STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF THE TOWN OF CHANDLER, INDIANA, FOR APPROVAL OF A NEW SCHEDULE OF RATES AND CHARGES FOR WATER UTILITY SERVICE AND FOR AUTHORITY TO ISSUE REVENUE BONDS TO PROVIDE FUNDS FOR THE COSTS OF THE ACQUISITION AND INSTALLATION OF IMPROVEMENTS AND EXTENSIONS TO THE WATERWORKS OF THE TOWN	)	CAUSE NO. 45062

TESTIMONY

OF

JAMES T. PARKS - PUBLIC'S EXHIBIT NO. 2

ON BEHALF OF THE

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

August 10, 2018

Respectfully Submitted,

Daniel M. Le Vay, Atty. No.22184-49
Deputy Consumer Counselor

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing ***Office of Utility Consumer Counselor Testimony of James T. Parks*** has been served upon the following counsel of record in the captioned proceeding by electronic service on August 10, 2018.

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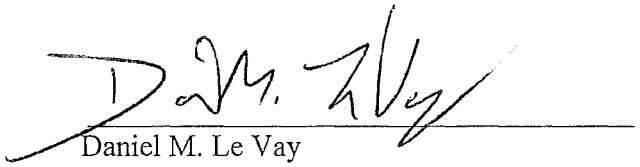

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TESTIMONY OF OUCC WITNESS JAMES T. PARKS
CAUSE NO. 45062
TOWN OF CHANDLER

I. INTRODUCTION

Q: Please state your name and business address.

A: My name is James T. Parks, P.E., and my business address is 115 W. Washington Street, Suite 1500 South, Indianapolis, IN 46204.

Q: By whom are you employed and in what capacity?

A: I am employed by the Office of Utility Consumer Counselor ("OUCC") as a Utility Analyst II in the Water/Wastewater Division. My qualifications and experience are described in Appendix A.

Q: What is the purpose of your testimony?

A: To fund three water main projects, the Town of Chandler (hereafter "Petitioner," "Utility" or "Chandler") has requested authority to borrow $29,294,000 million through a loan from the Drinking Water State Revolving Fund ("DWSRF" or "SRF"). I explain why the OUCC believes Petitioner has overestimated its total project costs. Petitioner has proposed a 92% increase to its periodic maintenance expense compared to the revenue requirement established in the prior rate case.[1] I note that the OUCC believes the water meter portion of Petitioner's requested periodic maintenance expense is already covered in Petitioner's depreciation allowance. I explain why the OUCC believes Petitioner should be permitted to recover a periodic maintenance expense for tank maintenance including painting,

[1] Cause No. 43658, Final Order, January 6, 2010, established the periodic maintenance expenses at $143,317. In the present Cause, Petitioner has requested $275,608 for periodic maintenance.

well and pump maintenance, and filter maintenance.

Q: Please describe the review and analysis you conducted for your testimony.

A: I reviewed Chandler's Petition and the testimonies of J. Christopher Kaufman, Jr., Water Resources Department Manager, Beam, Longest and Neff, LLC, ("BLN"), Robert D. Coghill, Director of Public Services for Chandler Utilities, and Scott A. Miller, CPA, Partner, H.J. Umbaugh & Associates, Certified Public Accountants, LLP ("Umbaugh"), as well as Petitioner's recent annual reports filed with the Indiana Utility Regulatory Commission ("Commission" or "IURC"). I also wrote discovery requests and reviewed Petitioner's responses. On May 24, 2018, OUCC Utility Analyst Carl Seals and I met with Mr. Coghill, to tour Chandler's well field, water treatment plant and some of Petitioner's water towers. We also discussed Petitioner's current operations and capital improvement plans.

I reviewed the February 14, 2018 *Preliminary Engineering Report* ("PER") *for Water Improvements Project* prepared by BLN including the Appendices.[2] These appendices included detailed project cost estimates[3], and the draft Phase IV Water Distribution System Improvements Report – 2013.[4] I conducted and reviewed discovery seeking further justification for Petitioner's capital improvements, and reviewed prior causes. Finally, I compiled and attached various documents, which I refer to in my testimony and list in Appendix B.

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[2] *See* Petitioner's Exhibit No. 2, Attachment JCK-1.

[3] *Id.*, Appendix D – Detailed Project Cost Estimates by Beam, Longest, & Neff, LLC, November 8, 2017

[4] Prepared by Bernardin Lochmueller & Associates, Inc.

II. CHANDLER WATER SYSTEM CHARACTERISTICS

Q: Please briefly describe the Chandler Water System.

A: Petitioner provides water utility service to approximately 6,802 residential, commercial, and industrial customers in a 45 square mile service area[5] in and around the Town of Chandler, primarily in Ohio, Campbell, and Boon Townships[6] in Warrick County, Indiana. Petitioner previously supplied water to the City of Boonville until 2005 through an 8-inch interconnection along State Road 261[7]. The interconnection still exists but it is only for emergency use by both utilities. Chandler's estimated connected population is 17,500[8] to 18,000 people.[9]

Q: Please describe Petitioner's water system facilities.

A: Chandler draws groundwater from six existing wells at its wellfield located along the Ohio River 5.6 miles southwest of the Town limits. Each well is rated for 1,000 gallons per minute with 2017 flow tests showing capacities between 898 and 1,202 gallons per minute ("gpm").[10] Raw water is pumped through an on-site raw water transmission main to the 4.32 million gallons per day ("MGD") water filtration plant ("WTP"), built in 2010. The WTP's design firm capacity is based on three of

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[5] *See* Petitioner's Exhibit No. 2, Attachment JCK-1, 2018 Chandler PER, page 20 of 37.

[6] *Id.,* Appendix A – Study Area and Planning Area Map, page 37 of 37. *See* Attachment JTP-1 for a map showing Warrick County Townships and principal cities and towns.

[7] 2017 Annual Report to the IURC, page W-6.

[8] *See* Petitioner's Exhibit No. 2, Attachment JCK-1, 2018 Chandler PER, page 27 of 37.

[9] *See* the Drinking Water System Details webpage maintained by the Indiana Department of Environmental Management's ("IDEM") Drinking Water Branch for Public Water System IN5287002. https://myweb.in.gov/IDEM/DWW/JSP/WaterSystemDetail.jsp?tinwsys_is_number=408809&tinwsys_st_code=IN&wsnumber=IN5287002

[10] Petitioner's response to OUCC DR 5-2.

the four filters and three of the four high service pumps in service at 1,000 gpm each.[11] Treatment consists of iron and manganese removal through pre-chlorination and filtration on four Layne-Ox pressure filters with an allowable filtration rate of up to 12 gallons per minute per square foot ("gpm/ft^2") of media.[12]

Petitioner has a 368,000 gallon finished water buried concrete clearwell under and adjacent to the high service pump room at the WTP. Chandler also has 2.343 MG of finished water storage in four elevated tanks and one standpipe, for 2.7 MG of total storage capacity.

Q: What are Chandler's demand characteristics?

A: Petitioner's customer base grew 1.05% annually from 5,998 customers in 2006 to 6,802 customers in 2017. Customer and water sold growth have been steady in the last decade. Volume of water pumped has grown over twice as fast as customers and water sold which indicates increasing levels of non-revenue water. However, Petitioner has experienced average water losses at 9% per year over the last decade. Petitioner's 2017 average day demand was 1.69 MGD and average water sold was 1.54 MGD. Petitioner's customer count, water pumped flows, water sold and non-revenue water for the 2006 to 2017 period is summarized in Table 1.

[11] With the largest pump or pressure filter out of service, the WTP has a firm capacity of 3,000 gallons per minute ("GPM") or 4.32 MGD. In 2017, the WTP produced an average of 1.69 MGD or 39% of its firm capacity.

[12] See Attachment JTP-2 for information on the Layne-Ox iron and manganese removal filters.

Table 1 – Customers, Water Pumped from Wells, and Water Sold, 2008 to 2017

	Customers		Water Pumped (MGD)[13]	Water Sold (MGD)	Water Sold per Customer (gpd)	Non-Revenue Water	
Year	Residential	Total				MGD	%
2006	5,737	5,998	1.38	1.30	218	0.08	6%
2007	5,789	6,050	1.59	1.49	246	0.10	6%
2008	5,846	6,101	1.60	1.42	232	0.18	11%
2009	5,738	6,137	1.40	1.31	213	0.09	6%
2010	5,855	6,271	1.51	1.46	233	0.05	3%
2011	5,916	6,324	1.40	1.37	216	0.03	2%
2012	5,953	6,353	1.60	1.46	230	0.14	9%
2013	5,961	6,365	1.50	1.37	214	0.13	9%
2014	6,144	6,471	1.59	1.41	218	0.18	11%
2015	6,173	6,548	1.69	1.45	222	0.24	14%
2016	6,266	6,714	1.84	1.47	219	0.37	20%
2017	6,455	6,802	1.69	1.54	226	0.15	9%
Avg.	5,986	6,345	1.57	1.42	224	0.15	9%

Q: What is the length of Petitioner's transmission and distribution water mains?

A: Petitioner does not report its water main assets (pipe type, diameter, length added, length retired, total length) on its Annual Reports to the IURC.[14] In response to OUCC discovery, Chandler stated it does not have a tabulation of its distribution assets with pipe material information, but did provide a map of its water mains within the Town limits and an overall system map. *See* Attachments JTP-3 and

[13] MGD means million gallons per day. MG means million gallons. gpd means gallons per day.
[14] Page W-9.

JTP-4 for maps of Chandler's service area and distribution system. *See* Attachment JTP-5 to Petitioner's responses to OUCC discovery regarding the water mains.

Q: Should Chandler know the types and sizes of its water mains?

A: Yes. This basic information is important for system operation and planning of distribution system improvements. Petitioner's lack of water main information is unacceptable, but Petitioner's consultants have modeled Chandler's water system, which implies some information exists about the existing water mains.[15]

Q: Does Chandler have an Asset Management Program ("AMP") and if not, does it plan to develop such a program?

A: According to its 2017 IURC Annual Report (W-8), Chandler does not have an Asset Management Program and does not plan to start implementing one at this time.

Q: Are utilities required by the Commission to develop AMPs?

A: No. The Commission encourages utilities to develop AMPs and can provide utilities information to facilitate such programs, but such programs are not required.

Q: Does any other State agency require utilities to have an AMP?

A: Yes. Asset Management Programs are now required for utilities that want to receive SRF loans as explained by the Indiana Finance Authority ("IFA"):

> The Indiana General Assembly, during the 2018 Legislative Session, passed Senate Enrolled Act 362, which became effective on July 1, 2018 and is codified at Indiana Code 5-1.2-10-16. The new law requires that all State Revolving Fund ("SRF") Participants that receive a loan or other financial assistance from the SRF Loan Program certify that the SRF Participant has documentation demonstrating that it has the financial, managerial, technical, and legal capability to operate and maintain its water or wastewater

[15] *See* Petitioner's Exhibit No. 2, Attachment JCK-1, 2018 Chandler PER, Appendix E. Draft *Phase IV Water Distribution System Improvements Report* – 2013, Bernardin Lochmueller & Associates, Inc.

system in the form of an Asset Management Program ("AMP").[16] (emphasis added.)

Q: Will Chandler be required to prepare an Asset Management Program?

A: Yes. Since Chandler is seeking an SRF loan to fund its three proposed water main projects, it will be required to develop an AMP to receive the SRF loan.

III. PERIODIC MAINTENANCE EXPENSE

A. Periodic Maintenance Background

Q: Is Petitioner seeking to recover its projected periodic maintenance expense?

A: Yes. Petitioner proposes to recover $275,608 in rates per year for periodic maintenance. On page 11 of Attachment SAM-1 in its Exhibit No. 3, Petitioner makes "Adjustment 4 – Periodic Maintenance" to adjust test year Operation and Maintenance ("O&M") expenses to recover periodic maintenance expenses.

Q: Is it reasonable for Petitioner to perform periodic maintenance?

A: Yes. It is prudent for Petitioner to incur reasonable expenses to perform periodic maintenance of its assets which allows Petitioner to operate its facilities properly throughout their anticipated useful service lives. These costs may involve hiring outside contractors to inspect and maintain major pieces of equipment such as the groundwater wells and pumps, pressure filters, and elevated water storage tanks.

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[16] *See* Indiana Finance Authority – State Revolving Fund website: https://www.in.gov/ifa/srf/2376.htm and Attachment JTP-6 for requirements, documents, guidance, guidelines, and checklists for the preparation of an Asset Management Program.

Q: What assets and costs comprise Petitioner's Periodic Maintenance request?

A: Petitioner requested funds for maintenance of its six wells and well pumps ($24,000 per year), four pressure filters ($2,857 per year), storage tanks ($143,205 for its maintenance contract with Suez), and $105,546 for water meter replacements.

Q: Do you agree with Petitioner's request for Periodic Maintenance expense?

A: No. As discussed more fully in Mr. Corey's testimony, Petitioner should not recover meter replacement costs as a periodic maintenance expense. Mr. Corey noted that these expenses are really replacement of infrastructure and therefore those expenses are already being met through Petitioner's recovery of depreciation expense. OUCC witness Corey also identified a reduction in the tank painting cost allowance. I agree with Mr. Corey that Petitioner's periodic maintenance expense should be set at $164,786.

Q: Does it appear Petitioner is maintaining its water facilities and equipment?

A: Yes. On May 24, 2018, OUCC Analyst, Carl Seals, and I toured the water system. I observed well maintained facilities at the wellfield, water treatment plant, and elevated storage tanks. It appeared Chandler is properly maintaining its facilities.

IV. CAPITAL IMPROVEMENT PROJECTS

A. Capital Projects Overview

Q: What capital improvement projects has Chandler set forth to justify its need for financing approval?

A: Petitioner plans to construct three separate water main capital improvement projects – (1) a new 24-inch water transmission main, (2) water main replacements in downtown Chandler, and (3) a water line relocation project along Bell Road.

Petitioner estimates total construction costs (including a 20% contingency) at $21,188,000 and an additional $8,106,000 for non-construction costs to produce Total Estimated Project Funding of $29,294,000. The proposed capital improvements showing construction costs and contingencies by project are shown in Table 2. This information was taken from the list of capital improvements in Mr. Kaufman's and Mr. Miller's testimony.

Table 2 - Proposed Construction and Non-Construction Costs

No.	Project Name	Constr. Cost Estimate	Assumed Contingency at 20%	Total Constr. Cost
1	Water transmission main (construction start date in 2020)	$11,510,833	$2,302,167	$13,813,000
2	Water main replacements downtown (construction start date in 2019)	$4,858,333	$971,667	$5,830,000
3	Water main relocation - Bell Road (construction start date in 2019)	$1,287,500	$257,500	$1,545,000
Total Estimated Construction Costs		$17,656,666	$3,531,334	**$21,188,000**
Estimated Non-Construction Costs:				
	Engineering (and Inspection)			$6,357,000
	Land acquisition			$1,500,000
	Bond issuance costs			$226,000
	Gen. Proj. contingency & rounding			$23,000
Total Estimated. Non-Construction Costs				**$8,106,000**
Total Estimated Project Funding				**$29,294,000**

Q: Please briefly describe the water main projects.

A: Water Transmission Main The water transmission main project involves installing 43,408 lineal feet of new 24-inch diameter water transmission main with an additional 7,340 feet of 12-inch and 14-inch water mains north from Petitioner's

water treatment plant. The purpose of this main extension is to provide additional capacity and redundancy to serve the area east of Interstate I-69 in Petitioner's southwest service area. In addition, the new transmission main connects to the Grimm Road and Paradise Road water towers. While Petitioner has decided to install a 24-inch main, the engineers believed a 20-inch main should be considered, as they found that "the 20" and 24" diameter mains both perform similarly."[17] Since the design work for this project is not yet complete, Chandler should consider installing a less expensive 20-inch main. *See* Petitioner's Exhibit No. 2, pages 8 – 9 for more detailed information on the new water transmission main.

Downtown water main replacements This project replaces 23,400 lineal feet of 4-inch to 8-inch old cast iron and undersized water mains, which are located primarily within Chandler's corporate boundaries. *See* Petitioner's Exhibit No. 2, pages 5-8 for more information on the downtown water main replacement projects.

Bell Road water main relocation The Bell Road projects involves relocating 9,370 lineal feet of 4-inch, 6-inch, and 10-inch 40 to 50 year water main to clear the way for the Bell Road widening project. The OUCC understands that Petitioner does not have written easements for its existing mains along Bell Road and is therefore asking for financing authority to pay for the relocation. Without written easements, the cost for relocations are borne by the utility and not the County Highway

[17] See Petitioner's Exhibit No. 2 (J. Christopher Kaufman Jr.) Attachment No. JCK-1, Appendix E – Phase IV Water Distribution System Improvements Report – 2013, page 18.

Department. To correct the problem of not having easements, Petitioner has requested the inclusion of $1,500,000 for temporary and permanent easements for its new water mains. *See* Petitioner's Exhibit No. 2, pages 4 - 5 for more detailed information on the Bell Road water main relocation project.

Q: How is Petitioner proposing to fund its capital improvements?

A: Petitioner plans to borrow all $29,294,000 from the DWSRF program administered by the Indiana Finance Authority ("IFA") under a 35-year loan.

Q: What is the status of Petitioner's DWSRF loan?

A: It has not been approved. Petitioner reports it is in the preliminary stages of the application preparation process. Petitioner has not yet submitted to SRF the documents required to secure the loan. Therefore, in response to discovery, Chandler stated it planned to submit its loan application by June 29, 2018. However, Petitioner will need to prepare environmental documents and institute an Asset Management Program. Chandler will also need to obtain easements for the new transmission and distribution mains. These actions will probably require 6-months to a year to complete. *See* Attachment JTP-7 for Petitioner's responses to OUCC discovery pertaining to the DWSRF Loan status. *See* Attachment JTP-8 for copies of OUCC emails with the DWSRF section regarding the timeframe for PER and loan approvals.

Q: Were you able to determine whether the proposed projects are reasonably necessary?

A: Yes. Petitioner's witness J. Christopher Kaufman included Chandler's 2018 *PER* detailing Petitioner's proposed projects in Petitioner's Exhibit No. 2. I agree the three water main projects are necessary, but I do not agree that the total project

costs are reasonable.

Q: What costs do you consider not reasonable?

A: I consider Petitioner's allowances for 20% contingencies and 30% engineering costs are both significantly overestimated. For purposes of financing approval, I reduced the project contingencies to 10%, which is consistent with IFA guidelines for project cost estimates. I also reduced the engineering costs to 15% to account for engineering design at no more than 10% of the estimated construction cost (with 10% contingency) and inspection services at no more than 5% of the estimated construction costs.

Q: Did Petitioner justify its assumed 20% contingencies and 30% engineering non-construction cost allowances?

A: No. Petitioner provided no support in its Case-In-Chief for the 20% contingency. In response to discovery, Petitioner listed its assumed non-construction costs. *See* Attachment JTP-9 for Petitioner's responses to OUCC DRs 2-9 and 2-10 - Engineering and Non-Construction Costs which has been annotated to show the equivalent engineering labor hours.

Q: Is Petitioner's estimated $21,188,000 construction cost, which includes a 20% contingency reasonable?

A: No. Estimated construction costs should include no more than a 10% contingency allowance. Using the more typical 10% contingency reduces Petitioner's estimated construction costs from $21,188,000 to $19,422,333. The average unit costs per foot of water main shown in Petitioner's Detailed Project Cost Estimates are

reasonable.[18] Furthermore, Petitioner's cost estimates are detailed and appear to have identified all major cost components.[19]

Q: Do you agree with Petitioner's 30% allowance for engineering costs?

A: No. Based on my experience as a consulting engineer and an owner's representative, Petitioner's assumed engineering and inspection costs are overestimated by a factor of more than two. For purposes of financing approval, engineering costs should be estimated at 15%.

Q: Is Petitioner's estimated $6,357,000 in engineering costs reasonable?

A: No. First of all, Petitioner calculates engineering costs starting with an inflated construction cost estimate containing its assumed 20% contingency. Then it applies the 30% mark-up for engineering. I recommend that the Commission reduce both the assumed construction contingency and engineering allowances to the more typical and reasonable values of 10% construction contingency and 15% engineering..

Q: Did you estimate the engineering hours Petitioner's $6,357,000 in estimated engineering charges would procure?

A: Yes. I calculated the equivalent labor hours for engineering design and inspection services using an average $125 per hour billable charge, which is representative of average engineering charges on water main projects such as those proposed by Petitioner. I calculated Petitioner's engineering labor hours at 50,851 hours. Assuming a full-time engineer or inspector would be able to work 1,912 hours in

[18] *See* Petitioner's Exhibit No. 2, Attachment JCK-1, Appendix D – Detailed Project Cost Estimates by Beam, Longest, & Neff, LLC, November 8, 2017.

[19] The cost estimates list 24 to 33 cost components.

one year, this is equivalent to employing over 26.5 full time engineers and inspectors for one year, which in my engineering opinion is excessive. These projects are slated to be constructed over a 12-month (Bell Road relocation and Downtown water main replacement) or 24-month period (Transmission main). To minimize the engineering costs, Petitioner should be able to use a labor pool of full time and part time resident project representatives and engineers for construction observation. For the foregoing reasons, I reduced Petitioner's request for engineering from 30% down to a typical 15% allowance applied to the estimated construction cost.

Q: What would the engineering cost be using your recommended allowances for contingencies and engineering?

A: The engineering costs would be $2,913,350. Applying a 15% engineering allowance to the reduced $19,422,333 construction cost estimate (10% contingency instead the Petitioner's assumed 20%) results in an estimated engineering cost of $2,913,350.

Q: What total non-construction costs do you recommend for purpose of financing approval?

A: I recommend allowing the other non-construction costs requested by Petitioner. These include $1,500,000 in land acquisition costs and $226,000 in bond issuance costs. I recommend an additional $13,317 in cost for general project contingencies and rounding. Total non-construction costs would be $4,652,667.

Q: What amount do you recommend the Commission set for Petitioner's borrowing authority for its proposed water main projects?

A: I recommend the Commission authorize debt financing in the total amount of $24,075,000 consisting of $19,422,333 in construction costs (includes 10%

contingencies) and non-construction costs of $4,562,667.

V. RECOMMENDATIONS

Q: What are your recommendations?

A: I recommend the Commission do the following:

1) Set Petitioner's periodic maintenance expense at $164,786 as calculated by OUCC witness Mr. Corey.

2) Remove new water meter costs as a periodic maintenance expense.

3) Reduce the construction contingency and engineering allowances to the more typical and reasonable values of 10% construction contingency and 15% engineering allowance.

4) Authorize Petitioner to debt finance its three proposed water main projects in the total amount of $24,075,000 consisting of $19,422,333 in construction costs (includes 10% contingencies) and non-construction costs of $4,562,667.

Q: Does this conclude your testimony?

A: Yes.

Appendix A

Q: Please describe your educational background and experience.

A: In 1980 I graduated from Purdue University, where I received a Bachelor of Science degree in Civil Engineering, having specialized in Environmental Engineering. I then worked with the Peace Corps for two years in Honduras as a municipal engineer and as a Project Engineer on self-help rural water supply and sanitation projects funded by the U.S. Agency for International Development (U.S. AID). In 1984 I earned a Master of Science degree in Civil Engineering and Environmental Engineering from Purdue University. I have been a Registered Professional Engineer in the State of Indiana since 1986. In 1984, I accepted an engineering position with Purdue University, and was assigned to work as a process engineer with the Indianapolis Department of Public Works ("DPW") at the Town's Advanced Wastewater Treatment Plants. I left Purdue and subsequently worked for engineering consulting firms, first as a Project Engineer for Process Engineering Group of Indianapolis and then as a Project Manager for the consulting firm HNTB in Indianapolis. In 1999, I returned to DPW as a Project Engineer working on planning projects, permitting, compliance monitoring, wastewater treatment plant upgrades, and combined sewer overflow control projects.

Q: What are the duties and responsibilities of your current position?

A: My duties include evaluating the condition, operation, maintenance, expansion, and replacement of water and wastewater facilities at utilities subject to Indiana Utility Regulatory Commission ("Commission") jurisdiction.

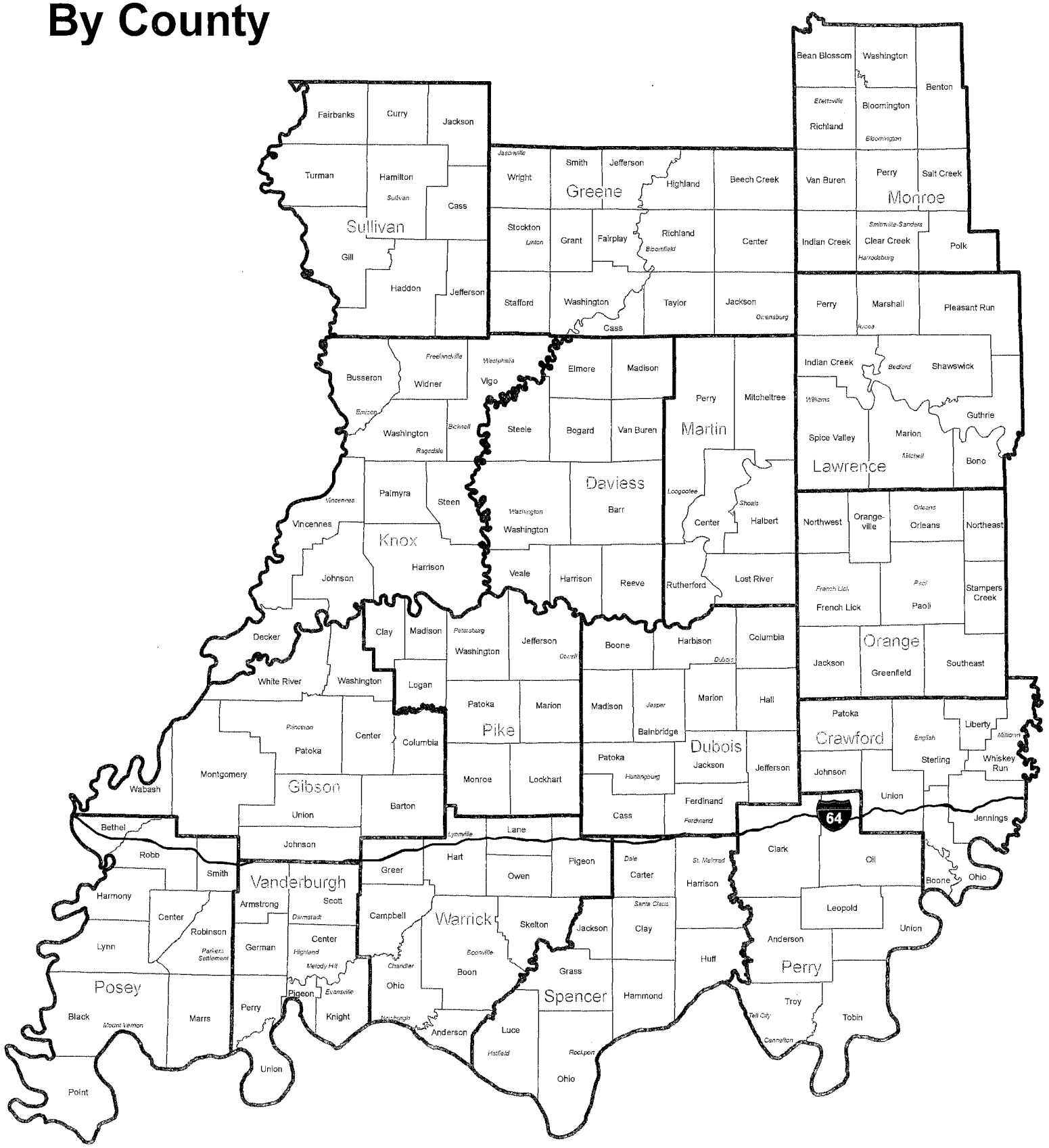
Q: Have you previously testified before the Commission?

A: Yes.

Appendix B - List of Attachments

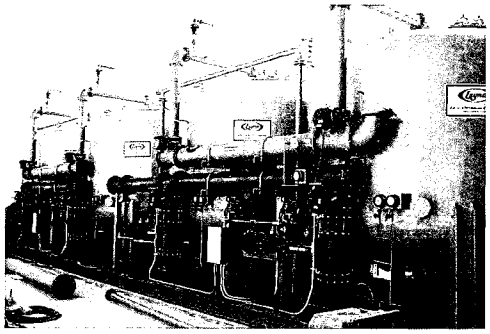
Attachment JTP-1	Townships, Cities, and Towns in Warrick County, STATS Indiana
Attachment JTP-2	Layne-Ox Water Treatment Technologies
Attachment JTP-3	Chandler Distribution and Service Area
Attachment JTP-4	Petitioner responses to OUCC DR 4-5 – Distribution System map mark-ups – Beam Longest & Neff LLC, 2004
Attachment JTP-5	Petitioner response to OUCC DR 4-10 regarding water main inventory and Town of Chandler Water Main map
Attachment JTP-6	Asset Management Program Requirements – Indiana Finance Authority
Attachment JTP-7	Petitioner's responses to OUCC DRs 4-13 through 4-17 pertaining to the DWSRF Loan status.
Attachment JTP-8	Copies of OUCC emails with the DWSRF section regarding the timeframe for PER and loan approvals
Attachment JTP-9	Petitioner's responses to OUCC DRs 2-9 and 2-10 - Engineering and Non-Construction Costs

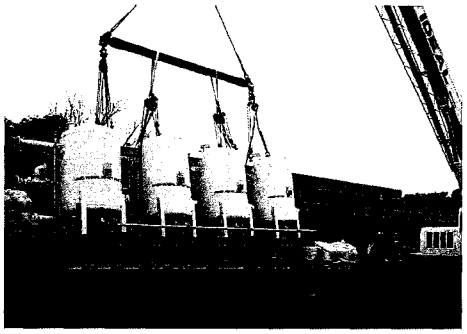
Southwest Indiana Townships By County



Source: IBRC at Indiana University's Kelley School of Business, using data from the U.S. Census Bureau. May 2012

WATER TREATMENT TECHNOLOGIES:
LayneOx® SYSTEMS





WATER MANAGEMENT

+ SOURCING
+ WELL & PUMP MAINTENANCE
+ WATER TREATMENT TECHNOLOGIES
+ WATER RECYCLE & REUSE
+ WATER TRANSFER
+ WATER STORAGE

CONSTRUCTION

+ GEOTECHNICAL CONSTRUCTION
+ TREATMENT PLANT CONSTRUCTION
+ ALTERNATIVE DELIVERY
+ RENEWABLE ENERGY
+ SEWER SYSTEMS
+ TRENCHLESS REHABILITATION
+ WATER SUPPLY
+ WATER TRANSMISSION & DISTRIBUTION

DRILLING

+ EXPLORATION DRILLING
+ SPECIALTY DRILLING
+ WATER WELLS
+ BOREHOLE SERVICES

Most groundwater contains some iron and manganese which naturally leaches from rocks and soils. Excess amounts in drinking water can cause discoloration, rusty-brown stains or black specks on fixtures and laundry, as well as affect the taste of beverages and can build up deposits in pipes, heaters or pressure tanks.

Conventional removal of iron, manganese and hydrogen sulfide has typically been accomplished by oxidation followed by filtration through a sand/anthracite media or by a combination of medias, some of which have the ability to accelerate the oxidation of the contaminants.

LayneOx enhances the kinetics of the removal process by serving as a catalyst in the presence of a pre-oxidant such as chlorine to effect contaminant reductions to well below the secondary MCL utilizing surface adsorption/oxidation as the primary removal mechanism.

EVALUATION OF TREATMENT EFFICIENCY

Understanding the full life-cycle costs of each treatment option is imperative for responsible investment. Layne understands the design, construction and operation costs of infrastructure and provides informed analysis of the costs and benefits of different solutions through pilot testing services.

REMOVAL OF ARSENIC, RADIUM, IRON, MANGANESE AND HYDROGEN SULFIDE

LayneOx operates both as a classical filter working with an oxidant and as a catalytic media due to its ability to accelerate the reaction between the oxidizing agent and the iron, manganese, arsenic and hydrogen sulfide present. For arsenic removal, the arsenic is co-precipitated with the iron onto the LayneOx media as ferric arsenate. When hydrous manganese oxide (HMO) is added, radium is also removed with HMO filtration by LayneOx.

In groundwater, all chemical constituents are in a state of equilibrium in a reducing environment. Dissolved iron, manganese, arsenic and hydrogen sulfide will stay in solution until they are exposed to an oxidizing environment. Utilizing LayneOx and an oxidant additive immediately before the raw water enters the filter cause these compounds to adsorb, oxidize, and precipitate. Iron and manganese that are not oxidized become catalytically precipitated directly onto the media.

CONTAMINANTS BACKWASHED AWAY

The adsorbed contaminants are expelled during backwash. Any insoluble ferric hydroxide particulate growths are also expelled during backwash.

LayneOx SYSTEMS (CONT)

LayneOx MEDIA SPECIFICATIONS

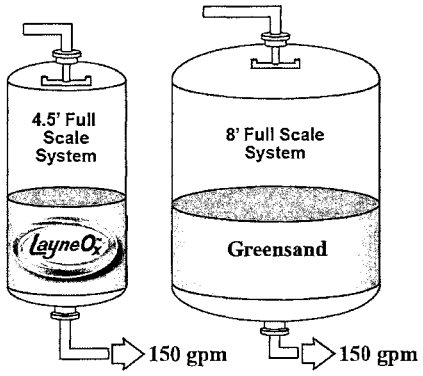
+ Screen size, US sieve: 20 x 40 mesh
+ Physical form: black granular particulate
+ Moisture content: under 0.5% shipped
+ Bulk density: 120 pounds/cu. ft. as shipped
+ Backwashed density: 110 pounds/cu. ft.
+ Uniformity coefficient: <1.65
+ Effective size: 0.3 – 0.5mm
+ Manganese dioxide content: 70-80% by weight throughout media matrix
+ CAS# 1313-13.9
+ NSF 61 Compliant
+ H_2S capacity: 300 gr./cu. ft.

SYSTEM OPERATING CONDITIONS

pH range	6 - 9
Temperature	Groundwater ambient
Surface loading rate	6 – 12 gpm/sq. ft.
Pressure drop (bed + underdrain)	2 psig @ 5 gpm/sq. ft.
	4 psig @ 9 gpm/sq. ft.
Terminal Δ P	10 psig
Bed depth	24 to 48 inches
Media contact time	2 minutes minimum
Backwash	25 gpm/sq. ft.
Bed expansion freeboard	40% of bed depth
Typical oxidant	Chlorine
Oxidant form	Gas or 12.5% sodium hypochlorite
Oxidant contact time	10 – 30 seconds
Oxidant point of addition	Inlet to LayneOx filter
Typical oxidant dosage	0.5 – 2.0 ppm
Media life	Indefinitely
Removal efficiency	Up to 99%+ for iron, manganese
Backwash frequency	Typically once every 24 – 48 hours

Product specifications are subject to change without notice

SMALLER FOOTPRINT WITH LayneOx

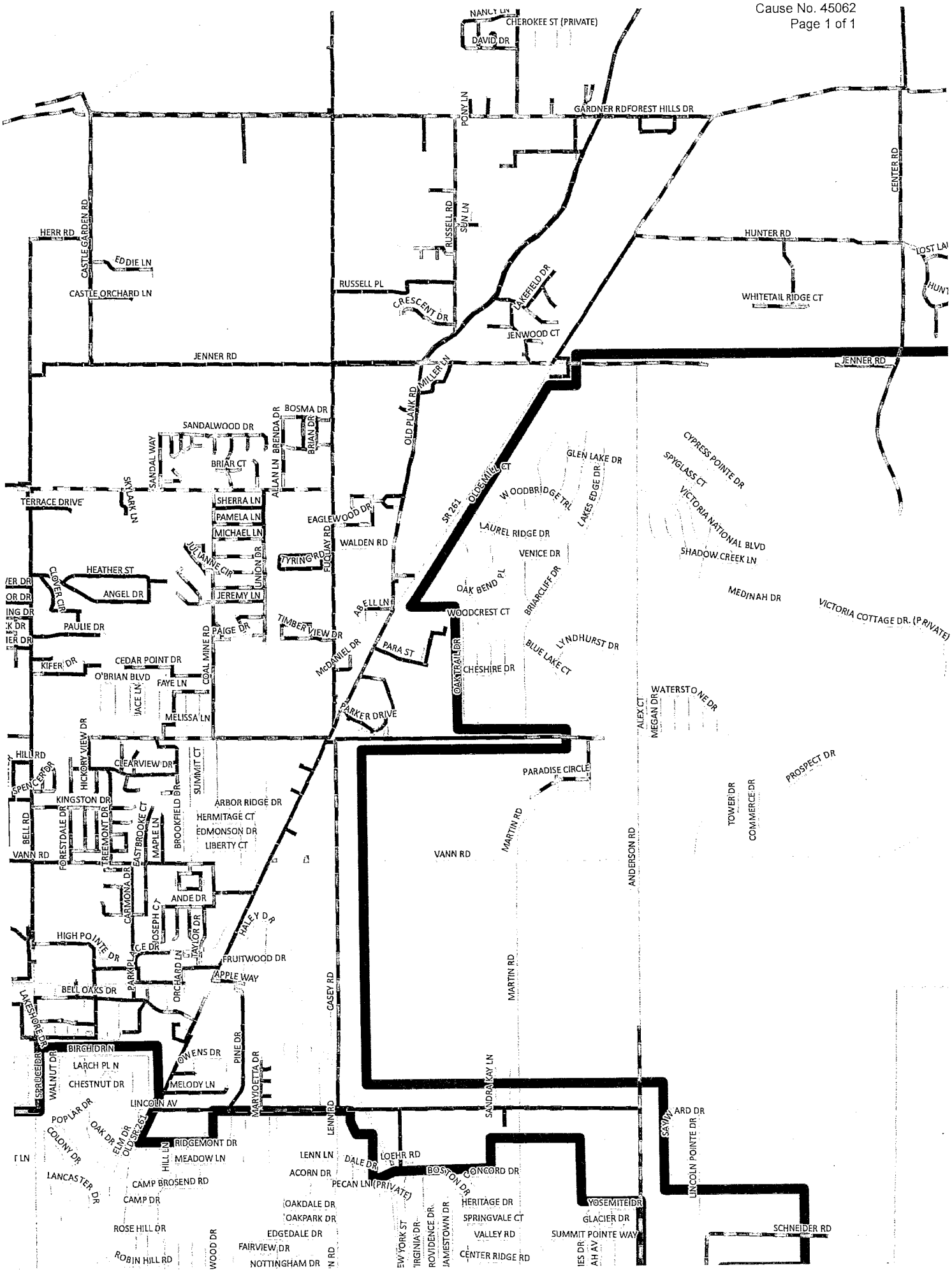


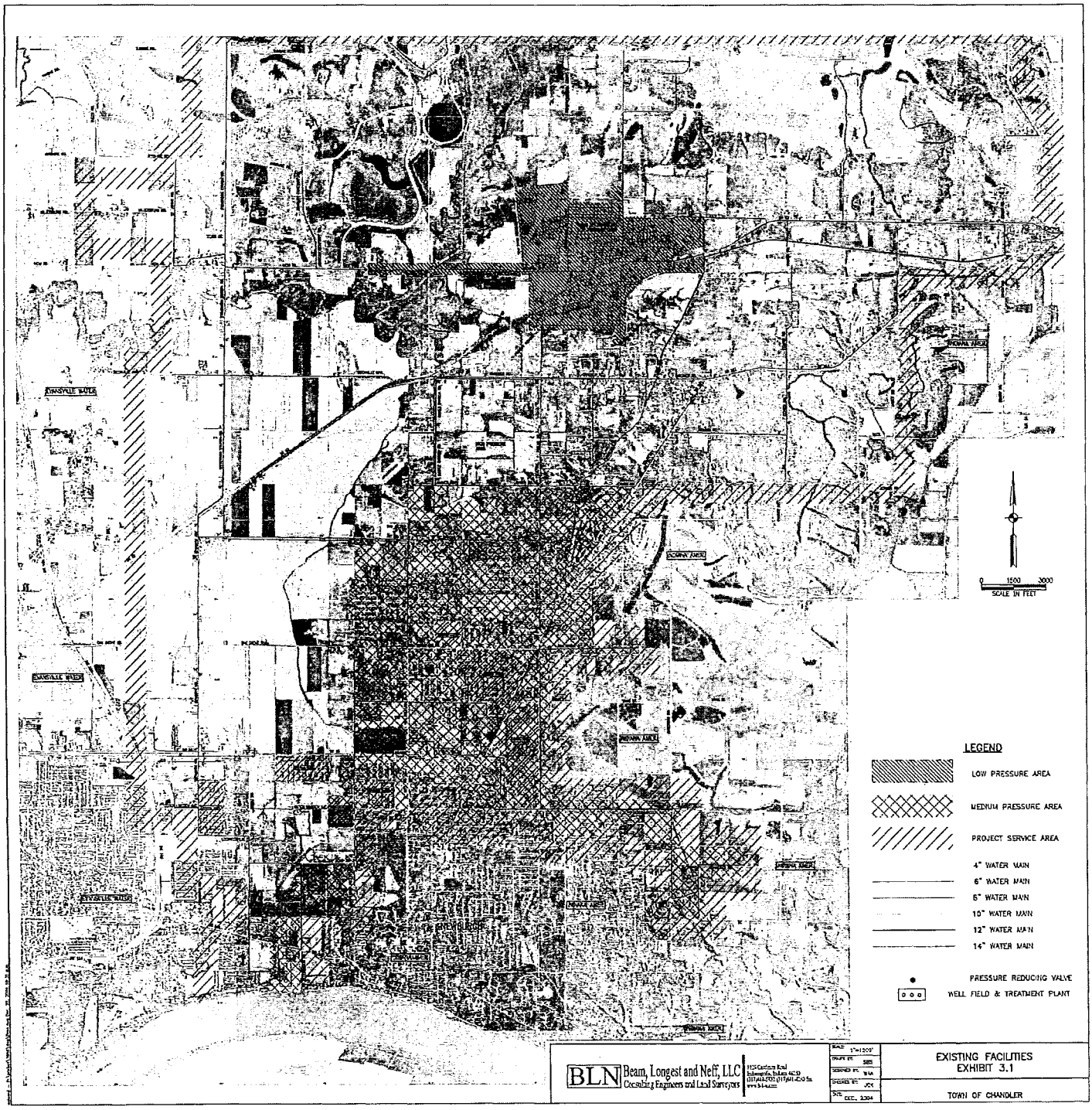
TYPICAL SYSTEM FEATURES

+ ASME Section VIII, Div. 1 Code pressure vessels
+ Filter vessels, piping for raw water, backwash supply, backwash return, rinse-to-drain and controls shipped as integrated shop-assembled system
+ Automated valves and PLC controlled operation flow control for each filter and backwash
+ Flow rate and integrated flow indication
+ Differential pressure indicators
+ Strategically located sample points
+ Vessel air release & vacuum valves
+ Primed and painted vessels, piping
+ Galvanized support skid
+ NSF epoxy lining
+ Delivery, installation and startup

OPTIONAL SYSTEM FEATURES

+ Vessel sizes 36-120 inch
+ Design pressures to suit client applications
+ NSF abrasion-resistant vessel lining
+ Ductile iron, carbon steel piping
+ Oxidant feed system and oxidant residual analyzer
+ Recovery backwash system
+ Additional manways
+ Ancillary equipment available
+ 8 x 20 mesh screen size, US sieve


CHEROKEE ST (PRIVATE)
DAVID DR
GARDNER RD
FOREST HILLS DR
PONY LN
CENTER RD
HERR RD
CASTLE GARDEN RD
EDDIE LN
CASTLE ORCHARD LN
RUSSELL RD
SUN LN
HUNTER RD
WHITETAIL RIDGE CT
RUSSELL PL
CRESCENT DR
LAKEFIELD DR
JENWOOD CT
JENNER RD
MILLER LN
OLD PLANK RD
BOSMA DR
SANDALWOOD DR
BRENDA DR
BRIAN DR
SANDAL WAY
ALLAN LN
BRIAR CT
SKYLARK LN
TERRACE DRIVE
SHERRA LN
PAMELA LN
MICHAEL LN
EAGLEWOOD DR
WALDEN RD
FUQUAY RD
TYRING RD
JULIANNE CIR
UNION DR
HEATHER ST
CLOVER CIR
ANGEL DR
JEREMY LN
PAULIE DR
PAIGE DR
TIMBER VIEW DR
COAL MINE RD
KIFER DR
CEDAR POINT DR
O'BRIAN BLVD
FAYE LN
MELISSA LN
HILL RD
HICKORY VIEW DR
CLEARVIEW DR
SUMMIT CT
KINGSTON DR
ARBOR RIDGE DR
HERMITAGE CT
EDMONSON DR
LIBERTY CT
BELL RD
FOREST DALE DR
FREEMONT DR
EASTBROOKE CT
MAPLE LN
BROOKFIELD DR
VANN RD
CARMONA DR
ANDE DR
JOSEPH CT
TAYLOR DR
HALEY DR
HIGH POINTE DR
PARK PL
ORCHARD LN
FRUITWOOD DR
APPLE WAY
BELL OAKS DR
LAKESHORE DR
CASEY RD
BIRCH DR
LARCH PL N
CHESTNUT DR
WALNUT DR
SPRUCE DR
OWENS DR
PINE DR
MELODY LN
LINCOLN AV
MARYJOETTA DR
POPLAR DR
OAK DR
ELM DR
OLD SR 261
COLONY DR
RIDGEMONT DR
MEADOW LN
HILL LN
LENN RD
LENN LN
DALE DR
LOEHR RD
ACORN DR
PECAN LN (PRIVATE)
BOSTON DR
CONCORD DR
LANCASTER DR
CAMP BROSEND RD
CAMP DR
ROSE HILL DR
ROBIN HILL RD
OAKDALE DR
OAKPARK DR
EDGEDALE DR
FAIRVIEW DR
NOTTINGHAM DR
HERITAGE DR
SPRINGVALE CT
VALLEY RD
CENTER RIDGE RD
YOSEMITE DR
GLACIER DR
SUMMIT POINTE WAY
SCHNEIDER RD
LINCOLN POINTE DR
SAWW ARD DR
SANDRA KAY LN
MARTIN RD
ANDERSON RD
PARADISE CIRCLE
PARKER DRIVE
PARA ST
OAK TRAIL DR
CHESHIRE DR
BLUE LAKE CT
LYNDHURST DR
WOODCREST CT
BRIARCLIFF DR
OAK BEND PL
ABELL LN
MCDANIEL DR
VENICE DR
LAUREL RIDGE DR
WOODBRIDGE TRL
LAKES EDGE DR
GLEN LAKE DR
SR 261
OLDE MILL CT
CYPRESS POINTE DR
SPYGLASS CT
VICTORIA NATIONAL BLVD
SHADOW CREEK LN
MEDINAH DR
VICTORIA COTTAGE DR. (PRIVATE)
WATERSTONE DR
ALEX CT
MEGAN DR
PROSPECT DR
TOWER DR
COMMERCE DR


EVANSVILLE WATER
EVANSVILLE WATER
EVANSVILLE WATER
EVANSVILLE WATER
0 1500 3000
SCALE IN FEET
LEGEND
LOW PRESSURE AREA
MEDIUM PRESSURE AREA
PROJECT SERVICE AREA
4" WATER MAIN
6" WATER MAIN
8" WATER MAIN
10" WATER MAIN
12" WATER MAIN
14" WATER MAIN
PRESSURE REDUCING VALVE
WELL FIELD & TREATMENT PLANT
BLN Beam, Longest and Neff, LLC
Consulting Engineers and Land Surveyors
EXISTING FACILITIES
EXHIBIT 3.1
TOWN OF CHANDLER

Water Transmission and Distribution Mains

Q-4-10: Please state the number of feet of Chandler's water mains by technology (cast iron, PVC, galvanized iron, ductile iron, poly-wrapped ductile iron, etc.) as of 2017. If this data is not all available, please provide Chandler's best estimate.

	Water Main Length (feet) by Pipe Diameter and Pipe Material							
Water Main Dia. (inches)	Asbestos Cement	Cast Iron	Ductile Iron	Galv. Iron	HDPE	PVC	Other (please specify type)	Total Length (feet)
1-1/2	NA	NA	NA					
2	NA	NA	NA					
3	NA							
4								
6								
8								
10								
12								
14								
16								
18								
21								
24								
Total								

A-4-10: Chandler does not have a tabulation of its distribution assets with pipe material information. The map included as Attachment A-4-10 depicts this information for some of the utility's distribution piping.

Scale: 1" = 100'
LOW PRESSURE
Vona's Crossing

State Revolving Fund Loan Program
an Indiana Finance Authority Environmental Program

100 North Senate Avenue, Room 1275
Indianapolis, Indiana 46204
www.srf.in.gov

MEMORANDUM

TO: Prospective SRF Loan Participants

FROM: Bill Harkins

DATE: July 17, 2018

RE: New Indiana Law

Since 1991, the State Revolving Fund Loan Program ("SRF Loan Program") has provided over 775 loans to over 380 Indiana communities for projects that have improved wastewater and drinking water infrastructure, created jobs and protected public health and the environment. The Indiana Finance Authority ("IFA"), which administers the SRF Loan Program, is bound by federal and state law in its oversight of the SRF Loan Program.

The Indiana General Assembly, during the past Legislative Session, passed Senate Enrolled Act 362, which became effective on July 1, 2018 and is codified at Indiana Code 5-1.2-10-16. The new law requires that all SRF Participants that receive a loan or other financial assistance from the SRF Loan Program certify that the SRF Participant has documentation demonstrating that it has the financial, managerial, technical, and legal capability to operate and maintain its water or wastewater system in the form of an Asset Management Program ("AMP"). The IFA looks forward to working with SRF Participants to facilitate a smooth transition in meeting the requirements of the new law. You will find AMP documents, including a certification form, a checklist, guidelines and guidance on the SRF Loan Program web page, to assist your community with the development of an AMP.

One component of each SRF Participant's AMP is the requirement to have audited financial statements prior to an SRF loan closing and every two years thereafter during the repayment of the SRF loan. The SRF Loan Program is offering a one-year grace period, from July 1, 2018 to June 30, 2019, during which time the SRF will accept a review, examination or audit of a SRF Participant's financial statements (collectively, a "Report") performed by the Indiana State Board of Accounts or another independent public accountant of a calendar year ending no later than three years prior to the SRF loan closing date.

Thus, for example, if an SRF Participant seeks to complete a financing with the SRF Loan Program between July 1, 2018 and December 31, 2018, the SRF Participant must submit to the SRF Loan Program a Report no older than for calendar year ending 12/31/2015; or if an SRF Loan Participant seeks to complete a financing with the SRF Loan Program between January 1, 2019 and June 30, 2019, the SRF Participant must submit to the SRF Loan Program a Report no older than for calendar year ending 12/31/2016. This follows SRF current practice.

In connection with financing a project with the SRF Loan Program on or after July 1, 2019, SRF Participant's must submit audited financial statements of the SRF Participant (an "Audit") performed by the Indiana State Board of Accounts or another independent public accountant of the calendar year ending no later than two years prior to the SRF loan closing date. The SRF Loan Program will no longer accept reviews or examinations.

Thus, prospective SRF Loan Program Participants are advised and encouraged to immediately undertake the steps necessary to assure an Audit(s) is performed at an early enough stage so as to not delay a future project financing with the SRF Loan Program.

ASSET MANAGEMENT PROGRAM

GUIDANCE FOR THE INDIANA STATE REVOLVING FUND LOAN PROGRAM

IDEM
Environmental Programs
Brownfields
SRF

July 2018

Asset Management Program Guidance

Overview

Table of Contents

ASSET MANAGEMENT PROGRAM GUIDANCE FOR INDIANA STATE REVOLVING FUND LOAN PROGRAM

OVERVIEW

I. Introduction to the Asset Management Program

An Asset Management Program (AMP) is a document(s) developed by a Utility to assist in the long-term management of the assets necessary to support cost effective, proactive decisions including creation, acquisition, operation & maintenance (O&M), and replacement/upgrade of Utility assets. Physical components deteriorate over time, resulting in increased O&M costs or capital reinvestment to maintain the level of service expected by the customers and stakeholders.

AMPs are intended to ensure the long-term sustainability of a Utility and should be treated as "living documents" that are regularly referenced, revised, expanded, and implemented as an integral part of the operation and management of a Utility's system. They provide a structured framework of the asset information to help the Utility and stakeholders determine when it is most appropriate to repair, replace, or rehabilitate a particular asset as well as scheduling a long-term funding strategy to ensure sufficient funds will be available to implement the Utility's improvements as needed. The objective of an AMP is to achieve the lowest long-term cost of operation while continuously providing the desired level of service.

An AMP is important for the following reasons:

1. Utility assets provide an essential customer service.
2. Proper O&M and scheduled replacement of these assets is essential for public health and safety.
3. These assets represent a major public investment.
4. Utilities are important to economic development.
5. Proactive management will maximize system reliability and control efficiency.

II. Federal & Statutory Requirements

Pursuant to Indiana Code 5-1.2-10-16, Clean Water State Revolving Fund (CWSRF) and Drinking Water State Revolving Fund (DWSRF) Loan Recipients are required to provide "documentation demonstrating that the Participant has the financial, managerial, technical, and legal capability of operating and maintaining" its wastewater collection and treatment system (or drinking water supply, treatment, and distribution system, respectively) and are required to "demonstrate that it has developed or is in the process of developing an asset management program as defined in the guidelines of the authority". The "authority" is the Indiana Finance Authority (IFA), which administers the State Revolving Fund (SRF) as well as other Environmental Finance Programs.

III. Asset Management Program Guidance

Whether a Utility has implemented an AMP or will implement an AMP, these plans should provide a basis for the ongoing "living document" for the Utility and stakeholders to assist in the long-term management of assets. An AMP is required for the entire wastewater system for CWSRF funded projects and for the entire water system for DWSRF funded projects. The minimum steps that the Utility must take to satisfy these requirements are outlined in this guidance.

The IFA provides this guidance document to assist in the development of the required AMP. The Utility must develop and implement an AMP that includes the following minimum requirements:

1. System map
2. An inventory and assessment of system assets
3. Development of an infrastructure inspection, repair, and maintenance plan, including a plan for funding such activities
4. An analysis of the customer rates necessary to support the AMP
5. An Audit performed every two years
6. Demonstration of the technical, managerial, legal and financial capability to operate and maintain the system, per the guidelines established by the IFA

The IFA provides this guidance document to assist in the development of an effective and compliant document. It is incumbent upon a community to determine the proper tools or framework for the AMP to provide a "best fit" for the size and type of the Utility. It is important to ensure stakeholders are involved early in the process such as the governing board/council, Mayor, Town Manager, City Engineer, etc.

The AMP guidance is organized into the following three sections:

1. Technical
2. Managerial
3. Financial

It is recommended that the Utility's AMP be organized in a similar fashion.

Asset Management Program (AMP) Guidance

Technical Section

Table of Contents

I. Introduction

This Section provides the guidance for development of the required Technical requirements of the AMP. Appendix A contains an Asset Management Workbook Tool which includes sample tables that can assist in the development of the technical section of the AMP.

II. System Map

Create a map of the utility system's Assets and link the Assets to a specific location. An AMP may include GIS mapping, but it is not required. GIS mapping is an effective means of system mapping and has the ancillary benefits including improved record keeping, efficiency, communication, and management. Asset information can be stored in a GIS database and is easily accessible for grouping and reporting. GIS maps are also easily updated and expanded.

Include such Assets as:

1. Gravity and pressure lines (including sizes and material)
2. Valves, hydrants, fittings, backflow preventers, sample stations, chemical feed points, manholes, inlets
3. Lead lines (as identified)
4. Booster/lift stations
5. Water or wastewater treatment plants
6. Water or wastewater storage facilities
7. Meters
8. Wells
9. CSO outfalls and diversion structures

III. Inventory of Critical Utility System Assets

The first core component of an AMP is to identify and document all Assets in the system and applicable date each Asset went into service. Determining the criticality of each Asset is also part of this step. Creating an Asset hierarchy and Asset classification groups will help to facilitate tracking of Asset inventory, condition, and cost. Please reference Appendix A, Table 1 and Sample List of Assets, to assist with completing an inventory of system Assets.

To be considered an Asset, the item should meet at least one of the following criteria:

1. Has a value greater than $5,000. The value can be lower if desired, per a threshold adopted by the City/Town/Utility.
2. Has a useful life greater than one year.
3. Will be the lowest level where a work order is generated by the utility.
4. Is critical to the delivery of process, compliance of regulatory standards, and/or provision of staff safety.

These criteria help to distinguish between an Asset and a component.

Guidance for a utility when performing the Asset inventory include:

A. Accounting for all Assets associated with the Utility: Tools and resources for developing the inventory list may include record drawings, staff knowledge, visual observations, and interviews with residents and consultants. Establishing a complete Asset inventory on the first try may not be possible for a number of reasons, and it is important to remember that the Asset inventory needs to be an ongoing process.

B. Locating the Assets: Utilize the System Map described above.

C. Probability of Failure: The first step to assessing criticality of an Asset is to determine the Condition (Probability of Failure). Factors to consider when determining the Probability of Failure include Asset age, current condition of Asset, failure history, historical knowledge, experiences with that type of Asset, maintenance records, and knowledge regarding how that type of Asset is likely to fail. Then rank the Probability of Failure for each Asset using the following rating system:

5 – Imminent – Likely to occur in the near future
4 – Probable – Not Imminent, but likely to occur several times in the life of an item
3 – Occasional – Likely to occur sometime in the life of an item
2 – Remote – Unlikely, but possible to occur in the life of an item
1 – Improbable – Unlikely, and assumed occurrence may not be experienced

D. Consequence of Failure: The second step to assessing criticality is to determine the Consequence of Failure of the Asset. Rank the Consequence of Failure for each Asset using the following rating system:

5 – Catastrophic disruption
4 – Major disruption
3 – Moderate disruption
2 – Minor disruption
1 – Insignificant disruption

E. Assessing Criticality:

1. The system Assets that have the greatest Probability of Failure and the greatest consequences associated with a failure will be the system Assets that are the most critical.

   a. Multiply Probability of Failure and Consequence of Failure to determine Criticality factor for each system Asset.
   b. Suggested system Asset Criticality factor risk ranges (individual utilities may determine their own ranges as they see fit):
      i. 1 to 8 – Not considered a critical rating.
      ii. 9 to 16 – Important, but not critical.
      iii. >16 – Critical rating.

Example Criticality Table:

Asset	Probability of Failure	Consequence of Failure	Criticality Factor	Criticality Risk Rating
RWW Pump Station	4	5	20	Critical
RAS Pump Station	3	4	12	Important
Digester Basement Sump Pump	2	1	3	Not Critical

2. If a system Asset is determined to have a critical risk rating, then redundancy or close monitoring is important. These will also rank higher in capital improvement priority than other system Assets with similar condition and performance rankings as described in the next section.

3. Because the condition of an Asset will change over time as will the consequences related to failure, it will be necessary to periodically review the criticality analysis and make adjustments.

IV. Evaluation of the Condition and Performance of Utility System Assets

Evaluating the system Assets' condition and performance is very important. Physical inspections of the system Assets will be needed as well as a review of any available equipment manuals. Please reference Appendix A, Tables 2 and 3, to assist with completing an evaluation of the conditions of the system's Assets.

Questions that a utility will need to ask when performing this component include:

A. What is the condition and remaining useful life of the Asset?

1. Rank the condition of each system Asset using the following rating system:

   a. 5 – Unserviceable/End of useful life (>50% of Asset requires replacement)
   b. 4 – Significant deterioration (20-50% requires renewal/upgrade)
   c. 3 – Moderate deterioration (10-19% requires significant maintenance/renewal)
   d. 2 – Minor deterioration (<10% requires minor maintenance)
   e. 1 – Excellent or as-built condition (only normal maintenance required)

2. If resources are available, higher levels of assessment could be performed such as sewer televising, tank inspections, etc. in order to better define an Asset's condition.

3. Estimate the remaining useful life of each utility system Asset (refer to Asset definition in Section III).

    a. Estimate remaining life of each utility system Asset based on factors such as maintenance practices, type of materials, usage, and surrounding environment.
    b. Because useful service life of an Asset varies over time, it should be reevaluated on a regular basis.
    c. Industry standard useful life ranges can be referenced here on page 28 of the following document https://www.rd.usda.gov/files/UWP_Bulletin_1780-2.pdf

B. What is the value of the Asset?

1. The value of an Asset is the cost to replace the Asset after it has exhausted its useful life. It is important to factor inflation into the Asset's value with respect to the schedule for replacement.

C. What is the desired Level of Service?

1. Level of Service (LOS) defines the way in which utility stakeholders expect the utility system Assets to perform over the long term. Defining the LOS establishes the utility's goals. This is related to the consequence of failure in Section III.D.

2. This can be thought of as a performance target for a worst-case scenario. However, performance targets should be realistic targets based on regulatory requirements and customer needs and will help set the utility's goals.

    Example: for a major lift station in the collection system, it may be determined that it is not acceptable for the lift station not to function. Therefore, total redundancy should be provided as well as a regular maintenance plan developed and implemented for the pumps. The pumps should also be replaced prior to the end of their useful life, and not upon total lift station failure.

3. There is a direct link between the LOS provided and the cost to the customer.

4. The public or customers of the utility could be actively involved in the development of the desired LOS.

V. Evaluation and Implementation of Water and Energy Conservation Efforts as Part of the Plan

The federal Water Resources Reform and Development Act (WRRDA) requires an SRF Utility to evaluate and implement water and energy conservation efforts for the SRF-funded project. As a part of the AMP, the Utility applying for funding from the State's SRF Loan Program must include a brief discussion from the Preliminary Engineering Report's alternatives evaluation for the major project

components in which water and energy conservation was considered. If using SRF's Green Project Reserve Program, the discussion can be included from the associated business case.

VI. Plan for Maintaining, Repairing, and Replacing the Utility System's Assets and Plan for Funding

Finally, building on the components of the AMP developed above, a fiscal plan for the maintenance, repair, and replacement of the Assets should be discussed in the AMP along with a proposed funding structure to ensure funds are available as needed. The AMP may be used as the financial framework for the utility's future operating and capital budgets, impact fees, and utility rates. Refer to Appendix A, Tables 3, 4 and 5 for spreadsheets to assist with the compilation of this information.

A. The recommended period for fiscal planning is 20 years.

1. Anticipated projects and updated Asset information should be updated each year so as to show current needs for the next 20 years.
2. Changing conditions may reveal that some projects on the list can be pushed back for several years or others may need to be addressed sooner

B. Categories of improvements that should be considered:

1. Fiscal needs related to future/upcoming regulations.
2. Fiscal needs related to major Asset replacement.
3. Fiscal needs related to system expansion.
4. Fiscal needs related to system consolidation or regionalization.
5. Fiscal needs related to improved technology to replace obsolete technology.
6. Fiscal needs related to climate resiliency.

C. The following information is helpful when prioritizing an improvement project:

1. Description of project.
2. Brief statement regarding need for project.
3. Year project is needed. Identify if year is absolute or flexible.
4. Estimated total project cost.
5. Explanation of how costs were estimated.
6. Identification of funding source(s) considered available for project.
7. Changes in overall operations that may occur as a result of the project.
8. Impact of project on LOS.

D. This information is an input into the Financial Section of the AMP, wherein user rates and charges are reviewed to determine what is needed to provide sufficient revenues to cover operation, maintenance, replacement, capital improvement projects, and debt costs. This information should be supplied to the financial advisor/group completing the financial section of the AMP.

VII. AMP Schedule for SRF Projects

A. Include a schedule for development of the AMP in the Preliminary Engineering Report. This would typically be included in Chapter 7, but can be presented where it best fits within the preliminary engineering report. The actual AMP document should not be submitted to SRF but should be a stand-alone document and kept on site at the Utility's office. SRF intends to view the AMP when performing an onsite inspection.

B. The status of the AMP should be discussed in the PER. SRF requires an AMP and FSP Certification form. The completed AMP and FSP Certification Forms must be submitted to SRF prior to the request for the final disbursement related to the primary project which is the subject of SRF Financial Assistance.

VIII. Pulling It All Together

After all the data is gathered and evaluations are completed for the existing Assets, the next step is to prioritize the funding that is required to maintain the existing Utility system Assets as well as the new Assets included in the SRF funded project. A suggested method is as follows:

A. Create a spreadsheet listing all the individual Assets in one column. Subsequent columns may have the following headings:

1. Capacity/Size – Descriptive and can be used for grouping
2. Material – Descriptive and can be used for grouping
3. Manufacturer – Descriptive and can be used for grouping
4. Tag/Serial Number – Can be used for grouping
5. Original Cost – Cost to install the year it was installed
6. Replacement Cost – Cost to replace at end of useful life
7. Year Installed
8. Expected Useful Life in years
9. Remaining Useful Life in years
10. Condition of each System Asset – 1 through 5
11. Probability of Failure – 1 through 5
12. Consequence of Failure – 1 through 5
13. Criticality – 1 through 25
14. Notes – Expand on Consequence of Failure, Condition, etc.

B. The AMP Workbook Tool is available on the SRF website as an example spreadsheet. The workbook tool incudes tabs for inventory and assessment of Assets. These can be found in Appendix A and on SRF's website: https://www.in.gov/ifa/srf/2376.htm

C. Sort the utility system Assets by their Condition/Useful Life remaining ranking, highest ranking first.

D. Sort each of these by Criticality, highest risk ranking first.

E. Use the data to develop the 20-year fiscal plan. See the Financial Section of the AMP guidance.

Asset Management Program (AMP) Guidance

Managerial Section

Table of Contents

I. Introduction

The managerial components of an AMP address Utility structure, organization and support necessary to operate and maintain a water or wastewater system capable of consistently and responsibly meeting the needs of its users.

AMPs, as set out within this guidance, will provide a significant benefit to any Utility as a living document that is to be referenced, utilized and updated on a consistent basis. Effectively managed Utilities are more efficient, less fiscally volatile, have a reduced risk of system failure and are more insulated from loss of knowledge when compared to poorly managed Utilities. It is the intent of an AMP to facilitate and document management structures that can be usefully scaled to Utilities of any size.

Many of the managerial components from the AMP are likely to already exist. Each Utility shall be responsible for gathering or creating each of the documents below as a part of an effective AMP.

II. Property Documentation

In order to document ownership of Assets, include information on all deeds, titles, easements, leases and/or receipts for all properties in the Utility. Examples of facilities that should be documented include, but are not limited to the following:

- Water Utilities (as applicable)
  - Water Intake Facility
  - Groundwater Wells
  - Water Treatment Facilities
  - Water Storage Tanks
  - Booster Stations
  - Chemical Injection Facilities
  - Large Meters/Valves
  - Distribution System Easements
  - Access Easements
  - Maintenance or Billing Offices Owned by Utility
- Wastewater Utilities (as applicable)
  - Collection System Easements
  - Access Easements
  - Pump Stations
  - CSO Facilities (Outside of Wastewater Treatment Facilities)
  - Wastewater Treatment Facilities
  - Treatment Facility Outfall
  - Maintenance or Billing Offices Owned by Utility

A. Identify location(s) where property documentation is stored (i.e. Water Billing Office; Clerk Treasurer's Office, etc.)

B. Provide status of property documentation
    1. Confirm if property information for each facility is complete and accounted for.
    2. For any property information not complete, provide a status of documentation (e.g. all land ownership documented, easements in process) and provide a plan and timeline for completing documentation.

III. Operator Certifications and Licenses

Provide documentation of all Certified Operators employed by the Utility. Documentation shall be verified through the State of Indiana Search and Verify Website for Indiana Profession License Holders (https://mylicense.in.gov/everification/Search.aspx).

A. Table with Names, License Numbers, Issuance Dates, Expiration Date, Type of Classification for Each Certified Operator, and License Status should be included.
B. List Continuing Education Requirements for each Operator (i.e. based on Classification). Include what has been obtained and keep record up to date.

IV. Overview and Description of System

Include a non-technical summary of the water/wastewater system. Description information can typically be found at the following locations:

- National Pollutant Discharge Elimination System (NPDES) Permit (IDEM)
- Drinking Water (DW) or Wastewater Construction Permit and/or Design Summaries (IDEM)
- IDEM Drinking Water Branch Directory Information (https://myweb.in.gov/IDEM/DWW/Maps/Map_Template.jsp)
- Sanitary Survey (DW)
- O&M Manuals
- Past Preliminary Engineering Reports/Studies
- Monthly Report Data (MROs)

Description information shall include the following:

1. General description of type of treatment facility (including Class and list of treatment plant components, i.e. disinfection, aeration, clarification, fluoridation [DW], etc.) or distribution/collection system. State if treatment is by others.
2. Average Daily Demand - As indicated in NPDES/Construction Data or Current MRO/Metered Data
3. Minimum and Maximum Daily Flow/Demand - As indicated in NPDES/Construction Data or Current MRO/Metered Data
4. Number of Connections/Customers - Assumes that every property with a connection (DW or WW) is required to pay a minimum fee (therefore is a customer). If not, please document additional connections.
    a) Resources
        i. For DW, Service Connections for each water system can be found through the IDEM Drinking Water Branch Directory or Sanitary Survey (https://myweb.in.gov/IDEM/DWW/Maps/Map_Template.jsp)
        ii. Recent Billing Records
5. Population Served
    a) Resources
        i. For DW, population served for each water system can be found through the IDEM Drinking Water Branch Directory (https://myweb.in.gov/IDEM/DWW/Maps/Map_Template.jsp)
        ii. U.S. Census Data (http://factfinder.census.gov)
6. Water Source Type (DW)
    a) Surface Water – Include intake location information
    b) Groundwater – Include number of wells and general location
    c) Purchase Water – Indicate public water supply source if drinking water is purchased from another Utility. Include interlocal agreement(s).
7. Receiving Stream (NPDES Permitted Facilities)
    a) Effluent receiving streams for Wastewater Treatment Plant and/or High Rate Clarification
    b) Backwash receiving stream for Water Treatment Plants (if applicable)
8. Storage Capacity
    a) Water Storage Tanks (DW) – List number of tanks and total volume (gallons)
    b) Wet Weather Storage/Flow Equalization (Wastewater) - List number of facilities and total volume (gallons)
9. Sell Drinking Water
    a) Indicate other public water supply systems that utilize your Utility's water
    b) Include applicable interlocal agreement(s)
10. Treatment by Other Utilities (WW)
    a) If wastewater system is collection system only, indicate the wastewater Utility that receives the flow for treatment
    b) If Wastewater Utility receives flow from other wastewater systems, indicate those entities
    c) Include interlocal agreement(s)

11. Combined Sewer Overflow (CSO) vs. Non-CSO (WW)
    a) CSO
        i. Indicate number of CSOs
        ii. Indicate number and location of high rate clarification facilities (if applicable)
    b) Non-CSO
        i. If any SSOs are documented in NPDES permit, indicate number and approximate location
12. Pretreatment (WW) - Indicate if wastewater Utility is designated as a pretreatment system
13. Accounting of Infiltration/Inflow (I/I) and/or water loss

V. Operating Plan

As part of the AMP, a Utility should provide details regarding their operating structure and processes in a Utility Operating Plan. The Operating Plan details required are listed within this section.

Organizational Chart. The Utility Operating Plan should include an Organizational Chart.

A. Provide, as part of the Operating Plan, a copy of the Utility organizational chart. The chart should identify responsible parties and inter-party relationships.
    1. Include on the organizational chart the Utility Service Board or other executive group that 'owns' the Utility or establishes budget, operational characteristics and processes.
    2. All staff with pertinent licenses should be shown on the organizational chart.
    3. The organizational chart should show any contracted entities that perform a service for which the Utility relies on for operational capacity.
    4. Establish relationship with Legal Authority (entity responsible for ordinances, contracts, etc.)
B. If the Utility currently does not have an organizational chart, it is encouraged to produce a chart for inclusion in the Asset Management Program.

Job Duties. As part of the Utility operating plan, specific positions with work requirements should be identified. Each unique position should have performance needs described. Provide the job duties for each position type. The Job Duties portion should include:

A. A job title that corresponds to each position on the Utility organizational chart.
B. List training needs or certifications/licenses required for the job duties to be adequately performed. Training should include:
    1. Fundamental Mission, goals and policies.
    2. Mandatory training requirements identified for key employees.
    3. On-the-Job training progress and performance measurements.
    4. Confirm new employees should adequate training for the positions they occupy.
    5. Include any Continuing Education Requirements for pertinent registrations and licenses.
C. Include all internal communication routes and requirements to link specific job duties to others.

D. Provide a position summary.
E. Describe all essential duties and responsibilities, including any federal and/or state reporting requirements
F. Disclose probable working conditions.
G. See sample job description template in Appendix B.
H. For suggested staffing levels, refer to EPA's Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs of Sanitary Sewer Collection Systems. https://www3.epa.gov/npdes/pubs/cmom_guide_for_collection_systems.pdf
I. Identify tree of advancement opportunities and succession plan as appropriate for key positions.
J. Include a schedule of routine tasks, including reporting requirements.

Daily Operating Procedures should be captured within the Asset Management Program. Documentation of daily procedures prevents confusion between team members and can increase the team's efficiency. Documented procedures can also assist with gauging when to make capital improvements to the system and streamline regular maintenance activities.

A. Describe managerial processes (e.g. Biweekly meeting between department heads, etc.).
B. List regular maintenance activities for mechanical equipment.
C. List any regular communication.
D. Include as attached checklists or forms any regular or recurring work orders used by the Utility.

Operation and Maintenance Manuals. Equipment and systems purchased by the Utility should each be accompanied by Operation and Maintenance (O&M) Manuals. O&M Manuals should be stored digitally (with appropriate backup) and in hardcopy. Provide the storage locations of all O&M Manuals.

The following list is not exhaustive, but includes some equipment and systems that should be accompanied by O&M Manuals:

A. Pumps of any kind
B. Any treatment equipment/devices (includes active and passive systems)
C. Any vehicles or construction equipment
D. Supervisory Control and Data Acquisition (SCADA) systems or other control/operation software
E. Control panels
F. Testing and sampling equipment

VI. Written Procedures

A. Security, including cyber security
    1. Establish access security measures for facilities (Consider use of cameras and personalized key cards and/or pass codes)
    2. Establish record storage, access, and disposal process
    3. Establish cyber security procedures including SCADA systems
    4. Establish reporting procedures for security breaches

5. Please find a template attached in Appendix C

B. Personal Access/User Rights for System Equipment/Computers/Controls/SCADA including the following:
   1. Unrestricted facility access
   2. Accompanied facility access
   3. Equipment use limits
   4. Procedure for addition or removal of access/use

C. Customer Complaints including the following:
   1. Customer complaint reporting procedures
   2. Identification of customer complaint response personnel
   3. Training for Utility personnel that will address complaints
   4. Customer complaint response procedures
   5. Involving Utility regulatory agency on complex complaints

D. Purchasing Authority
   1. Identify who has purchasing authority and dollar limits
   2. Define who can add/remove Utility personnel to/from accounts
   3. Procedure for verifying satisfactory completion of work prior to payment
   4. Approval process for spending Utility revenue on non-Utility expenses

E. Internal Controls (checks and balances)
   1. Establish process for internal and external review of execution of written procedures
   2. Establish what would be a conflict of interest for review of execution of written procedures

F. Customer Deposits/Payments
   1. Establish payment methods and accounting procedures
   2. Identify personnel who can receive payments
   3. Establish process for deposits of funds and accounting procedures

G. Collections
   1. Establish late payment procedures
      a) Notification of non-payment
      b) Notification of disconnect date
      c) Disconnect procedure for Utility personnel
   2. Define and establish process for handling delinquent accounts
   3. Establish procedure for restoring services
   4. Establish procedure for "Theft of Services"

H. Connection Charges (new water tap or sewer connections)
   1. Establish procedures for adding new customers including the following:
      a) Customer check list
      b) Pre/post inspections
      c) Fees
      d) Approval process
      e) Restrictions
   2. Establish procedures for upgrading existing customers connects including the following:
      a) Customer check list

b) Pre/post inspections
c) Fees
d) Approval process
e) Restrictions

I. Routine Billing – AMR, AMI, monthly/quarterly billing
   1. Establish standard billing and payment process
   2. Establish process for Billing disputes

J. Use ordinances
   1. Identify ordinances required by regulation and others as needed
   2. Establish ordinance review process and frequency of review

K. Training and Safety
   1. Identify minimum Federal and State training requirements
   2. Identify required safety equipment
   3. Establish written work procedures as needed
   4. Establish accident and injury reporting process

VII. External Contact Information

This Section includes a list of external contact information for emergency, permits and compliance, suppliers, and other purposes. This list should be reviewed on a quarterly basis and revised when updated contact information is available or received from the respective organizations.

The Utility list should be revised as applicable for various types of local Utilities. Please reference example table below.

EXTERNAL CONTACT INFORMATION							
Contact Type	Name & Title	Organization	Address	Telephone			
				Phone	Fax	Cell	Website
Emergency							
Police							
Fire							
Hospital							
Accidents/Safety Violations							
Permits/Compliance							
Permit Violations							
Spill Reporting							
Chemical Handling							
Traffic Control and Site Safety							
Other							
Utilities - 811 - Know what's BELOW - CALL before you dig							
Electric							
Gas							
Telephone							
Drinking Water							
Wastewater (Sanitary Sewers)							
Stormwater (Storm Sewers)							
Cable							
Communications							
Fiber Optic							
Petrroleum							
Other							
Suppliers							
Other Contact Information							

VIII. Internal Contracting and Purchasing Procedures

A budget is one of the most important components of an effective AMP. A key element of the operations budget is the tracking of costs in order to have accurate records each time the annual operating budget is developed. Having an annual baseline provides documentation for future budget considerations and provides justification for future rate increases.

The cost of preventive and corrective maintenance and major collection system repairs and alterations are key items in the annual operating budget. The collection system owner or operator should keep adequate records of all maintenance costs, both in-house and contracted, plus the costs for spare parts. This will assist in the preparation of the following year's budget. In general, there should be an annual (12-month cycle) budget of discretionary and non-discretionary items.

The major categories of operating costs are labor, Utilities, and material supplies. Cost accounting for these categories should include information on unit costs, total costs, and the amount and/or quantities used. Internal contracting and purchasing procedures must therefore be developed and followed for efficient tracking of the operational and maintenance costs. Each community typically develops these procedures for both routine and emergency situations based on their past governmental experience and community regulations and/or ordinances. A typical process is to create a Work Order and issue a

Purchase Order for the work to be performed. Preparation of the Work Order is very important while thinking about the O&M strategy and asset management. The Work order allows the reviewer to know:

A. If this maintenance was planned or unplanned
B. The actual labor and materials cost included in the expense
C. What was done to complete the work order
D. Why the asset failed
E. The impact that this work order had on customers

A Work Order template is included in Appendix D.

Provide procedures for emergency contracting and/or purchasing including:

A. Authorization
B. Budget Limit
C. Existing on-call agreements

Asset Management Program (AMP) Guidance

Financial Section

Table of Contents

I. Introduction

This Section provides the guidelines for development of the required Financial requirements of the AMP. The Utility must develop and implement a Financial Plan that includes the following minimum requirements:

1. Forward-looking cash flow analysis
2. Historical financial statements
3. Listing of all outstanding debt with funding source and security
4. Last bond rating agency report
5. Current annual budget
6. Current rate ordinance and rate structure
7. Date of last rate review/examination/audit
8. Collection procedures for delinquent accounts

The purpose of the information in this Financial Section is to provide the Utility with financial information and forward-looking cash flow planning model that can be modified from time-to-time as different infrastructure needs arise and priorities change. As such, it should be considered a living document with the information updated at least annually. Appendix E includes sample tables that can assist in the compilation of information listed in this portion of the AMP.

II. Forward Looking Cash Flow Analysis

The financial model will be helpful to assist Utility management to develop a plan to fund the future infrastructure needs detailed in the AMP. This long-term financial planning prepared by the Utility's municipal advisor should match the planning period in the AMP. It should also show the annual rate increases necessary to finance all of the revenue requirements of the Utility including any necessary bond issues and the resulting future debt service. The Forward-Looking Cash Flow Analysis should be updated at a minimum of every 5 years. See example for reference.

The minimum requirements for the Forward Looking Cash Flow Analysis are as follows:

1. Revenues by line item which should match the Utility's historical financial statements. Normal revenues include but are not limited to:
    a. Revenues by user type, if available.
        i. Residential
        ii. Commercial
        iii. Industrial
        iv. Multi-family
        v. Wholesale
    b. Fire protection
    c. Forfeited discounts/penalties
    d. Excessive strength surcharges
    e. System development charges fees
    f. Interest Income
    g. Other
2. Customer growth, if any
    a. Historical and future assumptions

3. Collection rates
    a. Historical and future assumptions
4. Operating expenses (by function if available) by line item which should match the Utility's historical financial statement. Normal expenses include but are not limited to:
    a. Salaries and wages
    b. Employee benefits
    c. Purchased power
    d. Chemicals
    e. Sludge removal
    f. Repairs and maintenance
    g. Materials and supplies
    h. Contractual services
    i. Insurance
    j. Rent
    k. Transportation
    l. Other
5. Future expense assumptions including assumed annual inflation rate
6. Capital improvement plan for the AMP period
7. Estimated project costs and funding schedule for bond funded projects
8. Outstanding bond debt service (Include amortization schedules)
9. Proposed bond debt service (Include amortization schedules)
    a. Debt assumptions – terms, rates, funding source
10. Outstanding lease payments (Include amortization schedules)
11. Combined debt service schedule
12. Outstanding and proposed debt service reserve requirements
13. Capital improvement plan expenditures from rates and charges
14. Payment in lieu of property taxes and other transfers if applicable
15. Each year's cash flow should result in an increase/(decrease) in cash and cash equivalents and also have a beginning and ending balance. The ending balance for cash and cash equivalents should not go below the minimum required balance for operating cash and cash equivalents as determined by the Utility. The ending balance for cash and cash equivalents should not result in a negative balance.
16. Resulting rate increase required to fund requirements
17. Resulting average user rates assuming 4,000 gallons per month
18. Resulting debt service coverage meeting or exceeding SRF requirements

III. Historical Financial Statements

1. Historical financial statements should be included for the last three years

2. Audits

    a. Prior to completing a drinking water or sewer infrastructure financing with SRF, an SRF Loan Recipient must submit, along with a standard SRF Due Diligence package, financial statements for the calendar years set out in sub-paragraphs (i), (ii), and (iii) immediately-below.

i. If an SRF Loan Recipient seeks to complete a financing with SRF during the first half of State Fiscal Year 2019 (July 1, 2018 through December 31, 2018), the SRF Loan Recipient must submit:
    1. The most recent financial statements which must represent a review, examination, or audit(s) of financial statements for calendar years ending no later than for a calendar year ending December 31, 2015.

ii. If an SRF Loan Recipient seeks to complete a financing with SRF during the second half of State Fiscal Year 2019 (January 1, 2019 through June 30, 2019), the SRF Loan Recipient must submit:
    1. The most recent financial statements which must represent a review, examination, or audit(s) of financial statements for calendar years ending no later than for a calendar year ending December 31, 2016.

iii. In connection with financing a project with the SRF Loan Program on or after July 1, 2019, SRF Loan Recipients must submit audited financial statements of the SRF Loan Recipient (an "Audit") performed by the Indiana State Board of Account or another independent public accountant of the calendar year ending no later than two years prior the SRF loan closing date. The SRF Loan Program will no longer accept reviews or examinations; rather, instead, the SRF Loan Program will require that all SRF Loan Recipients submit to the SRF Loan Program an Audit of one the last two calendar years. Thus, prospective SRF Loan Recipients submitting an application are advised and encouraged to begin or continue undertaking the steps necessary to assure their Audit(s) are performed at an early enough stage so as to not delay completing a project financing with the SRF Loan Program.

b. Beginning July 1, 2018, the standard SRF financial assistance loan agreement will include a requirement such that the SRF Loan Recipient will be required to prepare and submit an Audit every two years throughout the life of the repayment of the debt to the SRF Loan Program.

IV. Outstanding Long-Term Bonds and Leases

Provide a listing of the outstanding debt noting the funding source, security and bond rating.

V. Other Items

Attach or describe the other documents including:

1. Last bond rating agency report
2. Current annual budget
3. Current rate ordinance and rate structure
4. Date of last review

Appendix A

Technical Section – Workbook Tool

Asset Management Program Workbook Tool

Asset Management Program Team Template

Utility Information

Utility Name:	Anytown Utilities Department
Street Address:	123 River Road
City:	Anytown, IN
Zip Code:	47999
Phone Number:	740-867-5309
Email:	utilities@anytownin.gov

NPDES Number:
Number of Connections:
Number of Customers:

Personnel

Contact Person:
Title:
Role:
Email:

Team Member:
Title:
Role:
Email:

Team Member:
Title:
Role:
Email:

Team Member:
Title:
Role:
Email:

Team Member:
Title:
Role:
Email:

Team Member:
Title:
Role:
Email:

Table 1a
Sample List of Assets

Sample Wastewater Utility

Collection Assets
- Northwest Sewershed
  - 8"
- Northeast Sewershed
  - 8"
  - 10"
- Main Street Pump Station
  - copy from FSP but no screening
- Force Main
- South Sewershed
  - 8"
  - 10"
  - 12"

Treatment Assets
- Headworks - screens in building, no grit, no pumping
- 24" pipe
- Oxidation ditches
- 24" pipe
- Final clarifier splitter
- 24" pipe
- Final clarifiers
- 24" pipe
- Ultraviolet disinfection
- 24" pipe to outfall
- RAS pump station
- 8" force main
- WAS actuated valve
- 6" force main
- Sludge holding tank
- Dewatering building - feed pump, belt press, to landfill
- Admin building - with lab
- Drives, sidewalks, drainage
- Generator

Asset Inventory

Table 1

Utility Name:	Wastewater
Current Plan Year:	2018

Directions:

A. List assets
B. Enter asset information
C. To add more assets use insert function and add rows then copy first asset row to new rows to transfer formulas
D. Enter information in yellow cells
E. Remaining cells will calculate automatically.

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Collection Assets	Capacity / Size	Material	Manufacturer	Tag Number (Optional)	Original Cost	Replacement Cost	Year Installed	Expected Useful Life in Years	Remaining Useful Life in Years	Condition	Probability of Failure	Consequence of Failure	Criticality
Enter asset													0
Enter asset													0
Enter asset													0
Enter asset													0
Enter asset													0
Enter asset													0
Collection Assets Subtotal						$0	$0						

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Treatment Assets	Capacity / Size	Material	Manufacturer	Tag Number (Optional)	Original Cost	Replacement Cost	Year Installed	Expected Useful Life in Years	Remaining Useful Life in Years	Condition	Probability of Failure	Consequence of Failure	Criticality
Main Street Pump Station													
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Wastewater Treatment Plant													
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Enter asset									-2018				0
Treatment Assets Subtotal						$0	$0						
Total of All Collection and Treatment Assets						$0	$0						

Asset Rating Table 2

Column K	
Condition Assessment	
Condition Rating	**Description**
5	Unserviceable/End of useful life - Over 50% of asset requires replacement
4	Significant Deterioration - 20-40% requires renewal/upgrade
3	Moderate Deterioration - 10-20% requires significant maintenance
2	Minor Deterioration - Requires minor maintenance
1	New or Excellent Condition - Only normal maintenance required

Column L	
Probability of Failure	
Performance Rating	**Description**
5	Imminent - Likely to occur in the near future
4	Probable - Likely to occur several times in the life of an item
3	Occasional - Likely to occur sometime in the life of an item
2	Remote - Unlikely but possible to occur in the life of an item
1	Improbable - So unlikely, it can be assumed occurrence may not be experienced

Column M	
Consequence of Failure	
Performance Rating	**Description**
5	Catastrophic disruption
4	Major disruption
3	Moderate disruption
2	Minor disruption
1	Insignificant disruption

Replacement and/or Rehabilitation Expenses Table 3

Directions:

A. List assets to be replaced or rehabilitated
B. Determine how long before action must take place
C. Enter cost to replace or rehabilitate
D. Enter "C" in column D for large replacement expenses that would be funded as a capital project separate from the reserve money set aside each year.
E. To add more replacement expenses, use insert function and add rows then copy first line item row to new rows to transfer formulas
F. Enter information in yellow cells
G. Remaining cells will calculate automatically.

Guidance Note:

Include items here that will need to be replaced during the normal course of operating the system.

Include only the items from the Asset Inventory (Table 1) with a remaining useful life less than 20 years.

A	B	C	D	E	F	G
Projects	Remaining Useful Life in Years	Replacement Cost	R = Use Reserve C = Capital Expense	Reserve Required Each Year	Future Capital Funds Required	Potential Funding Source
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Enter asset to be replaced				$ -	$ -	
Total Replacement Expenses Required in the Current Year				**$ -**		
Total Future Capital Funds Required					**$ -**	

Future Improvement Expenses

Table 4

Directions:

A. List projects to be completed
B. Determine how long before the project must begin
C. Enter the total projected cost of the project
D. Enter "C" in column D for large replacement expenses that would be funded as a capital project separate from the reserve money set aside each year.
E. To add more improvement expenses, use insert function and add rows then copy first row to new rows to transfer formulas
F. Enter information in yellow cells.
G. Remaining cells will calculate automatically.

Guidance Note:

Include improvements here which are related to:
1. Future/upcoming regulations
2. Major asset replacement, such as structures, tanks, or interceptors
3. System expansion to provide additional capacity or service area
4. System consolidation or regionalization
5. Improved technology to replace obsolete technology
6. Climate resiliency

Include only projects expected to occur within the next 20 years.

A	B	C	D	E	F	G
Projects	Years Until Project Must Begin	Cost	R = Use Reserve C = Capital Expense	Reserve Required Each Year	Future Capital Funds Required	Potential Funding Source
Enter project	0	$ -		$ -	$ -	
Enter project	0	$ -		$ -	$ -	
Enter project	0	$ -		$ -	$ -	
Enter project	0	$ -		$ -	$ -	
Enter project	0	$ -		$ -	$ -	
Enter project	0	$ -		$ -	$ -	
Enter project	0	$ -		$ -	$ -	
Enter project	0	$ -		$ -	$ -	
Enter project	0	$ -		$ -	$ -	
Enter project	0	$ -		$ -	$ -	
Enter project	0	$ -		$ -	$ -	
Total Improvement Expense Required in the Current Year				$ -		
Total Future Capital Funds Required					$ -	

Total Reserve Required for Facility Improvement Project

Table 5

Directions:

A. Total Reserve Required will calculate automatically from the total replacement and total improvement expenses in Tables 3 and 4 respectively.
B. If reserve provided does not cover the total reserve required, additional funding for replacement and future improvement is needed

Total Reserve Required Each Year	**$0**

Total Future Capital Funds Required	**$0**

Appendix B

Managerial Section – Sample Job Description Example/Template

Job Title:	Operational Operator
Department:	Operations
Direct Manager/Supervisor:	Head Operator
Description Updated:	2018

POSITION SUMMARY

Licensed Operator with five or more years of design or field experience required. Responsible for project quality, schedule and budget. Project Manager Capabilities.

ESSENTIAL DUTIES AND RESPONSIBILITIES

- Operate
- Turn wrench
-
-
-

EDUCATION and/or EXPERIENCE

- Must possess Operators License. 5+ years' experience preferred. Continuing education to remain current with area of responsibility.
- 5 years-experience in related field.
- Strong verbal communications skills and the ability to effectively present information and respond to questions from groups of managers, equipment suppliers, contractors/consultants, and the general public are necessary.
- A strong understanding of operations.
- Ability to apply common sense understanding to carry out instructions.

WORK ENVIRONMENT AND PHYSICAL REQUIREMENTS

While performing the duties of this job, the employee is consistently outdoors and some physical exertion may be necessary.

Appendix C

Managerial Section – Cyber Security Template

(To be inserted at a later date)

Appendix D

Managerial Section –Work Order Template

WORK ORDER

Work Order No.:_____ Date:_____

Work Order Type: Planned:_____Unplanned:_____

Equipment Name: _____Equipment No,:_____

Work To Be Performed:

Job Estimate:

1. Labor: $_____
2. Plant: $_____
3. Material: $_____

Work Performed By:

1. _____
2. _____
3. _____
4. _____

Procedures Followed:

Primary Cause of Failure:

Impact on Customers:

Other Issues:

Signed:_____

Date:_____

Comments:

Appendix E

Financial Section – Sample Tables

ANYTOWN WATER UTILITY/SEWAGE WORKS

UTILITY CAPITAL IMPROVEMENT PLAN

	Estimated Project Year										
Capital Improvement Categories:	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Totals
Gravity and pressure lines			$50,000		$100,000	$125,000					$275,000
Valves, hydrants, fittings, backflow preventors, sample stations, chemical feed points, manholes, inlets	$10,000	$10,000	10,000	$10,000	10,000	10,000	$10,000	$10,000	$10,000	$10,000	100,000
Lead lines as identified						100,000					100,000
Booster/lift stations	25,000			100,000			50,000			225,000	400,000
Water or wastewater treatment plants									1,000,000	1,000,000	2,000,000
Water or wastewater storage facilities					500,000						500,000
Meters	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	75,000
Wells						300,000					300,000
CSO outfalls and diversion structures											-
Other	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	500,000
Totals	92,500	67,500	117,500	167,500	667,500	592,500	117,500	67,500	1,067,500	1,292,500	4,250,000
Less assumed bond funding					(550,000)	(475,000)			(1,000,000)	(1,200,000)	(3,225,000)
Net Rate Fund Capital	$92,500	$67,500	$117,500	$167,500	$117,500	$117,500	$117,500	$67,500	$67,500	$92,500	$1,025,000

Note: These are samples of standard capital improvements. Add other improvements as necessary.

(Continued on next page)

ANYTOWN WATER UTILITY/SEWAGE WORKS

(Cont'd)

UTILITY CAPITAL IMPROVEMENT PLAN

Capital Improvement Categories:	Sub-totals	Estimated Project Year 2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	Totals
Gravity and pressure lines	$275,000			$50,000		$100,000		$125,000	$100,000	$100,000	$100,000	$850,000
Valves, hydrants, fittings, backflow preventors, sample stations, chemical feed points, manholes, inlets	100,000	$10,000	$10,000	10,000	$10,000	10,000	$10,000	10,000	10,000	10,000	10,000	200,000
Lead lines as identified	100,000		50,000									150,000
Booster/lift stations	400,000	25,000			100,000			25,000			250,000	800,000
Water or wastewater treatment plants	2,000,000											2,000,000
Water or wastewater storage facilities	500,000											500,000
Meters	75,000	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	150,000
Wells	300,000										100,000	400,000
CSO outfalls and diversion structures	-											-
Other	500,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	1,000,000
Totals	4,250,000	92,500	117,500	117,500	167,500	167,500	67,500	217,500	167,500	167,500	517,500	6,050,000
Less assumed bond funding	(3,225,000)											(3,225,000)
Net Rate Fund Capital	$1,025,000	$92,500	$117,500	$117,500	$167,500	$167,500	$67,500	$217,500	$167,500	$167,500	$517,500	$2,825,000
Average annual rate funded capital improvements												$141,300

Note: These are samples of standard capital improvements. Add other improvements as necessary.

ANYTOWN WATER UTILITY/SEWAGE WORKS

SCHEDULE OF AMORTIZATION OF $2,955,000 PRINCIPAL AMOUNT OF OUTSTANDING [SEWAGE WORKS/WATERWORKS] REVENUE BONDS OF 2012

Payment Date	Principal Balance	Principal	Interest Rate	Debt Service		Bond Year Total
				Interest	Total	
	(-----In $1,000's-----)		(%)	(----------In Dollars----------)		
07/01/18	$2,955	$70	3.00	$44,325.00	$114,325.00	
01/01/19	2,885	75	3.00	43,275.00	118,275.00	$232,600.00
07/01/19	2,810	75	3.00	42,150.00	117,150.00	
01/01/20	2,735	75	3.00	41,025.00	116,025.00	233,175.00
07/01/20	2,660	75	3.00	39,900.00	114,900.00	
01/01/21	2,585	80	3.00	38,775.00	118,775.00	233,675.00
07/01/21	2,505	80	3.00	37,575.00	117,575.00	
01/01/22	2,425	80	3.00	36,375.00	116,375.00	233,950.00
07/01/22	2,345	80	3.00	35,175.00	115,175.00	
01/01/23	2,265	85	3.00	33,975.00	118,975.00	234,150.00
07/01/23	2,180	85	3.00	32,700.00	117,700.00	
01/01/24	2,095	85	3.00	31,425.00	116,425.00	234,125.00
07/01/24	2,010	85	3.00	30,150.00	115,150.00	
01/01/25	1,925	90	3.00	28,875.00	118,875.00	234,025.00
07/01/25	1,835	90	3.00	27,525.00	117,525.00	
01/01/26	1,745	90	3.00	26,175.00	116,175.00	233,700.00
07/01/26	1,655	90	3.00	24,825.00	114,825.00	
01/01/27	1,565	95	3.00	23,475.00	118,475.00	233,300.00
07/01/27	1,470	95	3.00	22,050.00	117,050.00	
01/01/28	1,375	95	3.00	20,625.00	115,625.00	232,675.00
07/01/28	1,280	100	3.00	19,200.00	119,200.00	
01/01/29	1,180	100	3.00	17,700.00	117,700.00	236,900.00
07/01/29	1,080	100	3.00	16,200.00	116,200.00	
01/01/30	980	100	3.00	14,700.00	114,700.00	230,900.00
07/01/30	880	105	3.00	13,200.00	118,200.00	
01/01/31	775	105	3.00	11,625.00	116,625.00	234,825.00
07/01/31	670	105	3.00	10,050.00	115,050.00	
01/01/32	565	110	3.00	8,475.00	118,475.00	233,525.00
07/01/32	455	110	3.00	6,825.00	116,825.00	
01/01/33	345	110	3.00	5,175.00	115,175.00	232,000.00
07/01/33	235	115	3.00	3,525.00	118,525.00	
01/01/34	120	120	3.00	1,800.00	121,800.00	240,325.00
		$2,955		$788,850.00	$3,743,850.00	$3,743,850.00

ANYTOWN WATER UTILITY/SEWAGE WORKS

SCHEDULE OF ESTIMATED PROJECT COSTS AND FUNDING

	Years	
ESTIMATED PROJECT COSTS	2022	2026
Estimated Construction Costs and Contingencies:		
Project __	$855,000	
Project __		$1,850,000
Total Estimated Construction Costs	855,000	1,850,000
Estimated Non-Construction Costs:		
Engineering	170,000	350,000
Grant administration (if grant funding is anticipated)		
Underwriter's discount (for open market bonds)		
Legal, bond counsel, financial advisory and contingencies	90,000	90,000
Total Estimated Non-Construction Costs	260,000	440,000
Total Estimated Project Costs	$1,115,000	$2,290,000
ESTIMATED PROJECT FUNDING		
Proposed [Sewage Works/Waterworks] revenue bonds	$1,115,000	$2,290,000
Grant funding		
Cash on hand		
Total Estimated Project Funding	$1,115,000	$2,290,000

Note: Include in this schedule the bond funding requirements from the Utility Capital Improvement Plan schedules.

ANYTOWN WATER UTILITY/SEWAGE WORKS

SCHEDULE OF AMORTIZATION OF $1,115,000 PRINCIPAL AMOUNT
OF PROPOSED [SEWAGE WORKS/WATERWORKS] REVENUE BONDS OF 2022
Assumes bonds are issued July 1, 2022.

Payment Date	Principal Balance	Principal	Assumed Interest Rate*	Debt Service		Bond Year Total
	(-----In $1,000's-----)		(%)	Interest	Total	
				(----------In Dollars----------)		
01/01/23	$1,115			$22,300.00	$22,300.00	$22,300.00
07/01/23	1,115	$20	4.00	22,300.00	42,300.00	
01/01/24	1,095	20	4.00	21,900.00	41,900.00	84,200.00
07/01/24	1,075	20	4.00	21,500.00	41,500.00	
01/01/25	1,055	20	4.00	21,100.00	41,100.00	82,600.00
07/01/25	1,035	20	4.00	20,700.00	40,700.00	
01/01/26	1,015	20	4.00	20,300.00	40,300.00	81,000.00
07/01/26	995	20	4.00	19,900.00	39,900.00	
01/01/27	975	20	4.00	19,500.00	39,500.00	79,400.00
07/01/27	955	20	4.00	19,100.00	39,100.00	
01/01/28	935	20	4.00	18,700.00	38,700.00	77,800.00
07/01/28	915	20	4.00	18,300.00	38,300.00	
01/01/29	895	25	4.00	17,900.00	42,900.00	81,200.00
07/01/29	870	25	4.00	17,400.00	42,400.00	
01/01/30	845	25	4.00	16,900.00	41,900.00	84,300.00
07/01/30	820	25	4.00	16,400.00	41,400.00	
01/01/31	795	25	4.00	15,900.00	40,900.00	82,300.00
07/01/31	770	25	4.00	15,400.00	40,400.00	
01/01/32	745	25	4.00	14,900.00	39,900.00	80,300.00
07/01/32	720	25	4.00	14,400.00	39,400.00	
01/01/33	695	25	4.00	13,900.00	38,900.00	78,300.00
07/01/33	670	25	4.00	13,400.00	38,400.00	
01/01/34	645	30	4.00	12,900.00	42,900.00	81,300.00
07/01/34	615	30	4.00	12,300.00	42,300.00	
01/01/35	585	30	4.00	11,700.00	41,700.00	84,000.00
07/01/35	555	30	4.00	11,100.00	41,100.00	
01/01/36	525	30	4.00	10,500.00	40,500.00	81,600.00
07/01/36	495	30	4.00	9,900.00	39,900.00	
01/01/37	465	30	4.00	9,300.00	39,300.00	79,200.00
07/01/37	435	30	4.00	8,700.00	38,700.00	
01/01/38	405	35	4.00	8,100.00	43,100.00	81,800.00
07/01/38	370	35	4.00	7,400.00	42,400.00	
01/01/39	335	35	4.00	6,700.00	41,700.00	84,100.00
07/01/39	300	35	4.00	6,000.00	41,000.00	
01/01/40	265	35	4.00	5,300.00	40,300.00	81,300.00
07/01/40	230	35	4.00	4,600.00	39,600.00	
01/01/41	195	35	4.00	3,900.00	38,900.00	78,500.00
07/01/41	160	40	4.00	3,200.00	43,200.00	
01/01/42	120	40	4.00	2,400.00	42,400.00	85,600.00
07/01/42	80	40	4.00	1,600.00	41,600.00	
01/01/43	40	40	4.00	800.00	40,800.00	82,400.00
		$1,115		$538,500.00	$1,653,500.00	$1,653,500.00

*Assumes a 4% SRF interest rate.

ANYTOWN WATER UTILITY/SEWAGE WORKS

SCHEDULE OF AMORTIZATION OF $2,290,000 PRINCIPAL AMOUNT
OF PROPOSED [SEWAGE WORKS/WATERWORKS] REVENUE BONDS OF 2026
Assumes bonds are issued July 1, 2026.

Payment Date	Principal Balance	Principal	Assumed Interest Rate*	Debt Service		Bond Year Total
				Interest	Total	
	(-----In $1,000's-----)		(%)	(----------In Dollars----------)		
01/01/27	$2,290			$57,250.00	$57,250.00	$57,250.00
07/01/27	2,290	$35	5.00	57,250.00	92,250.00	
01/01/28	2,255	35	5.00	56,375.00	91,375.00	183,625.00
07/01/28	2,220	35	5.00	55,500.00	90,500.00	
01/01/29	2,185	35	5.00	54,625.00	89,625.00	180,125.00
07/01/29	2,150	35	5.00	53,750.00	88,750.00	
01/01/30	2,115	40	5.00	52,875.00	92,875.00	181,625.00
07/01/30	2,075	40	5.00	51,875.00	91,875.00	
01/01/31	2,035	40	5.00	50,875.00	90,875.00	182,750.00
07/01/31	1,995	40	5.00	49,875.00	89,875.00	
01/01/32	1,955	40	5.00	48,875.00	88,875.00	178,750.00
07/01/32	1,915	45	5.00	47,875.00	92,875.00	
01/01/33	1,870	45	5.00	46,750.00	91,750.00	184,625.00
07/01/33	1,825	45	5.00	45,625.00	90,625.00	
01/01/34	1,780	45	5.00	44,500.00	89,500.00	180,125.00
07/01/34	1,735	50	5.00	43,375.00	93,375.00	
01/01/35	1,685	50	5.00	42,125.00	92,125.00	185,500.00
07/01/35	1,635	50	5.00	40,875.00	90,875.00	
01/01/36	1,585	50	5.00	39,625.00	89,625.00	180,500.00
07/01/36	1,535	55	5.00	38,375.00	93,375.00	
01/01/37	1,480	55	5.00	37,000.00	92,000.00	185,375.00
07/01/37	1,425	55	5.00	35,625.00	90,625.00	
01/01/38	1,370	55	5.00	34,250.00	89,250.00	179,875.00
07/01/38	1,315	60	5.00	32,875.00	92,875.00	
01/01/39	1,255	60	5.00	31,375.00	91,375.00	184,250.00
07/01/39	1,195	60	5.00	29,875.00	89,875.00	
01/01/40	1,135	65	5.00	28,375.00	93,375.00	183,250.00
07/01/40	1,070	65	5.00	26,750.00	91,750.00	
01/01/41	1,005	65	5.00	25,125.00	90,125.00	181,875.00
07/01/41	940	70	5.00	23,500.00	93,500.00	
01/01/42	870	70	5.00	21,750.00	91,750.00	185,250.00
07/01/42	800	70	5.00	20,000.00	90,000.00	
01/01/43	730	75	5.00	18,250.00	93,250.00	183,250.00
07/01/43	655	75	5.00	16,375.00	91,375.00	
01/01/44	580	75	5.00	14,500.00	89,500.00	180,875.00
07/01/44	505	80	5.00	12,625.00	92,625.00	
01/01/45	425	80	5.00	10,625.00	90,625.00	183,250.00
07/01/45	345	85	5.00	8,625.00	93,625.00	
01/01/46	260	85	5.00	6,500.00	91,500.00	185,125.00
07/01/46	175	85	5.00	4,375.00	89,375.00	
01/01/47	90	90	5.00	2,250.00	92,250.00	181,625.00
		$2,290		$1,418,875.00	$3,708,875.00	$3,708,875.00

*Assumes a 5% SRF interest rate.

ANYTOWN WATER UTILITY/SEWAGE WORKS

SCHEDULE OF PROPOSED COMBINED BOND AMORTIZATION

Bond Year Ending	Outstanding Bonds	Proposed Bonds 1	Proposed Bonds 2	Total	Bond Year Total
07/01/18	$114,325.00			$114,325.00	
01/01/19	118,275.00			118,275.00	$232,600.00
07/01/19	117,150.00			117,150.00	
01/01/20	116,025.00			116,025.00	233,175.00
07/01/20	114,900.00			114,900.00	
01/01/21	118,775.00			118,775.00	233,675.00
07/01/21	117,575.00			117,575.00	
01/01/22	116,375.00			116,375.00	233,950.00
07/01/22	115,175.00			115,175.00	
01/01/23	118,975.00	$22,300.00		141,275.00	256,450.00
07/01/23	117,700.00	42,300.00		160,000.00	
01/01/24	116,425.00	41,900.00		158,325.00	318,325.00
07/01/24	115,150.00	41,500.00		156,650.00	
01/01/25	118,875.00	41,100.00		159,975.00	316,625.00
07/01/25	117,525.00	40,700.00		158,225.00	
01/01/26	116,175.00	40,300.00		156,475.00	314,700.00
07/01/26	114,825.00	39,900.00		154,725.00	
01/01/27	118,475.00	39,500.00	$57,250.00	215,225.00	369,950.00
07/01/27	117,050.00	39,100.00	92,250.00	248,400.00	
01/01/28	115,625.00	38,700.00	91,375.00	245,700.00	494,100.00
07/01/28	119,200.00	38,300.00	90,500.00	248,000.00	
01/01/29	117,700.00	42,900.00	89,625.00	250,225.00	498,225.00
07/01/29	116,200.00	42,400.00	88,750.00	247,350.00	
01/01/30	114,700.00	41,900.00	92,875.00	249,475.00	496,825.00
07/01/30	118,200.00	41,400.00	91,875.00	251,475.00	
01/01/31	116,625.00	40,900.00	90,875.00	248,400.00	499,875.00
07/01/31	115,050.00	40,400.00	89,875.00	245,325.00	
01/01/32	118,475.00	39,900.00	88,875.00	247,250.00	492,575.00
07/01/32	116,825.00	39,400.00	92,875.00	249,100.00	
01/01/33	115,175.00	38,900.00	91,750.00	245,825.00	494,925.00
07/01/33	118,525.00	38,400.00	90,625.00	247,550.00	
01/01/34	121,800.00	42,900.00	89,500.00	254,200.00	501,750.00
07/01/34		42,300.00	93,375.00	135,675.00	
01/01/35		41,700.00	92,125.00	133,825.00	269,500.00
07/01/35		41,100.00	90,875.00	131,975.00	
01/01/36		40,500.00	89,625.00	130,125.00	262,100.00
07/01/36		39,900.00	93,375.00	133,275.00	
01/01/37		39,300.00	92,000.00	131,300.00	264,575.00
07/01/37		38,700.00	90,625.00	129,325.00	
01/01/38		43,100.00	89,250.00	132,350.00	261,675.00
07/01/38		42,400.00	92,875.00	135,275.00	
01/01/39		41,700.00	91,375.00	133,075.00	268,350.00
07/01/39		41,000.00	89,875.00	130,875.00	
01/01/40		40,300.00	93,375.00	133,675.00	264,550.00
07/01/40		39,600.00	91,750.00	131,350.00	
01/01/41		38,900.00	90,125.00	129,025.00	260,375.00
07/01/41		43,200.00	93,500.00	136,700.00	
01/01/42		42,400.00	91,750.00	134,150.00	270,850.00
07/01/42		41,600.00	90,000.00	131,600.00	
01/01/43		40,800.00	93,250.00	134,050.00	265,650.00
07/01/43			91,375.00	91,375.00	
01/01/44			89,500.00	89,500.00	180,875.00
07/01/44			92,625.00	92,625.00	
01/01/45			90,625.00	90,625.00	183,250.00
07/01/45			93,625.00	93,625.00	
01/01/46			91,500.00	91,500.00	185,125.00
07/01/46			89,375.00	89,375.00	
01/01/47			92,250.00	92,250.00	181,625.00
Totals:	$3,743,850.00	$1,653,500.00	$3,708,875.00	$9,106,225.00	$9,106,225.00

ANYTOWN WATER UTILITY/SEWAGE WORKS

ESTIMATED ANNUAL CASH OPERATING EXPENSES

	Test Year	Adjustment	Ref.	Estimated 2018
Annual Operating Expenses:				
Salaries and wages	$350,000	$35,000	(1)	$385,000
Employee pensions and benefits	125,000	12,500	(2)	137,500
Purchased water/treatment	100,000			100,000
Materials and supplies	15,000	500	(3)	15,500
Chemicals	95,000	2,900	(3)	97,900
Repairs and maintenance	50,000	25,000	(4)	75,000
[Sludge removal]				
Contractual services	50,000	1,500	(3)	51,500
Utilities	75,000	2,300	(3)	77,300
Transportation	23,000	700	(3)	23,700
Insurance	60,000	2,000	(4)	62,000
Miscellaneous	7,000	200	(3)	7,200
Totals	$950,000	$82,600		$1,032,600

References

(1) Assumes the salaries and wages are adjusted per the adopted salary ordinance and the addition of one new employee.
(2) Benefits are based on current premiums and the addition of one new employee.
(3) Assumes a 3% inflationary increase.
(4) The repairs and maintenance and insurance expenses are adjusted to the budgeted amount and to provide an allowance for tank maintenance.

ANYTOWN WATER UTILITY/SEWAGE WORKS

**SCHEDULE OF ESTIMATED REVENUES, EXPENSES,
ENDING CASH AND RESULTING AVERAGE MONTHLY BILL**

	Estimated Year									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Operating Revenues:										
Metered sales/Collections (1)										
Residential	$900,000	$900,000	$900,000	$900,000	$900,000	$900,000	$900,000	$900,000	$900,000	$900,000
Commercial	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Industrial	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Governmental	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Fire protection (1)	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000
Additional revenues from rate increases (2)		57,300	115,300	175,800	238,900	312,000	388,600	468,800	569,600	693,900
Capacity fees (3)	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other revenues (4)	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Total Operating Revenues	1,355,000	1,412,300	1,470,300	1,530,800	1,593,900	1,667,000	1,743,600	1,823,800	1,924,600	2,048,900
Operation and Maintenance Expenses (5)	1,032,600	1,063,600	1,095,500	1,128,400	1,162,300	1,197,200	1,233,100	1,270,100	1,308,200	1,347,400
Net Operating Revenues	322,400	348,700	374,800	402,400	431,600	469,800	510,500	553,700	616,400	701,500
Non-Operating Revenues										
Interest income (4)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Misc. Revenues (4)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Total Non-Operating Revenues	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Non-Operating Expenditures:										
Outstanding and proposed debt service (6)	232,600	233,200	233,700	234,000	256,500	318,300	316,600	314,700	370,000	494,100
Debt service reserve funding (7)					8,600	17,100	17,100	17,100	35,700	45,700
Payment in lieu of taxes (4)	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Capital improvements - cash funded (8)	92,500	67,500	117,500	167,500	117,500	117,500	117,500	67,500	67,500	92,500
Total Non-Operating Expenditures	350,100	325,700	376,200	426,500	407,600	477,900	476,200	424,300	498,200	657,300
Increase (Decrease) in Cash and Cash Equivalents	(25,200)	25,500	1,100	(21,600)	26,500	(5,600)	36,800	131,900	120,700	46,700
Beginning Cash and Cash Equivalents	750,000	724,800	750,300	751,400	729,800	756,300	750,700	787,500	919,400	1,040,100
Ending Cash and Cash Equivalents	$724,800	$750,300	$751,400	$729,800	$756,300	$750,700	$787,500	$919,400	$1,040,100	$1,086,800
Estimated increase in rates	0.00%	4.50%	4.50%	4.50%	4.50%	5.00%	5.00%	5.00%	6.00%	7.00%
Monthly bill (currently $35.00 per month assuming residential usage of 4,000)	$35.00	$36.60	$38.25	$40.00	$41.80	$43.90	$46.10	$48.45	$51.40	$55.00
Dollar Increase	$0.00	$1.60	$1.65	$1.75	$1.80	$2.10	$2.20	$2.35	$2.95	$3.60
Debt Service Coverage	139%	150%	161%	172%	169%	148%	162%	176%	167%	142%
Debt Service Coverage (All-In)	127%	138%	149%	160%	158%	139%	153%	167%	159%	136%

(Continued on next page)

ANYTOWN WATER UTILITY/SEWAGE WORKS

(Cont'd)

SCHEDULE OF ESTIMATED REVENUES, EXPENSES, ENDING CASH AND RESULTING AVERAGE MONTHLY BILL

	Estimated Year									
	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Operating Revenues:										
Metered sales/Collections (1)										
Residential	$900,000	$900,000	$900,000	$900,000	$900,000	$900,000	$900,000	$900,000	$900,000	$900,000
Commercial	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Industrial	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Governmental	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Fire protection (1)	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000
Additional revenues from rate increases (2)	769,700	848,300	848,300	848,300	889,100	951,500	951,500	951,500	951,500	951,500
Capacity fees (3)	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other revenues (4)	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Total Operating Revenues	2,124,700	2,203,300	2,203,300	2,203,300	2,244,100	2,306,500	2,306,500	2,306,500	2,306,500	2,306,500
Operation and Maintenance Expenses (5)	1,387,800	1,429,400	1,472,300	1,516,500	1,562,000	1,608,900	1,657,200	1,706,900	1,758,100	1,810,800
Net Operating Revenues	736,900	773,900	731,000	686,800	682,100	697,600	649,300	599,600	548,400	495,700
Non-Operating Revenues										
Interest income (4)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Misc. Revenues (4)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Total Non-Operating Revenues	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Non-Operating Expenditures:										
Outstanding and proposed debt service (6)	498,200	496,800	499,900	492,600	494,900	501,800	269,500	262,100	264,600	261,700
Debt service reserve funding (7)	37,100	37,100	37,100	18,600						
Payment in lieu of taxes (4)	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Capital improvements - cash funded (8)	92,500	117,500	117,500	167,500	167,500	67,500	217,500	167,500	167,500	517,500
Total Non-Operating Expenditures	652,800	676,400	679,500	703,700	687,400	594,300	512,000	454,600	457,100	804,200
Increase (Decrease) in Cash and Cash Equivalents	86,600	100,000	54,000	(14,400)	(2,800)	105,800	139,800	147,500	93,800	(306,000)
Beginning Cash and Cash Equivalents	1,086,800	1,173,400	1,273,400	1,327,400	1,313,000	1,310,200	1,416,000	1,555,800	1,703,300	1,797,100
Ending Cash and Cash Equivalents	$1,173,400	$1,273,400	$1,327,400	$1,313,000	$1,310,200	$1,416,000	$1,555,800	$1,703,300	$1,797,100	$1,491,100
Estimated increase in rates	4.00%	4.00%	0.00%	0.00%	2.00%	3.00%	0.00%	0.00%	0.00%	0.00%
Monthly bill (currently $35.00 per month assuming residential usage of 4,000)	$57.20	$59.50	$59.50	$59.50	$60.70	$62.55	$62.55	$62.55	$62.55	$62.55
Dollar Increase	$2.20	$2.30	$0.00	$0.00	$1.20	$1.85	$0.00	$0.00	$0.00	$0.00
Debt Service Coverage	148%	156%	146%	140%	138%	139%	241%	229%	208%	190%
Debt Service Coverage (All-In)	142%	150%	141%	134%	132%	134%	231%	218%	197%	179%

ANYTOWN WATER UTILITY/SEWAGE WORKS

SCHEDULE OF ESTIMATED REVENUES, EXPENSES, ENDING CASH AND RESULTING AVERAGE MONTHLY BILL

(Explanation of References)

(1) Assumed at calendar year 2017 amounts. The future revenue estimates assume no significant customer growth.

(2) The collection rate has historically been 98% for the last 5 years. We have assumed a 95% collection rate for future years as an allowance for conservation and rate fatigue.

(3) Assumes two new connections per year.

(4) Assumed at calendar year 2017 amounts.

(5) See page 8 for the 2018 estimated amount. Future years assume 3% annual inflationary increases.

(6) See the combined amortization schedule on page 7.

(7) Assumes the debt service reserve account equal to the maximum annual principal and interest payment is funded from revenues over a 5 year period.

(8) See the Utility Capital Improvement Plan on pages 1 and 2.

For Cash Basis Financial Statements

ANYTOWN WATER UTILITY/SEWAGE WORKS

COMPARATIVE SCHEDULE OF SELECTED FINANCIAL INFORMATION ARISING FROM CASH TRANSACTIONS

	Calendar Year Ended *		
Cash and Cash Equivalents:	20__	20__	20__
Operating fund			
Sinking fund:			
Bond and interest			
Debt service reserve			
Depreciation/improvement fund			
Meter deposit fund			
Construction fund			
Total Cash and Cash Equivalents	-	-	-
Investments:			
Operating			
Sinking fund:			
Bond and interest			
Debt service reserve			
Depreciation/improvement fund			
Construction			
Total Investments	-	-	-
Total Cash and Investments	$0	$0	$0
Bonded Indebtedness:			
_____			

* Historical financial statements.

For Cash Basis Financial Statements

ANYTOWN WATER UTILITY/SEWAGE WORKS

COMPARATIVE SCHEDULE OF CASH RECEIPTS AND DISBURSEMENTS

	Calendar Year Ended		
	20	20	20
Operating Receipts:			
Metered sales/collections			
Residential			
Commercial			
Industrial			
Governmental			
Penalties/forfeited discounts			
Fire protection			
Capacity fees			
Excessive strength surcharges			
Other			
Total Operating Receipts	-	-	-
Operating Disbursements:			
Salaries and wages			
Employee pensions and benefits			
Purchased water/treatment			
Materials and supplies			
Chemicals			
Repairs and maintenance			
Sludge removal			
Contractual services			
Utilities			
Transportation			
Insurance			
Miscellaneous			
Total Operating Disbursements	-	-	-
Net Operating Receipts	-	-	-
Non-Operating Receipts:			
Tap fees			
Interest			
Meter deposits (net)			
Miscellaneous receipts			
Total Non-Operating Receipts:	-	-	-
Non-Operating Disbursements:			
Debt service			
Capital improvements			
Payment in lieu of taxes			
Total Non-Operating Disbursements:	-	-	-
Increase (decrease) in cash and cash equivalents	-	-	-
Beginning cash and cash equivalents	-	-	-
Ending Cash and Cash Equivalents	$0	$0	$0

For Accrual Financial Statements - Insert in next few worksheets.

ANYTOWN WATER UTILITY/SEWAGE WORKS

ASSET MANAGEMENT PROGRAM CHECKLIST

This Asset Management Program Checklist provides the framework for the essential elements of asset management to promote the responsible maintenance, investment and rehabilitation of water and wastewater utilities. A properly implemented asset management program can increase the efficiency of the system and increase the financial sustainability of a utility while at the same time decrease the chance of emergencies. The following checklist is broken down into three sections: Technical, Managerial, and Financial. Each section allows the utility to evaluate key components to asset management within the category. For more details regarding a specific element on the checklist, please refer to the Asset Management Program (AMP) Guidance for the State Revolving Fund Loan Program located here: https://www.in.gov/ifa/srf/2376.htm

Technical

- ☐ System Map/GIS
  - ☐ Lines and sizes, valves, hydrants, fittings, backflow preventers, sample stations, chemical feed, manholes
  - ☐ Lead lines (as identified)
  - ☐ Booster/lift stations
  - ☐ Water or Wastewater Treatment Plants
  - ☐ Storage
  - ☐ Meters
  - ☐ Wells
  - ☐ CSO/SSO locations
- ☐ Inventory of Assets
  - ☐ Account for all assets – "any physical property, real estate or equipment, item or appurtenance installed as part of the system".
  - ☐ Asset Location – written description of location
- ☐ Evaluation of Assets
  - ☐ Condition and remaining useful life of assets
    - ☐ Assess Condition (Probability of Failure)
    - ☐ Assess Criticality (Consequence of Failure)
    - ☐ Assess Risk = Condition X Criticality
  - ☐ Value of assets
  - ☐ Desired Level of Service
- ☐ Evaluation and implementation of water and energy conservation efforts
- ☐ Plan for Maintaining, Repairing, and Replacing the Assets and Plan for Funding
  - ☐ Repair/Maintenance funds should be identified separately from Capital Replacement funds
  - ☐ Define the recommended planning period (20-year minimum)
  - ☐ Criteria and timeline for Rehabilitation and Replacement
  - ☐ Provide reference to location of maintenance Reports for meters, hydrants, pumps, valves, tanks, etc.
  - ☐ Growth related needs

Managerial

- ☐ Location of Documentation of Proof of Ownership (deeds, titles, receipts)
- ☐ Documentation of Proof of Certified Operator
- ☐ Non-Technical description of water/wastewater system
  - ☐ Average Daily Demand
  - ☐ Minimum and Maximum Daily Flow
  - ☐ Loadings
  - ☐ Number of Connections
  - ☐ Number of Customers
  - ☐ Population Served
  - ☐ Source type (if DW)
  - ☐ Receiving Stream (If WW or DW Backwash)
  - ☐ Storage Capacity (gallons)
  - ☐ Purchase/Sell (Agreements/Quantities)
  - ☐ CSO vs. Non-CSO
  - ☐ Accounting of I/I and/or Water Loss
- ☐ Operating Plan
  - ☐ Organization Chart including Governing Body
  - ☐ Description of Job Duties for all positions
  - ☐ Daily operating procedures
  - ☐ Operation & Maintenance Manuals
- ☐ Written Procedures
  - ☐ Security, including cyber security
  - ☐ Personnel Access/User Rights for System Equipment/Computers/Controls/SCADA
  - ☐ Customer Complaints
  - ☐ Purchasing Authority
  - ☐ Internal Controls (checks and balances)
  - ☐ Customer Deposits/Payments
  - ☐ Collections
  - ☐ Connection Charges (new/upgrade tap or sewer connections)
  - ☐ Routine Billing – AMR, AMI, monthly/quarterly billing
  - ☐ Use ordinances
  - ☐ Training and Safety
- ☐ External Contact Information
  - ☐ Police
  - ☐ Fire
  - ☐ Suppliers
- ☐ Internal Contracting and Purchasing Procedures
  - ☐ Routine
  - ☐ Emergency

Financial –

- ☐ Revenues by line item which should match the Utility's historical financial statements. Normal revenues include but are not limited to:
  - ☐ Revenues by user type, if available.
    - ☐ Residential
    - ☐ Commercial
    - ☐ Industrial
    - ☐ Multi-family
    - ☐ Wholesale
  - ☐ Fire protection
  - ☐ Forfeited discounts/penalties
  - ☐ Excessive strength surcharges
  - ☐ System development charges fees
  - ☐ Interest Income
  - ☐ Other
- ☐ Customer growth, if any
  - ☐ Historical and future assumptions
- ☐ Collection rates and procedures
  - ☐ Collection procedures for delinquent accounts
    - ☐ Non recurring charges (disconnect, reconnect, bad check, etc.)
  - ☐ Verify billing follows adopted rate ordinance
  - ☐ Capacity/System Development Charges and assumptions for user connections
  - ☐ Historical and future assumptions
- ☐ Operating expenses (by function if available) by line item which should match the Utility's historical financial statement. Normal expenses include but are not limited to:
  - ☐ Salaries and wages
  - ☐ Employee benefits
  - ☐ Purchased power
  - ☐ Chemicals
  - ☐ Sludge removal
  - ☐ Repairs and maintenance
  - ☐ Materials and supplies
  - ☐ Contractual services
  - ☐ Insurance
  - ☐ Rent
  - ☐ Transportation
  - ☐ Other
- ☐ Future expense assumptions including assumed annual inflation rate
- ☐ Capital improvement plan for the AMP period
- ☐ Estimated project costs and funding schedule for bond funded projects
- ☐ Outstanding bond debt service (Include amortization schedules)
- ☐ Proposed bond debt service (Include amortization schedules)
  - ☐ Debt assumptions – terms, rates, funding source
- ☐ Outstanding lease payments (Include amortization schedules)
- ☐ Revenues
- ☐ Combined debt service schedule
- ☐ Outstanding and proposed debt service reserve requirements
- ☐ Capital improvement plan expenditures from rates and charges
- ☐ Payment in lieu of property taxes and other transfers if applicable

- ☐ Each year's cash flow should result in an increase/(decrease) in cash and cash equivalents and also have a beginning and ending balance. The ending balance for cash and cash equivalents should not go below the minimum required balance for operating cash and cash equivalents as determined by the Utility. The ending balance for cash and cash equivalents should not result in a negative balance.
- ☐ Resulting rate increase required to fund requirements
- ☐ Resulting average user rates assuming 4,000 gallons per month
- ☐ Resulting debt service coverage meeting or exceeding SRF requirements
- ☐ Current historical financial statements for the last three years.
- ☐ Copy of Review, Examination or Audit per the AMP Guidance
- ☐ Current audited financial statements:
    - ☐ If cash basis:
        - ☐ Comparative schedule of selected financial information
            - ☐ Cash balances
            - ☐ Outstanding indebtedness
        - ☐ Comparative schedule of receipts and disbursements
    - ☐ If accrual basis:
        - ☐ Comparative Schedule of Net Position/Balance Sheet
        - ☐ Comparative Schedule of Revenues, Expenses and Changes in Net Position/Income Statement
        - ☐ Comparative Statement of Cash Flows
- ☐ Outstanding Long-Term Bonds and Leases. Provide a listing of the outstanding debt noting the funding source, security and bond rating.

☐ Other Items

- ☐ Last bond rating agency report
- ☐ Most recent annual budget
- ☐ Current rate ordinance and rate structure

STATE REVOLVING FUND (SRF) LOAN PROGRAM
CLEAN WATER AND DRINKING WATER
ASSET MANAGEMENT PROGRAM GUIDELINES

Table of Contents

STATE REVOLVING FUND (SRF) LOAN PROGRAM
CLEAN WATER AND DRINKING WATER
ASSET MANAGEMENT PROGRAM GUIDELINES

Section 1: Purpose

Pursuant to Indiana Code 5-1.2-10-16(b), the following Guidelines, established by the Indiana Finance Authority (Authority), shall be used to create and implement an Asset Management Program (AMP). Any Participant receiving financial assistance from the State Revolving Fund Loan Program (Program) is required to complete and implement an AMP. The purpose of the AMP is to:

(1) Develop an AMP (by the participant) that can be used to assist in the necessary long-term management of the Utility's assets and support cost effective, proactive decisions related to the Utility's assets from creation, acquisition, operation and maintenance, and replacement/upgrade.
(2) Ensure the long-term sustainability of the Participant's Utility assets by treating the AMP as a living document which is regularly referenced, revised, expanded, and implemented as an integral part of the operation and management of the Utility.
(3) Provide a structural framework of the asset information to help the Utility and stakeholders determine when it is most appropriate to repair, replace, or rehabilitate a particular asset as well as determine a long-term funding strategy to ensure sufficient funds will be available to implement the Utility's improvements as needed.
(4) Provide documentation demonstrating that the Utility has the technical, managerial, legal and financial capability to operate and maintain its water and/or wastewater system.

Section 2: Definitions

The following definitions apply throughout this document:

Asset Management Program (AMP) means the program developed and implemented by the Utility demonstrating that it has the technical, managerial, legal and financial capability to operate and maintain its water and/or wastewater system.

Authority means the Indiana Finance Authority, created under IC 5-1.2-3-1.

Clean Water SRF or CWSRF means the State's Clean Water State Revolving Fund Loan Program created in accordance with the Clean Water Act, U.S.C. 1251 et seq., and IC 5-1.2-10.

Drinking Water SRF or DWSRF means the Drinking Water State Revolving Fund Loan Program as authorized by the Safe Drinking Water Act, 42 U.S.C. 1452 et seq., and IC 5-1.2-10.

Financial Assistance means any financial assistance provided by the Program or Authority.

Guidelines means these Clean Water and Drinking Water Asset Management Guidelines.

Participant means the following:

(1) Political Subdivision as defined in IC 36-1-2-13.
(2) Regional Water, Sewage, or Solid Waste District organized under IC 13-26-1.
(3) Qualified entity described in IC 5-1.5-1-8(4) that is a public water utility as described in IC 8-1-2-125.
(4) Conservancy District established for the purpose set forth in IC 14-33-1-1(a)(4) and (5)
(5) Any other owner of a PWS that is authorized by the Safe Drinking Water Act to borrow from the Drinking Water SRF.

Preliminary Engineering Report or PER means the document(s) submitted by a Participant that provides the information necessary for the Program to determine the technical, economic, and environmental adequacy of a Proposed Project.

Program means the Drinking Water State Revolving Fund Loan Program as established by IC 5-1.2-10 and/or the Clean Water State Revolving Fund Loan Program as established by IC 5-1.2-10. Program may also mean any fund administered by the Authority.

Proposed Project means the activities or tasks a Participant identifies in its PER or any other document required by the Program related to the planning, design, and or construction of a Proposed Project for which a Participant may commit and expend funds.

Utility means the body that maintains the infrastructure for water and/or wastewater services.

Section 3: Asset Management Program Development

The purpose of the AMP is to demonstrate that the Utility has the technical, managerial, legal and financial capability to operate and maintain its water and/or wastewater system.

Documentation for the AMP includes, but is not limited to the following categories:

(1) Technical
(2) Managerial
(3) Financial

The AMP shall include, at a minimum, the following:

(1) System map
(2) An inventory and assessment of system assets
(3) Development of an infrastructure inspection, repair, and maintenance plan, including a plan for funding such activities
(4) An analysis of the customer rates necessary to support the AMP
(5) An Audit performed at least every two years

(6) Demonstration that the Participant has the technical, managerial, legal and financial capability of operating and maintaining its water or wastewater system

The PER should contain a section identifying the status of the development of a Participant's AMP. A Participant must identify the status of the AMP in the PER by discussing whether the AMP is already completed and implemented or currently under development and will be completed. If an AMP is currently under development, the SRF will hold the final disbursement to complete a Participant's project until the AMP is complete. The AMP shall meet the criteria set forth in these Guidelines. A Participant shall certify to the Program that it has met the above requirement.

More detailed information regarding AMPs can be found on SRF's website: https://www.in.gov/ifa/srf/2376.htm.

Section 4: Financial Assistance Eligibility

The creation of an AMP is eligible for funding from the DWSRF and/or CWSRF program as a part of the Proposed Project which meets the Clean Water or Drinking Water State Revolving Fund Loan Program Guidelines.

Section 5: Reservation of Rights

The following rights are reserved:

(1) The AMP Guidelines do not affect the Program's right under existing rules to take remedial action, including, but not limited to, administrative enforcement action and actions for breach of contract against a Participant that fails to carry out its obligations under these Guidelines.
(2) Review or approval by or for the Program does not relieve the Participant of its responsibility to properly develop its AMP as required by state statutes, rules, and regulations.

Drinking Water State Revolving Fund Loan

Q-4-13: Please provide the current status of the Drinking Water State Revolving Fund Loan application for Chandler's three proposed capital projects.

A-4-13: Chandler's Drinking Water State Revolving Fund ("SRF") Loan application has not yet been filed, but Chandler intends to complete and file it by June 29, 2018.

Q-4-14: Please provide a copy of the Drinking Water State Revolving Fund Loan application.

A-4-14: Petitioner has not yet completed a copy of its SRF Loan application. Please see Petitioner's response in A-4-13.

Q-4-15: Please state when the Preliminary Engineering Report will be submitted to the Drinking Water State Revolving Fund program for review and approval.

A-4-15: Petitioner has not yet completed a copy of its SRF Loan application but intends to do so prior to the public hearing. Please see Petitioner's response in A-4-13.

Q-4-16: Please provide the current status of archeological and environmental studies for the three proposed capital projects that are required to obtain a DWSRF loan.

A-4-16: Any archaeological and environmental studies will be completed in coordination with the Drinking Water SRF review and approval of the Preliminary Engineering Report.

Q-4-17: Reference the target construction dates for the Water Improvement Projects shown in Table 9 of the Chandler Preliminary Engineering Report by Beam Longest & Neff included in Petitioner's Exhibit No. 2. Please state whether the years listed are for start of construction or for completion of construction.

A-4-17: The dates for the Water Improvement Projects shown in Table 9 of the Chandler Preliminary Engineering Report by Beam Longest & Neff included in Petitioner's Exhibit No. 2 are the anticipated construction start date of each of the projects.

Parks, James

From: LOVE, SHELLEY
Sent: Friday, June 15, 2018 9:33 AM
To: Parks, James
Subject: RE: 45062 - Town of Chandler DWSRF status

Jim,

It depends on things like easements and responsiveness of the community/Engineers as well as our workload.

A normal project we receive an application. In about 1-2 months a PER arrives and we conduct our review with comments and responses. Once the project is approved it then depends on if plans and specifications are prepared and the project bid. An average time is 6-months. A large sewer project may take 1-2 years depending on how many easements they need.

However if they have plans and land we can get something easy done in 1-2 months.

I hope this helps.

Shelley

From: Parks, James
Sent: Friday, June 15, 2018 9:05 AM
To: LOVE, SHELLEY <SLOVE@ifa.IN.gov>
Subject: RE: 45062 - Town of Chandler DWSRF status

Thank you.

Can you give me an idea of how many months to allow between filing the loan application / PER and loan closing?

jim

From: LOVE, SHELLEY
Sent: Friday, June 15, 2018 8:46 AM
To: Parks, James <JParks@oucc.IN.gov>
Subject: RE: 45062 - Town of Chandler DWSRF status

Jim,

Currently Chandler has no PERs in-house nor applications for any projects.

The last loan that Chandler had for drinking water was in May of 2010. They have a zero balance at this time.

If you need any additional information please let me know.

You may want to also contact Rural Development if you haven't already to see if they have a project in with them.

Shelley

Shelley L. Love
Program Administrator
INDIANA FINANCE AUTHORITY
100 North Senate Ave., STE 1275
Indianapolis, IN 46204
(p): 317-232-4396
(e): slove@ifa.in.gov

From: Parks, James
Sent: Wednesday, June 13, 2018 4:56 PM
To: LOVE, SHELLEY <SLOVE@ifa.IN.gov>
Subject: 45062 - Town of Chandler DWSRF status

Good afternoon Shelley,
Chandler Water filed for a 49.9% rate increase which includes $29.294 million for three DWSRF funded projects:

1) 24-inch water transmission main (43,408 feet) with an additional 7,340 feet of 12-inch and 14-inch water mains
2) Bell Road water main relocation (9,370 feet)
3) Downtown water main replacements (23,400 feet of 4-inch to 8-inch mains)

Could you please provide Chandler's current status in the DWSRF process?

Chandler submitted the following engineering reports in their Case-In-Chief:

1. *Phase IV Water Distribution System Improvements for Chandler Utilities* (Draft), Bernardin Lochmueller & Associates, Inc., February 13, 2013
2. *Chandler Water Utility, Water Improvement Project, Preliminary Engineering Report* (Final), Beam Longest & Neff, LLC, February 14, 2018

Thanks in advance for any information you can provide.

Jim

James T. Parks, P.E.
Utility Analyst II
Indiana Office of Utility Consumer Counselor
115 W. Washington Street, Suite 1500 South
Indianapolis, IN 46204
(317) 232-2766
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jparks@oucc.in.gov

Please keep this email paperless

Q-2-9: Petitioner's Schedule of Estimated project Costs and Funding on page 3 of the Accounting Report states that estimated non-construction costs for engineering will consist of 30% of construction costs, or $6,357,000. Please explain why Petitioner's anticipates its engineering costs will be this high.

A-2-9: Petitioner estimates non-construction costs for engineering will consist of 30% of construction costs based on an average of historical data. The largest percentage is the Construction Phase Engineering, which includes construction observation and administration.

Q-2-10: Please provide a breakdown of Petitioner's proposed $6,357,000 in engineering costs by amount and vendor.

A-2-10: Please see Attachment 2-10.

Q-2-10: Please provide a breakdown of Petitioner's proposed $6,357,000 in engineering costs by amount and vendor.

A-2-10: Please see Attachment 2-10.

						OUCC Est. Hrs at $125/hr	Est. Constr. Costs with 20% Cont.
Transmission Line				Vendor Type	Vendor		
Geotech	$	60,925.06	0%	Soil Scientist	TBD	487	
Design, Permits, Mtgs	$	1,064,304.13	8%	Engineer	TBD	8,514	
Construction	$	2,147,299.54	16%	Engineer	TBD	17,178	
Bid	$	17,186.58	0%	Engineer	TBD	137	
R/W	$	492,326.17	4%	Engineer	TBD	3,939	
Survey	$	361,858.52	3%	Surveyor	TBD	2,895	
Total Eng. Costs	$	4,143,900.00	30%			33,151	$13,813,000
Bell Road							
Geotech	$	9,163.76	1%	Soil Scientist	TBD	73	
Design, Permits, Mtgs	$	108,556.82	7%	Engineer	BLN	868	
Construction	$	198,042.85	13%	Engineer	BLN	1,584	
Bid	$	16,686.00	1%	Engineer	BLN	133	
R/W	$	131,050.57	8%	Engineer	BLN	1,048	
Survey	$	-	0%	Surveyor	BLN	0	
Total Eng. Costs	$	463,500.00	30%			3,708	$1,545,000
Downtown							
Geotech	$	24,015.10	0%	Soil Scientist	TBD	192	
Design, Permits, Mtgs	$	422,751.78	7%	Engineer	TBD	3,382	
Construction	$	763,716.61	13%	Engineer	TBD	6,110	
Bid	$	33,372.00	1%	Engineer	TBD	267	
R/W	$	262,111.71	4%	Engineer	TBD	2,097	
Survey	$	243,032.81	4%	Surveyor	TBD	1,944	
Total Eng. Costs	$	1,749,000.01	30%			13,992	$5,830,000
Totals - Eng. Costs	$	6,357,000.00	30%			50,851	$21,188,000