STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF CITIZENS WATER OF WESTFIELD, LLC FOR (1) AUTHORITY TO INCREASE RATES AND CHARGES FOR WATER UTILITY SERVICE AND APPROVAL OF A NEW SCHEDULE OF RATES AND CHARGES; (2) AUTHORITY TO IMPLEMENT AND APPROVAL OF A SYSTEM DEVELOPMENT CHARGE; AND (3) APPROVAL OF CERTAIN REVISIONS TO ITS TERMS AND CONDITIONS APPLICABLE TO WATER UTILITY SERVICE	)))))))))	**CAUSE NO. 46020**

VERIFIED DIRECT TESTIMONY
of
EDWARD J. BUKOVAC

On
Behalf of
Petitioner,
Citizens Water of Westfield, LLC

Petitioner's Exhibit No. 4

INTRODUCTION AND BACKGROUND

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A1. My name is Edward J. Bukovac. My business address is 2020 North Meridian Street, Indianapolis, Indiana.

Q2. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A2. I am employed by the Board of Directors for Utilities of the Department of Public Utilities of the City of Indianapolis (the "Board of Directors" or "Board"), which does business as Citizens Energy Group ("Citizens Energy Group"). Pursuant to Management and Operating Agreements approved by this Commission in Cause No. 44273, Citizens Energy Group provides certain management and operational services necessary and desirable for the operation of the Citizens Water of Westfield, LLC ("Westfield Water" or "Petitioner") utility. I serve as Vice President of Citizens Water of Westfield as well as Director of Westfield Utilities for Citizens Energy Group.

Q3. PLEASE DESCRIBE THE DUTIES AND RESPONSIBILITIES OF YOUR PRESENT POSITION.

A3. I have responsibility for managing Citizens Water of Westfield's capital investments and operations.

Q4. HOW LONG HAVE YOU BEEN EMPLOYED BY CITIZENS ENERGY GROUP?

A4. I have been employed by Citizens Energy Group since 2013.

Q5. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A5. I graduated from Purdue University in West Lafayette, Indiana with Bachelor of Science Degrees in Civil Engineering and Land Surveying Engineering in 2003. I am a licensed Professional Engineer in the State of Indiana. I received a Master of Business

Administration with a graduate certificate in Finance in 2015 from the University of Indianapolis.

Q6. PLEASE DESCRIBE YOUR BUSINESS EXPERIENCE?

A6. From 2003 to 2009, I was employed as a Staff and Project Engineer for Manhard Consulting, Ltd. in North Vernon, Illinois working on water, wastewater and storm water projects throughout the United States for private and public clients. In 2009, I joined DLZ Indiana as a Project Engineer and later was promoted to Project Manager, mainly working with the City of Indianapolis Clean Stream and Rebuild Indy Teams on wastewater and storm water projects. In 2013, I began my career at Citizens Energy Group as a Project Manager in Capital Programs and Engineering ("CP&E") and have held various roles throughout my time with the utility. I served as Senior Manager of Engineering and Plant Operations for Citizens Energy Group, until I began serving in my present position in 2020.

Q7. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A7. Yes. I prepared and sponsored testimony in Cause No. 44835 Citizens Wastewater of Westfield's general rate case, Cause No. 45362 Citizens Wastewater of Westfield's acquisition of JLB Development, Inc., and testified in a complaint proceeding. Additionally, I testified on behalf of Citizens Wastewater of Westfield and Citizens Water of Westfield in their respective requests for financing authority in Cause Nos. 45103 and 45968 and Cause Nos. 45104 and 45969.

Q8. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A8. The purpose of my testimony is to describe Westfield Water's efforts to maintain and enhance the safety and reliability of the water system through its operational and capital planning processes and capital improvement projects. In terms of system operations, I

describe the customers, facilities, and service area of Westfield Water. I also discuss the day-to-day operations, inspection, and maintenance programs that keep the system in good operating order. Further, I note some of the recent increases in operating expenses that we have experienced. Importantly, I address the capital improvements that Westfield Water has made since the acquisition and those that it plans to make through the forward test year, including projects that increase system redundancy, storage, supply, and capacity. Westfield Water has been committed to making the improvements needed to keep up with the growth in the Westfield community, and the relief requested in this case will allow it to continue to do so.

DESCRIPTION OF THE WATER SYSTEM AND OPERATIONS

Q9. ARE YOU GENERALLY FAMILIAR WITH THE WESTFIELD WATER SYSTEM, SERVICE AREA AND THE CUSTOMERS SERVED BY THE SYSTEM?

A9. Yes. I am familiar with the general design, configuration and operation of the water system and its various assets, including distribution mains, booster stations, storage tanks and treatment facilities. I am also familiar with the service territory and customer base served by the system that includes a mix of residential and non-residential customers.

Q10. PLEASE PROVIDE AN OVERVIEW OF WESTFIELD WATER'S OPERATIONS, CUSTOMER BASE, AND SERVICE AREA.

A10. Westfield Water provides water distribution and treatment services to over 21,000 retail customers within Westfield, parts of Noblesville and a portion of Madison County.[1]

[1] Westfield Water acquired the assets, customers, and service territory of Southern Madison Utilities, LLC d/b/a Citizens of South Madison ("CSM") on June 30, 2023, through a merger that was done as part of an internal reorganization. Those assets, customers, and service area are located in Madison County.

Petitioner's Attachment EJB-1 illustrates the approximate service areas and shows there are two primary areas in the Westfield Service Territory, the area located in Hamilton County and the area located in Madison County, which was formerly a part of Citizens South Madison ("CSM"). In general, the service territory area is made up of approximately 94% residential customers.

Q11. IS THERE ANYTHING NOTEWORTHY ABOUT THE WATER CONSUMPTION PATTERNS OF WESTFIELD WATER CUSTOMERS?

A11. In general, Westfield Water customers typically have a much higher usage in the summer than in the winter. As shown in Figure EJB – 1 (below), the peak days and total usage is increasing each year. The daily use can be as much as 2.7 times the amount of water in June than in January. In addition, that water is typically used primarily during the early morning hours when automatic irrigation systems are in use and hourly flow rates in the Westfield system can reach over 20 Million Gallons per Day ("MGD") as shown in Figure EJB – 2 (below).

FIGURE EJB-1

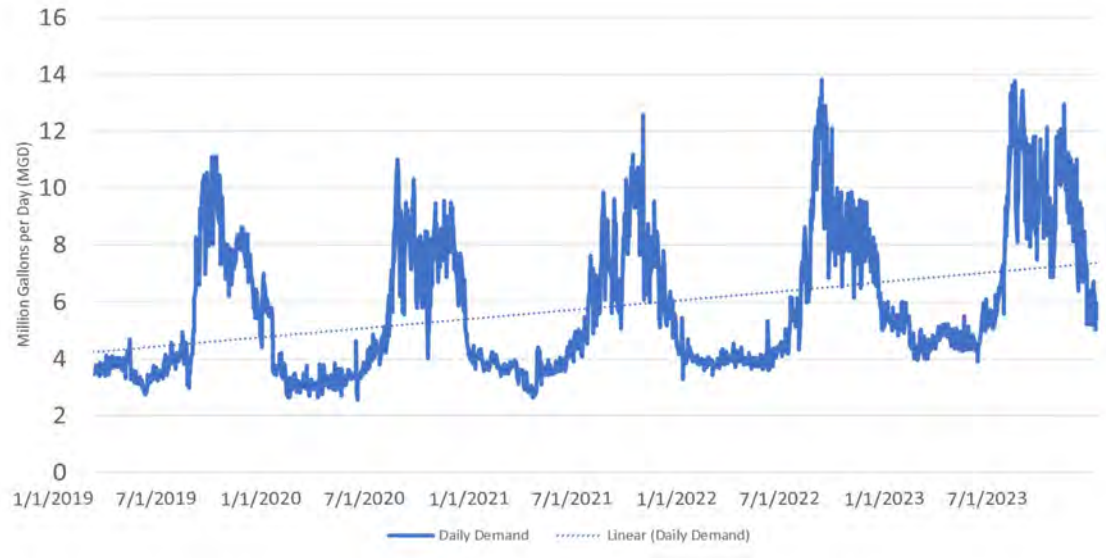
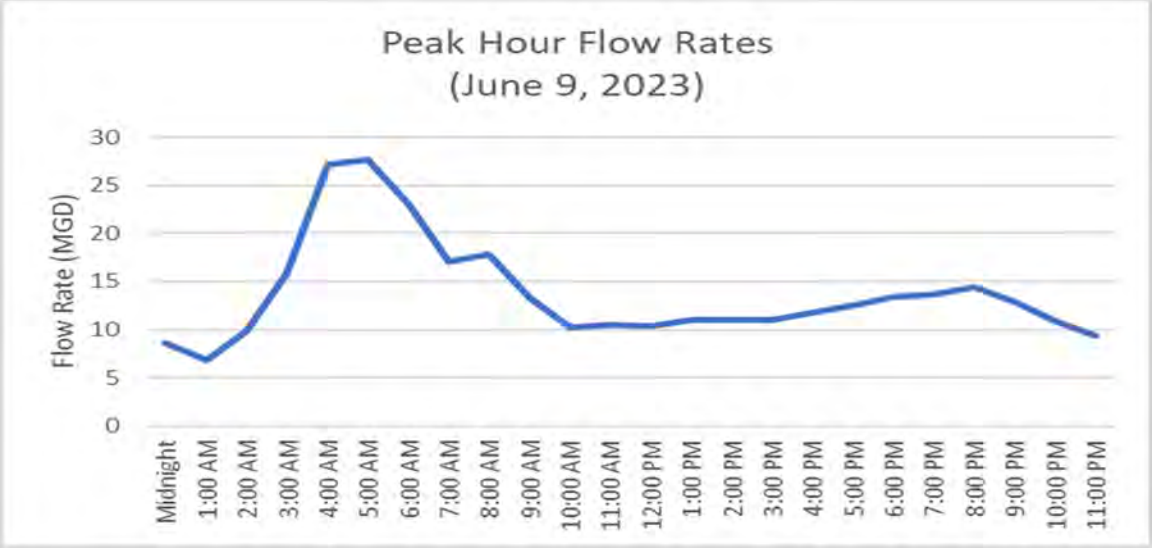


FIGURE EJB-2



Accordingly, in addition to the growth that is happening on the system, these peak loads have also contributed to the need to add capacity and storage into the system. In short, the system needs to be sized to meet peak hour demands.

Q12. PLEASE DESCRIBE THE STORAGE AND DISTRIBUTION SYSTEM FACILITIES THAT ARE PART OF THE WATER SYSTEM.

A12. The water distribution system consists of 350 miles of distribution main ranging in diameters of 2 inches to 24 inches, 4,700 hydrants and 8,300 valves. There are also four booster stations that move water and maintain certain operating pressures into and throughout the system. These booster stations are rated from 2 to 5.8 MGD. In addition, the system has five elevated storage tanks and one ground storage tank with a total volume of approximately 3.8 Million Gallons ("MG") out in the system, to maintain operating pressures and storage for peak demand and fire protection as illustrated in the table below.

TANK NAME	VOLUME (MG)	TYPE
146th	0.5	Elevated
161st	0.5	Elevated
181st	0.3	Elevated
196th	0.3	Elevated
193rd	1.0	Elevated
146th GST	1.2	Ground

Q13. PLEASE BRIEFLY DESCRIBE THE WATER SYSTEM'S TREATMENT FACILITIES.

A13. Water is treated, stored, and pumped at four facilities within the Westfield System. The total treatment capacity of these plants is 13.70 MGD. In addition, each treatment plant has various sized clearwells to store finished water.

Facility	Capacity (MGD)	Finished Water Storage (MG)
River Road	8.75	1.25
Cherry Tree	3.0	0.03
Greyhound Pass	0.65	0.50
CSM	1.3	0.267

Q14. PLEASE BRIEFLY DESCRIBE THE WATER SYSTEM'S SUPPLY AND INTERCONNECTIONS.

A14. The Westfield Water system has 17 wells that supply ground water to the treatment plants. In addition, the Westfield Water system is interconnected with the Citizens Water system at multiple locations to achieve operational benefits for both systems such as enhanced

reliability, supply redundancy, and the exchange of water between the systems for optimized operations. Each connection point between the two systems is metered and exchanged flow volumes are netted for billing at tariff rates as part of the water exchange arrangement between the two utilities.

Q15. HOW IS THE WESTFIELD WATER SYSTEM OPERATED?

A15. As Mr. Willman noted in his testimony the system is operated pursuant to the Management and Operating Agreement between Citizens Energy Group and Citizens Water of Westfield, LLC. In addition to the administrative and shared field service functions provided by Citizens Energy Group, there is a group of which I am the Director that is responsible for the day-to-day operations and maintenance of the distribution system, pumping and storage facilities and treatment facilities. Such day-to-day operations include but are not limited to oversight of facilities by certified operators, lab testing, routine inspections, and system flushing. In addition to fully staffed daily operations, this group has at least one person on-call 24 hours a day seven days a week to respond to after hour emergencies.

Q16. WHAT ARE THE TYPES OF INSPECTION AND MAINTENANCE AND RELATED CYCLES FOR THE DISTRIBUTION SYSTEM?

A16. The maintenance cycles for the distribution system consist of hydrant flushing and inspection which is scheduled for at least once a year, but at times are flushed more than once a year to ensure appropriate water quality or inspected to make sure the hydrant is operating satisfactorily. This is consistent with the AWWA M17 Manual related to Fire Hydrants: Installation, Field Testing and Maintenance which recommends at least once a year. Testing of valves is done to ensure that they are in the appropriate position and that

they can be operated in an emergency or if there is a need to shut out a part of the system. Most valves 16-inches and larger as well as the division valves are tested every year, as they are potentially much more critical to operations, particularly in an emergency. Smaller valves 12-inches and smaller are typically tested on a three-year rotation. Though the AWWA M44 Manual, Distribution Valves does not specify an exact frequency, it does recommend regular inspections based on the criticality of the valve. In addition, the elevated storage tanks are typically inspected every three to five years, as recommended in the AWWA M42 Manual, Steel Water-Storage Tanks.

Q17. WHAT TYPES OF REGULAR INSPECTION AND MAINTENANCE IS DONE ON THE TREATMENT, WELLS AND PUMPING EQUIPMENT?

A17. Typically, the wells are tested and if needed cleaned and repaired on a yearly basis. Pumps are greased and oiled as needed or per the operating and maintenance manuals. The chlorine disinfection system at the treatment plants is inspected and parts replaced on a yearly basis.

Q18. HOW HAVE OPERATIONS AND MAINTENANCE COSTS TRENDED OVER THE LAST SEVERAL YEARS?

A18. As shown in the charts below (Figure EJB-3 and Figure EJB-4), chemical and electrical costs have increased significantly in the last two years due not only to adding new facilities but also an increase in unit costs. The costs in the last three fiscal years (2021-2023) have increased between 11% to 23% for electrical costs, and chemical costs in fiscal year 2022 increased over 100% from the prior year. These increased costs have contributed to Westfield Water's need to seek rate relief.

Figure EJB-3

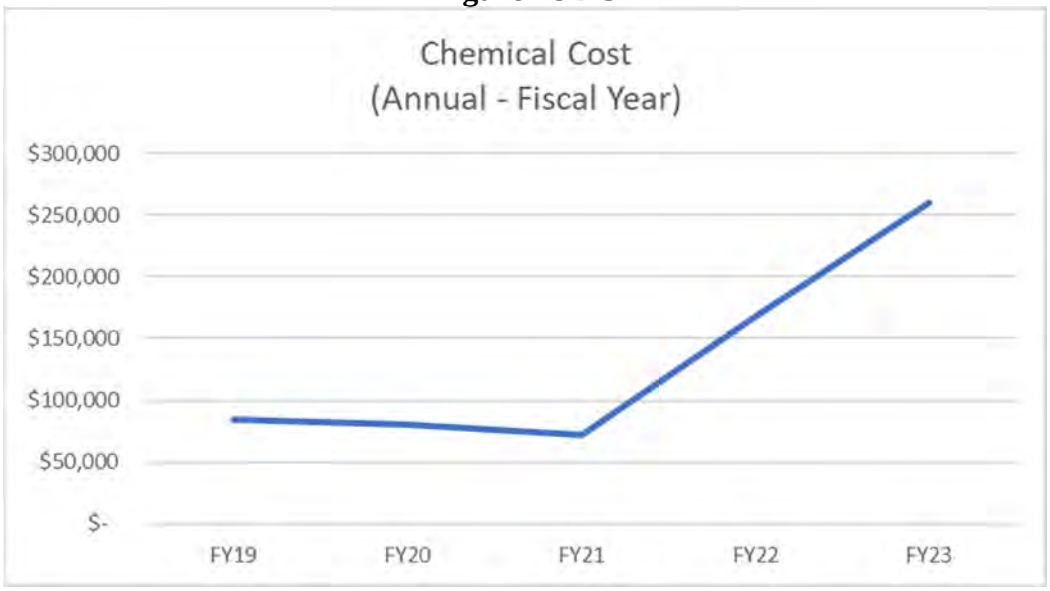
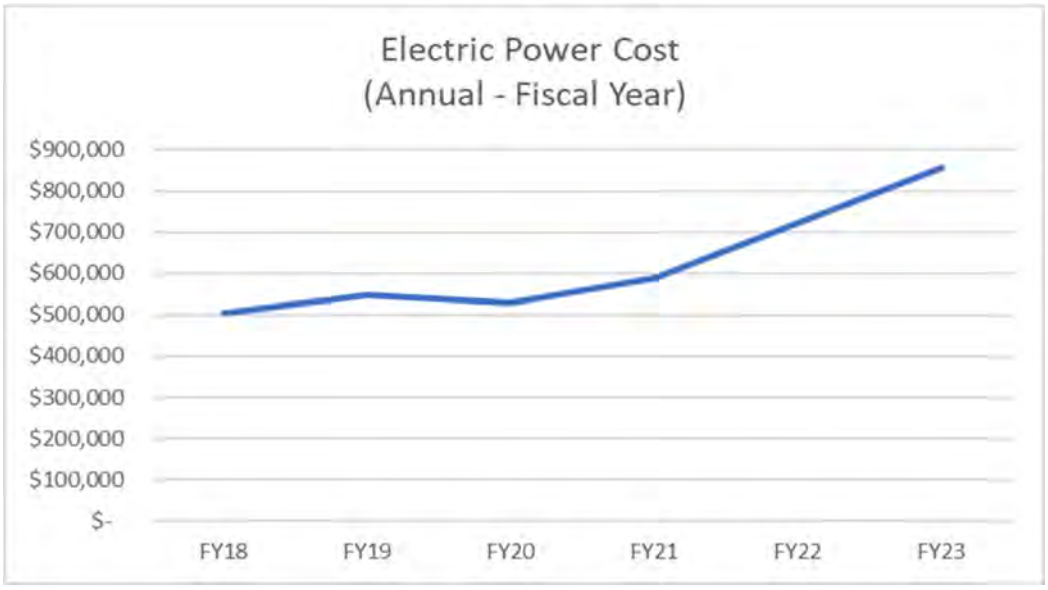


FIGURE EJB-4



CAPITAL IMPROVEMENT PROGRAM

Q19. PLEASE GENERALLY DESCRIBE WESTFIELD WATER'S CAPITAL PLANNING PROCESS.

A19. As part of the Management and Operating Agreement, Citizens Energy Group conducts the capital planning process for Westfield Water. Citizens Energy Group uses a cross-functional planning process to establish and align strategic and operational objectives with capital plans and budgets. For the Westfield Water system, the capital planning process is focused on providing safe and reliable service to our customers and ensuring that there is available capacity for the growth within the Westfield service territory. The master and capital planning processes are administered by Capital Programs & Engineering (CP&E) and Water Operations, with input from consultants and technical experts. The process includes reviews of system operations and performance data; infrastructure condition assessments, long-term water resource planning process and growth maps. This information is used to determine projects as part of a five-year capital program that is evaluated yearly.

Q20. HOW MUCH CAPITAL HAS BEEN INVESTED INTO THE WESTFIELD WATER SYSTEM SINCE THE ACQUISITION?

A20. Since the acquisition, over $50 million has been invested into Westfield Water's facilities and system. These investments were made to enhance system reliability and redundancy as well as add additional capacity, supply, storage and pumping to get water throughout the growing service territory.

Q21. WERE THERE ANY IMPROVEMENTS THAT WESTFIELD WATER COMPLETED AFTER THE ACQUISITION TO ENHANCE SYSTEM RELIABILITY?

A21. Yes. One of the risks on the existing system at the time of the acquisition was the lack of redundancy. In particular, there was only one way to pump water into the north and

southwest pressure districts, which was through the 161st Street Booster Pump Station. The 161st Street Booster Station is located in approximately the center of the system and is how water is moved into each of those districts.

Q22. WHAT WOULD HAPPEN IF THAT BOOSTER STATION HAD FAILED OR WAS UNUSABLE FOR AN EXTENDED PERIOD OF TIME?

A22. Generally speaking, if the 161st Steet Booster station was inoperable for an extended period of time, the tanks in the north and southwest pressure districts would empty and there would be a loss of pressure. This would create negative customer impacts in each of those areas and could potentially lead to a boil water advisory if system pressure dropped too low.

Q23. WHAT DID WESTFIELD WATER DO TO MITIGATE THAT RISK AT THE 161ST BOOSTER STATION?

A23. Westfield Water constructed some projects to address the vulnerabilities created by having only one booster station that was able to move water into the north and southwest pressure districts. The primary projects were the 146th Street Booster and Ground Storage Tank, and the 191st Street Booster Station.

Q24. PLEASE PROVIDE MORE DETAIL ON THE 146TH BOOSTER STATION AND GROUND STORAGE TANK.

A24. One of the recent as well as one of the biggest projects constructed by Westfield Water was the 146th Street Groundwater Storage Tank and Booster Station. The total cost of this project was approximately $5.74 million. This project can store up to 1.2 million gallons of water and pump it as needed to the southwest and southeastern pressure districts. This not only adds additional storage capacity for fire protection and supply during peak demand, but it provides redundancy into the southwest and southeastern pressure districts.

Q25. PLEASE PROVIDE MORE DETAIL ON THE 191ST STREET BOOSTER STATION.

A25. The 191st Street Booster Station was also an important project. It provided redundancy into the northern pressure district. It also provided the ability to move approximately 2 MGD of water from the Citizens Water system into the northern area as needed or in an emergency as part of the water exchange arrangement between the two utilities. This project cost was approximately $0.9 million.

Q26. ARE THERE ANY OTHER RECENT PROJECTS THAT YOU WOULD LIKE TO DISCUSS?

A26. Yes. Other projects that were constructed to, among other things, enhance system reliability, storage capacity, and water supply, include the 146th Street Elevated Tank Rehab project and the River Road Clearwell expansion project. The 146th Street Elevated Tank provides elevated storage into the southeast pressure district. The cost of the rehab project was approximately $1.6 million. The project consisted of sandblasting the current coating of the tank, structural repairs and remedying any safety issues noted in inspection reports. The purpose of this work was to ensure the reliability and safety of the tank and extend its useful life. The River Road Clearwell expansion project provided an additional 750,000 gallons of water to be stored at River Road and pumped into the system during peak demand periods as well as more storage for the growing territory. This project cost approximately $1.5 million dollars.

Q27. ARE EACH OF THE FOREGOING PROJECTS IN SERVICE?

A27. Yes. The foregoing projects are all in service.

Q28. WHAT PROJECTS DOES PETITIONER PLAN TO COMPLETE BETWEEN THE BASE YEAR AND THE END OF THE TEST PERIOD?

A28. The table below, also included as Attachment EJB-2, lists project spend in each capital budget authorization ("CBA") category through the end of the test year. I further explain each project in my testimony and additional support for each project may be found in the project memoranda, which are included as Attachment EJB-3.

Citizens Water of Westfield, LLC
Attachment EJB-2 - Capital Project List

Project Number	Project Name	Project Spend In-Service Link Period July 2023 - June 2024	Project Spend In-Service Test Year July 2024 - June 2025	Projected In-Service Date
1267CBA - Westfield Water Facilities				
48CY05691	Cherry Tree Clear Well Expansion	$5,850,894	$0	5/30/2024
48CY06325	Cherry Tree Raw Water Valves	$232,000	$0	4/30/2024
48MW06291	CSM Facility Improvements	$100,000	$0	5/31/2024
48MW06404	Misc. Minor Plant Projects	$0	$100,000	9/30/2024
48MW06405	Misc. Minor Plant Projects	$0	$75,000	6/30/2025
Total 1267CBA - Westfield Water Facilities		**$6,182,894**	**$175,000**	
1268CBA - Westfield Water Storage & Supply				
48SS04086	River_Road_Well_17	$1,199,612	$0	4/30/2024
48TK06125	161st St Tank Rehab	$0	$850,000	5/20/2025
48SS06378	2024 WF Well Rehabilitation	$0	$220,000	9/30/2024
48SS06403	2025 WF Well Rehabilitation	$0	$250,000	6/30/2025
Total 1268CBA - Westfield Water Storage & Supply		**$1,199,612**	**$1,320,000**	
1269CBA - Westfield Water Distribution System				
48ME06142	Grassy Branch Main Extension	$0	$625,413	6/30/2025
48MR06220	Union St & David Brown MR	$0	$603,000	6/30/2025
48RI04653	WFW Private Development FY24	$742,500	$247,500	9/30/2024
48RI04654	WFW Private Development FY25	$0	$742,500	6/30/2025
48SR00860	Service Line Replacements	$200,000	$50,000	9/30/2024
48SR00860	Service Line Replacements	$0	$200,000	6/30/2025
48RM00673	New Meters	$750,000	$0	9/30/2024
48RM00673	New Meters	$0	$500,000	6/30/2025
48RM00674	Replacement Meters	$750,000	$0	9/30/2024
48RM00674	Replacement Meters	$0	$500,000	6/30/2025
48MD00678	Hydrant Replacement	$37,500	$12,500	9/30/2024
48MD00678	Hydrant Replacement	$0	$37,500	6/30/2025
48MD00675	Taps - New - BU48	$75,000	$25,000	9/30/2024
48MD00675	Taps - New - BU48	$0	$75,000	6/30/2025
Total 1269CBA - Westfield Water Distribution System		**$2,555,000**	**$3,618,413**	
1270CBA - Westfield Water Technology & Support Services				
48FL06370	FY24 WF Water Fleet Purchases	$0	$150,000	9/30/2024
48FL06371	FY25 WF Water Fleet Purchases	$0	$100,000	6/30/2025
Total 1270CBA - Westfield Water Technology & Support Services		**$0**	**$250,000**	
Total Citizens Water of Westfield		**$9,937,506**	**$5,363,413**	

Q29. PLEASE DESCRIBE THE SCOPE AND NEED FOR THE CHERRY TREE CLEAR WELL EXPANSION PROJECT?

A29. The Cherry Tree Clear Well Expansion is necessary to address the lack of finished water storage capacity at the Westfield Cherry Tree treatment facility. Issues related to the lack of storage capacity (existing storage capacity is only about 30,000 gallons) were identified by an evaluation of the Westfield facilities as part of the Westfield Master Plan process in June 2019. This project will use existing real estate and pumping capacity to provide adequate water storage at the plant to meet peak demand times. The Cherry Tree Clear Well Expansion Project involves the construction of an additional clear well (500,000 gal) to provide capacity for peak demands. In addition, the project will include a new finished water interconnection with Citizens Water, via a water main extension with control valve and flow meter on East 146th Street. The cost of this project is approximately $5.9 million.

Q30. HOW WAS THE ESTIMATED COST OF THE CHERRY TREE CLEAR WELL EXPANSION PROJECT DERIVED?

A30. The cost estimate for the Cherry Tree Clearwell project was completed using a Class 4[2] planning level estimate, as well as consulting engineers during the planning.

Q31. PLEASE DISCUSS THE CHERRY TREE RAW WATER VALVE PROJECT.

A31. The Cherry Tree Raw Water Valves have been identified to provide redundancy and operational flexibility of raw water supply between the various well fields and the River Road and Cherry Tree water treatment plants. In addition, this project will include the

[2] The estimate classes are developed pursuant to the recommended practices of AACE International ("AACE"), formerly Association for the Advancement of Cost Engineering International. AACE is a recognized leader in the field of cost estimating and has published many guides and recommended practices used by a variety of industries to establish standardized criteria and ranges for project estimates. AACE specifies five estimate classes, with Class 1 estimates representing those projects that have the greatest level of detail and an accuracy range of -10% to 15% and Class 5 having the least amount of detail with an expected accuracy range of -50% to 100%.

installation and automation of a rotometer at the Cherry Tree water treatment plant that will allow for automated and increased adjustment of chlorine dosage at the plant.

Q32. HOW WERE THE COSTS FOR THE CHERRY TREE RAW WATER VALVES PROJECT DETERMINED?

A32. The Class 4 planning level estimate for the proposed project is $232,000 and was completed during preliminary project planning. Cost estimates were developed from equipment supplier quotes (valves and rotometer) and similar projects completed recently.

Q33. PLEASE EXPLAIN THE NEED FOR THE CSM FACILITY IMPROVEMENTS.

A33. The CSM Facility Improvements are estimated to cost approximately $100,000 and include three projects required to meet NPDES permit requirements, address IDEM Sanitary Survey Inspection comments and address the roof at the plant that is beyond its useful life. Those projects include:

a. Lagoon Improvements - to reduce or eliminate the potential for NPDES exceedances.

b. Well drainage - Minor regrading and installation of a stone drainage channel to prevent standing water at the top of the earthen berms currently built up around the elevated casing.

c. Roof Repair – Replace the roof of the existing facility.

Q34. HOW WAS THE COST OF THE CSM FACILITY IMPROVEMENTS DETERMINED?

A34. The cost was determined as a Class 4 planning level estimate and was completed during the project scoping in September of 2023.

Q35. PLEASE DESCRIBE THE MISC. MINOR PLANT PROJECTS.

A35. The Miscellaneous Plant Improvements project has been identified to address various capital repairs and improvements needed at the River Road Water Treatment Plant. The project need was identified by Operations staff in December 2023. The root cause of the issue is equipment and facilities beyond their useful life. The following was documented as needing replaced: The existing backwash pond has been silted in over the time of its usage and needs to be dredged to restore it back to its original condition. In addition, pump control valves installed on three of the four high service pumps are leaking – these valves are greater than 20 years old.

Q36. PLEASE DESCRIBE THE NEED FOR THE 2024 AND 2025 WELL REHABILITATION PROJECTS?

A36. The Well Rehabilitation projects will address declining capacity in the raw water production wells from normal operational use. This cleaning will help restore the well back closer to its original capacity. The project need was identified by annual flow testing performed on each well in the Westfield system. The cause of the issue is general usage of the production well over the course of the year that Westfield Water relies upon for their day-to-day operations. This work may also include new or replacement/rebuilds of pumps, flow meters, valves and other appurtenances related to proper well operation and potentially extend the useful life of each well.

Q37. HOW WERE THE ESTIMATES FOR THE YEARLY WELL REHABILITATION PROJECTS DETERMINED?

A37. The estimates were determined based on typical 5-year historical yearly spend to complete this work.

Project Number	Project Name	Total Project Cost
48SS03478	2019 WF Well Rehabilitation	$ 244,451.44
48SS04269	2020 WF Well Rehabilitation	$ 286,687.98
48SS04898	2021 WF Well Rehabilitation	$ 283,859.29
48SS05407	2022 WF Well Rehabilitation	$ 189,259.19
48SS05878	2023 WF Well Rehabilitation	$ 216,112.00
	Average	$ 244,073.98

Q38. PLEASE DESCRIBE THE NEED FOR THE RIVER ROAD WELL 17 PROJECT.

A38. The River Road Well 17 project is a vertical well located just west of the River Road Treatment facility and is estimated to cost approximately $1.2 million. The River Road Well is needed to provide additional supply for the Westfield Water utility. Construction for this project began in the spring of 2023.

Q39. HOW WAS THE COST ESTIMATE FOR THE RIVER ROAD WELL 17 PROJECT DETERMINED?

A39. The cost of the River Road Well 17 was determined by a solicitation to three contractors and pricing was obtained by the selected contractor.

Q40. PLEASE DESCRIBE THE TANK REHABILITATION PROJECT THAT PETITIONER NEEDS TO COMPLETE BETWEEN THE BASE YEAR AND THE END OF THE TEST PERIOD.

A40. The 161st Tank Rehab project is needed to address deficiencies particularly with the coating identified in a third-party inspection report completed in 2022. The tank will be taken out of service during the lower demand periods and deficiencies addressed.

Q41. HOW WAS THE COST ESTIMATE FOR THE 161ST TANK PROJECT DETERMINED?

A41. The Class 2 cost estimate for the 161st Tank Rehab project was established using an estimate from a Tank Repair Contractor.

Q42. PLEASE DESCRIBE THE GRASSY BRANCH MAIN EXTENSION PROJECT?

A42. The Grassy Branch Main Extension project is a system improvement project required to address water supply and lack of redundancy in the vicinity of the Northpoint Commerce Park and Coventry of Westfield neighborhood. The project includes the installation of approximately 1,000 lineal feet of water main connecting two dead end mains.

Q43. HOW WAS THE COST ESTIMATE FOR THE GRASSY BRANCH MAIN EXTENSION PROJECT DETERMINED?

A43. The cost estimate is a Class 4 planning level estimate completed in May of 2023.

Q44. PLEASE DESCRIBE THE UNION STREET & DAVID BROWN MAIN REPLACEMENT PROJECT AND DESCRIBE HOW THE COST ESTIMATE WAS DERIVED?

A44. The Union Street & David Brown Main Replacement Project has been identified to address a flow limitation approximately 4,500 feet from the discharge side of the 161st Street Booster Station. The issues were identified during hydraulic modeling. The project is projected to cost $603,00 and is based on a Class 4 planning level estimate.

Q45. PLEASE DISCUSS THE PRIVATE DEVELOPMENT PROGRAM.

A45. The Private Development Program is important to ensure that the utility continues to provide safe and reliable service to customers and that new assets meet applicable standards and specifications to protect the integrity of the water system. This is done by providing

plan review of all private development plans as well as construction inspection of projects related to new services. Warranty inspections are also conducted to verify the integrity of the contributed assets after three years in operation.

Q46. HOW WERE THE COST ESTIMATES DERIVED FOR THE PRIVATE DEVELOPMENT PROGRAM?

A46. The cost estimate for the Private Development Program is based on contractual prices and level of effort from an outside firm as well as internal costs. It has been consistently around $1.1 million dollars per year over the last five years.

Q47. ARE THERE RECURRING PROJECTS THAT ARE UNPLANNED WHICH SHOULD BE ADDED BETWEEN THE BASE PERIOD AND THE TEST YEAR?

A47. Yes, Service Line Replacements, Hydrant Replacements and New Taps are unplanned projects that are discovered as part of system inspections or that occur as a result of failures during the year. Even though these are unplanned projects, they occur every year and will continue to occur during the test year.

Q48. HOW WERE THE COSTS FOR THE UNPLANNED PROJECTS DETERMINED?

A48. The costs for these unplanned projects were determined using an average cost of the last five years.

Q49. PLEASE DESCRIBE THE NEW METERS AND REPLACEMENT METER PROJECTS.

A49. The new meter project is the cost of meters including labor, meter transmission unit (MTU), lids and other appurtenances that will be placed on new premises, such as a newly constructed homes. The Replacement Meter Projects are the cost of new meters including labor and meter transmission units (MTU) and other applicable appurtenances that would

replace existing meters and/or MTUs that are past their useful life, not working or to upgrade the meter reading system from AMR to AMI.

Q50. HOW WERE THE COST ESTIMATES FOR NEW METERS AND REPLACEMENT METERS DETERMINED?

A50. The cost estimates for the new meters and replacement meters was based off of the historical meter information as shown below.

Project Number	Project Name	FY18	FY19	FY20	FY21	FY22	FY23
48RM00673	New Meters	$316,592	$306,125	$420,042	$500,041	$485,214	$836,766
48RM00674	Replacement Meters	$233,903	$311,185	$296,541	$211,554	$1,087,440	$1,164,577

Q51. PLEASE DESCRIBE THE WATER FLEET PURCHASES PROJECTS FOR FY24 AND FY25.

A51. Fleet replacement is needed due to existing fleet assets meeting or exceeding the Fleet Replacement Guidelines and Business needs.

Q52. HOW WERE THE FLEET REPLACEMENT COSTS DETERMINED?

A52. Fleet replacement is estimated to cost a total of $250,000 for FY24 and FY25. Vehicle and equipment replacements & acquisitions are identified initially by the replacement criteria and then further evaluated annually to determine if there are any more specific business needs. The costs are estimated based on the previous year's costs with an average 3% increase for typical inflation. The Citizens Energy Group Fleet department is also in continuous conversations with Suppliers to discuss industry cost variables to aid in estimating proper costs.

CONCLUSION

Q53. PLEASE SUMMARIZE YOUR TESTIMONY.

A53. My testimony discusses the service territory, operations and prudent investments that have been made to provide safe and reliable service as well as provide adequate capacity for growth within the service territory. It also discusses some of the critical projects that are required over the next few years to continue to provide this service and meet the demands of growth within the Westfield area.

Q54. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?

A54. Yes.

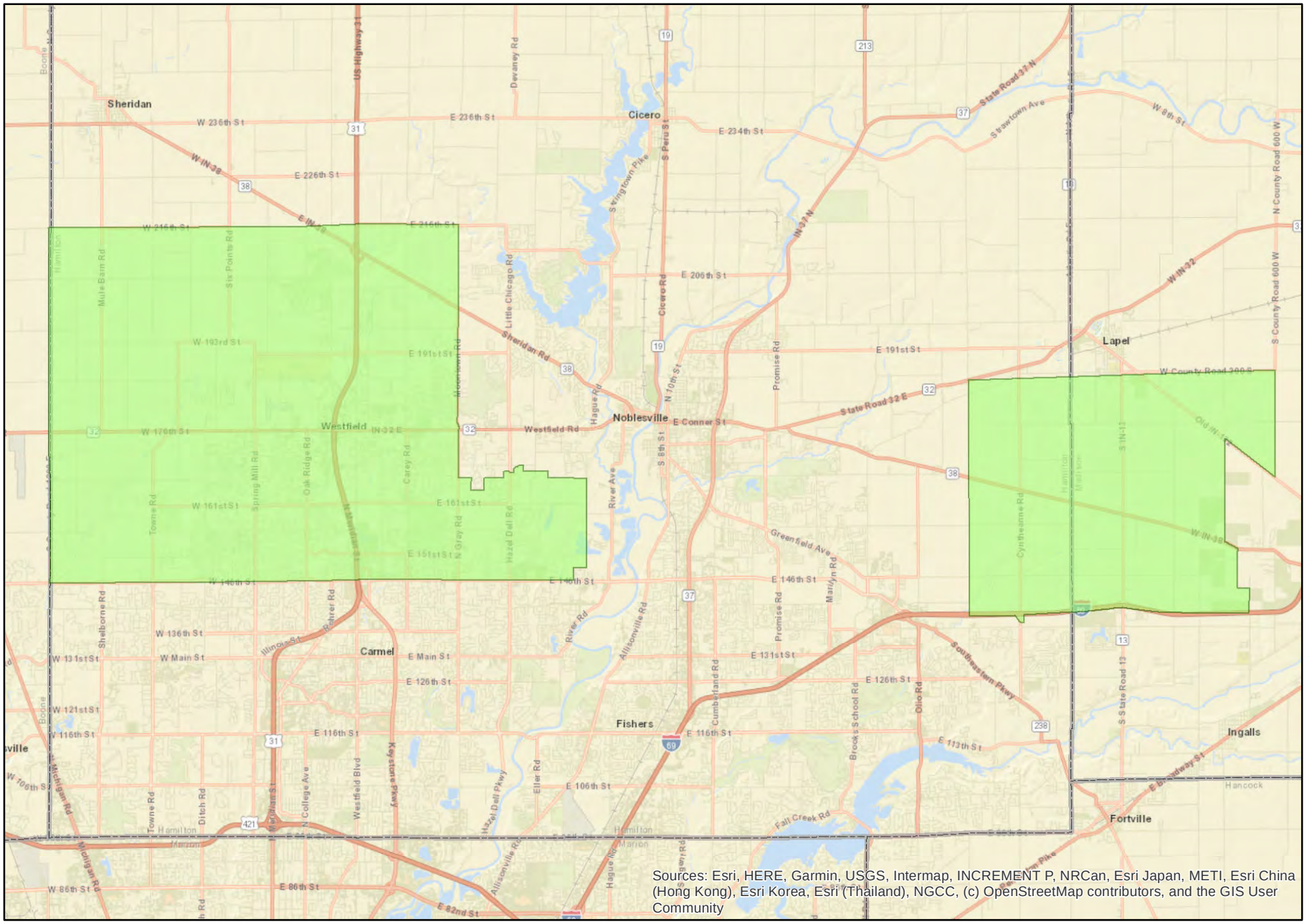
VERIFICATION

The undersigned affirms under the penalties for perjury that the foregoing testimony is true to the best of his knowledge, information and belief.

Edward J. Bukovac

ATTACHMENT EJB-1

Exhibit Date: 01/12/2024



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Citizens Water of Westfield Service Territory

0 1.25 2.5 Miles

ATTACHMENT EJB-2

Citizens Water of Westfield, LLC

Attachment EJB-2 - Capital Project List

Project Number	Project Name	Project Spend In-Service Link Period July 2023 - June 2024	Project Spend In-Service Test Year July 2024 - June 2025	Projected In-Service Date
1267CBA - Westfield Water Facilities				
48CY05691	Cherry Tree Clear Well Expansion	$5,850,894	$0	5/30/2024
48CY06325	Cherry Tree Raw Water Valves	$232,000	$0	4/30/2024
48MW06291	CSM Facility Improvements	$100,000	$0	5/31/2024
48MW06404	Misc. Minor Plant Projects	$0	$100,000	9/30/2024
48MW06405	Misc. Minor Plant Projects	$0	$75,000	6/30/2025
Total 1267CBA - Westfield Water Facilities		**$6,182,894**	**$175,000**	
1268CBA - Westfield Water Storage & Supply				
48SS04086	River_Road_Well_17	$1,199,612	$0	4/30/2024
48TK06125	161st St Tank Rehab	$0	$850,000	5/20/2025
48SS06378	2024 WF Well Rehabilitation	$0	$220,000	9/30/2024
48SS06403	2025 WF Well Rehabilitation	$0	$250,000	6/30/2025
Total 1268CBA - Westfield Water Storage & Supply		**$1,199,612**	**$1,320,000**	
1269CBA - Westfield Water Distribution System				
48ME06142	Grassy Branch Main Extension	$0	$625,413	6/30/2025
48MR06220	Union St & David Brown MR	$0	$603,000	6/30/2025
48RI04653	WFW Private Development FY24	$742,500	$247,500	9/30/2024
48RI04654	WFW Private Development FY25	$0	$742,500	6/30/2025
48SR00860	Service Line Replacements	$200,000	$50,000	9/30/2024
48SR00860	Service Line Replacements	$0	$200,000	6/30/2025
48RM00673	New Meters	$750,000	$0	9/30/2024
48RM00673	New Meters	$0	$500,000	6/30/2025
48RM00674	Replacement Meters	$750,000	$0	9/30/2024
48RM00674	Replacement Meters	$0	$500,000	6/30/2025
48MD00678	Hydrant Replacement	$37,500	$12,500	9/30/2024
48MD00678	Hydrant Replacement	$0	$37,500	6/30/2025
48MD00675	Taps - New - BU48	$75,000	$25,000	9/30/2024
48MD00675	Taps - New - BU48	$0	$75,000	6/30/2025
Total 1269CBA - Westfield Water Distribution System		**$2,555,000**	**$3,618,413**	
1270CBA - Westfield Water Technology & Support Services				
48FL06370	FY24 WF Water Fleet Purchases	$0	$150,000	9/30/2024
48FL06371	FY25 WF Water Fleet Purchases	$0	$100,000	6/30/2025
Total 1270CBA - Westfield Water Technology & Support Services		**$0**	**$250,000**	
Total Citizens Water of Westfield		**$9,937,506**	**$5,363,413**	

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Project Planning Memo

From:	**Paul Johnson**
To:	**Ryan Taylor**
Date:	**7/7/2023**
RE:	**Cherry Tree WTP Clear Well Expansion – 48CY05691**
Memo Location	*\\cegplanteng\common\Projects\BU48-Westfield_W\Treatment\CherryTree\48CY05691_Clear Well Expansion\Project Planning Memo_48CY05691_Cherry Tree Clear Well Expansion_2023-06-19.docx*

Problem Statement

The Cherry Tree Clear Well Expansion has been identified to address the lack of finished water storage capacity at the treatment plant. The issues were identified by an evaluation of the Westfield facilities as part of the Westfield Master Plan in June 2019. The root cause of the issue is the original design of the facility.

The project area is at the Westfield Cherry Tree treatment facility and is related to the high service pumping process. Figure 1 shows a map of the project area. A site walkthrough to evaluate existing system conditions was not completed for this project.

Alternative Evaluation

To determine the proposed project scope, an alternative evaluation is planned. The alternatives evaluation will be completed on the following schedule and stored in the CP&E Folder.

Table 1: Proposed Alternative Evaluation Schedule

Description	Start Date	Finish Date
Project Start	4/25/2022	
Draft Memorandum	5/16/2022	12/14/2022
Draft Review Meeting	1/23/2023	1/23/2023
Final Memorandum	1/23/2023	6/28/2023
Final Review Meeting	N/A	N/A

IF THE ALTERNATIVES ARE APPROXIMATELY KNOWN, CONSIDER THE FOLLOWING:

To determine the proposed project scope, alternatives were evaluated with varying project components.

No Action Alternative

This alternative includes continuing current operations under existing conditions. The risk posed by not taking action is a lack of adequate finished water storage at the Cherry Tree plant during high demand periods. These consequences impact customers in the by lack of adequate supply .

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Project Planning Memo

Alternative No. 1

Alternative No. 1 was developed with input from Westfield Water Operations and includes constructing an additional clear well (500,000 gal) to provide capacity for peak hour demands. In addition, the project will include a new finished water interconnection with Citizens Water, via a water main extension with control valve and flow meter on East 146th Street. A site walkthrough was not completed for this alternative.

The risks for Alternative No. 1 include:

- ☒ Extended service outage during construction
- ☒ Difficult construction method
- ☐ Increased safety hazards during construction
- ☐ Environmental risk due to
- ☒ Unknown site conditions in project area
- ☐ Public acceptance
- ☐ Noise pollution during and after construction
- ☐ Highly complex alternative
- ☐ Other infrastructure condition
- ☐ Other:

Alternative No. 1 would address the issues described in the problem statement. Particularly, the issues addressed include increasing finished water storage. The project is anticipated to meet the need for 20 years or until additional source of supply is obtained, and additional high service pumping capacity is developed. The impact of the alternative on the customers includes increased supply capacity.

Evaluation of Alternatives

The cost estimates include non-construction costs, loadings and a 20% contingency. Supply chain was not consulted for input on the material costs, market volatility, and material lead times. A life-cycle cost analysis was not completed as a part of the alternative evaluation.

Recommendation

The recommended alternative is Alternative 1. Click or tap here to enter text.

Project Scope and Justification

Based on the alternative evaluation, the proposed project consists of the following:

- Construction of a new finished water clear well, approximately 500,000 gallons in size, consisting of a below-grade concrete structure with piped interconnection with the existing clear well

- Extension of the 12-inch PVC water main (Citizens) along East 146th Street and connection to the Citizens Westfield main on Bladstone Street with a control valve and meter. Additional control valves will be needed on Midland Lane and at the Cherry Tree plant to prevent water circulation.

The following items are not included as a part of this project scope:

- Land Acquisition

The project was sized to meet existing and future needs. As a result, the project will increase the capacity of the assets being replaced.

The following data supports the need for the project:

- The existing 30,000-gallon clear well provides only 6-minutes of finished water storage at the high service pump total capacity of 4,450 gpm.

The proposed project will address the need to provide adequate finished water storage at the plant to meet peak-hour demands. As a result, the proposed project is recommended.

Capital Outputs

Table 2 shows the capital outputs that will be tracked for this project.

Table 2: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Water Storage	Finished Water Capacity (new)	MG	**0.5**

Cost Estimate

The Class 4[1] planning level estimate for the proposed project is $5,850,000 and was completed during preliminary scoping. Table 3 contains the cost breakdown for Unifier. Supply chain was not consulted for input on the material costs and market volatility. Cost estimates were prepared by consulting engineer during the planning study, as well as UE&C for the water main extension along East 146th Street. The cost estimate is attached as Appendix A and includes non-construction costs, loadings and a 20% contingency. This project is to be funded from Business Unit 48 - Citizens Water of Westfield from the *1267CBA - Westfield Water Facilities* Capital Budget Authorization (CBA).

[1] Based on American Association of Cost Engineers (AACE) International estimating classes

Table 3: Preliminary Cost Estimate

CBS Phase	Total Cost[2]
Planning	$1,000
Design	$355,000
Real Estate	$12,500
Construction	$5,480,500
Close Out	$1,000
Estimate at Completion (Rounded)	$5,850,000

Project Schedule

The recommended schedule is presented in Table 4. A detailed project schedule including land acquisition; supply chain solicitation and award; and permitting time needs is available via the following hyperlink (). *Click or tap here to enter text.*. The project will be completed during 2023 and 2024.

Table 4: Proposed Project Schedule

CBS Phase	Start Date	Finish Date
Project Start	4/25/2022	
Planning	4/25/2022	9/13/2022
Design	8/3/2023	12/31/2023
Real Estate		
Construction	10/15/2023	7/30/2024
In-Service	7/31/2024	
Close Out	8/1/2024	8/31/2024

Stakeholder Communication (SELECT AS APPROPRIATE, DELETE IF NOT USED)

Internal Stakeholders are as follows:

Table 5: Internal Stakeholder

Name	Department & Role	Name	Department & Role
Ed Bukovac	Director Westfield Utilities	Ryan Taylor	Manager, Purification Plant Engineering
Randy Higginbotham	Manager, Westfield Operations	Paul Johnson	Project Mgr, Purification Plant Engineering

[2] Total Cost includes contingency and loadings

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Project Planning Memo

Steve Berube	Director, Water Operations	Christina Bowers	

Coordination with internal stakeholders included Westfield Water Operations and Plant Engineering at a meeting held on 3/18/2022. The interactions included a discussion covering the project and input from the internal stakeholders was received. The concerns of Westfield Water Operations included the lack of available capacity, small footprint of the site and potential for unknown underground facilities.

The impact of this project is classified as a Tier 3 project. Below are explanations for the three tiers of public impact.

Tier 1: Full road closure and significant impact to the community/public.
Tier 2: Require lane restrictions in the area with some disruption to the community/public.
Tier 3: Minimal or no impact to the community/public.

Public interactions with external stakeholders have not been conducted.

Permits and Regulatory Requirements (ADD ADDITIONAL INFORMATION AS NEEDED)

Environmental Permits and Investigations

The environmental project review was submitted through iTrust on 4/29/2022 (Hyperlink Here). Based on discussions with Environmental Stewardship (John Havard and Kari Maxwell), the environmental permits and environmental investigations anticipated for this project include the following:

☐ Asbestos Survey
☐ Brownfield Comfort Letter
☐ Environmental Site Assessment, Phase I All Appropriate Inquiry
☐ IDEM Air Quality Permit
☒ IDEM Construction Permit
☒ IDEM Notice of Intent (NOI) to Construct a Water Main Extension
☐ IDEM Rule 5 Permit
☐ IDEM Section 401 Water Quality Certification
☐ IDNR Construction in a Floodway Permit
☐ Soil, Sediment, and/or Groundwater Investigation
☐ U.S. Army Corps of Engineers Section 404 Dredge & Fill Permit
☒ Other: Sanitary Sewer Extension

Other Permits

☐ Business and Neighborhood Services – Improvement Location Permit
☐ City of Indianapolis Right-of-Way Permit
☒ Hamilton County Right-of-Way Permit

☐ INDOT Right-of-Way Permit
☐ Railroad Permit
☐ Other: *Click or tap here to enter text.*

Land Acquisition, Long-Term Lease, and Easements (SELECT AS APPROPRIATE, DELETE IF NOT USED)

The proposed Clear Well project is located on an existing site and no additional land needs to be acquired. The relevant existing land documentation has been attached to the memo and saved in the project folder. Easements may be required for installation of the new water main and control valve/meter along the north side of East 146th Street.

Operational Impact

Operations was consulted to determine the feasibility and impact of the proposed project. The proposed project will not impact system operations during construction. Minor impacts during connection between the proposed and existing clear wells may occur. Construction will be timed to minimize disruptions to plant operations.

Health, Safety and Security

Coordination with health, safety and security was not completed internally to identify any potential health, safety and security concerns.

The proposed project will not have specific potential health, safety and security concerns. A site-specific safety plan will be developed with the selected contractor after project award.

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Project Planning Memo

Team Review

I have reviewed this memo and have shared any comments or suggestions with the current Project Manager at the date of this memo.

	Click or tap to enter a date.		Ryan Taylor
Click or tap here to enter text. Signature	Date		Manager of Plant Engineering
	Click or tap to enter a date.		Ed Bukovac
Click or tap here to enter text. Signature	Date		Director, Westfield Utilities

From:	**Paul Johnson**
To:	**Ryan Taylor**
Date:	**9/14/2023**
RE:	**Cherry Tree Raw Water Valves – 48CY06325**
Memo Location	*\\cegplanteng\common\Projects\BU48-Westfield_W\Treatment\CherryTree\48CY06325 Cherry Tree Raw Water Actuated Valves\Planning\Project Planning Memo_48CY06325_Cherry Tree Raw Water Valves_2023-09-14.docx*

Problem Statement

The Cherry Tree Raw Water Valves has been identified to provide redundancy and operational flexibility of raw water supply between the various well fields and the River Road and Cherry Tree water treatment plants. In addition, this project will include the installation and automation of a rotometer at the Cherry Tree water treatment plant that will allow for automated adjustment of chlorine dosage at the plant.

The project area is at the Westfield Welcome wellfield, near well WEL-11 and is related to the water treatment process. Figure 1 shows a map of the project area. A site walkthrough to evaluate existing system conditions was completed for this project.

Alternative Evaluation

To determine the proposed project scope, a formal alternative evaluation is not planned. To determine the proposed project scope, alternatives were evaluated with varying project components.

No Action Alternative

This alternative includes continuing current operations under existing conditions. The risk posed by not taking action is a lack of operational flexibility and redundancy as well as not properly being able to provide adequate chlorine dosage.

Alternative No. 1

Alternative No. 1 was developed with input from Westfield Water Operations and includes replacing two existing 16-inch butterfly valves with butterfly valves equipped with automated actuators. The project will also include improvements to the chlorine feed equipment at the Cherry tree plant to automate the chlorine feed. A site walkthrough was completed for this alternative.

The risks for Alternative No. 1 include:

- ☐ Extended service outage during construction
- ☐ Difficult construction method
- ☐ Increased safety hazards during construction
- ☐ Environmental risk due to

☐ Unknown site conditions in project area
☐ Public acceptance
☐ Noise pollution during and after construction
☐ Highly complex alternative
☐ Other infrastructure condition
☐ Other:

Alternative No. 1 would address the issues described in the problem statement. The project is anticipated to provide automated capabilities for various supply options to the River Road and Cherry Tree water treatment plants.

Evaluation of Alternatives

The cost estimates include non-construction costs, loadings and a 20% contingency. Supply chain was not consulted for input on the material costs, market volatility, and material lead times. A life-cycle cost analysis was not completed as a part of the alternative evaluation.

Recommendation

The recommended alternative is Alternative 1. This alternative is the only cost effective solution to address the available supply issue at the Cherry Tree plant.

Project Scope and Justification

Based on the alternative evaluation, the proposed project consists of the following:

- Installation of an automated rotometer at the Cherry Tree water treatment plant. This equipment will allow remote and automated adjustment of chlorine dosage at the plant to accommodate raw water ammonia levels (break-point) and adjustments in flow;
- Installation of two (2) electrically actuated 16-inch butterfly valves to replace valves 2341-11-J and 2341-11-A. New valves will allow wells in the Welcome (wells WEL-12 and 13) and Horseshoe wellfields to be routed to the Cherry Tree plant. Currently these five (5) wells can only supply the River Road plant. Automation of valve 2341-11-J will facilitate routing to both plants.

The following items are not included as a part of this project scope:

- Land Acquisition

The project was sized to meet existing and future needs. As a result, the project will maintain the current capacity of the assets being replaced.

Capital Outputs

Table 2 shows the capital outputs that will be tracked for this project.

Table 2: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Process Equipment	Actuated Valves	EA	**2**
Process Equipment	Rotometer	EA	**1**

Cost Estimate

The Class 4[1] planning level estimate for the proposed project is $232,000 and was completed during preliminary scoping. Table 3 contains the cost breakdown for Unifier. Supply chain was not consulted for input on the material costs and market volatility. Cost estimates were developed from equipment supplier quotes (valves and rotometer) and similar projects completed recently. The cost estimate is attached as Appendix A and includes non-construction costs, loadings and a 20% contingency. This project is to be funded from Business Unit 48 - Citizens Water of Westfield from the *1267CBA - Westfield Water Facilities* Capital Budget Authorization (CBA).

Table 3: Preliminary Cost Estimate

CBS Phase	Total Cost[2]
Planning	$1,000
Design	$13,000
Real Estate	$0
Construction	$217,000
Close Out	$1,000
Estimate at Completion (Rounded)	$232,000

Project Schedule

The recommended schedule is presented in Table 4. A detailed project schedule including land acquisition; supply chain solicitation and award; and permitting time needs is available via the following hyperlink (). *Click or tap here to enter text.*. The project will be completed during 2023 and 2024.

Table 4: Proposed Project Schedule

CBS Phase	Start Date	Finish Date
Project Start	12/8/2022	
Planning	12/8/2022	9/1/2023
Design	9/1/2023	10/15/2023

[1] Based on American Association of Cost Engineers (AACE) International estimating classes

[2] Total Cost includes contingency and loadings

Real Estate		
Construction	10/15/2023	1/30/2024
In-Service	1/30/2024	
Close Out	2/1/2024	2/28/2024

Stakeholder Communication (SELECT AS APPROPRIATE, DELETE IF NOT USED)

Internal Stakeholders are as follows:

Table 5: Internal Stakeholder

Name	Department & Role	Name	Department & Role
Ed Bukovac	Director Westfield Utilities	Ryan Taylor	Manager, Purification Plant Engineering
Randy Higginbotham	Manager, Westfield Operations	Paul Johnson	Project Mgr, Purification Plant Engineering
Jon Berry	Westfield Plant Operator	Christina Bowers	Manager, Program & Technical Services

Coordination with internal stakeholders included Westfield Water Operations and Plant Engineering at a meeting held on 3/18/2022. The interactions included a discussion covering the project and input from the internal stakeholders was received. The concerns of Westfield Water Operations included the lack of available capacity, small footprint of the site and potential for unknown underground facilities.

The impact of this project is classified as a Tier 3 project. Below are explanations for the three tiers of public impact.

Tier 1: Full road closure and significant impact to the community/public.
Tier 2: Require lane restrictions in the area with some disruption to the community/public.
Tier 3: Minimal or no impact to the community/public.

Public interactions with external stakeholders have not been conducted.

Permits and Regulatory Requirements (ADD ADDITIONAL INFORMATION AS NEEDED)

Environmental Permits and Investigations

The environmental project review was submitted through iTrust on 4/29/2022 (https://citizensenergy.sharepoint.com/sites/EnvironmentalResources/Lists/Environmental%20Project%20Review%20Portal/DispForm.aspx?ID=471&pa=1&e=uZvkwu). Based on discussions with Environmental Stewardship (John

Havard and Kelly Davenport), the environmental permits and environmental investigations anticipated for this project include the following:

- ☐ Asbestos Survey
- ☐ Brownfield Comfort Letter
- ☐ Environmental Site Assessment, Phase I All Appropriate Inquiry
- ☐ IDEM Air Quality Permit
- ☐ IDEM Construction Permit
- ☐ IDEM Notice of Intent (NOI) to Construct a Water Main Extension
- ☐ IDEM Rule 5 Permit
- ☐ IDEM Section 401 Water Quality Certification
- ☐ IDNR Construction in a Floodway Permit
- ☐ Soil, Sediment, and/or Groundwater Investigation
- ☐ U.S. Army Corps of Engineers Section 404 Dredge & Fill Permit
- ☐ Other: Click or tap here to enter text.

Other Permits

- ☐ Business and Neighborhood Services – Improvement Location Permit
- ☐ City of Indianapolis Right-of-Way Permit
- ☐ Hamilton County Right-of-Way Permit
- ☐ INDOT Right-of-Way Permit
- ☐ Railroad Permit
- ☐ Other: *Click or tap here to enter text.*

Land Acquisition, Long-Term Lease, and Easements (SELECT AS APPROPRIATE, DELETE IF NOT USED)

The proposed Raw Water Valves project is located on an existing site and no additional land needs to be acquired. The relevant existing land documentation has been attached to the memo and saved in the project folder.

Operational Impact

Operations was consulted to determine the feasibility and impact of the proposed project. The proposed project will not impact system operations during construction. Minor impacts during valve and chlorine feed equipment installation may occur. Construction will be timed to minimize disruptions to plant operations.

Health, Safety and Security

Coordination with health, safety and security was not completed internally to identify any potential health, safety and security concerns.

ATTACHMENT EJB-3

The proposed project will not have specific potential health, safety and security concerns. A site-specific safety plan will be developed with the selected contractor after project award.

ATTACHMENT EJB-3

Team Review

I have reviewed this memo and have shared any comments or suggestions with the current Project Manager at the date of this memo.

	Click or tap to enter a date.	Ryan Taylor
Click or tap here to enter text. Signature	Date	Manager of Plant Engineering
	Click or tap to enter a date.	Ed Bukovac
Click or tap here to enter text. Signature	Date	Director, Westfield Utilities

From:	**Cherylynn Schilling, P.E. (Service Provider)**
To:	**Ryan Taylor, P.E., Manager, Purification Plant Engineering**
Date:	**10/31/2023**
RE:	**48MW06291 CSM Facility Improvements**
Memo Location	*\\Cegplanteng\Common\Projects\BU48-Westfield_W\Treatment\CSM\48MW06291_Miscellaneous Improvements\Planning*

Problem Statement

The subject project has been identified to address miscellaneous improvements needed at the plant. The project needs were identified by the Director (Ed Bukovac) and Operations (Chris Barron, and others). In summary, project needs include:

1) Lagoon Improvements
    a. The CSM facility has two lagoons connected in series to hold spent filter backwash water. The two lagoons are connected by one crock with piping. The second lagoon discharges to a second crock before discharging to a nearby creek. The discharge flow rate is estimated off the pumping rates. The pumps run once per month at one sampling point.
    b. The goal is to construct modifications to obtain accurate discharge flow rates.
2) Well Drainage (Three Total Well Locations)
    a. A site inspection conducted by IDEM noted that modifications are needed to prevent standing water from collecting within the earthen berms that surround the existing well casing.
3) Roof Improvements
    a. The existing roof on the plant building is over 30 years old and beyond its useful life.

The project area is at Citizens South Madison treatment facility at 5309 S State Road 13, Lapel, IN 46051. A site walkthrough to evaluate existing conditions was completed for this project.

Alternative Evaluation

To determine the proposed project scope for the Lagoon Improvements, an alternative evaluation was previously completed internally by Citizens Engineering staff and is included as Appendix A.

Recommendation

The following are recommended to be included in the project scope:

1) Lagoon Improvements
    a. Install new steel weir plate, new bubbler lines, reprogram level transducer, confirm SCADA outputs.
    b. Install exterior mount weir gate (2 ft wide by 3 ft tall) on each crock.
    c. Install portable walkway (8 ft) for access to East crock grating to actuate manual valves.

2) Well Drainage (Three Total Well Locations)
    a. Minor regrading and install stone drainage channel to prevent standing water at the top of the earthen berms currently built up around the elevated casing. Include final site restoration (mulched seeding or similar).
3) Roof Improvements
    a. Replace roof of the existing plant building.

Project Scope and Justification

Based on the alternative evaluation, Table 1 show the proposed project capital outputs:

Table 1: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Buildings	Roof (replaced/repaired)	Each	**1**

Additional scope items not captured in capital outputs include:

- Lagoon outlet structure modifications and flow monitoring improvements.
- Minor site improvements.

The proposed project will address necessary facility maintenance repairs and IDEM compliance requirements. As a result, the proposed project is recommended.

Cost Estimate

The Class 4[1] planning level estimate for the proposed project is $100,000 and was completed during project scoping in September 2023. Table 2 contains the cost breakdown for Unifier. Supply chain was not consulted for input on the material costs and market volatility. This project is to be funded from Business Unit 48 - Citizens Water of Westfield from the *1267 – Westfield Water Facilities* Capital Budget Authorization (CBA).

Table 2: Preliminary Cost Estimate

Construction Phase	Total Cost[2]
Lagoon Improvements	$60,000
Roof Replacement	$30,000
Well Drainage Improvements	$10,000
Estimate at Completion (Rounded)	**$100,000**

[1] Based on American Association of Cost Engineers (AACE) International estimating classes
[2] Total Cost includes contingency, direct time and allocations.

Project Schedule

The recommended schedule is presented in Table 3. The project will be completed during FY24.

Table 3: Proposed Project Schedule

Phase	Schedule
Project Start	February 2024
Construction	February thru May 2024
Close Out	May 2022

Stakeholder Communication

Internal Stakeholders are as follows:

Table 4: Internal Stakeholder

Name	Department & Role	Name	Department & Role
Ed Bukovac	Director Westfield Utilities	Chris Barron	Production O&M Manager, Water Production & Distribution
Brian Campbell	O&M Supervisor, Water Production & Distribution	Ryan Taylor	Manager, Purification Plant Engineering
Ryan Taylor	Manager, Purification Plant Engineering	Paul Johnson	Project Manager, Purification Plant Engineering
Cherylynn Schilling	Project Manager, Capital Programs & Engineering (Service Provider)	Mimi Law	Construction Specialist VII, Capital Programs & Engineering

Coordination with internal stakeholders is ongoing as project implementation progresses.

The impact of this project is classified as a Tier 3 project. Below are explanations for the three tiers of public impact.

Tier 1: Full road closure and significant impact to the community/public.
Tier 2: Require lane restrictions in the area with some disruption to the community/public.
Tier 3: Minimal or no impact to the community/public.

Operational Impact

The program planning operational impact level was defined as Low. Coordination with Operations about project timing is needed in advance of project implementation.

Impacts During Construction

- ☐ Additional risk (reduced redundancy, quantity, quality, regulatory)
- ☐ Asset outages in conjunction with FC 2023 Shutdown Project, **regulatory coordination is needed**
  - ☐ Treatment capacity impacted
- ☐ Downstream customer impacts
  - ☐ Critical/large customers
- ☐ O&M effort/monitoring required
- ☒ Other

Post-Construction Impacts

- ☒ Reduced risk
- ☒ Newer equipment
- ☐ Additional capacity
- ☐ Improved energy efficiency
- ☒ Additional functionality
- ☐ Higher quality product
- ☐ Better meeting of level of service goals
- ☒ O&M time/staffing level
- ☐ Training required
- ☒ Life cycle cost change (labor, material, chemical, etc.)
- ☐ Other

Health, Safety and Security

Coordination will occur with Citizens Health and Safety to ensure Engineers, Vendors, and/or Contractors visiting or working on the site meet safety requirements. Periodic inspection by Citizens Safety is expected during construction.

Facilities

The proposed project facility requirements include:

☒ None

From:	**Paul Johnson**
To:	**Ryan Taylor and Ed Bukovac**
Date:	**1/5/2024**
RE:	**48MW06404, 48MW06405 – 2024 & 2025 Miscellaneous Plant Improvements**
Memo Location	*\\cegplanteng\common\Projects\BU48-Westfield_W\Treatment\Multi-Plant\48MW06404_2024 Misc Plant Improvements\Planning\48MW06404_Miscellaneous Plant Projects PPM_2024-01-05.docx*

Problem Statement

The 2024 Miscellaneous Plant Improvements project has been identified to address various repairs and improvements needed at the River Road Water Treatment Plant. The project need was identified by Westfield Water Operations in December 2023. The root cause of the issue is equipment and facilities beyond their useful life.

The project area is at the River Road Water Treatment Plant facility and is related to the Water Treatment process. Figure 1 shows a map of the project area. A site walkthrough to evaluate existing system conditions was completed for this project. The following was documented during the site walkthrough: The existing backwash pond is overflowing due to plugging of the pond bed. In addition, pump control valves installed on three of the four high service pumps are leaking – these valves are >20 years old and no longer under warranty and repairs are not effective. Figures 2 through X are photos showing existing conditions.

Alternative Evaluation

To determine the proposed project scope, an alternative evaluation is not planned.

IF THE ALTERNATIVES ARE APPROXIMATELY KNOWN, CONSIDER THE FOLLOWING:

To determine the proposed project scope, alternatives were evaluated with varying project components.

No Action Alternative

This alternative includes continuing current operations under existing conditions. The risk posed by not taking action is the backwash pond will continue to overflow and discharge backwash water to the storm drain, potentially in violation of stormwater discharge requirements. These consequences impact customers in the Westfield service area by minimizing flooding from the backwash lagoon.

Alternative No. 1 – *Dredge the backwash lagoon and relace the pump valves*

Alternative No. 1 was developed with input from Westfield Water Operations and includes identification of replacement valves. A site walkthrough was completed for this alternative.

The risks for Alternative No. 1 include:

☒ Extended service outage during construction
☐ Difficult construction method
☐ Increased safety hazards during construction
☒ Environmental risk due to landfill disposal of dredged material
☐ Unknown site conditions in project area
☐ Public acceptance
☐ Noise pollution during and after construction
☐ Highly complex alternative
☐ Other infrastructure condition
☐ Other: Click or tap here to enter text.

Alternative No. 1 would address the issues in the project statement including improving infiltration capacity at the backwash pond and eliminating the leakage from the pump control valves. The project is anticipated to meet the need for ten (10)-twenty (20) years or until (1) An NPDES outfall is developed for the backwash pond, and (2) the new valves exceed their useful life. The impact of the alternative on the customers in the Westfield water service area includes.

The longest material lead time expected for the materials in this alternative is the pump control valves, estimated at 28 weeks. An external vendor was consulted regarding the material lead time estimate.

Evaluation of Alternatives

The cost estimates include non-construction costs, loadings and a 10% contingency. Supply chain was not consulted for input on the material costs, market volatility, and material lead times. A life-cycle cost analysis was not completed as a part of the alternative evaluation. Recommendation

The recommended alternative is Alternative 1. Click or tap here to enter text. *Click or tap here to enter text.*

Project Scope and Justification (use in Unifier)

Based on the alternative evaluation, Table 1 show the proposed project capital outputs:

Table 1: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Misc. Improvements	Misc. Improvements	Each	**1**
Plant	Process Equipment	Each	**3**

The project was sized to meet existing and future needs. As a result, the project will maintain the current capacity of the assets being replaced.

The following data supports the need for the project:

- Backwash pond consistently overflows following backwash cycles. Valve on High Service Pump #5 is leaking when in operation.

The proposed project will address (1) the reduced infiltration at the backwash pond by dredging settled materials/sludge, and (2) replace the existing pump control valves that are beyond their useful life. As a result, the proposed project is recommended.

Cost Estimate *(use in Unifier)*

The Class 3[1] planning level estimate for the proposed project is $279,600 and was completed during January 2024. Table 2 contains the cost breakdown for Unifier. Supply chain was not consulted for input on the material costs and market volatility. Construction and material estimates were obtained from a dredging contractor and valve costs were obtained from a supplier. The cost estimate is attached as Appendix A and includes non-construction costs, loadings and a 10% contingency. This project is to be funded from Business Unit 48 - Citizens Water of Westfield from the *1267* Capital Budget Authorization (CBA). Appendix B contains a checklist of the components included in the cost.

Table 2: 2024 Misc. Plant Improvements Cost Estimate

CBS Phase	Total Cost[2]
Planning	$3,000
Design	
Real Estate	
Construction	$274,600
Close Out	$2,000
Estimate at Completion (Rounded)	$279,600

Project Schedule *(use in Unifier)*

The recommended schedule is presented in Table 3. A detailed project schedule including land acquisition; supply chain solicitation and award; and permitting time needs is available via the following hyperlink (\\cegplanteng\common\Projects\BU48-Westfield_W\Treatment\Multi-Plant\48MW06404_2024 Misc Plant Improvements\Planning\Preliminary Project Schedule.xlsx). . The project will be completed during Fiscal Year 2024. Westfield Water Operations has advised the backwash pond component of the project *must be* in-service by April 1, 2024, as the backwash volume will increase during high demand periods due to more frequent backwashing. The

[1] Based on American Association of Cost Engineers (AACE) International estimating classes
[2] Total Cost includes contingency, direct time and allocations

high service pump valves must be in-service by September 30, 2024, or as soon as possible after the valves are delivered.

Table 3: Proposed Project Schedule

CBS Phase	Start Date	Finish Date
Project Start	12/5/2023	
Planning	12/5/2023	1/5/2024
Design		
Real Estate		
Construction	1/22/2024	9/30/2024
In-Service	9/30/2024	
Close Out	10/1/2024	10/15/2024

Stakeholder Communication (SELECT AS APPROPRIATE, DELETE IF NOT USED)

Internal Stakeholders are as follows:

Table 4: Internal Stakeholder

Name	Department & Role	Name	Department & Role
Ed Bukovac	WF Operations	Ryan Tayor	Purif. Plant Engr.
Randy Higg	WF Operations	Paul Johnson	Purif. Plant Engr.

Coordination with internal stakeholders included Westfield Water Operations and Plant Engineering at a meeting held on 1/4/2024. The interactions included a discussion covering the project and input from the internal stakeholders was received. The concerns of Westfield Operations included project schedule and budget.

The impact of this project is classified as a Tier 3 project. Below are explanations for the three tiers of public impact.

Tier 1: Full road closure and significant impact to the community/public.
Tier 2: Require lane restrictions in the area with some disruption to the community/public.
Tier 3: Minimal or no impact to the community/public.

There was no specific external stakeholder identified for this project.

Environmental Requirements (ADD ADDITIONAL INFORMATION AS NEEDED)

Environmental Requirements

☒ The environmental project review was submitted through iTrust on 12/11/2023 (Hyperlink Here). Feedback from the Environmental Project Review was received on 1/15/2024. Feedback is attached to the memo.

ATTACHMENT EJB-3

Based on discussions with Environmental Stewardship (John Havard and Alan Wiseman), the environmental permits and environmental investigations anticipated for this project include the following:

- Chemical analysis of the pond sediment is required for landfill disposal or land application. Environmental Stewardship will collect samples from the pond.
- Environmental Stewardship will prepare the waste analysis for disposal at a licensed landfill, likely to be Southside Landfill.

The environmental requirements for this alternative include:

☐ 30-day notification to IDEM for episodic hazardous waste generation
☐ Additional requirements for handling of water from a construction project (see Environmental Stewardship Instruction - ESI 4.4.6-21)
☐ Asbestos Survey
☐ Brownfield Comfort Letter
☐ City of Indianapolis Grading and Drainage Permit
☐ County Legal Drain Permit
☐ CWA Authority Special Discharge Agreement or Discharge Permit
☐ Environmental Site Assessment, Phase I All Appropriate Inquiry
☐ E-Waste, Industrial Waste, Hazardous waste, or Universal Waste disposal (includes solids, liquids and compressed gas)
☐ Endangered Species Requirements
☐ Frac-out Mitigation Plan
☐ IDEM Air Quality Permit
☐ IDEM Approval of Alternate Material of Construction (drinking water or sewer system)
☐ IDEM Construction Stormwater General Permit
☐ IDEM Drinking Water Construction Permit
☐ IDEM Notice of Intent (NOI) to Construct a Water Main Extension
☐ IDEM NPDES Permit (new or modification)
☐ IDEM Section 401 Water Quality Certification
☐ IDEM Sewer Construction Permit
☐ IDNR Construction in a Floodway Permit
☐ Lead, Barium, PCB or other toxic compound in paint that will be removed
☐ Levee – City of Indianapolis Coordination
☐ Local Municipality (other than Indianapolis) MS4 Requirements
☐ Petroleum and/or Chemical Spill Prevention Requirements
☐ Risk Management Plan Requirements
☐ Soil, Sediment, and/or Groundwater Investigation
☐ U.S. Army Corps of Engineers Section 404 Dredge & Fill Permit
☐ U.S. Army Corps of Engineers Section 408 Levee Permit

☐ Wellhead protection area requirements
☐ Wetland Delineation
☒ Other: Solid Waste disposal manifests and waste profile
☐ None

Other Permits

☐ Business and Neighborhood Services – Improvement Location Permit
☐ City of Indianapolis Right-of-Way Permit
☐ Hamilton County Right-of-Way Permit
☐ INDOT Right-of-Way Permit
☐ Railroad Permit
☐ Other: *Click or tap here to enter text.*

Operational Impact

The program planning operational impact level was defined as Medium**.**

Coordination with Operations about project timing is needed in advance of project implementation. The project must be completed between September 1 and September 30 due to equipment delivery times and downtime for valve replacements during low demand periods.

Impacts During Construction

- ☒ Additional risk (reduced redundancy, quantity, quality, regulatory)
- ☒ Asset outages
  - ☐ Treatment capacity impacted
- ☐ Downstream customer impacts
  - ☐ Critical/large customers
- ☐ O&M effort/monitoring required
- ☐ Other

Post-Construction Impacts

- ☒ Reduced risk
- ☒ Newer equipment
- ☐ Additional capacity
- ☐ Improved energy efficiency
- ☐ Additional functionality
- ☐ Higher quality product
- ☐ Better meeting of level of service goals
- ☐ O&M time/staffing level

☐ Training required
☐ Life cycle cost change (labor, material, chemical, etc.)
☐ Other

☐ No impacts expected

Impacts during construction for valve replacements – high service pumps will be shut down during valve replacement. Valves will be replaced individually to minimize impacts on operations.

Health, Safety and Security

Coordination with Safety Project Coordinator was not completed internally to identify any potential health, safety and security concerns.

The proposed project will not have specific potential health, safety and security concerns. *Click or tap here to enter text.*

Facilities

The proposed project facility requirements include:
☒ None
OR
☐ Mowing
☐ Snow Removal and Salting
☐ HVAC
☐ Fire Suppression
☐ Signage
☐ Lock/key
☐ Other (*Click or tap here to enter text.*)

From:	**Paul Johnson**
To:	**Ryan Taylor**
Date:	**2/7/2023**
RE:	**48SS04086 – River Road Well 17**
Memo Location	*Project Planning Memo_RR Well 17.docx*

Problem Statement

The River Road Well 17 has been identified to address insufficient available water supply to meet consumption needs in the Westfield system. The issues were identified by Citizens Water of Westfield in early 2019. The root cause of the issue is limited supply capacity. Several high capacity water withdrawal facilities are located within the wellfield areas which has affected the available supply capacity.

The project areas is located at the River Road Water Treatment Plant. A site walkthrough to evaluate existing system conditions was completed for this project. The proposed project consists of installing a raw water interconnect (valve and meter) with Citizens Water's White River North wellfield, located south of the River Road plant. In addition, a new water supply well will be installed in the southwest portion of the plant property. Test drilling and well site survey reports were completed to identify best locations for the additional well.

Cost Estimate

The Class 5[1] planning level estimate for the proposed project is $1,300,000 and was completed during January of 2023. Table A contains the cost breakdown for Unifier. Supply chain was not consulted for input on the material costs and market volatility. This project is to be funded from Business Unit 48 - Citizens Water of Westfield from the *1248 CBA – Westfield Water Storage & Supply.* Capital Budget Authorization (CBA). The funding source for the project is rate-based revenue.

[1] Based on American Association of Cost Engineers (AACE) International estimating classes

Table A: River Road Well 17 Project Cost Estimate

CBS Phase	Total Cost[2]
Planning	N/A
Design	$96,500
Real Estate	N/A
Construction	$1,168,500
Close Out & Direct Costs	$35,000
Estimate at Completion (Rounded)	$1,300,000

Project Schedule

The recommended schedule is presented in Table B. The project will be completed during FY 23/24.

Table B: Proposed Project Schedule Well 7a

CBS Phase	Start Date	Finish Date
Project Start	8/19/2019	
Planning	Completed	Completed
Design	6/1/2022	12/30/2022
Real Estate	9/1/2019	6/15/2023
Construction	8/30/2023	2/15/2024
In-Service	2/15/2024	
Close Out	2/15/2024	3/30/2024

Permits and Regulatory Requirements

Environmental Permits and Investigations

The environmental project review was completed. Based on discussions with Environmental Stewardship the environmental permits and environmental investigations anticipated for this project include the following:

- ☐ Asbestos Survey
- ☐ Brownfield Comfort Letter
- ☐ Environmental Site Assessment, Phase I All Appropriate Inquiry
- ☐ IDEM Air Quality Permit

[2] Total Cost includes contingency and loadings and all sub costs shown. Sub costs are not in addition to total costs.
[3] Includes total project costs including connection to existing transmission main. New wells are adjacent to existing wells.
[4] Includes total project costs excluding connection to existing transmission main. Cost reflects well development only. Discharge/Transmission main costs to be identified during design.

☒ IDEM Construction Permit
☐ IDEM Notice of Intent (NOI) to Construct a Water Main Extension
☐ IDEM Rule 5 Permit
☐ IDEM Section 401 Water Quality Certification
☐ IDNR Construction in a Floodway Permit
☐ Soil, Sediment, and/or Groundwater Investigation
☐ U.S. Army Corps of Engineers Section 404 Dredge & Fill Permit
☐ Other: *Click or tap here to enter text.*

Other Permits

☐ Business and Neighborhood Services – Improvement Location Permit
☐ City of Indianapolis Right-of-Way Permit
☐ Hamilton County Right-of-Way Permit
☐ INDOT Right-of-Way Permit
☐ Railroad Permit
☐ Other: *Click or tap here to enter text.*

Operational Impact

Operations was consulted to determine the feasibility and impact of the proposed project. The proposed project will not impact system operations during construction.

ATTACHMENT EJB-3

Team Review

I have reviewed this memo and the associated checklist and have shared any comments or suggestions with the current Project Manager at the date of this memo.

	Click or tap to enter a date.	Ryan Taylor
Signature	Date	Manager of Engineering
	Click or tap to enter a date.	Ed Bukovac
Click or tap here to enter text. Signature	Date	Operations Manager

From:	**Paul Johnson**
To:	**Ryan Taylor**
Date:	**10/19/2023**
RE:	**48TK06125 Westfield 161st Street Tank Rehab**
Memo Location	*PPEng PPM_48TK06125 WF 161st Tank Rehab.docx*

Problem Statement

The Westfield 161st Street Tank Rehabilitation has been identified to address corrosion on the dry and wet interior surfaces. The project need was identified by Operations and Tank Industry Consultants in 2018. The root cause of the issue is routine wear and tear and maintenance.

The project area is at the 161st Street Tank Site (910 W 161st St, Westfield, IN) and is related to water storage facilities. Figure 1 shows a map of the project area. A site walkthrough to evaluate existing system conditions was completed for this project. The following was documented during the site walkthrough: Tank Industry Consultant inspection report found in the 161st Street Tank/As-Builts/Inspections folder on the company server.

Alternative Evaluation

To determine the proposed project scope, an alternative evaluation is not planned. The proposed Project follows the rehabilitation recommendations outlined in the 2018 TIC Tank Inspection report as referenced above.

Project Scope and Justification (use in Unifier)

Based on the alternative evaluation, Table 1 show the proposed project capital outputs:

Table 1: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Water Storage	Water Storage (Repairs)	MG	**0.5**

Additional scope items not captured in capital outputs include:

- N/A

The following items are not included as a part of this project scope:

- N/A

The proposed project is in conjunction with the Tank Prioritization Solicitation.

The project was sized to meet existing and future needs. As a result, the project will maintain the current capacity of the assets being replaced.

The following data supports the need for the project:

- Tank Industry Consultants 2018 Tank Inspection report

The proposed project will address corrosion and failing coatings at existing tanks located at Ford Water Treatment Plant. As a result, the proposed project is recommended.

Cost Estimate *(use in Unifier)*

The Class 1[1] planning level estimate for the proposed project is $660,000 and was completed during February 2023. Table 2 contains the cost breakdown for Unifier. Supply chain was not consulted for input on the material costs and market volatility. Costs came directly from the contractor performing the work. The cost estimate is attached as Appendix A and includes non-construction costs, loadings and a 10% contingency. This project is to be funded from Business Unit 48 - Citizens Water of Westfield from the *1268* Capital Budget Authorization (CBA).

Table 2: Ford Aeration Tank Painting Cost Estimate

CBS Phase	Total Cost[2]
Planning	$3,000
Design	-
Real Estate	-
Construction	$860,000
Close Out	$2,000
Estimate at Completion (Rounded)	$865,000

Project Schedule *(use in Unifier)*

The recommended schedule is presented in Table 3. A detailed project schedule including land acquisition; supply chain solicitation and award. The project will be completed during FY 2025. Westfield Water Operations has advised the project *must be/is requested to be* in-service by May 2025 to accommodate high demand.

Table 3: Proposed Project Schedule

CBS Phase	Start Date	Finish Date

[1] Based on American Association of Cost Engineers (AACE) International estimating classes
[2] Total Cost includes contingency, direct time and allocations

Project Start	10/1/2024	
Planning		
Design		
Real Estate		
Construction	10/15/2024	4/18/2025
In-Service	4/4/2025	
Close Out	5/1/2025	5/31/2025

Environmental Requirements

Environmental Requirements

☒ The environmental project review was submitted through iTrust on 10/20/2023 (Hyperlink Here). Feedback from the Environmental Project Review was received on {not yet received}.

Based on discussions with Environmental Stewardship (John Havard), the environmental permits and environmental investigations anticipated for this project include the following:

The environmental requirements for this alternative include:

☐ 30-day notification to IDEM for episodic hazardous waste generation
☐ Additional requirements for handling of water from a construction project (see Environmental Stewardship Instruction - ESI 4.4.6-21)
☐ Asbestos Survey
☐ Brownfield Comfort Letter
☐ County Legal Drain Permit
☐ Environmental Site Assessment, Phase I All Appropriate Inquiry
☐ E-Waste, Industrial Waste, Hazardous waste, or Universal Waste disposal (includes solids, liquids and compressed gas)
☐ IDEM Air Quality Permit
☐ IDEM Construction Permit
☐ IDEM Notice of Intent (NOI) to Construct a Water Main Extension
☐ IDEM Rule 5 Permit
☐ IDEM Section 401 Water Quality Certification
☐ IDNR Construction in a Floodway Permit
☐ Lead, Barium, PCB or other toxic compound in paint that will be removed
☐ Levee – City of Indianapolis Coordination
☐ Petroleum and/or Chemical Spill Prevention Requirements
☐ Risk Management Plan Requirements
☐ Soil, Sediment, and/or Groundwater Investigation

☐ U.S. Army Corps of Engineers Section 404 Dredge & Fill Permit
☐ U.S. Army Corps of Engineers Section 408 Levee Permit
☐ Wellhead protection area requirements
☐ Other: *Click or tap here to enter text.*
☐ None

Other Permits

☐ Business and Neighborhood Services – Improvement Location Permit
☐ City of Indianapolis Right-of-Way Permit
☐ Hamilton County Right-of-Way Permit
☐ INDOT Right-of-Way Permit
☐ Railroad Permit
☐ Other: *Click or tap here to enter text.*

Operational Impact

The program planning operational impact level was defined as Medium**.**

Coordination with Operations about project timing is needed in advance of project implementation. The project must be completed between Now and May 2025 due to other shutdown project deadlines.

Impacts During Construction
- ☐ Additional risk (reduced redundancy, quantity, quality, regulatory)
- ☒ Asset outages **[Note if regulatory coordination is needed.]**
  - ☒ Treatment capacity impacted
- ☐ Downstream customer impacts
  - ☐ Critical/large customers
- ☒ O&M effort/monitoring required
- ☐ Other

Post-Construction Impacts
- ☒ Reduced risk
- ☐ Newer equipment
- ☐ Additional capacity
- ☐ Improved energy efficiency
- ☐ Additional functionality
- ☒ Higher quality product
- ☐ Better meeting of level of service goals
- ☒ O&M time/staffing level
- ☐ Training required

☐ Life cycle cost change (labor, material, chemical, etc.)
☐ Other

☐ No impacts expected

Facilities

The proposed project facility requirements include:
☒ None
OR
☐ Mowing
☐ Snow Removal and Salting
☐ HVAC
☐ Fire Suppression
☐ Signage
☐ Lock/key
☐ Other (*Click or tap here to enter text.*)

From:	**Paul Johnson**
To:	**Ryan Taylor**
Date:	**10/6/2023**
RE:	**48SS06378 – 2024 WF Well Rehabilitation**
Memo Location	*\\cegplanteng\common\Projects\BU48-Westfield_W\SourceSupply\48SS05878 WF 2023 Well Rehabilitation\Project Planning Memo_WF Well Rehab 2023.docx*

Problem Statement

The 2024 WF Well Rehabilitation has been identified to address declining capacity in the raw water production wells. The project need was identified by annual flow testing performed on each well in the Westfield system in October/November timeframe. The root cause of the issue is general usage of the production wells over the course of the year and that WF relies upon groundwater for their day to day operations.

The project areas include the River Road, Welcome, Horseshoe, Greyhound Pass and Cherry Tree wellfields and are related to the raw water production process. A site walkthrough to evaluate existing system conditions was not completed for this project. The following was documented during the site walkthrough: N/A.

Alternative Evaluation

To determine the proposed project scope, an alternative evaluation is planned. The alternatives evaluation will be completed on the following schedule and stored in location CEG Plant Engineering project folder.

Table 1: Proposed Alternative Evaluation Schedule

Description	Start Date	Finish Date
Project Start	10/1/2023	
Draft Memorandum	10/31/2023	11/30/2023
Draft Review Meeting	12/1/2023	12/7/2023
Final Memorandum	12/7/2023	12/9/2023
Final Review Meeting	12/12/2023	12/16/2023

IF THE ALTERNATIVES ARE APPROXIMATELY KNOWN, CONSIDER THE FOLLOWING:

To determine the proposed project scope, alternatives were evaluated with varying project components.

No Action Alternative

This alternative includes continuing current operations under existing conditions. The risk posed by not taking action is failure of the well during high demand periods. These consequences impact customers in the by loss of raw water capacity, low system pressure.

Alternative No. 1 – *Well Rehabilitation*

Alternative No. 1 was developed with input from Westfield Water Operations and includes review of 2023 flow test results, previous flow testing and past well rehabilitation. A site walkthrough was not completed for this alternative.

The risks for Alternative No. 1 include:

- ☒ Extended service outage during construction
- ☐ Difficult construction method
- ☐ Increased safety hazards during construction
- ☐ Environmental risk due to Click or tap here to enter text.
- ☐ Unknown site conditions in project area
- ☐ Public acceptance
- ☐ Noise pollution during and after construction
- ☐ Highly complex alternative
- ☐ Other infrastructure condition
- ☐ Other:

Alternative No. 1 would address the issues in the project statement including rehabilitation of selected production wells to improve well capacity. The project is anticipated to meet the need for 5 years or until subsequent loss of capacity and additional well rehabilitation or well replacement. The impact of the alternative on the customers is not anticipated.

Recommendation

The recommended alternative is Alternative 1. Click or tap here to enter text. *Click or tap here to enter text.*

Project Scope and Justification (use in Unifier)

Based on the alternative evaluation, Table 2 show the proposed project capital outputs:

Table 2: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Wells	Water Well (Rehab/Replace)	EA	**TBD**

Additional scope items not captured in capital outputs include:

- Well pumping equipment replacements

The following items are not included as a part of this project scope:

- Click or tap here to enter text.

The following data supports the need for the project:

- *Click or tap here to enter text.*

The proposed project will address decreased capacity in the production wells. As a result, the proposed project is recommended.

Cost Estimate *(use in Unifier)*

The Class 1[1] planning level estimate for the proposed project is $220,000 and was completed during October 2022. Table 3 contains the cost breakdown for Unifier. Supply chain was not consulted for input on the material costs and market volatility. This project is to be funded from Business Unit 48 - Citizens Water of Westfield from the *1268 CBA – Westfield Water Storage and Supply* Capital Budget Authorization (CBA).

Table 3: *Click or tap here to enter text.* **Cost Estimate**

CBS Phase	Total Cost[2]
Planning	0
Design	0
Real Estate	0
Construction	220,000
Close Out	0
Estimate at Completion (Rounded)	220,000

Project Schedule *(use in Unifier)*

The recommended schedule is presented in Table 4. The project will be completed during Fiscal Year 2024. Westfield Water Operations has advised the project *must be/is requested to be* in-service by April 30. 2024, as the production wells are needed to meet water demands. Individual wells will be placed back into service following completion of the rehabilitation work, including any necessary pumping equipment repairs/replacements, and satisfactory bacteriological sampling results.

[1] Based on American Association of Cost Engineers (AACE) International estimating classes
[2] Total Cost includes contingency, direct time and allocations

Table 4: Proposed Project Schedule

CBS Phase	Start Date	Finish Date
Project Start	October 10, 2023	
Planning	10/10/2023	12/15/2023
Design		
Real Estate		
Construction	12/15/2023	4/30/2024
In-Service	Varies	
Close Out	7/1/2024	7/31/2024

Stakeholder Communication (SELECT AS APPROPRIATE, DELETE IF NOT USED)

Internal Stakeholders are as follows:

Table 5: Internal Stakeholder

Name	Department & Role	Name	Department & Role
Ed Bukovac	WF Water Ops	Paul Johnson	**Plant Engineering**
Randy Higginbotham	WF Water Ops		

Coordination with internal stakeholders included WF Water Operations, Water Quality and Plant Engineering at a meeting held on 10/6/2023. The interactions included a discussion covering the project and input from the internal stakeholders was received. There were no concerns from internal stakeholders.

The impact of this project is classified as a Tier 3 project. Below are explanations for the three tiers of public impact.

Tier 1: Full road closure and significant impact to the community/public.
Tier 2: Require lane restrictions in the area with some disruption to the community/public.
Tier 3: Minimal or no impact to the community/public.

There was no specific external stakeholder identified for this project.

Coordination with other utilities was not completed, as the project will not impact other utilities.

Coordination with regulatory agencies was not completed, as the project does not require permits or has impacts on the environment.

Environmental Requirements (ADD ADDITIONAL INFORMATION AS NEEDED)

Environmental Requirements

☒ The environmental project review was submitted through iTrust on 10/6/2023 ().here Feedback from the Environmental Project Review was received on 10/17/2023 during a meeting with Kari Maxwell and John Havard. Feedback will be attached to the memo. Initial feedback from the review meeting included:

- Ensure all chemicals used during the rehabilitation work are NSF-60 certified;
- Do not allow discharges during the rehabilitation work, or pump testing to be discharged to streams, wetlands, lakes or other water bodies designated as waters of the State or Waters of the United States;
- Verify any pumping equipment replacements are the same as the equipment being replaced.

Based on discussions with Environmental Stewardship (Kari Maxwell), the environmental permits and environmental investigations anticipated for this project include the following:

The environmental requirements for this alternative include:

☐ 30-day notification to IDEM for episodic hazardous waste generation
☐ Additional requirements for handling of water from a construction project (see Environmental Stewardship Instruction - ESI 4.4.6-21)
☐ Asbestos Survey
☐ Brownfield Comfort Letter
☐ County Legal Drain Permit
☐ Environmental Site Assessment, Phase I All Appropriate Inquiry
☐ E-Waste, Industrial Waste, Hazardous waste, or Universal Waste disposal (includes solids, liquids and compressed gas)
☐ IDEM Air Quality Permit
☐ IDEM Construction Permit
☐ IDEM Notice of Intent (NOI) to Construct a Water Main Extension
☐ IDEM Rule 5 Permit
☐ IDEM Section 401 Water Quality Certification
☐ IDNR Construction in a Floodway Permit
☐ Lead, Barium, PCB or other toxic compound in paint that will be removed
☐ Levee – City of Indianapolis Coordination
☐ Petroleum and/or Chemical Spill Prevention Requirements
☐ Risk Management Plan Requirements
☐ Soil, Sediment, and/or Groundwater Investigation
☐ U.S. Army Corps of Engineers Section 404 Dredge & Fill Permit
☐ U.S. Army Corps of Engineers Section 408 Levee Permit
☐ Wellhead protection area requirements
☐ Other: *Click or tap here to enter text.*

☐ None

Other Permits

- ☐ Business and Neighborhood Services – Improvement Location Permit
- ☐ City of Indianapolis Right-of-Way Permit
- ☐ Hamilton County Right-of-Way Permit
- ☐ INDOT Right-of-Way Permit
- ☐ Railroad Permit
- ☐ Other: *Click or tap here to enter text.*

Land Acquisition, Long-Term Lease, and Easements (SELECT AS APPROPRIATE, DELETE IF NOT USED)

The proposed project is located on an existing site and no additional land needs to be acquired. The relevant existing land documentation has been attached to the memo and saved in the project folder.

Operational Impact

The program planning operational impact level was defined as Medium**.** Coordination with Operations about project timing is needed in advance of project implementation. The project must be completed between January - May due to anticipated high demands that begin in June each year.

Impacts During Construction

- ☒ Additional risk (reduced redundancy, quantity, quality, regulatory)
- ☒ Asset outages **[Note if regulatory coordination is needed.]**
  - ☒ Treatment capacity impacted
- ☐ Downstream customer impacts
  - ☐ Critical/large customers
- ☒ O&M effort/monitoring required
- ☐ Other

Post-Construction Impacts

- ☒ Reduced risk
- ☐ Newer equipment
- ☒ Additional capacity
- ☒ Improved energy efficiency
- ☐ Additional functionality
- ☐ Higher quality product
- ☐ Better meeting of level of service goals
- ☐ O&M time/staffing level
- ☐ Training required
- ☐ Life cycle cost change (labor, material, chemical, etc.)

☐ Other

☐ No impacts expected

1. Well rehabilitation work will require 1-2 production wells to be out of service for 1-2 weeks, reducing the available supply during the rehab work period. The available supply for treatment will be reduced while wells are out of service.

2. Additional water quality monitoring will be required to place rehabilitated wells into service. Typically 2 successive total coliform negative samples and volatile organic compounds.

3. Well rehabilitation will improve production capacity and decrease drawdown during pumping, thus decreasing energy requirements.

Health, Safety and Security

Coordination with Safety was not completed internally to identify any potential health, safety and security concerns.

The proposed project will have specific potential health, safety and security concerns. Well cleaning chemicals (and neutralizers) will be utilized during cleaning. This includes but not limited to Muriatic Acid, 20* baum inhibited, Sodium Hypochlorite, P6 (wetting agent), Soda Ash, Sodium Bicarb, Sodium Meta-Bisulfite.

Facilities

The proposed project facility requirements include:
☒ None
OR
☐ Mowing
☐ Snow Removal and Salting
☐ HVAC
☐ Fire Suppression
☐ Signage
☐ Lock/key
☐ Other (*Click or tap here to enter text.*)

From:	**Paul Johnson**
To:	**Ryan Taylor**
Date:	**10/30/2023**
RE:	**48SS06403 – 2025 WF Well Rehabilitation**
Memo Location	*\\cegplanteng\common\Projects\BU48-Westfield_W\SourceSupply\48SS06403 2025 WF Well Rehabilitation\Planning\Project Planning Memo_WF Well Rehab 2025.docx*

Problem Statement

The 2025 WF Well Rehabilitation has been identified to address declining capacity in the raw water production wells. The project need was identified by annual flow testing performed on each well in the Westfield system in October/November timeframe. The root cause of the issue is general usage of the production wells over the course of the year and that WF relies upon groundwater for their day-to-day operations.

The project areas include the River Road, Welcome, Horseshoe, Greyhound Pass and Cherry Tree wellfields and are related to the raw water production process. A site walkthrough to evaluate existing system conditions was not completed for this project. The following was documented during the site walkthrough: N/A.

Alternative Evaluation

To determine the proposed project scope, an alternative evaluation is planned. The alternatives evaluation will be completed on the following schedule and stored in location CEG Plant Engineering project folder.

Table 1: Proposed Alternative Evaluation Schedule

Description	Start Date	Finish Date
Project Start	10/1/2024	
Draft Memorandum	10/31/2024	11/30/2024
Draft Review Meeting	12/1/2024	12/7/2024
Final Memorandum	12/7/2024	12/9/2024
Final Review Meeting	12/12/2024	12/16/2024

IF THE ALTERNATIVES ARE APPROXIMATELY KNOWN, CONSIDER THE FOLLOWING:

To determine the proposed project scope, alternatives were evaluated with varying project components.

No Action Alternative

This alternative includes continuing current operations under existing conditions. The risk posed by not taking action is failure of the well during high demand periods. These consequences impact customers in the by loss of raw water capacity, low system pressure.

Alternative No. 1 – *Well Rehabilitation*

Alternative No. 1 was developed with input from Westfield Water Operations and will include a review of 2024 flow test results, previous flow testing and past well rehabilitation. A site walkthrough was not completed for this alternative.

The risks for Alternative No. 1 include:

- ☒ Extended service outage during construction
- ☐ Difficult construction method
- ☐ Increased safety hazards during construction
- ☐ Environmental risk due to Click or tap here to enter text.
- ☐ Unknown site conditions in project area
- ☐ Public acceptance
- ☐ Noise pollution during and after construction
- ☐ Highly complex alternative
- ☐ Other infrastructure condition
- ☐ Other:

Alternative No. 1 would address the issues in the project statement including rehabilitation of selected production wells to improve well capacity. The project is anticipated to meet the need for 5 years or until subsequent loss of capacity and additional well rehabilitation or well replacement. The impact of the alternative on the customers is not anticipated.

Recommendation

The recommended alternative is Alternative 1. Click or tap here to enter text. *Click or tap here to enter text.*

Project Scope and Justification (use in Unifier)

Based on the alternative evaluation, Table 2 show the proposed project capital outputs:

Table 2: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Wells	Water Well (Rehab/Replace)	EA	**TBD**

Additional scope items not captured in capital outputs include:

- Well pumping equipment replacements

The following items are not included as a part of this project scope:

- Click or tap here to enter text.

The following data supports the need for the project:

- 2024 annual well flow testing results

The proposed project will address decreased of capacity in the production wells. As a result, the proposed project is recommended.

Cost Estimate *(use in Unifier)*

The Class 1[1] planning level estimate for the proposed project is $250,000 and was completed during October 2022. Table 3 contains the cost breakdown for Unifier. Supply chain was not consulted for input on the material costs and market volatility. This project is to be funded from Business Unit 48 - Citizens Water of Westfield from the *1268 CBA – Westfield Water Storage and Supply* Capital Budget Authorization (CBA).

Table 3: *Click or tap here to enter text.* **Cost Estimate**

CBS Phase	Total Cost[2]
Planning	0
Design	0
Real Estate	0
Construction	250,000
Close Out	0
Estimate at Completion (Rounded)	250,000

Project Schedule *(use in Unifier)*

The recommended schedule is presented in Table 4. The project will be completed during Fiscal Year 2024. Westfield Water Operations has advised the project *must be/is requested to be* in-service by April 30. 2024, as the production wells are needed to meet water demands. Individual wells will be placed back into service following completion of the rehabilitation work, including any necessary pumping equipment repairs/replacements, and satisfactory bacteriological sampling results.

[1] Based on American Association of Cost Engineers (AACE) International estimating classes
[2] Total Cost includes contingency, direct time and allocations.

Table 4: Proposed Project Schedule

CBS Phase	Start Date	Finish Date
Project Start	October 10, 2024	
Planning	10/10/2024	12/15/2024
Design		
Real Estate		
Construction	12/15/2024	4/30/2025
In-Service	Varies	
Close Out	7/1/2025	7/31/2025

Stakeholder Communication (SELECT AS APPROPRIATE, DELETE IF NOT USED)

Internal Stakeholders are as follows:

Table 5: Internal Stakeholder

Name	Department & Role	Name	Department & Role
Ed Bukovac	WF Water Ops	Paul Johnson	**Plant Engineering**
Randy Higginbotham	WF Water Ops	Ryan Taylor	**Manager, Plant Engineering**
Jon Berry	WF Plant Operator	Rick Lopez	**WF Plant Relief Operator**

Coordination with internal stakeholders included WF Water Operations, Water Quality and Plant Engineering at a meeting held on 10/12/2023. The interactions included a discussion covering the project and input from the internal stakeholders was received. There were no concerns from internal stakeholders.

The impact of this project is classified as a Tier 3 project. Below are explanations for the three tiers of public impact.

Tier 1: Full road closure and significant impact to the community/public.
Tier 2: Require lane restrictions in the area with some disruption to the community/public.
Tier 3: Minimal or no impact to the community/public.

There was no specific external stakeholder identified for this project.

Coordination with other utilities was not completed, as the project will not impact other utilities.

Coordination with regulatory agencies was not completed, as the project does not require permits or has impacts on the environment.

Environmental Requirements (ADD ADDITIONAL INFORMATION AS NEEDED)

Environmental Requirements

☒ The environmental project review was submitted through iTrust on 10/6/2023 ().here Feedback from the Environmental Project Review was received on 10/17/2023 during a meeting with Kari Maxwell and John Havard. Feedback will be attached to the memo. Initial feedback from the review meeting included:

- Ensure all chemicals used during the rehabilitation work are NSF-60 certified;
- Do not allow discharges during the rehabilitation work, or pump testing to be discharged to streams, wetlands, lakes or other water bodies designated as waters of the State or Waters of the United States;
- Verify any pumping equipment replacements are the same as the equipment being replaced.

Based on discussions with Environmental Stewardship (Kari Maxwell), the environmental permits and environmental investigations anticipated for this project include the following:

The environmental requirements for this alternative include:

☐ 30-day notification to IDEM for episodic hazardous waste generation
☐ Additional requirements for handling of water from a construction project (see Environmental Stewardship Instruction - ESI 4.4.6-21)
☐ Asbestos Survey
☐ Brownfield Comfort Letter
☐ County Legal Drain Permit
☐ Environmental Site Assessment, Phase I All Appropriate Inquiry
☐ E-Waste, Industrial Waste, Hazardous waste, or Universal Waste disposal (includes solids, liquids and compressed gas)
☐ IDEM Air Quality Permit
☐ IDEM Construction Permit
☐ IDEM Notice of Intent (NOI) to Construct a Water Main Extension
☐ IDEM Rule 5 Permit
☐ IDEM Section 401 Water Quality Certification
☐ IDNR Construction in a Floodway Permit
☐ Lead, Barium, PCB or other toxic compound in paint that will be removed
☐ Levee – City of Indianapolis Coordination
☐ Petroleum and/or Chemical Spill Prevention Requirements
☐ Risk Management Plan Requirements
☐ Soil, Sediment, and/or Groundwater Investigation
☐ U.S. Army Corps of Engineers Section 404 Dredge & Fill Permit
☐ U.S. Army Corps of Engineers Section 408 Levee Permit

☐ Wellhead protection area requirements
☐ Other: *Click or tap here to enter text.*
☐ None

Other Permits

☐ Business and Neighborhood Services – Improvement Location Permit
☐ City of Indianapolis Right-of-Way Permit
☐ Hamilton County Right-of-Way Permit
☐ INDOT Right-of-Way Permit
☐ Railroad Permit
☐ Other: *Click or tap here to enter text.*

Land Acquisition, Long-Term Lease, and Easements (SELECT AS APPROPRIATE, DELETE IF NOT USED)

The proposed project is located on an existing site and no additional land needs to be acquired. The relevant existing land documentation has been attached to the memo and saved in the project folder.

Operational Impact

The program planning operational impact level was defined as Medium**.** Coordination with Operations about project timing is needed in advance of project implementation. The project must be completed between January - May due to anticipated high demands that begin in June each year.

Impacts During Construction

- ☒ Additional risk (reduced redundancy, quantity, quality, regulatory)
- ☒ Asset outages **[Note if regulatory coordination is needed.]**
  - ☒ Treatment capacity impacted
- ☐ Downstream customer impacts
  - ☐ Critical/large customers
- ☒ O&M effort/monitoring required
- ☐ Other

Post-Construction Impacts

- ☒ Reduced risk
- ☐ Newer equipment
- ☒ Additional capacity
- ☒ Improved energy efficiency
- ☐ Additional functionality
- ☐ Higher quality product
- ☐ Better meeting of level of service goals
- ☐ O&M time/staffing level

☐ Training required
☐ Life cycle cost change (labor, material, chemical, etc.)
☐ Other

☐ No impacts expected

1. Well rehabilitation work will require 1-2 production wells to be out of service for 1-2 weeks, reducing the available supply during the rehab work period. The available supply for treatment will be reduced while wells are out of service.

2. Additional water quality monitoring will be required to place rehabilitated wells into service. Typically 2 successive total coliform negative samples and volatile organic compounds.

3. Well rehabilitation will improve production capacity and decrease drawdown during pumping, thus decreasing energy requirements.

Health, Safety and Security

Coordination with Safety was not completed internally to identify any potential health, safety and security concerns.

The proposed project will have specific potential health, safety and security concerns. Well cleaning chemicals (and neutralizers) will be utilized during cleaning. This includes but not limited to Muriatic Acid, 20* baum inhibited, Sodium Hypochlorite, P6 (wetting agent), Soda Ash, Sodium Bicarb, Sodium Meta-Bisulfite.

Facilities

The proposed project facility requirements include:
☒ None
OR
☐ Mowing
☐ Snow Removal and Salting
☐ HVAC
☐ Fire Suppression
☐ Signage
☐ Lock/key
☐ Other (*Click or tap here to enter text.*)

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Project Planning Memo

From:	**Bill Grout, Project Manager**
To:	**Ed Bukovac, Director, Citizens Westfield Utilities**
Date:	**5/18/2023**
RE:	**48ME06142 – Grassy Branch Main Extension**
Memo Location	**G:\UE&C\Central Files\1269 WF Water Distr\Capital Projects\(MN) Main Extensions\48ME06142 - Grassy Branch Main Extension (Northpoint Commerce Park)\03 Reports & Tech Memos\01 Planning**

Problem Statement

The Grassy Branch Main Extension has been identified to address water supply and lack of redundancy in the vicinity of the Northpoint Commerce Park and Coventry of Westfield neighborhood. The project need was identified by Program & Technical Service in 2022. The root cause of the issue is lack of system looping along Grassy Branch Road.

This project area is in Westfield in a rapidly developing area transitioning from rural farmland to residential developments. The project is located on Grassy Branch Road south of the intersection with 203rd Street. **Figure 1** shows a map of the project area. A site walkthrough to evaluate existing system conditions was not completed for this project. The following was documented while reviewing available information:

- Utilities
  - Gas – CenterPoint Energy – 8” main outside the right-of-way on the east side of the road – See correspondence in file folder
  - Sanitary Sewer- 2” low pressure main near the north tie-in location
  - Storm Sewer – None known
  - Power – Overhead power on the west side of the road
  - Other – Underground Fiber – Appears fiber may be along the west side of the road, but not confirmed. Need to confirm prior to construction.
- Transportation
  - Right-of-way appears to be approximately 35 feet wide
  - Accel/Decel lane at the North Circle Church

Figures 2 shows photos of existing conditions.

Alternative Evaluation

To determine the proposed project scope, one (1) alternative and a No Action alternative were evaluated.

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Project Planning Memo

No Action Alternative

This alternative includes continuing current operations under existing conditions. The risks posed by not taking action are insufficient supply to the area and lack of redundancy. These consequences impact customers in the Northpointe Commerce Park.

Alternative No. 1 – *Installation of approximately 1,000 feet of ductile iron main within the right-of-way at or just outside the edge of pavement.*

Alternative No. 1 was developed with input from UE&C Design/Construction, Operation, and Environmental Stewardship. A site walkthrough was not completed for this alternative.

The risks for Alternative No. 1 include:

☐ Extended service outage during construction
☐ Difficult construction method
☐ Increased safety hazards during construction
☐ Environmental risk
☒ Unknown site conditions in project area
☒ Public acceptance
☒ Noise pollution during and after construction
☐ Highly complex alternative
☐ Other infrastructure condition

Alternative No. 1 would address the issues in the problem statement including redundancy and water supply. The project is anticipated to meet the need for 100 years.

The construction is anticipated to be completed via open cut. This construction method is recommended because of ease of construction and operations ability to construct the project. There are no concerns with this method of construction for this alternative. The longest material lead time expected for the materials in this alternative is 4-8 weeks for ductile iron pipe per Supply Chain lead time spreadsheet.

Evaluation of Alternatives

The cost estimate includes non-construction costs, loadings and a 30% contingency. Supply chain lead material time spreadsheet was consulted for input on the material costs, market volatility, and material lead times. The result of the cost analysis is shown in **Table 1**.

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Project Planning Memo

Table 1: Alternative Comparison Summary

Alternative	Estimated Project Duration[1] (months)	Project Cost (rounded)	Permits Required
No Action		n/a	
1 – Ductile Iron at Edge of Pavement	5	$622,000	Westfield R/W, Westfield Water NOI extension

Recommendation

The recommended alternative is Alternative 1 because due to the schedule and operations ability to construct the project.

Project Scope and Justification

Based on the alternative evaluation, **Table 2** shows the proposed project capital outputs:

Table 2: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Main	12” and smaller water main (new/replacement)	LF	1,000

Additional scope items not captured in capital outputs include:

- Full lane paving restoration – northbound lane of Grassy Branch
- One (1) new hydrant
- One (1) new 12-inch valve
- Two (2) driveway restorations
- Traffic control and possible detour

The following items are not included as a part of this project scope:

- None

The project was sized to meet existing and future needs. As a result, the project will increase the capacity.

[1] ASSUMPTIONS

The following data supports the need for the project:

- Two dead end and lack of redundancy for the Northpoint Commerce Park

The proposed project will address redundancy and water supply. As a result, the proposed project is recommended.

Cost Estimate

The Class 4[2] planning level estimate for the proposed project is $622,000 and was completed during May of 2023. **Table 2** contains the cost breakdown for Unifier. The assumption is operations crew will construct the project. The cost estimate is attached as **Appendix A** and includes non-construction costs, direct time, allocations and a 30% contingency. This project is to be funded from Business Unit 48 - Citizens Water of Westfield from the 1269 – Westfield Water Distribution System Capital Budget Authorization (CBA).

Table 2: Grassy Branch Main Extension Cost Estimate

CBS Phase	Total Cost[3]
Planning	
Design	$13,000
Real Estate	
Construction	$604,000
Close Out	$5,000
Estimate at Completion (Rounded)	$622,000

Project Schedule

The recommended schedule is presented in **Table 3**. The project must be completed during Fiscal Year 2023.

Table 3: Proposed Project Schedule

CBS Phase	Start Date	Finish Date
Project Start		
Planning	April 2023	May 2023
Design	May 2023	June 2023
Real Estate		
Construction	June 2023	August 2023
In-Service	August 2023	
Close Out	August 2023	September 2023

[2] Based on American Association of Cost Engineers (AACE) International estimating classes

[3] Total Cost includes contingency and loadings

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Stakeholder Communication

Coordination with internal stakeholders included UE&C planning/design/construction engineers and managers at a meeting held on 5/11/2023. The interactions included a discussion covering the project and input from the internal stakeholders was received. The concerns of all included the ability to construct the project in the summer of 2023.

The impact of this project is classified as a Tier 1 or 2 project. Coordination with Westfield during design must be done to determine allowable lane restrictions. Below are explanations for the three tiers of public impact.

Tier 1: Full road closure and significant impact to the community/public.
Tier 2: Require lane restrictions in the area with some disruption to the community/public.
Tier 3: Minimal or no impact to the community/public.

There was no specific external stakeholder identified for this project.

Coordination with other utilities was completed and includes CenterPoint Energy via a email.

Environmental Requirements and Other Permits

Environmental Requirements

☒ The environmental project review was submitted through iTrust on 5/15/2023. Feedback from the Environmental Project Review was received on 5/15/2023 and 5/16/2023. Feedback is in the project file.

The environmental requirements for this alternative include:

☒ IDEM Notice of Intent (NOI) to Construct a Water Main Extension

Other Permits

☒ Other: Westfield Right-of-Way
☐ None

Land Acquisition, Long-Term Lease, and Easements

The proposed project is located within the right-of-way and no additional land needs to be acquired.

Operational Impact

The program planning operational impact level was defined as Low**.**

Limited coordination needed in advance of the project. Coordination will be completed through the memo review process.

Impacts During Construction

☒ Asset outages

Post-Construction Impacts

☒ Additional capacity

There will a brief outage during main tie-ins. The new main will provide additional capacity and redundancy.

Health, Safety and Security

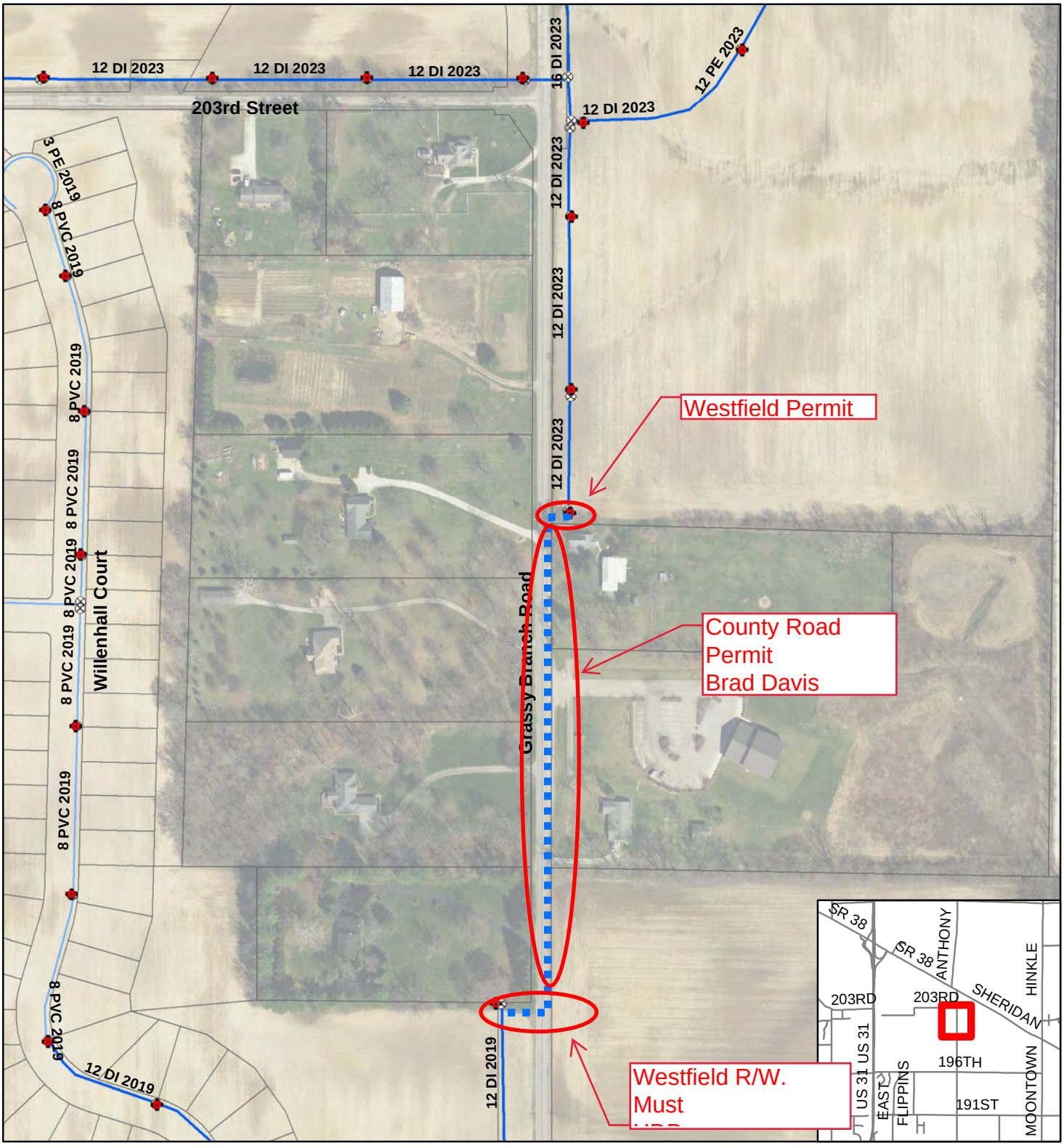
The proposed project is not anticipated to have specific potential health, safety and security concerns. However, if a contractor constructs the project, they will have to comply with all Citizens safety policies and procedures.

Facilities

The proposed project facility requirements include:

☒ None

ATTACHMENT EJB-3



Legend

- Main Extension - 12-inch DI
- <10 inch main
- 10-20 inch main
- Hydrant
- System Valve

N
W E
S

0 100 200 Feet

Figure 1 - Grassy Branch Main Extension


Grassy Branch looking north from southern end of project limits


Grassy Branch looking south from northern end of project limits

Figure 2

Appendix A

Citizens Energy Group
Water Main Replacement and Extensions Cost Template
Project Name: Grassy Branch (Northpoint Commerce Park) - Alt 1 - w/in R/W at edge of pavement
Date: 4/20/2023
ENR CCI: 13288 ENR CCI Date: May '23 Grout

Item	Unit	Quantity	Material Cost/Unit Subtotal	Material Cost/Unit[1]	Labor Cost/Unit	Labor Escalation Factor (%)	Total Cost/Unit[2]	Total Cost
Mobilization/Demobilization (5%)	LS							19310
In Pavement Construction[3]								
8-inch HDPE	LF		$ 15	$ 17	$ 109		$ 125	$ -
8-inch Ductile Iron[5]	LF		$ 32	$ 37	$ 245		$ 280	$ -
8-inch Restrained Joint (Certa Lok) PVC[6]	LF		$ 39	$ 45	$ 109		$ 155	$ -
8-inch Push-on Joint (C900) PVC[7]	LF		$ 12	$ 14	$ 245		$ 260	$ -
12-inch HDPE	LF		$ 32	$ 37	$ 126		$ 165	$ -
12-inch Ductile Iron	LF	900	$ 50	$ 57	$ 258	100%	$ 315	$ 283,500
16-inch HDPE	LF		$ 56	$ 64	$ 150		$ 215	$ -
16-inch Ductile Iron	LF		$ 80	$ 93	$ 316		$ 410	$ -
Outside of Pavement Construction								
8-inch HDPE	LF		$ 15	$ 17	$ 99		$ 115	$ -
8-inch Ductile Iron	LF		$ 32	$ 37	$ 99		$ 135	$ -
8-inch Restrained Joint (Certa Lok) PVC	LF		$ 39	$ 45	$ 99		$ 145	$ -
8-inch Push-on Joint (C900) PVC	LF		$ 12	$ 14	$ 99		$ 115	$ -
12-inch HDPE	LF		$ 32	$ 37	$ 113		$ 150	$ -
12-inch Ductile Iron	LF	100	$ 50	$ 57	$ 109	100%	$ 165	$ 16,500
16-inch HDPE	LF		$ 56	$ 64	$ 135		$ 200	$ -
16-inch Ductile Iron	LF		$ 80	$ 93	$ 128		$ 220	$ -
Valves								
6-inch Gate Valve	EA		$ 546	$ 628	$ 690	N/A	$ 1,400	$ -
8-inch Gate Valve	EA		$ 843	$ 970	$ 828	N/A	$ 1,800	$ -
10-inch Gate Valve	EA		$ 1,237	$ 1,423	$ 966	N/A	$ 2,400	$ -
12-inch Gate Valve	EA	1	$ 1,568	$ 1,803	$ 1,104	N/A	$ 3,000	$ 3,000
16-inch Butterfly Valve	EA		$ 5,057	$ 5,816	$ 1,241	N/A	$ 7,100	$ -
20-inch Butterfly Valve	EA		$ 7,641	$ 8,787	$ 1,379	N/A	$ 10,200	$ -
24-inch Butterfly Valve	EA		$ 10,712	$ 12,319	$ 1,655	N/A	$ 14,000	$ -
Miscellaneous[8]								
Hydrant Assembly[9]	EA	1	$ 3,969	$ 3,969	$ 2,206	N/A	$ 6,200	$ 6,200
Residential Tap to Right-of-Way Service Line[10]	EA	0	$ 374	$ 430	$ 5,283	N/A	$ 6,000	$ -
Residential Tap to Home for Lead Service Line[11]	EA		N/A	N/A	N/A	N/A	$ 8,000	$ -
Environmental Site Assessment	EA		N/A	N/A	N/A	N/A	$ 3,200	$ -
Stream Crossing Riffle Alternative 3 year Mitigation	YR		N/A	N/A	N/A	N/A	$ 5,000	$ -
Paving 1 lane (10'half x 900 = 9,000 sf)	SF	9000			$ 5.00	N/A	$ 5	$ 45,000
Driveway restoration	EA	2			$ 1,000	N/A	$ 1,000	$ 2,000
Traffic Control/Possible Detour	LS	1			$ 10,000	N/A	$ 10,000	$ 10,000
Misc. Construction	LS	1			$ 20,000	N/A	$ 20,000	$ 20,000
						N/A	$ -	$ -
							Material Subtotal	$ 62,961
							Labor Subtotal[12]	$ 354,778
							Construction Subtotal (Rounded)	$ 418,000
Contingency and Incidentals[13]		30%						$ 126,000
Close Out[14]								$ 5,000
							Construction Total	**$ 549,000**
Permanent Easement - Hamilton and Marion Co.	SF						$ 1.00	$ -
Easement Legal/Recording Fees	EA						$ 4,000	$ -
Real Estate Direct		30%						$ -
							Real Estate Total	**$ -**
Consulting/Engineering Fees		0%						$ -
Inspection Fees		2%						$ 10,880
							Design Total	**$ 11,000**
Direct Costs[15,16]		6%						$ 33,300
Allocations[17,18]		5%						$ 27,750
							Estimate at Completion (Rounded)	**$ 622,000**

[1]Includes 15% for fittings

[2]400% Escalation factor for projects less than or equal to 500 linear feet

[3]Use 'in pavement' costs when the project is within 5' of the pavement or will likely damage the street

[4]HDPE uses Horizontal Directional Drilling (HDD) installation method

[5]Ductile Iron uses Open Cut installation method

[6]Certa Lok PVC uses HDD installation method

[7]C900 PVC uses Open Cut installation method

[8]Specify miscellaneous items with their unit, quantity, and cost per unit

[9]Cost includes swivel tee, valve, hydrant branch, and hydrant

[10]Assumes in-pavement 50 LF of 3/4-inch HDPE material, tap, and installation of meter pit and meter setting but excludes restoration.

[11]Assumes full length replacement of a service line and connecting inside the home.

[12]Uses ENR Construction Cost Index

[13]Use Contingencies based on Reference Table 1

[14]Projects under $250,000 will have a Close Out cost of $1,000. Projects greater than $250,000 will be $5,000.

[15]Citizens Water Main Replacement (CBA 1219) and Public Project Relocations (CBA 1221) use 1% Direct Costs. Citizens Water Main Extensions use 3% Direct Costs.

[16]Citizens Westfield Water Distribution System (CBA 1269) uses 6% Direct Costs.

[17]Citizens Water Main Replacement (CBA 1219) and Water Main Extensions (CBA 1220) use 30% Allocations. Citizens Water Public Project Relocations (CBA 1221) use 29% Allocations.

[18]Citizens Westfield Water Distribution System (CBA 1269) uses 5% Direct Costs.

From:	**Bill Grout, Project Manager**
To:	**John Trypus, Director Underground Engineering and Construction**
Date:	**6/2/2023**
RE:	**48MR06220 – Union Street and David Brown Main Replacement V2**
Memo Location	**G:\UE&C\Central Files\1269 WF Water Distr\2020\(MR) Main Replacement\48MR06220 Union Street and David Brown main replacement\03 Reports & Tech Memos**

Problem Statement

The David Brown Main Replacement Project has been identified to address a flow bottleneck approximately 4,500 feet from the discharge side of the 161st Street Booster Station. The issues were identified by hydraulic modeling the system in 2017. The root cause of the issue is a 650 foot section of undersized main. The main from the booster station is primarily a 12-inch throughout and the undersized portion is an 8-inch.

This project area is in the City of Westfield in a residential area on S. Union Street near the intersection of S. Union Street and David Brown Drive near the Summit Lawn Cemetery. The Cemetery owns the property adjacent the main being replaced but is currently being farmed and is not an active cemetery. The active Cemetery portion of the property is located south of the main replacement. **Figure 1** shows a map of the project area. A site walkthrough to evaluate existing system conditions was completed for this project. The following was discovered during the site walkthrough:

- Power poles are approximately 10 feet off the edge of pavement on the east side of S. Union Street
- Buried fiber optic lines are approximately 6 feet off the edge of pavement on the east side of S. Union Street
- The cemetery owns the property adjacent the main to be replaced, is currently being farmed, and is not an active cemetery
- The cemetery property elevation is approximately 4 feet higher than the road elevation in several locations
- A pedestrian trail is across the frontage of the apartments on the east side of S. Union Street
- The S. Union Street pavement is in very good condition.

Figure 2 shows photos of existing conditions.

Alternative Evaluation

To determine the proposed project scope, four alternatives including a No Action alternative were evaluated with varying project components.

No Action Alternative

This alternative includes continuing current operations under existing conditions. The risk posed by not taking action is a continued flow bottleneck in the system. These consequences impact customers in portions of the Westfield

North pressure district by having reduced flow efficiencies during high demand periods and potential inefficiencies with the pumps causing more wear.

Alternative No. 1

Alternative No. 1 was developed with input from Westfield Water Operations, Underground Engineering & Construction (UE&C), and Real Estate representatives and includes the installation of approximately 650 feet of 12-inch ductile iron main to replace the 8-inch main between David Brown Drive and valve #2237-23-A on the east side of S. Union Street. The main would be installed outside the S. Union Street right-of-way and power poles in an easement in an open field and under/adjacent a pedestrian trail. The field is cemetery property and the pedestrian trail is adjacent to apartments. A site walkthrough was completed by a planning representative for this alternative.

The risks for Alternative No. 1 include:

☐ Extended service outage during construction
☐ Difficult construction method
☐ Increased safety hazards during construction
☐ Environmental risk
☐ Unknown site conditions in project area
☐ Public acceptance
☒ Noise pollution during and after construction
☐ Highly complex alternative
☐ Other infrastructure condition
☐ Other:

Alternative No. 1 would address all of the issues described in the problem statement. Particularly, the issues addressed include the flow bottleneck through the 8-inch main. The project is anticipated to meet the need for 100 years or until significant development demand occurs necessitating additional supply. The impact of the alternative on the customers in the David Brown Road and S. Union Street area includes a disruption of service during the tie-in for the new main.

The construction is anticipated to be completed via open cut construction. This construction method is recommended because most of the installation will be through an open field. There are no concerns with this method of construction for this alternative. The longest material lead time expected for the materials in this alternative is 30 days. Supply chain was consulted regarding the material lead time estimate.

Alternative No. 2

Alternative No. 2 was developed with input from Westfield Engineering and UE&C construction representatives and includes the installation of approximately 650 feet of 12-inch ductile iron or 16-inch polyethylene main to replace the 8-inch main between David Brown Drive and valve #2237-23-A on the east side of S. Union Street. The main would be installed using horizontal directional drilling within the right-of-way limits in the northbound lane of S. Union Street. A site walkthrough was completed by a planning representative for this alternative.

The risks for Alternative No. 2 include:

☐ Extended service outage during construction
☐ Difficult construction method
☒ Increased safety hazards during construction
☐ Environmental risk
☐ Unknown site conditions in project area
☐ Public acceptance
☒ Noise pollution during and after construction
☐ Highly complex alternative
☐ Other infrastructure condition
☒ Other: City of Westfield accepting this alternative

Alternative No. 2 would address all of the issues described in the problem statement. Particularly, the issues addressed include the flow bottleneck through the 8-inch main. The project is anticipated to meet the need for 100 years or until significant development demand occurs necessitating additional supply. The impact of the alternative on the customers along S. Union Street includes a northbound lane restriction on S. Union Street during construction and a disruption of service during the tie-in for the new main.

The construction is anticipated to be completed via horizontal directional drilling. This construction method is recommended to avoid repaving an entire lane of S. Union Street because of the main location being within the pavement limits. The concerns for this alternative include the City of Westfield approving the main location within the pavement limits and restoration requirements. The longest material lead time expected for the materials in this alternative is 30 days. Supply chain was consulted regarding the material lead time estimate.

Alternative No. 3

Alternative No. 3 was developed with input from Westfield Engineering and UE&C construction representatives and includes the installation of approximately 650 feet of 12-inch ductile iron main to replace the 8-inch main between David Brown Drive and valve #2237-23-A on the east side of S. Union Street. The main would be installed using open-cut construction within the right-of-way limits in the northbound lane of S. Union Street. A site walkthrough was completed by a planning representative for this alternative.

The risks for Alternative No. 3 include:

☐ Extended service outage during construction
☐ Difficult construction method
☒ Increased safety hazards during construction
☐ Environmental risk due
☐ Unknown site conditions in project area
☒ Public acceptance
☒ Noise pollution during and after construction
☐ Highly complex alternative

☐ Other infrastructure condition
☒ Other: City of Westfield accepting this alternative

Alternative No. 3 would address all of the issues described in the problem statement. Particularly, the issues addressed include the flow bottleneck through the 8-inch main. The project is anticipated to meet the need for 100 years or until significant development demand occurs necessitating additional supply. The impact of the alternative on the customers in the along S. Union Street includes a northbound lane restriction on S. Union Street during construction and a disruption of service during the tie-in for the new main.

The construction is anticipated to be completed via open cut construction. This construction method is recommended because of the ease of installation and service reconnections. The concerns with this construction method include the City of Westfield approving the main within the pavement limits and restoration requirements. The longest material lead time expected for the materials in this alternative is 30 days. Supply chain was consulted regarding the material lead time estimate.

Evaluation of Alternatives

The cost estimates include non-construction costs, loadings and a 40% contingency. Supply chain was consulted for input on the material costs, market volatility, and material lead times. A life-cycle cost analysis was not completed as a part of the alternative evaluation.

Recommendation

The recommended alternative is Alternative 3. The alternative is the installation of a 12-inch ductile iron pipe within the R/W at the edge of, or within, the pavement of S. Union Street. The final determination will be made during design/construction.

Project Scope and Justification

Based on the alternative evaluation, the proposed project consists of the following:

- Install approximately 650 feet of ductile iron within the S. Union Street right-of-way from valve 2237-23-A and connecting to the 12-inch ductile iron main at the David Brown Drive and S. Union Street intersection. Open-cut construction is recommended.
- Full paving of one lane may be necessary.

The following items are not included as a part of this project scope:

- Easement acquisition

The project was sized to meet existing and future needs. As a result, the project will maintain the current capacity of the assets being replaced, but will make the system more efficient.

The following data supports the need for the project:

- The flow velocity will be reduced from approximately 12.0 fps to 5.0 fps.
- System efficiencies will be realized without the bottleneck per Program and Technical Services.

The proposed project will address the flow bottleneck along S. Union Street. As a result, the proposed project is recommended.

Capital Outputs

Table 1 shows the capital outputs that will be tracked for this project.

Table 1: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Main	12-inch Water Main	LF	650

Cost Estimate

The revised Class 4[1] planning level estimate for the proposed project is $603,000 and was completed during May 2023. **Table 2** contains the cost breakdown for Unifier. Supply chain was consulted for input on the material costs and market volatility. The cost estimate is attached as **Appendix A** and includes non-construction costs, loadings and a 30% contingency. This project is to be funded from Business Unit 48 - Citizens Water of Westfield from the 1269CBA – Westfield Water Distribution System Capital Budget Authorization (CBA). The funding source for the project is rate-based revenue.

Table 2: David Brown Main Replacement Cost Estimate

CBS Phase	Total Cost[2]
Planning	N/A
Design	$60,000
Real Estate	N/A
Construction	$538,000
Close Out	$5,000
Estimate at Completion (Rounded)	**$603,000**

[1] Based on American Association of Cost Engineers (AACE) International estimating classes
[2] Total Cost includes contingency and loadings

Project Schedule

The recommended schedule is presented in **Table 3**. Land acquisition will determine when construction will start. The project will be completed during Fiscal Year 2023.

Table 3: Proposed Project Schedule

CBS Phase	Start Date	Finish Date
Project Start	April 1, 2020	
Planning	May 2023	June 2023
Design	June 2023	June 2023
Real Estate	N/A	N/A
Construction	July 2023	August 2023
In-Service	August 2023	
Close Out	September 2023	September 2023

Stakeholder Communication

Coordination with internal stakeholders included real estate and U&EC construction representatives during phone discussions in April of 2020. The interactions included a discussion covering the project and input from the internal stakeholders was received. The concerns of real estate included the cost of the easement through the cemetery property. No other concerns were expressed.

The impact of this project is classified as a Tier 2 project. Below are explanations for the three tiers of public impact.

Tier 1: Full road closure and significant impact to the community/public.
Tier 2: Require lane restrictions in the area with some disruption to the community/public.
Tier 3: Minimal or no impact to the community/public.

Public interactions with external stakeholders include discussion between real estate and representatives of the apartment and cemetery properties during 2019. The interactions included a discussion covering the project and input from the external stakeholders was received. Their concerns included the cost of the easement.

Coordination with other utilities was not completed and only included a review of available utility GIS information and a site walk through in April of 2020.

Coordination with regulatory agencies was not completed.

Permits and Regulatory Requirements

Environmental Permits and Investigations

The environmental project review was submitted through iTrust on 4/7/2020. The environmental permits and environmental investigations anticipated to be required for this alternative include:

☐ Asbestos Survey
☐ Brownfield Comfort Letter
☐ Environmental Site Assessment, Phase I All Appropriate Inquiry
☐ IDEM Air Quality Permit
☐ IDEM Construction Permit
☐ IDEM Notice of Intent (NOI) to Construct a Water Main Extension
☐ IDEM Rule 5 Permit
☐ IDEM Section 401 Water Quality Certification
☐ IDNR Construction in a Floodway Permit
☐ Soil, Sediment, and/or Groundwater Investigation
☐ U.S. Army Corps of Engineers Section 404 Dredge & Fill Permit
☐ Other: *Click or tap here to enter text.*

Other Permits

☐ Business and Neighborhood Services – Improvement Location Permit
☐ City of Indianapolis Right-of-Way Permit
☐ Hamilton County Right-of-Way Permit
☐ INDOT Right-of-Way Permit
☐ Railroad Permit
☒ Other: City of Westfield Right-of-Way permit

Land Acquisition, Long-Term Lease, and Easements

The proposed project does not require additional land to be acquired.

Operational Impact

Operations was not consulted to determine the feasibility and impact of the proposed project. The proposed project will not impact system operations during construction.

The proposed project will require a shut-out in the project area that will impact two apartment complexes and an unknown number of customers. The shut-out is estimated to last eight (8) hours. There are no constraints to the shut-out required. However, due to the number of potential residents impacted, a shut out in the evening hours should be considered.

The project has the following operational constraints:

- Consider evening shut out due to the number of potential residents in the apartments.

The proposed project will impact operations post-construction as follows:

- None

Safety/Security

Coordination with Safety/Security was not completed internally to identify any potential safety and security concerns.

The proposed project will not have specific potential safety and security concerns.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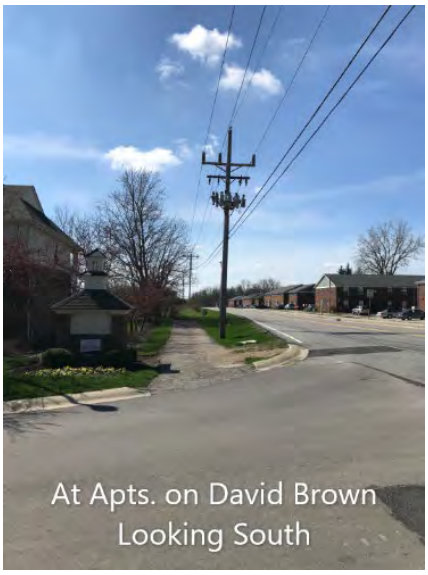
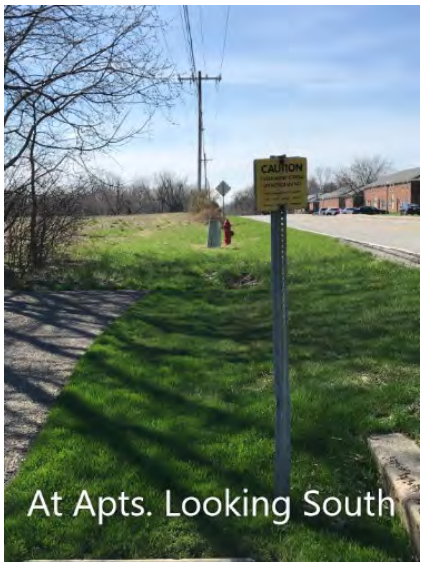
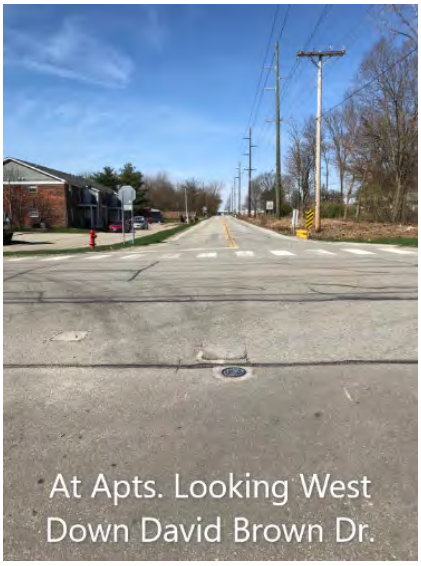
SOUTHRIDGE CT
SOUTHRIDGE LN
E EMERALD PINES LN
CHERRYWOOD CT
TOURMALINE DR
ADDISON CT
ASHLEY WAY
ASHLEY WOOD DR
DAVID BROWN DR
12 in
CLUBHOUSE DR S
DENA DR
MINDY CT
Union Street
ASHLEY BLVD
ASHLEY XING
Cemetery Property
Currently being Farmed
650 LF OF 12" DI
WATER MAIN
Cemetery
S UNION ST
Legend
Proposed Water Main
Valves
Hydrant
Parcels
Existing Water Main
6-14 inch
>20 inch
16-20 inch
<6 inch
Union Street and David
Brown Main Replacement

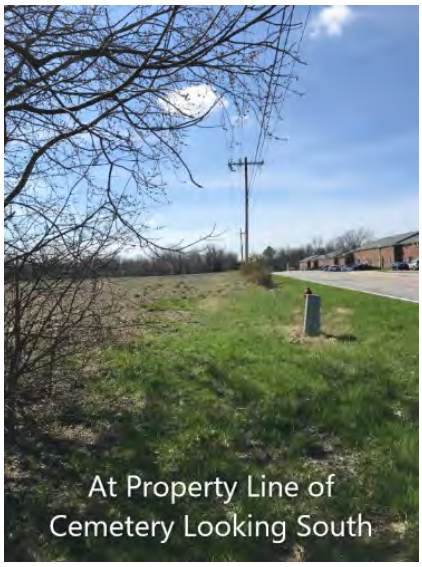
Figure 1

ATTACHMENT EJB-3







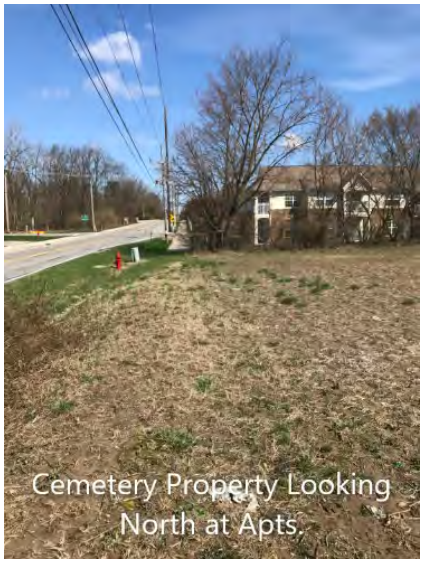


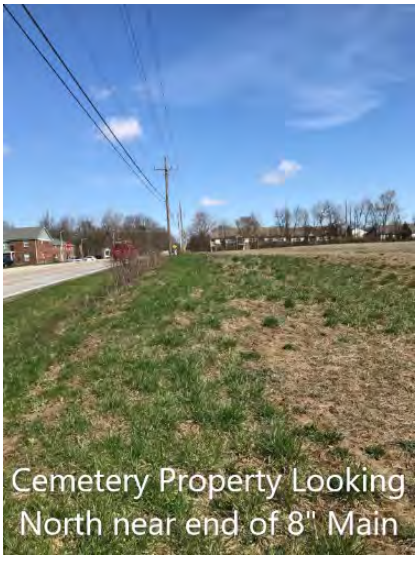
ATTACHMENT EJB-3


Cemetery Property Looking South at end of 8" Main


Cemetery Property Looking North towards Apts.


Cemetery Property Looking North at end of 8" Main


Cemetery Property Looking North at Apts.


Cemetery Property Looking North near end of 8" Main


Cemetery Property Looking North at Apts.

Appendix A

Citizens Energy Group
Water Main Replacement and Extensions Cost Template
Project Name: Union St & David Brown Main Replacement - Alt 3 - w/in northbound lane in pavement
Date: 5/15/2023
ENR CCI: 13288 ENR CCI Date: May '23 Grout 48MR02161

Item	Unit	Quantity	Material Cost/Unit Subtotal	Material Cost/Unit[1]	Labor Cost/Unit	Labor Escalation Factor (%)	Total Cost/Unit[2]	Total Cost
Mobilization/Demobilization (5%)	LS							17167.5
In Pavement Construction[3]								
8-inch HDPE	LF		$ 15	$ 17	$ 109		$ 125	$ -
8-inch Ductile Iron[5]	LF		$ 32	$ 37	$ 245		$ 280	$ -
8-inch Restrained Joint (Certa Lok) PVC[6]	LF		$ 39	$ 45	$ 109		$ 155	$ -
8-inch Push-on Joint (C900) PVC[7]	LF		$ 12	$ 14	$ 245		$ 260	$ -
12-inch HDPE	LF		$ 32	$ 37	$ 126		$ 165	$ -
12-inch Ductile Iron	LF	650	$ 50	$ 57	$ 258	120%	$ 365	$ 237,250
16-inch HDPE	LF		$ 56	$ 64	$ 150		$ 215	$ -
16-inch Ductile Iron	LF		$ 80	$ 93	$ 316		$ 410	$ -
Outside of Pavement Construction								
8-inch HDPE	LF		$ 15	$ 17	$ 99		$ 115	$ -
8-inch Ductile Iron	LF		$ 32	$ 37	$ 99		$ 135	$ -
8-inch Restrained Joint (Certa Lok) PVC	LF		$ 39	$ 45	$ 99		$ 145	$ -
8-inch Push-on Joint (C900) PVC	LF		$ 12	$ 14	$ 99		$ 115	$ -
12-inch HDPE	LF		$ 32	$ 37	$ 113		$ 150	$ -
12-inch Ductile Iron	LF		$ 50	$ 57	$ 109		$ 165	$ -
16-inch HDPE	LF		$ 56	$ 64	$ 135		$ 200	$ -
16-inch Ductile Iron	LF		$ 80	$ 93	$ 128		$ 220	$ -
Valves								
6-inch Gate Valve	EA		$ 546	$ 628	$ 690	N/A	$ 1,400	$ -
8-inch Gate Valve	EA	3	$ 843	$ 970	$ 828	N/A	$ 1,800	$ 5,400
10-inch Gate Valve	EA		$ 1,237	$ 1,423	$ 966	N/A	$ 2,400	$ -
12-inch Gate Valve	EA	2	$ 1,568	$ 1,803	$ 1,104	N/A	$ 3,000	$ 6,000
16-inch Butterfly Valve	EA		$ 5,057	$ 5,816	$ 1,241	N/A	$ 7,100	$ -
Miscellaneous[8]								
Hydrant Assembly[9]	EA	1	$ 3,969	$ 3,969	$ 2,206	N/A	$ 6,200	$ 6,200
Residential Tap to Right-of-Way Service Line[10]	EA		$ 374	$ 430	$ 5,283	N/A	$ 6,000	$ -
Residential Tap to Home for Lead Service Line[11]	EA		N/A	N/A	N/A	N/A	$ 8,000	$ -
Environmental Site Assessment	EA		N/A	N/A	N/A	N/A	$ 3,200	$ -
Stream Crossing Riffle Alternative 3 year Mitigation	YR		N/A	N/A	N/A	N/A	$ 5,000	$ -
6" and/or 8" svc line tie-ins for apts	EA	2			$ 5,000	N/A	$ 5,000	$ 10,000
Pavement Restoration 1 lane 700x11=7,700	SF	7700			$ 5.00	N/A	$ 5	$ 38,500
Traffic Control	LS	1			$ 10,000	N/A	$ 10,000	$ 10,000
Misc Construction	LS	1			$ 20,000	N/A	$ 20,000	$ 20,000
8" and/or 12" main tie-ins	2	2			$ 5,000	N/A	$ 5,000	$ 10,000
							Material Subtotal	$ 47,657
							Labor Subtotal[12]	$ 323,733
							Construction Subtotal (Rounded)	$ 372,000
Contingency and Incidentals[13]		30%						$ 112,000
Close Out[14]								$ 5,000
							Construction Total	**$ 489,000**
Permanent Easement - Hamilton and Marion Co.	SF						$ 1.00	$ -
Easement Legal/Recording Fees	EA						$ 4,000	$ -
Real Estate Direct		30%						$ -
							Real Estate Total	**$ -**
Consulting/Engineering Fees		8%						$ 38,720
Inspection Fees		3%						$ 14,520
							Design Total	**$ 54,000**
Direct Costs[15,16]		6%						$ 32,280
Allocations[17,18]		5%						$ 26,900
							Estimate at Completion (Rounded)	**$ 603,000**

[1]Includes 15% for fittings

[2]400% Escalation factor for projects less than or equal to 500 linear feet

[3]Use 'in pavement' costs when the project is within 5' of the pavement or will likely damage the street

[4]HDPE uses Horizontal Directional Drilling (HDD) installation method

[5]Ductile Iron uses Open Cut installation method

[6]Certa Lok PVC uses HDD installation method

[7]C900 PVC uses Open Cut installation method

[8]Specify miscellaneous items with their unit, quantity, and cost per unit

[9]Cost includes swivel tee, valve, hydrant branch, and hydrant

[10]Assumes in-pavement 50 LF of 3/4-inch HDPE material, tap, and installation of meter pit and meter setting but excludes restoration.

[11]Assumes full length replacement of a service line and connecting inside the home.

[12]Uses ENR Construction Cost Index

[13]Use Contingencies based on Reference Table 1

[14]Projects under $250,000 will have a Close Out cost of $1,000. Projects greater than $250,000 will be $5,000.

[15]Citizens Water Main Replacement (CBA 1219) and Public Project Relocations (CBA 1221) use 1% Direct Costs. Citizens Water Main Extensions use 3% Direct Costs.

[16]Citizens Westfield Water Distribution System (CBA 1269) uses 6% Direct Costs.

[17]Citizens Water Main Replacement (CBA 1219) and Water Main Extensions (CBA 1220) use 30% Allocations. Citizens Water Public Project Relocations (CBA 1221) use 29% Allocations.

[18]Citizens Westfield Water Distribution System (CBA 1269) uses 5% Direct Costs.

ATTACHMENT EJB-3

From:	**Rich Newell, Project Manager**
To:	**Ed Bukovac, Director** **John Trypus, Director**
Date:	**11/3/2023**
RE:	**Private Development Program Planning Memo**
Memo Location	*https://citizensenergy.sharepoint.com/sites/ProgramTechnicalServices/Shared Documents/Project Planning/WFW/Private Development/file_name*

Private Development Program

The Private Development Program is important to ensure that the utility continues to provide safe and reliable service to existing and future customers, and that new assets meet applicable standards and specifications to protect the integrity of the water system. The historical spend for these activities has been approximately $1,100,000 annually that is periodically adjusted based on the rate of development and inflationary adjustments.

The private development program services for Westfield Water includes pre-plan submittal support, developer plan review services, and developer construction inspection services. Private development applications are submitted through a web form for water main extensions and through the permitting group for water service applications that are submitted through our online permitting software. For water service lines, we review commercial service line plans and residential plans to ensure compliance to our standards, IDEM standards, coordinate with system modeling to ensure adequate water availability (ie. pressures and flow) and submit our approval to permitting. For water main extensions, we work with the applicants to ensure standards compliance, coordinate projects with hydraulics for water main sizing and potential system improvements required for each project. We submit any new easement requests to our real estate group and work with developers to collect pre-release for construction documents.

Inspection services are also provided for private development construction projects before capital assets are accepted by Citizens Water of Westfield. For commercial water service lines, we participate in preconstruction meetings to go over materials and construction expectations, observe connections to mains and pipe installation, and confirm pressure test results. For water main extensions, we attend preconstruction meetings to go over materials and construction expectations, observe connections to existing mains and pipe installation, confirm pressure test results, take water quality samples, and deliver them to our Lab Services group for testing, and follow up with confirmation of passed tests. We also collect as-built records of main extensions and other appurtenances for asset management and GIS. We coordinate main extension projects with our GIS group to ensure that they will accurately display in our mapping. We work with developers to collect all paperwork necessary to transfer the assets to Citizens Water of Westfield and place the new assets into service.

ATTACHMENT EJB-3

From:	**Scott Lykins**
To:	**Elisha C. Crabtree**
Date:	*10/11/2023*
RE:	**48FL06370 – WF Water Fleet Purchases**
Memo Location	*C:\Users\crlsxl\OneDrive - Citizens Energy Group\Fleet\FY24 Purchases\Westfield\WF Water Operations*

Problem Statement

Fleet replacement is needed due to existing fleet assets meeting or exceeding the Fleet Replacement Guidelines and Business needs.

The fleet resides but is not restricted to, primarily the Westfield Facility.

Alternative Evaluation

To determine the proposed project scope, one alternative has been preliminarily developed and evaluated.

"Do Nothing" Alternative

This alternative includes continuing current operations under existing conditions. The risk posed by not acting would cause a monumental increase in fleet maintenance expense, complete failure and/or higher risk of injury. These consequences impact customers in the driver and business unit by them not being able to perform their daily tasks and delay delivery of service to our customers.

Alternative No. 1 – *Purchase New Fleet Assets*

Alternative No. 1 was developed with input from the Operations Manager and includes two assets . Along with our Long-Range forecast module this will ensure that we are on a proper and cost-effective replacement plan for Fleet assets moving forward and Capital budgets are properly sized.

Evaluation of Alternatives

Throughout the third quarter of each fiscal year, the Fleet Team meets with the various Managers of the Operating groups to determine business needs and compare to the Long-Range Forecast Module. Each Group decides what assets are added or removed from the list based on the discussions. The updated list is then compared to the Capital Budget for each area and another round of asset cuts is possible to fit into the approved budget. The Fleet Team attempts to include as many assets as possible to avoid costlier failures causing delays in daily work.

Recommendation

The recommended alternative is Alternative 1 due to how critical a proper Fleet Asset Replacement program is to all BUs to ensure proper day to day operations.

Project Scope and Justification

Table 1 shows the project scope.

4112	2-040	48FL06370	Citizens Water of Westfield	2019	Chevrolet	K1500	$57,461.64
4400	4-010	48FL06370	Citizens Water of Westfield	2017	Ford	F350	$111,861.64

Table 1: Fleet Project Scope

We are replacing Fleet assets to insure we are on a proper and balanced cycle to ensure Operation groups have safe and reliable assets to provide service to our customers. Fleet has created a Long-Range replacement plan to attempt to get the right size replacements from year to year.

Table 2 shows the Fleet Replacement Guidelines used as a baseline to get a replacement plan.

ATTACHMENT EJB-3

Table 2: Fleet Replacement Guidelines

Type	Replacement Cost in 2020	Replacement Criteria - Age	Replacement Criteria - Mileage	Replacement Criteria - Hours	Replacement Critieria - Maintenance Spend
4 to 6" Pump	$ 15,000	15			
4-Wheeler	$ 17,000	10			
Air Compressor	$ 35,000	10			
Backhoe	$ 135,000	12		8,000	
Basin Cleaner	$ 200,000	15			
Boom	$ 115,000	12			
Boom Truck	$ 115,000	12	100,000	10,000	
Bulldozer	$ 30,000	20		6,000	
CAR	$ 30,000	13	100,000		
Ditchwitch	$ 30,000	15			
Dump	$ 140,000	8	100,000	10,000	
End Loader	$ 150,000	12		9,000	
Excavator	$ 300,000	12		10,000	
Floor Scrubber	$ 75,000	15			
Forklift	$ 30,000	20		6,000	
Generator	$ 25,000	15			
Golf Cart	$ 15,000	15			
Large Boom	$ 200,000	12			
Maintenance Truck	$ 115,000	12	100,000	10,000	
Manlift	$ 45,000	15			
Miscellaneous	$ 11,000	10		3,000	
Mower	$ 25,000	8			
Pick up	$ 32,000	13	100,000	10,000	
RV	$ 200,000	15			
SM Front Loader + Bobcat	$ 135,000	12		4,000	
Small Dump	$ 87,000	8	100,000		
Sniffer	$ 50,000	12			
Stack Bed	$ 50,000	12			
SUV	$ 30,000	13	100,000	10,000	
Tanker	$ 75,000	12			
Trailer	$ 40,000	20			
Trailer (Specialized)	$ 25,000	15			
Transit	$ 45,000	13	100,000	10,000	
TV-VAN	$ 465,000	13	100,000	10,000	
Utility	$ 90,000	12	100,000	10,000	
Utility 1-ton Boom	$ 125,000	10	100,000	10,000	
Utility Boom	$ 115,000	12	100,000	10,000	
Utility Truck	$ 115,000	12	100,000	10,000	
Utility Van	$ 75,000	13	100,000	10,000	
Vactor	$ 535,000	12	100,000	10,000	
Vacuum Excavator	$ 150,000	8	100,000	10,000	
VAN	$ 45,000	13	100,000	10,000	
Welder	$ 15,000	15			

Capital Outputs (use in Unifier)

Table 3 shows the capital outputs that will be tracked for this project:

Table 3: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Fleet Equipment	Equipment – Rolling Stock (new)	EA	**N/A**
Fleet Vehicle	Vehicle (new)	EA	**2**

Cost Estimate

All costs are budgeted from the previous year's cost with an average of 3% increase for typical inflation. Fleet is also in continuous conversations with Suppliers to discuss industry cost variables to budget proper cost.

Table 4 shows the planning level estimate for the project for Unifier. The project is to be funded by Capital Budget Authorization (CBA) **1267CBA – Westfield Water Facilities** Appendix B contains a checklist of the components included in the cost.

Table 4: Westfield Water Fleet Purchases Cost Estimate

CBS Phase	Total Cost[1]
Construction	$149,323.28
Estimate at Completion (Rounded)	$150,000.00

Project Schedule

The recommended schedule is presented in Table 5. The project will be completed during the 2024 fiscal year.

Table 5: Proposed Project Schedule

CBS Phase	Start Date	Finish Date
Project Start	**11/1/2023**	
Construction	**11/2/2023**	**9/15/2024**
In-Service	**9/25/2024**	
Close Out	**9/28/2024**	**9/29/2024**

[1] Total Cost includes contingency, direct time and allocations

Stakeholder Communication

For this case, we have met with the BU Managers and discussed current fleet conditions and future fleet suggested replacements.

Operational Impact

Operations was consulted to determine the feasibility and impact of the proposed project. The proposed project will not impact system operations.

Health, Safety and Security

Coordination with Area Safety Coordinators was completed internally to identify any potential health, safety and security concerns.

The proposed project will not have specific potential health, safety and security concerns.

ATTACHMENT EJB-3

From:	**Scott Lykins**
To:	**Elisha C. Crabtree**
Date:	*10/11/2023*
RE:	**48FL06371 – WF Water Fleet Purchases**
Memo Location	*C:\Users\crlsxl\OneDrive - Citizens Energy Group\Fleet\FY25 Purchases\Westfield\WF Water*

Problem Statement

Fleet replacement is needed due to existing fleet assets meeting or exceeding the Fleet Replacement Guidelines and Business needs.

The fleet resides but is not restricted to, primarily the Westfield Facility.

Alternative Evaluation

To determine the proposed project scope, one alternative has been preliminarily developed and evaluated.

"Do Nothing" Alternative

This alternative includes continuing current operations under existing conditions. The risk posed by not acting would cause a monumental increase in fleet maintenance expense, complete failure and/or higher risk of injury. These consequences impact customers in the driver and business unit by them not being able to perform their daily tasks and delay delivery of service to our customers.

Alternative No. 1 – *Purchase New Fleet Assets*

Alternative No. 1 was developed with input from the Operations Manager and includes one asset . Along with our Long-Range forecast module this will ensure that we are on a proper and cost-effective replacement plan for Fleet assets moving forward and Capital budgets are properly sized.

Evaluation of Alternatives

Throughout the third quarter of each fiscal year, the Fleet Team meets with the various Managers of the Operating groups to determine business needs and compare to the Long-Range Forecast Module. Each Group decides what assets are added or removed from the list based on the discussions. The updated list is then compared to the Capital Budget for each area and another round of asset cuts is possible to fit into the approved budget. The Fleet Team attempts to include as many assets as possible to avoid costlier failures causing delays in daily work.

Recommendation

The recommended alternative is Alternative 1 due to how critical a proper Fleet Asset Replacement program is to all BUs to ensure proper day to day operations.

Project Scope and Justification

Table 1 shows the project scope.

4200	2-040	Citizens Water of Westfield	2017	Ford	F-250	65146.5	$	57,461.64

Table 1: Fleet Project Scope

We are replacing Fleet assets to insure we are on a proper and balanced cycle to ensure Operation groups have safe and reliable assets to provide service to our customers. Fleet has created a Long-Range replacement plan to attempt to get the right size replacements from year to year.

Table 2 shows the Fleet Replacement Guidelines used as a baseline to get a replacement plan.

ATTACHMENT EJB-3

Table 2: Fleet Replacement Guidelines

Type	Replacement Cost in 2020	Replacement Criteria - Age	Replacement Criteria - Mileage	Replacement Criteria - Hours	Replacement Critieria - Maintenance Spend
4 to 6" Pump	$ 15,000	15			
4-Wheeler	$ 17,000	10			
Air Compressor	$ 35,000	10			
Backhoe	$ 135,000	12		8,000	
Basin Cleaner	$ 200,000	15			
Boom	$ 115,000	12			
Boom Truck	$ 115,000	12	100,000	10,000	
Bulldozer	$ 30,000	20		6,000	
CAR	$ 30,000	13	100,000		
Ditchwitch	$ 30,000	15			
Dump	$ 140,000	8	100,000	10,000	
End Loader	$ 150,000	12		9,000	
Excavator	$ 300,000	12		10,000	
Floor Scrubber	$ 75,000	15			
Forklift	$ 30,000	20		6,000	
Generator	$ 25,000	15			
Golf Cart	$ 15,000	15			
Large Boom	$ 200,000	12			
Maintenance Truck	$ 115,000	12	100,000	10,000	
Manlift	$ 45,000	15			
Miscellaneous	$ 11,000	10		3,000	
Mower	$ 25,000	8			
Pick up	$ 32,000	13	100,000	10,000	
RV	$ 200,000	15			
SM Front Loader + Bobcat	$ 135,000	12		4,000	
Small Dump	$ 87,000	8	100,000		
Sniffer	$ 50,000	12			
Stack Bed	$ 50,000	12			
SUV	$ 30,000	13	100,000	10,000	
Tanker	$ 75,000	12			
Trailer	$ 40,000	20			
Trailer (Specialized)	$ 25,000	15			
Transit	$ 45,000	13	100,000	10,000	
TV-VAN	$ 465,000	13	100,000	10,000	
Utility	$ 90,000	12	100,000	10,000	
Utility 1-ton Boom	$ 125,000	10	100,000	10,000	
Utility Boom	$ 115,000	12	100,000	10,000	
Utility Truck	$ 115,000	12	100,000	10,000	
Utility Van	$ 75,000	13	100,000	10,000	
Vactor	$ 535,000	12	100,000	10,000	
Vacuum Excavator	$ 150,000	8	100,000	10,000	
VAN	$ 45,000	13	100,000	10,000	
Welder	$ 15,000	15			

Capital Outputs (use in Unifier)

Table 3 shows the capital outputs that will be tracked for this project:

Table 3: Capital Outputs

Secondary Level	Capital Output	Unit	Quantity
Fleet Equipment	Equipment – Rolling Stock (new)	EA	**N/A**
Fleet Vehicle	Vehicle (new)	EA	**1**

Cost Estimate

All costs are budgeted from the previous year's cost with an average of 3% increase for typical inflation. Fleet is also in continuous conversations with Suppliers to discuss industry cost variables to budget proper cost.

Table 4 shows the planning level estimate for the project for Unifier. The project is to be funded by Capital Budget Authorization (CBA) **1267CBA – Westfield Water Facilities** Appendix B contains a checklist of the components included in the cost.

Table 4: Westfield Water Fleet Purchases Cost Estimate

CBS Phase	Total Cost[1]
Construction	$97,461.64
Estimate at Completion (Rounded)	$100,000.00

Project Schedule

The recommended schedule is presented in Table 5. The project will be completed during the 2024 fiscal year.

Table 5: Proposed Project Schedule

CBS Phase	Start Date	Finish Date
Project Start	**10/1/2024**	
Construction	**11/2/2024**	**9/15/2025**
In-Service	**9/25/2025**	
Close Out	**9/28/2025**	**9/29/2025**

[1] Total Cost includes contingency, direct time and allocations

Stakeholder Communication

For this case, we have met with the BU Managers and discussed current fleet conditions and future fleet suggested replacements.

Operational Impact

Operations was consulted to determine the feasibility and impact of the proposed project. The proposed project will not impact system operations.

Health, Safety and Security

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