STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF EDWARDSVILLE WATER AUTHORITY FOR APPROVAL OF A CHANGE TO ITS RATES AND CHARGES	**CAUSE NO. 45997**

PREFILED DIRECT TESTIMONY AND EXHIBITS OF LORI A. YOUNG, P.E.

Direct Testimony of Lori A. Young, P.E.	Petitioner's Exhibit 1
Photograph of Frank Ott Storage Tank	Petitioner's Exhibit 2
2021 Preliminary Engineer Report	Petitioner's Exhibit 3
Updated Costs for Remaining 2021 PER Projects	Petitioner's Exhibit 4
Prospective Projects	Petitioner's Exhibit 5

Respectfully submitted,

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PETITIONER'S EXHIBIT 1

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF EDWARDSVILLE WATER AUTHORITY FOR APPROVAL OF A CHANGE TO ITS RATES AND CHARGES	**CAUSE NO. _____**

PREFILED DIRECT TESTIMONY OF

LORI A. YOUNG, P.E.

ON BEHALF OF

EDWARDSVILLE WATER AUTHORITY

I.
Introduction

1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lori A. Young and my business address is Curry & Associates, Inc., 110 Commerce Drive, Danville, Indiana 46122.

2. MS. YOUNG, HOW ARE YOU EMPLOYED?

A. I am a Registered Professional Engineer with the firm of Curry & Associates, Inc., a consulting engineering and architectural firm located in Danville, Indiana. I currently serve as the President of Curry & Associates, Inc.

3. HOW LONG HAVE YOU BEEN EMPLOYED BY ROBERT E. CURRY & ASSOCIATES, INC.?

A. I have been employed by Curry & Associates, Inc. for approximately twenty-eight (28) years.

4. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND, EXPERIENCE, AND PROFESSIONAL STATUS.

A. I have earned Bachelor and Master of Science Degrees in Civil Engineering from Purdue University, West Lafayette, Indiana. These degrees were awarded in 1995 and 1996, respectively. I earned a Master of Business Administration Degree at Indiana Wesleyan University in 2004. I became a licensed professional engineer in the State of Indiana in the year 2000, and my professional engineer registration number is PE IN10000117.

5. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE?

A. I have worked as a design engineer and project manager for Curry & Associates, Inc. since 1996. Throughout this time I have worked on a number of water and wastewater projects in Indiana. The projects have included such tasks as water and wastewater assessments and planning studies, utility relocations, infrastructure rehabilitation, water and wastewater treatment, water distribution systems, sanitary sewer collection systems, stormwater drainage, and advisory roles to governmental entities and private utilities. Although my role for a particular client may vary, I typically assist clients on all project phases from preliminary planning through budgeting, funding, design, bidding, and contract administration. As president of Curry & Associates, Inc., I am also responsible for the business operations of our firm.

6. HAVE YOU OR YOUR FIRM TESTIFIED AS EXPERT WITNESSES BEFORE VARIOUS INDIANA GOVERNMENTAL AGENCIES, INCLUDING THE INDIANA UTILITY REGULATORY COMMISSION ("COMMISSION")?

A. Yes, our firm has a long history of representing clients before a variety of State agencies, including this Commission. I have previously testified as an expert witness on behalf of the Waldron Conservancy District, Brown County Water Utility, Inc., Jackson County Water Utility, and North Dearborn Water Authority. I also testified on behalf of Edwardsville in its prior financing case before the Commission, Cause No. 45617.

7. PLEASE DESCRIBE THE TYPES OF UTILITY ORGANIZATIONS WHICH

YOUR FIRM REPRESENTS.

A. Our firm represents investor-owned utilities, nonprofit rural water and sewer companies, conservancy districts, regional districts, and municipally owned utilities. I, along with other members of our firm, have also performed engineering services for a number of sewer and water projects for the Department of Natural Resources.

8. PLEASE DESCRIBE YOUR INVOLVEMENT IN THE VARIOUS WATER PROJECTS CARRIED OUT BY YOUR FIRM.

A. I typically meet with a representative of the utility to determine the utility's individual needs, and then provide design criteria and specifications, oversee the preparation of drawings, obtain the necessary permits and approvals, assist the utility in bidding, and, finally, act as an inspector for the construction of the contemplated improvements. The scope of our projects ranges from gathering basic preliminary data to preparation of engineering reports, supervision of construction, and ultimately, final project inspection.

9. WHAT IS THE EXTENT OF YOUR INVOLVEMENT IN THE WATER PROJECT THAT IS THE SUBJECT OF THIS PROCEEDING?

A. Our firm has been the consulting engineer for Edwardsville Water Authority ("Edwardsville") for approximately forty-one (41) years. During that period of time, the utility has experienced significant growth in terms of geographic service territory and quantity of water customers. For the past several years, I have worked with Edwardsville to identify the capital improvements that will be necessary to ensure safe, efficient water

service to Edwardsville's existing and future customers. Specifically, I assisted Edwardsville in planning, designing, obtaining financing for, and overseeing construction of a new 1,000,000 gallon elevated water storage tank and related facilities (collectively, "Frank Ott Storage Tank"). These facilities were discussed, and the financing for the same was approved, in Cause No. 45617.

10. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is two-fold. First, I will describe the status of the Frank Ott Storage Tank project (that was approved by the Commission in Cause No. 45617). It is my understanding that Edwardsville is requesting approval of new rates in this Cause which include an amount for the depreciation on the Frank Ott Storage Tank. Second, I will generally describe Edwardsville's prospective capital needs and the estimated cost of the same.

II.
Status of Improvements

11. MS. YOUNG, WERE YOU THE PRIMARY CONSULTING ENGINNER FOR EDWARDSVILLE IN CAUSE NO. 45617?

A. Yes, I was. In that case, Edwardsville sought authority for incurring long-term debt for the purpose of constructing the previously referenced 1,000,000 gallon elevated water storage tank with related improvements (i.e. the Frank Ott Storage Tank).

12. WHAT IS THE STATUS OF THOSE IMPROVEMENTS?

A. After receiving the Order in Cause No. 45617, Edwardsville closed on a loan with the

Indiana State Revolving Fund Loan Program ("SRF Program") and shortly thereafter issued a notice to proceed to the lowest responsive and responsible bidder. The physical construction of the Frank Ott Storage Tank has been completed, except for some piping on the tank site and the painting of the inside of the tank. Edwardsville anticipates that the piping on the property will be completed in January, 2024. Unfortunately, cold weather will prevent the completion of the painting of the inside of the tank until warmer weather in March or April, 2024. Barring extreme and unforeseen circumstances, the Frank Ott Storage Tank will be operational and in service no later than May 15, 2024. A recent picture of the Frank Ott Storage Tank is attached to my testimony as Petitioner's Exhibit 2.

13. MS. YOUNG, PLEASE EXPLAIN WHETHER EDWARDSVILLE WAS ABLE TO CONSTRUCT THE FRANK OTT STORAGE TANK CONSISTENT WITH THE ESTIMATES IN CAUSE NO. 45617.

A. Unfortunately, Edwardsville was not able to construct the Frank Ott Storage Tank at or below the engineer's estimates contained in my prefiled testimony and exhibits (and in the final Order) in Cause No. 45617. As the Commission is probably aware, construction costs for utility facilities in 2022 were extremely volatile and many of the bids for projects during this time period came in well over budget. Edwardsville's Frank Ott Storage Tank project was no exception. In Cause No. 45617, I estimated that the total cost of the Frank Ott Storage Tank project would be $3,798,000. After factoring in a $500,000 grant from Floyd

County, Indiana (from its American Rescue Plan funds), Edwardsville initially requested and received borrowing authority of $3,298,000. This authority included all construction costs, including soft costs for engineering, accounting, bond counsel, and Commission counsel. Upon receiving bids, Edwardsville learned that the total cost of the project was $5,317,000. Edwardsville, in turn, requested and received additional borrowing authority of $1,519,000 in order to complete the Frank Ott Storage Tank. (See Cause No. 45617 S1; final Order dated June 15, 2022).

14. WHAT WILL BE THE TOTAL COST OF THE FRANK OTT STORAGE TANK PROJECT?

A. The total cost of the Frank Ott Storage Tank project will be, including all soft costs, $5,317,000.

15. DID YOU COMPLETE AND SUBMIT A PRELIMINARY ENGINEERING REPORT AS PART OF THE FINANCING PROCESS FOR THE FRANK OTT STORAGE TANK?

A. Yes, I did. For ease of review, I am attaching a copy of the preliminary engineering report as Petitioner's Exhibit 3. The attached preliminary engineering report, dated September 27, 2021 ("2021 PER"), was included as part of Edwardsville's prefiled testimony and exhibits in Cause No. 45617.

16. WERE THERE OTHER WATER IMPROVEMENTS INCLUDED WITHIN THE 2021 PER?

A. Yes, there were. The Frank Ott Storage Tank project was originally intended to be the first phase of a two-phase project. The second phase included installation of 23,490 linear feet of 20-inch water transmission main. This project would replace an existing 6-inch main that extends from the Farnsley Knob Water Treatment Plant to the Hickman Hill Water Storage Tank. The second portion of the Phase II project was to replace four (4) high service pumps which would provide increased pumping capacity to the northern part of Edwardsville's distribution system.

17. WHAT WAS THE ORIGINAL ESTIMATED COST OF THE PHASE II IMPROVEMENTS?

A. In the 2021 PER, I estimated the probable construction cost of the 20-inch main replacement at $3,512,400, including contingencies. I also estimated the probable construction cost for the four (4) high service pumps at $624,000, including contingencies. The total estimated cost of the Phase II improvements, including soft costs, was $5,065,000. (See Petitioner's Exhibit 3, 2021 PER, pp. 48-52).

18. WHY DID EDWARDSVILLE ELECT TO NOT SEEK APPROVAL FOR FINANCING OF THE PHASE II IMPROVEMENTS AS PART OF CAUSE NO. 45617?

A. At that time, the Board was hesitant to incur such a significant amount of debt. The additional borrowing would have required a rate increase with which the Board was not comfortable at that time.

19. DOES EDWARDSVILLE STILL INTEND TO COMPLETE THESE IMPROVEMENTS?

A. Yes, they do.

20. HAS EDWARDSVILLE UPDATED THE COST ESTIMATES FOR THESE IMPROVEMENTS?

A. Yes, it has. Since I completed the estimated cost for those improvements in the 2021 PER, the cost of utility projects has increased. For purposes of this proceeding and to assist the Board of Directors for Edwardsville in planning for the future, I have updated the estimated costs of these improvements and detailed these estimates in Petitioner's Exhibit 4.

21. ARE THE CURRENT COST ESTIMATES FOR THE PHASE II IMPROVEMENTS DIFFERENT FROM THE COST ESTIMATES IN THE 2021 PER?

A. Yes. Unfortunately, the current cost estimates are significantly higher than my estimates in the 2021 PER. In the 2021 PER, I estimated that the cost to complete the Phase II improvements, including contingencies and soft costs, was $5,065,000. As you can see from Exhibit 4, the current estimated cost to complete the Phase II improvements is $8,772,946.

22. ARE THERE ANY OTHER IMPROVEMENTS THAT EDWARDSVILLE WILL NEED TO MAKE IN THE FORSEEABLE FUTURE?

A. Yes, there are a number of improvements that will need to be made in order for Edwardsville to provide safe, efficient service to its customers. One such project is the West McCarthy Road water main project which consists of 5,220 linear feet of 8-inch water main. I estimate that the total cost of this project will be $980,000. There is also an innovation hub water main connection project that will cost $753,000. It is not a question of if these projects will need to be done, but more a question of when. There are also additional projects to be completed such as the water main from the water treatment plant to 7-Mile Lane and the Tansy Road loop. For the Commission's review, I have provided my current estimates for the West McCarthy Road Water Main Project and the Innovation Hub Water Main Connection Project as Petitioner's Exhibit 5.

III.
Continuing Demand for Water

23. IS EDWARDSVILLE CONTINUING TO EXPERIENCE A GROWING DEMAND FOR WATER?

A. Yes, it is. Edwardsville was incorporated in 1963 as a rural, nonprofit water utility, and began serving approximately 650 customers in the mid 1960's. By 1980, Edwardsville's customer base had more than doubled to 1,430 and Edwardsville was pumping almost 155,000,000 gallons of water per year. Since 1980, Edwardsville's customer count and water pumpage has almost tripled. Edwardsville now serves approximately 4,400 retail customers, as well as three (3) wholesale customers, and it pumped in excess of 520,000,000 gallons of water in calendar year 2022. Edwardsville's service territory has

expanded to include Franklin, Georgetown, Greenville, Lafayette, and New Albany Townships in Floyd and Harrison Counties.

24. IN RECENT YEARS, HAS EDWARDSVILLE WITNESSED NEW DEVELOPMENT IN ITS SERVICE TERRITORY?

A. Yes, it has. Edwardsville has experienced a steady increase in its number of customers since its last base rate case before the Commission in Cause No. 44642 in 2015. Along with the increase in the number of customers and the corresponding increased water usage, Edwardsville Water has seen increased wholesale water usage, especially from the Town of Greenville, Indiana. In this area of the state, Indiana American Water Co., Inc. ("IAWC") is a prominent wholesale water provider. Over the last 10-15 years, IAWC's higher wholesale rates have made Edwardsville a more attractive wholesale water option. Consequently, Edwardsville has seen an increase in its wholesale water usage. By way of example, Edwardsville's annual raw water pumpage in 2015 was approximately 439,000,000 gallons and in 2022 the annual raw water pumpage was 521,000,000 gallons, an 18% percent increase.

25. WITH THE CONTINUING DEMAND FOR WATER, WILL EDWARDSVILLE NEED THE IMPROVEMENTS OUTLINED IN PETITIONER'S EXHIBITS 4 AND 5?

A. In my professional opinion, Edwardsville will need all of the improvements identified in Petitioners Exhibits 4 and 5. While Mr. Scott Miller will further address this issue in his

testimony, I understand the Board will evaluate the need for improvements on a periodic basis and, to the extent necessary, use cash on hand to complete the improvements. If the cash on hand is insufficient to pay for the improvements, Edwardsville will likely be required to issue debt in order to finance the necessary improvements.

VI.
Conclusion

A. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

VERIFICATION

I affirm under the penalties for perjury that the foregoing testimony is true to the best of my knowledge, information, and belief.

Lori A. Young

Lori A. Young, P.E.
Curry & Associates, Inc.

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing "Verified Direct Testimony and Exhibits of Lori A. Young, P.E." was served upon the following by electronic mail this 21st day of December, 2023:

Indiana Office of Utility Consumer Counselor
infomgt@oucc.in.gov

J. Christopher Janak

Bose McKinney & Evans LLP
111 Monument Circle, Suite 2700
Indianapolis, IN 46204
(317) 684-5000

4652242.3

Petitioner's Exhibit 2


EDWARDSVILLE
WATER
Floyd County Indiana

Petitioner's Exhibit 3

Edwardsville Water Corporation

PRELIMINARY ENGINEERING REPORT

CURRY & ASSOCIATES, INC.

CONSULTING ENGINEERS & ARCHITECTS

Curry & Associates, Inc.
110 Commerce Drive
Danville, Indiana 46122

June 15, 2020
Revised August 5, 2021
Revised September 17, 2021

Edwardsville Water Corporation

PRELIMINARY ENGINEERING REPORT

Board of Directors
David Wright, President
Jeremy Loftus, Vice President
Dale Lafferre, 2nd Vice President
Gary Carter, Treasurer
Guy Heitkemper, Secretary

Water Utility Manager
Chris Beck

Lori A. Young

Curry & Associates, Inc.
Engineers & Architects
110 Commerce Drive
Danville, Indiana 46122

June 15, 2020
Revised August 5, 2021
Revised September 17, 2021

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[1] Revised September 2021

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CHAPTER 1: PROJECT LOCATION

1.1 CURRENT AND FUTURE SERVICE AREAS[1]

Edwardsville Water Corporation (EWC) is a not-for-profit water utility that serves potable water to approximately 4,357 water customers. As of September, 2021, the EWC serves approximately 4,446 customers. The utility was organized in 1963. Edwardsville Water Corporation operates in Floyd and Harrison Counties, in the Townships of Franklin, Georgetown, Greenville, Lafayette, and New Albany. The primary customers of the utility are rural homeowners; however, the towns of Greenville, Lanesville, and Elizabeth are also served by Edwardsville Water Corporation. See Figure 1.1.1 for location map of the existing and future service area.

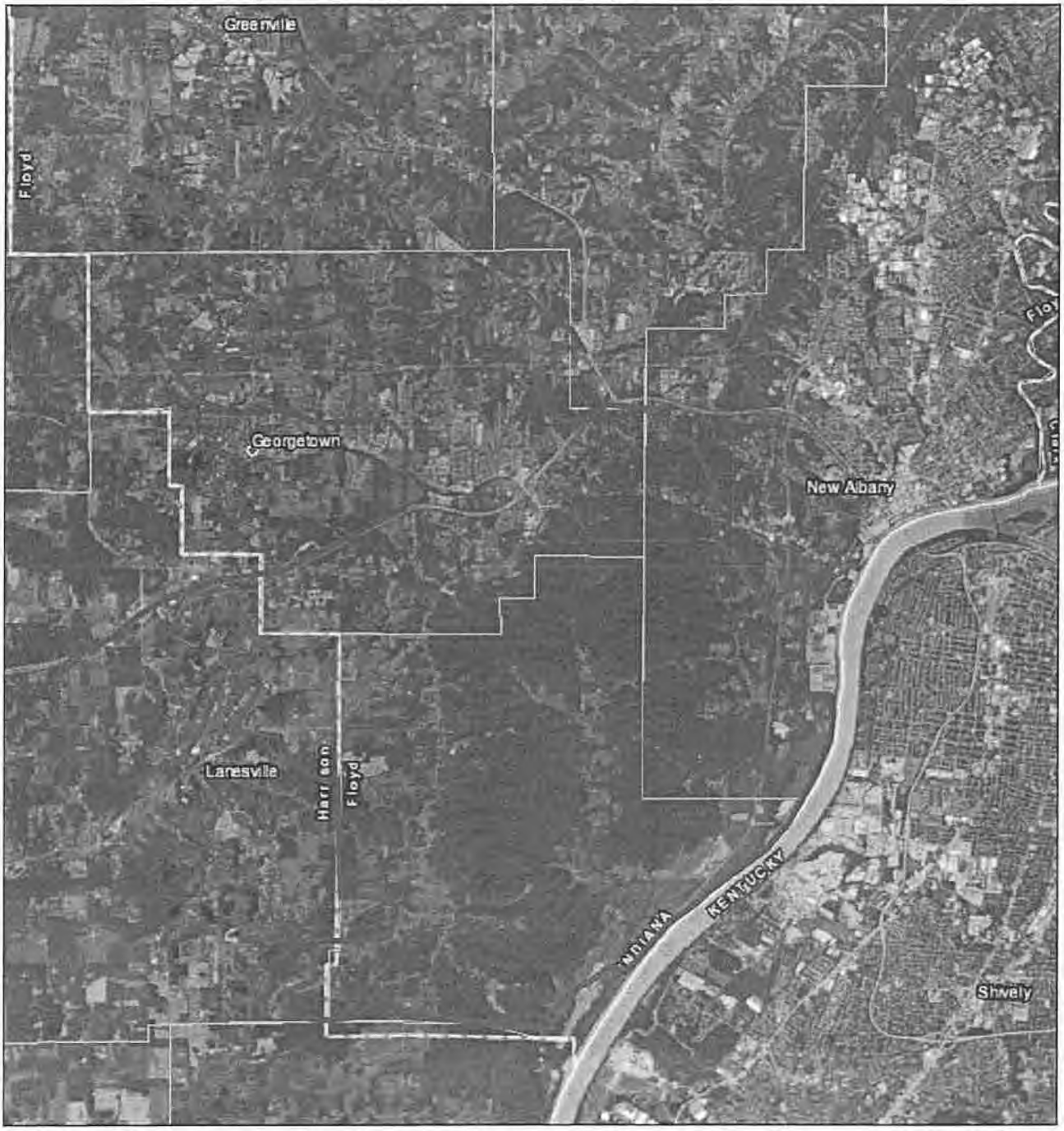
This water service area generally consists of the western part of Floyd County not served by either Indiana American Water Company (IAWC) at New Albany, or the Town of Georgetown water system. Indiana American Water Company, located on the east side of Edwardsville Water Corporation, serves customers in and around New Albany. Edwardsville Water Corporation has water wholesale agreements with the Towns of Lanesville, Elizabeth, and Greenville. These towns serve a combination of rural customers and customers within their respective town boundaries. The Town of Elizabeth discontinued daily purchase of water from Edwardsville Water Corporation, but they have reserved the right to purchase 300 gallons per minute of water for use at any time.

The existing service area is not expected to expand over the next 20 years, as the utility is bounded on all sides by other existing water utilities. Water service expansion is projected to come from new customers within the existing service area. The 20-year service area is projected to remain within the identified existing service area.

Note that all figures shown in the text are included in Appendix A.

[1] Figure 1.1.1 Revised, July 2021. Customer number revised September, 2021.

Figure 1.1.1 Edwardsville Water Corporation Service Area



1.2 PROJECT AREAS[2]

The proposed project includes:

1. Construction of a new 1,000,000-gallon elevated water storage tank to replace the existing 100,000-gallon Frank Ott Elevated Water Storage Tank. The new tank shall be constructed on the same property as the existing tank to be replaced.

Table 1.2.1: Summary of Proposed Waterworks Improvements Project Locations

Description	Nearby Address	County	Civil Township	Township, Section & Range	USGS Quad Map Name
Replacement of the existing 100,000-gallon Frank Ott Elevated Water Storage Tank with a new 1,000,000-gallon storage tank.	6839 Frank Ott Road Georgetown, Indiana 47122	Floyd	Georgetown	2S, 5E Section 35	Georgetown

No land acquisition is required for the project. The location of the proposed water storage tank is on property already owned by the EWC.

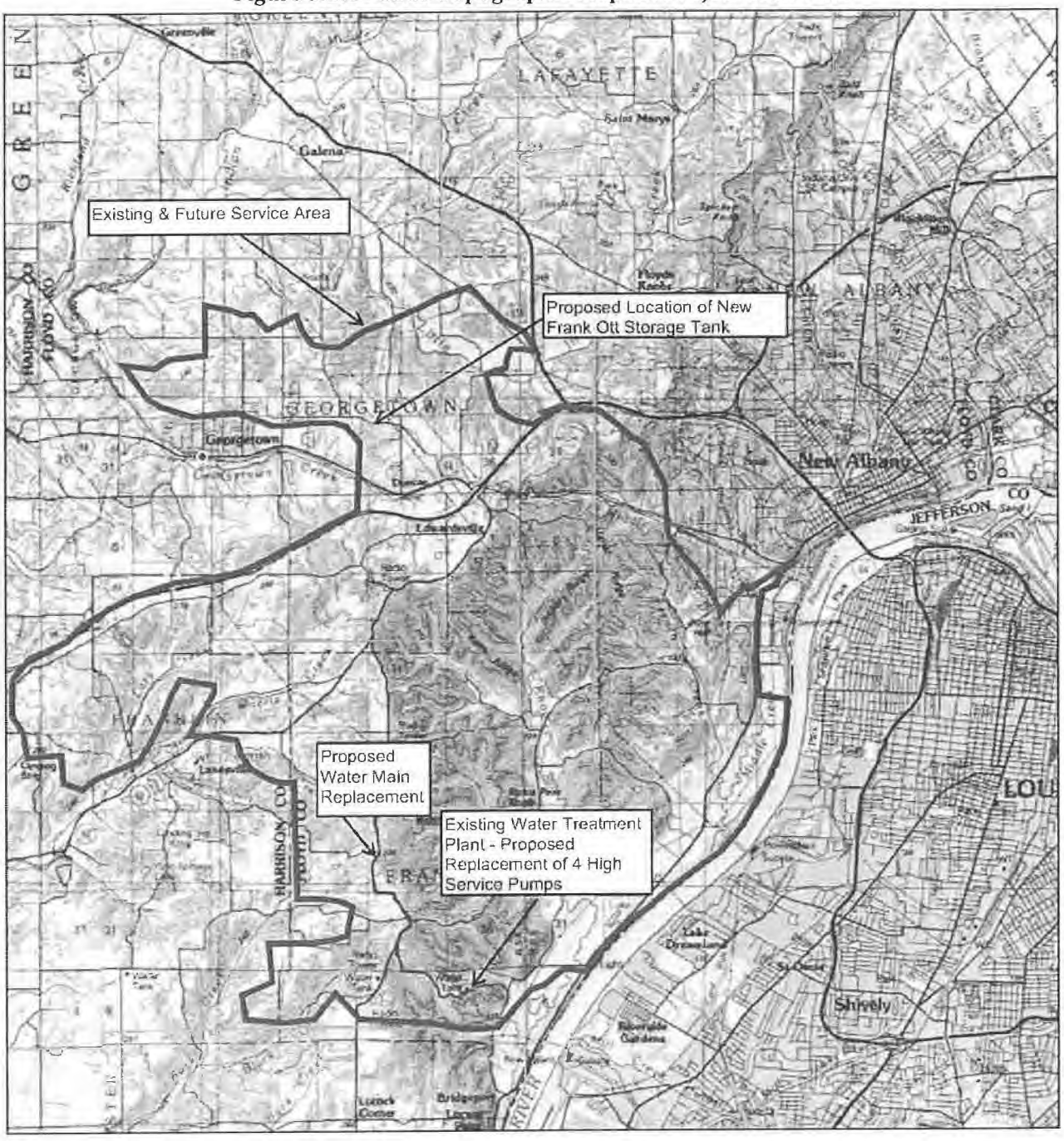
See Appendix A, Figures 1.2.1 and 1.2.1a for a USGS Quadrangle map identifying the location.

Future Phases of Edwardsville Water Corporation improvements outlined as alternatives in this report in Chapter 4 include:

1. Construction of a 23,500 LF± new 20" water transmission main from the water treatment plant to the Hickman Hill Tank. The new 20" water main shall be constructed along the existing 12" water main, and shall replace the existing 6" water main.
2. Upgrades to the water treatment plant, including replacement of the high service pumps to meet the change in design condition that accompanies the larger 20" water transmission main.

[2] Section streamlined, Figure 1.2.1 Revised, July 2021. Revised, Scope and Project Phasing, September 2021

Figure 1.2.1 - USGS Topographic Maps of Project Locations



CHAPTER 2: CURRENT NEEDS

2.1 CURRENT POPULATION[1]

As of 2020, Edwardsville Water Corporation served water to approximately 4,357 service connections, which is equivalent to a population of approximately 11,153 people. As of August 31, 2021, EWC's customer base had grown to serve 4,446 customers.

The EWC serves water to customers in portions of Franklin, Greenville, Georgetown, and Lafayette Townships in Floyd County, and Franklin Township in Harrison County. These townships served by Edwardsville Water Corporation, and greater Floyd County, have shown an increasing population growth pattern. The Towns of Lanesville, Greenville and Elizabeth are wholesale customers located in Harrison County. Table 2.1.1 shows the historical population data for the service district townships in Floyd County. The table also includes overall population for Floyd County, and the nearby New Albany Township where the City of New Albany is located. The growth rate has been very similar in the service area and surrounding areas, particularly over the period of 1990-2020. The average annual population growth for this region has been 1.1% for the period of 1990 – 2020.

TABLE 2.1.1: Population Data for Service Area from 1910 Through 2020

	Townships Served in Floyd County				Surrounding Areas	
Year	Franklin	Georgetown	Greenville	Lafayette	New Albany Twp.	Floyd Co.
1910	727	1,632	1,198	1,461	25,275	30,293
1920	653	1,560	1,165	1,368	25,915	30,661
1930	655	1,612	1,266	1,539	29,583	34,655
1940	658	1,714	1,329	1,707	29,590	65,061
1950	683	2,320	1,708	1,943	37,301	43,955
1960	849	2,959	2,124	2,952	42,513	51,397
1970	986	3,729	2,775	3,699	44,430	55,622
1980	1,213	6,110	4,729	5,273	43,844	61,169
1990	1,307	7,053	5,190	5,896	44,958	64,404
2000	1,292	8,337	6,340	6,378	48,476	70,823
2010	1,499	9,632	6,746	7,449	49,252	74,578
2020	1,445	10,542	7,337	7,822	50,174	78,522
Average Annual Growth 1990-2020	**0.4%**	**1.6%**	**1.4%**	**1.1%**	**0.4%**	**0.7%**

[1] Revised, September 2021.

2.2 WATER CONSUMPTION[2]

Table 2.2.1a provides a summary of monthly water pumpage, sales and loss for the year 2019. This includes all customer usage, including wholesale. Table 2.2.1b provides a summary of monthly water pumpage, sales and loss for the year 2020. Water loss is the water quantity difference between water pumped into the system and water recorded as sold through a meter.

Lost Water = Water Pumped – Water Sold
Percent Lost Water = Lost Water ÷ Total Pumpage

Table 2.2.1a: EWC 2019 Monthly Water Pumpage, Sales and Loss

	Total Pumpage (gallons)	Total Sales (gallons)	Lost Water (gallons)	Percent Lost Water
January	38,236,000	27,441,900	10,794,100	28.23%
February	36,968,000	28,015,000	8,953,000	24.22%
March	37,867,000	24,741,200	13,125,800	34.66%
April	34,295,000	27,153,500	7,141,500	20.82%
May	39,803,000	27,029,900	12,773,100	32.09%
June	36,892,000	30,885,700	6,006,300	16.28%
July	43,866,000	32,147,400	11,718,600	26.71%
August	46,155,000	34,136,998	12,018,002	26.04%
September	44,721,000	33,225,600	11,495,400	25.70%
October	39,459,000	30,762,865	8,696,135	22.04%
November	36,346,000	25,496,300	10,849,700	29.85%
December	38,097,000	26,599,600	11,497,400	30.18%
Total	472,705,000	347,635,963	125,069,037	**26.46%**
Average Month	39,392,083	28,969,664	10,422,420	
Average Day	**1,295,082**	**952,427**	**342,655**	

[2] Revised, September, 2021.

Table 2.2.1b: EWC 2020 Monthly Water Pumpage, Sales and Loss

	Total Pumpage (gallons)	Total Sales (gallons)	Lost Water (gallons)	Percent Lost Water
January	37,520,000	25,391,400	12,128,600	32.33%
February	35,776,000	24,579,400	11,196,600	31.30%
March	38,736,000	25,468,600	13,267,400	34.25%
April	36,610,000	27,696,000	8,914,000	24.35%
May	39,221,000	28,463,000	10,758,000	27.43%
June	42,473,000	33,017,100	9,455,900	22.26%
July	45,125,000	34,529,300	10,595,700	23.48%
August	40,064,000	31,574,900	8,489,100	21.19%
September	41,014,000	32,563,000	8,451,000	20.61%
October	37,820,000	31,778,800	6,041,200	15.97%
November	34,844,000	25,879,800	8,964,200	25.73%
December	37,235,000	28,278,600	8,956,400	24.05%
Total	466,438,000	349,219,900	117,218,100	25.13%
Average Month	38,869,833	29,101,658	9,768,175	25.13%
Average Day	**1,277,912**	**956,767**	**321,145**	25.13%

The average water loss in 2019 was 26.46% and in 2020 was 25.13%. January-August 2021 lost water is tracking at approximately 24.46%. Overall lost water has been decreasing. This is a reasonably good lost water rate for a rural system, particularly for a utility serving such a large area with hilly and often rocky terrain.

The lost water can also be broken down into "accounted for" and "un-accounted for" lost water, which is described below. EWC tracks "accounted for lost water," and reported approximately 2% of lost water is accounted for through estimates of flushing, leaks and plant use in 2019. In 2020, "accounted for lost water" was equal to approximately 3% of lost water. When accounted for lost water is removed, the unaccounted for lost water total is approximately 23-24% for 2019 and 2020. January-August 2021 accounted for lost water is tracking similar to prior years.

EWC will continue to pursue elimination of lost water; EWC shall continue to closely monitor water loss and work to reduce lost water. A lost water rate of 15% is a recommended goal.

Peak day data was reviewed for 2018-2020 to calculate the Average ratio for peak days.

Current Peak: Average Ratio = Peak Day Pumpage ÷ Average Day Pumpage
= 2,286,000 ÷ 1,277,912 = 1.79 for 2020 Peak Day
= 2,200,000÷ 1,295,082 = 1.70 for 2019 Peak Day
= 2,229,000 ÷ 1,276,500 = 1.75 for 2018 Peak Day

Current Peak: Average Ratio = **1.75 for 2018 - 2020**

EWC's existing wells can produce 2,470 gpm with the highest capacity well out of service. If operated continuously during a 24-hour period, they could produce 3,556,800 gpd. Under a peak demand condition, operation of all four wells could produce a maximum of 3,470 gpm.

Current Avg. Design Raw Water Production from Wells =
2,470 gpm X 1440 minutes/day = 3,556,800 gpd

Current Peak Water Production from Wells =
3,470 gpm X 1440 minutes/day = 4,996,800 gpd

EWC's existing water treatment plant has a maximum treatment capacity of 3,600 gpm. With one filter out of service, the design flow is 2,700 gpm. The average and peak design capacity of the water treatment plant is as follows:

Peak WTP Capacity = 3,600 gpm X 1,400 min/day = 5,184,000 gpd

Average design capacity considers one filter and one aeration/detention tank out of service:

Average WTP Capacity = 2,700 gpm X 1,440 hours X 60 min/hour = 3,888,000 gpd

EWC's water treatment capacity exceeds its current raw water pumpage capacity. The existing WTP can provide treatment for the average design and peak water production from the wells.

2.2.1 Water Customers[3]

The Edwardsville Water Corporation serves a combination of residential, commercial, institutional, and wholesale water customers. Edwardsville has no industrial customers. Table 2.2.2 provides a breakdown of the number of customers in each classification as of December 31, 2019. This table also provides the percent of total water sales by each customer classification.

[3] Revised, September, 2021.

Table 2.2.2: Distribution of Edwardsville's Water Customer Types

Customer Type	Number of Customers	Percent of Customers	2019 Water Sold (gallons)	Percent of Water Sales
Residential	4,310**	98.92%	215,828,083	62.08%
Commercial	40	0.92%	6,968,000	2.00%
Institutional	3	0.07%	4,713,300	1.36%
Wholesale*	4	0.09%	120,126,580	34.56%
Industrial	*0*	0.0%	*0*	*0*
Total	**4,357**	**100.0%**	**347,635,963**	**100.0%**

**Lanesville, Greenville and Elizabeth are the wholesale customers. Although they have a contract that allows for purchase of water, Elizabeth did not purchase water in 2019. Wholesale Customers Greenville + Lanesville = 119,459,200 gallons in 2019.*

***EWC had an additional 104 inactive customers (meter pits installed with no customer served) at the end of 2019.*

EWC had a total of 4,446 customers as of August 31, 2021. The percentage of customer type in 2021 is similar to 2019 Customer Types.

Edwardsville Water Corporation has water wholesale agreements with three municipal water supplies to sell water at a wholesale rate: the Towns of Lanesville, Greenville, and Elizabeth. Each of these municipal water utilities has an executed long-term water supply contract with the Edwardsville Water Corporation. The Town of Elizabeth discontinued daily purchase of water from Edwardsville Water Corporation, but they have reserved the right to purchase 300 gallons per minute of water for use at any time. The contract to sell water to the Town of Elizabeth is scheduled to terminate in approximately 2026 and Edwardsville Water Corporation will no longer have an obligation to reserve capacity for the Town of Elizabeth.

Table 2.2.3 provides a listing of Edwardsville's 10 largest water use customers in 2019. Edwardsville Water Corporation sold a total of 347,635,963 gallons of water in 2019. The two largest customers are wholesale customers Greenville and Lanesville which purchased approximately 34.56% of all water sold by EWC in 2019. The 3rd – 10th largest water purchasers combined purchased approximately 3.00% of all sold water.

Table 2.2.3: Annual Water Consumption by Edwardsville's 10 Largest Water Users in 2019

Rank	Customer	2019 Water Use (gallons)	Percent of Total Water Sold
1	Town of Greenville	102,067,630	29.36%
2	Town of Lanesville	18,058,950	5.19%
3	Floyd Co. Middle School	4,499,300	1.29%
4	Jacobi's Car Wash	1,790,700	0.52%
5	Red Roof Plus	957,900	0.28%
6	Floyd Central High	713,100	0.21%
7	Sandra Harshfield	665,000	0.19%
8	Thomas P Gibson	630,100	0.18%
9	Mt St Francis	621,000	0.18%
10	Loftus & Romeo	556,200	0.16%
	Top Water Consumers - 10 Total	**130,559,880**	**37.56%**

Backflow Prevention

EWC has a backflow prevention program. They have backflow preventers tested annually by CC Joyce, Inc., of Louisville, Kentucky. The following table provides a summary of backflow preventers installed.

Table 2.2.4: Backflow Preventer Testing - 2019

Owner/Location	Backflow Preventer Size	Testing Date
Edwardsville Water	8", 2", 2"	9/26/2019, all passed
Jacobi Car Wash	2"	12/3/19, passed
New Albany High School	1.5", 3", 1.25", 6", ¾", 3", 2", 1.5"	July 2019, all passed
New Albany Middle School	4", 1.5", 2", 8", 2", 4", 1.5", ¾"	July 2019, 1 failed, all others passed

2.3 EXISTING INFRASTRUCTURE

Edwardsville Water Corporation was organized in 1963. The existing waterworks consists of a mix of materials and components constructed during the period of 1966 through 2015. The water distribution system extends throughout the service area as indicated on Figure 1.1.1. The wells and water treatment plant are located at the southeast corner of the distribution system, near the Ohio River in Franklin Township. A visual survey of the water treatment plant, wells and elevated water storage tanks indicates these items have been satisfactorily maintained. Several major waterworks improvements have been made in recent years. Table 2.3.1 summarizes recent waterworks improvements accomplished by the Edwardsville Water Corporation.

Table 2.3.1: Schedule of Recent Waterworks Improvements

Project Description	Year
500,000-Gallon "Office" Elevated Water Storage Tank	1994
20" Raw Water Main, West Segment	1994
Water Treatment Plant	1996
Office and Administration Building	1996
8" Water Main & Connection to Lanesville	1996
1,000,000-Gallon "Mt. Saint Frances" Elevated Water Storage Tank	2000
New Water Supply Wells 10 and 11	2000
12" North-South Water Transmission Main	2000
Oaks Road Booster Station	2000
Water Treatment Plant – Addition of Filter No. 4	2000
Expansion of Maintenance and Service Building	2002
Constructed Segment of 12" West Central Loop Water Main	2003
Repainted the 500,000-Gallon Office Tank	2003
12" D.I. Water Main to Corydon Ridge Road	2004
Water Supply Well No. 12	2004
Abandon Water Supply Wells No. 5, 6 and 8	2004
20" Raw Water Main, East Segment	2008
New Water Booster Station, Emergency Connection to IAW	2008
2.0 MG Hickman Hill Water Storage Tank	2012
Pre-Chlorination Building on Raw Water Main	2012
Hickman Hill Water Booster Station	2017
1,000 gpm Water Supply Well (#13)	2016
Water Main along S.R. 64 and Oaks Road	2017
Water Main Replacement on Corydon Pike	2017
New SCADA System	2019

The following sections provide a detailed evaluation of the various components of the waterworks.

2.3.1 Water Supply - Water Supply Wells & Well Field

The utility operates four wells in a single well field located along the Ohio River. See Figure 2.3.1.

Since 1966 a total of 13 water supply wells have been drilled. A majority of these wells have been abandoned due to age and for a variety of other reasons. Currently, wells number 10, 11, 12 and 13 are the only operable water supply wells. Table 2.3.2 provides a summary of the water supply wells that have been constructed since 1996 and the year they were constructed:

Table 2.3.2: SUMMARY OF WATER SUPPLY WELL INSTALLATIONS

WELL DESIGNATION	YEAR INSTALLED	CURRENT STATUS
1. Water Supply Wells No. 1 and 2	1966	Abandoned
2. Water Supply Wells No. 3 and 4	1976	Abandoned
3. Water Supply Wells No. 5 and 6	1979	Abandoned
4. Water Supply Wells No. 7 and 8	1996	Abandoned
5. Water Supply Wells No. 10 and 11	2000	Fully Operational
6. Water Supply Well No. 12	2004	Fully Operational
7. Water Supply Well No. 13	2016	Fully Operational

The four wells currently in operation are tubular gravel wall wells and are all similar in construction. Generally wells number 10, 11, 12 and 13 are excellent wells in terms of water production.

All four existing wells are equipped with vertical turbine pumps and are located on well towers to place the top of the well casing 3'-0" above the 100-year flood elevation. Each well has a valve vault with water meter, pump control valve and plug valve. The well pumps pump raw water from the water pumping level in the well to the top of the aerator at the water treatment plant. The water supply well water pumping level elevation is approximately 377 msl and the top of the aerator at the water plant elevation is approximately 854 msl. The elevation lift provided by the well pumps is 477 feet.

Wells Number 10, 11 and 12 have each received some degree of maintenance in the past three years. Existing wells 10, 11, 12 and 13 do not have security fencing. Fencing the entire well field is not practical, but security fencing around each individual well is recommended.

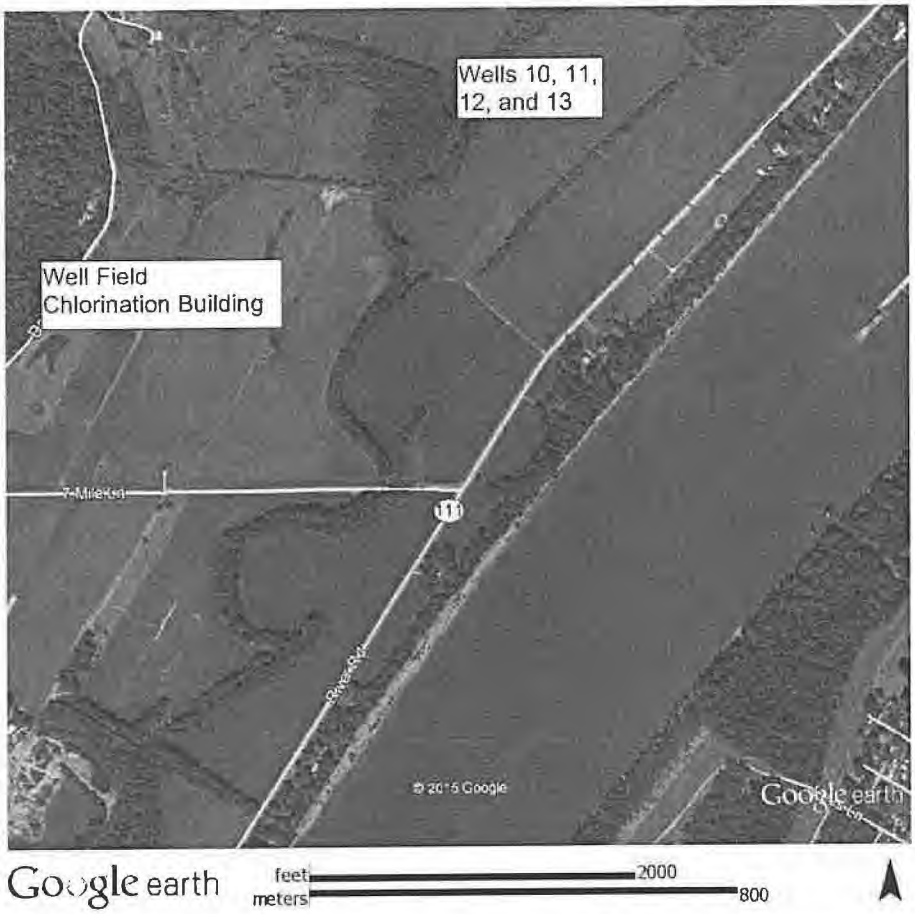


Figure 2.3.1 - Existing Well Field and Well Field Chlorination Building

EWC performs excellent well maintenance and monitoring. The wells and pumps were inspected and maintenance services performed by National Water Services in April, 2019. They were pump tested in October, 2018. The specific capacity from the pump testing is provided below in Table 2.3.3.

Current water production from each water supply well is as follows:

Table 2.3.3: EWC Well Summary

WELL NUMBER	PUMPING RATE	SPECIFIC CAPACITY (10/2018)
No. 10	800 gpm	52 gpm/foot
No. 11	820 gpm	60 gpm/foot
No. 12	850 gpm	54 gpm/foot
No. 13	1000 gpm	77 gpm/foot

The combined total maximum yield from wells 10, 11, 12 and 13 is 3,470 gpm. IDEM rates a well field with the best well out of operation, which would result in a well field rated capacity of 2,470 gpm, or approximately 3,556,800 gallons per day. Normal operations utilize only 2 of the 4 wells at one time.

Existing wells are located in relatively close proximity to the Ohio River. Temperature monitoring is provided in all wells to provide a good record of water temperature. Fluctuation of water temperature in wells is an indication of possible surface water influence. Consistent collection of temperature data will help EWC to determine if their wells are influenced by the Ohio River.

Water level monitoring in the wells is also performed in order to monitor pumping levels, drawdown, and the influence of the wells on each other. It will also help to develop a historical record of water levels in the aquifer and monitor well performance.

Raw Water Ammonia

Wells 10 and 12 have significant ammonia levels. In order to provide more consistent raw water quality to the treatment plant, and stabilize the operation, a pre-chlorination station was constructed near the wells in order to reach break-point chlorination of ammonia before the water gets to the treatment plant. This pre-chlorination has been very effective at control of raw water ammonia. An added benefit of the pre-chlorination station is that it allows EWC to use the long 20" diameter raw water main for chlorine contact time. EWC is able to achieve 4-Log virus inactivation in the raw water main, and delivers raw water to the plant with a typical free chlorine level of approximately 0.6 mg/L.

EWC is effectively treating the raw water supply to remove ammonia. There have not yet been any detections of ammonia in the new Well 13.

Water Supply Current Needs

While EWC has sufficient raw water supply to meet their current demand, they are planning for the future. EWC is actively investigating a possible new well field. EWC drilled a test well in May, 2020 on property near their existing well field. This effort is ongoing to vet a new well field property to secure long-term water supply.

2.3.2 Distribution System

Water Mains

The Edwardsville Water Corporation serves water over a very large area. The service area commences at the Ohio River and extends northeast into the western portion of the City of New Albany. The water distribution system extends north to the Town of Greenville, several miles west of the Town of Lanesville, and southwest to the Town of Elizabeth. The Town of Georgetown is situated in the center of the Edwardsville Water Corporation's distribution system. When Edwardsville Water Corporation commenced operation in 1963, they could not anticipate the residential growth created by I-64 and their proximity to the City of Louisville, nor did they plan to become a regional water provider to three growing towns in the vicinity of Edwardsville.

The utility has approximately 228 miles of water mains that range in size from 2" to 20", and two booster stations. The original water distribution system contained many small and nonstandard water main diameters. Many of the original water lines were 2" or 3" diameter. However, there are also some uncommon diameter PVC water mains such as 2-1/2", 3-1/2" and 5". The following tables provide the approximate lengths of various water main sizes in the distribution system. These lengths are based on GIS mapping of the distribution system. Approximately 12% of the system mains are 12" or larger transmission mains, and 88% of the lines are smaller distribution system mains.

Table 2.3.4A: Water Transmission Main Inventory

Water Main Size	Length (feet)
20"	17,075
16"	1,610
12"	126,385
Total Length	**145,070**

Table 2.3.4B: Water Distribution Main Inventory

Water Main Size	Length (feet)
8"	56,964
6"	271,322
5"	16,859
4"	69,841
3.5"	10,243
3"	303,052
2.5"	24,898
2"	135,572
Unknown size	168,456
Total Length	**1,057,207**

Table 2.3.4C: Valve and Hydrant Inventory

Component	Quantity
Valves	1,195
Standard Hydrants	471
Flush Hydrants	166
Pressure Reducing Valves	3

The components of the distribution system constructed in the past 30 years are generally in very good condition, however, there are locations in the older portion of the original distribution system that were constructed with either water main materials not suitable for the application, or by using improper installation procedures. Rock is commonly encountered in many locations within the water distribution system. Inadequate care in installation of water mains in rock, when the system was originally installed, has resulted in numerous leaks caused by water mains laying directly on rock. These locations cause frequent water main breaks, resulting in significant amounts of lost water. EWC's most recent waterworks improvements project was very successful in replacing a segment of problematic water main along Corydon Ridge Road.

Booster Stations

EWC has two (2) actively used booster stations. The Hickman Hill Booster Station was constructed in 2016 and is used to pump water from the Hickman Hill Tank north to the Office Tank and the northern distribution system. This booster station is new and in excellent condition. The station includes three (3) pumps. They also have a booster station in the northern part of the distribution system on Edwardsville-Galena Road. This booster station provides an emergency connection with Indiana American Water, and can supply up to 1.5 MGD of water for emergency needs.

Both of these booster stations are in excellent condition and meet all current capacity needs. No addition booster stations are needed.

Distribution System Current Needs

Water Transmission Main from Water Treatment Plant to Hickman Hill Tank

Edwardsville Water has limited capacity to convey water north through the existing parallel 6" and 12" water mains. Due to pressure limitations on the 12" pipe, they can only operate two (2) high service pumps at approximately 1,000 gpm, and maintain discharge pressure in the 110 – 115 psi range. If they operate a third pump to increase flow up to 1,500 gpm, the pressure increases to approximately 130 psi, and above that level they typically experience water main breaks. This limits EWC's capacity to pump north to 2.8 MGD.

When it was originally constructed, lower pressure class pipe (DR 25 rated at 165 psi) was installed in the high points of the route, as the pressure was reasonably low at that time and the pipe was adequate. With increased water demand over time, the pressure increases with the higher

flow rate to the Hickman Hill Tank. This higher pressure has resulted in breaks in the lower pressure rated segments of the water main. EWC has to limit the pumping rate to the tank in order to protect the 12" water main. A larger water transmission main is needed to improve hydraulics and allow EWC to increase pumping rate and maintain pressure at an acceptable range for the 12" pipe to remain in service.

In order to eliminate these issues, it is recommended to replace the existing 6" water main along Farnsley Knob Road and S.R. 11 with a larger 20" water main. The replacement shall extend 23,490 linear feet (L.F.) and connect the Water Treatment Plant to the Hickman Hill Storage Tank.

Redundant Water Service to New Albany

EWC serves approximately 400 customers in New Albany by gravity from the water treatment plant clearwell. This area uses approximately 70,000 gallons per day. There is currently only one water main feeding this area. In case of a main break on that line, there is not a redundant feed to this service area. EWC needs a second feed line to provide more reliable water service to this area. A water main route along McCarthy Knob Road from State Road 11 to Budd Road is planned for a secondary water main feed. This route would allow EWC to serve some additional homes that have requested water service.

Redundant Water Transmission Main Across I-64

A second water transmission main across Interstate 64 is recommended to provide a redundant feed to the northern portion of the distribution system.

Quarry Road Water Main Replacement

Quarry Road has old PVC pipe with sizes from 2", 3.5" and 5". This is a problem area of old PVC pipe with PVC pipe saddles. This segment of water main needs to be planned for replacement due to leaks.

Replacement of Small Mains

The EWC distribution system includes approximately 30 miles of 2" and 2.5" water mains. These mains should be scheduled for replacement over time, with priority given to areas where there are more than 10 customers served. These small diameter mains were commonly installed with the original water distribution system. They should be replaced with a minimum of 4" water main size in the future.

2.3.3 Water Treatment

The utility operates a single water treatment plant known as the Farnsley Knob Water Treatment Plant. This water treatment plant was constructed in phases, with the most recent expansion in 1996. See Figure 2.3.2.

Raw water from the well field contains objectionable levels of iron and manganese. Water hardness is approximately 342 parts per million. The WTP uses aeration, detention, and filtration for the purpose of iron and manganese removal. There is a high concentration of Ammonia in well numbers 10 and 12. Raw water is pre-treated to remove ammonia upstream of the water treatment plant, as described in the previous section.

The present water treatment plant contains four cylindrical horizontal end piped gravity flow filters. The filters extend through the water treatment plant wall and are end piped to provide the filter face piping and valves. Each filter is rated at 900 gallons per minute and operates at a filter rate of 3.0 gallons per minute per square foot. The total capacity of all four filters is 3,600 gallons per minute. Filter face piping has all pneumatically operated valves. The filter backwash process operates automatically after manual initiation by the water treatment plant operator. The filter control panel operates the entire sequence of valve operation for each filter cell until all eight filter cells are backwashed. Currently, the water treatment plant has a capacity of approximately 5,184,000 gallons per day based on the maximum filter rate. However, for purposes of IDEM-rated capacity one filter must be removed from operation leaving a capacity of 2,700 gallons per minute, or nearly 3,888,000 gallons per day.

After filtration water is transferred to a 570,000-gallon ground level storage tank by means of a pair of vertical turbine transfer pumps rated to pump from 0 to 1,800 gallons per minute each. The ground level storage tank serves as a reservoir or clearwell to provide suction to the high service pumps. This clearwell also provides water via gravity to approximately 450 water customers within the New Albany water distribution network.

Detention Tank Inspections

EWC had the detention tanks inspected by Utility Service Co., Inc./SUEZ in August, 2019. They inspected the exterior of the tanks and noted interior inspection of tanks shall be performed in 2020. The tanks were all found to be in good condition with the following notes:

- Exterior coating conditions: No deficiencies noted.
- Safety Climbing Devices: Ladders equipped with safety climbs, no deficiencies noted.
- Vent Screen, Overflow: No deficiencies.
- Structural: No deficiencies identified in foundation anchor bolts, vents, overflow or welds.

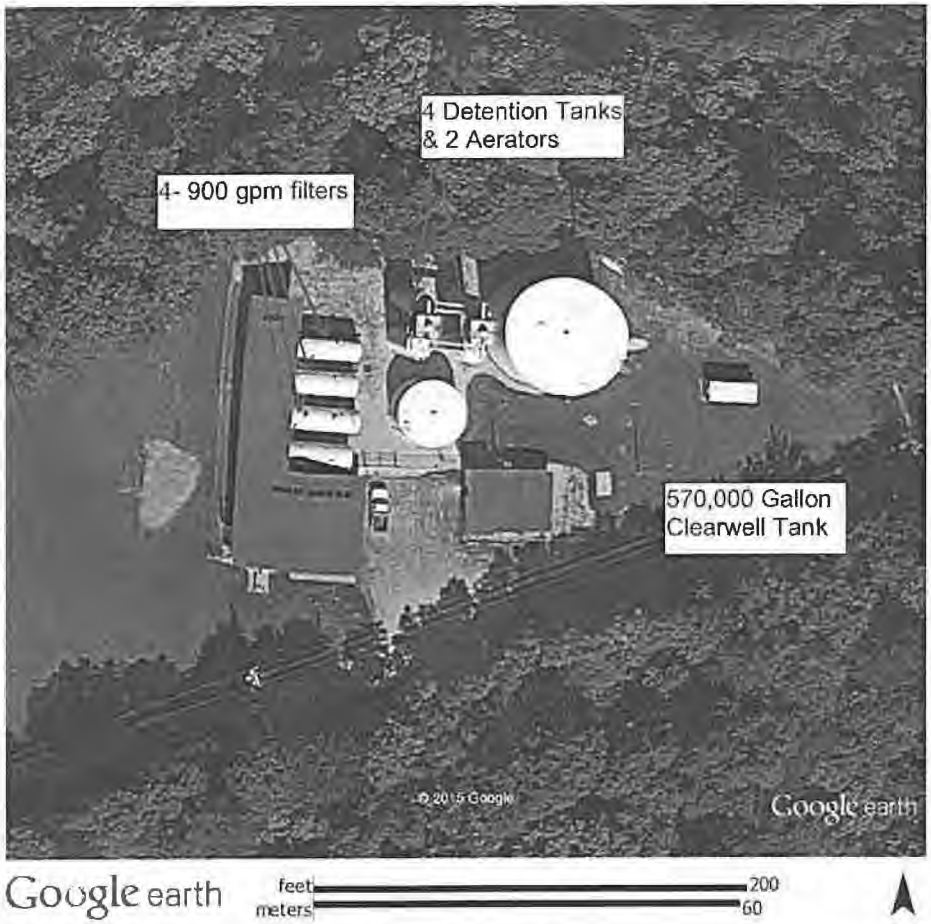


Figure 2.3.2 - Existing Farnsley Knob Water Treatment Plant

The water treatment plant has four high service pumps, each rated a 500 gallons per minute, which pump into the Northern Water Distribution Network. The operating discharge pressure on these pumps is 100 psi, equal to 230 feet total dynamic head. These four pumps alternate and start and operate based on signals generated by the SCADA system. Water level in the "Office" 500,000-gallon tank (located at the Edwardsville Office Building), or the 2,000,000-gallon water storage tank on Hickman Hill, is used to control start and stop of these high service pumps. These pumps are designed to operate with a maximum of three high service pumps operating and one pump is in standby mode.

In addition to the four high service pumps dedicated to the Northern Water Distribution Network, there are two high service pumps with the capacity to pump 300 gpm to the Town of Elizabeth. These pumps are connected to an existing 6" water transmission main extending to the 110,000-

gallon water storage standpipe owned by the Town of Elizabeth, located on S.R. 11. These pumps alternate operation and are started and stopped based on water level in the S.R. 11 water storage standpipe. Elizabeth did not purchase water from Edwardsville in 2019, and are not expected to regularly purchase water in the future.

The Edwardsville set of high service pumps are connected to a mag meter, which serves as a master meter for all water entering the Edwardsville portion of the water distribution system. These mag meters are the means of measuring water pumpage as indicated in other sections of this report. The mag meters are connected to the SCADA system and all pumpage is recorded and transmitted to computers located at the Farnsley Knob Water Treatment Plant and the Edwardsville Administration Office.

With the upgrade in size from the existing 6" main to a larger 20" main, the four high service pumps dedicated to the Northern Distribution Network and the two high service pumps dedicated to the Town of Elizabeth should all be replaced and upgraded.

Several chemicals are utilized in the water treatment process. Chlorine is utilized for both pretreatment and post treatment. Chlorination is accomplished on a flow proportional basis. Potassium permanganate is available for oxidation of iron or manganese in the event a more potent oxidant is needed. Potassium permanganate is utilized on an as-needed basis. Fluoride is utilized and is injected based on a flow proportional control. Phosphates are injected via metering pumps into the finished water to provide corrosion control in the water distribution system.

A standby power generator set is located in the water treatment plant building. This generator set is diesel powered. An automatic transfer switch starts the generator set whenever the incoming electric power from the electric company is interrupted. This generator set is located inside the water treatment plant and is in excellent condition. The generator set enables the water treatment plant to continue to produce water and pump water during a power outage. The high service pumps can continue to operate, and pump water to the distribution system until the 570,000-gallon clearwell is emptied.

A filter control panel controls the entire backwash process. Water for backwashing is taken from the 570,000-gallon clearwell. This water is transferred via a pair of vertical turbine pumps which backwash the filters. Dirty backwash water is transferred to a steel ground level backwash water holding tank. Water is held in this tank for 12 hours to allow the iron oxide and manganese oxide to settle out. Settled backwash water is then recycled to the filter influent for filtration. Periodically the backwash water holding tank is cleaned to remove settled iron oxide and manganese oxide.

All four filters were opened and examined in approximately 2012 for condition of the media in terms of quantity of media and looseness of media. In all of the filters it was found the media and support gravel was loose and not cemented due to calcium hardness. The filters that were slightly

low on anthracite filter media cap had additional Anthracite added to each filter as needed. In general, all four filters appear to be in good condition and are functioning as intended. Filter examination is recommended in 2021.

Water Treatment Current Needs

Currently, the water treatment plant is performing satisfactorily. IDEM's last Sanitary Survey Inspection was conducted on August 11, 2017. Only a few minor items related to calibration of lab equipment and mildew on the exterior of the tanks were noted. The water treatment plant is not in need of any major equipment replacement or facility expansion.

The limiting factor on water production is the ability to pump water out of the plant to the distribution system. If a new water transmission main is constructed to improve conveyance to the distribution system, the high service pumps would need to be replaced due to the change in hydraulic conditions (total dynamic head on pumps).

2.3.4 Water Storage

A summary of EWC's existing water storage tanks is provided below in Table 2.3.5.

Table 2.3.5: Summary of Water Storage Tanks

TANK NAME	CAPACITY	FUNCTION	TYPE	Year Built
Plant Clearwell	570,000 gallons	High Service Pump Suction	Ground	1978
Hickman Hill	2,000,000 gallons*	Distribution System Supply	Ground	2012
Edwardsville Office	500,000 gallons	Distribution System Supply	Multi-column	1990
Frank Ott	100,000 gallons	Distribution System Supply	Multi-column	1966
Mt. St. Francis	1,000,000 gallons	Distribution System Supply	Multi-column	1999

**1/3 of the Hickman Hill Tank serves as effective storage, or approximately 660,000 of effective storage.*

Table 2.3.5 indicates that the water distribution system currently has an effective water storage volume of 2,260,000 gallons. The Plant Clearwell of 570,000 gallons serves as suction for the high service pumps and gravity feeds the southeast/New Albany Service Area. The combined total storage in the system is 2.83 MG. The two oldest water storage tanks are the Frank Ott Tank and the Water Treatment Plant Clearwell.

Tank Maintenance

EWC entered into a tank maintenance agreement with SUEZ in 2019 for the long-term maintenance of their water tanks. This contract includes annual tank inspections and scheduled maintenance and coatings to ensure long service life of the tanks. The EWC Water Plant Clearwell Tank was rehabilitated and new interior paint coatings were applied in 2018. The clearwell tank is currently in excellent condition. The Office Tank is scheduled to be painted in 2020. The Frank Ott Tank needs coating maintenance.

Water Storage Current Needs[4]

The area surrounding the Frank Ott Tank is experiencing significant residential, commercial and industrial growth. There are several new subdivisions in progress, and Floyd County is in the process of constructing a new industrial park along Highway 64. The Frank Ott Tank is most centrally located to this development; however, it is not hydraulically ideal to serve the area. This area has been historically served by the Office Tank, with the Frank Ott and Mt. St. Francis Tanks serving areas further to the north. The high-water level of the Frank Ott Tank is 20' lower than the Office Tank.

The 100,000-gallon Frank Ott Tank was constructed in 1966, and is the oldest tank in the distribution system. See tank photos and identified maintenance needs prepared by SUEZ in Appendix D. The tank needs new interior and exterior coatings, along with changes and upgrades to much of the tank and is at the point of needing significant coatings maintenance. Additional capacity is needed to serve this rapidly growing area. Although as a rural water system EWC does not provide fire protection to most of their rural service area, they do provide fire protection to this more densely developed area where they have large enough infrastructure to support fire protection.

A new 1,000,000-gallon elevated water storage tank is recommended to meet the growing demand in this area of the distribution system, and with that tank the Frank Ott Tank and Office Tank Pressure Zones shall be combined so that the Frank Ott and Office Tanks float together to better serve this area. The cost of rehabilitation and coatings on the old tank would be very expensive. It would be more beneficial to the utility to replace the tank with a larger tank.

Table 2.3.6 provides the customers served by each water storage tank. The Frank Ott and Office Tank serve a majority of the existing 4,446 EWC customers as of September, 2021.

[4] Revised, September 2021.

Table 2.3.6: Summary of Water Storage Tank Customers

Tank	Capacity (Gallons)	Number EWC Customers Served (Sept. 2021)	Service Connections Served through Wholesale Customer
Plant Clearwell	570,000	450	
Hickman Hill	2,000,000 *(660,000 effective)*	225	1 Wholesale (407 service connections in the Town of Lanesville)
Edwardsville Office	500,000	2716	
Frank Ott	100,000	805	
Mt. St. Francis	1,000,000	250	1 Wholesale (1954 service connections in the Town of Greensville)
TOTAL	**2,830,000 gallons**	**4,446 customers**	**2 Wholesale (2,361 service connections)**

**All water service to the Office and Frank Ott Tanks must pass through the Hickman Hill Tank and Booster station*

***All water to the Mt. St. Francis Tank passes through the Hickman Hill Tank and Booster Station, and the Office Tank (current operation)*

2.3.5 System Technology Components

SCADA

EWC updated their SCADA system over the last few years, and it is operating very well.

Meter Reading Equipment

EWC upgraded their meter reading equipment in 2017, and it is operating very well.

GPS Mapping System

The Edwardsville Water Corporation water distribution system covers a very large area with a vast array of different distribution system conditions. EWC has an excellent GIS mapping system in place, and they are continually updating the information.

2.3.6 Facilities

EWC has outgrown their current office space. They do not have adequate meeting space and staff space. They have a maintenance facility at the site of the Frank Ott Tank that is completely full, to the point where it is challenging to maneuver vehicles and equipment. Additional office, managerial operations and maintenance facility space is needed. Planning for a new operations and maintenance facility is recommended. EWC owns a large parcel of property where their current office is located that is well suited for development of a new operations and maintenance facility.

CHAPTER 3: FUTURE NEEDS

3.1 POPULATION: CURRENT AND FUTURE

3.1.1 Population[1]

The population in Floyd County and the Edwardsville service area has steadily grown over the past 100 years, as shown in Table 2.1.1. For planning purposes for the next 20 years, the past 30 years are particularly relevant. The average annual growth rate for the region of the EWC service area was 1.1% for the period of 1990 – 2020. However, some portions of the area have grown faster than 1.1%. As stated previously, the extents of the EWC distribution system are not expected to expand due to neighboring water utilities.

The current population served by EWC is approximately 11,153. A 1.1% growth rate is equal to 122.7 people per year. Based on this growth rate, the population of the service area would grow by 2,454 people over the next 20 years, to 13,607 in the year 2040. That is an overall increase of 22%.

Project Population for 2040 = Current Population + Projected Growth

Projected Population Growth = 122.7 people/year X 20 Years = 2,454 people
Assumed 1 customer = 2.6 people
123 people ÷ 2.6 people/customer = 47 customers per year

Projected Population for 2040 = 11,153 + 2,454 = 13,607 people
13,607 people ÷ 2.6 people/customer = 5,233 customers

The assumed population density is 2.6 people per customer. The calculations above demonstrate that based on population growth alone, the projected equivalent customer growth rate would be 47 customers per year. This number is lower than the historic population growth of the EWC as shown in Table 3.1.1.

When considering population growth projections for the service area, it should be noted that EWC does not serve all existing residents within their service area. There are residential homes within the service area that are not currently served by EWC, which may be added as new customers in the future. Growth to serve existing population within the service area is not captured in the population projection alone. Some of the existing population could become a new customer to EWC in the future. Therefore, it is believed that the EWC customer growth for the planning horizon will outpace population growth averages of 1.1% as it has typically.

[1] Revised, September 2021.

3.1.2 Customers[2]

EWC has grown from 657 customers in 1964 to 4,357 in 2020. Over their 56 years of service, the utility's number of customers has increased by 3,700. Table 3.1.1 provides customer data by decade, and average annual growth for each time period.

Table 3.1.1: EWC Customer Growth by Decade

Time Period	Number of Customers at End of Period	Increase	Average Annual Growth (customers/year)	Average Annual % Customer Growth*
1964 – 1980	1,430	773	48	3.4%
1980 – 1990	2,361	931	93	3.9%
1990 – 2000	3,038	677	68	2.2%
2000 - 2010	3,838	800	80	2.1%
2010 - 2020	4,357	519	52	1.2%
Overall Average			**68**	**2.56%**

**Avg. % Customer Growth = (Avg. Annual Growth ÷ Number of Customers at End of Period) X 100%*

The average annual customer growth for the period of 2000 to 2014 was 61 customers per year. The average growth from 2015 – 2019 was 77 customers per year. In terms of percentage growth, the average calculated annual customer growth rate has been approximately 2-3%. The EWC service area is seeing significant growth with a new industrial park and residential development, particularly along the I-64 corridor.

There were 4,446 customers as of August 31, 2021. 2021 customer trends are continuing with the apparent growth of approximately 2-3% per year.

Pumpage and Consumption

With the exception of 2020, EWC consumption from customers has grown 2% to 4% for prior years which aligns with the customer growth increase of 2-3%. Table 3.1.2 identifies annual consumption increases for 2018-2021.

Table 3.1.3: EWC Pumpage and Consumption Increases 2018-2021

Year	Pumpage	Percent Pumpage Increase from Prior Year	Consumption	Percent Consumption Increase from Prior Year
2018	465,857,000		339,904,646	
2019	472,705,000	1.47%	347,635,963	2.27%
2020	466,438,000	-1.33%	349,219,900	0.46%
Jan-Aug. 2021	318,721,000*	1.01%*	240,755,300*	4.35%*

** Data reflects January-August 2020 compared to January-August 2021.*

[2] Revised, September 2021.

3.1.3 Projected Growth[3]

The above sections evaluate historical growth rates for population, customers and consumption in order to project future growth. Additionally, development currently underway as well as anticipated for the near-term planning horizon is included in Table 3.1.3. Figure 3.1.3 in Appendix C shows the location of developments listed below. All developments currently underway are located in the pressure zones served by the Frank Ott Tank and Office Tank.

Table 3.1.3: Approved or Anticipated Development, EWC Service Area

Development	Anticipated lots/type	Acres for Development	Anticipated Customers	Anticipated Demand (GPD)*	Development status of September 2021
Westfield Springs	45 lots		45	8,222	Water line is being installed & homes being built
Poplar Woods	84 lots		84	15,347	Moving dirt/ installing utilities
Knob Hill (Homes)	246 homes		246	82,946	Moving dirt/ installing utilities / being built
Knob Hill*** (Apartments)	208 apartments		1	26,601	Moving dirt/ installing utilities /being built
The Springs of Old Georgetown	55 lots		55	10,049	Water main installed/ Homes to be constructed beginning 2021-2022
Spring Hill	76 lots		76	13,885	Development approved by the County. Not yet started.
Novaparke Technology Park	14 lots		14	2,558	Utilities are installed/Lots for sale
Legacy Springs	20 lots		20	3,654	Development is nearly complete; 20 lots remain or are under construction.
Jude Walter Farm	land for sale	215 Acres	430	39,281	215 acres for sale. Estimating two customers per acre similar to adjacent development.
Grove Park Apartments***	33 apartments	4 acres	1	4,220	Development approval is pending County authorization.
NAFC Consolidated School Corp.	Schools	53 Acres	1	2,740	School Corporation has purchased land to build a new school(s).
TOTAL			**973**	**222,181**	

**Based on 182.7 gallons per day per customer as per Section 3.2.*

*** Estimated annual usage range 500,000-1,000,000 gallons per year. May be an Elementary and Middle School.*

****Apartment water usage estimated at 70% of typical customer estimated usage of 182.7.*

[3] Added and Revised, September 2021.

Anticipated demand from these customers of 222,181 gallons per day would be an increase of approximately 23% based on the 2019 consumption of 952,427 gallons per day. This equals a consumption demand increase of 4.6% per year if all customers were added within 5 years. Both near-term growth projections as well as historic population, customer and consumption growth show an anticipated annual growth rate for customers and demand from 2-4% is reasonable.

3.2 20-YEAR DESIGN FLOW PROJECTIONS

The 20-year design flow projects will utilize average customer demand from 2019. In 2019, the average daily pumpage was 1,295,082 gallons. These figures are similar to 2018 and 2020 when the average daily pumpage was approximately 1,277,000 gallons.

Average consumption/water sales per day in 2019 for the EWC was 952,427 gallons. In 2018 it was 931,246 gallons per day (gpd) and in 2020 it was 956,767 gpd.

Calculated Average Water Usage Per Customer:

= 347,635,963 (January 1-December 31, 2019) – 130,559,880 (37.56% usage by 10 largest customers and wholesale)
= 217,076,083 gallons
÷ 4,347 other customers (without 10 largest) = 49,937 gallons/year
÷ 365 days = 137 gpd per customer

The average population per household in Floyd County is 2.60 people per household according to data.census.gov. The current per-capita water sales are calculated to be approximately 52.62 gpd/person (137 ÷ 2.60 = 52.62).

The total lost water rate for the EWC is approximately 25-26% as outlined in Chapter 2. The EWC has worked to identify sources of lost water, and is planning further corrective action to address lost water. For planning purposes, a lost water rate of 25% will be used but this may be less with water main replacements and other efforts. Based on this lost water rate, the calculated water demand per customer is approximately 182.7 gpd per customer.

Calculated Average gpd Demand Per Customer: 137 gpd ÷ 0.75 = 182.7 gpd per customer

Based on the historical data for EWC customer growth in addition to near-term anticipated development, two customer growth projections will be evaluated. The first will be for an anticipated 2% growth or 80 customers per year. This projection results in an additional 1,600 customers over the next 20 years. The second growth projection will evaluate 3% growth or 130 customers per year. While it is feasible that the utility could see over 4% growth, a 2% or 3% growth rate matches historic trends more closely.

Projected water pumpage requirements for Growth Option 1 and Growth Option 2 for the 20-year planning horizon are provided in Table 3.2.1. The projected flow is based on anticipated customer growth and use of 37.56% of water by large and wholesale customers as well as 25% water loss.

Table 3.2.1: Projected Growth and Projected Demand

Year	Projected Customers, Option 1 (80 new customers/year)	Projected Pumpage Demand (GPD) Option 1	Projected Customers, Option 2 (130 new customers/year)	Projected Pumpage Demand (GPD) Option 2
2021	4475	1,309,389	4475	1,309,389
2022	4555	1,332,797	4605	1,347,427
2023	4635	1,356,205	4735	1,385,465
2024	4715	1,379,613	4865	1,423,503
2025	4795	1,403,021	4995	1,461,541
2026	4875	1,426,429	5125	1,499,580
2027	4955	1,449,837	5255	1,537,618
2028	5035	1,473,246	5385	1,575,656
2029	5115	1,496,654	5515	1,613,694
2030	5195	1,520,062	5645	1,651,732
2031	5275	1,543,470	5775	1,689,770
2032	5355	1,566,878	5905	1,727,808
2033	5435	1,590,286	6035	1,765,846
2034	5515	1,613,694	6165	1,803,885
2035	5595	1,637,102	6295	1,841,923
2036	5675	1,660,510	6425	1,879,961
2037	5755	1,683,918	6555	1,917,999
2038	5835	1,707,326	6685	1,956,037
2039	5915	1,730,734	6815	1,994,075
2040	5995	1,754,142	6945	2,032,113
2041	**6075**	**1,777,550**	**7075**	**2,070,151**

Table 3.2.1 provides a summary of anticipated peak water pumpage.

Table 3.2.2: EWC Current and Projected Water Pumpage

Parameter	Current (Year 2019)	Projected Growth Option 1 (Year 2041)	Projected Growth Option 2 (Year 2041)
Average Daily Pumpage (gpd)	1,295,082	1,777,550	2,070,151
Average Daily Sold (gpd)	952,427	1,333,163	1,552,614
Domestic (62.08%)	591,267	827,627	963,862
Commercial (2.00%)	19,049	26,663	31,052
Institutional (1.36%)	12,953	18,131	21,116
Wholesale (34.56%)	329,159	460,741	536,583
Average Daily Lost Water (gpd)	342,655	444,388	517,538
Percent Lost Water	26%	25%	25%
Peaking Factor	1.75	1.75	1.75
Peak Daily Pumpage	2,266,394	3,110,713	3,622,765
Peak Hour Peaking Factor	2	2	2
Peak Hour Pumping Rate*	1,799 gpm	2,469 gpm	2,875 gpm

**Peak Hour Pumping Rate = (Avg Day Pumpage X 2.0) ÷ 1440 gpm*

The lost water rate is projected to stay the same, however, if this is successfully reduced the average and peak daily pumpage shall be reduced accordingly. The distribution of Domestic, Commercial and Industrial water users is projected to remain consistent with current conditions, as identified in Chapter 2.

3.3 20-YEAR WATER SYSTEM NEEDS[4]

The EWC's current water system needs are described in Chapter 2. Projected future needs are described in this section. The selection of these projects is based on operational needs recognized by utility staff and consulting engineers. A combination of maintenance history, field experience, and actual system hydraulics (pressure monitoring, chlorine residuals, etc.) substantiate the needs. The EWC water system has and will have, during the 20-year study period, adequate capacity to distribute and treat all demand from the 20-year service area without chronic operational problems.

3.3.1 Water Supply

The existing water supply wells are less than 15 years old. With continued maintenance and cleaning, these wells should continue to be serviceable for the 20-year planning horizon. The ammonia levels in the wells shall continue to be monitored. Future modifications to operations could be necessary if the ammonia levels change significantly in the future.

[4] Revised, September 2021.

3.3.2 Water Treatment

The water treatment facility is over 20 years old. Continued good maintenance will extend the operational life of the existing facility through the 20-year planning horizon. Equipment replacements, filter media replacement, painting and general maintenance will be required to keep the plant in good operation.

Based on projected peak demand in Table 3.2.2 of 3,110,713 gpd to 3,622,765 gpd for the year 2041, the existing facility has adequate treatment capacity to meet the water demand. The existing WTP has an average design capacity of 3,888,000 GPD (refer to Chapter 2, Section 2.3.2 Water Treatment). As per Chapter 2, under a peak demand condition, operation of all four wells could produce a maximum of 3,470 gpm.

Based on current projections, the EWC water treatment plant has sufficient capacity to meet the projected 20-year needs. Upgrades to the high service pumps will be needed in order to deliver more water to the distribution system.

3.3.3 Distribution System

The distribution system will require ongoing maintenance, along with repair and replacement of valves, hydrants and water main. The current primary need in the distribution system is replacement of the existing 6" water main from the water treatment plant to the Hickman Hill Tank with a 20" water main in order to improve long-term capacity, and protect the operation of the existing 12" water main.

Other distribution system improvements needs identified in Chapter 2 are also future needs:

1. Redundant water transmission main to serve New Albany customers.
2. Redundant water transmission main across I-64.
3. Replacement of water main along Quarry Road.

3.3.4 Water Storage

EWC currently has combined total storage in the system of 2.83 MG which includes the Plant Clearwell which serves for high service pump suction and gravity feeds the southeast/New Albany Service Area. The projected average daily water pumpage for 2041 is 1.78-2.07 MGD with projected peak demand of 3.11-3.62 MGD. The current storage volume does not have the capacity to meet the projected peak demand in 2041.

The location of tanks with respect to pressure zone and customers is another concern. The pressure zone map shown in Figure 3.1.3 in Appendix C. Table 2.3.6 in Chapter 2 identifies the number of customers currently served by each tank. The highest number of customers served as well as the primary growth area is in the central pressure zone currently served by the Office Tank. The second highest number of customers is served by the Frank Ott Tank which needs major

maintenance or replacement. A higher tank at the Frank Ott Tank Site would allow the Frank Ott and Office Tanks to serve the same pressure zone and this rapidly developing area. An additional 222,181 gallons per day increase is anticipated for the Frank Ott and Office Tank zones in the near planning horizon as shown in Table 3.1.3. Additional storage proposed will also provide better emergency service to customers in the event of a prolonged power outage or catastrophic event.

Continued inspection and maintenance are essential to the long-term sustainability of the existing water storage tanks. Regular inspection of the water storage tanks should be performed every 3 – 5 years.

Based on current projections, with the addition of the proposed new water storage tank, EWC will have sufficient capacity to meet the projected 20-year needs.

CHAPTER 4: EVALUATION OF ALTERNATIVES

4.1 GENERAL

The purpose of this section is to evaluate feasible alternatives for addressing the utility's needs.

4.2 EVALUATION OF WATER STORAGE OPTIONS[1]

The area surrounding the Frank Ott Tank is experiencing significant residential, commercial and industrial growth. There are several new subdivisions in progress, and Floyd County is in the process of constructing a new industrial park along Highway 64. The Frank Ott Tank is most centrally located to this development; however, it is not hydraulically ideal to serve the area. This area has been historically served by the Office Tank, with the Frank Ott and Mt. St. Francis Tanks serving areas further to the north. The high-water level of the Frank Ott Tank is 20' lower than the Office Tank.

The 100,000-gallon Frank Ott Tank was constructed in 1966, and is the oldest tank in the distribution system. The tank needs new interior and exterior coatings, along with modifications and safety upgrades that are very costly. Additional capacity is needed to serve this rapidly growing area on the Office Tank Pressure Zone, and replacing the Frank Ott Tank with a taller tank to float with the Office Tank would be very beneficial. This would allow the Office Tank and Frank Ott Tank Pressure Zones to be combined, and the two tanks would together serve the entire area (See Figure 3.1.3). Growth anticipated is outlined in Chapter 3. Although as a rural water system EWC does not provide fire protection to most of their rural service area, they do provide fire protection to this more densely developed area where they have large enough infrastructure to support fire protection.

The property for the existing Frank Ott Tank is owned by EWC, and they additionally have a maintenance building on this site. A new tank could be constructed on this property. The alternatives below include utilization of the existing EWC Frank Ott Tank Site for construction of a new tank.

Alternatives for addressing this issue include:

1a. Construction of New 1,000,000-Gallon Elevated Water Storage Tank
1b. Construction of New 750,000-Gallon Elevated Water Storage Tank
2. Re-coating and maintenance of the existing 100,000-Gallon Frank Ott Tank.
3. No Action.

[1] Revised, September 2021

4.2.1a Alternative 1a: New 1,000,000-Gallon Elevated Water Storage Tank

The project proposes the construction of a tank vessel is constructed of welded steel and has a paint coating system on the interior and exterior of the tank. This type of tank requires re-coating to maintain integrity of the steel. The paint coatings are required every 15 – 20 years.

The EWC would realize the following benefits from construction of the 1,000,000-gallon elevated water storage tank at the proposed site:

1. A new 1,000,000-gallon tank will provide an additional 900,000 gallons of water storage.
2. The composite tank has a concrete base with tank on top. Concrete base will provide enclosed space that can be used for storage or other needs.
3. The smaller footprint of this tank is an advantage over other tank construction types and would be beneficial with the space constraints of this site.
4. Steel water storage vessel will need to be painted every 20 years. Every other coating will likely require sandblasting to bare metal. When blasting is not required, the tank can be prepared and over-coated.
5. Tank mixing shall be provided to prevent stagnation in the water tank, which contributes to loss of water quality.

The preliminary opinion of probable construction cost for is $2,615,000. The project budget shall additionally include construction contingency of $523,000 (20%).

Table 4.2.1a: Preliminary Opinion of Probable Construction Cost
Alternative 1a: Replace Frank Ott Tank
1,000,000-Gallon Elevated Water Storage Tank

Description	Qty.	Units	Unit Cost	Total Cost
Site Work Excavation & Grading	1	Lump Sum	$ 70,000.00	$ 70,000.00
Concrete Footing & Foundation	1	Lump Sum	$ 580,000.00	$ 580,000.00
Steel Fabrication & Delivery	1	Lump Sum	$ 750,000.00	$ 750,000.00
Erection of Water Storage Tank	1	Lump Sum	$ 700,000.00	$ 700,000.00
Tank Coatings	1	Lump Sum	$ 275,000.00	$ 275,000.00
Site Piping	1	Lump Sum	$ 130,000.00	$ 130,000.00
Concrete Splash Block	1	Lump Sum	$ 5,000.00	$ 5,000.00
Demolition of 100,000 Gallon Tank	1	Lump Sum	$ 30,000.00	$ 30,000.00
Tank Mixer	1	Lump Sum	$ 40,000.00	$ 40,000.00
Electrical	1	Lump Sum	$ 15,000.00	$ 15,000.00
SCADA Installation	1	Lump Sum	$ 20,000.00	$ 20,000.00
Preliminary Opinion of Probable Construction Cost				**$2,615,000.00**

4.2.1b Alternative 1b: New 750,000-Gallon Elevated Water Storage Tank

This alternative is very similar to Alternative No. 1a, except the tank vessel smaller capacity.

The EWC would realize the following benefits from construction of the 750,000-gallon elevated water storage tank at the proposed site:

1. A new 750,000-gallon tank will provide an additional 600,000 gallons of water storage.
2. The composite tank has a concrete base with tank on top. Concrete base will be approximately 36' in diameter, and provide 1,000 square feet of enclosed space that can be used for storage or other needs.
3. The smaller footprint of this tank is an advantage over other tank construction types and would be beneficial with the space constraints of this site.
4. Steel water storage vessel will need to be painted every 20 years. Every other coating will likely require sandblasting to bare metal. When blasting is not required, the tank can be prepared and over-coated.
5. Tank mixing shall be provided to prevent stagnation in the water tank, which contributes to loss of water quality

The preliminary opinion of probable construction cost for Alternative No. 1b is $2,275,000. The project budget shall additionally include construction contingency of $455,000 (20%).

Table 4.2.1b: Preliminary Opinion of Probable Construction Cost
Alternative 1b: Replace Frank Ott Tank
750,000-Gallon Elevated Water Storage Tank

Description	Qty.	Units	Unit Cost	Total Cost
Site Work Excavation & Grading	1	Lump Sum	$ 70,000.00	$ 70,000.00
Concrete Footing & Foundation	1	Lump Sum	$ 520,000.00	$ 520,000.00
Steel Fabrication & Delivery	1	Lump Sum	$ 650,000.00	$ 650,000.00
Erection of Water Storage Tank	1	Lump Sum	$ 625,000.00	$ 625,000.00
Tank Coatings	1	Lump Sum	$ 200,000.00	$ 200,000.00
Site Piping	1	Lump Sum	$ 100,000.00	$ 100,000.00
Concrete Splash Block	1	Lump Sum	$ 5,000.00	$ 5,000.00
Demolition of 100,000 Gallon Tank	1	Lump Sum	$ 30,000.00	$ 30,000.00
Tank Mixer	1	Lump Sum	$ 40,000.00	$ 40,000.00
Electrical	1	Lump Sum	$ 15,000.00	$ 15,000.00
SCADA Installation	1	Lump Sum	$ 20,000.00	$ 20,000.00
Preliminary Opinion of Probable Construction Cost				**$2,275,000.00**

4.2.2 Alternative 2: Rehabilitation of the Frank Ott 100,000-Gallon Elevated Water Storage Tank

The EWC would realize the following benefits from rehabilitation of the 100,000-gallon elevated storage tank:

1. Improve tank to meet current OSHA Safety Standards.
2. Replace roof vent to meet current AWWA Standards.
3. Install mixer to prevent freezing and related damage to tank interior coatings.
4. Sandblast tank and paint to provide 20-year coating system inside and out.

Table 4.2.2: Preliminary Opinion of Probable Construction Cost
Alternative 2: Rehabilitation of the Frank Ott Tank

Description	Quantity	Units	Total Cost
Seal the foundations with a sealant.	1	Lump Sum	$1,500.00
Anchor bolt maintenance and tightening	1	Lump Sum	$1,500.00
Tank Ladder Safety Improvements	1	Lump Sum	$8,000.00
Adjust the windage rods and riser stay rods	1	Lump Sum	$9,000.00
Replace the existing roof vent with a 16" vacuum-pressure, frost-proof vent and screen.	1	Lump Sum	$5,000.00
Exterior Coatings (pressure wash, power tool clean prepare surfaces, stripe coat, Epoxy Primer (2-4 mils), Intermediate Coat (2-3 mils), Finish Coat, HydroFlon (2-3 mils)	1	Lump Sum	$100,000.00
Containment for Exterior Coatings	1	Lump Sum	$30,000.00
Interior Coatings (clean out, blast entire interior to near-white (SSPC-SP10), weld repair, stripe coat, zinc primer, finish coat 100% solids epoxy (24-30 mils)	1	Lump Sum	$75,000.00
Tank Mixing System	1	Lump Sum	$30,000
Preliminary Opinion of Probable Construction Cost			**$260,000.00**

The preliminary opinion of probable construction cost for Alternative No. 2 is $260,000. The project budget shall additionally include construction contingency of $39,000 (15%). The preliminary opinion of probable project cost is $359,000.

Although this is the lowest cost alternative, this alternative would not provide the needed benefits of additional water storage capacity or benefit the Office Tank Pressure Zone for the long term benefit of the utility.

4.2.3 Alternative 3: No Action

The no action alternative is not recommended. This option would not supply the EWC with a sufficient storage capacity to supply for the projected growth of the area. If no action is taken to maintain the existing Frank Ott Tank, the tank will further deteriorate to failure, such that it could not be kept in service.

4.3 Evaluation Of Distribution System Options

As described in Chapter 2, the utility needs to replace the existing 6" water main to improve the flow of water from the Farnsley Knob Water Treatment Plant to the Hickman Hill Storage Tank.

Alternatives for addressing this issue include:

4. Replacement of the existing 6" water main with a new 20" water main.
5. No action.

4.3.1 Alternative 4: Replacement of the Existing 6" Water Main with a New 20" Water Main

The EWC would realize the following benefits from the replacement of the existing 6" water main with a new 20" water main.

1. Increased flow of water from the Farnsley Knob Water Treatment Plant to the Hickman Hill Storage Tank, and the entire north distribution system.
2. Reduced pumping costs because of less friction loss in the water main.
3. Increased reliability of the water main.

The preliminary opinion of probable construction cost for Alternative No. 4 is $2,927,000. The project budget shall additionally include construction contingency of $585,400 (20%), and non-construction costs of $585,400 (20%). The preliminary opinion of probable project cost is $4,097,800.

Table 4.3.1: Preliminary Opinion of Probable Construction Cost
Alternative 4: New Water Transmission Main from WTP to Hickman Hill Tank

Description	Units	Qty.	Unit Cost	Total Cost
20" Pressure Class 200 DI Water Main	L.F.	23,490	$80.00	$1,879,200.00
Connections to Existing Water Mains	Lump Sum	3	$6,000.00	$18,000.00
20" Butterfly Valves and Valve Boxes	Each	12	$8,500.00	$102,000.00
Standard Fire Hydrant w/ Aux. Valve	Each	15	$4,600.00	$69,000.00
Ductile Iron Fittings	Lump Sum	2	$180,000.00	$360,000.00
Driveway Repairs	Each	44	$1,600.00	$70,400.00
Erosion Control	Lump Sum	1	$60,000.00	$60,000.00
Traffic Control	Lump Sum	1	$49,010.00	$49,010.00
Surface Restoration	L.F.	23,490	$1.00	$23,490.00
Pipe Bedding for Rock Areas	L.F.	6,000	$20.00	$120,000.00
Special Crossing SR 11	Lump Sum	2	$20,450.00	$40,900.00
Service Line Reconnections	Each	75	$1,800.00	$135,000.00
Preliminary Opinion of Probable Construction Cost				**$2,927,000.00**

4.3.2 Alternative 5: No Action

The No Action Alternative has been rejected because it would not provide any of the above listed benefits. This alternative is not recommended.

4.4 Evaluation Of Water Treatment Plant Options

As described in Chapter 2, the utility needs to replace the four existing high service pumps to meet the new needs of the proposed 20" water transmission main. This will help to optimize the Water Treatment Plant and meet the new design conditions.

Alternatives for addressing this issue include:

6. Replacement of the existing high service pumps
7. No Action

4.4.1 Alternative 6: Replacement Of The Existing High Service Pumps

EWC has four (4) high service pumps currently used to pump water from the treatment plant to the Hickman Hill Tank and north distribution system. Each of these pumps is currently designed to pump 500 gpm, but due to the main restrictions they are limited to running only two (2) pumps normally, and a peak of three (3) at approximately 1,400 gpm. If Alternative #4 is constructed, the new 20" water main will significantly change the hydraulic operating condition of the pumps, increasing the peak discharge to match the plant production of 3,500 gpm.

Elevation Lift from WTP to Hickman Hill = 245 feet – No Change Due to WM Change
Peak design pumping rate = 3,500 gpm with 3 pumps running
Proposed: 4 high service pumps rated at 1,200 gpm each with VFD control
Hydraulic Distribution of Flow
20" Water Main, Q = 2,850 gpm = 81% of flow
12" Water Main, Q = 650 gpm = 19% of flow
Friction Loss in 20" Water Main at 3,500 gpm = 26 feet
Pump Wear Allowance = 2 feet
Total Dynamic Head = Elev. Lift + Friction Loss+ Pump Wear Allowance
Total Dynamic Head = 245 + 26 + 2 = 273 feet
Discharge Pressure at Pumps = 276 ÷ 2.31 = 118 psi

The high service pump piping and valves will need to be modified for the installation of the new high service pumps.

The preliminary opinion of probable construction cost for Alternative No. 6 is $520,000. The project budget shall additionally include construction contingency of $104,000 (20%), and non-construction costs of $104,000 (20%). The preliminary opinion of probable project cost is $728,000.

Table 4.4.1: Preliminary Opinion of Probable Construction Cost
Alternative 6: Replacement of the Water Treatment Plant High Service Pumps

Description	Units	Qty.	Unit Cost	Total Cost
1,200 gpm high service pumps	Each	4	$60,000.00	$240,000.00
Piping and Valve Modification	Lump Sum	1	$200,000.00	$200,000.00
VFD Controls and Electrical	Lump Sum	1	$80,000.00	$80,000.00
Preliminary Opinion of Probable Construction Cost				**$520,000.00**

This alternative is recommended with Alternative #4 in order to increase pumping capacity. If Alternative #4 is not accepted, then this alternative should not be pursued.

4.4.2 Alternative 7: No Action

The No Action alternative would be recommended only if EWC determines not to construct the new 20" water transmission main recommended in Alternative 4. If EWC moves forward with Alternative #4, then they must also construct Alternative #6, and the No Action alternative would not be viable.

Based on the recommendation to move and accept Alternatives 4 and 6, the No Action alternative is not recommended.

4.5 Regionalization Alternative

The water service area is bound by Ramsey Water Company, Indiana American Water Company and other water utilities. EWC sells water to the Towns of Greenville and Lanesville, New Albany and Elizabeth.

EWC is in a regional service area with connections to purchase from and sell water to neighboring water utilities. EWC has a standby connection to purchase water from Indiana American Water. They also have the ability to serve water to Greenville, Lanesville and Elizabeth. These interconnections are beneficial to the regional area water supply.

EWC's wellfield has a dependable supply of water which is treated and pumped to customers from the water treatment plant. EWC has all of the water resources, infrastructure and staff necessary to responsibly and reliably serve their water customers. Regionalization in terms of selling the utility to another entity is not recommended or necessary.

CHAPTER 5:
EVALUATION OF ENVIRONMENTAL IMPACTS[1]

5.1 GENERAL

The purpose of this chapter is to evaluate potential environmental impacts caused by the proposed waterworks improvements project.

5.2 DISTURBED/UNDISTURBED LAND

The following projects take place entirely on previously disturbed land:
Phase 1 Improvements:

1. Construction of the new 1,000,000-gallon Frank Ott Water Storage Tank.
    a. The water storage tank will be constructed on land that was disturbed by the construction of the maintenance building and utilities that currently lay on the site.

Phase 2 Improvements:

2. Replacement of the existing 6" Water Main with a new 20" Water Transmission Main.
    a. The new 20" water main will take the place of the existing 6" water main from the Farnsley Knob Water Treatment Plant to the Hickman Hill Water Storage Tank.
3. Replacement of four (4) high service pumps
    a. These upgrades will occur within the water treatment plant.

A site plan for the proposed elevated storage tank is shown in Appendix A as Figure 5.2.1.

5.3 HISTORICAL AND ARCHITECTURAL RESOURCES

To determine the potential effects on historic architectural and archaeological sites, the SHAARD Database and map were consulted. Figures 5.3.1, 5.3.2, 5.3.2a and 5.3.2b show the existing conditions of the proposed project locations in relation to any historical sites or structures. Specifically Figures 5.3.2a and 5.3.2b show a small portion of the proposed water main path as it is nearest cemeteries. The entire path of the proposed water transmission main in relation to historic sites and structures is shown in Appendix A as Figure 5.3.2.

The SHAARD map identifies the following sites and structures that have been found to be adjacent to the project locations. These sites and structures will not be affected. No historical nor architectural resources are located near the site of the proposed new storage tank, as shown in Figure 5.3.1.

[1] Revised, July 2021. Revised September, 2021.

Cemeteries	Description
CR-22-1	Antioch Cemetery, Lanesville
CR-22-15	Mount Zion Cemetery, Lanesville
CR-22-19	Williams Cemetery, Lanesville

The proposed project will have no impacts on any historic structures and all cemeteries will be avoided.

5.4 WETLANDS

The proposed project is show in relation to wetlands on the following Figures in Appendix A:

1. Figure 5.4.1 - Proposed New Water Storage Tank.
2. Figure 5.4.2, 5.4.3, 5.4.4, 5.4.5, and 5.4.6 - Proposed 20" Water Main and Replacement of High Service Pumps at Water Treatment Plant.

There are several small freshwater ponds (PUBGx) and historic wetlands that lay near the path of the proposed 20" water main. The water main will stay adjacent to the road and have no impact on the discussed wetlands. There are no impacts to wetlands.

5.5 SURFACE WATERS

For the Farnsley Knob and S.R. 11 Water Main project, there are no stream or tributary crossings. The construction of these proposed projects will not adversely affect waters of Limited Use or Outstanding State Resource Waters listed in 327 IAC 2-1.5-19, Limited or Exceptional Use Waters listed in 327 IAC 2-1-11, Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-2, Salmonid Waters listed in 327 IAC 2-1.5-5(a)(3), or the Natural Resource Commission's Outstanding Rivers List for Indiana per Information Bulletin #4 (16 IR 1677). All comments from the USFWS and IDNR will be incorporated into the construction plans.

5.6 100-YEAR FLOODPLAIN AND FLOODWAY

The proposed project is show in relation to surface waters in Figures 5.4.1-5.4.6. The proposed water transmission main and elevated water storage tank occur above the 100-year floodplain. No Floodway permits are necessary.

5.7 GROUNDWATER

The proposed project will not affect groundwater. Dewatering is not expected. The project will not impact a sole source aquifer.

5.8 PLANTS AND ANIMALS

The project will be implemented to minimize impact to non-endangered species and their habitat. Mitigation measures cited in comment letter from the IDNR and USFWS will be implemented.

5.9 PRIME FARMLAND AND GEOLOGY

The NRCS will be asked to determine if prime farmland will be converted. Erosion control mitigation measures will be implemented as required by necessary permits.

5.10 AIR QUALITY

Mitigation measures to reduce noise, dust, and airborne contaminants will be implemented as required by necessary permits.

5.11 OPEN SPACE AND RECREATION OPPORTUNITIES

The construction and operation of the proposed project will neither create nor destroy open space or recreational opportunities.

5.12 LAKE MICHIGAN COASTAL PROGRAM

The proposed project will not affect the Lake Michigan Coastal Zone.

5.13 NATIONAL NATURAL LANDMARKS

The proposed project will not impact any National Natural Landmarks.

5.14 SECONDARY IMPACTS

The utility will ensure that future drinking water infrastructure projects connecting to SRF-funded facilities will not adversely affect wetlands, wooded areas, steep slopes, archaeological/historical/structural resources, or other sensitive environmental resources. The utility will require new drinking water infrastructure projects to be constructed within the guidelines of the U.S. Fish and Wildlife Service, IDNR, IDEM, and other environmental review authorities.

5.15 MITIGATION MEASURES

Precautions shall be taken during construction to prevent erosion and sediment transport. Project plans shall include requirements for construction sequencing and both temporary and permanent erosion control measures. All disturbed areas shall be restored to their pre-construction condition. All vegetated land shall be permanently seeded and maintained as necessary until vegetation growth is established.

A Rule 5 permit is required through IDEM for Construction/Stormwater Pollution Prevention. This plan shall be approved by the Floyd County Soil and Water Conservation District and recommend for approval to IDEM. All mitigating measures recommended by reviewing authorities shall be implemented for this project.

CHAPTER 6: PROPOSED PROJECT

6.1 GENERAL[1]

This chapter describes the proposed projects and estimated costs. The Preliminary Design Summary and the SRF Green Project Reserve (GPR) Checklist are included at the end of this chapter. The hydraulic schematic for the EWC is shown in Appendix C.

The following alternatives are recommended for Phase 1:

PHASE ONE
Alternative 1a
Replace Frank Ott Tank with new 1,000,000-Gallon Tank

PHASE TWO
Alternative 4
Replacement of the Existing 6" Water Main with 20" Water Transmission Main
Alternative 6
Replace Four (4) High Service Pumps at Water Treatment Plant

PHASE ONE

6.2 ALT. #1: FRANK OTT ELEVATED WATER STORAGE TANK[2]

A new 1,000,000-gallon elevated water storage tank will be constructed in replacement of the existing 100,000-gallon Frank Ott Elevated Storage Tank. This new tank shall be constructed on the same property as the existing tank to be replaced, but in a different location.

The new Elevated Storage Tank will meet the following current and long-term needs:

- Increased water storage capacity to more appropriately meet the future demand for water.
- Replacement of the existing water storage tank that is 54 years old and in need of expensive rehabilitation.
- Increase storage volume in proposed combined Office Tank and Frank Ott Tank Pressure Zone
- Improve fire protection in growth area.

[1] Revised, September 2021.
[2] Revised, September 2021.

The preliminary opinion of probable construction cost is $2,615,000. EWC owns the existing property used for the Frank Ott Tank and a maintenance building. Preliminary planning includes construction of the proposed tank on this site, and removal of the existing tank. No property acquisition is necessary for this project. Further mapping of the project location is available in Appendix A.

Table 6.2.1: Opinion of Probable Cost for Proposed Water Storage Tank

Description	Qty.	Units	Unit Cost	Total Cost
Site Work Excavation & Grading	1	Lump Sum	$ 70,000.00	$ 70,000.00
Concrete Footing & Foundation	1	Lump Sum	$ 580,000.00	$ 580,000.00
Steel Fabrication & Delivery	1	Lump Sum	$ 750,000.00	$ 750,000.00
Erection of Water Storage Tank	1	Lump Sum	$ 700,000.00	$ 700,000.00
Tank Coatings	1	Lump Sum	$ 275,000.00	$ 275,000.00
Site Piping	1	Lump Sum	$ 130,000.00	$ 130,000.00
Concrete Splash Block	1	Lump Sum	$ 5,000.00	$ 5,000.00
Demolition of 150,000 Gallon Tank	1	Lump Sum	$ 30,000.00	$ 30,000.00
Tank Mixer	1	Lump Sum	$ 40,000.00	$ 40,000.00
Electrical	1	Lump Sum	$ 15,000.00	$ 15,000.00
SCADA Installation	1	Lump Sum	$ 20,000.00	$ 20,000.00
Preliminary Opinion of Probable Construction Cost				**$2,615,000.00**

PHASE TWO

The following projects are recommended as a Phase 2 Project, to be completed in the future. The Phase Two projects are not recommended for funding and construction with the Tank Project; however, it is recommended to begin planning, for the future project.

6.3 ALT #4: 23,490 L.F. 20" WATER TRANSMISSION MAIN

A new 20" water main is proposed in replacement of the existing 6" water main. The new 20" water main will replace 23,490 linear feet of the existing main from the Farnsley Knob Water Treatment Plant to the Hickman Hill Water Storage Tank. This will reduce leakage and friction loses through the main.
Further mapping of the project location is available in Appendix A.

The new Water Main will meet the following current and future needs:

1. Increase capacity to pump water into the northern distribution system.
2. Reduce main breaks on existing 12" transmission main related to high pressure.
3. Reduce lost water and public health concerns related to reoccurring breaks on the 12" water main.

The preliminary opinion of probable construction is $3,512,400 (includes contingency).

Table 6.3.1: Preliminary Opinion of Probable Construction Cost
Alternative 4: New Water Transmission Main from WTP to Hickman Hill Tank

Description	Units	Qty.	Unit Cost	Total Cost
20" Pressure Class 250 DI Water Main	L.F.	23,490	$80.00	$1,879,200.00
Connections to Existing Water Mains	Lump Sum	3	$6,000.00	$18,000.00
20" Butterfly Valves and Valve Boxes	Each	12	$8,500.00	$102,000.00
Standard Fire Hydrant w/ Aux. Valve	Each	15	$4,600.00	$69,000.00
Ductile Iron Fittings	Lump Sum	2	$180,000.00	$360,000.00
Driveway Repair	Each	44	$1,600.00	$70,400.00
Erosion Control	Lump Sum	1	$60,000.00	$60,000.00
Traffic Control	Lump Sum	1	$49,010.00	$49,010.00
Surface Restoration	L.F.	23,490	$1.00	$23,490.00
Pipe Bedding for Rock Areas	L.F.	6,000	$20.00	$120,000.00
Special Crossing SR 11	Lump Sum	2	$20,450.00	$40,900.00
Service Line Reconnections	Each	75	$1,800.00	$135,000.00
Preliminary Opinion of Probable Construction Cost				**$2,927,000.00**

6.4 Alt. #6: Replacement of Four High Service Pumps

Four (4) high service pumps shall be replaced to provide increased pumping capacity to the north distribution system. This upgrade shall be made along with water main upgrades in Alternative #6.

The preliminary opinion of probable construction cost $624,000 (includes contingency).

Table 6.4.1 Preliminary Opinion of Probable Construction Cost
Alternative 6: Replacement of the Water Treatment Plant High Service Pumps

Description	Units	Qty.	Unit Cost	Total Cost
1,200 gpm high service pumps	Each	4	$60,000.00	$240,000.00
Piping and Valve Modification	Lump Sum	1	$200,000.00	$200,000.00
VFD Controls and Electrical	Lump Sum	1	$80,000.00	$80,000.00
Preliminary Opinion of Probable Construction Cost				**$520,000.00**

6.5 Probable Total Project Cost[3]

PHASE ONE

A summary of the estimated costs for the selected plan is provided in Table 6.5.1.

Table 6.5.1: Phase One Selected Plan Estimated Cost Summary

Component	Cost
Construction Costs	
New 1,000,000-gallon Water Storage Tank	$2,615,000
Recommended Contingency	*$523,000*
Total Estimated Construction Cost	**$3,138,000**
Non-Construction Costs	
Engineering Design/Bidding/CA	$240,000.00
Resident Project Representative/Construction Observation	$40,000.00
Asset Management Plan	$34,400.00
Engineering Planning - PER	$25,000.00
Specialized Tank Inspections	$20,000.00
Geotechnical Testing and Investigation	$20,000.00
Labor Standards Administrator	$10,000.00
Legal, Bond Counsel, Financial Advisor, IURC Rate Case Professional Fees	$270,600.00
Non-Construction Cost Subtotal	***$660,000.00***
Total Estimated Project Cost	**$3,798,000.00**

Estimated Project Funding

In September, 2021, the EWC was notified that Floyd County would be contributing $500,000 of funding towards the project. The EWC anticipates utilizing this funding plus funding through the State Revolving Fund Program for the project. The proposed SRF loan would equal $3,298,000.

[3] Revised, September 2021.

PHASE 2

The EWC will continue to evaluate rates and project financing. Phase 2 in anticipated within the next 5 years as resources become available. The anticipated cost for Phase 2 is listed in Table 6.5.2.

Table 6.5.2: Phase Two Selected Plan Estimated Cost Summary

Component	Cost
Construction Costs	
23,490 ± L.F. of 20" Water Transmission Main	$2,927,000
Replacement of Four (4) High Service Pumps	$520,000
Recommended Contingency	*$689,400*
Total Estimated Construction Cost	**$4,136,400**
Non-Construction Costs	
Engineering Design/Bidding/CA	$475,000.00
Resident Project Representative/Construction Observation	$150,000.00
Easements	$3,000.00
Survey	$20,000.00
Labor Standards Administrator	$10,000.00
Legal, Bond Counsel, Financial Advisor, IURC Rate Case Professional Fees	$270,600.00
Non-Construction Cost Subtotal	***$928,600.00***
Total Estimated Project Cost	**$5,065,000.00**

6.6 Project Schedule

The anticipated project schedule is provided in Table 6.6.1.

Table 6.6.1: Proposed Project Schedule[4]

Project Component	Date
Submit PER to SRF	On or before June 15, 2020
Public Hearing for PER	July, 2021
Anticipated PER Approval	November, 2021
Plan & Specification Submittal to IDEM	December, 2021
Construction Permit Approval from IDEM	January, 2022
Advertise for Bids	January, 2022
Receive Bids for Project	February, 2022
Close on SRF Loan	March, 2022
Contract Award	March – April, 2022
Begin Construction	April, 2022
Substantial Completion of Construction	May, 2023
Final Completion of Construction	June, 2023

6.7 Sustainability Considerations

6.7.1 Water and Energy Efficiency

The proposed project does not include any water and energy efficiency components.

6.7.2 Green Infrastructure

The proposed project includes approximately 4.4 miles of ductile iron (DI) water main pipe. Ductile iron pipe is made using recycled materials, and is a recyclable product. DI pipe categorically meets the criteria of green infrastructure. This project will also include replacement of the existing high service pumps at the water treatment plant, and installation of variable frequency drives (VFDs). The new pumps will be more energy efficient, and the VFDs will help to further reduce power consumption. Although the potential for Green Infrastructure does exist, Edwardsville Water Corporation does not anticipate taking advantage of the program at this time. They will revaluate again prior to bidding to determine if it is applicable.

[4] Updated, July 2021. Updated September, 2021.

Attachment C: DWSRF Loan Program
Financial Information Form

Proposed Project Costs:	
Supply / wells cost	$
Transmission / distribution System cost	$
Treatment cost	$
Storage cost	$ 2,615,000
Subtotal construction cost	$ 2,615,000
Contingencies (should not exceed 10% of construction cost)	$ 523,000
Non-construction costs	$ 660,000
e.g., engineering, legal and financial services related to the project, land costs, start-up costs, and construction inspection	
Total Proposed Project Cost	$ 3,798,000
The following are not SRF Loan Program eligible:	
Previously funded SRF components that have not met useful life	$
Materials and work done on private property	$
Grant applications and income surveys done for other agencies	$
Expenses incurred as a part of forming a utility, Regional Sewer / Water District, or Conservancy District	$
Total Ineligible Costs	$
List other grant / loan funding sources and amounts	
Other grants	$500,000
Other loans	$
Hook-on fees	$
Cash on hand	$
Total Other Funding Sources	$
Requested SRF Loan	$ 3,298,000
Estimated post-project user rate for 4,000 gallons	$ 38.25
Anticipated SRF interest rate	2%

Financial Advisor:
Firm Contact: Baker Tilly Minicipal Advisors, LLC
Name: Scott Miller

Bond Counsel:
Firm Contact: Bose McKinney & Evans
Name: Chris Janak

Drinking Water State Revolving Fund Loan Program
PRELIMINARY DESIGN SUMMARY
(Give existing and proposed design information)

I. General Information

A. Project Name:

Edwardsville Water Corporation – Waterworks Improvements

B. Description of Present Situation:

The Edwardsville Water Corporation needs to construct: Phase 1- a new Elevated Water Storage Tank, Phase 2 - replace 23,490 lineal feet of water main and replace high service pumps.

C. Estimated Project Costs:

1. Total Cost: **Phase 1 - $3,798,000; Phase 2 – 5,065,000**

2. Source of Funding: Indiana State Revolving Fund **YES**

II. Design Data

A. Current Population: **10,335**

B. Design Year and Population: **2020 Population: 11,153**

C. Design Demand:

		Average Day (gpd)	*Peak Day (gpd)*
Domestic – EWC Customer	*62.01%*	*593,284.98*	*1,193,200*
Domestic – Wholesale	*34.61%*	*331,066.32*	*676,400*
Industrial & Commercial	*3.39%*	*32,426.03*	*30,400*

D. Peak Demand: **Current *2,212,000* gpd** **Future *3,096,800* gpd**
Average Day ***Current 1,187,042 gpd*** ***Future 1,661,859 gpd***

III. Water Supply

A. Surface Water (NOT APPLICABLE)

1. Location:
2. Type:
3. Source volume:

B. Groundwater Well(s): Four Existing Wells

	Existing Wells			
Well Number	*10*	*11*	*12*	*13*
Location	*See Figure 6.3.2 in PER. All wells in same well field.*			
Type & Diameter	*Tubular Gravel Pack. 30" x 18"*	*Tubular Gravel Pack. 30" x 18"*	*Tubular Gravel Pack. 30" x 18"*	*Tubular Gravel Pack. 30" x 18"*
Capacity	*800 gpm*	*820 gpm*	*850 gpm*	*1000 gpm*
Standby Power	*Portable Gen Set*	*Portable Gen Set*	*Portable Gen Set*	*Portable Gen Set*
Well House	*No, all wells have elevated platform due to flood area*			
Aquifer Type	*Sand and Gravel*			

C. Flow Meters

1. Type: **Mag Meter**
2. Location: **Inside valve vault at well**
3. Indication, recording and totalizing: **Both instantaneous flow and totalizing.**

IV. Treatment

A. Provide Raw Water Analysis: *Existing Wells*

Iron:	*0.0 mg/L to 0.03 mg/L*
Manganese:	*0.04 mg/L to 0.08 mg/L*
Ammonia:	*0.00 mg/L to 2.00 mg/L*
Hardness:	*20 grains*
pH:	*7.15*

B. Indicate the type of treatment:
Existing treatment process with no proposed changes in treatment process

1. Induced draft aeration followed by 30 minutes detention time and gravity filtration at 3 gpm per square foot filtration rate.

C. General : *Existing high service pumps with no proposed changes*

1. Number of Pumps:
Four (4) high service pumps that pump to Edwardsville distribution system.
Two (2) high service pumps that pump to Town of Elizabeth.

2. Capacity of Pumps:
Existing Pumps

Four (4) high service pumps rated at 700 gpm each

Two (2) high service pumps rated at 350 gpm each.

D. Clarification (NOT APPLICABLE)

1. Rapid Mix Unit: **(NOT APPLICABLE)**

Number:

Size:

Detention time:

2. Flocculation Unit: **(NOT APPLICABLE)**

Number:

Size:

Detention time:

Agitator Speed:

Velocity:

3. Sedimentation Unit: **(NOT APPLICABLE)**

   Number:

   Size:

   Detention:

   Baffle Location:

   Overflow Rate:

   Velocity:

   Sludge Removal:

   Detention Time:

E. Filtration

1. Type:

   Gravity cylindrical horizontal rapid sand filters end piped – Existing, no modification proposed

2. Number and Size of Units:

   Four (4) rated at 900 gpm each.

3. Filtration rate:

   Rated for 3 gallons per minute per square foot.

4. Type, depth, and grain size of filter media:
   0.8 – 1.09 mm anthracite, 8" deep
   0.45 – 0.55 mm Sand, 16" deep
   ¼" x 1/8" gravel, 4" deep
   ½" x ¼" gravel, 4" deep
   ¾" x ½" gravel, 4" deep
   1-1/2" x ¾" gravel, 4" deep

5. Backwash rate:

   10 gallons per minute per square foot

6. Backwash pumps (number and capacity):

   Two (2) backwash pumps rated at 2,400 gpm each

7. Method of rate control:

   Throttling valve and water meter to observe flow rate.

8. Source and capacity of backwash tank:

   Existing 570,000 gallons capacity clearwell provides suction to the filter backwash pumps.

9. Holding capacity of dirty water tank:

   119,690 gallons

10. Method of Cleaning:

    Pressure water wash, gravity drain and vacuum truck removal.

11. Disposal of Backwash Solids:

    Transport to land fill

F. Disinfection

1. Type of Disinfectant Used:

   Chlorine liquid/gas (existing)

2. Type of feeder:

   Gas rotameter

3. Capacity:

   Two (2) cylinders each 150 pounds.

4. Disinfectant Dosage:

1.0 to 1.5 ppm leaving water treatment plant.

5. Contact Time

6. Point of Application:

1. Well field chlorination building.
2. Pre filtration.
3. Post Filtration

7. Automatic Switchover:

Yes

8. Ventilation Provided:

Automatic Exhaust fan

9. Safety equipment:

Yes

10. Testing Equipment:

Yes

11. Housing:

Masonry Building

G. Iron and Manganese Control

1. Type of System:

Conventional Aeration (Existing – no modifications proposed)
30 Minutes detention
Gravity filtration

H. Softening: (NOT APPLICABLE)

1. Type:
2. Aeration:
3. Chemical Feed Point:
4. Sludge removal and disposal method:
5. Number and size of brine and salt storage tank:
6. Brine Waste Disposal:
7. Housing:

I. Aeration: *(Existing)*

1. Type:

   Induced draft upflow aerator

2. Loading Rate:

   Per original design

V. Water Storage

A. Tank: Proposed New 1,000,000 gallon tank.

Table 2.3.5: Summary of Water Storage Tanks

TANK NAME	CAPACITY	FUNCTION	TYPE	Year Built
Plant Clearwell	570,000 gallons	High Service Pump Suction	Ground	1978
Hickman Hill	2,000,000 gallons*	Distribution System Supply	Ground	2012
Edwardsville Office	500,000 gallons	Distribution System Supply	Multi-column	1990
Frank Ott	100,000 gallons	Distribution System Supply	Multi-column	1966
Mt. St. Francis	1,000,000 gallons	Distribution System Supply	Multi-column	1999

**1/3 of the Hickman Hill Tank serves as effective storage, or approximately 660,000 of effective storage.*

1. Type: See above
2. Number:

3. Capacity:

4. High and Low Water Level:

5. Elevation at Bottom of Tank:

6. Available Pressure:

7. Booster Pump:

VI. Distribution System

A. Water Lines: <u>New water lines proposed this project</u>

1. Type of Pipe Material:

   <u>Poly Vinyl Chloride (PVC), SDR 21</u>

2. Diameter and Lengths:

   Farnsley Knob Road & S.R. 11 Water Main Replacement
   23,490 L.F. of existing 6" water main shall be replaced with 20" water main starting at the water treatment plant and moving along Farnsley Knob Road and S.R. 11. The replacement water main will connect to the Hickman Hill Storage Tank.

3. Number of Hydrants:

   <u>Seven (7)</u>

4. Number and size of valves:

   <u>12" diameter, 2 valves</u>
   <u>4" diameter, 6 valves</u>

5. Stream, Highway, and Railroad Crossings:

   <u>Yes, stream crossings and county road crossings</u>

6. Replacement of Existing New Lines:

   <u>Yes both new and existing water mains are to be installed</u>

7. Water Main Separation from Sewers:

10' – 0" horizontal and 1- 6" vertical above.

8. Water Main vertical distance:

1'-6"

B. Fire Protection:

Limited fire protection is provided, utility is primarily a potable drinking water supply.

VII. Miscellaneous

A. Laboratory Equipment:

Yes, existing equipment is adequate

B. Safety Equipment:
Yes

C. Fence Location and Type:
New 6'-0" chain link fence to be installed around new water supply well number 13 and all three existing water supply wells

D. Handrail for the tanks:
(Not applicable this project)

E. Relationship to Flood Elevation:
All components that are located in flood plain are elevated as per 10-States Standards.

F. Provisions to maintain water supply during construction:
Yes

G. Standby Power Equipment:
Yes

H. Site inspection:
Yes by engineer or by owner

I. Statement in the specifications as to the protection against any adverse environmental effect (e.g. dust, noise, soil erosion) during construction:

Yes

J. Hoists for removing heavy equipment:
Yes as necessary

K. Adequate sampling facilities:
Yes

L. Structural Work Proposed on Building: **(NOT APPLICABLE THIS PROJECT)**

CHAPTER 7:
LEGAL, FINANCIAL AND MANAGERIAL CAPABILITIES

7.1 LEGAL AND MANAGERIAL CAPABILITIES[1]

The purpose of this chapter is to provide the necessary information to demonstrate the capability of the utility to undertake the proposed project.

The Edwardsville Water Corporation is overseen by a five (5) member board of directors that is elected by its members. The utility employs a utility manager, office staff and certified operators, along with legal, financial, and engineering consultants. Since 1963, the utility has provided safe, responsible, and reliable water service to customers.

The PER public hearing was held on July 13, 2021. The following resolutions were approved and shall be provided to SRF.

- PER Acceptance Resolution
- Signatory Authorization Resolution

7.2 PROJECT FINANCING

In September, 2021, the EWC was notified that Floyd County would be contributing $500,000 of funding towards the project. The EWC anticipates utilizing this funding plus funding through the State Revolving Fund Program for the project. The proposed SRF loan would equal $3,298,000.

7.3 LAND ACQUISITION

The utility owns the land and has the needed easements for the proposed projects. No land acquisition is necessary.

[1] Revised, September 2021.

CHAPTER 8:
PUBLIC PARTICIPATION

8.1 GENERAL[1]

The public hearing was held July 13, 2021. The public hearing was advertised in a local newspaper at least 10 days prior to the hearing. The PER was available for public review at least 10 days prior to the hearing. Comments were accepted at the hearing and for five (5) days afterward.

The following are attached at the conclusion of this chapter:

- Hearing advertisement
- Sign-in Sheet from hearing
- Public hearing meeting minutes
- Written comments - *No comments were received.*
- Mailing labels

[1] Revised July 2021

Proof of Publication

Notice of Public Hearing
Edwardsville Water Corporation to obtain assistance from the Drinking Water State Revolving Fund (DWSRF) Loan Program for Water Utility Improvements

The Edwardsville Water Corporation (EWC) will hold a public hearing at 6:30 p.m. on Tuesday, July 13, 2021 at the EWC Office located at 545 Maplewood Blvd, Georgetown, IN 47122. EWC's engineering consultant, Curry & Associates, Inc., will present the recommended improvements which include water tank replacement, water main construction and replacement, and water treatment plant improvements as described in the Preliminary Engineering Report (PER). The project will be funded through a DWSRF loan.

At this hearing, there will be the opportunity for questions and comments from the public. Participation is welcomed and encouraged. If special assistance is required at the meeting, please contact Christopher Beck, Utility Manager, at 812-948-0900. Copies of the PER are available for public viewing starting July 2, 2021 through July 20, 2021 at the EWC Office located at 545 Maplewood Blvd, Georgetown, IN 47122. Written comments regarding this project should be sent to Lori Young, Curry & Associates, 110 Commerce Drive, Danville, IN 46122 prior to July 20, 2021.

hspaxip

Publication Fee $ 134.78

1719133

STATE OF INDIANA
COUNTY OF FLOYD - SS

Theresa Wheatbrook says on oath that she is the bookkeeper of NEWS AND TRIBUNE and in the employ of the publisher of

NEWS AND TRIBUNE,

a daily newspaper of general circulation printed and published in the city of New Albany, Floyd County State of Indiana, and further says that the annexed advertisement was published in said paper for #(1) time(s) to-wit: In issue of said NEWS AND TRIBUNE

Dated: 07-01 2021

(x) Theresa Wheatbrook

STATE OF INDIANA
COUNTY OF FLOYD

Subscribed and sworn to before me this

17 day of July 2021

(X) Joann Galligan
Joann Galligan

JOANN GALLIGAN
Notary Public - Seal
State of Indiana
Clark County
My Commission Expires Aug 27, 2022

Notary Public, Floyd County, Indiana
(My Commission Expires August 27, 2022)
Commission Number 655965

ID # 04-3314494

Edwardsville Water Corporation
Public Hearing for Proposed Drinking Water Improvements Project PER
July 13, 2021

Sign-In Sheet

Please print clearly your Name and Address below:

Name	Street Address, Town, State, Zip	Phone	Email Address
DALE LAFFERRE	2324 EDW./GALENA RD IN 47122	923-7151	SALTRACER@AOL.
JEREMY LOFTUS	2393 N. LUTHER RD, GEORGETOWN, IN 47122	502-939-1456	LOFTUS16@AOL.COM
Guy J. Heitkemper	7015 Geswein Rd Lanesville, In 47136	812-946-7047	ghe.Heitkemper@yahoo.com
Chris Janak	111 Monument Circle, #2700 Indianapolis, IN 46204	317-684-5249	jjanak@taftlaw.com
David Wright	6887 Budd Rd New Albany IN	502-664-2553	DaviMartWright@Gmail.Com
Christine Sams	6651 Geswein Rd. Lanesville IN	502-533-5601	csams@edwardsvillewater.com
Gary Carter	1525 Lakeland Drive Georgetown IN	812-923-7737	GCSOLDIT@aol.com.
[illegible] - Bank	[illegible] Memphis Tenn 47143	812-725-3710	CBECK@[illegible]
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News and Tribune
newsroom@newsandtribune.com

Edwardsville Water Corporation
Public Hearing for
Drinking Water Preliminary Engineering Report submitted to State Revolving Fund (SRF)
July 13, 2021

PUBLIC HEARING MINUTES

The public hearing was opened at 6:30 p.m.

Lori Young with Curry & Associates, Inc. explained that the public hearing is a requirement for the State Revolving Fund Program (SRF). She explained the hearing minutes, sign-in sheet and other documents would be submitted to the SRF. Ms. Young explained that there is a five-day comment period following the hearing.

Ms. Young explained the PER document and distributed Chapter 6 of the PER which highlighted the selected projects. She explained the need and proposed costs for the selected projects including the replacement of the Frank Ott Tank, replacement of a primary transmission main from the Farnsley Knob Water Treatment Plant to the Hickman Hill Water Tank, and replacement of high service pumps at the treatment plant.

Ms. Young explained cost estimates as well as the project schedule. She explained that the PER/Utility was listed within the fundable range on the draft SRF Project Priority List. Counsel Chris Janak further explained next steps forward for regulatory compliance.

Discussion of rate impacts was discussed. The Utility will be moving forward with further analysis of rate impacts. Mr. Janak will contact Baker Tilly and schedule a conference call in the next week. Board members are invited to participate in the conference call.

This project would require authorization through the Indiana Utility Regulatory Commission. Mr. Janak explained the steps and schedule. EWC will take next steps to be prepared to make decisions regarding the projects at the August 9th Board Meeting.

The board discussed the projects and need for the various components. The area around the Frank Ott Tank is developing and water demand increasing in this area.

Board voted to have Baker Tilly begin the rate study.

The Signatory Authorization and PER Acceptance resolutions were read and passed.

The hearing concluded at 7:30 p.m.

Minutes Prepared by Lori Young, Curry & Associates, Inc. Minutes Reviewed by the Edwardsville Water Corporation.

PER ACCEPTANCE RESOLUTION

WHEREAS, the Edwardsville Water Corporation, of Floyd County, Indiana, has caused a Preliminary Engineering Report, PER, dated June 15, 2020, to be prepared by the consulting firm of Curry & Associates, Inc.; and

WHEREAS, said PER has been presented to the public at a public hearing held July 13, 2021, for public comment; and

WHEREAS, the Edwardsville Water Corporation's Board of Directors finds that there was not sufficient evidence presented in objection to the recommended project in the Preliminary Engineering Report.

NOW, THEREFORE BE IT RESOLVED THAT:

1. The Edwardsville Water Corporation's Preliminary Engineering Report dated June 15, 2020, be approved and adopted by the Edwardsville Water Corporation's Board of Directors; and

2. That said PER be submitted to Indiana State Revolving Fund Loan Program for review and approval.

PASSED AND ADOPTED BY THE EDWARDSVILLE WATER CORPORATION BOARD OF DIRECTORS THIS 13TH DAY OF JULY, OF 2021.

BOARD OF DIRECTORS:

David L. Wright

PRESIDENT, EDWARDSVILLE WATER CORPORATION

ATTEST:

Gary J. Hirtzberger

SECRETARY, EDWARDSVILLE WATER CORPORATION

SIGNATORY AUTHORIZATION RESOLUTION

WHEREAS, the Edwardsville Water Corporation, of Floyd County, Indiana, herein called the Participant, has plans for a drinking water infrastructure improvement project to meet State and Federal regulations, such as the Safe Drinking Water Act, and the Participant intends to proceed with the construction of such project:

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors, the governing body of the Participant, that:

1. The President of the Edwardsville Water Corporation be authorized to make application for an SRF Loan and provide the State Revolving Fund Program such information, data and documents pertaining to the loan process as may be required, and otherwise act as the authorized representative of the Participant; and

2. The Participant agrees to comply with the State of Indiana and Federal requirements as they pertain to the SRF Loan Program; and

3. That two certified copies of the resolution be prepared and submitted as part of the Participant's Preliminary Engineering Report.

ADOPTED AND PASSED BY THE BOARD OF THE EDWARDSVILLE WATER CORPORATION, OF FLOYD COUNTY, INDIANA, THIS 13TH DAY OF JULY, OF 2021.

AUTHORIZED SIGNATORY:

PRESIDENT, EDWARDSVILLE WATER CORPORATION

ATTEST:

SECRETARY, EDWARDSVILLE WATER CORPORATION

APPENDIX A

MAPS REFERENCED IN TEXT

Figure 1.1.1 Edwardsville Water Corporation Aerial Service Area Map

Legend:

Service Area

1:144,448

0 1.25 2.5 5 mi

0 2 4 8 km

N

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Figure 1.2.1 Edwardsville Water Corporation USGS Service Area Map

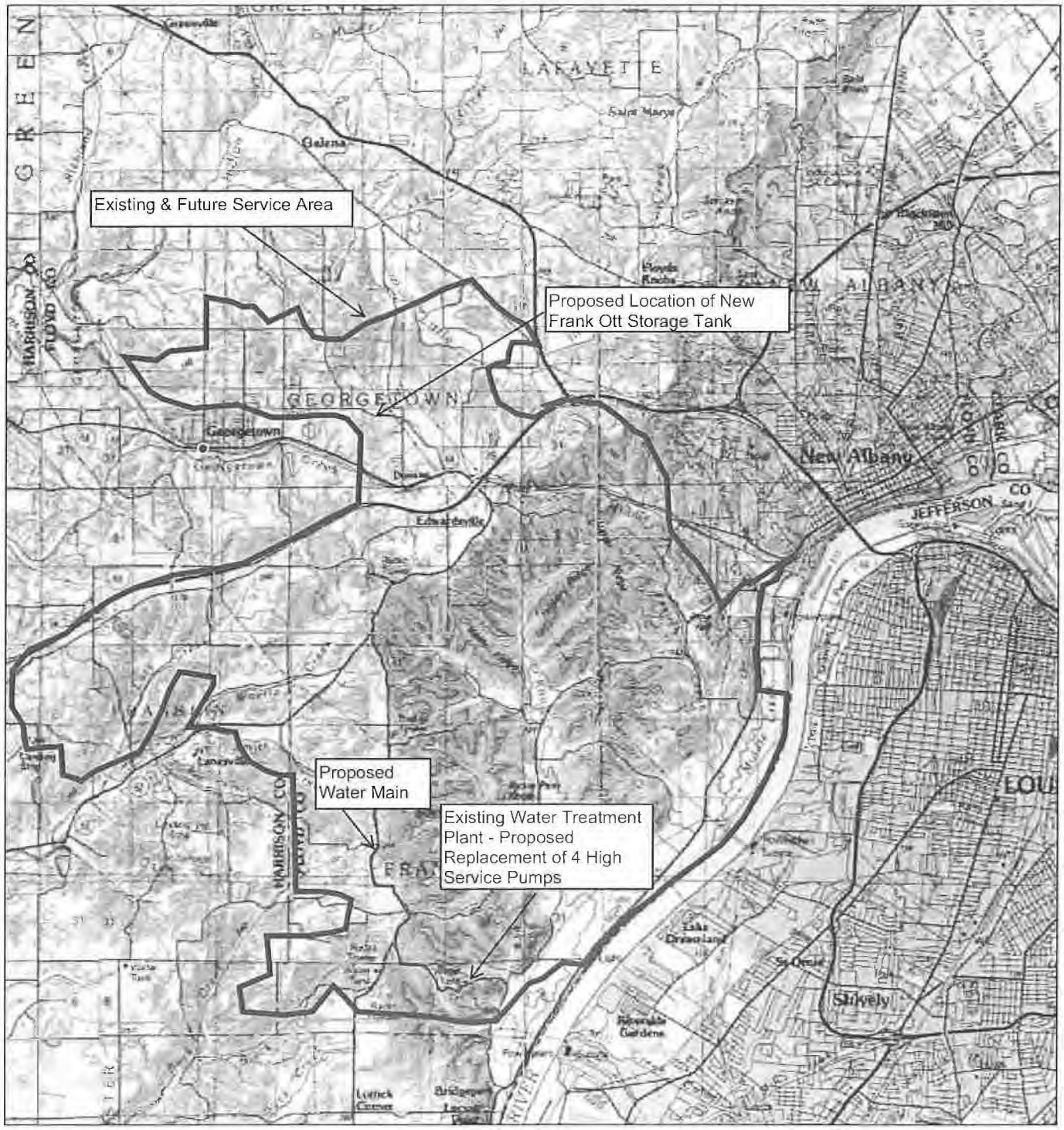
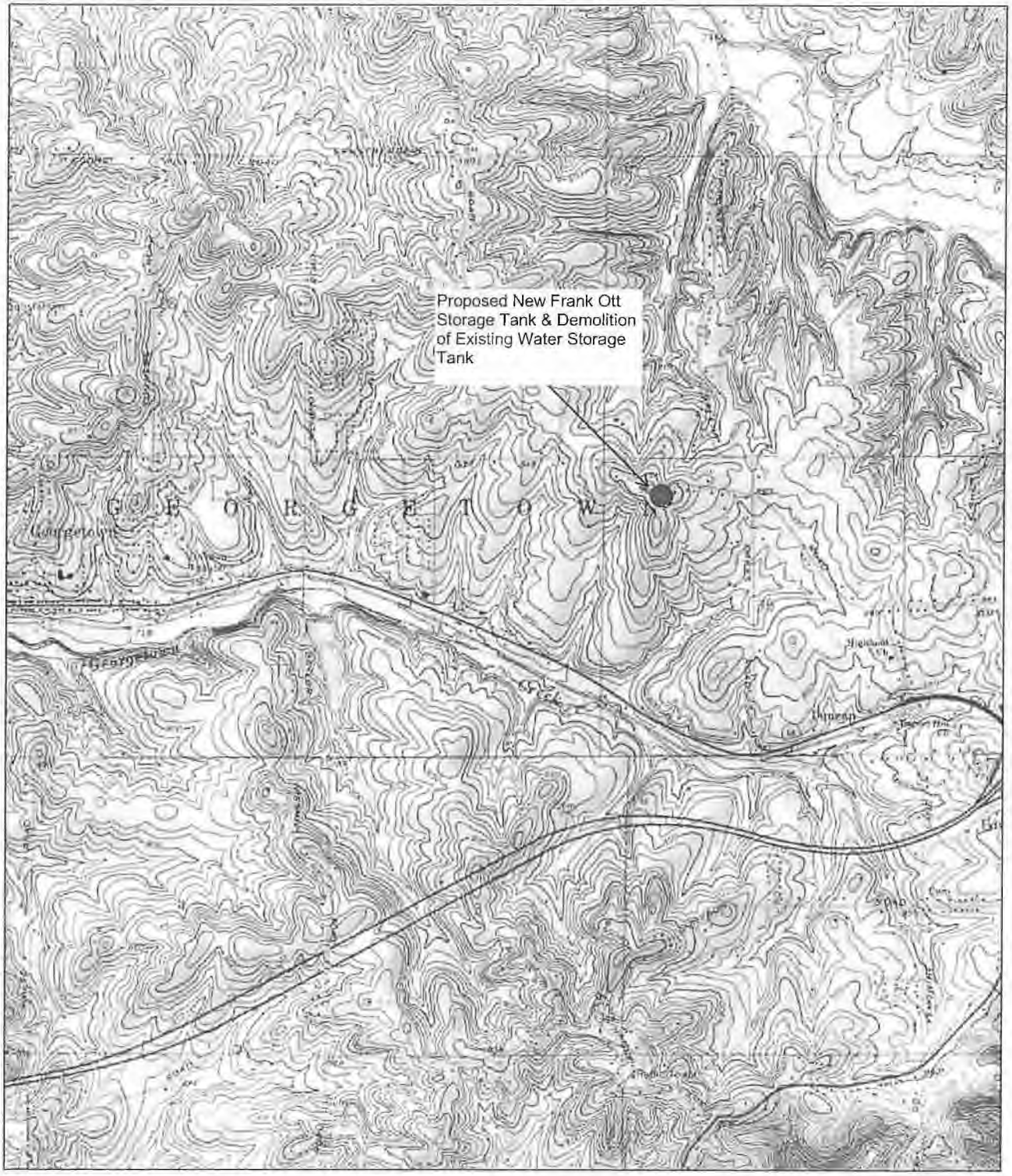


Figure 1.2.1a Edwardsville Water Corporation USGS Proposed Frank Ott Tank Site

Petitioner's Exh. 3



Legend:

- Proposed Water Storage Tank

N

1:36,112

0 0.3 0.6 1.2 mi

0 0.5 1 2 km

Figure 1.2.1b Edwardsville Water Corporation USGS Proposed Water Main

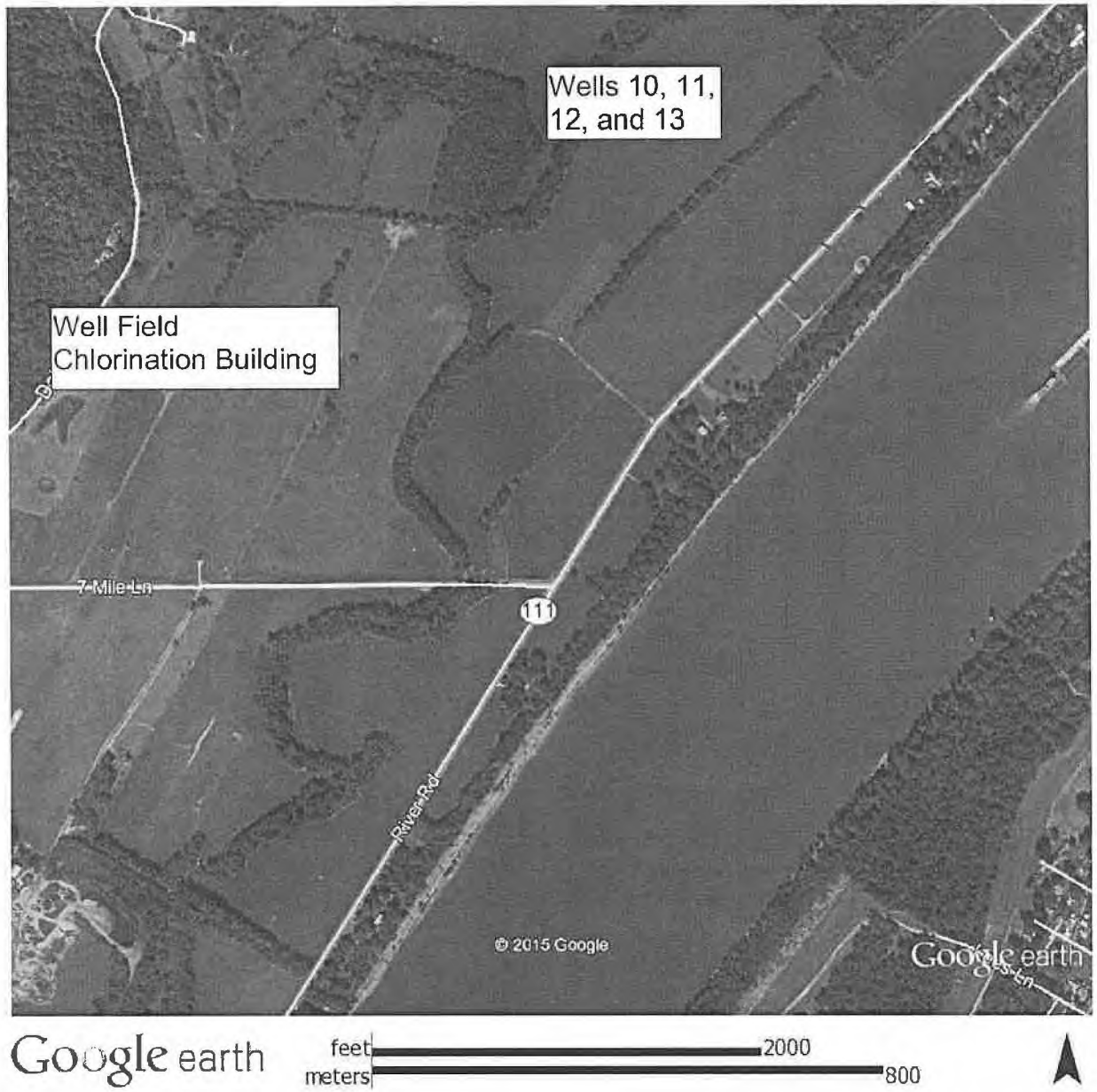


Figure 2.3.1 Existing Well Field and Well Field Chlorination Building

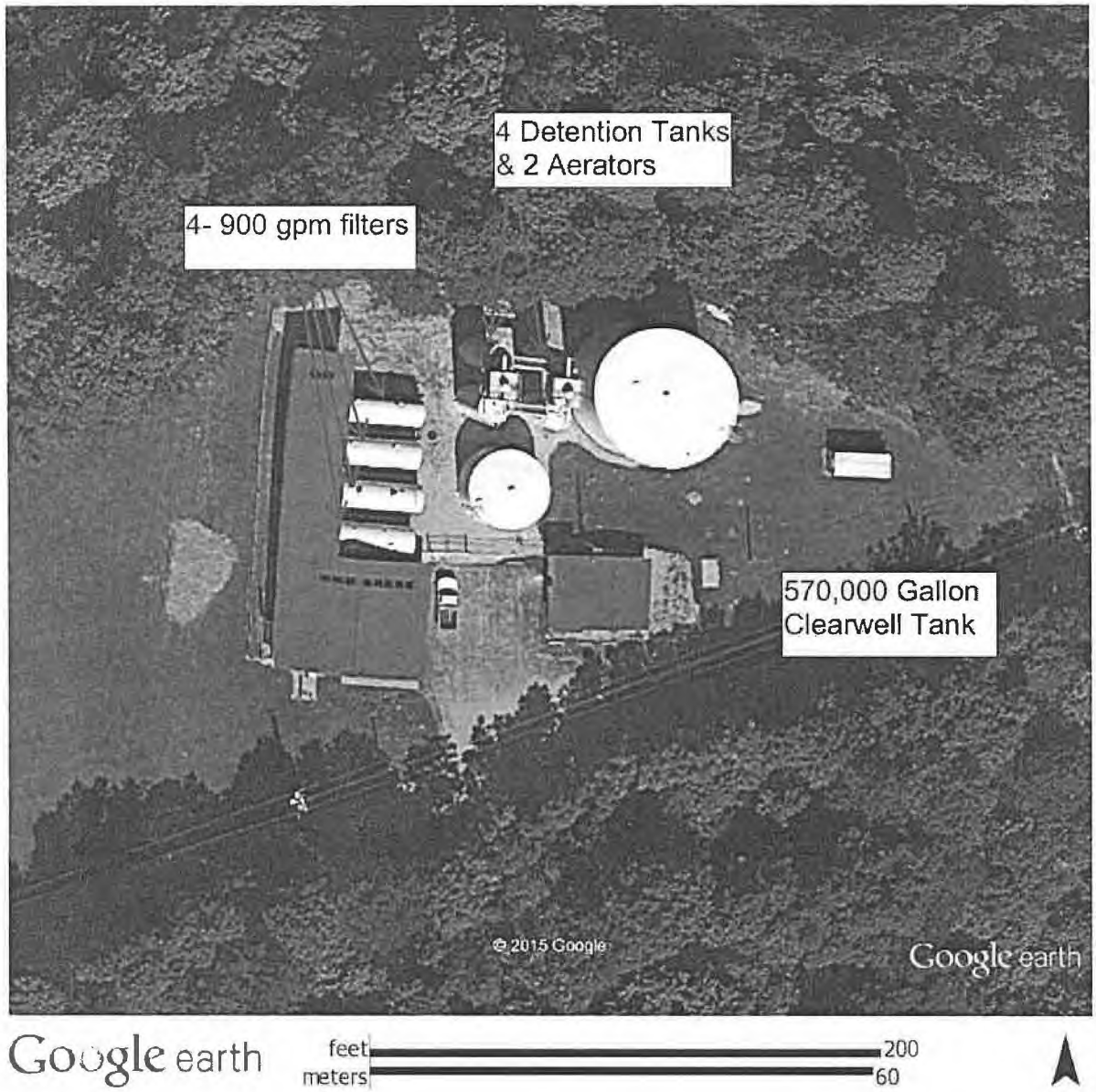


Figure 2.3.2 Existing Farnsley Knob Water Treatment Plant

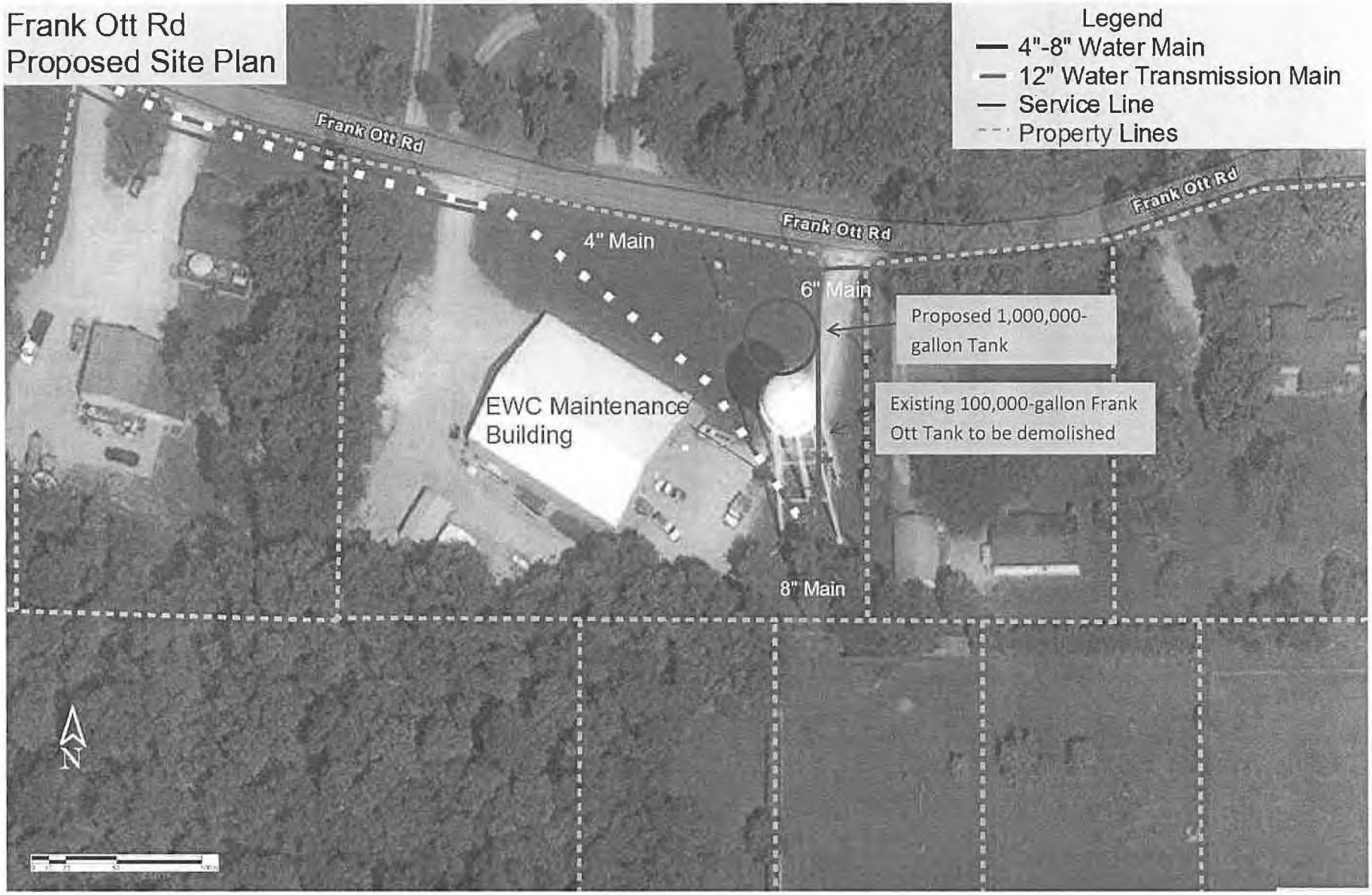


Figure 5.2.1 Proposed Site Plan for the Frank Ott Road Tank

Petititioner's Exh. 3

Figure 5.3.1 Edwardsville Water Corporation Proposed Frank Ott Storage Tank Historic Resources

Legend:

△ Cemeteries

County Survey Sites

Outstanding

Contributing

Proposed Water Storage Tank

1:18,056

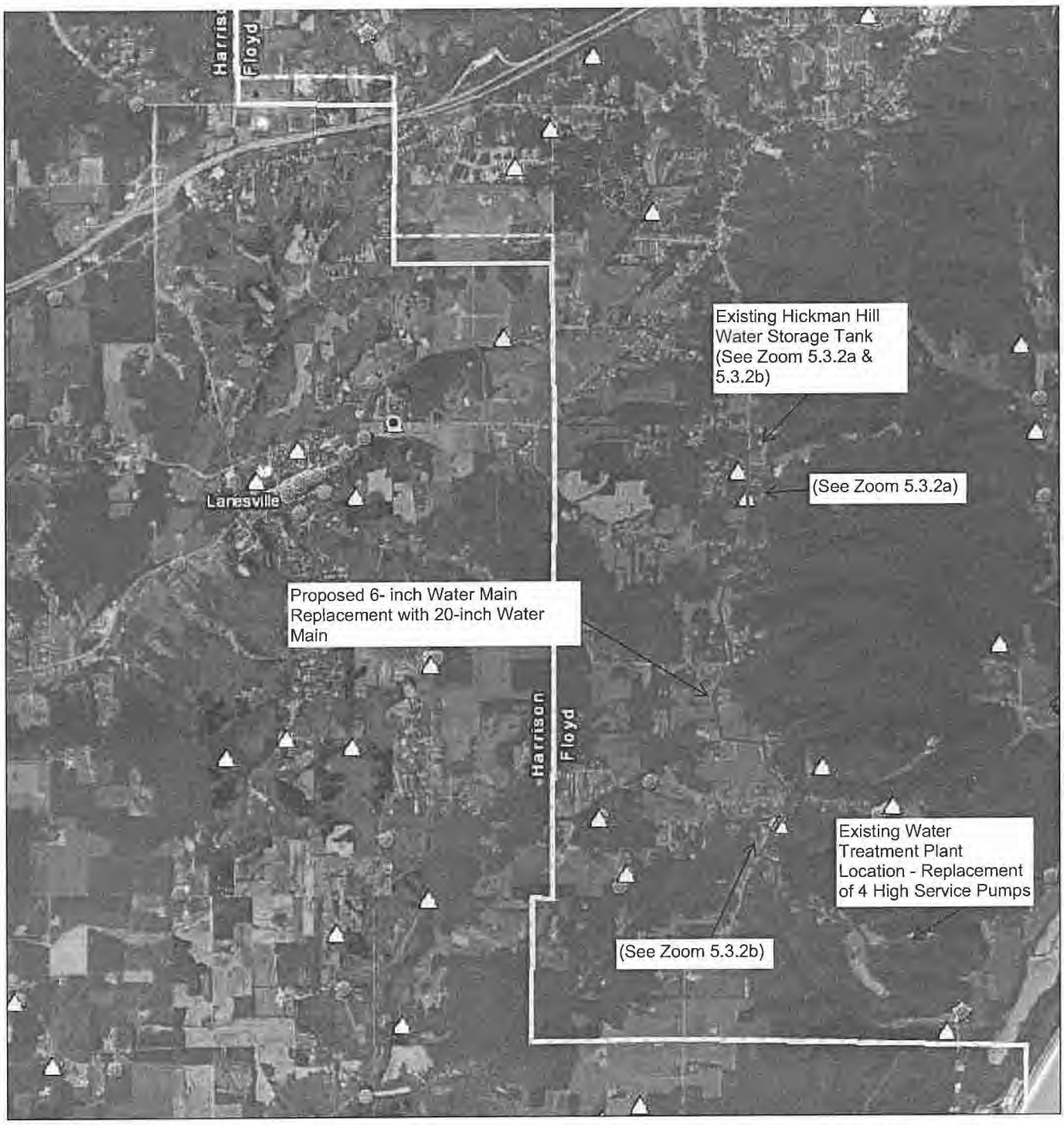
0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

N

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Figure 5.3.2 Edwardsville Water Corporation Proposed Water Main Historical Resources



Legend:

- Cemeteries
- Non-Contributing

County Survey Sites **Historic Bridges**

- Outstanding
- Demolished
- Notable
- National Register Sites
- Contributing
- Historic Districts
- Proposed Water Main

1:72,224

0 0.5 1 2 mi

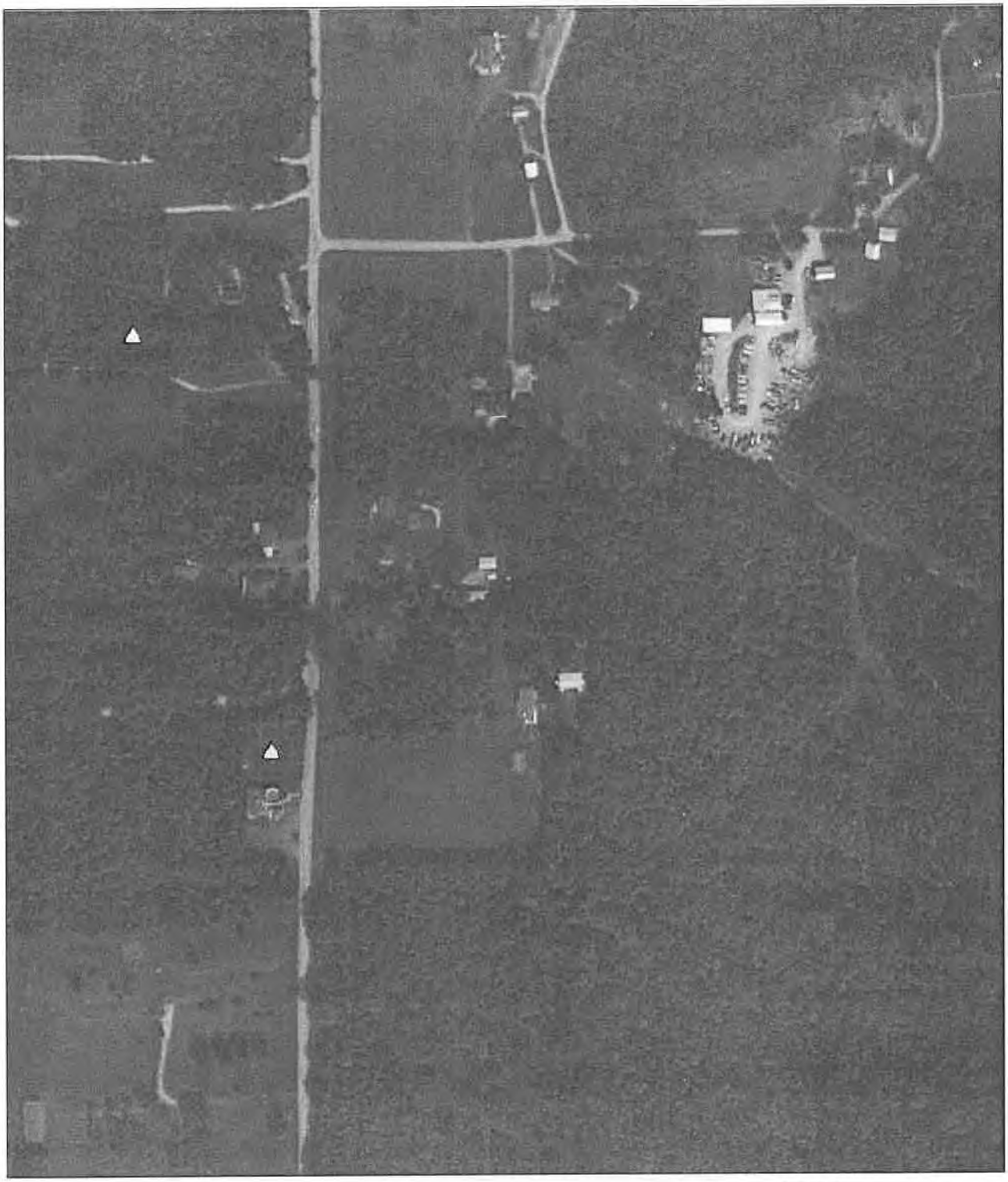
0 1 2 4 km

N

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Figure 5.3.2a Edwardsville Water Corporation Proposed Water Main Historical Resources

Petitioner's Exh. 3



Legend:

- Cemeteries

County Survey Sites

- Contributing
- Proposed Water Main

N

1:4,514

0 0.0375 0.075 0.15 mi

0 0.05 0.1 0.2 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 5.3.2b Edwardsville Water Corporation Proposed Water Main Historical Resources

Petitioner's Exh. 3

Legend:

- Cemeteries

County Survey Sites

- Contributing
- Proposed Water Main

1:2,257

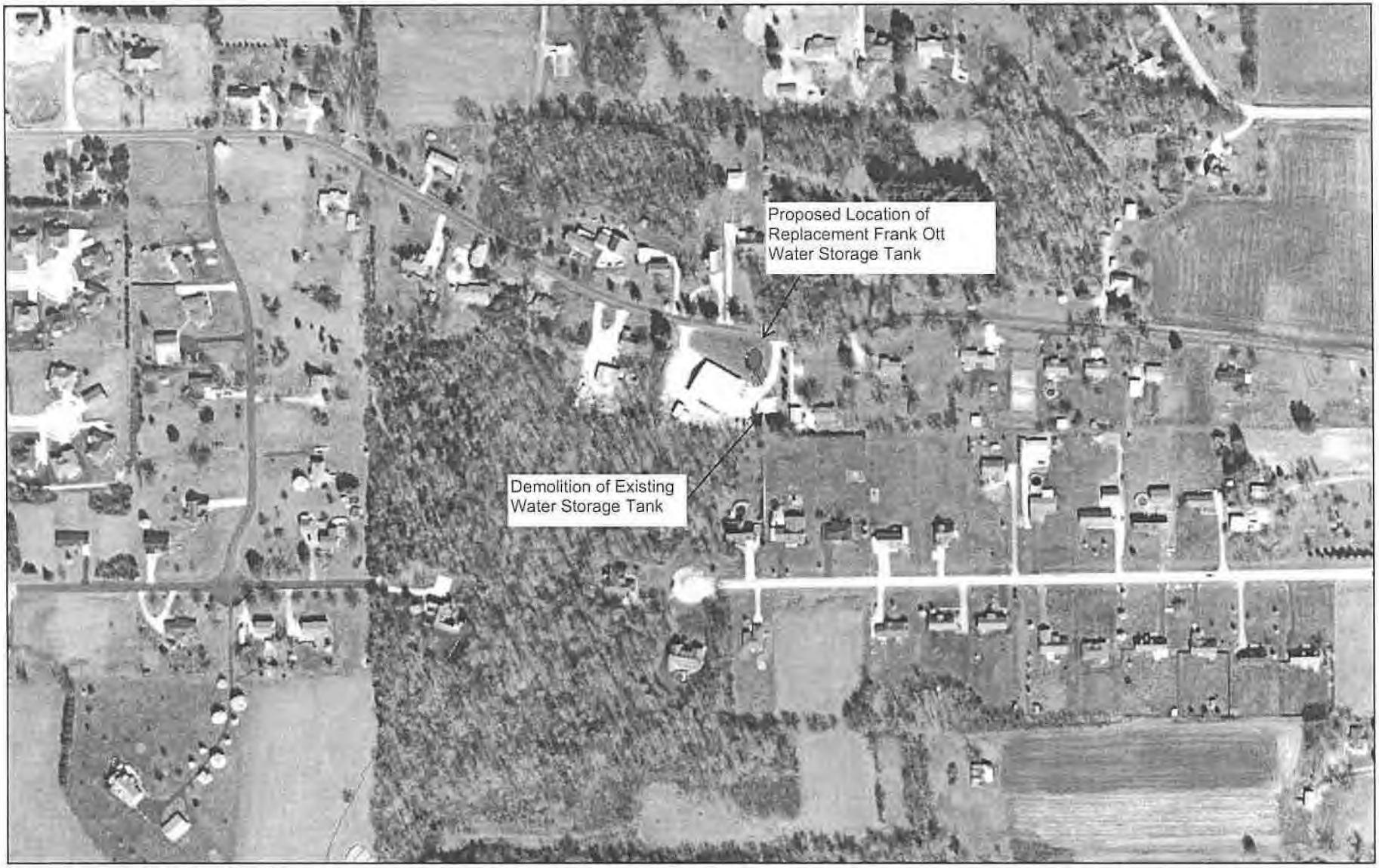
0 0.0175 0.035 0.07 mi

0 0.03 0.06 0.12 km

N

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 5.4.1 Edwardsville Water Corporation Proposed Frank Ott Road Storage Tank Floodplain & Wetlands Map



Legend:

- 2016 Orthophotography - Placeholder
- Wetlands NWI (USFWS)
- Wetlands Project Metadata NWI (USFS)
- Proposed Water Storage Tank Location

Floodplains - FIRM (Mar 2020)

- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard
- Rivers (NHD)
- Streams (NHD)

N

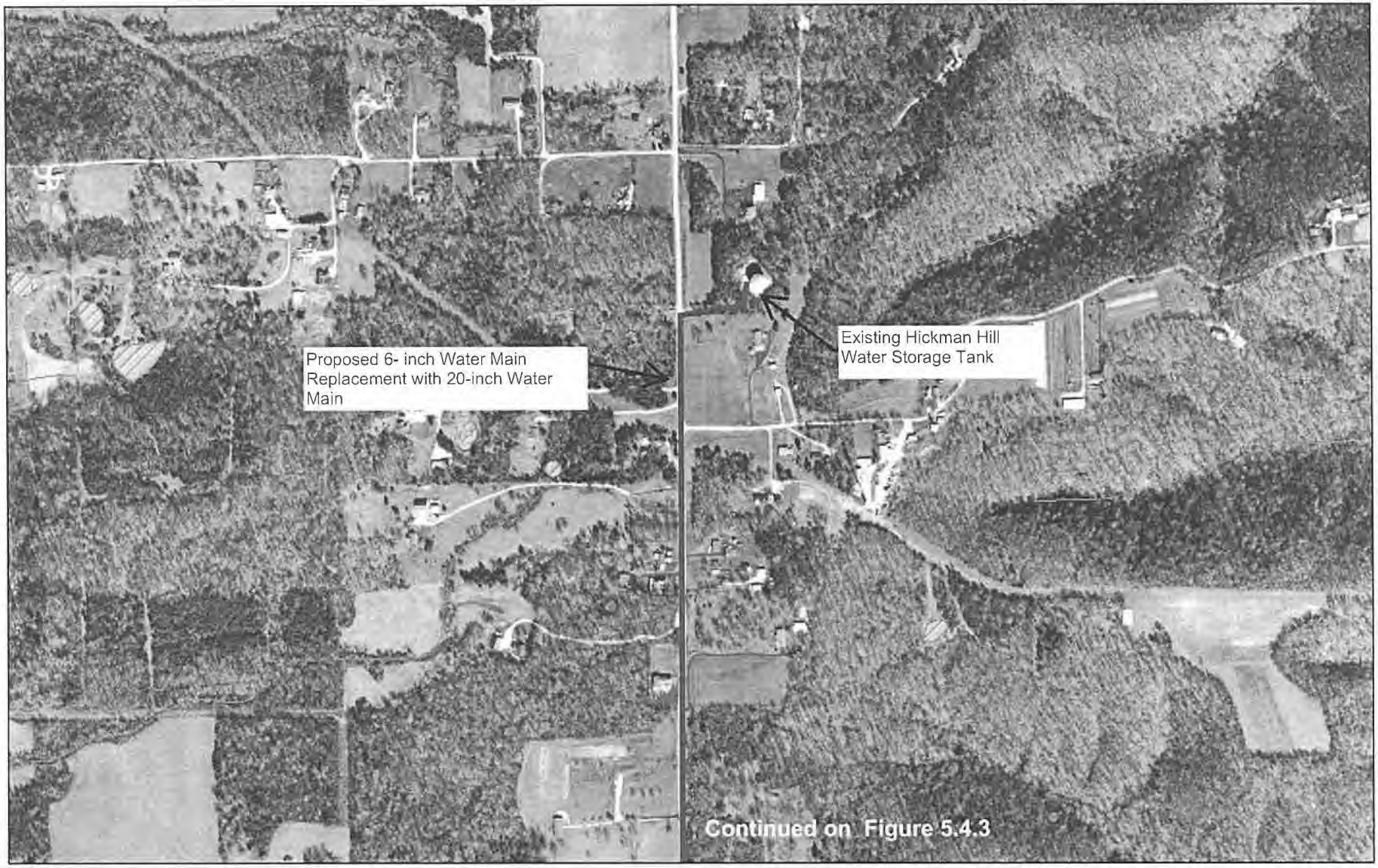
1:4,000

0 0.0325 0.065 0.13 mi

0 0.05 0.1 0.2 km

U.S. Geological Survey
U.S. Fish and Wildlife Service (USFWS),National Standards and Support

Figure 5.4.2 Edwardsville Water Corporation Proposed Water Main Replacement Floodplains & Wetlands Map



Legend:

- 2016 Orthophotography - Placeholder
- Wetlands NWI (USFWS)
- Wetlands Project Metadata NWI (USFS)
- Proposed Water Main Replacement

Floodplains - FIRM (Mar 2020)

- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard
- Rivers (NHD)
- Streams (NHD)

N

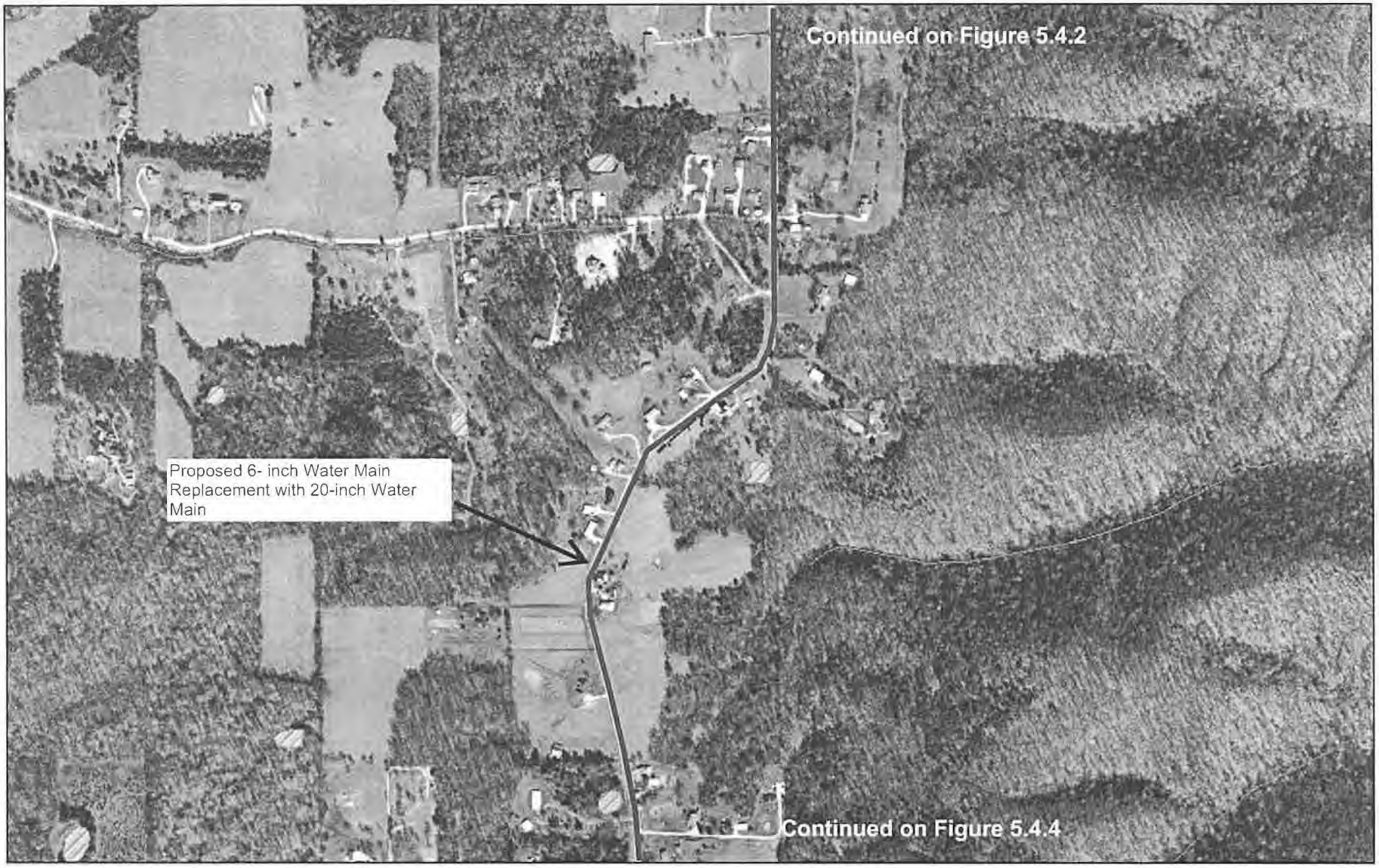
1:8,000

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

U.S. Geological Survey
U.S. Fish and Wildlife Service (USFWS),National Standards and Support

Figure 5.4.3 Edwardsville Water Corporation Proposed Water Main Relocation Path Floodplains & Wetlands Map



Legend:

- 2016 Orthophotography - Placeholder
- Wetlands NWI (USFWS)
- Wetlands Project Metadata NWI (USFS)
- Proposed Water Main Replacement

Floodplains - FIRM (Mar 2020)

- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard
- Rivers (NHD)
- Streams (NHD)

N

1:8,000

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

U.S. Geological Survey
U.S. Fish and Wildlife Service (USFWS),National Standards and Support

Figure 5.4.4 Edwardsville Water Corporation Proposed Water Main Replacement Floodplains & Wetlands Map

Legend:

- 2016 Orthophotography - Placeholder
- Wetlands NWI (USFWS)
- Wetlands Project Metadata NWI (USFS)
- Proposed Water Main Replacement

Floodplains - FIRM (Mar 2020)

- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard
- Rivers (NHD)
- Streams (NHD)

N

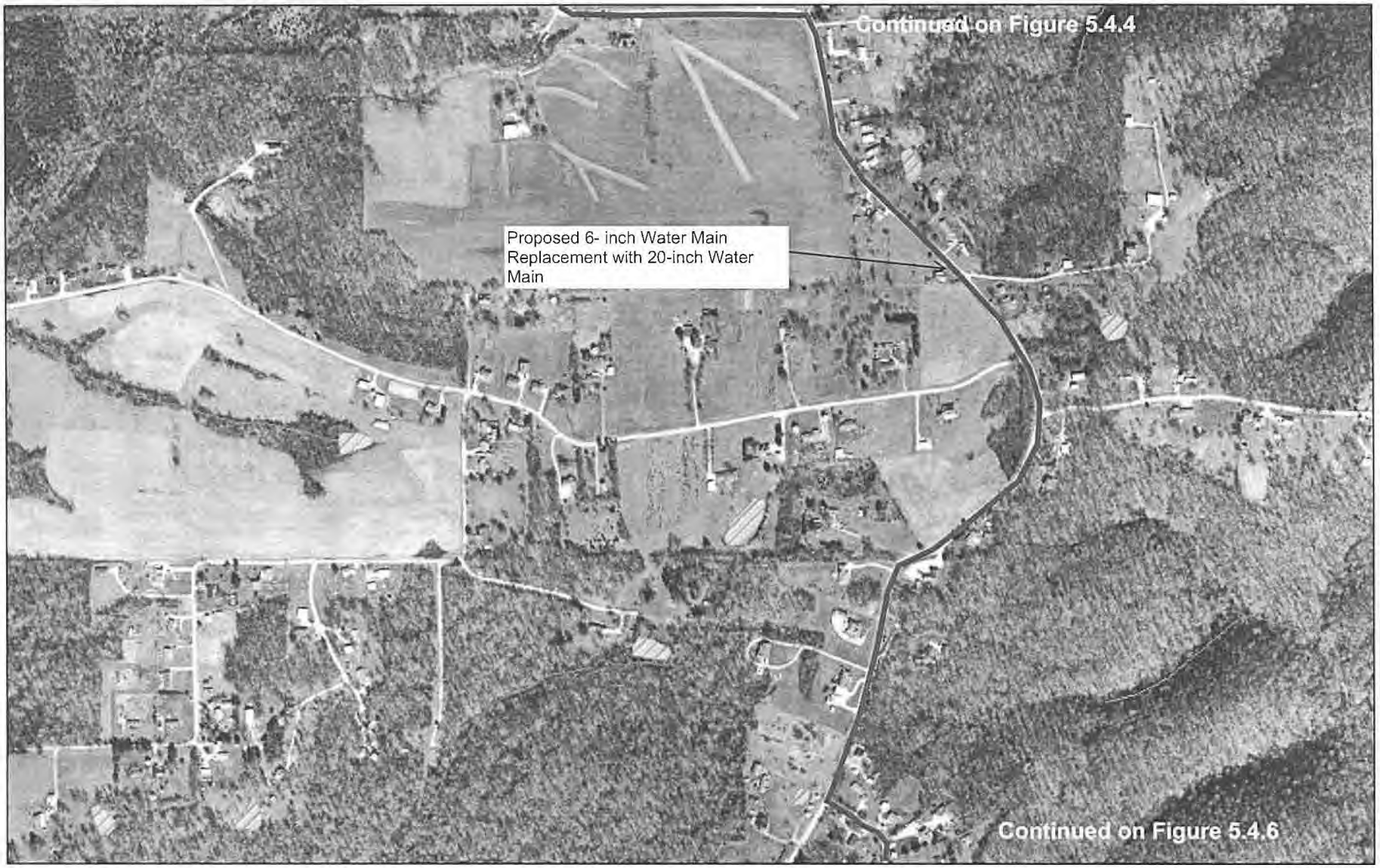
1:8,000

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

U.S. Geological Survey
U.S. Fish and Wildlife Service (USFWS),National Standards and Support

Figure 5.4.5 Edwardsville Water Corporation Proposed Water Main Replacement Floodplains & Wetlands Map



Legend:

- 2016 Orthophotography - Placeholder
- Wetlands NWI (USFWS)
- Wetlands Project Metadata NWI (USFS)
- Proposed Water Main Replacement

Floodplains - FIRM (Mar 2020)

- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard
- Rivers (NHD)
- Streams (NHD)

N

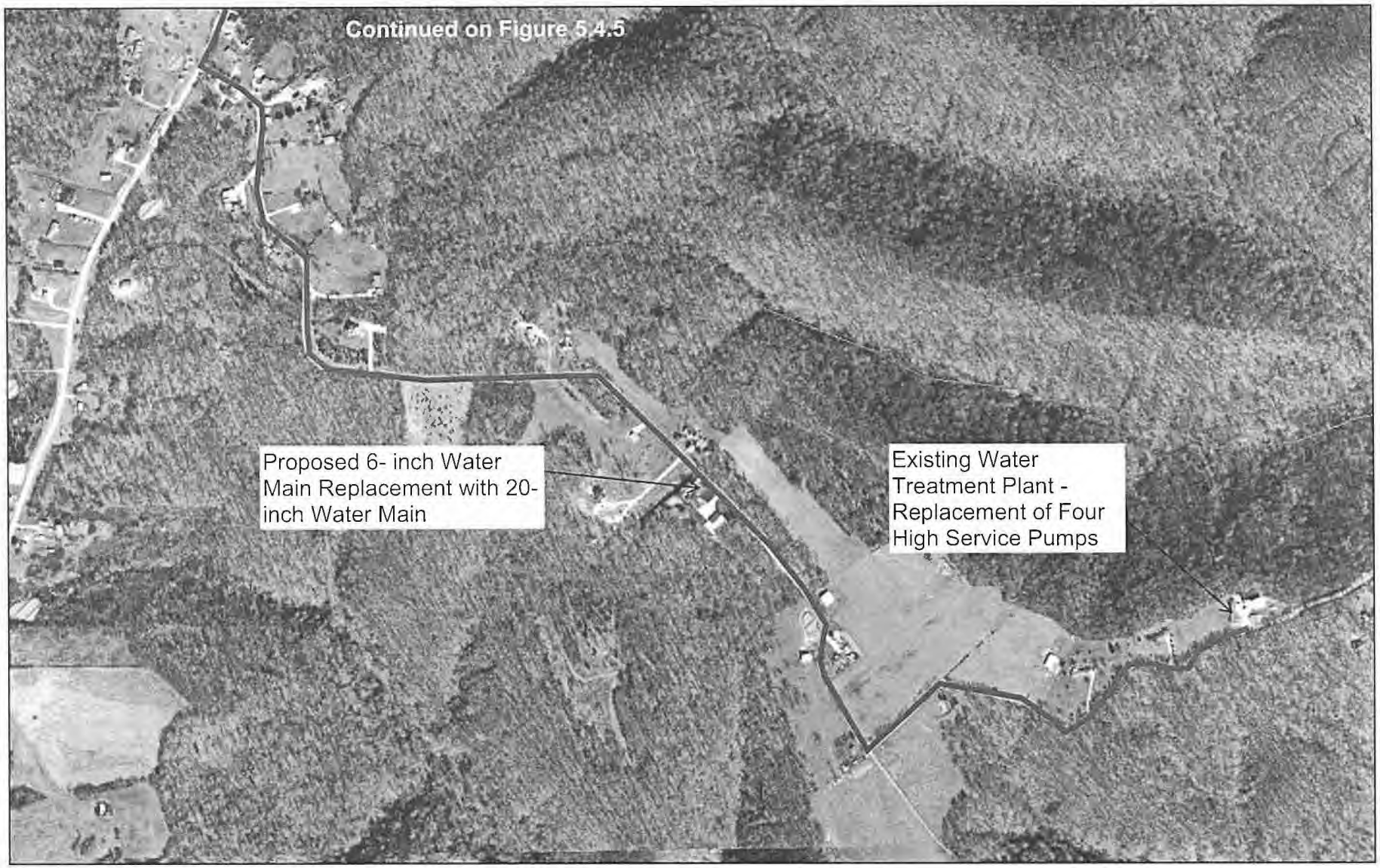
1:8,000

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

U.S. Geological Survey
U.S. Fish and Wildlife Service (USFWS),National Standards and Support

Figure 5.4.6 Edwardsville Water Corporation Proposed Water Main Replacement Floodplains & Wetlands Map



Legend:

- 2016 Orthophotography - Placeholder
- Wetlands NWI (USFWS)
- Wetlands Project Metadata NWI (USFS)
- Proposed Water Main Replacement

Floodplains - FIRM (Mar 2020)

- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard
- Rivers (NHD)
- Streams (NHD)

N

1:8,000

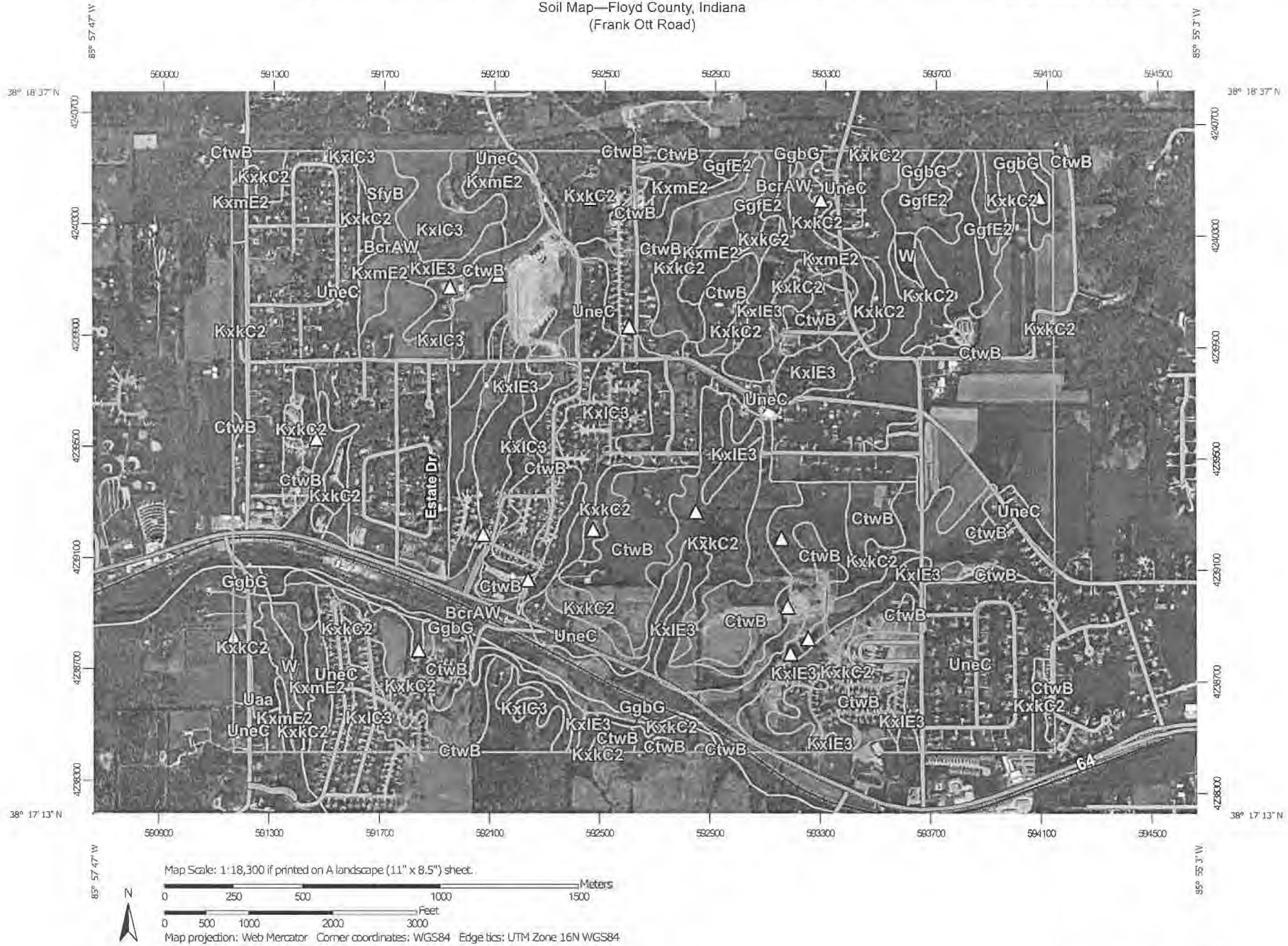
0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

U.S. Geological Survey
U.S. Fish and Wildlife Service (USFWS),National Standards and Support

Petitioner's Exh. 3

Soil Map—Floyd County, Indiana
(Frank Ott Road)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Floyd County, Indiana
Survey Area Data: Version 25, Jun 4, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 3, 2020—Apr 11, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	113.7	7.1%
CtwB	Crider-Bedford-Navilleton silt loams, 2 to 6 percent slopes	401.5	25.2%
GgbG	Gilwood-Brownstown silt loams, 25 to 75 percent slopes	24.9	1.6%
GgfE2	Gilwood-Wrays silt loams, 12 to 25 percent slopes, eroded	27.1	1.7%
KxkC2	Knobcreek-Navilleton silt loams, 6 to 12 percent slopes, eroded	309.9	19.4%
KxlC3	Knobcreek-Haggatt-Caneyville complex, 6 to 12 percent slopes, severely eroded	139.6	8.7%
KxlE3	Knobcreek-Haggatt-Caneyville complex, 12 to 25 percent slopes, severely eroded	108.2	6.8%
KxmE2	Knobcreek-Haggatt-Caneyville silt loams, 12 to 25 percent slopes, eroded	70.1	4.4%
SfyB	Shircliff silt loam, 2 to 6 percent slopes	10.1	0.6%
Uaa	Udorthents, cut and filled	11.1	0.7%
UneC	Urban land-Udarents, clayey substratum, complex, hills, 2 to 12 percent slopes	362.5	22.7%
W	Water	17.0	1.1%
Totals for Area of Interest		**1,595.9**	**100.0%**

Figure 5.9.2 Edwardsville Water Corporation Proposed Water Main Soils Map

Soil Map—Floyd County, Indiana
(Water Main Replacement)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Floyd County, Indiana
Survey Area Data: Version 25, Jun 4, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 12, 2012—Apr 3, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

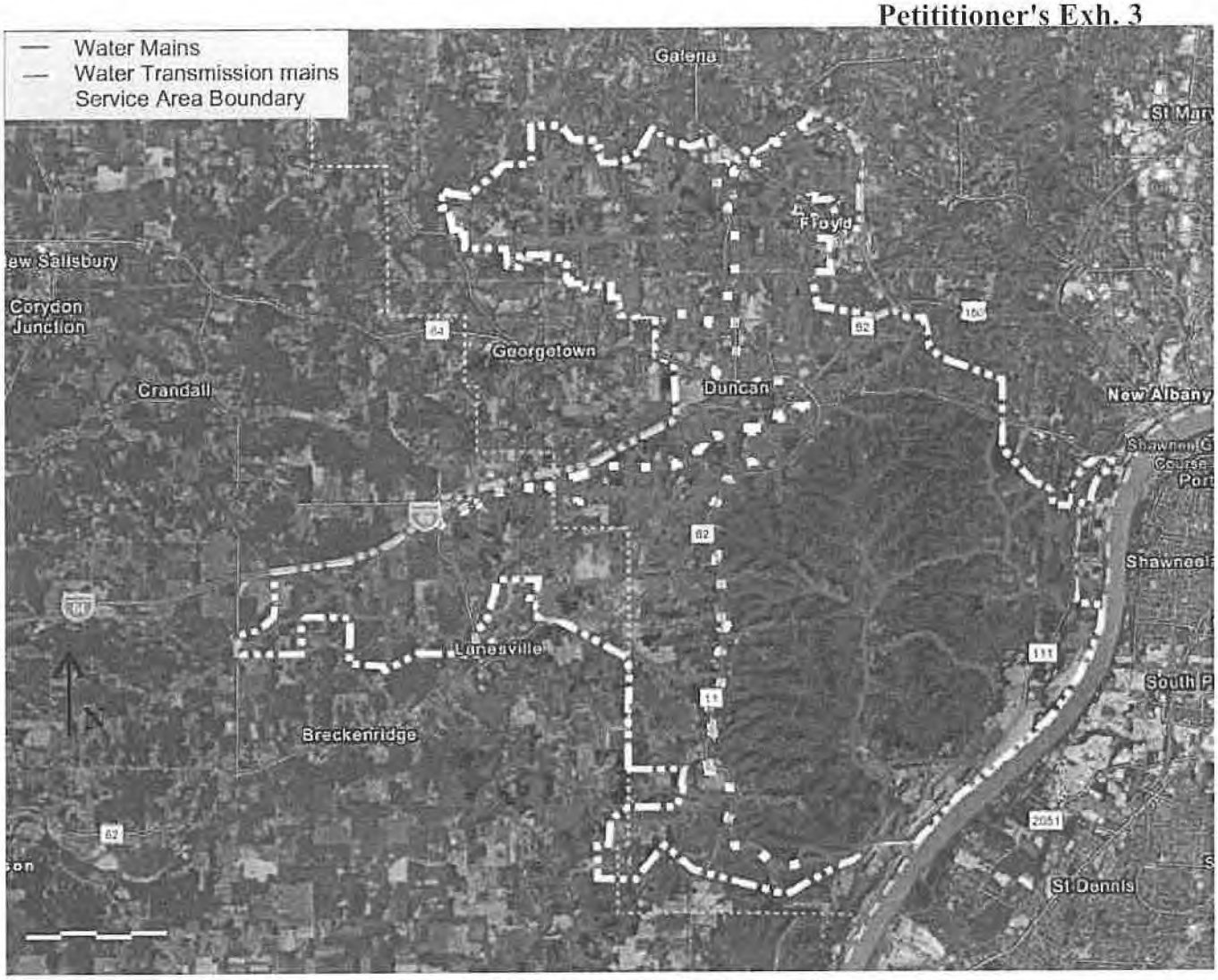
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	178.1	4.4%
BlvAW	Kintner loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	17.2	0.4%
CcaG	Caneyville-Rock outcrop complex, 25 to 60 percent slopes	84.7	2.1%
CtwB	Crider-Bedford-Navilleton silt loams, 2 to 6 percent slopes	291.0	7.3%
CwaAQ	Cuba silt loam, 0 to 2 percent slopes, rarely flooded	7.3	0.2%
GgbG	Gilwood-Brownstown silt loams, 25 to 75 percent slopes	1,055.1	26.3%
GgfE2	Gilwood-Wrays silt loams, 12 to 25 percent slopes, eroded	32.2	0.8%
GmaG	Gnawbone-Kurtz silt loams, 20 to 60 percent slopes	843.8	21.0%
KxkC2	Knobcreek-Navilleton silt loams, 6 to 12 percent slopes, eroded	319.3	8.0%
KxlC3	Knobcreek-Haggatt-Caneyville complex, 6 to 12 percent slopes, severely eroded	89.1	2.2%
KxlE3	Knobcreek-Haggatt-Caneyville complex, 12 to 25 percent slopes, severely eroded	213.5	5.3%
KxmE2	Knobcreek-Haggatt-Caneyville silt loams, 12 to 25 percent slopes, eroded	289.2	7.2%
KxoC2	Knobcreek-Navilleton-Haggatt silt loams, karst, rolling, eroded	236.7	5.9%
KxpD2	Knobcreek-Haggatt-Caneyville silt loams, karst, hilly, eroded	227.3	5.7%
McpC3	Markland silty clay loam, 6 to 12 percent slopes, severely eroded	15.8	0.4%
SfyB	Shircliff silt loam, 2 to 6 percent slopes	5.1	0.1%
StdAQ	Stendal silt loam, 0 to 2 percent slopes, rarely flooded	5.0	0.1%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
WhdD2	Wellrock-Gnawbone-Spickert, soft bedrock substratum, silt loams, 6 to 18 percent slopes, eroded	98.8	2.5%
WokAW	Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	2.0	0.1%
Totals for Area of Interest		**4,011.3**	**100.0%**

APPENDIX B

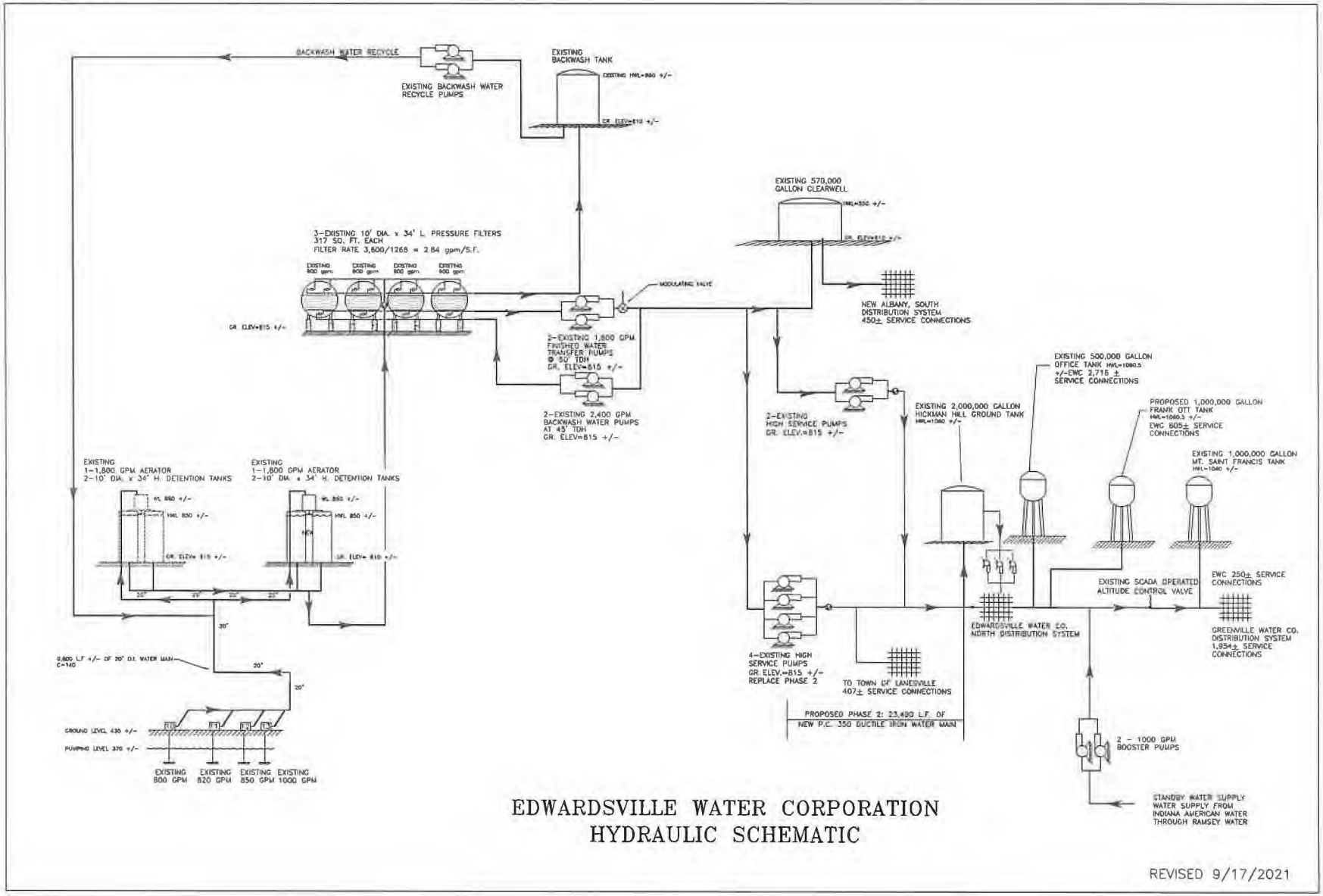
EWC WATER DISTRIBUTION SYSTEM MAP



Edwardsville Water Distribution System Map

APPENDIX C

EWC HYDRAULIC SCHEMATIC
PRESSURE ZONES & ANTICIPATED DEVELOPMENT AREAS MAP



EDWARDSVILLE WATER CORPORATION
HYDRAULIC SCHEMATIC

REVISED 9/17/2021

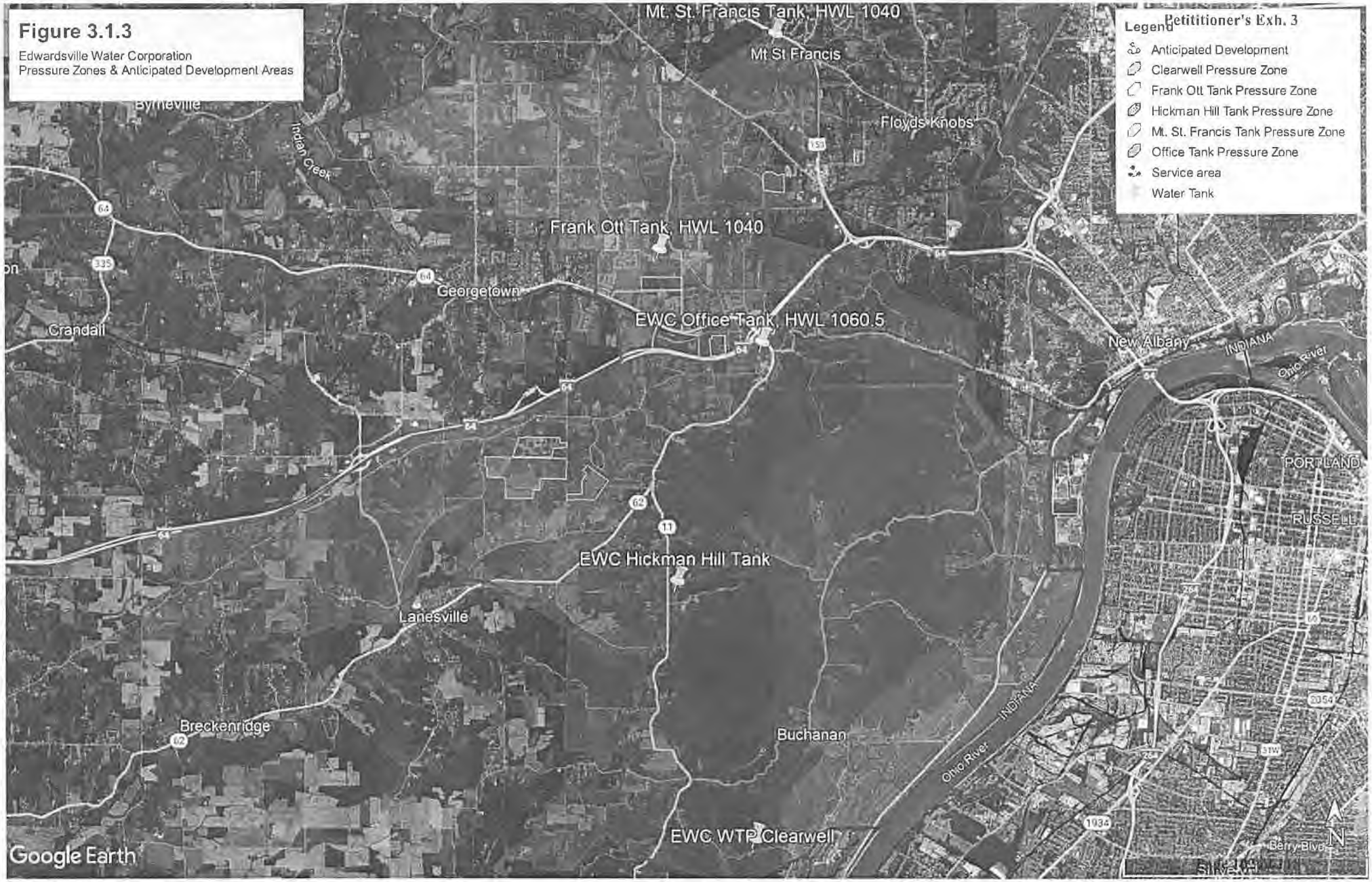


Figure 3.1.3
Edwardsville Water Corporation
Pressure Zones & Anticipated Development Areas
Petititioner's Exh. 3
Legend
Anticipated Development
Clearwell Pressure Zone
Frank Ott Tank Pressure Zone
Hickman Hill Tank Pressure Zone
Mt. St. Francis Tank Pressure Zone
Office Tank Pressure Zone
Service area
Water Tank
Mt. St. Francis Tank, HWL 1040
Mt St Francis
Floyds Knobs
Byrneville
Indian Creek
Frank Ott Tank, HWL 1040
Georgetown
Crandall
EWC Office Tank, HWL 1060.5
New Albany
INDIANA
Ohio River
PORTLAND
RUSSELL
EWC Hickman Hill Tank
Lanesville
Breckenridge
Buchanan
EWC WTP Clearwell
Google Earth

APPENDIX D

FRANK OTT TANK PHOTOS AND MAINTENANCE NEEDS

PUMPING TEST DATA

Pumping Test Data Sheet

Project: Edwardsville Water Corp. **Date Tested:** 10-17-2018
Location: Well #10 **Job No:** 5068
Depth of Well: 100' **Dia. of Well:** 30" **Pump Size:** **Orifice:** 6x5
Measuring Point: Bottom of Well **Ground Elevation:** **Well Type:** G.P.
Airline Length: M-Scope **Tested By:** Justin Bird, Nick Halsey

Non-Pumping Water Level:	45.16'

Time	Orifice Reading	GPM	Airline Reading	Pumping Level	Drawdown	Discharge Pressure	Total Dynamic Head	Specific Capacity	Remarks/Amps
	28.0"	644		57.55'	12.39'	200	519.55	51.98	
	28.0"	644		57.55'	12.39'	200	519.55	51.98	
	28.0"	644		57.55'	12.39'	200	519.55	51.98	
	34.0"	715		59.03'	13.87'	190	497.93	51.55	
	34.0"	715		59.03'	13.87'	190	497.93	51.55	
	34.0"	715		59.03'	13.87'	190	497.93	51.55	
	40.0"	781		60.00'	14.84'	180	475.80	52.63	
	40.0"	781		60.00'	14.84'	180	475.80	52.63	
	40.0"	781		60.00'	14.84'	180	475.80	52.63	
								Shut Off:	295psi

Note: ** 300# 8" Test T
**300# 8x6 valve bullhose 6x5 orfice

Serviced Wells April 25 2018
Service Pumps April 25 2018

Pumping Test Data Sheet

Project: Edwardsville Water Corp. **Date Tested:** 10-17-2018
Location: Well #11 **Job No:** 5068
Depth of Well: 98' **Dia. of Well:** 30" **Pump Size:** **Orifice:** 6x5
Measuring Point: Bottom of Tower **Ground Elevation:** **Well Type:** G.P.
Airline Length: M-Scope **Tested By:** Justin Bird, Nick Halsey

Non-Pumping Water Level:				44.46'					
Time	Orifice Reading	GPM	Airline Reading	Pumping Level	Drawdown	Discharge Pressure	Total Dynamic Head	Specific Capacity	Remarks/Amps
	40.0"	781		57.35'	12.89'	200	519.35	60.59	
	40.0"	781		57.35'	12.89'	200	519.35	60.59	
	40.0"	781		57.35'	12.89'	200	519.35	60.59	
	45.0"	828		58.41'	13.95'	190	497.31	59.35	
	45.0"	828		58.41'	13.95'	190	497.31	59.35	
	45.0"	828		58.41'	13.95'	190	497.31	59.35	
	50.5"	876		59.20'	14.74'	180	475.00	59.43	
	50.5"	876		59.20'	14.74'	180	475.00	59.43	
	50.5"	876		59.20'	14.74'	180	475.00	59.43	
								Shut Off: 300psi	

Note: * 300# 8" Test T
* 300# 8x6, 6" vavle, spool piece 6" Bull hose 6x5 orfice is needed to test

Pumping Test Data Sheet

Project: Edwardsville Water Corp. **Date Tested:** 10-17-2018
Location: Well #12 **Job No:** 5068
Depth of Well: 99' **Dia. of Well:** 30" **Pump Size:** **Orifice:** 6x5
Measuring Point: Top of Tower **Ground Elevation:** **Well Type:** G.P.
Airline Length: M-Scope **Tested By:** Justin Bird, Nick Halsey

Non-Pumping Water Level:	62.97'

Time	Orifice Reading	GPM	Airline Reading	Pumping Level	Drawdown	Discharge Pressure	Total Dynamic Head	Specific Capacity	Remarks/Amps
	30.0"	668		75.11'	12.14'	200	537.11	55.02	
	30.0"	668		75.11'	12.14'	200	537.11	55.02	
	30.0"	668		75.11'	12.14'	200	537.11	55.02	
	37.0"	748		76.92'	13.95'	190	515.82	53.62	
	37.0"	748		76.92'	13.95'	190	515.82	53.62	
	37.0"	748		76.92'	13.95'	190	515.82	53.62	
	44.0"	820		78.04'	15.07'	180	493.84	54.41	
	44.0"	820		78.04'	15.07'	180	493.84	54.41	
	44.0"	820		78.04'	15.07'	180	493.84	54.41	
								Shut Off: 210psi	

Note: ** 6" 90° comes off a valve Line Pressure 190#
** 300# Test T 8"

Pumping Test Data Sheet

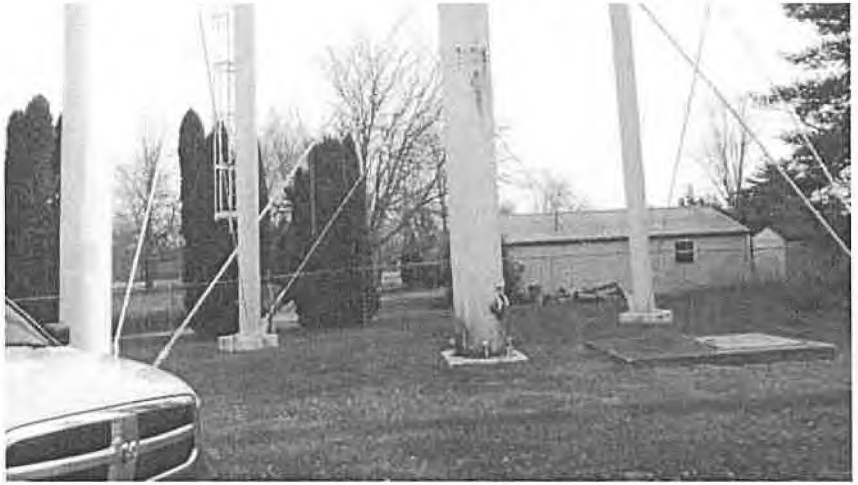
Project: Edwardsville **Date Tested:** 1-22-2019
Location: Well #13 **Job No:** 5134
Depth of Well: **Dia. of Well:** **Pump Size:** **Orifice:** 6x5
Measuring Point: **Ground Elevation:** **Well Type:** G.P.
Airline Length: M-Scope **Tested By:** Jeff Hackney, Marty Caudill, Jon Harris

Non-Pumping Water Level:	55.24'

Time	Orifice Reading	GPM	Airline Reading	Pumping Level	Drawdown	Discharge Pressure	Total Dynamic Head	Specific Capacity	Remarks/Amps
	23.5"	603		62.08'	6.84'	225	581.83	88.16	135 amps
	23.5"	603		62.20'	6.96'	225	581.95	86.64	
	23.5"	603		62.32'	7.08'	225	582.07	85.17	
	48.0"	861		65.85'	10.61'	200	527.85	81.15	155 amps
	48.0"	861		65.95'	10.71'	200	527.95	80.39	
	48.0"	861		66.00'	10.76'	200	528.00	80.02	
	64.0"	995		67.95'	12.71'	175	472.20	78.28	187 amps
	64.0"	995		68.18'	12.94'	175	472.43	76.89	
	64.0"	995		68.20'	12.96'	175	472.45	76.77	
								Shut Off: 260psi	

Note:

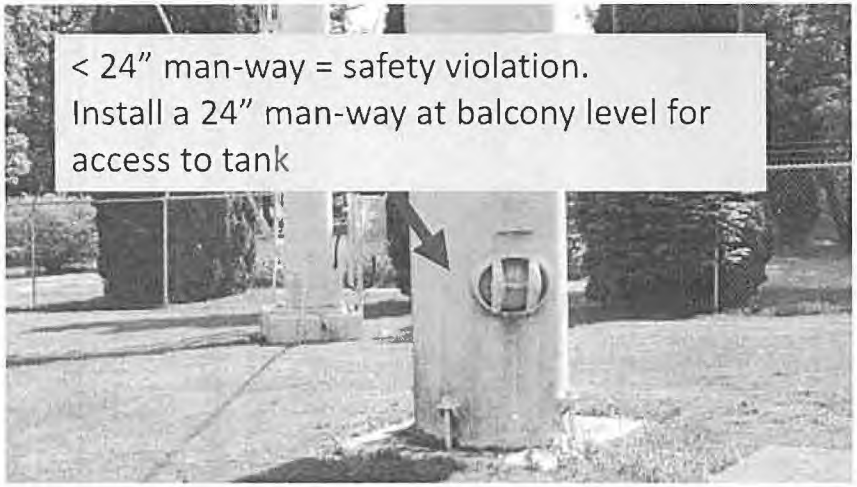
Frank Ott Tank – 100,000 gallon Elevated

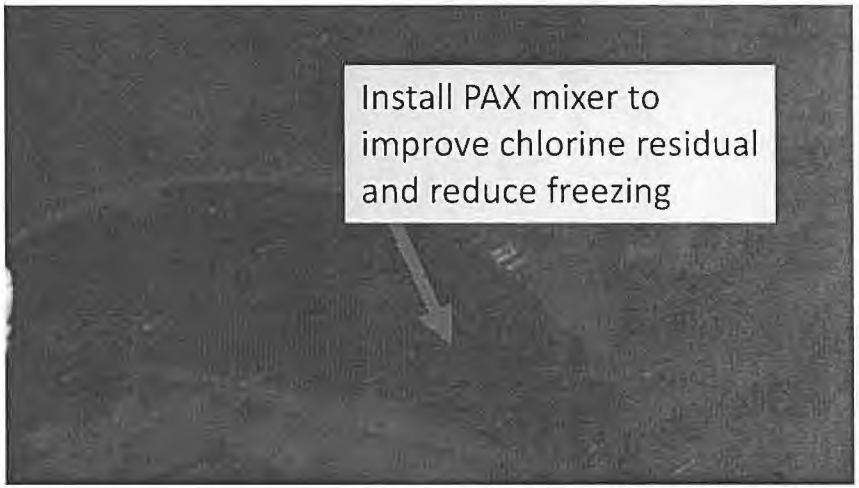


SP2/SP3 extra surfaced preparation
2-Coat Overcoat on Exterior

Remove Ladder Cage, Install Ladder Gate

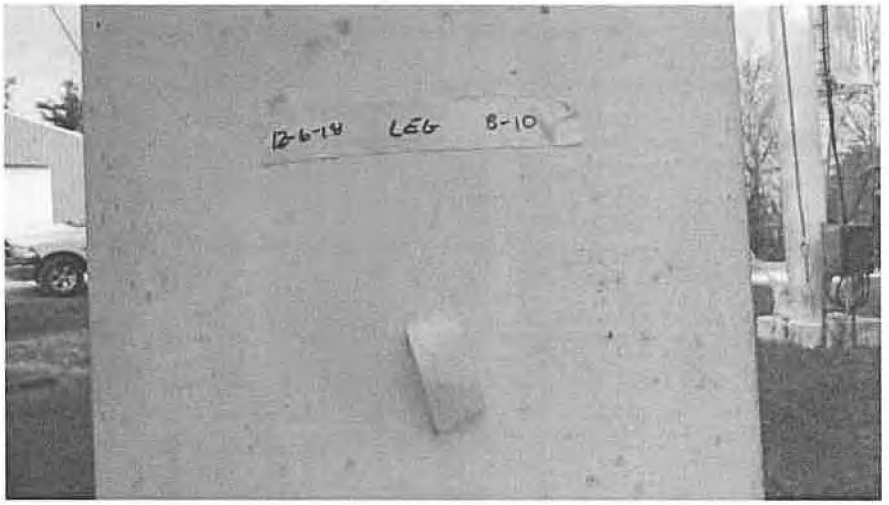
Frank Ott Tank – 100,000 gallon Elevated

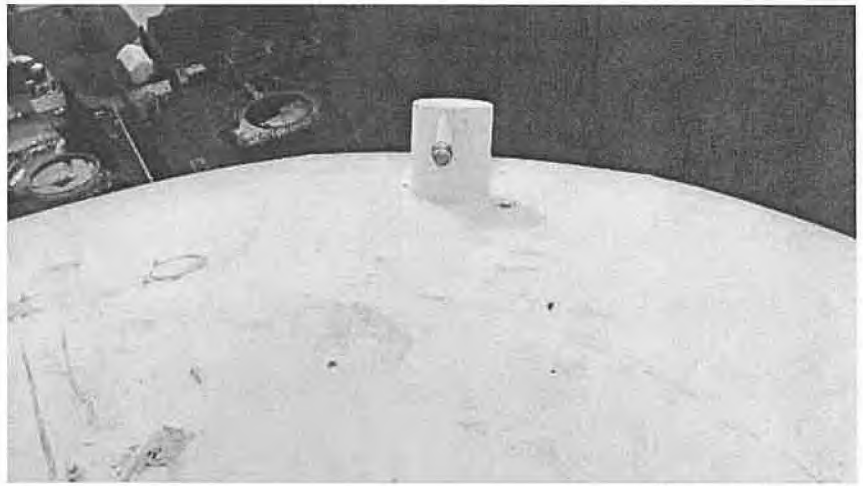




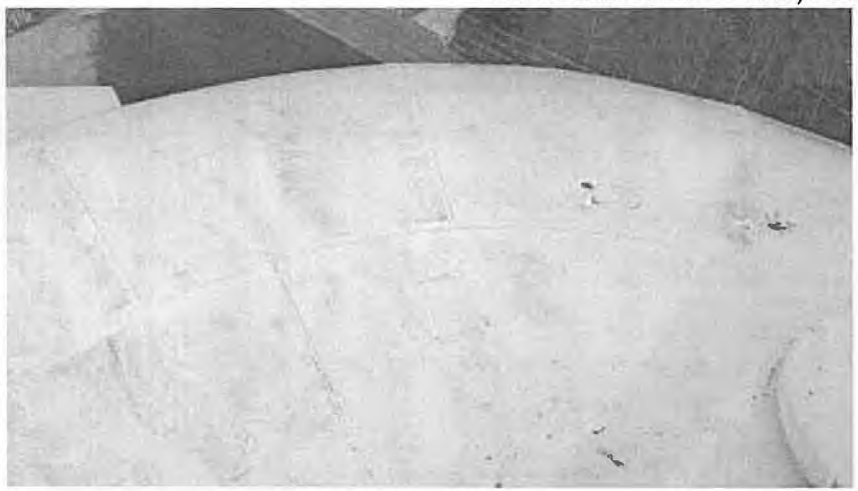
Frank Ott Tank – 100,000 gallon Elevated

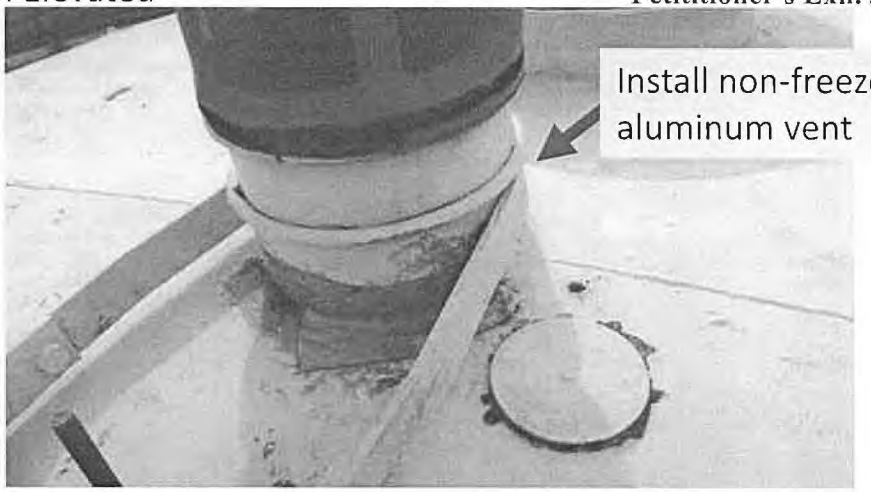
Petititioner's Exh. 3

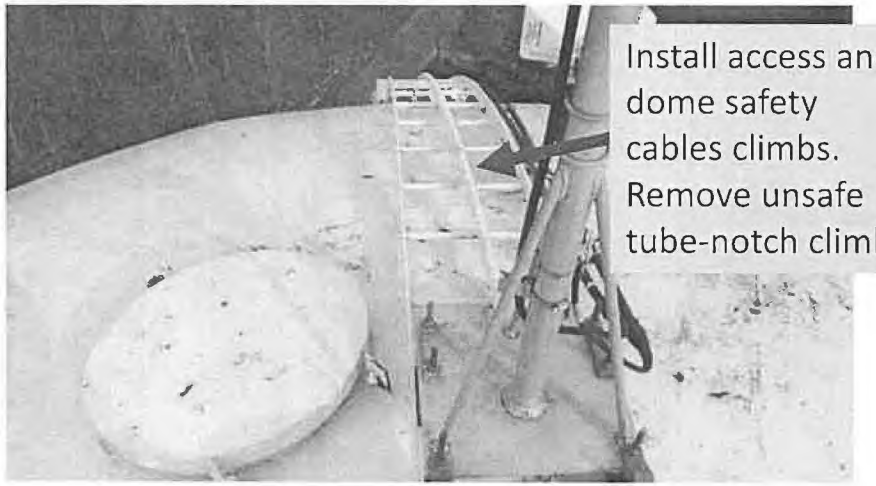




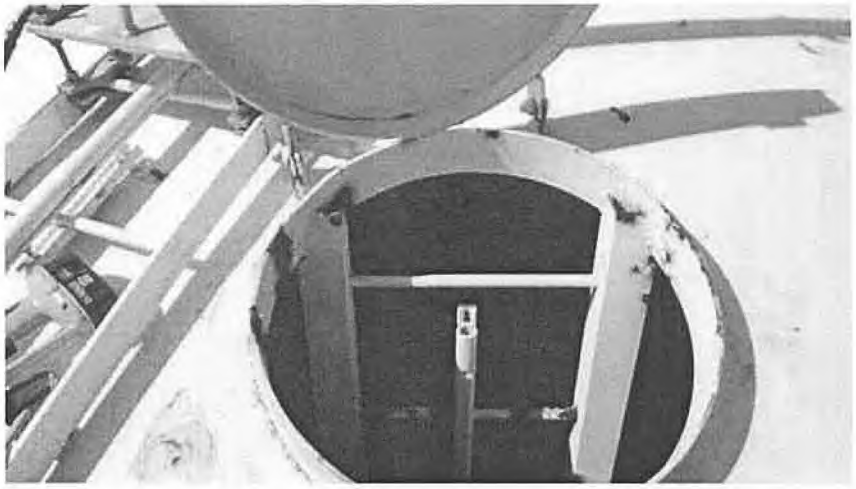
Frank Ott Tank – 100,000 gallon Elevated







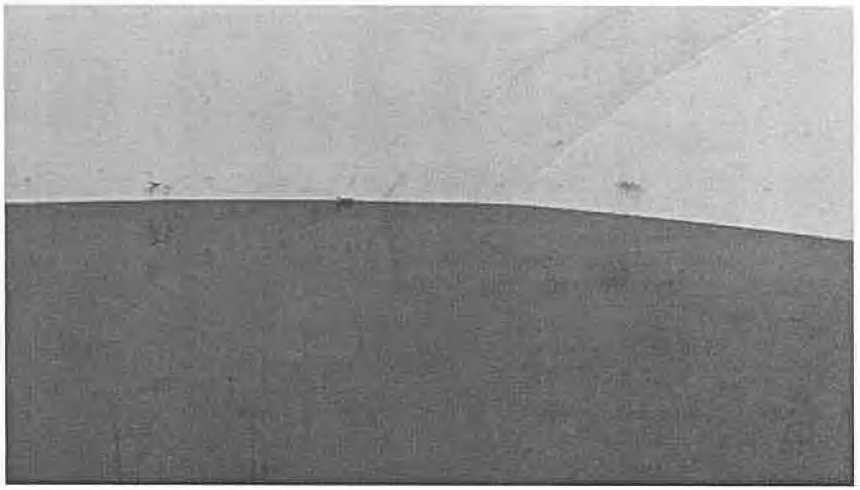
Frank Ott Tank – 100,000 gallon Elevated

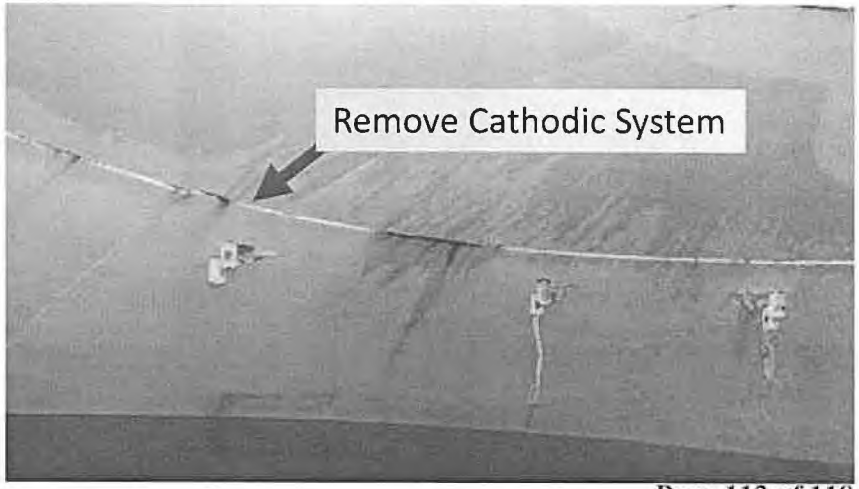


Seal, Paint
Foundations

Frank Ott Tank – 100,000 gallon Elevated

Petititioner's Exh. 3





APPENDIX E

SCHEDULE OF WATER RATES

EDWARDSVILLE WATER CORPORATION
545 Maplewood Boulevard
Georgetown, Indiana 47112

SCHEDULE OF WATER RATES AND CHARGES
(Pursuant to IURC Order in Cause No. 44642)

I. METERED RATES AND CHARAGES

(A) Metered (Volumetric) Rates

For use of and services rendered by the waterworks system of Edwardsville Water Corporation based on the use of water supplied by said waterworks system:

Metered Consumption			Monthly Rate Per 1,000 Gallons
First	15,000	gallons	$7.63
Next	110,000	gallons	7.57
Over	125,000	gallons	6.97

(B) Service Charge

Each user shall pay a monthly service charge in accordance with the following applicable size of meter installed.

Meter Size		Per Month
5/8 - 3/4	inch meter	$7.74
1	inch meter	17.00
1 1/2	inch meter	32.44
2	inch meter	50.96
3	inch meter	94.19
4	inch meter	155.94
6	inch meter	310.31
8	inch meter	495.56

Issued Pursuant to
Cause No. 44642
December 27, 2015
Indiana Utility Regulatory Commission
Water/Wastewater Division

(Continued on next page)

EFFECTIVE
January 6, 2016
Indiana Utility Regulatory Commission

EDWARDSVILLE WATER CORPORATION

SCHEDULE OF WATER RATES AND CHARGES
(Pursuant to IURC Order in Cause No. 44642)

I. METERED RATES AND CHARAGES (Cont'd)

(C) Sales for Resale:

Town of Elizabeth:

All Water supplied to Town of Elizabeth shall be billed monthly in accordance with the following rates and charges.

Monthly service charge:

For remainder of Agreement term (assumes no water purchases)	$2,895.00
If water purchases are required (for remainder of Agreement term)	$3,477.76
Metered rate per 1,000 gallons	$2.05

Town of Lanesville:

All Water supplied to Town of Lanesville shall be billed monthly in accordance with the following rates and charges.

Monthly service charge	$5,928.42
Metered rate per 1,000 gallons	$2.05

Town of Greenville:

All Water supplied to Town of Greenville shall be billed monthly in accordance with the following rates and charges.

Monthly service charge	$9,448.22
Metered rate per 1,000 gallons	$2.05

(D) Fire Protection Service Charge

	Rate Per Annum
Automatic sprinklers	
2 inch connection	$122.15
3 inch connection	274.86
4 inch connection	488.59
6 inch connection	1,099.44

(Continued on next page)

EDWARDSVILLE WATER CORPORATION

SCHEDULE OF WATER RATES AND CHARGES
(Pursuant to IURC Order in Cause No. 44642)

II. NON-RECURRING CHARGES

(A) Membership Fee — $100.00

Each property owner served by Edwardsville Water Corporation must pay a membership fee of $100.00. This $100.00 is refundable if and when the property owner sells the property and is no longer served by the water system. Upon payment of the $100.00 Membership Fee, the property owner shall be issued one (1) Membership Certificate. No property owner shall hold more than one (1) Membership Certificate nor be allowed more than one (1) vote on issues at the Corporation meetings.

(B) Tap Charge — $1,120.00

All users at the time of connection to the waterworks system shall pay a charge to cover the costs of: excavating and tapping the main; furnishing and installing service pipe from the main to the lot line; furnishing and installing corporation and stop cocks; and furnishing and installing meter crock (if outside), yoke, and meter. The charge for a 5/8 inch meter tap shall be $1,120.00. The charge for a tap larger than the 5/8 inch meter tap shall be the cost of labor, materials, power machinery, transportation, and overhead incurred for installing the tap, but shall not be less than the charge for a 5/8 inch meter tap.

(C) Insufficient Funds Charge — $25.00

When a customer's check is not honored dne to insufficient funds, a charge for processing same will be made by the Corporation in the amount of $25.00.

(D) Meter Tampering Fee — $40.00

When the Corporation must reconnect a meter as a result of misuse, the customer shall be required to pay a charge of $40.00 to cover the necessary expenses.

APPROVED BY
CONFERENCE MINUTES
30-Day Filing No. 3450
July 12, 2016
INDIANA UTILITY REGULATORY COMMISSION

(Continued on next page)

EDWARDSVILLE WATER CORPORATION

SCHEDULE OF WATER RATES AND CHARGES
(Pursuant to IURC Order in Cause No. 43869)

II. NON-RECURRING CHARGES (Cont'd)

(E) Collection and Deferred Payment Charge

10% of first $3.00
3% of excess

All bills for water service not paid within seventeen (17) days from the due date thereof, as stated in such bills, shall be subject to the collection or deferred payment charge of ten percent (10%) on the first $3.00 and three percent (3%) on the excess of over $3.00.

(F) Rental Transfer Fee

$10.00

When a new customer requests that water service at an existing rental property be transferred to their name, the Corporation will charge the new customer a Rental Transfer Fee of $10.00.

(G) Service Run Fee

$25.00

Any time that Utility personnel conduct an investigation into water service issues at a customer's property they will be charged the service run fee of $25.00. The services covered under the service run fee could include but are not limited to, turn-offs, turn-ons, customer requested meter reads and other similar activities.

(H) System Development Charge

All users at the time of connection to the waterworks system shall pay a charge to cover the costs of their allocated capacity in the waterworks facilities in accordance with the following applicable size of meter installed.

Meter Size	
5/8 - 3/4	inch meter
1	inch meter
1 1/2	inch meter
2	inch meter
3	inch meter
4	inch meter
6	inch meter
8	inch meter

$1,100.00
2,750.00
5,500.00
8,800.00
16,500.00
27,500.00
55,000.00
88,000.00

EFFECTIVE
MAR 08 2011
INDIANA UTILITY
REGULATORY COMMISSION

ISSUED PURSUANT TO
43869
MAR 08 2011
Date
Indiana Utility Regulatory Commission

Petitioner's Exhibit 4

Edwardsville Water Corporation Water main along Farnsley Knob from WTP to SR 11 Preliminary Opinion of Probable Cost- Update December 2023					
Item	Description	Units	Qty.	Unit Cost	Total Cost
1	20" Pressure Class 350 DI Water Main	Lin. Feet	23,490	$ 160.00	$ 3,758,400.00
2	Connections to Existing Water Mains	Lump Sum	3	$ 10,000.00	$ 30,000.00
3	20" Butterfly Valves and Valve Boxes	Each	12	$ 16,000.00	$ 192,000.00
4	Standard Fire Hydrant w/ Aux. Valve	Each	15	$ 7,500.00	$ 112,500.00
5	Ductile Iron Fittings	Lump Sum	2	$ 200,000.00	$ 400,000.00
6	Driveway Reparis	Each	44	$ 2,500.00	$ 110,000.00
7	Erosion Control	Lump Sum	1	$ 60,000.00	$ 60,000.00
8	Traffic Control	Lump Sum	1	$ 70,000.00	$ 70,000.00
9	Surface Restoration	Lin. Feet	23,490	$ 1.00	$ 23,490.00
10	Pipe Bedding for Rock Areas	L.F.	6,000	$ 75.00	$ 450,000.00
11	Special Crossing SR 11	Lump Sum	2	$ 35,000.00	$ 70,000.00
12	Service Line Reconnections	Each	75	$ 2,000.00	$ 150,000.00
	Preliminary Opinion of Probable Construction Cost				$ 5,426,390.00

Contingency (20%)		**$ 1,085,278.00**
Total Construction Cost	**Total**	**$ 6,511,668.00**
Non-Construction (20%)		**$ 1,085,278.00**
Total Project Cost for Water Main Replacement	**Total**	**$ 7,596,946.00**

Edwardsville Water Corporation High Service Pump Replacement Project Preliminary Opinion of Probable Cost - Update December 2023					
Item	Description	Units	Qty.	Unit Cost	Total Cost
1	1,200 gpm high service pumps	Each	4	$ 60,000.00	$ 240,000.00
2	Piping and Valve Modification	Lump Sum	1	$ 400,000.00	$ 400,000.00
3	VFD Controls and Electrical	Lump Sum	4	$ 50,000.00	$ 200,000.00
	Preliminary Opinion of Probable Construction Cost				$ 840,000.00

Contingency (20%)		**$ 168,000.00**
Total Construction Cost	**Total**	**$ 1,008,000.00**
Non-Construction (20%)		**$ 168,000.00**
Total Project Cost for HSP and Piping Upgrades	**Total**	**$ 1,176,000.00**

Petitioner's Exhibit 5

Edwardsville Water Authority
Water Main Loop Connection at Innovation Park
Preliminary Opinion of Probable Cost - Update December 2023

Item	Description	Quantity	Units	Unit Cost	Total Cost
1	12" PC 350 DI Water Main	2800	L.F.	$ 130.00	$ 364,000.00
2	12" Gate Valve & Valve Bx	4	Each	$ 5,000.00	$ 20,000.00
3	Standard Fire Hydrant with Aux. Gate Valve	6	Each	$ 7,000.00	$ 42,000.00
4	Fittings	1	Lump Sum	$ 60,000.00	$ 60,000.00
5	Restoration/Traffic Control	1	Lump Sum	$ 15,000.00	$ 15,000.00
6	Mobilization	1	Lump Sum	$ 45,000.00	$ 45,000.00
	Preliminary Opinion of Probable Construction Cost				$ 546,000.00

	Contingency (20%)				$ 109,200.00
	Total Construction Cost				$ 655,200.00
	Non-Construction (20%)				$ 109,200.00
	Total Estimated Project Cost				$ 764,400.00

Edwardsville Water Authority
Water Main Extesnion - McCarthy Knob West
Preliminary Opinion of Probable Cost - Update December 2023

Item	Description	Units	Quantity	Unit Cost	Total Cost
1	6" x 6" Tapping Sleeve, 6" Tapping Valve	Each	1	$ 5,500.00	$ 5,500.00
2	8" SDR 17 PVC Water Main	Feet	5,220	$ 70.00	$ 365,400.00
3	12" x 8" Tapping Sleeve, 6" Tapping Valve	Each	1	$ 5,000.00	$ 5,000.00
4	8" Gate Valve and Valve Box	Each	5	$ 3,000.00	$ 15,000.00
5	8"D.I.M.J. Restrained Joint Fittings	Each	22	$ 700.00	$ 15,400.00
6	Pressure Reducing Station	Lump Sum	1	$ 14,000.00	$ 14,000.00
7	Standard Fire Hydrant	Each	5	$ 7,000.00	$ 35,000.00
8	Surface Restoration (drives and lawns)	Lump Sum	1	$ 12,000.00	$ 12,000.00
9	Bore and Case S.R. 11	Lump Sum	1	$ 35,000.00	$ 35,000.00
10	Rock Excavation	Lineal Ft	5,220	$ 25.00	$ 130,500.00
11	Water Main Aggregate Bedding	Lineal Ft	5,220	$ 15.00	$ 78,300.00
	Preliminary Opinion of Probable Construction Cost				**$ 711,100.00**
	Contingency (20%)				$ 142,220.00
	Total Estimated Construction Cost				$ 853,320.00
	Non-Construction (20%)				$ 142,220.00
	Total Estimated Project Cost				$ 995,540.00

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF EDWARDSVILLE WATER AUTHORITY FOR APPROVAL OF A CHANGE TO ITS RATES AND CHARGES	**CAUSE NO. ____**

VERIFIED DIRECT TESTIMONY AND EXHIBITS OF SCOTT A. MILLER, CPA

Direct Testimony of Scott A. Miller, CPA	Petitioner's Exhibit 6
Petition	Petitioner's Exhibit 7
Resolution and Certificate of Dissolution	Petitioner's Exhibit 8
Accounting Report	Petitioner's Exhibit 9

Respectfully submitted,

J. Christopher Janak, Atty. No. 18499-49
Jacob T. Antrim, Atty. No. 36762-49
BOSE MCKINNEY & EVANS LLP
111 Monument Circle, Suite 2700
Indianapolis, IN 46204
(317) 684-5000
(317) 684-5173 FAX
cjanak@boselaw.com
Counsel for Petitioner, Edwardsville Water Authority

PETITIONER'S EXHIBIT 6

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF EDWARDSVILLE WATER AUTHORITY FOR APPROVAL OF A CHANGE TO ITS RATES AND CHARGES	**CAUSE NO. _____**

VERIFIED DIRECT TESTIMONY

OF

SCOTT A. MILLER, CPA

ON BEHALF OF PETITIONER,

EDWARDSVILLE WATER AUTHORITY

Introduction

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Scott A. Miller, and my business address is 8365 Keystone Crossing, Suite 300, Indianapolis, Indiana 46240-0458.

2 Q. WHAT IS YOUR PROFESSION AND FOR WHOM ARE YOU EMPLOYED?

A. I am a Certified Public Accountant and a partner in the firm of Baker Tilly Municipal Advisors, LLC ("BTMA"). BTMA began operations on March 1, 2019, as the result of a three-way business combination between my prior firm H.J. Umbaugh & Associates, Certified Public Accountants, LLP ("Umbaugh"), and Baker Tilly Virchow Krause, LLP which is now doing business as Baker Tilly US, LLP ("Baker Tilly"). One month later, the third firm, Springsted, Inc., joined BTMA. BTMA is a registered municipal advisor and controlled subsidiary of Baker Tilly US, LLP, an accounting firm.

3 Q. CAN YOU DESCRIBE YOUR FIRM AND ITS AREA OF EXPERTISE?

A. Baker Tilly is a national full-service advisory, tax, and assurance firm of over 6,500 professionals across the country and internationally. Our public sector practice area includes a dedicated group of professionals who specialize in providing an array of services to public sector entities including utilities. As part of our public sector practice area, BTMA has a concentrated focus on delivering financial advisory services to governmental entities. A sizable portion of this practice includes accounting studies in connection with changes in utility rates and financial planning

associated with the issuance of tax-exempt and taxable bonds and notes and other forms of indebtedness. In accordance with rules promulgated by the Municipal Securities Rulemaking Board ("MSRB"), BTMA is registered as a Municipal Advisor with the Securities and Exchange Commission ("SEC"). Additional public sector services include cybersecurity, development advisory, disaster recovery, economic development, energy transition services, enterprise risk management, environmental, social and governance, financial statement audit, outsourced accounting and reporting, executive recruitment, financial management advisory, human capital advisory, referendum strategy, single audits, and federal compliance audits and valuation services.

4 **Q. WHAT IS YOUR EDUCATIONAL EXPERIENCE?**

A. In June 1995, I received a Bachelor of Science Degree in Accounting from the Indiana University Kelley School of Business in Bloomington, Indiana. Since then, I have completed various professional courses sponsored by the American Institute of Certified Public Accountants, the Indiana CPA Society, and other professional organizations including the American Public Power Association ("APPA") and the American Water Works Association ("AWWA"). In 1998, I completed the AWWA cost of service and rate-making seminar. In 2010, I completed the APPA Intermediate and Advanced Utility Cost of Service and Retail Rate Design seminars. Additionally, I have successfully completed the professional qualification requirements of a municipal advisor representative (Series 50) and a

municipal advisor principal (Series 54) and am currently registered with the MSRB and the SEC as a Municipal Advisor Principal.

5 Q. PLEASE DESCRIBE YOUR RELEVANT PROFESSIONAL EXPERIENCE.

A. I joined Umbaugh in June 1995 and, in 1998, completed the requirements to become licensed as a Certified Public Accountant in the State of Indiana. In July 2000, I assumed the position of client manager within the firm. On July 1, 2005, I became a principal in the firm. On January 1, 2009, I was admitted into the Firm's partnership. As a result of the combination with Baker Tilly and Springsted, I became a partner in BTMA on March 1, 2019. During the past 28 years, I have been involved with hundreds of professional engagements including financial studies for municipally owned water, electric, gas, steam, and sewage utilities, for-profit and not-for-profit water and sewer corporations, water authorities, regional water and sewer districts, and conservancy districts. These studies quite often have involved the determination of utility revenue requirements, cost of service studies, rate design, fair value analysis, and the financial planning associated with the issuance of tax-exempt and taxable bonds and notes to fund projects using a variety of financing mechanisms including Rural Development, the State Revolving Fund, tax-exempt and taxable bonds, and notes issued on the open market and other sources. I have given speeches and participated in panels and workshops concerning utility rates, financing and project development before the Indiana Rural Water Association, the Alliance of Indiana Rural Water, the Indiana Section of the American Water Works Association, the Indiana Association of Sewer

Companies, the Indiana Water Environment Association, Accelerate Indiana Municipalities (formerly the Indiana Association of Cities and Towns), the NARUC Staff Subcommittee on Accounting and Finance and the APPA.

6 **Q. WHAT PROFESSIONAL ORGANIZATIONS ARE YOU ASSOCIATED WITH?**

A. I am personally a member of the American Institute of Certified Public Accountants, the Indiana CPA Society, the Indiana Water Environment Association, and the AWWA, and our firm is a member of several other industry associations including the Alliance of Indiana Rural Water and the Indiana Municipal Electric Association. Our firm is also a strategic partner of Accelerate Indiana Municipalities. In the latter capacity, we provide guidance on financial matters that affect communities across the state. Finally, I just completed a multi-year term serving as the Chairman of the Indiana Section AWWA Water Utility Council.

7 **Q. HAVE YOU TESTIFIED BEFORE AS AN EXPERT WITNESS?**

A. Yes, I have testified before the Indiana Utility Regulatory Commission ("Commission") and other State regulatory authorities on many previous occasions. This testimony has covered the development of appropriate revenue requirements, utility valuation, financing approval, and across-the-board and cost of service analysis and rate design.

8 Q. HAVE YOU REVIEWED THE PETITION INITIATING THIS CAUSE, A COPY OF WHICH IS ATTACHED TO YOUR TESTIMONY AS PETITIONER'S EXHIBIT 7?

A. Yes, I have.

9 Q. DOES THE PETITION ACCURATELY STATE THE FACTS AND EDWARDSVILLE WATER AUTHORITY'S ("EDWARDSVILLE" OR "PETITIONER") INTENTIONS?

A. Yes. Edwardsville seeks authority to adjust its schedule of rates to account for increases in operational costs and to provide for annual depreciation expense for the system.

10 Q. HAS EDWARDSVILLE CHANGED ITS CORPORATE STATUS SINCE ITS LAST CASE BEFORE THE COMMISSION, CAUSE NO. 45617?

A. Yes, it has. On May 30, 2023, Edwardsville adopted a *Resolution of the Board of Directors of Edwardsville Water Corporation Determining to Reconstitute as the Edwardsville Water Authority* ("Resolution"). Consistent with Indiana law, the Resolution was filed with the State of Indiana, Office of Secretary of State, who issued a Certificate of Dissolution of Edwardsville Water Corporation, effective Friday, June 9, 2023. Since issuance of the Certificate of Dissolution, Edwardsville has been operating as the Edwardsville Water Authority. For the Commission's reference, a copy of the Resolution and the Certificate of Dissolution are attached hereto as Petitioner's Exhibit 8.

11 **Q. DOES THE RECONSTITUTION AS A WATER AUTHORITY ALTER EDWARDSVILLE'S RATE MAKING AUTHORITY UNDER INDIANA LAW?**

A. While I am not an attorney, I understand that Indiana Code § 13-18-16-16(h) states that a water authority is subject to the rate-making authority under Indiana Code § 8-1.5-3-8. Prior to its reconstitution as a water authority, Edwardsville Water Corporation's rate-making authority was governed by Indiana Code § 8-1-2-125.

12 **Q. WAS YOUR FIRM RETAINED BY EDWARDSVILLE IN CONNECTION WITH THESE PROCEEDINGS?**

A. Yes. Edwardsville retained us to advise the Board and complete an accounting study to determine if the existing rates were sufficient to support the pro forma revenue requirements and to provide the necessary schedules for seeking approval from the Commission.

13 **Q. HAVE THE RESULTS OF YOUR ANALYSIS BEEN SUMMARIZED IN A WRITTEN REPORT?**

A. Yes. Our firm prepared an Accounting Report dated December 19, 2023, summarizing the results of our studies.

14 **Q. PLEASE IDENTIFY <u>PETITIONER'S EXHIBIT 9</u>.**

A. <u>Petitioner's Exhibit 9</u> is a copy of our Accounting Report summarizing the results of the accounting services performed for Edwardsville.

15 **Q. WAS THE ACCOUNTING REPORT PREPARED BY YOU OR UNDER YOUR SUPERVISION?**

A. Yes.

16 **Q. DID YOUR ANALYSIS REVEAL WHETHER OR NOT A RATE ADJUSTMENT IS NECESSARY?**

A. Yes, it did. Based on Edwardsville's existing financial condition, it appears that Edwardsville does need an adjustment in the current user rates and charges. Therefore, this case seeks an increase in the Petitioner's current schedule of rates and charges.

17 **Q. WOULD YOU PLEASE EXPLAIN HOW THE REPORT IS ORGRANIZED TO THE EXTENT NOT OTHERWISE SELF-EXPLANATORY?**

A. The report is divided into three sections. The first section of the report is the accountant's report, which describes that the type of accounting service provided was a compilation and that the resulting accounting report is a special purpose report for submission to the Commission and is restricted to that purpose only. This letter is incorporated by reference on all the pages of the accounting report. The second section of the report (pages 3 through 13) contains pro forma financial information, including the various calculations of the Petitioner's pro forma annual cash operating expense on pages 3-6. Page 7 presents a normalization of annual operating revenues for the twelve months ended June 30, 2023. Pages 8 and 9 summarize the pro forma annual revenue requirements and annual operating

revenues included in this cause. Pages 10 through 13 present the current and proposed schedule of water rates and charges for the Petitioner.

The final section of the report (pages 14 through 25) contains supplemental data, including the historical and test-year financial statements (pages 14 through 18), account balances with minimum balance requirements (pages 19 through 20) and outstanding note amortization schedules for the Petitioner (pages 21 through 25).

18 **Q. WHAT TEST YEAR PERIOD WAS USED IN THE PREPARATION OF THE ACCOUNTING REPORT?**

A. The test period (the "Test Year") consists of the twelve months ended June 30, 2023.

19 **Q. BEGINNING ON PAGE 3, PLEASE SUMMARIZE THE PRO FORMA OPERATING CASH EXPENSE ADJUSTMENTS.**

A. Page 3 of the report shows the total test year cash operating expenses which equaled $1,618,795. The Pro Forma cash operating expenses include eight adjustments to the Test Year as detailed below.

The first adjustment, as shown on page 4, is to the Petitioner's salaries and wages and reflects current levels of staffing and anticipated pay rates. Total pro forma salaries and wages equal $751,17. Subtracting the test year salaries and wages of $686,057 results in an adjustment to the Test Year of $65,115.

The second adjustment, as shown on page 4, reflects pro forma FICA expenses to allow for the additional expenses associated with the increase in the Petitioner's pro

forma salaries and wages. Total pro forma FICA expense is $57,465 and after subtracting the Test Year amount of $54,257 results in an adjustment of $3,208.

The third adjustment to the Test Year, as shown on page 4, reflects increases in the Petitioner's pension expense to accommodate the increase in pro forma salaries and wages. Total pro forma pension expense is $37,559 and after subtracting the Test Year amount of $30,800 results in an adjustment of $6,759.

The fourth adjustment, as shown on page 4, is for pro forma employee insurance (health, dental, life, vision, STD and HSA). Year to date premiums through June 30, 2023 totaled $71,050. After normalizing for a full 12-month period, pro forma employee insurance totals $142,100 and after subtracting the test year amount of $135,935 results in an adjustment of $6,165.

The fifth adjustment, as shown on page 5, normalizes materials and supplies for an entry made in December of 2022 of $65,231 to reclassify invoices outside of the Test Year into capital assets. Petitioner first recorded the invoice earlier in 2022, with the adjusting journal entry recorded later in 2022 and inside of the test year period. The resulting impact is an understatement of the materials and supplies account for the twelve months ended June 30, 2023. The second portion of the adjustment of $147 is based on the assumed 2023 adjustment to reclassify a similar materials and supplies invoice into capital assets. This entry would occur outside the test year, due to it not being recorded as of June 30, 2023. These two adjustments result in a total increase to materials and supplies of $65,084.

The sixth adjustment, as shown on page 5, is to normalize the Test Year to exclude various non-recurring charges including entries for IURC 30-Day Filings, legal fees for IURC filings and conversion to a water authority. Overall, the total adjustment to Test Year expenses is a reduction of $34,804.

The seventh adjustment to the Test Year cash operating expenses, as shown on page 5, is for assumed rate case fees associated with this cause. Total rate case fees are assumed at $150,000 and will be amortized over 4 years. This results in an adjustment of $37,500 to Test Year annual cash operating expenses.

The eighth and final adjustment to the Test Year cash operating expenses, as shown on page 6, is for annual periodic maintenance items for the Petitioner's system. Included in the adjustment for periodic maintenance expenses are the Petitioner's wells, treatment plant, tanks, pumps and distribution system and buildings. Total pro forma periodic maintenance expenses total $312,394 and after subtracting for periodic maintenance expenses in the Test Year of $54,410 results in a total adjustment to the Test Year of $257,984.

Overall, the 8 adjustments to the Test Year result in an increase in the Petitioner's cash operating expenses of $407,011, which results in total pro forma cash operating expenses of $2,025,806.

20 Q. BEGINNING ON PAGE 7, PLEASE SUMMARIZE THE NORMALIZED ANNUAL WATER OPERATING REVENUES AT EXISTING RATES.

A. As shown on page 7, the Petitioner's annual water operating revenues have been increased by $13,923 to account for the increase or decrease in monthly users of

the Petitioner's system for the twelve months ended June 30, 2023. Overall, 364 additional bills are anticipated to be generated due to growth in the customer base. The 364 additional bills are then multiplied by the average user bill, based on 4,000 gallons of $38.25, which results in an increase in sales of $13,923. This adjustment is then added to the test year revenues $2,688,393 resulting in total normalized metered sales subject to increase of $2,702,316.

21 Q. AS SHOWN ON PAGES 8 AND 9, PLEASE DESCRIBE THE PRO FORMA ANNUAL REVENUE REQUIREMENTS AND ANNUAL OPERATING REVENUES FOR THE PETITIONER.

A. Pages 8 and 9 summarize the results of the report and the calculated increase in the Petitioner's rates and charges. Total annual revenue requirements for the Petitioner total $3,171,698 and are comprised of annual operation and maintenance expenses, annual debt service payments on the outstanding notes of the Petitioner, and annual depreciation expense. Total pro forma operation and maintenance expenses total $2,025,806, as previously described and shown on pages 3 – 6 of the report. Annual debt service on the outstanding notes for the Petitioner, $719,145, is based on the average annual debt service on the outstanding notes, as shown on page 25. Annual depreciation expense is based on capital assets as of June 30, 2023 of $21,440,757 plus construction work in progress as of June 30, 2023 of $1,131,373, plus construction cash on hand as of June 30, 2023 of $3,609,716, plus developer installed lines not included in the capital assets as of June 30, 2023 totaling $763,295, less periodic maintenance items capitalized into capital assets of

$553,735. This results in total depreciable capital assets of $26,391,406, which is then multiplied by a composite 2% depreciation rate, to arrive at pro form annual depreciation expense of $527,828.

22 Q. MR. MILLER, CAN YOU EXPLAIN WHY THE PERIODIC MAINTENANCE ITEMS ARE BEING SUBTRACTED IN THE CALCULATION OF THE PRO FORMA DEPRECIATION EXPENSE?

A. Yes, Petitioner has for the last several years been capitalizing expenses related to periodic maintenance, such as its tank painting and maintenance contract. We do not believe these should be included in Petitioner's capital assets and would instead be more properly classified under the annual operation and maintenance expenses for Petitioner. Therefore, we have subtracted them in the pro forma annual depreciation calculation.

23 Q. PLEASE CONTINUE WITH THE DESCRIPTION OF THE REPORT.

A. Total annual revenue requirements are then reduced by annual recurring revenues not subject to increase including other operating revenues of $30,950 and Town of Elizabeth revenues of $34,740 and normalized interest income of $35,391. Test Year interest income has been normalized to exclude interest earned on the construction funds for the Petitioner. After deducting for the recurring revenue not subject to increase, net annual revenue requirements for the Petitioner total $3,171,698.

After accounting for the normalized metered sales of $2,702,316 as shown on page 7, additional revenues required for the Petitioner total $469,382, which results in

an across-the-board increase of 17.37%. Including the 17.37% increase, the average customer bill assuming 4,000 gallons would be $44.88.

Pages 10 through 13 display the current and proposed rates and charges for the Petitioner, including the calculated increase of 17.37%.

24 **Q. MR. MILLER, IT APPEARS THAT THE PROPOSED RATES AND CHARGES HAVE BEEN CALCULATED ON AN ACROSS-THE-BOARD BASIS. IS THAT CORRECT?**

A. Yes, that is correct.

25 **Q. PLEASE CONTINUE WITH THE DESCRIPTION OF THE REMAINING SECTION OF THE REPORT.**

A. Beginning on page 14 is the supplemental data for the Petitioner. Pages 14 and 15 present the comparative statement of net position as of December 31, 2020, 2021, 2022, and as of June 30, 2023.

Page 16 presents the comparative statement of revenues, expenses and changes in net position for calendar years 2020, 2021, 2022, and the 12 months ended June 30, 2023.

Pages 17 and 18 present the comparative statement of cash flows for calendar years 2020, 2021, 2022, and the 12 months ended June 30, 2023.

Pages 19 and 20 compare the account balances of Edwardsville as of June 30, 2023, with the minimum balances either required to be maintained by the outstanding loan documents in effect with respect to Edwardsville's outstanding long-term indebtedness or balances that are typically maintained by utilities such as

Edwardsville. Overall, the Petitioner had $7,361,139 of cash in the various funds and accounts it maintains.

26 Q. MR. MILLER. AS NOTED ON PAGE 19 PLEASE EXPAND ON THE CURRENT BALANCE IN THE PERIODIC MAINTENANCE FUND.

A. The Petitioner maintains a separate fund in its accounting system to account for funds designated for periodic maintenance expenses, such as those expenses shown in Adjustment 8 to the Petitioner's cash operating expenses on page 6 of the report. A monthly transfer of $28,460 is made to the fund to set aside money to pay for the various periodic maintenance items performed by the Petitioner. The balance in the fund as of June 30, 2023, was $848,103. This balance will be further reduced near the end of 2023 to include the payment on the tank maintenance contract. For calendar year 2023 this expense will total $222,557. In addition, the Petitioner has larger periodic maintenance items such as filter media replacements that will need to be completed in the near future and will quickly expend the accumulated balance in the fund.

27 Q. PLEASE CONTINUE WITH THE DESCRIPTION OF THE REPORT.

A. The amortization schedules of the outstanding 2008 Notes, the 2012 RD loan, the 2016B Notes, and the 2022 Notes are displayed on pages 20 through 23, respectively. Page 24 shows the schedule of combined amortization, with the average annual debt service for the five note years ending January 1, 2027, of $705,143.13 calculated at the bottom of the schedule.

28 Q. MR. MILLER, AS SHOWN ON PAGE 24, THE ANNUAL DEBT SERVICE DUE ON THE OUTSTANDING NOTES DECREASES BY APPROXIMATELY TWO HUNDRED THIRTY THOUSAND DOLLARS IN NOTE YEAR ENDING JANUARY 1, 2029. HOW DOES PETITIONER PROPOSE TO ADDRESS THE REDUCTION IN DEBT SERVICE TO ASSURE THE PROPOSED RATES AND CHARGES ARE NOT OVER COLLECTING?

A. As discussed in the direct testimony of Lori A. Young, Petitioner has several significant projects that will need to be addressed in the coming years. Although it is the board's preference to pay for the proposed projects using cash on hand, to the extent that cash on hand is not available, Petitioner may need to seek to fund the proposed projects through the issuance of debt. Under this scenario, Petitioner would seek approval in a future cause before the IURC to issue debt and would propose to wrap the debt around the outstanding notes to create level debt service beginning in bond year 2029.

29 Q. DOES THIS CONCLUDE YOUR EXPLANATION OF THE FACTORS IDENTIFIED IN THE ACCOUNTING REPORT THAT SHOULD ALLOW EDWARDSVILLE TO MOVE FORWARD WITH THE PROPOSED INCREASE IN RATES?

A. Yes, it does.

30 Q. IS IT YOUR OPINION THAT THE RATES PROPOSED IN YOUR ACCOUNTING REPORT ARE FAIR, JUST, NON-DISCRIMINATORY

AND REASONABLE AND NECESSARY TO MEET THE PRO FORMA REVEUE REQUIREMENTS OF THE EDWARDSVILLE WATER AUTHORITY?

A. Yes, it is my opinion they are.

32 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY IN THIS CAUSE?

A. This concludes my direct testimony at this time.

VERIFICATION

I affirm under the penalties for perjury that the foregoing representations are true to the best of my knowledge, information, and belief.

Scott A. Miller

12-20-2023

Date

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing "Verified Direct Testimony and Exhibits of Scott A. Miller, CPA" was served upon the following by electronic mail this 21st day of December, 2023:

Indiana Office of Utility Consumer Counselor
infomgt@oucc.in.gov

J. Christopher Janak

Bose McKinney & Evans LLP
111 Monument Circle, Suite 2700
Indianapolis, IN 46204
(317) 684-5000

4689206.1

Petitioner's Exhibit 7

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF EDWARDSVILLE WATER AUTHORITY FOR APPROVAL TO ADJUST ITS RATES AND CHARGES	**CAUSE NO. _____**

PETITION

TO THE INDIANA UTILITY REGULATORY COMMISSION:

Edwardsville Water Authority ("Petitioner" or "Edwardsville"), by counsel, respectfully requests authority to adjust its rates and charges. In support of its Petition, Edwardsville states:

1. Edwardsville is a water authority constituted under Ind. Code § 13-18-16-16, organized and existing under and through the laws of the State of Indiana. Edwardsville's office is located at 545 Maplewood Boulevard, Georgetown, IN 47122.

2. Under Ind. Code § 13-18-16-16(h), Edwardsville's rates and charges are subject to the jurisdiction of the Indiana Utility Regulatory Commission ("Commission") as set forth in Ind. Code § 8-1.5-3-8.

3. Edwardsville believes the following statutes may also be applicable to this case: Ind. Code §§ 8-1-2-42, 8-1-2-61, 8-1-2-83, and other applicable statutes located in Ind. Code ch. 8-1-2.

4. Edwardsville owns, operates, and maintains wells, treatment facilities, transmission facilities, distribution facilities, land, land rights, equipment, materials, supplies, working capital, and other property which are used and useful for the rendering of water service to its customers. Edwardsville provides water to primarily residential, commercial, and agricultural customers in Floyd and Harrison Counties, Indiana.

5. Edwardsville's current base rates and charges for water utility service were approved in the Commission's December 30, 2015 Order in Cause No. 44642. As required by Ind. Code § 8-1-2-42, more than 15 months have passed since the filing date of Petitioner's last request for a general increase in its basic rates and charges.

6. Edwardsville proposes a historic test year comprising the 12-month period ending June 30, 2023, with adjustments for changes that are fixed, known, and measurable and in effect within 12 months after the test year.

7. Edwardsville will propose in this case new water rates and charges which will be sufficient to pay its expenses as set forth in Ind. Code § 8-1.5-3-8, resulting in an estimated $469,382 increase in its revenue requirement, which is approximately a 17.37% across-the-board increase.

8. Included with this *Petition*, Edwardsville is submitting its case-in-chief, which includes the pre-filed testimony and exhibits of Lori A. Young, P.E. and Scott A. Miller, CPA, including supporting attachments, schedules, and workpapers.

9. Pursuant to the best practices set forth in the Commission's GAO 2013-5 (July 3, 2013), Edwardsville has consulted with the Indiana Office of Utility Consumer Counselor regarding a proposed expedited procedural schedule. Concurrent with this petition, Edwardsville will file a motion for adoption of the expedited proposed schedule.

10. The attorneys representing Edwardsville in this proceeding who are authorized to accept service of papers on behalf of the Edwardsville are:

J. Christopher Janak, Atty. No. 18499-49
Jacob T. Antrim, Atty. No. 36762-49
Bose McKinney & Evans LLP
111 Monument Circle, Suite 2700
Indianapolis, IN 46204
(317) 684-5249 Direct Dial
(317) 223-0249 Fax
JJanak@boselaw.com

WHEREFORE, the Petitioner, Edwardsville Water Authority, respectfully requests that the Commission: (a) promptly establish a procedural schedule in this Cause; (b) conduct such hearings as the Commission believes necessary and appropriate; (c) authorize Edwardsville to increase its rates and charges for water utility service; (d) approve Edwardsville's new schedule of rates and charges; and (e) for all other appropriate relief.

Respectfully Submitted,

J. Christopher Janak, Atty. No. 18499-49
Jacob T. Antrim, Atty. No. 36762-49
Bose McKinney & Evans LLP
111 Monument Circle, Suite 2700
Indianapolis, IN 46204
(317) 684-5000 Telephone
(317) 684-5173 Fax
JJanak@boselaw.com

Counsel for Edwardsville Water Authority

CERTIFICATE OF SERVICE

I certify that on December 21, 2023, the foregoing was filed electronically with the Indiana Utility Regulatory Commission using the Commission's electronic filing system and was served electronically on the parties below:

Indiana Office of Utility Consumer Counselor
infomgt@oucc.in.gov

J. Christopher Janak, Atty No. 18499-49

4649656.1

Petitioner's Exhibit 8

Approved and Filed
194393-053/9910922
Filing Date: 06/12/2023
Effective :06/09/2023 10:43 AM
Diego Morales
Indiana Secretary of State

RESOLUTION OF THE BOARD OF DIRECTORS OF EDWARDSVILLE WATER CORPORATION DETERMINING TO RECONSTITUTE AS THE EDWARDSVILLE WATER AUTHORITY

WHEREAS, the Board of Directors ("Board") of the Edwardsville Water Corporation, an Indiana nonprofit water corporation existing pursuant to the Indiana Nonprofit Corporation Act Indiana Code § 23-17 et seq. ("Corporation"), owning and operating a water utility in the State of Indiana ("State"), has determined to reconstitute the Corporation as a water authority pursuant to Indiana Code § 13-18-16-16; and

WHEREAS, the Indiana General Assembly has enacted Indiana Code § 13-18-16-16, which specifically authorizes the Board of Directors of a nonprofit water utility to reconstitute the nonprofit water utility as a water authority by adopting of a resolution to be filed with the Secretary of State; and

WHEREAS, a water authority established pursuant to Indiana Code § 13-18-16-16 shall: (i) be considered a political subdivision of the State; (ii) be subject only to the laws applicable to nonprofit water utilities and local water corporations; (iii) remain obligated under any existing contracts or agreements and remain obligated and assume the indebtedness of the nonprofit water utility; (iv) retain all its powers, privileges, rights, and exemptions as a nonprofit water utility under its existing bylaws and articles and all laws applicable to nonprofit water utilities including powers of eminent domain; and (v) have its rate and charges set pursuant to Indiana Code § 8-1.5-3-8; and

WHEREAS, the Board has determined that reconstituting the Corporation as a water authority pursuant to Indiana Code § 13-18-16-16 will be of public benefit to the general welfare of the Corporation and the Corporation's ratepayers without impairing the rights, powers, privileges, and exemptions of the Corporation; and

WHEREAS, in order for the Board to reconstitute the Corporation as a water authority pursuant to Indiana Code § 13-18-16-16, the Board must adopt a resolution that: (i) provides for the name of the water authority; (ii) allows the structure of the Board of Directors of the water authority to remain the same as that applicable to the Corporation; and (iii) allows the rules governing the water authority to remain the same as the rules governing the Corporation; and

NOW THEREFORE, BE IT RESOLVED by the Board as follows:

Section 1. The Corporation is hereby reconstituted as the Edwardsville Water Authority ("Authority") pursuant to Indiana Code § 13-18-16-16. The Authority shall remain as its principal place of business the same principal place of business as the Corporation.

Section 2. The Authority shall be governed by the Board of Directors. The structure of the Board of Directors of the Corporation is hereby adopted as the structure for the Board of Directors of the Authority. The initial Board of Directors for the Authority shall consist of the current Board of Directors of the Corporation who shall serve to the end of their existing terms at which time they may stand for reelection as is the common practice.

Approved and Filed
194393-053/9910922
Filing Date: 06/12/2023
Effective :06/09/2023 10:43 AM
Diego Morales
Indiana Secretary of State

Section 3. The Authority adopts and maintains all rules, by-laws, and other procedures which govern the Corporation and shall be governed by those rules, by-laws, and procedures in the same manner as the Corporation, except as provided in Section 6.

Section 4. The Authority shall retain all powers, privileges, rights, and exemptions of the Corporation under its by-laws and all laws applicable to nonprofit water utilities and local water corporations, including the power of eminent domain presently granted under Indiana Code § 32-24-4-1.

Section 5. The Authority shall remain obligated and assume the indebtedness of the Corporation and shall assume and remain obligated under any existing contracts or agreements of the Corporation.

Section 6. The rates and charges of the Authority shall be established in accordance with Indiana Code § 8-1.5-3-8.

Section 7. The proper officers of the Authority are authorized and directed in the name and on behalf of the Authority to sign, acknowledge, record, publish, and do any and all things which are by law required, to execute, complete, and carry into effect this resolution.

Section 8. The proper officers of the Authority are directed to file a copy of this resolution with the Secretary of State and request evidence to be returned in writing of the dissolution of the corporate status of the Corporation pursuant to Indiana Code § 13-18-16-16.

Section 9. All resolutions or parts thereof in conflict herewith are hereby repealed.

Section 10. This resolution shall be in full force and effect upon passage.

ADOPTED AND APPROVED this 30th day of May, 2023.

Edwardsville Water Corporation

David R. Wright
President, Board of Directors

ATTEST:

Secretary

4439360_1

State of Indiana
Office of the Secretary of State

Certificate of Dissolution
of

EDWARDSVILLE WATER CORPORATION

I, DIEGO MORALES, Secretary of State, hereby certify that Articles of Dissolution of the above Domestic Nonprofit Corporation have been presented to me at my office, accompanied by the fees prescribed by law and that the documentation presented conforms to law as prescribed by the provisions of the Indiana Code.

NOW, THEREFORE, with this document I certify that said transaction will become effective Friday, June 09, 2023.

In Witness Whereof, I have caused to be affixed my signature and the seal of the State of Indiana, at the City of Indianapolis, June 12, 2023

Diego Morales

DIEGO MORALES
SECRETARY OF STATE

194393-053 / 9910922

To ensure the certificate's validity, go to https://bsd.sos.in.gov/PublicBusinessSearch

Petitioner's Exhibit 9

Petitioner's Exhibit 9

IURC Cause No. ____

EDWARDSVILLE WATER AUTHORITY
Floyd and Harrison Counties, Indiana

Accounting Report On Proposed Rate Increase

December 19, 2023

Baker Tilly US, LLP
Indianapolis, Indiana

TABLE OF CONTENTS

REPORT OF CERTIFIED PUBLIC ACCOUNTANTS

bakertilly

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bakertilly.com

December 19, 2023

Board of Directors
Edwardsville Water Authority
545Maplewood Boulevard
Georgetown, Indiana 47122

ACCOUNTANTS' FINANCING ANALYSIS AND COMPILATION REPORT

In connection with the Edwardsville Water Corporations' (the "Utility") proposed increase in its schedule of water rates and charges, we have, at your request, compiled this special purpose report for submission to the Indiana Utility Regulatory Commission.

This special purpose report has been prepared for the purpose of requesting approval of an increase in rates from the Indiana Utility Regulatory Commission and should not be used for any other purpose.

Further, the pro forma financial information in this report which has not been compiled, reviewed or audited by us, is based upon financial information for the twelve months ended June 30, 2023, which was compiled by us and assumptions provided by management and their consulting engineers or obtained from other sources. This pro forma financial information is prepared for the purpose of showing the estimated financial effects on the Utility's revenue and revenue requirements of the debt service resulting from the proposed long-term financing which may be reasonably fixed, known or measured. The actual results achieved may vary from the pro forma financial information and the variations may be material. We have no responsibility to update this report for events and circumstances occurring after the date of this report.

We have compiled the accompanying comparative statement of net position of the Utility as of December 31, 2020, 2021 and 2022 and the related comparative statements of revenues, expenses, and changes in net position, and cash flows for the periods then ended and supplementary data. We have not audited or reviewed the accompanying historical financial statements and supplementary data, and accordingly, do not express an opinion or provide any assurance about whether the financial statements are in accordance with accounting principles generally accepted in the United States of America.

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America and for designing, implementing, and maintaining internal control relevant to the preparation and fair presentation of the financial statements.

(Continued on next page)

Our responsibility is to conduct the compilation in accordance with Statements on Standards for Accounting and Review Services issued by the American Institute of Certified Public Accountants. The objective of a compilation is to assist management in presenting financial information in the form of financial statements without undertaking to obtain or provide any assurance that there are no material modifications that should be made to the financial statements.

Management has elected to omit substantially all of the disclosures required by generally accepted accounting principles. If the omitted disclosures were included in the financial statements, they might influence the user's conclusions about the Utility's financial position, results of operations and its cash flows. Accordingly, these financial statements are not designed for those who are not informed about such matters.

Baker Tilly US, LLP

EDWARDSVILLE WATER AUTHORITY

PRO FORMA FINANCIAL INFORMATION

EDWARDSVILLE WATER AUTHORITY

PRO FORMA ANNUAL CASH OPERATING EXPENSES

(See Explanation of Adjustments 4 - 6)

	Test Year	Adjustment	Ref.	Pro Forma
Annual Operating Expenses:				
Salaries	$686,057	$65,115	(1)	$751,172
Payroll taxes	54,257	3,208	(2)	57,465
Purchased power	246,290			246,290
Purchased water	10,835			10,835
Chemicals	47,508			47,508
Materials and supplies	(8,590)	65,084	(5)	56,494
Repairs	57,800	257,984	(8)	315,784
Water sample tests	4,818			4,818
Rent	1,789			1,789
Transportation	44,443			44,443
Fees and licenses	16,269			16,269
Uniforms and laundry	16,476			16,476
Bad debt expense	1,493			1,493
General and Administrative Expenses:				
Insurance - employees	129,215	6,165	(4)	135,380
Pension expense	37,504	6,759	(3)	44,263
Director's fees	24,550			24,550
Office expense	62,828			62,828
Professional fees	123,546	2,696	(6)(7)	126,242
Insurance - vehicles	40,976			40,976
Miscellaneous	20,732			20,732
Sub-totals	$1,618,795	$407,011		$2,025,806

(Continued on next page)

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

(Cont'd)

PRO FORMA ANNUAL CASH OPERATING DISBURSEMENTS
(Explanation of Adjustments)

Adjustment (1) - Salaries and Wages

To adjust test year salaries and wages to reflect management estimates of staffing levels and pay rates.

Pro forma salaries and wages	$751,172
Less test year salaries and wages	(686,057)
Adjustment	$65,115

Adjustment (2) - FICA

To adjust test year FICA expense to reflect pro forma salaries and wages.

Pro forma salaries and wages	$751,172
Times Current FICA Rate	7.65%
Sub-total	57,465
Less test year FICA expense	(54,257)
Adjustment	$3,208

Adjustment (3) - Pension Expense

To adjust test year pension expenses to reflect pro forma salaries and wages.

Pro forma eligible salaries and wages	$751,172
Times 5%	5.0%
Sub-total	37,559
Less test year pension expense	(30,800)
Adjustment	$6,759

Adjustment (4) - Employee Insurance and HSA

To adjust test year employee insurance and HSA to reflect the most recent premium renewal information provided by utility management.

Year to date monthly premium cost (Health, Dental, HSA Contribution, Life, Vision and STD)	$71,050
Times 2	2
Pro forma 2023 total employee insurance and HSA expense	$142,100
Less test year insurance and HSA expenses	(135,935)
Adjustment	$6,165

(Continued on next page)

(See Accountants' Compilation Report)

PRO FORMA ANNUAL CASH OPERATING DISBURSEMENTS
(Explanation of Adjustments)

Adjustment (5) - Materials and Supplies

To adjust materials and supplies (Act. No. 620-001) to normalize for an entry made in December of 2022 to reclassify items to capital assets and the assumed 2023 adjustment based on activity through June 30, 2023.

Materials and Supplies - December 2022 adjustment	$65,231
Materials and Supplies - Assumed 2023 Adjustment	(147)
Adjustment	$65,084

Adjustment (6) - Non-recurring Charges

To adjust the test year to exclude non-recurring charges.

Account	Date	Description	Amount
632-000	10/30/2022	577 BTMA16611/30 DAY FILING NON-RECURRING CHARGES	($6,410.00)
633-000	8/31/2022	0138 832075/LEGAL (AUG 2022) - 30 DAY FILE/BUS ENT/WATER AUTH	(2,529.25)
633-000	9/30/2022	0138 834080/LEGAL (SEPT 2022) - WATER AUTHORITY	(2,439.50)
633-000	10/31/2022	0138 837034/LEGAL (OCT 2022) - WATER AUTHORITY/RATE CASE	(476.00)
633-000	01/01/2023	0138 849087/LEGAL (MARCH 2023) - ARROWOOD RESEARCH	(1,177.00)
633-000	01/31/2023	0138 843454/LEGAL (JANUARY 2023) - MEMBER VOTING/IURC ISSUE	(2,799.00)
633-000	03/31/2023	0138 INV 849087/LEGAL (MARCH 2023) - ARROWOOD RESEARCH	(1,177.00)
633-000	03/31/2023	0138 849086/LEGAL (MARCH 2023) - IURC/AUDIT/ARROW/ANNUAL MTG	(9,083.20)
633-000	05/31/2023	0138 854875/LEGAL #2 (MAY 2023) - RAMSEY/RATE CASE/W AUTH	(1,841.50)
633-000	06/30/2023	0138 856089/LEGAL (JULY 2023) - RATE CASE/WATER AUTHORITY	(5,207.00)
633-000	06/30/2023	0138 856088/LEGAL (JUNE 2023) - WATER AUTHORITY	(1,664.50)
		Adjustment	($34,803.95)
		Adjustment (Rounded)	($34,804)

Adjustment (7) - Rate Case Fees

To adjust the test year to provide an annual allowance for current rate case fees.

Estimated Rate Case Fees

Legal Fees	$75,000	
Financial and Rate Fees	75,000	
Sub-total		$150,000
Amortized over 4 years (2023 - 2027)		4
Adjustment		$37,500

(Continued on next page)

EDWARDSVILLE WATER AUTHORITY

(Cont'd)

PRO FORMA ANNUAL CASH OPERATING DISBURSEMENTS

(Explanation of Adjustments)

Adjustment (8) - Periodic Maintenance Expenses

To adjust the test year expenses for pro forma well, treatment plant, tanks, pump and distribution system periodic maintenance.

	Description	Frequency	Annual Amount
Wells:			
Well Cleaning	$30,000 per well, 4 wells	(8 years)	$15,000
Well services/ flow test	$4,950 every year	(yearly)	4,950
Well Painting	$8,000 per well, 4 wells	(10 years)	3,200
Well starter maintenance	$4,500 per well, 4 wells	(10 years)	1,800
Treatment Plant:			
Filter Media testing: 4 filters	$5,000.00	(2 years)	2,500
Filter Media maintenance: 4 filters	$88,339 per filter	(10 years)	35,336
Backwash waste tank clean out	$5,764	(3 years)	1,921
Pump services	$4,950	(yearly)	4,950
Meter testing at the plant	$2,000	(yearly)	2,000
Chlorine and chemical services	Plant and pre chlorine $6,393	(yearly)	6,393
Building Maintenance/generator	$1,512	(yearly)	1,512
Chemical feed equipment maintenance	$1,715 2 pumps	(2 years)	1,715
Lab testing equipment maintenance	$1,570.00	(yearly)	1,570
SCADA Maintenance - Plant	$1,950	(yearly)	1,950
Tanks:			
Suez Contracted Tanks/ attached sheet	$203,039.00	(yearly)	203,039
SCADA maintenance - Tanks	$2,600 each tank site, 6 tanks	(5 years)	3,120
Pumps and Distribution			
SCADA maintenance - Booster Stations and Control Valves	$1,300	(yearly)	1,300
Hickman Hill/EBS VFD maintenance	2-20hp $3,500 each/ 1-40hp $4,500	(15 years)	767
Hickman Hill/well generator maintenance	$1,693.00	(yearly)	1,693
Transfer Pump Maintenance	$14,230, 2- Transfer Pumps	(15 years)	1,897
High Service Pump Maintenance	$9,475, 4-high service pumps	(15 years)	2,527
200 hp motor (wells)	$29,332, 4-wells	(15 years)	7,822
Building Maintenance			5,433
Sub-total			312,394
Less test year periodic maintenance expenses*			(54,410)
Adjustment			$257,984

* Note a portion of the test year periodic maintenance expenses were capitalized and not included in operation and maintenance expenses.

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

NORMALIZED ANNUAL WATER OPERATING REVENUES AT EXISTING RATES

Billing Cycle	Existing Customers Billed Residential	Increase (Decrease) in Users Residential	Times Additional Monthly Bills	Additional Monthly Bills
Jul-22	4503			
Aug-22	4543	40	1	40
Sep-22	4531	(12)	2	(24)
Oct-22	4545	14	3	42
Nov-22	4553	8	4	32
Dec-22	4555	2	5	10
Jan-23	4563	8	6	48
Feb-23	4569	6	7	42
Mar-23	4573	4	8	32
Apr-23	4577	4	9	36
May-23	4581	4	10	40
Jun-23	4587	6	11	66
	Totals			364
	Times residential bill for 4,000 gallons at existing rates		x	$38.25
	Total normalized increase in sales for existing residential customers			13,923
	Plus test year metered sales (1)			2,688,393
	Normalized metered sales subject to increase			$2,702,316

(1) Excludes the monthly charge of $2,895 for Town of Elizabeth.

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

PRO FORMA ANNUAL REVENUE REQUIREMENTS AND ANNUAL OPERATING REVENUES
See Explanation of References, page 9

	12 Months Ended 6/30/2023	Adjustments	Ref.	Pro Forma
Revenue Requirements:				
Operation and Maintenance Expenses	$1,618,795	$407,011	(1)	$2,025,806
Debt Service:				
Outstanding Notes	649,972	69,173	(2)	719,145
Depreciation Expense	418,983	108,845	(3)	527,828
Total Annual Revenue Requirements	$2,687,750	$585,029		$3,272,779
Less other operating revenues	(30,950)	-	(4)	(30,950)
Less normalized interest income	(179,953)	144,562	(5)	(35,391)
Less Town of Elizabeth revenues	(34,740)	-	(4)	(34,740)
Net Annual Revenue Requirements	$2,442,107	$729,591		$3,171,698
Annual Revenues:				
Normalized metered water sales	$2,688,393	$13,923	(6)	$2,702,316
Additional Revenue Required				$469,382
Approximate Across-The-Board Increase In Present Rates and Charges				17.37%
Change in Average Monthly Residential Bill (Current Bill $38.25)				$6.63
Approximate Average Residential Monthly Bill (4,000 gallons)				$44.88

(Continued on next page)

(See Accountants' Compilation Report)

PRO FORMA ANNUAL REVENUE REQUIREMENTS AND ANNUAL OPERATING REVENUES

(Explanation of References)

(1) Based on the pro forma operation and maintenance expenses as shown on page 3.

(2) To provide an allowance for the maximum annual debt service on the Outstanding Notes, see page .

(3) To provide an allowance for annual capital improvements based on annual depreciation expense as calculated below:

Capital assets as of June 30, 2023	$21,440,757
Plus construction work in progress as of June 30, 2023	1,131,373
Plus construction cash on hand as of June 30, 2023	3,609,716
Plus developer installed lines not included in capital assets at June 30, 2023	763,295
Less historical capitalized periodic maintenance*	(553,735)
Sub-total	26,391,406
Times composite 2% depreciation rate	2%
Pro forma annual depreciation expense	$527,828

* A portion of the periodic maintenance have been capitalized dating back to 2020. These entries have been excluded because funding will be provided in the pro forma operation and maintenance expense accounts.

(4) Based on test year ended June 30, 2023 amounts.

(5) Normalized interest income to exclude earnings on the construction accounts held at the Bank of New York Mellon.

Test year interest income	$179,953
Less earnings from the construction fund	(144,562)
Normalized Interest Income	$35,391

(6) Based on the normalized revenues as calculated on page 7.

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

SCHEDULE OF PRESENT AND PROPOSED WATER RATES AND CHARGES
(Pursuant to IURC Order in Cause No. 44642)

I. METERED RATES AND CHARGES

(A) Metered (Volumetric) Rates

For use of and services rendered by the waterworks system of Edwardsville Water Corporation based on the use of water supplied by said waterworks system:

Metered Consumption			Present: Monthly Rate Per 1,000 Gallons	Proposed: Monthly Rate Per 1,000 Gallons
First	15,000	gallons	$7.63	$8.95
Next	110,000	gallons	7.57	8.88
Over	125,000	gallons	6.97	8.18

(B) Service Charge

Each user shall pay a monthly service charge in accordance with the following applicable size of meter installed.

Meter Size		Present: Per Month	Proposed: Per Month
5/8 - 3/4	inch meter	$7.74	$9.08
1	inch meter	17.00	19.95
1 1/2	inch meter	32.44	38.07
2	inch meter	50.96	59.81
3	inch meter	94.19	110.56
4	inch meter	155.94	183.03
6	inch meter	310.31	364.21
8	inch meter	495.56	581.64

(Continued on next page)

(See Accountants' Compilation Report)

SCHEDULE OF PRESENT AND PROPOSED WATER RATES AND CHARGES
(Pursuant to IURC Order in Cause No. 44642)

I. METERED RATES AND CHARGES (Cont'd)	Present	Proposed
(C) Sales for Resale:		
Town of Elizabeth:		
All Water supplied to Town of Elizabeth shall be billed monthly in accordance with the following rates and charges.		
Monthly service charge:		
For remainder of Agreement term (assumes no water purchases)	$2,895.00	$2,895.00
If water purchases are required (for remainder of Agreement term)	$3,477.76	$3,477.76
Metered rate per 1,000 gallons	$2.05	$2.05
Town of Lanesville:		
All Water supplied to Town of Lanesville shall be billed monthly in accordance with the following rates and charges.		
Monthly service charge	$5,928.42	$6,958.16
Metered rate per 1,000 gallons	$2.05	$2.41
Town of Greenville:		
All Water supplied to Town of Greenville shall be billed monthly in accordance with the following rates and charges.		
Monthly service charge	$9,448.22	$11,089.35
Metered rate per 1,000 gallons	$2.05	$2.41

(Continued on next page)

(See Accountants' Compilation Report)

SCHEDULE OF PRESENT AND PROPOSED WATER RATES AND CHARGES
(Pursuant to IURC Order in Cause No. 44642)

I. METERED RATES AND CHARGES (Cont'd)	Present	Proposed
(D) Fire Protection Service Charge	Rate Per Annum	Rate Per Annum
Automatic sprinklers		
2 inch connection*	$122.15	$143.37
3 inch connection*	274.86	322.60
4 inch connection*	488.59	573.46
6 inch connection	1,099.44	1,290.41

* 30-Day Filing #3146 Approved per conference minutes dated March 2, 2016.

II. NON-RECURRING CHARGES

(A) Membership Fee — $100.00 — $100.00

Each property owner served by Edwardsville Water Corporation must pay a membership fee of $100.00. This $100.00 is refundable if and when the property owner sells the property and is no longer served by the water system. Upon payment of the $100.00 Membership Fee, the property owner shall be issued one (1) Membership Certificate. No property owner shall hold more than one (1) Membership Certificate nor be allowed more than one (1) vote on issues at the Corporation meetings.

(B) Tap Charge — $1,525.00 — $1,525.00

All users at the time of connection to the waterworks system shall pay a charge to cover the costs of: excavating and tapping the main; furnishing and installing service pipe from the main to the lot line; furnishing and installing corporation and stop cocks; and furnishing and installing meter crock (if outside), yoke, and meter. The charge for a 5/8 inch meter tap shall be $1,525.00. The charge for a tap larger than the 5/8 inch meter tap shall be the cost of labor, materials, power machinery, transportation, and overhead incurred for installing the tap, but shall not be less than the charge for a 5/8 inch meter tap.

(C) Insufficient Funds Charge — $29.00 — $29.00

When a customer's check is not honored due to insufficient funds, a charge for processing same will be made by the Corporation in the amount of $29.00.

(D) Meter Tampering Fee — $135.00 — $135.00

When the Corporation must reconnect a meter as a result of misuse, the customer shall be required to pay a charge of $135.00 to cover the necessary expenses.

(Continued on next page)

(See Accountants' Compilation Report)

SCHEDULE OF PRESENT AND PROPOSED WATER RATES AND CHARGES
(Pursuant to IURC Order in Cause No. 44642)

II. NON-RECURRING CHARGES (Cont'd)	Present	Proposed
(E) Collection and Deferred Payment Charge	10% of first $3.00 3% of excess	10% of first $3.00 3% of excess

All bills for water service not paid within seventeen (17) days from the due date thereof, as stated in such bills, shall be subject to the collection or deferred payment charge of ten percent (10%) of the first $3.00 and three percent (3%) on the excess of over $3.00.

(F) Rental Transfer Fee	$20.00	$20.00

When a new customer requests that water service at an existing rental property be transferred to their name, the Corporation will charge the new customer a Rental Transfer Fee of $20.00.

(G) Service Run Fee	$40.00	$40.00

Any time that Utility personnel conduct an investigation into water service issues at a customer's property they will be charged the service run fee of $40.00. The services covered under the service run fee could include but are not limited to, turn-offs, turn-ons, customer requested meter reads and other similar activities.

(H) System Development Charge

All users at the time of connection to the waterworks system shall pay a charge to cover the costs of their allocated capacity in the waterworks facilities in accordance with the following applicable size of meter installed.

Meter Size			
5/8 - 3/4	inch meter	$1,100.00	$1,100.00
1	inch meter	2,750.00	2,750.00
1 1/2	inch meter	5,500.00	5,500.00
2	inch meter	8,800.00	8,800.00
3	inch meter	16,500.00	16,500.00
4	inch meter	27,500.00	27,500.00
6	inch meter	55,000.00	55,000.00
8	inch meter	88,000.00	88,000.00

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

SUPPLEMENTAL FINANCIAL DATA

EDWARDSVILLE WATER AUTHORITY

COMPARATIVE STATEMENT OF NET POSITION

ASSETS:	As of 12/31/2020	As of 12/31/2021	As of 12/31/2022	As of June 30, 2023
Current Assets:				
Operating cash and cash equivalents	$1,953,859	$2,126,908	$2,105,338	$2,220,194
Restricted cash and cash equivalents:				
Bond and interest	339,801	384,275	445,898	395,012
Customer deposits	423,783	418,628	425,103	430,538
Construction cash	-	-	5,173,044	3,609,716
Accounts receivable	229,024	247,708	236,009	206,782
Materials and supplies inventory	105,656	207,764	183,852	166,423
Prepaid expenses and other assets	36,126	36,423	34,519	21,032
Total Current Assets	3,088,249	3,421,706	8,603,763	7,049,696
Non-Current Assets:				
Debt service reserve cash and cash equivalents	683,764	683,867	691,032	705,679
Other assets, net	23,925	19,140	14,355	11,963
Sub-total	707,689	703,007	705,387	717,642
Capital Assets:				
Depreciable capital assets	20,293,477	20,652,585	21,281,769	21,440,757
Accumulated depreciation	(7,678,287)	(8,077,512)	(8,485,574)	(8,694,462)
Sub-totals	12,615,190	12,575,073	12,796,195	12,746,295
Construction in progress	-	-	29,500	1,131,373
Total Net Capital Assets	12,615,190	12,575,073	12,825,695	13,877,668
Total Non-Current Assets	13,322,879	13,278,080	13,531,082	14,595,310
Total Assets	$16,411,128	$16,699,786	$22,134,845	$21,645,006

(Continued on next page)

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

(Cont'd)

COMPARATIVE STATEMENT OF NET POSITION

LIABILITIES:	As of 12/31/2020	As of 12/31/2021	As of 12/31/2022	As of June 30, 2023
Current and Accrued Liabilities:				
Accounts payable	$33,670	$29,202	$90,275	$24,504
Accrued liabilities	21,272	28,391	26,107	(2,767)
Accrued interest	41,866	36,608	88,353	82,193
Customer deposits	423,783	418,628	425,103	430,538
Current portion of long-term debt	451,000	485,696	501,680	513,270
Total Current and Accrued Liabilities	971,591	998,525	1,131,518	1,047,738
Non-Current Liabilities:				
Long-term debt (net of deferred amounts)	4,344,838	3,886,943	8,532,642	7,850,284
Total Liabilities	$5,316,429	$4,885,468	$9,664,160	$8,898,022
NET ASSETS:				
Temporarily restricted assets	$1,447,348	$1,486,770	$1,562,033	$1,531,229
Unrestricted	9,647,351	10,327,548	10,908,652	11,215,756
Total Net Assets	$11,094,699	$11,814,318	$12,470,685	$12,746,984

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

COMPARATIVE STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

	Calendar Year Ended			12 Months Ended
	2020	2021	2022	June 30, 2023
Operating Revenues:				
Metered water sales	$2,621,862	$2,679,727	$2,661,974	$2,723,133
Other operating revenue	17,740	18,022	24,924	30,950
Total Operating Revenues	2,639,602	2,697,749	2,686,898	2,754,083
Operating Expenses:				
Salaries	623,701	664,159	730,306	686,057
Payroll taxes	49,130	50,915	57,730	54,257
Purchased power	222,741	194,489	230,693	246,290
Purchased water	7,546	8,760	9,887	10,835
Chemicals	32,926	36,877	43,885	47,508
Materials and supplies	23,334	33,838	32,645	(8,590)
Repairs	48,153	44,116	43,406	57,800
Water sample tests	5,052	6,863	7,588	4,818
Rent	-	-	2,589	1,789
Transportation	25,665	39,029	51,643	44,443
Fees and licenses	12,594	14,821	18,037	16,269
Uniforms and laundry	12,693	14,297	16,450	16,476
Bad debt expense	714	2,367	111	1,493
General and Administrative Expenses:				
Insurance - employees	131,773	155,985	147,378	129,215
Pension expense	29,414	29,537	29,324	37,504
Director's fees	25,650	20,925	24,175	24,550
Office expense	63,074	61,936	63,663	62,828
Professional fees	140,093	122,169	66,012	123,546
Insurance - vehicles	53,526	38,478	37,921	40,976
Miscellaneous	3,959	26,628	35,124	20,732
Sub-total	1,511,738	1,566,189	1,648,566	1,618,795
Depreciation and amortization expense	396,599	404,010	408,063	418,983
Total Operating Expenses	1,908,337	1,970,199	2,056,629	2,037,778
Net Operating Revenues	731,265	727,550	630,269	716,305
Other Income and Expenses:				
Interest income	5,670	2,565	63,650	179,953
Interest expense	(228,319)	(130,716)	(223,922)	(273,381)
Gain (loss) on dosposal of utility plant	700	-	-	-
Total Other Income and Expenses	(221,949)	(128,151)	(160,272)	(93,428)
Contributions	141,640	120,220	186,370	156,125
Change In Net Assets	650,956	719,619	656,367	779,002
Net Assets - Beginning	10,443,743	11,094,699	11,814,318	11,967,982
Net Assets - Ending	$11,094,699	$11,814,318	$12,470,685	$12,746,984

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

COMPARATIVE STATEMENT OF CASH FLOWS
Increase (Decrease) in cash and cash equivalents

	Calendar Year Ended			12 Months Ended
	2020	2021	2022	June 30, 2023
Cash flows from Operating Activities:				
Cash received from customers	$2,649,634	$2,679,065	$2,698,597	$2,783,310
Cash paid to suppliers, employees and others	(1,497,808)	(1,676,356)	(1,505,741)	(1,683,249)
Net Cash from Operating Activities	1,151,826	1,002,709	1,192,856	1,100,061
Cash Flows from Capital and Related Financing Activities:				
Additions to utility plant	(339,947)	(359,108)	(658,685)	(1,884,521)
Principal paid on bonds	(421,653)	(423,199)	(155,317)	(670,768)
Interest paid on bonds	(228,319)	(130,716)	(219,137)	(268,596)
Proceeds long-term borrowing	-	-	4,817,000	-
Proceeds from sale of assets	700	-	-	-
Proceeds from contributions	141,640	120,220	186,370	58,725
Net Cash from Capital Financing Activities	(847,579)	(792,803)	3,970,231	(2,765,160)
Cash Flows from Investing Activities:				
Interest income	5,670	2,565	63,650	179,953
Net Cash from Investing Activities	5,670	2,565	63,650	179,953
Cash and Cash Equivalents:				
Increase (Decrease)	309,917	212,471	5,226,737	(1,485,146)
Beginning Balance	3,091,290	3,401,207	3,613,678	8,846,284
Ending Balance	$3,401,207	$3,613,678	$8,840,415	$7,361,138

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(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

(Cont'd)

COMPARATIVE STATEMENT OF CASH FLOWS

Increase (Decrease) in cash and cash equivalents

	Calendar Year Ended			12 Months Ended
	2020	2021	2022	June 30, 2023
Reconciliation of net operating revenues to cash provided from operations:				
Net Operating Revenues	$731,265	$727,550	$630,269	$716,305
Adjustments to reconcile net income to net cash provided from operating activities:				
Depreciation Expense	396,599	404,010	408,063	418,983
Change in assets and liabilities:				
Decrease (Increase) in				
Accounts receivable	10,032	(18,684)	11,699	29,227
Materials and supplies inventory	(1,023)	(102,108)	23,912	17,429
Prepaid expenses	4,472	(297)	1,904	13,487
Increase (Decrease) in				
Accounts payable	9,717	(4,468)	61,073	(65,771)
Accrued liabilities	1,784	7,119	(2,284)	(28,874)
Accrued interest	(6,070)	(5,258)	51,745	(6,160)
Customer deposits	5,050	(5,155)	6,475	5,435
Net Cash Provided from Operations	$1,151,826	$1,002,709	$1,192,856	$1,100,061

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

COMPARISON OF ACCOUNT BALANCES WITH MINIMUM BALANCES REQUIRED

Cash and Investments:	Account Balances 6/30/2023	Minimum Balance Required (1)	Variance
General Fund (2)	$401,422	$337,634	$63,788
Period Maintenance Sub-Account (3)	848,103 *	848,103	-
Project and Equipment Sub-Account (4)	970,668	527,828	442,840
Sinking Fund:			
Principal and Interest Account (5)	395,012	319,193	75,819
Debt Service Reserve Account (6)	705,679	640,605	65,074
			-
Customer Deposit Fund (7)	430,538	430,538	-
Construction Fund (8)	3,609,716	3,609,716	-
Totals	$7,361,138	$6,713,617	$647,521

*Balance as of June 30, 2023 does not reflect the 2023 payments to Suez for the tank maintenance contract ($222,557)

(1) Recommended reserves before funds may be transferred to another account in accordance with the outstanding loan documents and typical management practices.

(2) **General Fund:** The balance maintained in the General Fund should be sufficient to pay the expenses of operation, repair, and maintenance of the utility for the next succeeding two (2) calendar months.

Pro forma operation and maintenance expense	$2,025,806
Times factor for 2 months	16.67%
Required Reserve	$337,634

(3) Periodic Maintenance Sub-Account: In order to provide for ongoing periodic maintenance, $28,460 per month is deposited into the Periodic Maintenance Sub-Account, per board policy.

Current Reserve	$848,103

(4) Project and Equipment Sub-Account: In order to provide for ongoing capital projects and equipment replacement, $12,371 per month is deposited into the Project and Equipment Sub-Account, per board policy.

Minimum balance suggested - pro forma depreciation expense	$527,828

(Continued on next page)

(See Accountants' Compilation Report)

COMPARISON OF ACCOUNT BALANCES WITH MINIMUM BALANCES REQUIRED

(5) **Principal and Interest Account:** A balance must be maintained equal to the sum of the monthly transfers in the amount of (1/6) of the next succeeding principal payment and the amount of (1/6) of the next succeeding interest payment.

2008 Notes	Amount		Factor	Months	Total
Principal Due 7/1/2023	$45,000	x	1/6	6	$45,000
Interest Due 7/1/2023	8,043	x	1/6	6	8,043
2016B Notes					
Principal Due 7/1/2023	191,000		1/6	6	191,000
Interest Due 7/1/2023	19,970		1/6	6	19,970
2022 Notes					
Principal Due 7/1/2023	1,000		1/6	6	1,000
Interest Due 7/1/2023	54,180		1/6	6	54,180
Required Reserve					$319,193

Note: the 2012 RD Note is paid monthly in the amount of $6,545.

(6) **Debt Service Reserve Account**: Equal to the maximum principal and interest payment on the outstanding bonds.

Required Reserve	$640,605

(7) **Customer Deposit Fund**: Monies are restricted for return to customers.

(8) **Construction Fund**: Monies are restricted for the ongoing construction of the new elevated water storage tank.

EDWARDSVILLE WATER AUTHORITY

SCHEDULE OF AMORTIZATION OF $441,000 PRINCIPAL AMOUNT OF OUTSTANDING AMENDED TAXABLE SECURED NOTES, SERIES 2008A

Principal and interest payable semiannually on January 1st and July 1st.
Interest rate as shown.

Payment Date	Principal Balance	Interest Rate	Debt Service			Bond Year Total
			Principal	Interest	Total	
	(In $1,000's)	(%)	(In $1,000's)	(----------In Dollars----------)		
01/01/24	$441	3.31	$46	$7,298.55	$53,298.55	$53,298.55
07/01/24	395	3.31	47	6,537.25	53,537.25	
01/01/25	348	3.31	47	5,759.40	52,759.40	106,296.65
07/01/25	301	3.31	48	4,981.55	52,981.55	
01/01/26	253	3.31	49	4,187.15	53,187.15	106,168.70
07/01/26	204	3.31	49	3,376.20	52,376.20	
01/01/27	155	3.31	51	2,565.25	53,565.25	105,941.45
07/01/27	104	3.31	52	1,721.20	53,721.20	
01/01/28	52	3.31	52	860.60	52,860.60	106,581.80
	Totals		$441	$37,287.15	$478,287.15	$478,287.15

(See Accountants' Compilation Report)

EDWARDSVILLE WATER CORPORATION

SCHEDULE OF OUTSTANDING 2012 RD LOAN REPAYMENTS

Payments are made monthly.

12 Months Ending December 31,		Principal	Interest	Total
2024		$30,611	$47,929	78,540
2025		31,660	46,880	78,540
2026		32,746	45,794	78,540
2027		33,868	44,672	78,540
2028		35,029	43,511	78,540
2029		36,230	42,310	78,540
2030		37,472	41,068	78,540
2031		38,756	39,784	78,540
2032		40,084	38,456	78,540
2033		41,458	37,082	78,540
2034		42,879	35,661	78,540
2035		44,349	34,191	78,540
2036		45,869	32,671	78,540
2037		47,442	31,098	78,540
2038		49,068	29,472	78,540
2039		50,750	27,790	78,540
2040		52,489	26,051	78,540
2041		54,288	24,252	78,540
2042		56,149	22,391	78,540
2043		58,074	20,466	78,540
2044		60,065	18,475	78,540
2045		62,123	16,417	78,540
2046		64,253	14,287	78,540
2047		66,455	12,085	78,540
2048		68,733	9,807	78,540
2049		71,089	7,451	78,540
2050		73,526	5,014	78,540
2051		76,046	2,494	78,540
2052	**	38,995	275	39,270
Totals		$1,440,558	$797,832	$2,238,390

** Final payment due June 1, 2052.

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

SCHEDULE OF AMORTIZATION OF $1,806,000 PRINCIPAL AMOUNT OF OUTSTANDING TAXABLE SECURED NOTES, SERIES 2016B
Principal and interest payable semiannually on January 1st and July 1st.
Interest rate as shown.

Payment Date	Principal Balance	Interest Rate	Debt Service			Bond Year Total
			Principal	Interest	Total	
	(-In $1,000's-)	(%)	(-In $1,000's-)	(---------- In Dollars----------		)
01/01/24	$1,806	2.00	$191	$18,060.00	$209,060.00	$209,060.00
07/01/24	1,615	2.00	192	16,150.00	208,150.00	
01/01/25	1,423	2.00	197	14,230.00	211,230.00	419,380.00
07/01/25	1,226	2.00	200	12,260.00	212,260.00	
01/01/26	1,026	2.00	201	10,260.00	211,260.00	423,520.00
07/01/26	825	2.00	205	8,250.00	213,250.00	
01/01/27	620	2.00	205	6,200.00	211,200.00	424,450.00
07/01/27	415	2.00	206	4,150.00	210,150.00	
01/01/28	209	2.00	209	2,090.00	211,090.00	421,240.00
	Totals		$1,806	$91,650.00	$1,897,650.00	$1,897,650.00

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

SCHEDULE OF AMORTIZATION OF $4,815,000 PRINCIPAL AMOUNT OF OUTSTANDING TAXABLE SECURED NOTES, SERIES 2022

Principal and interest payable semi-annually on January 1st and July 1st.

Payment Date	Principal Balance (-In $1,000's-)	Interest Rates (%)	Debt Service Principal (-In $1,000's-)	Debt Service Interest (In Dollars)	Debt Service Total (In Dollars)	Bond Year Total (In Dollars)
01/01/24	$4,815	2.25	$1	$54,168.75	$55,168.75	$55,168.75
07/01/24	4,814	2.25	1	54,157.50	55,157.50	
01/01/25	4,813	2.25	1	54,146.25	55,146.25	110,303.75
07/01/25	4,812	2.25	1	54,135.00	55,135.00	
01/01/26	4,811	2.25	1	54,123.75	55,123.75	110,258.75
07/01/26	4,810	2.25	1	54,112.50	55,112.50	
01/01/27	4,809	2.25	1	54,101.25	55,101.25	110,213.75
07/01/27	4,808	2.25	1	54,090.00	55,090.00	
01/01/28	4,807	2.25	1	54,078.75	55,078.75	110,168.75
07/01/28	4,806	2.25	147	54,067.50	201,067.50	
01/01/29	4,659	2.25	149	52,413.75	201,413.75	402,481.25
07/01/29	4,510	2.25	150	50,737.50	200,737.50	
01/01/30	4,360	2.25	152	49,050.00	201,050.00	401,787.50
07/01/30	4,208	2.25	154	47,340.00	201,340.00	
01/01/31	4,054	2.25	155	45,607.50	200,607.50	401,947.50
07/01/31	3,899	2.25	157	43,863.75	200,863.75	
01/01/32	3,742	2.25	159	42,097.50	201,097.50	401,961.25
07/01/32	3,583	2.25	161	40,308.75	201,308.75	
01/01/33	3,422	2.25	162	38,497.50	200,497.50	401,806.25
07/01/33	3,260	2.25	164	36,675.00	200,675.00	
01/01/34	3,096	2.25	166	34,830.00	200,830.00	401,505.00
07/01/34	2,930	2.25	168	32,962.50	200,962.50	
01/01/35	2,762	2.25	170	31,072.50	201,072.50	402,035.00
07/01/35	2,592	2.25	172	29,160.00	201,160.00	
01/01/36	2,420	2.25	174	27,225.00	201,225.00	402,385.00
07/01/36	2,246	2.25	176	25,267.50	201,267.50	
01/01/37	2,070	2.25	178	23,287.50	201,287.50	402,555.00
07/01/37	1,892	2.25	180	21,285.00	201,285.00	
01/01/38	1,712	2.25	182	19,260.00	201,260.00	402,545.00
07/01/38	1,530	2.25	184	17,212.50	201,212.50	
01/01/39	1,346	2.25	186	15,142.50	201,142.50	402,355.00
07/01/39	1,160	2.25	188	13,050.00	201,050.00	
01/01/40	972	2.25	190	10,935.00	200,935.00	401,985.00
07/01/40	782	2.25	192	8,797.50	200,797.50	
01/01/41	590	2.25	194	6,637.50	200,637.50	401,435.00
07/01/41	396	2.25	197	4,455.00	201,455.00	
01/01/42	199	2.25	199	2,238.75	201,238.75	402,693.75
	Totals		$4,815	$1,310,591.25	$6,125,591.25	$6,125,591.25

(See Accountants' Compilation Report)

EDWARDSVILLE WATER AUTHORITY

SCHEDULE OF COMBINED NOTE AMORTIZATION

Bond Year Ending	2008A Notes	SRF 2016B Notes	SRF 2022 Notes	Sub-total	Note Year Total	RD Loan *	Total	Bond Year Total
01/01/24	$53,298.55	$209,060.00	$55,168.75	$317,527.30	$636,720.60	$39,270.00	$356,797.30	$356,797.30
07/01/24	53,537.25	208,150.00	55,157.50	316,844.75		39,270.00	356,114.75	
01/01/25	52,759.40	211,230.00	55,146.25	319,135.65	635,980.40	39,270.00	358,405.65	714,520.40
07/01/25	52,981.55	212,260.00	55,135.00	320,376.55		39,270.00	359,646.55	
01/01/26	53,187.15	211,260.00	55,123.75	319,570.90	639,947.45	39,270.00	358,840.90	718,487.45
07/01/26	52,376.20	213,250.00	55,112.50	320,738.70		39,270.00	360,008.70	
01/01/27	53,565.25	211,200.00	55,101.25	319,866.50	640,605.20	39,270.00	359,136.50	719,145.20
07/01/27	53,721.20	210,150.00	55,090.00	318,961.20		39,270.00	358,231.20	
01/01/28	52,860.60	211,090.00	55,078.75	319,029.35	637,990.55	39,270.00	358,299.35	716,530.55
07/01/28			201,067.50	201,067.50		39,270.00	240,337.50	
01/01/29			201,413.75	201,413.75	402,481.25	39,270.00	240,683.75	481,021.25
07/01/29			200,737.50	200,737.50		39,270.00	240,007.50	
01/01/30			201,050.00	201,050.00	401,787.50	39,270.00	240,320.00	480,327.50
07/01/30			201,340.00	201,340.00		39,270.00	240,610.00	
01/01/31			200,607.50	200,607.50	401,947.50	39,270.00	239,877.50	480,487.50
07/01/31			200,863.75	200,863.75		39,270.00	240,133.75	
01/01/32			201,097.50	201,097.50	401,961.25	39,270.00	240,367.50	480,501.25
07/01/32			201,308.75	201,308.75		39,270.00	240,578.75	
01/01/33			200,497.50	200,497.50	401,806.25	39,270.00	239,767.50	480,346.25
07/01/33			200,675.00	200,675.00		39,270.00	239,945.00	
01/01/34			200,830.00	200,830.00	401,505.00	39,270.00	240,100.00	480,045.00
07/01/34			200,962.50	200,962.50		39,270.00	240,232.50	
01/01/35			201,072.50	201,072.50	402,035.00	39,270.00	240,342.50	480,575.00
07/01/35			201,160.00	201,160.00		39,270.00	240,430.00	
01/01/36			201,225.00	201,225.00	402,385.00	39,270.00	240,495.00	480,925.00
07/01/36			201,267.50	201,267.50		39,270.00	240,537.50	
01/01/37			201,287.50	201,287.50	402,555.00	39,270.00	240,557.50	481,095.00
07/01/37			201,285.00	201,285.00		39,270.00	240,555.00	
01/01/38			201,260.00	201,260.00	402,545.00	39,270.00	240,530.00	481,085.00
07/01/38			201,212.50	201,212.50		39,270.00	240,482.50	
01/01/39			201,142.50	201,142.50	402,355.00	39,270.00	240,412.50	480,895.00
07/01/39			201,050.00	201,050.00		39,270.00	240,320.00	
01/01/40			200,935.00	200,935.00	401,985.00	39,270.00	240,205.00	480,525.00
07/01/40			200,797.50	200,797.50		39,270.00	240,067.50	
01/01/41			200,637.50	200,637.50	401,435.00	39,270.00	239,907.50	479,975.00
07/01/41			201,455.00	201,455.00		39,270.00	240,725.00	
01/01/42			201,238.75	201,238.75	402,693.75	39,270.00	240,508.75	481,233.75
07/01/42						39,270.00	39,270.00	
01/01/43						39,270.00	39,270.00	78,540.00
07/01/43						39,270.00	39,270.00	
01/01/44						39,270.00	39,270.00	78,540.00
07/01/44						39,270.00	39,270.00	
01/01/45						39,270.00	39,270.00	78,540.00
07/01/45						39,270.00	39,270.00	
01/01/46						39,270.00	39,270.00	78,540.00
07/01/46						39,270.00	39,270.00	
01/01/47						39,270.00	39,270.00	78,540.00
07/01/47						39,270.00	39,270.00	
01/01/48						39,270.00	39,270.00	78,540.00
07/01/48						39,270.00	39,270.00	
01/01/49						39,270.00	39,270.00	78,540.00
07/01/49						39,270.00	39,270.00	
01/01/50						39,270.00	39,270.00	78,540.00
07/01/50						39,270.00	39,270.00	
01/01/51						39,270.00	39,270.00	78,540.00
07/01/51						39,270.00	39,270.00	
01/01/52						39,270.00	39,270.00	78,540.00
07/01/52						39,270.00	39,270.00	39,270.00
Totals	$478,287.15	$1,897,650.00	$6,125,591.25	$8,501,528.40	$8,820,721.70	$2,277,660.00	$10,779,188.40	$10,779,188.40
								$717,170.90

Average annual debt service for the four note years ending January 1, 2028

(See Accountants' Compilation Report)