$800,000							\$800,000	HUB
Inspection									\$0	Pressure Feed System from TMUA - O&M Funding
<i>Secondary Tulsa Water Connection - Phase II</i>										
Property Acquisition				\$400,000					\$400,000	Booster Pump Station at Albany and Olive
Design									\$0	
Construction						\$100,000			\$100,000	
Inspection								\$2,000,000	\$2,000,000	Booster Pump Station
<i>OOWA/Grand River Transmission Line Rehab</i>										
										Proposed course of action not determined yet; under evaluation

Property Acquisition						\$100,000			\$100,000	
Design						\$600,000			\$600,000	
Construction							\$6,000,000		\$6,000,000	
Inspection							\$50,000		\$50,000	
Water Mater Connection Sub-Totals	\$305,000	\$800,000	\$0	\$400,000	\$0	\$700,000	\$6,150,000	\$2,000,000	\$10,355,000	
Water Distribution System Projects										
<i>Kenwood Hills Booster Pump No. 2 Rehabilitation</i>										
Property Acquisition	\$0								\$0	
Design	\$40,000								\$40,000	Dewberry prepared report and in-progress on design
Construction	\$360,000								\$360,000	
Inspection	\$0								\$0	
<i>24" Transimission Line - South Loop Ph. I (101st-Waco)</i>										
Design	\$0								\$0	Kirk Water Line replacement
Construction	\$150,500								\$150,500	In-House Design
Inspection	\$0								\$0	Anticipated Force Labor for Construction
<i>24" Transmission Line - South Loop Ph.II (Waco-Elm)</i>										
Property Acquisition	\$0								\$0	
Design	\$0								\$0	
Construction	\$400,000								\$400,000	
Inspection	\$0								\$0	
<i>24" Transimission Line - South Loop Ph. III (96th-101st)</i>										
Property Acquisition			\$50,000						\$50,000	
Design		\$60,000							\$60,000	In-House
Construction			\$600,000						\$600,000	Force Labor
Inspection									\$0	
<i>24" Waterline - Connect 5 MG GST to System</i>										
Property Acquisition	\$750,000								\$750,000	Enhance capability to take water from TMUA
Design	\$150,000								\$150,000	HUB
Construction		\$2,000,000							\$2,000,000	
Inspection		\$0							\$0	
<i>12" Waterline - Tucson from 15th to 23rd</i>										
Property Acquisition	\$0								\$0	
Design	\$90,000								\$90,000	McClland
Construction	\$0								\$0	Anticipated Force Labor for Construction
Inspection	\$0								\$0	
<i>12" Waterline - 131st Street from Gardenia to Olive</i>										
Property Acquisition	\$0								\$0	Funded through O&M
Design	\$0								\$0	
Construction	\$90,000								\$90,000	Anticipated Force Labor for Construction
Inspection	\$0								\$0	
<i>8" Waterline - Vander from Lions to Hickory</i>										
Property Acquisition	\$0								\$0	
Design	\$0								\$0	
Construction	\$12,000								\$12,000	Anticipated Force Labor for Construction
Inspection	\$0								\$0	
<i>6" Waterline - 3rd and Richmond</i>										
Property Acquisition	\$0								\$0	
Design	\$0								\$0	
Construction	\$6,000								\$6,000	Anticipated Force Labor for Construction; Pipe Purchased 2016
Inspection	\$0								\$0	
<i>6" Waterline - Washington from Date to Main</i>										
Property Acquisition									\$0	2015 OWRB Loan
Design	\$25,000								\$25,000	McClland

Construction				\$250,000					\$250,000	Force Labor
Inspection									\$0	
Miscellaneous Waterlines - Old Town										
Property Acquisition									\$0	
Design			\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$150,000	In-House
Construction		\$100,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,900,000	Force Labor
Inspection									\$0	
16" Waterline - Olive from Tucson to New Orleans										
Property Acquisition	\$700,000								\$700,000	2015 OWRB Loan
Design	\$120,000								\$120,000	Poe
Construction					\$1,310,000				\$1,310,000	2015 OWRB Loan/In-House
Inspection					\$0				\$0	
Automatic Meter Reading										
Installment	\$2,000,000	\$0	\$2,000,000		\$2,000,000				\$6,000,000	OWRB Loan
Water Distribution System Sub-Totals	\$4,893,500	\$2,160,000	\$2,975,000	\$575,000	\$3,635,000	\$325,000	\$325,000	\$325,000	\$15,213,500	
Water Storage System Projects										
2-3 MG Water Storage Tank										
Property Acquisition	\$1,100,000								\$1,100,000	2015 OWRB Loan (FAP)
Design	\$400,000								\$400,000	Kimerly-Horn
Construction						\$4,630,000			\$4,630,000	
Inspection						\$100,000			\$100,000	
1 MG Elevated Water Tank Restoration (101st)										
Design	\$22,250								\$22,250	Only budgeted \$570,00 in FY 2016 HUB
Construction	\$525,000								\$525,000	
Inspection	\$65,000								\$65,000	Public Construction Contract
4 MG GST Restoration - Phase I (Tiger Hill)										
Design		\$70,000							\$70,000	Not funded
Construction		\$785,000							\$785,000	
Inspection		\$45,000							\$45,000	
4 MG GST Restoration - Phase II (Tiger Hill)										
Design			\$50,000						\$50,000	Not funded
Construction			\$610,000						\$610,000	
Inspection			\$40,000						\$40,000	
4 MG GST Restoration - Phase III (Tiger Hill)										
Design				\$65,000					\$65,000	Not funded
Construction				\$700,000					\$700,000	
Inspection				\$35,000					\$35,000	
1 MG Elevated Water Tank Restoration (FBC)										
Design						\$55,000			\$55,000	Not funded
Construction						\$650,000			\$650,000	
Inspection						\$45,000			\$45,000	
5 MG GST Restoration (Battle Creek)										
Design							\$150,000		\$150,000	Not funded
Construction							\$1,800,000		\$1,800,000	
Inspection							\$50,000		\$50,000	
Water Storage System Sub-Total	\$2,112,250	\$900,000	\$700,000	\$800,000	\$0	\$5,480,000	\$2,000,000	\$0	\$11,992,250	
Water System Totals	\$7,655,750	\$5,280,000	\$8,175,000	\$2,275,000	\$3,635,000	\$6,805,000	\$10,075,000	\$3,325,000	\$47,225,750	

Five Year CIP Total
 Planning Period Total

\$26,170,000
 \$47,225,750

WASTEWATER SYSTEM IMPROVEMENTS

Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Totals	Comments
Haikey Creek Plant Projects (RMUA)										
<i>Haikey Creek Plant - SCBA/Samp/Clar/Pumps</i>										
Design									\$0	
Construction	\$362,500		\$800,000						\$1,162,500	
Inspection									\$0	
<i>Haikey Creek Plant - Headworks Imp</i>										
Design	\$140,000								\$140,000	
Construction									\$0	
Inspection									\$0	
<i>Haikey Creek Plant - FEB Addition</i>										
Design	\$413,000								\$413,000	2013 OWRB Loan
Construction		\$5,830,000							\$5,830,000	Design in Progress
Inspection									\$0	BAMA's Share
<i>Haikey Creek Plant - Maintenance Building</i>										
Design	\$40,000								\$40,000	Funding Source Unidentified
Construction		\$400,000							\$400,000	BAMA's Share
Inspection									\$0	
<i>Haikey Creek Plant - Activated Sludge Aeration</i>										
Design	\$800,000								\$800,000	BAMA's Share
Construction				\$8,129,000					\$8,129,000	
Inspection									\$0	
<i>Haikey Creek Plant - Grit Removal Facility Rehab</i>										
Design		\$165,000							\$165,000	Funding Source Unidentified
Construction			\$1,514,000						\$1,514,000	
Inspection									\$0	
<i>Haikey Creek Plant - Electrical Systems Imp</i>										
Design				\$100,000					\$100,000	Funding Source Unidentified
Construction				\$350,000					\$350,000	BAMA's Share
Inspection									\$0	BAMA's Share
<i>Haikey Creek Plant - Elec. Switrch Gear & Trans.</i>										
Design				\$50,000					\$50,000	Funding Source Unidentified
Construction				\$450,000					\$450,000	BAMA's Share
Inspection									\$0	BAMA's Share
<i>Haikey Creek Plant - Primary Clarifiers</i>										
Design				\$825,000					\$825,000	Funding Source Unidentified
Construction					\$8,034,000				\$8,034,000	BAMA's Share
Inspection									\$0	
<i>Haikey Creek Plant - Anaerobic Digestors</i>										
Design					\$1,400,000				\$1,400,000	Funding Source Unidentified
Construction						\$14,500,000			\$14,500,000	BAMA's Share
Inspection									\$0	
<i>Haikey Creek Plant - Sludge Dewatering Facility</i>										
Design						\$258,000			\$258,000	Funding Source Unidentified
Construction									\$0	BAMA's Share
Inspection									\$0	
<i>Haikey Creek Plant - Main Lift Station FM Imp</i>										
Property Acquisition	\$300,000								\$300,000	2013 OWRB Loan
Design	\$150,000								\$150,000	ROW in progress
Construction		\$6,500,000							\$6,500,000	Design complete
Inspection									\$0	BAMA's Share
<i>Haikey Creek Plant - Main Lift Station Phase IV</i>										
Property Acquisition									\$0	Funding Source Unidentified
Design						\$317,000			\$317,000	BAMA's Share

Construction										\$0	
Inspection										\$0	
Haikey Creek Plant Sub-Totals	\$2,205,500	\$12,895,000	\$2,314,000	\$9,904,000	\$9,434,000	\$15,075,000	\$0	\$0	\$51,827,500		
Haikey Creek Basin Projects (BAMA)											
HC Basin - SSES Program											
Trunk Line Sanitary Sewer Study										\$0	
Wolf Creek Line Sanitary Sewer Study				\$300,000						\$300,000	
HC Basin - Haikey Creek Trunk Sewer Phase I											
Property Acquisition										\$0	2015 OWRB Loan
Design	\$360,000									\$360,000	RJN
Construction			\$1,200,000	\$1,200,000	\$1,200,000					\$3,600,000	
Inspection										\$0	
HC Basin - Haikey Creek Trunk Sewer Phase II											
Property Acquisition										\$0	Not Funded
Design						\$250,000				\$250,000	
Construction							\$1,250,000	\$1,250,000		\$2,500,000	
Inspection										\$0	
Haikey Creek Basin Sub-Totals	\$360,000	\$0	\$1,200,000	\$1,500,000	\$1,200,000	\$250,000	\$1,250,000	\$1,250,000	\$7,010,000		
Lynn Lane Plant Projects (BAMA)											
Lynn Lane Plant - Maintenance Building											
Design										\$0	
Construction	\$180,000									\$180,000	
Inspection										\$0	
Lynn Lane Plant - Belt Filter Press Bldg Add.											
Design										\$0	
Construction					\$500,000					\$500,000	
Inspection										\$0	
Lynn Lane Plant - Headworks/Grit Removal											
Design	\$730,000									\$730,000	2015 OWRB Loan
Construction		\$10,600,000								\$10,600,000	Estimated at \$600,000 plus \$200,000
Inspection										\$0	Not Secured
Lynn Lane Plant - Sludge Digestion Imp											
Design		\$70,000								\$70,000	2015 OWRB Loan
Construction			\$1,000,000							\$1,000,000	Estimated at \$350,000
Inspection										\$0	Not Secured
Lynn Lane Plant - Rehab of West Clar/Digestors											
Design	\$200,000									\$200,000	OWRB Loan
Construction			\$3,000,000							\$3,000,000	
Inspection										\$0	
Lynn Lane Plant - Disinfection System											
Design			\$250,000							\$250,000	Funding Source Unidentified
Construction				\$2,000,000						\$2,000,000	Year disinfection per DEQ
Inspection										\$0	
Lynn Lane Plant - Rehab of East Clarifier											
Design										\$0	Funding Source Unidentified
Construction					\$100,000					\$100,000	
Inspection								\$500,000		\$500,000	
Lynn Lane Plant - Indian Springs Lift Station Imp.											
Property Acquisition										\$0	Funding Source Unidentified
Design					\$250,000					\$250,000	
Construction								\$1,000,000		\$1,000,000	
Inspection										\$0	
Lynn Lane Plant Sub-Total	\$1,110,000	\$10,670,000	\$4,250,000	\$2,000,000	\$850,000	\$1,500,000	\$0	\$0	\$20,380,000		
Lynn Lane Basin Projects (BAMA)											
LL Basin - Lynn Lane Trunk Sewer Replace.											
Property Acquisition		\$150,000								\$150,000	OWRB Loan

Design	\$250,000								\$250,000	
Construction		\$1,500,000							\$1,500,000	In-House
Inspection									\$0	
LL Basin - County Line Trunk Sewer Replace.										
Property Acquisition		\$425,000							\$425,000	OWRB Loan
Design	\$680,000								\$680,000	2015 OWRB Loan (FAP) - PEC
Construction			\$13,500,000						\$13,500,000	
Inspection									\$0	
LL Basin - Elm Creek Trunk Sewer Replace. Ph I										
Property Acquisition			\$300,000						\$300,000	Phase I - Indian Springs to Turnpike
Design	\$400,000								\$400,000	
Construction				\$3,650,000	\$1,000,000				\$4,650,000	
Inspection									\$0	
LL Basin - Aspen Creek Trunk Sewer (New)										
Property Acquisition	\$100,000								\$100,000	New line from Tucson to Florence
Design									\$0	Obtained Property/Loan
Construction		\$800,000	\$650,000						\$1,450,000	Complete
Inspection									\$0	Vision 2025/Excess Capacity
LL Basin - Oak Crest Addition Imp										
Property Acquisition									\$0	OWRB Loan (Must Reallocate)
Design	\$400,000								\$400,000	
Construction						\$2,000,000	\$1,500,000		\$3,500,000	
Inspection									\$0	
LL Basin - East Haskell Addition Imp										
Property Acquisition									\$0	OWRB Loan (Must Reallocate)
Design	\$100,000								\$100,000	
Construction						\$1,000,000	\$1,000,000		\$2,000,000	
Inspection									\$0	
LL Basin - Lift Station (5) Screening Imp										
Property Acquisition									\$0	OWRB Loan
Design	\$150,000								\$150,000	
Construction		\$1,500,000							\$1,500,000	
Inspection									\$0	
LL Basin - Lift Station SCADA Imp										
Property Acquisition									\$0	OWRB Loan
Design									\$0	
Construction		\$1,900,000							\$1,900,000	
Inspection									\$0	
LL Basin - Oneta Rd Lift Station Imp (CO)										
Property Acquisition		\$30,000							\$30,000	
Design	\$100,000								\$100,000	
Construction		\$670,000							\$670,000	
Inspection									\$0	
LL Basin - 209th LS Force Main Imp.										
Property Acquisition	\$10,000								\$10,000	Contractual assistance
Design	\$100,000								\$100,000	
Construction		\$1,500,000							\$1,500,000	
Inspection									\$0	
LL Basin - Misc. LS Imp.(3 Stations)										
Property Acquisition									\$0	Elimination of Westwind LS/Conversion to Submersible
Design					\$40,000				\$40,000	
Construction						\$120,000	\$120,000	\$120,000	\$360,000	
Inspection									\$0	
LL Basin - Expressway LS Improvements										
Design					\$100,000				\$100,000	
Construction					\$900,000				\$900,000	

Inspection											
Lynn Lane Basin Sub-Totals	\$2,290,000	\$8,475,000	\$14,450,000	\$3,650,000	\$2,040,000	\$120,000	\$3,120,000	\$2,620,000	\$36,765,000	\$0	
Sub-Totals	\$5,965,500	\$32,040,000	\$22,214,000	\$17,054,000	\$13,524,000	\$16,945,000	\$4,370,000	\$3,870,000	\$115,982,500		

Five Year CIP Total

Planning Period Total

\$101,777,000

\$115,982,500

Inspection										\$0	
Stone Ridge Towne Center - Lower Pond (HC)											
Land Acquisition											Unidentified Funding Source
Design	\$50,000			\$150,000						\$150,000	
Construction										\$50,000	
Inspection				\$350,000						\$350,000	
Stone Ridge Towne Center - Regional Detention (HC)										\$0	
Land Acquisition	\$0										Unidentified Funding Source
Design	\$50,000									\$0	
Construction										\$50,000	
Inspection						\$1,000,000				\$1,000,000	
Lancaster Park Detention Pond Improvements (HC)										\$0	
Land Acquisition											Unidentified Funding Source
Design										\$0	
Construction						\$100,000				\$100,000	
Inspection								\$750,000	\$250,000	\$1,000,000	
Detention Facility Sub-Totals	\$360,000	\$250,000	\$525,000	\$700,000	\$1,350,000	\$750,000	\$250,000	\$0	\$4,185,000		
Dam Facility Improvements											
Carousel Concourse Dam Improvements (AC)											
Land Acquisition											Unidentified Funding Source
Design		\$30,000								\$0	
Construction			\$200,000							\$30,000	
Inspection		\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$3,000	\$3,000		\$200,000	
Aspen Pond Dam Improvements (HC)										\$18,500	Annual Inspections
Land Acquisition											Unidentified Funding Source
Design										\$0	
Construction						\$25,000				\$25,000	
Inspection			\$2,500				\$50,000	\$50,000	\$50,000	\$150,000	
Dam Facility Sub-Totals	\$0	\$32,500	\$205,000	\$2,500	\$27,500	\$55,000	\$53,000	\$53,000	\$428,500	\$5,000	Dam Inspection
Master Drainage Plans											
Broken Arrow Creek Master Drainage Plan (BAC)											
Design		\$175,000								\$175,000	Update for full urbanization
Broken Arrow Regulatory Floodplain											
Design				\$25,000	\$25,000	\$25,000				\$75,000	Development of criteria
Hailey Creek Master Drainage Plan (HC)											
Design			\$500,000								
Master Drainage Plan Sub-Totals	\$0	\$175,000	\$500,000	\$25,000	\$25,000	\$25,000	\$50,000	\$50,000	\$600,000		
Totals	\$880,000	\$2,122,500	\$1,875,000	\$2,557,500	\$2,012,500	\$1,060,000	\$1,013,000	\$683,000	\$12,203,500		

Five Year CIP Total
Planning Period Total

\$9,627,500
\$12,203,500

WATER SYSTEM IMPROVEMENTS



NW corner
1st + Detroit



NWS corner

1st & Detroit

SK 17005 1111A 10012 1111007

1-15-70



PROJECT IDENTIFICATION

Project Name: Water Plant Sludge Removal - Phase I

Project Type: Water

Category: 1

Funding Year: FY 2017 Construction

Project Cost: \$500,000.00

Funding Source: O&M Annual Budget

Project Description:

The three sludge lagoons at the WTP require cleaning/maintenance when they become full. As the WTP treats water, the sediment and chemicals removed from the water are pumped to the sludge lagoons. The sludge is dewatered in the lagoons and must be removed. Some of the aggregate drainage layer is removed with the sludge and must be replaced after three or four cleanings.

Purpose:

To clean out the dewatered sediment and chemicals from the sludge lagoons. This is a regular plant maintenance item. Replacement of aggregate drainage layer.

Benefit:

To maintain and restore full operations of this treatment process for the production of drinking water.

PROJECT IDENTIFICATION

Project Name: Water Plant Sludge Removal - Phase II

Project Type: Water

Category: 1

Funding Year: FY 2019 Construction

Project Cost: \$500,000.00

Funding Source: O&M Annual Budget

Project Description:

The three sludge lagoons at the WTP require cleaning/maintenance when they become full. As the WTP treats water, the sediment and chemicals removed from the water are pumped to the sludge lagoons. The sludge is dewatered in the lagoons and must be removed. Some of the aggregate drainage layer is removed with the sludge and must be replaced after three or four cleanings.

Purpose:

To clean out the dewatered sediment and chemicals from the sludge lagoons. This is a regular plant maintenance item. Replacement of aggregate drainage layer.

Benefit:

To maintain and restore full operations of this treatment process for the production of drinking water.

PROJECT IDENTIFICATION

Project Name: Water Plant - Copper Sulfate Feed System

Project Type: Water

Category: 1

Funding Year: FY 2017 Design and Construction

Project Cost: \$230,000.00

Funding Source: Water Loan

Project Description:

The design and construction of pumps, chemical lines, storage containment and electrical for the addition of chemical copper sulfate for the treatment of water.

Purpose:

Copper sulfate is used to control algae in the source water.

Benefit:

Currently stand-by systems for other chemical addition equipment are being used for the addition of copper sulfate. This project would allow for dedicated systems for the copper sulfate addition.

PROJECT IDENTIFICATION

Project Name: Water Plant - Plate Settler Extension

Project Type: Water

Category: 1

Funding Year: FY 2017 Design / FY18 Construction

Project Cost: \$340,000 / \$4,500,000

Funding Source: Water Loan

Project Description:

Additional square footage of plate settlers for treatment of high turbidity water.
Project includes concrete basin, sludge collection system, pumps, electrical, and plates.

Purpose:

The extension of the plate settlers will allow for additional water treatment capacity
during the most challenging water conditions.

Benefit:

Allow for more water to be settled at a lower turbidity for use by the membranes.
Ultimately increase water production at the plant and decrease operational cleanings of
the membranes.

PROJECT IDENTIFICATION

Project Name: Water Plant - Maintenance Building

Project Type: Water

Category: 3

Funding Year: FY 2017 Design and Construction

Project Cost: \$350,000.00

Funding Source: Water Loan

Project Description:

Design and construction of a maintenance building at the water treatment plant.

Purpose:

Place for spare parts storage and work space for the maintenance staff at the water treatment staff.

Benefit:

Works space and parts storage for maintenance operations at the water treatment plant.

PROJECT IDENTIFICATION

Project Name: OOWA / Grand River Line Connection

Project Type: Water

Category: 1

Funding Year: FY 2021 (Design)

Project Cost: \$300,000.00

Funding Source: Water Loan

Project Description:

Design to reconnect OOWA drinking water supply or for a raw water connection onto the Grand River system or rehabilitation existing system for treated water from OOWA.

Purpose:

Place holder to reconnect OOWA as a drinking water supply line or to allow for a connection to Grand River or OOWA for a secondary raw water source.

Benefit:

OOWA added drinking water supply for Broken Arrow.

Grand River better quality raw water to supplement existing raw water supply.

PROJECT IDENTIFICATION

Project Name: OOWA / Grand River Line Connection

Project Type: Water

Category: 1

Funding Year: FY 2021 Design

Project Cost: \$300,000.00

Funding Source: Water Loan

Project Description:

Design to reconnect OOWA drinking water supply or for a raw water connection onto the Grand River system or rehabilitation existing system for treated water from OOWA.

Purpose:

Place holder to reconnect OOWA as a drinking water supply line or to allow for a connection to Grand River or OOWA for a secondary raw water source.

Benefit:

OOWA added drinking water supply for Broken Arrow.

Grand River better quality raw water to supplement existing raw water supply.

PROJECT IDENTIFICATION

Project Name: Secondary Tulsa Water Connection - Phase I

Project Type: Water

Category: 1

Funding Year: FY 2017 Construction

Project Cost: \$800,000.00

Funding Source: O&M Annual Budget

Project Description:

Construction of a secondary connection to the City of Tulsa for the supply of drinking water to the City of Broken Arrow.

Purpose:

Increase water availability to the citizens of Broken Arrow.

Benefit:

Additional 5 MGD available for consumption to offset peak demand and temporary water shortages due potential maintenance or emergency situations within our system.

PROJECT IDENTIFICATION

Project Name: Secondary Tulsa Water Connection - Phase II

Project Type: Water

Category: 2

Funding Year: FY 2019 Acquisition

Project Cost: \$400,000.00

Funding Source: Water Loan

Project Description:

Acquisition of right of way/property for a future booster pump station.

Purpose:

Better position our system to increase water availability to the customers of Broken Arrow.

Benefit:

Projected additional 10 MGD available for consumption to enhance growth and offset temporary water shortages during periods of maintenance or emergencies.

PROJECT IDENTIFICATION

Project Name: OOWA/ Grand River Transmission Line Rehab

Project Type: Water

Category: 1

Funding Year: FY 2021 Acquisition and Design

Project Cost: \$700,000.00

Funding Source: Water Loan

Project Description:

Property Acquisition and Design for the rehabilitation of the existing 36" transmission line from OOWA to Broken Arrow's water treatment plant.

Purpose:

Rehabilitations of a 1980 prestressed concrete cylinder pipe.

Benefit:

To allow City of Broken Arrow to have another drinking water supply or a secondary raw water source.

PROJECT IDENTIFICATION

Project Name: 24" Transmission Line - South Loop Phase II (Waco-Elm)

Project Type: Water

Category: 1

Funding Year: FY 2016 (Budgeted in FY 2016 Project carried forward)

Project Cost: \$400,000.00

Funding Source: O&M Annual Budget

Project Description:

Continuation of the Phase I 24" waterline ending at Waco. Phase II waterline would extend from Waco south along 9th Street to Florence Street and continuing west along Florence Street to Elm Place. The waterline would tie into the already installed 2,000 LF of 24" waterline along Florence Street.

Purpose:

Continuation of a large water line loop for south Broken Arrow as shown in the 2013 Revised Water Model Report prepared by HUB Engineers.

Benefit:

Provides additional water capacity to south Broken Arrow.

PROJECT IDENTIFICATION

Project Name: 24" Transmission Line - S. Loop Phase III (96th-New Orleans)

Project Type: Water

Category: 1

Funding Year: FY 2017 Design / FY 2018 Construction

Project Cost: \$60,000 Design / \$650,000 R/W & Construction

Funding Source: Water Loan

Project Description:

Continuation of Phase I and II 24" water line. Project ties into 24" Phase I water line at New Orleans Street and continues north 1/2 mile and ties into existing 36" transmission line.

Purpose:

Continuation of a large water line loop for south Broken Arrow as shown in the 2013 Revised Water Model Report prepared by HUB Engineers.

Benefit:

Provides additional water capacity to south Broken Arrow. This will also tie in the new 2-3 MG elevated water storage tank.

PROJECT IDENTIFICATION

Project Name: 24" Waterline - Connect 5 MG GST to System

Project Type: Water

Category: 2

Funding Year: FY 2017

Project Cost: \$2,000,000.00

Funding Source: Water Loan

Project Description:

Project consist of a 24" transmission line to connect the 5 MG ground storage tank to a 24" waterline in the system. Starts at the existing 24" waterline near Elm Avenue and Omaha Street and continues east to Broken Arrow Public School property then south down mid mile of section 35 to an existing 24" waterline running along Albany Street.

Purpose:

Connect a larger 24" transmission line into the 5 MG ground storage tank.

Benefit:

Allow the 5 MG ground storage tank to fill and drain more efficiently. Added benefit of allowing more water from the first City of Tulsa connection into the system.

PROJECT IDENTIFICATION

Project Name: Miscellaneous Waterlines - Old Town

Project Type: Water

Category: 1

Funding Year: FY 2017

Project Cost: \$100,000.00

Funding Source: O&M Annual Budget

Project Description:

Annual project for replacing old sand cast and cast iron waterlines in the old town area.

Purpose:

Replacing out dated waterlines of various sizes to increase water delivery reliability.

Benefit:

Decrease waterline breaks and increase water circulation in the old town area. Reduce O&M costs.

PROJECT IDENTIFICATION

Project Name: Miscellaneous Waterlines - Old Town

Project Type: Water

Category: 1

Funding Year: FY 2018 - FY 2021

Project Cost: \$25,000 design / \$300,000 construction each year

Funding Source: O&M Annual Budget

Project Description:

Annual project for replacing old sand cast and cast iron waterlines in the old town area.

Purpose:

Replacing out dated waterlines of various sizes to increase water delivery reliability.

Benefit:

Decrease waterline breaks and increase water circulation in the old town area. Reduce O&M costs.

PROJECT IDENTIFICATION

Project Name: 6" Waterline - Washington from Date to Main

Project Type: Water

Category: 2

Funding Year: FY 2019

Project Cost: \$250,000.00

Funding Source: O&M Budget

Project Description:

Cost for construction materials for in-house forces to install a 6" waterline along
Washington from Date to Main.

Purpose:

Eliminating dead-end lines in the system and increase water circulation. Also replacing an
old 2" waterline that serves a church and commercial businesses.

Benefit:

Increase chlorine residual by removing dead-end lines.

PROJECT IDENTIFICATION

Project Name: 16" Waterline - Olive from Tucson to New Orleans

Project Type: Water

Category: 1

Funding Year: FY 2020

Project Cost: \$1,310,000.00

Funding Source: Water Loan

Project Description:

Construction of a 16" waterline along Olive Avenue from Tucson Street to New Orleans Street.

Purpose:

Completion large water line loop for south Broken Arrow as shown in the 2013 Revised Water Model Report prepared by HUB Engineers.

Benefit:

Provides additional water capacity to south Broken Arrow.

PROJECT IDENTIFICATION

Project Name: Automatic Meter Reading

Project Type: Water

Category: 3

Funding Year: FY 2018 / FY 2020

Project Cost: \$2,000,000 / \$2,000,000

Funding Source: Water Loan

Project Description:
Purchase AMR devices for City staff installation through out Broken Arrow.

Purpose:
Replacing walking read water meters through out the City with drive-by automatic reading
water meters.

Benefit:
Reduce O&M, decrease labor cost and increase accuracy for reading meters.

PROJECT IDENTIFICATION

Project Name: 4 MG GST Restoration - Phase I (Tiger Hill)

Project Type: Water

Category: 1

Funding Year: FY 2017

Project Cost: \$900,000.00

Funding Source: Water Loan

Project Description:

Restoration of one of the three ground storage tanks on Tiger Hill. To include structural steel replacement, coating inside and out, addition of cathodic protection, inlet & outlet piping reconfiguration and a mixing system.

Purpose:

Repair and maintenance of ground storage tank.

Benefit:

Continued use of the existing water storage tank.

PROJECT IDENTIFICATION

Project Name: 4 MG GST Restoration - Phase II (Tiger Hill)

Project Type: Water

Category: 2

Funding Year: FY 2018

Project Cost: \$700,000.00

Funding Source: Water Loan

Project Description:

Restoration of one of the three ground storage tanks on Tiger Hill. To include structural steel replacement, coating inside and out, addition of cathodic protection, inlet & outlet piping reconfiguration and a mixing system.

Purpose:

Repair and maintenance of ground storage tank.

Benefit:

Continued use of the existing water storage tank.

PROJECT IDENTIFICATION

Project Name: 4 MG GST Restoration - Phase III (Tiger Hill)

Project Type: Water

Category: 2

Funding Year: FY 2019

Project Cost: \$800,000.00

Funding Source: Water Loan

Project Description:

Restoration of one of the three ground storage tanks on Tiger Hill. To include structural steel replacement, coating inside and out, addition of cathodic protection, inlet & outlet piping reconfiguration and a mixing system.

Purpose:

Repair and maintenance of ground storage tank.

Benefit:

Continued use of the existing water storage tank.

PROJECT IDENTIFICATION

Project Name: 2-3 MG Water Storage Tank

Project Type: Water

Category: 2

Funding Year: FY 2021

Project Cost: \$4,730,000.00

Funding Source: Water Loan

Project Description:

Construction of a 2 to 3 million gallon elevated water storage tank in south Broken Arrow.

Purpose:

Increase storage capacity in south Broken Arrow.

Benefit:

Increased storage capacity.

PROJECT IDENTIFICATION

Project Name: 1 MG Elevated Storage Tank Rehabilitation

Project Type: Water

Category: 2

Funding Year: FY 2021

Project Cost: \$750,000.00

Funding Source: Water Loan

Project Description:

Rehabilitation of the 1 million gallon storage tank on the high service plain near First Baptist Church. To include tank repairs, interior and exterior painting, cathodic protection and a mixing system.

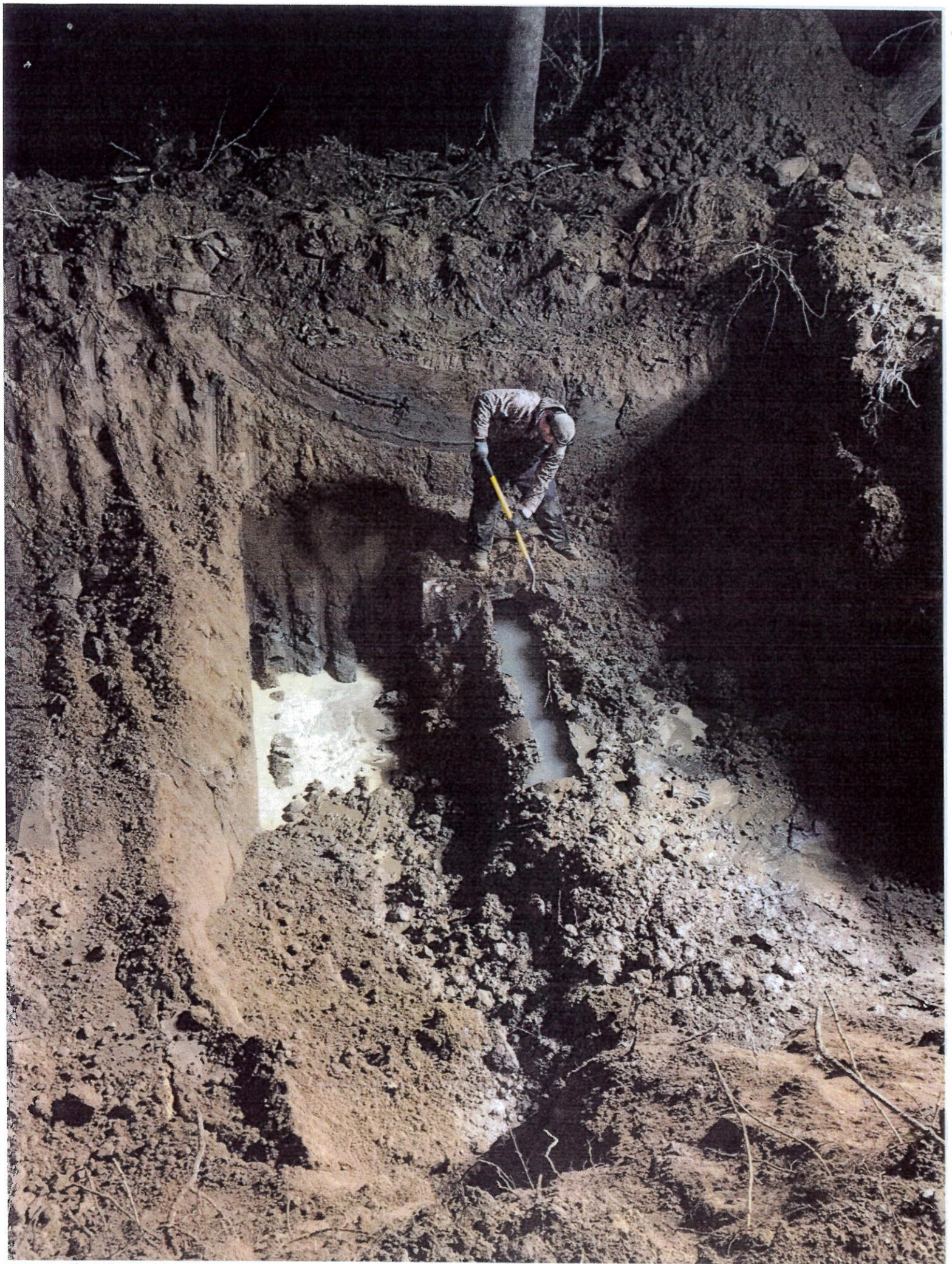
Purpose:

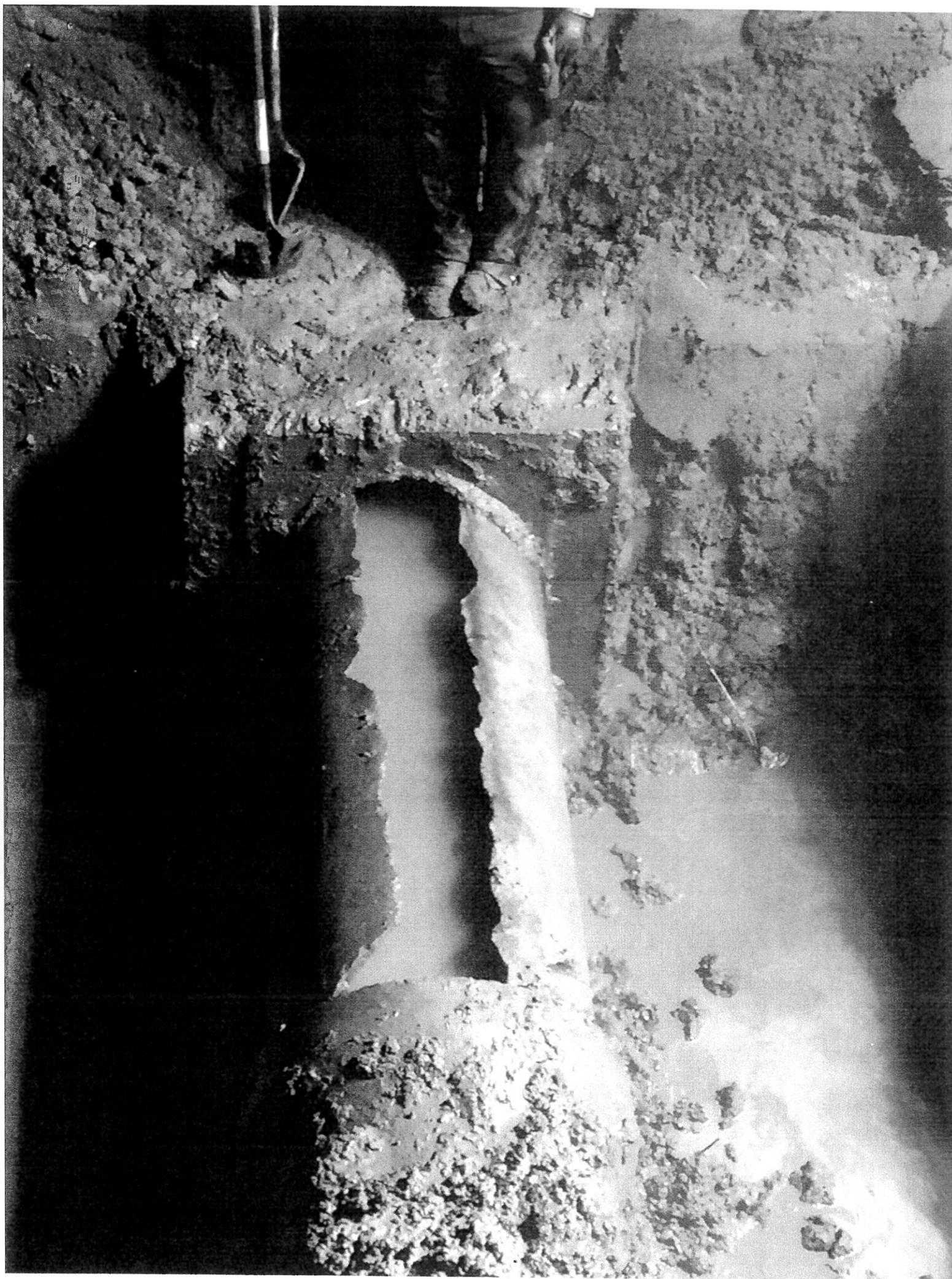
Repair and maintenance of elevated storage tank.

Benefit:

Continued use of the existing water storage tank.

WASTEWATER SYSTEM IMPROVEMENTS









COMPTON SUBURB TRUNK LINE 274

PROJECT IDENTIFICATION

Project Name: HCWWTP - SCBA/Sump/Clar/Pumps

Project Type: RMUA - Wastewater

Category: 1

Funding Year: FY 2018 Construction

Project Cost: \$800,000.00

Funding Source: Wastewater Loan

Project Description:

Capital Equipment replacement at Haikey Wastewater Treatment Plant.

Purpose:

Upgrade and replace old equipment nearing or exceeding useful life.

Benefit:

Improve equipment performance and enhance treatment production.

PROJECT IDENTIFICATION

Project Name: HCWWTP - FEB Addition

Project Type: RMUA - Wastewater

Category: 2

Funding Year: FY 2017 Construction

Project Cost: \$5,830,000.00

Funding Source: Wastewater Loan

Project Description:

Construction of an additional 18 MG flow equalization basin at Haikey Creek Wastewater Treatment Plant.

Purpose:

To allow plant staff to store wastewater during peak flows above plant capacity.

Benefit:

Significantly reduce sanitary sewer overflows.

PROJECT IDENTIFICATION

Project Name: HCWWTP - Maintenance Building

Project Type: RMUA - Wastewater

Category: 2

Funding Year: FY 2017 Design and Construction

Project Cost: \$400,000.00

Funding Source: Wastewater Loan

Project Description:

Design and construction of a maintenance building at Haikey Creek Wastewater Treatment plant.

Purpose:

Place for spare parts storage and work space for the maintenance staff at the HC WWTP staff.

Benefit:

Works space and parts storage for maintenance operations at the Haikey Creek WWTP

PROJECT IDENTIFICATION

Project Name: HCWWTP - Activated Sludge Aeration Basin

Project Type: RMUA - Wastewater

Category: 1

Funding Year: FY 2019 Construction

Project Cost: \$8,129,000.00

Funding Source: Wastewater Loan

Project Description:

Construction of aeration basin to replace the old 1970 oxidation ditches.

Purpose:

Replacing old worn out process that requires constant replacement of mechanical equipment to keep it running.

Benefit:

Reduce O&M costs on the current aeration process. Increase reliability.

PROJECT IDENTIFICATION

Project Name: HCWWTP - Grit Removal Facility Rehabilitation

Project Type: RMUA - Wastewater

Category: 2

Funding Year: FY 2018 Construction

Project Cost: \$1,514,000.00

Funding Source: Wastewater Loan

Project Description:
Rehabilitation of the Grit removal facility in the existing headworks facility at the Haikey Creek Wastewater Treatment Plant.

Purpose:
Replacing worn out equipment (pumps, electrical components, etc.) per recommendations from the RMUA Headworks Evaluation report.

Benefit:
More reliable and efficient operations grit removal facility.

PROJECT IDENTIFICATION

Project Name: HCWWTP - Electrical System Improvements

Project Type: RMUA - Wastewater

Category: 2

Funding Year: FY 2019 Construction

Project Cost: \$450,000.00

Funding Source: Wastewater Loan

Project Description:

Improvements to the electrical systems at the plant as outlined in the Electric Load and Arc Flash study.

Purpose:

Improvements as outlined in report.

Benefit:

Improve safety and reliability of the electrical system at Haikey Creek Plant.

PROJECT IDENTIFICATION

Project Name: HCWWTP - Electrical Switch Gear & Transformers

Project Type: RMUA - Wastewater

Category: 2

Funding Year: FY 2019 Construction

Project Cost: \$500,000.00

Funding Source: Wastewater Loan

Project Description:
Improvements to the switch gear and transformers at the plant as outlined in the Electric Load and Arc Flash study.

Purpose:
Improvements as outlined in report.

Benefit:
Improve safety and reliability of the electrical system at Haikey Creek Plant.

PROJECT IDENTIFICATION

Project Name: HCWWTP - Primary Clarifiers

Project Type: RMUA - HCWWTP

Category: 2

Funding Year: FY 2019 Design / 2020 Construction

Project Cost: \$825,000 / \$8,034,000

Funding Source: Wastewater Loan

Project Description:

Design and Construction of three primary clarifiers to increase plant capacity and improve sludge handling.

Purpose:

Expand treatment capacity for permitted amount. Also process needed to produce Class B sludge.

Benefit:

Increase plant capacity and eliminate sludge hauling to Southside Plant.

PROJECT IDENTIFICATION

Project Name: HCWWTP - Anaerobic Digesters

Project Type: RMUA - Wastewater

Category: 2

Funding Year: FY 2020 Design / FY2021 Construction

Project Cost: \$1,400,000 / \$14,500,000

Funding Source: Wastewater Loan

Project Description:

Addition of anaerobic digesters to improve sludge handling and convert the treatment process from aerobic digestion to anaerobic digestion.

Purpose:

Needed to be able to produce Class B sludge and to land apply the sludge without the use of lime.

Benefit:

Reduce plant odors and eliminate the need for trucking sludge to Southside WWTP.

PROJECT IDENTIFICATION

Project Name: HCWWTP - Sludge Dewatering Facility

Project Type: RMUA - Wastewater

Category: 3

Funding Year: FY 2021 (Construction)

Project Cost: \$258,000.00

Funding Source: Wastewater Loan

Project Description:
Addition of 3rd belt filter, electrical improvements, conveyor extension and improvements to air handling system. Additional rehab of existing equipment that has went unused to since 1990's.

Purpose:
Dewatering facility is needed after the switch to anaerobic digesters are completed and sludge is no longer transferred to Southside WWTP.

Benefit:
Eliminate the need to truck sludge to Southside WWTP. Increase reliability of mechanical failures and process disruption.

PROJECT IDENTIFICATION

Project Name: HCWWTP - Lift Station Phase IV

Project Type: RMUA - Wastewater

Category: 2

Funding Year: FY 2021 Design

Project Cost: \$317,000.00

Funding Source: Wastewater Loan

Project Description:

Design for expansion at Haikey Creek Lift Station.

Purpose:

Increase firm capacity of the lift station to handle the current and future flows.

Benefit:

Increase reliability of pumping systems. Reduce O&M on mechanical failures. Increase station capacity reduce wet weather sanitary sewer overflows.

PROJECT IDENTIFICATION

Project Name: HC Basin - SSES Program (Wolf Creek Line)

Project Type: Wastewater

Category: 3

Funding Year: FY 2019 Design

Project Cost: \$300,000.00

Funding Source: O&M Annual Budget

Project Description:

Continuation of the Haikey Creek Basin Sanitary Sewer Evaluation Study (SSES). This SSES is for the Wolf Creek Line that ties into the Haikey Creek Trunk Line.

Purpose:

An evaluation of the sanitary sewer lines with respect to pipe condition, manhole condition, amount of sediment, line capacity and amount of infiltration.

Benefit:

The evaluation allows maintenance to be planned. It also reduces overflows and allows for repairs on needed sections of pipe or manholes.

PROJECT IDENTIFICATION

Project Name: HC Basin - Haikey Creek Trunk Sewer - Phase 1

Project Type: Wastewater

Category: 1

Funding Year: FY 2018 / FY 2019 / FY 2020 Construction

Project Cost: \$1,200,000 / \$1,200,000 / \$1,200,000

Funding Source: Wastewater Loan

Project Description:

Construction cost for cleaning, slip-lining and manhole rehabilitation or replacement on approximately 4,600 LF of 54" Trunk line per the 2009 Haikey Creek SSES.

Purpose:

Rehabilitation of concrete 54" trunk line installed in the 1970's. This project was outlined and recommended in the 2009 HC SSES.

Benefit:

Reduce line failure potential, reestablish line capacity and reduce inflow and infiltration potential.

PROJECT IDENTIFICATION

Project Name: HC Basin - Haikey Creek Trunk Sewer - Phase 2

Project Type: Wastewater

Category: 1

Funding Year: FY 2021 Design

Project Cost: \$250,000.00

Funding Source: Wastewater Loan

Project Description:

Design cost for cleaning, slip-lining and manhole rehabilitation or replacement on approximately 4,300 LF of 48" Trunk line per the 2009 Haikey Creek SSES.

Purpose:

Rehabilitation of concrete 48" trunk line installed in the 1970's. This project was outlined and recommended in the 2009 HC SSES.

Benefit:

Reduce line failure potential, reestablish line capacity and reduce inflow and infiltration potential.

PROJECT IDENTIFICATION

Project Name: LLWWTP - Belt Filter Press Bldg Addition

Project Type: Wastewater

Category: 2

Funding Year: FY 2020 Construction

Project Cost: \$500,000.00

Funding Source: Wastewater Loan

Project Description:

Replacement of one of the two belt filter presses and related equipment.

Purpose:

Replacement of equipment to allow for more efficient and maintenance free operations.

Belt Filter press used to dewater sludge.

Benefit:

Better dewatering of sludge. More reliable O&M of the dewatering system.

PROJECT IDENTIFICATION

Project Name: LLWWTP - Headworks/Grit Removal Facility

Project Type: Wastewater

Category: 1

Funding Year: FY 2017

Project Cost: \$10,600,000.00

Funding Source: Wastewater Loan

Project Description:

Construction of a new Headworks Facility including Odor control Facilities. The Headworks includes Screening, Grit Removal, Washer & Compactor, and Loading facilities.

Purpose:

Improving the removal of non-organic wastes from the treatment process which will increase treatment efficiency, reduce plant odors.

Benefit:

Reduce O&M, odors and improve treatment process.

PROJECT IDENTIFICATION

Project Name: LLWWTP - Sludge Digestion Improvements

Project Type: Wastewater

Category: 1

Funding Year: FY 2017 Design / FY 2018 Construction

Project Cost: \$70,000 / \$1,000,000

Funding Source: Wastewater Loan

Project Description:

Replacing fine bubble diffusers with coarse bubble diffusers per recommendations in the
Sludge Digestion System Improvements study. Also includes removal of sludge and the
addition of mixing system for both digesters.

Purpose:

Improving the mixing and the dissolved oxygen in the sludge.

Benefit:

Reduce odors, and amounts of sludge removal.

PROJECT IDENTIFICATION

Project Name: LLWWTP - Rehab of West Clarifier

Project Type: Wastewater

Category: 1

Funding Year: FY 2018

Project Cost: \$3,000,000.00

Funding Source: Wastewater Loan

Project Description:
Rehabilitation of the west clarifier including all metal structure, pumps and piping.

Purpose:
Rehabilitation of the 1980's Clarifier.

Benefit:
Improve operations and reduce maintenance of the clarifier.

PROJECT IDENTIFICATION

Project Name: LLWWTP - Disinfection System Improvements

Project Type: Wastewater

Category: 2

Funding Year: FY 2018 Design / FY 2019 Construction

Project Cost: \$250,000 / \$2,000,000

Funding Source: Wastewater Loan

Project Description:

Improvements to the disinfection system at the wastewater plant to allow for year around disinfection. Options to be explored are Ultra Violet (UV), sodium hypochlorite, peracetic acid.

Purpose:

Discharge permit is expected to require year around disinfection. This project will look at options for methods of disinfection and recommend most appropriate system.

Benefit:

Removal of the existing chlorine gas system. Keep the plant operating in the confines of the discharge permit.

PROJECT IDENTIFICATION

Project Name: LLWWTP - Rehab of East Clarifier

Project Type: Wastewater

Category: 2

Funding Year: FY 2020 Design / FY2021 Construction

Project Cost: \$100,000 / \$500,000

Funding Source: Wastewater Loan

Project Description:

Rehabilitation of mechanical and wearing components for the east clarifier.

Purpose:

Maintaining the components of the east clarifier in working order.

Benefit:

Reduce O&M costs for the Clarifier.

PROJECT IDENTIFICATION

Project Name: LLWWTP - Indian Springs Lift Station Improvements

Project Type: Wastewater

Category: 2

Funding Year: FY 2020 Design / FY 2021 Construction

Project Cost: \$250,000 / \$1,000,000

Funding Source: Wastewater Loan

Project Description:

Increasing the firm capacity at the lift station by replacing pumps and other mechanical components.

Purpose:

Increase firm capacity and reduce O&M requirements.

Benefit:

Increase firm capacity and reduce O&M requirements.

PROJECT IDENTIFICATION

Project Name: LL Basin - Lynn Lane Trunk Replacement - Phase I

Project Type: Wastewater

Category: 1

Funding Year: FY 2017 Construction

Project Cost: \$1,650,000.00

Funding Source: Wastewater Loan

Project Description:

Replacement of the 27" trunk line starting at the LLWWTP and continuing to Jasper Street.
Design is being performed by in-house staff. Construction is expected to be performed by
force labor.

Purpose:

Replace old, under sized trunk line.

Benefit:

Increase capacity, reduce sanitary sewer overflow potential, reduce chance for unplanned
maintenance and emergency repair.

PROJECT IDENTIFICATION

Project Name: LL Basin - County Line Trunk Sewer Replacement

Project Type: Wastewater

Category: 1

Funding Year: FY 2017 Design / FY 2018 Construction

Project Cost: \$425,000 / \$13,500,000

Funding Source: Wastewater Loan

Project Description:
Replacement of a 27" trunk sewer line from Jasper Street to Washington (91st) Street.

Purpose:
Replacing undersized 27" sewer main with various size thru the 4.5 mile project (54", 48",
42", 36").

Benefit:
Reduce unplanned O&M budget, reduce potential for sanitary sewer overflows and reduce
the need for emergency repairs and disruption to the public.

PROJECT IDENTIFICATION

Project Name: LL Basin - Elm Creek Trunk Sewer Replacement Phase I

Project Type: Wastewater

Category: 2

Funding Year: FY 2018 ROW / FY2019- 2020 Construction

Project Cost: \$300,000 / \$3,650,000 / \$1,000,000

Funding Source: Wastewater Loan

Project Description:

Replacement of an undersized trunk line from Indian Springs Lift Station to Turnpike.

Purpose:

Replacing an 18" & 15" Sewer Main with 24" & 18" line.

Benefit:

Increasing capacity, reducing potential for sanitary sewer overflows and reducing O&M for unplanned repairs.

PROJECT IDENTIFICATION

Project Name: LL Basin - Aspen Creek Trunk Sewer

Project Type: Wastewater

Category: 2

Funding Year: FY 2017 / FY 2018 Construction

Project Cost: \$800,000 / \$650,000

Funding Source: Wastewater Loan

Project Description:

Construction funds for a new gravity trunk sewer from Tucson (121st) to Florence (111st) running along Aspen Creek.

Purpose:

New Trunk Sewer will eliminate Grey Oaks and Florence Lift Stations which will improve operations of the collection system, as well as open commercial property along the turnpike up for development.

Benefit:

Reduce O&M by eliminating two lift station with a gravity relief line and open land up for commercial and retail development.

PROJECT IDENTIFICATION

Project Name: LL Basin - Lift Station (5) Screening Improvements

Project Type: Wastewater

Category: 2

Funding Year: FY 2017

Project Cost: \$1,500,000.00

Funding Source: Wastewater Loan

Project Description:

Construction of bar screens for five different existing lift stations (Adams Creek NW, The Greens, Timberbrook, Old Adams Creek and Indian Springs).

Purpose:

Addition of bar screens for pump protection at five lift stations.

Benefit:

Reduce O&M costs and protection of lift station pump equipment.

PROJECT IDENTIFICATION

Project Name: LL Basin - Lift Station SCADA Improvements

Project Type: Wastewater

Category: 1

Funding Year: FY 2017 Construction

Project Cost: \$1,900,000.00

Funding Source: Wastewater Loan

Project Description:

Addition of SCADA (Supervisory Control and Data Acquisition) to the sanitary sewer lift stations.

Purpose:

To remotely monitor lift station operations and alarm.

Benefit:

Reduce O&M costs and allow for more efficient use of sewer staff resources.

PROJECT IDENTIFICATION

Project Name: LL Basin - Oneta Road Lift Station Improvements

Project Type: Wastewater

Category: 1

Funding Year: FY 2017

Project Cost: \$700,000.00

Funding Source: Wastewater Loan

Project Description:

Replacing failing lift station with a new sewer triplex lift station. Also includes re-working the site for better access.

Purpose:

Replacing and failing lift station with a new packaged lift station.

Benefit:

Reduce O&M cost, reduce potential for reoccurring Sanitary Sewer Overflows and satisfy a DEQ consent order.

PROJECT IDENTIFICATION

Project Name: LL Basin - 209th Lift Station Force Main

Project Type: Wastewater

Category: 2

Funding Year: FY 2017

Project Cost: \$1,500,000.00

Funding Source: Wastewater Loan

Project Description:

This lift station pumps sewage to another lift station that is at capacity. This project re-directs the flow to the upper reaches of the County Line Trunk sewer.

Purpose:

Re-direct flow from an at capacity lift station to a gravity trunk sewer line.

Benefit:

Reduce O&M, reduce potential for sanitary sewer overflow.

PROJECT IDENTIFICATION

Project Name: LL Basin - Misc. Lift Station Improvements

Project Type: Wastewater

Category: 2

Funding Year: FY 2020 Design FY 2021 Construction

Project Cost: \$40,000 / \$120,000

Funding Source: Wastewater Loan

Project Description:

Replacement of pumps and equipment at miscellaneous lift stations.

Purpose:

Replacing aging or failing pumping equipment.

Benefit:

Reduce O&M and the potential for sanitary sewer overflows.

PROJECT IDENTIFICATION

Project Name: LL Basin - Expressway Lift Station Improvements

Project Type: Wastewater

Category: 1

Funding Year: FY 2020

Project Cost: \$1,000,000.00

Funding Source: Wastewater Loan

Project Description:

Design and construction of lift station upgrades and equipment change out for the
Expressway Lift Station located south of Highway 51 and north of the Public Safety
Headquarter.

Purpose:

Replace aging lift station.

Benefit:

Reduce O&M and reduce potential for sanitary sewer overflows.

STORMWATER SYSTEM IMPROVEMENTS









PROJECT IDENTIFICATION

Project Name: Stone Ridge Towne Center - Diversion (HC)

Project Type: Stormwater

Category: 1

Funding Year: FY 2017

Project Cost: \$400,000.00

Funding Source: 2014 Bond

Project Description:

Storm sewer and channel improvements to redirect developed stormwater flows from the Stone Towne Center development to the City owned Battle Creek Lake.

Purpose:

Reduce future drainage or flooding impacts from development and maximize use of existing and future stormwater detention facilities.

Benefit:

Reduce future drainage and flooding impacts from development areas.

PROJECT IDENTIFICATION

Project Name: 37th Street Detention (HC)

Project Type: Stormwater

Category: 1

Funding Year: FY 2017

Project Cost: \$780,000.00

Funding Source: 2011 and 2014 Bonds

Project Description:

Design and construct a regional detention facility on Adams Creek in the 37th Street vicinity between Albany and Omaha Streets. Includes \$30,000 for design and \$750,000 for construction

Purpose:

Provide regional stormwater detention for future developments within the Adams Creek watershed in the vicinity of the project.

Benefit:

Provide additional floodplain storage and peak stormwater flow reduction in the Adams Creek watershed to reduce adverse impacts to downstream properties. The regional detention facility will also be a multi-use facility that will also provide aesthetic, recreational, and stormwater quality benefits.

PROJECT IDENTIFICATION

Project Name: Eagle Creek Drainage Improvements (AC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2017

Project Cost: \$105,000.00

Funding Source: 2011 Bond

Project Description:

Improve Omaha Street culvert on eastern edge of Eagle Creek subdivision. Includes \$30,000 for design and \$75,000 for construction.

Purpose:

Improve stormwater conveyance to reduce Omaha Street roadway overtopping during rainfall events.

Benefit:

Improve stormwater conveyance and reduce arterial roadway overtopping to improve traffic safety and prevent flood damages to nearby properties.

PROJECT IDENTIFICATION

Project Name: Eagle Creek Stormwater Improvements (AC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2018

Project Cost: \$75,000.00

Funding Source: 2011 Bond

Project Description:

Provide storm sewer improvements in the East 49th Street vicinity within the subdivision.

Purpose:

Reduce street ponding of stormwater flows on East 49th Street.

Benefit:

Improve stormwater conveyance to reduce street ponding on residential streets to improve traffic safety and prevent flood damages to nearby properties.

PROJECT IDENTIFICATION

Project Name: Turnberry Detention Pond Improvements (SC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2017

Project Cost: \$25,000.00

Funding Source: 2011 Bond

Project Description:

Design Turnberry Detention Facility outlet structure improvements and Dearborn Street culvert improvements.

Purpose:

Improve existing detention facility efficiency and effectiveness. Upgrading the Dearborn Street culvert immediately downstream from the pond outlet structure will improve stormwater conveyance.

Benefit:

Reduce flooding potential within the Turnberry and Glen Eagles subdivisions. Reduce street overtopping frequency on Dearborn Street.

PROJECT IDENTIFICATION

Project Name: Turnberry Detention Pond Improvements (SC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2018

Project Cost: \$100,000.00

Funding Source: 2011 Bond

Project Description:

Construct Turnberry Detention Facility outlet structure improvements and Dearborn Street culvert improvements.

Purpose:

Improve existing detention facility efficiency and effectiveness. Upgrading the Dearborn Street culvert immediately downstream from the pond outlet structure will improve stormwater conveyance.

Benefit:

Reduce flooding potential within the Turnberry and Glen Eagles subdivisions. Reduce street overtopping frequency on Dearborn Street.

PROJECT IDENTIFICATION

Project Name: Glade Crossing Storm Sewer Improvements (HC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2017

Project Cost: \$10,000.00

Funding Source: Unidentified Funding Source

Project Description:

Design improvements to existing public storm sewer system.

Purpose:

Reduce street and yard ponding during rainfall events.

Benefit:

Improved stormwater conveyance providing improved traffic safety and reduction in property damage potential.

PROJECT IDENTIFICATION

Project Name: Glade Crossing Storm Sewer Improvements (HC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2018

Project Cost: \$125,000.00

Funding Source: Unidentified Funding Source

Project Description:

Construct improvements to existing public storm sewer system.

Purpose:

Reduce street and yard ponding during rainfall events.

Benefit:

Improved stormwater conveyance providing improved traffic safety and reduction in property damage potential.

PROJECT IDENTIFICATION

Project Name: Battle Creek Irrigation System

Project Type: Stormwater

Category: 3

Funding Year: FY 2021

Project Cost: \$50,000.00

Funding Source: Unidentified Funding Source

Project Description:
Design Irrigation System to utilize Battle Creek ponds and lakes for irrigation purposes.

Purpose:
Supplement potable water currently used at the course for irrigation purposes.

Benefit:
Reduction of potable water used at the course. Drought relief benefits.

PROJECT IDENTIFICATION

Project Name: Stone Ridge Towne Center - Highway Crossing (HC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2019

Project Cost: \$1,500,000.00

Funding Source: Unidentified Funding Source

Project Description:

Construct improvements to existing ODOT Highway 51 culvert that drains the Stoneridge Towne Centre and surrounding area. Boring of an additional culvert will be constructed to add storm-water capacity.

Purpose:

Upgrade the existing 50 year design culvert under Highway 51 to an urbanized 100 year culvert to provide necessary flow capacity.

Benefit:

Improved stormwater conveyance between the Stoneridge Towne Center detention facilities projects and reduction in potential of roadway flooding. Increased stormwater conveyance will allow development of valuable Highway 51 corridor properties.

PROJECT IDENTIFICATION

Project Name: Stone Ridge Towne Center - Highway Crossing (HC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2019

Project Cost: \$100,000.00

Funding Source: Unidentified Funding Source

Project Description:

Inspection of improvements to existing ODOT Highway 51 culvert that drains the Stoneridge Towne Center and surrounding area. Boring of an additional culvert will be constructed to add stormwater capacity. Includes coordination and meeting ODOT requirements.

Purpose:

Upgrade the existing 50 year design culvert under Highway 51 to an urbanized 100 year culvert to provide necessary flow capacity.

Benefit:

Improved stormwater conveyance between the three Stoneridge Towne Center detention facility projects and reduction in potential of roadway flooding. Increased stormwater conveyance will allow development of valuable Highway 51 corridor properties.

PROJECT IDENTIFICATION

Project Name: Stone Ridge Towne Center - Site Imp. (HC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2021

Project Cost: \$100,000.00

Funding Source: Unidentified Funding Source

Project Description:

Construction of channel improvements on the triangular tract downstream of the Stoneridge Towne Center and upstream of Highway 51. Includes mitigation requirements to meet 404 Permit requirements.

Purpose:

Preparation of the existing channel for potential commercial development on the parcel.

Benefit:

Channel improvements will allow future development to occur over portions of the existing channel.

PROJECT IDENTIFICATION

Project Name: Reserve at Battle Creek Storm Sewer Improvements (HC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2018

Project Cost: \$185,000.00

Funding Source: Unidentified Funding Source

Project Description:

Design improvements to existing public storm sewer system. Includes \$10,000 for easements, \$25,000 for design and \$150,000 for construction.

Purpose:

Improve stormwater conveyance in back yard areas that is currently damaging private properties.

Benefit:

Reduction in stormwater damage risk to adjacent residential properties.

PROJECT IDENTIFICATION

Project Name: Westwind - Charleston II Drainage Improvements (AC)

Project Type: Stormwater

Category: 1

Funding Year: FY 2017

Project Cost: \$55,000.00

Funding Source: Stormwater Capital Fund 26

Project Description:
Improvements to existing public storm sewer system. Includes \$5,000 for easements and \$50,000 for construction.

Purpose:
Improve stormwater conveyance in back yard areas that is currently damaging private properties

Benefit:
Reduction in stormwater damage risk to adjacent residential properties.

PROJECT IDENTIFICATION

Project Name: Village Square Drainage Improvements - Phase II (HC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2017 (Design) FY 2018 Land Acquisition and Construction

Project Cost: \$185,000.00

Funding Source: Unidentified Funding Source

Project Description:

Improvements to existing public storm sewer system. Includes \$10,000 for easements, \$25,000 for design and \$150,000 for construction.

Purpose:

Improve stormwater conveyance in back yard areas that is currently damaging private properties.

Benefit:

Reduction in stormwater damage risk to adjacent residential properties.

PROJECT IDENTIFICATION

Project Name: Vandever Acres 6th Drainage Improvements (HC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2018 (Design) FY 2019 (Construction)

Project Cost: \$125,000.00

Funding Source: Unidentified Funding Source

Project Description:

Improvements to existing public storm sewer system. Includes \$25,000 for design and \$100,000 for construction.

Purpose:

Reduce street and yard ponding during rainfall events.

Benefit:

Improved stormwater conveyance providing improved traffic safety and reduction in property damage potential.

PROJECT IDENTIFICATION

Project Name: Home Gardens Storm Sewer Improvements

Project Type: Stormwater

Category: 3

Funding Year: FY 2019 (Design) FY 2020 (Construction

Project Cost: \$65,000.00

Funding Source: Unidentified Funding Source

Project Description:

Improvements to existing public storm sewer system. Includes \$15,000 for design and \$50,000 for construction.

Purpose:

Reduce street and yard ponding during rainfall events.

Benefit:

Improved stormwater conveyance providing improved traffic safety and reduction in property damage potential.

PROJECT IDENTIFICATION

Project Name: Wedgewood II Storm Sewer Improvements (HC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2019 (Design) FY 2020 (Construction)

Project Cost: \$435,000.00

Funding Source: Unidentified Funding Source

Project Description:
Improvements to existing public storm sewer system. Includes \$35,000 for design and \$400,000 for construction.

Purpose:
Reduce street and yard flooding during rainfall events.

Benefit:
Improved stormwater conveyance providing improved traffic safety and reduction in property damage potential.

PROJECT IDENTIFICATION

Project Name: General Haikey Creek Watershed Improvements (HC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2017, FY 2019, and FY 2021

Project Cost: \$240,000.00

Funding Source: Unidentified Funding Source

Project Description:

General storm sewer, borrow ditch, channel, stormwater detention, or other stormwater projects. The \$240,000 includes \$10,000 for land acquisition, \$20,000 for design, and \$50,000 for construction a total of \$80,000 each year for three budget years.

Purpose:

New construction or rehabilitation of storm sewer systems to meet needs that arise in a given year.

Benefit:

Improved stormwater conveyance, improved traffic safety, reduced risk of property damage, and improved stormwater quality.

PROJECT IDENTIFICATION

Project Name: General Adams Creek Watershed Improvements (AC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2018 and FY 2019

Project Cost: \$160,000.00

Funding Source: Unidentified Funding Source

Project Description:

General storm sewer, borrow ditch, channel, stormwater detention, or other stormwater projects. The \$160,000 includes \$10,000 for land acquisition, \$20,000 for design, and \$50,000 for construction a total of \$80,000 each year for two budget years.

Purpose:

New construction or rehabilitation of storm sewer systems to meet needs that arise in a given year.

Benefit:

Improved stormwater conveyance, improved traffic safety, reduced risk of property damage, and improved stormwater quality.

PROJECT IDENTIFICATION

Project Name: Events Park Detention Pond Improvements (BAC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2017 (Design) FY 2018 (Construction)

Project Cost: \$250,000.00

Funding Source: Unidentified Funding Source

Project Description:

Improvements to Events Park Lake outlet structure and spillway. Includes \$50,000 for design and \$200,000 for construction.

Purpose:

Improvements to meet permitted dam requirements and to improve functionality of the spillway.

Benefit:

Reduced long term maintenance costs and improved aesthetics at the park.

PROJECT IDENTIFICATION

Project Name: NEEDA Detention Facility Repairs and Rehabilitation (HC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2018 (Design) FY 2019 (Construction)

Project Cost: \$175,000.00

Funding Source: Unidentified Funding Source

Project Description:

Siltation removal, bank repair, access road repair, and other repairs and rehabilitation to existing detention facility.

Purpose:

Significant siltation and erosion has occurred at the pond since it was constructed. Repairs are necessary.

Benefit:

Improve access and maintenance to the detention facility. Continued flood protection.

PROJECT IDENTIFICATION

Project Name: Washington Lane Detention Pond Repairs and Rehabilitation (BAC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2019 (Design) FY 2020 (Construction)

Project Cost: \$300,000.00

Funding Source: Unidentified Funding Source

Project Description:

Siltation removal, bank repair, access road repair, and other repairs and rehabilitation to existing detention facility.

Purpose:

Significant siltation and erosion has occurred at the pond since it was constructed. Repairs are necessary.

Benefit:

Improve access and maintenance to the detention facility. Continued flood protection.

PROJECT IDENTIFICATION

Project Name: The Park at Adams Creek Detention Facility Revision (AC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2017

Project Cost: \$200,000.00

Funding Source: Unidentified Funding Source

Project Description:

Revise current gabion structure outlet to a solid earth embankment outlet structure. In-house design is complete.

Purpose:

Construction of solid outflow structure will provide a release of smaller stormwater peak flows downstream during flood events than the current outflow structure.

Benefit:

Reduced downstream peak flows. Improved flood protection for downstream properties and streets.

PROJECT IDENTIFICATION

Project Name: Stone Ridge Towne Center Upper Pond (HC)

Project Type: Stormwater

Category: 1

Funding Year: FY 2018

Project Cost: \$300,000.00

Funding Source: Unidentified Funding Source

Project Description:

Construct a dry detention facility on parcel on Stoneridge Towne Center recently obtained from St. John Hospital.

Purpose:

The upper pond in conjunction with the stormwater diversion project, lower pond, Highway 51 culvert upgrade, and regional detention will provide a comprehensive design for conveying flows from this watershed.

Benefit:

Reduce future drainage and flooding impacts from development areas.

PROJECT IDENTIFICATION

Project Name: Stone Ridge Towne Center - Lower Pond (HC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2019

Project Cost: \$500,000.00

Funding Source: Unidentified Funding Source

Project Description:

Construct dry detention facility on triangular parcel south of the Stone Ridge Towne Center and upstream of Highway 51.

Purpose:

The lower pond in conjunction with the stormwater diversion project, upper pond, Highway 51 culvert upgrade, and regional detention will provide a comprehensive design for conveying flows from this watershed.

Benefit:

Reduce future drainage and flooding impacts from development areas.

PROJECT IDENTIFICATION

Project Name: Stone Ridge Towne Center Regional Detention (HC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2020

Project Cost: \$1,000,000.00

Funding Source: Unidentified Funding Source

Project Description:

Construct dry regional detention facility on City owned parcel adjacent to Greenway Business Park and south of Highway 51.

Purpose:

The regional detention pond in conjunction with the stormwater diversion project, upper pond, lower pond, and Highway 51 culvert upgrade will provide a comprehensive design for conveying flows from this watershed.

Benefit:

Reduce future drainage and flooding impacts from development areas.

PROJECT IDENTIFICATION

Project Name: Lancaster Park Detention Pond Improvements (HC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2020 (Design) FY 2021 (Construction)

Project Cost: \$850,000.00

Funding Source: Unidentified Funding Source

Project Description:

Siltation removal, bank repair, access road repair, and other repairs and rehabilitation to existing detention facility. Potential conversion of the dry facility to a permanent wet pond. Includes \$100,000 for design and \$750,000 for construction.

Purpose:

Facility was dedicated by the subdivision to the City several years ago. Major maintenance and rehab is necessary to improve maintenance the City can perform there. Improving the pond functionality and appearance.

Benefit:

Increased detention storage volume, better access and maintenance, improved aesthetics.

PROJECT IDENTIFICATION

Project Name: Carousel Concourse Dam Improvements (AC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2017 (Design) FY 2018 (Construction)

Project Cost: \$230,000.00

Funding Source: Unidentified Funding Source

Project Description:

Make necessary improvements to the dry detention facility embankment to meet OWRB permitted dam requirements. Provide dam breach analysis to OWRB. Includes \$30,000 for design and \$200,000 for construction.

Purpose:

The dry detention facility was one of the facilities retroactively permitted as a regulated dam by OWRB. Dam breach analysis and pond embankment improvements\rehabilitation will be required.

Benefit:

Compliance with OWRB dam regulations, improved safety of downstream properties and streets.

PROJECT IDENTIFICATION

Project Name: Carousel Concourse Dam Inspections (HC)

Project Type: Stormwater

Category: 1

Funding Year: FY 2017, 2018, 2019, 2020, 2021

Project Cost: \$12,500.00

Funding Source: Unidentified Funding Source

Project Description:
Prepare required annual OWRB Dam Inspections for this facility. Includes \$2,500 per year for five years.

Purpose:
Preparation of dam inspection report with submittal fees to OWRB annually.

Benefit:
Compliance with OWRB dam regulations, improved safety of downstream properties and streets.

PROJECT IDENTIFICATION

Project Name: Aspen Pond Dam Improvements

Project Type: Stormwater

Category: 2

Funding Year: FY 2020 (Design) FY 2021 (Construction)

Project Cost: \$75,000.00

Funding Source: Unidentified Funding Source

Project Description:

Make necessary improvements to the dry detention facility embankment to meet OWRB permitted dam requirements. Provide dam breach analysis to OWRB. Includes \$25,000 for design and \$50,000 for construction.

Purpose:

The detention facility is one of the facilities permitted as a regulated dam by OWRB. Rehab to the embankment and a dam breach analysis will be required.

Benefit:

Compliance with OWRB dam regulations, improved safety of downstream properties and streets.

PROJECT IDENTIFICATION

Project Name: Aspen Pond Dam Inspections

Project Type: Stormwater

Category: 1

Funding Year: FY 2018 and FY 2021

Project Cost: \$5,000.00

Funding Source: Unidentified Funding Source

Project Description:

Provide dam inspections as required every three years on the medium hazard dam.

Purpose:

Submit dam inspection forms with fee to OWRB as required.

Benefit:

Compliance with OWRB dam regulations, improved safety of downstream properties and streets.

PROJECT IDENTIFICATION

Project Name: Broken Arrow Creek Master Drainage Plan (BAC)

Project Type: Stormwater

Category: 2

Funding Year: FY 2017

Project Cost: \$175,000.00

Funding Source: Unidentified Funding Source

Project Description:

Update current Master Drainage Plan to show urbanized flows floodplains.

Purpose:

Provides improved data over the current Master Drainage Plan.

Benefit:

Improved decision making tools for development, floodplain management, and regional detention purposes.

PROJECT IDENTIFICATION

Project Name: Broken Arrow Regulatory Floodplain Development

Project Type: Stormwater

Category: 2

Funding Year: FY 2019, FY 2020, FY 2021

Project Cost: \$75,000.00

Funding Source: Unidentified Funding Source

Project Description:

Create regulatory floodplain criteria above and beyond FEMA floodplain criteria. Includes \$25,000 per year for three years.

Purpose:

Provides specific development and maintenance guidelines for urbanized floodplains and regulatory floodplains higher up in the basin than FEMA floodplains.

Benefit:

Improved development guidelines and flood safety.

PROJECT IDENTIFICATION

Project Name: Haikey Creek Master Drainage Plan (HC)

Project Type: Stormwater

Category: 3

Funding Year: FY 2018

Project Cost: \$500,000.00

Funding Source: Unidentified Funding Source

Project Description:
 Prepare comprehensive master drainage plan for the Haikey Creek basin.

Purpose:
 Provide items like regional detention recommendations, erosion vulnerable properties, trails
 impacts bridge and culvert upgrade recommendations etc.

Benefit:
 Better floodplain data for multi-department use within the Haikey Creek watershed.