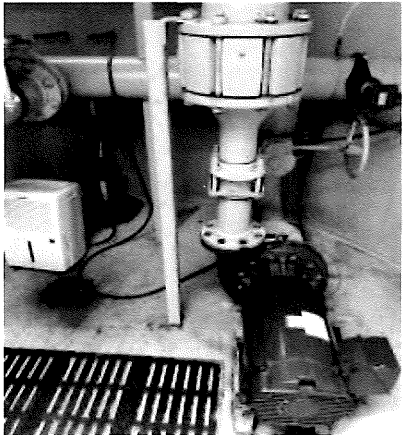
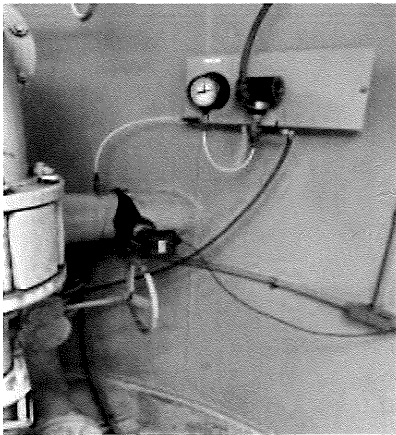


PROJECT NAME	TOPSFIELD BOOSTER STATION CATHODIC PROTECTION
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PROJECT COST SUMMARY (2020 DOLLARS)					
Estimated Project Cost			\$37,000		
Estimated Project Duration			6 months		
PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	2023	2024	2025	2026	TOTAL
\$0	\$0	\$0	\$0	\$37,000	\$37,000

PROJECT JUSTIFICATION		
<p>This project includes the installation of a cathodic protection system to protect the Topsfield Booster Station structure from any further corrosion (photos below). The installation of the cathodic protection system will prevent further corrosion of the station structure improving the reliability of the station.</p>		
<div style="display: flex; justify-content: space-around;">   </div>		
PROJECT DRIVERS		
<input checked="" type="checkbox"/> Reliability	<input type="checkbox"/> Redundancy/Resiliency	<input type="checkbox"/> Water Quality/Current Regulatory Compliance
PROJECT CONSTRAINTS / DEPENDENCIES		
None		



<b>PROJECT NAME</b>	<b>WINTERBERRY BOOSTER STATION CATHODIC PROTECTION</b>
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PROJECT COST SUMMARY (2020 DOLLARS)					
Estimated Project Cost			\$673,000		
Estimated Project Duration			6 months, 1 yr (Generator)		
PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	2023	2024	2025	2026	TOTAL
\$0	\$0	\$0	\$640,000	\$33,000	\$673,000

PROJECT JUSTIFICATION		
<p>This project includes the installation of a cathodic protection system to protect the Winterberry Booster Station structure from corrosion. The installation of the cathodic protection system will prevent further corrosion of the station structure improving the reliability of the station. Backup power is needed at water system facilities to meet demand and water quality requirements during outages. This item includes the addition of a new generator with an auto transfer switch.</p>		
PROJECT DRIVERS		
<input checked="" type="checkbox"/> Reliability	<input checked="" type="checkbox"/> Redundancy/Resiliency	<input type="checkbox"/> Water Quality/Current Regulatory Compliance
PROJECT CONSTRAINTS / DEPENDENCIES		
None		


<b>PROJECT NAME</b>	<b>NORTHWEST ELEVATED TANK IMPROVEMENTS</b>
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PROJECT COST SUMMARY (2020 DOLLARS)					
Estimated Project Cost			\$845,000		
Estimated Project Duration			1 yr. (Tank Improvements); 6 months (Valve Repair)		
PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	2023	2024	2025	2026	TOTAL
\$845,000	\$0	\$0	\$0	\$0	\$845,000

PROJECT JUSTIFICATION		
<p>This project involves the rehabilitation of the Northwest Elevated Tank including tank improvements such as exterior cleaning and painting, wet interior roof repainting, pit piping repainting, installation of a painters railing (left photo) and cathodic system replacement for maintenance and corrosion control, and rebuilding of the 12-inch check valve (right photo) for flow control.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>		
PROJECT DRIVERS		
<input checked="" type="checkbox"/> Reliability	<input type="checkbox"/> Redundancy/Resiliency	<input type="checkbox"/> Water Quality/Current Regulatory Compliance
PROJECT CONSTRAINTS / DEPENDENCIES		
None		

<b>PROJECT NAME</b>	<b>LATHROP DISTRIBUTION MAIN - PORTAGE TO BENDIX</b>
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PROJECT COST SUMMARY (2020 DOLLARS)					
Estimated Project Cost			\$900,000		
Estimated Project Duration			1 yr.		
PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	2023	2024	2025	2026	TOTAL
\$0	\$0	\$0	\$900,000	\$0	\$900,000

PROJECT JUSTIFICATION		
<p>This project involves the installation of 4,100 linear feet of 12-inch ductile iron pipe on Lathrop St. from Bendix Drive to Portage Ave. This will replace the undersized pipe on the east end, and add a new pipe from west of Olive to Bendix Drive. This loop provides increased flow and redundancy. The costs include street reconstruction. This project increases flow and system reliability and redundancy.</p>		
		
PROJECT DRIVERS		
<input checked="" type="checkbox"/> Reliability	<input checked="" type="checkbox"/> Redundancy/Resiliency	<input type="checkbox"/> Water Quality/Current Regulatory Compliance
PROJECT CONSTRAINTS / DEPENDENCIES		
None		


PROJECT NAME	30TH STREET AND GREENLAWN AVENUE MAIN REPLACEMENT
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PROJECT COST SUMMARY (2020 DOLLARS)					
Estimated Project Cost			\$400,000		
Estimated Project Duration			1 yr. each		
PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	2023	2024	2025	2026	TOTAL
\$400,000	\$0	\$0	\$0	\$0	\$400,000

PROJECT JUSTIFICATION	
<p>This project involves the replacement of two 6-inch mains crossing the railroad at 30<sup>th</sup> Street (left photo) and Green Lawn Avenue (right photo). The mains are broken below the railroad and are currently valved off. The project involves the replacement of the distribution main. This loop provides increased flow and redundancy. The costs include coordination with the railroad, insurance, cathodic protection, and street reconstruction.</p>	
PROJECT DRIVERS	
<input type="checkbox"/> Reliability	<input checked="" type="checkbox"/> Redundancy/Resiliency
<input type="checkbox"/> Water Quality/Current Regulatory Compliance	
PROJECT CONSTRAINTS / DEPENDENCIES	
<p>This project involves coordination with the railroad.</p>	

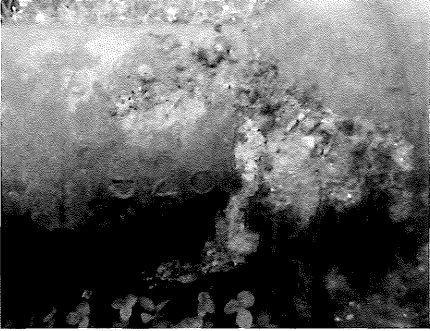
PROJECT NAME	DOUGLAS DISTRIBUTION MAIN
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PROJECT COST SUMMARY (2020 DOLLARS)					
Estimated Project Cost				\$275,000	
Estimated Project Duration				1 yr.	
PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	2023	2024	2025	2026	TOTAL
\$275,000	\$0	\$0	\$0	\$0	\$275,000

PROJECT JUSTIFICATION		
<p>This project involves the installation of 2,000 linear feet of new ductile iron water main, hydrants, and valves to accommodate future development along Douglas Road between Burdette and Ironwood Road.</p>		
		
PROJECT DRIVERS		
<input type="checkbox"/> Reliability	<input checked="" type="checkbox"/> Redundancy/Resiliency	<input type="checkbox"/> Water Quality/Current Regulatory Compliance
PROJECT CONSTRAINTS / DEPENDENCIES		
None		

<b>PROJECT NAME</b>	<b>WATER MAIN EXTENSION AND REPLACEMENTS</b>
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PROJECT COST SUMMARY (2020 DOLLARS)					
Estimated Project Cost			\$1,225,000		
Estimated Project Duration			Annual		
PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	2023	2024	2025	2026	TOTAL
\$25,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,225,000

PROJECT JUSTIFICATION		
<p>The water distribution system has approximately 585 miles of water main, mostly consisting of cast iron (photo below). Replacement of critical distribution system mains is required to address aging infrastructure and improve operability, reliability, customer satisfaction, and reduce risks. Proactive water main replacements are critical to remedy the existing infrastructure before their failure. This item also includes an allowance for water main extensions.</p>		
		
PROJECT DRIVERS		
<input checked="" type="checkbox"/> Reliability	<input checked="" type="checkbox"/> Redundancy/Resiliency	<input type="checkbox"/> Water Quality/Current Regulatory Compliance
PROJECT CONSTRAINTS / DEPENDENCIES		
None		

2022 Capital Budget

NOTE: Capital items funded through a bond will not be budgeted during the annual budget process. The bond budget will be established when the bond is finalized during the year. Only the estimated debt service principal and interest expense is budgeted.

Fund	Dept	Subdivision	Type	Funding Method	Include on "Budget Exp" tab (Yes/No)?	Replaces Existing Asset (Yes/No)?	Expense Account	Main Account Description	Description	2022	2023	2024	2025	2026	Total	Is Expense Account on Budget Exp tab?	Capital Lease Revenue Account
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-431002	Engineering Services	Services for Capital Planning	100,000	100,000	100,000	100,000	100,000	500,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Bond	No		622-06-604-620-442005	Treatment/Disposal Equipment	2022 Water Works Revenue Bonds	16,790,000	-	-	-	-	16,790,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Bond	No		622-06-604-620-442005	Treatment/Disposal Equipment	2024 Water Works Revenue Bonds	-	-	18,030,000	-	-	18,030,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442005	Treatment/Disposal Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442005	Treatment/Disposal Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442005	Treatment/Disposal Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442007	Water Mains	System Renewal Projects- TBD	2,500,000	1,700,000	1,700,000	1,785,000	-	7,685,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442007	Water Mains	New Main on Lathrop Street- Bendix Drive to Portage Avenue	888,000	-	-	-	-	888,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442007	Water Mains	Water Main, Hydrant and Valve Replacement	715,000	-	-	-	-	715,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442007	Water Mains	New on Trail ROW- Dublin Street to Cripe Street	287,000	-	-	-	-	287,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442008	Water Meters	Water Meter Replacement	4,000,000	800,000	800,000	800,000	800,000	7,200,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442010	Distribution Reservoirs		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Tandem Axle Dump Truck	275,000	-	275,000	-	500,000	1,050,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(2) Mini Cargo Vans w/CNG	66,000	66,000	-	40,000	-	172,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Pickup Valve Truck	65,000	-	-	45,000	-	110,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(2) Hybrid Vehicles	56,000	-	-	25,000	-	81,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Vactor	-	400,000	-	-	400,000	800,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	() Truck 2WD w/Utility Body	-	-	80,000	40,000	-	120,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Crane Crew Truck	-	-	-	275,000	-	275,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Truck 4WD w/Plow w/CNG	-	-	-	40,000	40,000	80,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Mid Size Car w/CNG	-	30,000	33,000	35,000	-	98,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Truck 4WD w/CNG	-	-	-	40,000	-	40,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	(1) Trailer 20' Long for Dump Truck	25,000	-	-	-	-	25,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	(1) Trailer for Generator	-	-	30,000	-	-	30,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	(1) Forklift	-	-	15,000	-	-	15,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	(1) Zero Turn Mower	-	-	14,000	-	-	14,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	(1) Semi Trailer	-	-	-	-	40,000	40,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	Generator w/trailer	-	-	50,000	-	-	50,000	Yes	





SOUTH BEND WATER WORKS  
SOUTH BEND, INDIANA  
**Capital Needs** <sup>1,2</sup>

Item	Total Estimated Project Cost
<b>Treatment Plant Improvements</b>	
Carriage Hills Wellfield	\$14,767,000
Cleveland North Wellfield	\$2,247,000
Cleveland South Wellfield	\$3,507,000
Edison Filtration Plant	\$9,170,000
Erskine Wellfield	\$698,000
North Station Filtration Plant	\$6,904,000
Olive GAC Plant	\$20,514,000
Pinhook Filtration Plant	\$4,578,000
South GAC Plant	\$3,700,000
<b>Distribution System Improvements</b>	
Fellows Reservoir and Booster Station	\$9,529,000
Ireland Tank and Booster Station	\$1,820,000
Locust Booster Station	\$1,134,000
SR 23 Booster Station	\$483,000
Topsfield Booster Station	\$231,000
Winterberry Booster Station	\$10,891,000
Northwest Elevated Tank	\$916,000
Water Main, Hydrant & Valve Replacement	\$36,400,000
Water Meter Replacement	\$4,000,000
New Main from Lathrop St.-Bendix Drive to Portage Ave.	\$990,000
New Main from Trail ROW-Dublin St. to Cripe St.	\$330,000
First New 2 MG Elevated Storage Tank	\$8,100,000
Second New 2 MG Elevated Storage Tank	\$7,400,000
30 <sup>th</sup> Main Replacement (Railroad Crossing)	\$200,000
Green Lawn Main Replacement (Railroad Crossing)	\$200,000
<b>Other</b>	
Vehicle Replacement	\$2,500,000
New Office Building	\$2,000,000
AWIA Risk and Resiliency Mitigation Measures	\$115,000
Final Lead and Copper Rule Revisions Requirements	\$200,000
Engineering Studies	\$800,000
<b>TOTAL</b>	<b>\$154,300,000</b>

Notes:

1. All estimated project costs are presented in 2020 dollars. The costs are rounded to the nearest \$1,000 for costs below \$100,000, to the nearest \$10,000 for costs between \$100,000 and \$1,000,000, and to the nearest \$100,000 for costs above \$1,000,000. Estimated project costs are consistent with an Association for Advancement of Cost Engineering (AACE) Class 5 Estimate, which is considered a concept screening estimate and are typically -50% to +100% accurate. Consistent with a Class 5 designation, the estimated costs were prepared based on very limited scope information using a combination of stochastic methods (i.e., cost/capacity curve, factors, allowances, \$/ft.), costs from similar projects, recent costs from South Bend, and engineering judgment.

2. Estimated project costs include major equipment, piping, electrical, instrumentation and controls (I&C), and installation in addition to several below the line items, where applicable, including performance bonds and insurance, contractor overhead and profit, general conditions, engineering services and contingency. Estimated project costs do not include costs for land and easement acquisitions, legal and financial services, and permitting.



SOUTH BEND WATER WORKS  
SOUTH BEND, INDIANA  
**Capital Needs**  
**Carriage Hills Wellfield**

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Permanent Generator Installation	Install pad mounted Generator with auto transfer switch. Integrate wells to run on generator.	Emergency Power	3	\$1,100,000
MCC Panel Upgrades	Replace existing MCC Panel	Process Control	2	\$150,000
PLC and HMI Upgrades	Upgrade existing PLC to 5000 platform with new HMI and programming (float pressure on well #3 & well #4)	Process Control	3	\$90,000
Well #3 Rehabilitation	Inspect, clean and rehabilitate the well, replace pump end and replace motor to 250 hp inverted duty motor	Source Water	2	\$64,000
Connection to the Sewer System	Connect failing drywell system in Well #4 to newly installed sewer on Shenahdoah Drive. Connect sample sink discharge in Well #3 to newly installed sewer on Shenahdoah Drive	Process Control	3	\$89,000
Well House #3 Roof Repairs	Repair roof	Structural Integrity	2	\$6,000
Well House #4 Roof Repairs	Repair roof	Structural Integrity	2	\$6,000
Chlorine Analyzer Replacement	Install CL-17 analyzer to monitor Cl2 to Well #3	Process Control	2	\$7,000
Fluoride Analyzer Replacement at Well #3	Install CA610 analyzer to monitor fluoride. Include programming and integration to SCADA.	Process Control	2	\$18,000
Fluoride Analyzer Replacement at Well #4	Install CA610 Analyzer to Monitor Fluoride. Include programming and integration to SCADA.	Process Control	2	\$18,000
Chlorinator Upgrades	Upgrade Chlorinator (Second of the two V10K Chlorinators)	Process Control	2	\$16,000
Valve relocation	Relocate existing gate valves and isolation valves into building. Includes associated plumbing work. Convert swing checks to silent waffle style checks.	Flow Control	3	\$69,000
Iron, Manganese and Arsenic Treatment	Install new oxidation/filtration system, including residuals handling system, chemical systems and associated equipment	Treatment	3	\$12,800,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	\$22,000
Physical Security Upgrades - Doors	Install two hollow metal doors and frames for 2 wellhouses	Physical Security	2	\$6,000
Physical Security Upgrades - Fencing	Install new 8' chain link fence and a driveway gate	Physical Security	2	\$42,000
Well #4 Rehabilitation	Inspect, clean and rehabilitate the well, replace pump end and replace motor to 250 hp inverted duty motor	Source Water	2	\$64,000
Well #3 Chemical Injection	Install PLC with flow pacing of chemicals. Install phosphate, fluoride, chlorine (2 v10k Chlorinators) chemical systems including containment.	Process Control	3	\$100,000
Well injection / meter pits	Install chemical injection, metering & pitot tube pit for well #3 and #4	Process Control	3	\$100,000
<b>TOTAL</b>				<b>\$14,767,000</b>



SOUTH BEND WATER WORKS  
SOUTH BEND, INDIANA  
**Capital Needs**  
**Cleveland North Wellfield**

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Variable Frequency Drive Installation	Install new VFDs for well #5 and #6 motors (150 hp) and integrate into existing PLCs to control pressure	Motor Control	2	\$120,000
Permanent Generator Installation	Install Stand Alone Generator with Auto Transfer Switch to run two existing wells and future third well	Emergency Power	3	\$1,100,000
Copper service line replacement	Upsize and replace copper service line to PVC to address inaccurate water quality measurements	Water Quality	2	\$2,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	\$22,000
Physical Security Upgrades - Doors	Install one hollow metal door and frame	Physical Security	2	\$3,000
New well and well house	Install new well and well house	Source Water	3	\$1,000,000
<b>TOTAL</b>				<b>\$2,247,000</b>



SOUTH BEND WATER WORKS  
SOUTH BEND, INDIANA  
**Capital Needs**  
**Cleveland South Wellfield**

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Cleveland South Building Expansion and chemical upgrades	Expand Building with proper ventilation to put in VFDs, new MCC (4 wells, potential 5th, building lighting and HVAC, 3 chemical feed systems), relocate one of the chemicals (Chlorine or Fluoride) to a separate room, install new chemical injector lines and backup injector	Expansion	3	\$950,000
Flow Meter Replacement	Replace existing 18" flow meter to mag meter	Flow Control	2	\$26,000
Chlorine Booster Pump #2 Replacement	Replace Chlorine Booster Pump #2	Process Control	2	\$3,000
Permanent Generator Installation	Install stand alone generator with auto transfer switch to run four existing wells and future fifth well	Emergency Power	3	\$1,400,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	\$22,000
Physical Security Upgrades - Doors	Install one new door and two new frames	Physical Security	2	\$6,000
New well with well house	Install new well and well house	Source Water	3	\$1,000,000
PLC Integration and Chemical Feed Line Replacement	Upgrade PLC to 5000 platform with HMI integration including programming (float system pressure and chemical flow pacing). Install new chemical feed lines (chlorine, fluoride and phosphate) to injection pits.	Process Control	3	\$100,000
<b>TOTAL</b>				<b>\$3,507,000</b>



SOUTH BEND WATER WORKS  
SOUTH BEND, INDIANA  
**Capital Needs**  
Edison Filtration Plant

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Roof repairs	Inspect and repair roof in main building, replace roof in generator house, well house 4,3,2,1	Structural Integrity	2	\$130,000
PLC and HMI Upgrades	Upgrade existing 4 PLCs to 5000 platform with new HMI and programming	Process Control	3	\$270,000
Well 1A Abandonment	Abandon Well 1A, demolish equipment and fill in with grout in place. Includes permitting costs.	Source Water	3	\$100,000
New well #1B and well house	Install new well #1B and well house to replace well #1A and integrate to generator	Source Water	3	\$1,000,000
High Service #1 Pump Refurbishment and Motor Replacement	Refurbish pump and replace 200 hp motor with 150 hp inverted duty motor	Distribution System Supply	2	\$60,000
High Service #2 Pump Refurbishment and Motor Replacement	Refurbish pump and replace 200 hp motor with 150 hp inverted duty motor	Distribution System Supply	2	\$60,000
High Service #3 Pump Refurbishment and Motor Replacement	Refurbish pump and replace 200 hp motor with 150 hp inverted duty motor	Distribution System Supply	2	\$60,000
High Service #4 Pump Refurbishment and Motor Replacement	Refurbish pump and replace 200 hp motor with 150 hp inverted duty motor	Distribution System Supply	2	\$60,000
Backwash pump #1 Pump Refurbishment and Motor Replacement	Refurbish pump and replace existing with 75 hp Inverted duty motor	Back Washing Gravity Filters	2	\$35,000
Backwash pump #2 Pump Refurbishment and Motor Replacement	Refurbish pump and replace existing with 75 hp Inverted duty motor	Back Washing Gravity Filters	2	\$35,000
Backwash pump #3 Pump Refurbishment and Motor Replacement	Refurbish pump and replace existing with 75 hp Inverted duty motor	Back Washing Gravity Filters	2	\$35,000
Drain pit pump #2 Installation	Install Drain pit pump #2 with VFD	Operations	2	\$23,000
New Orthophosphate System for Corrosion Control	Install new orthophosphate system for corrosion control and a new building	Corrosion Control	3	\$440,000
Clearwell Inspection and Miscellaneous Repairs	Inspect 0.5 MG Clearwell. Add fall protection and perform miscellaneous repair	Finished Water Storage	2	\$32,000
Dehumidification system	Replace and upgrade HVAC system	Chemical Storage	2	\$120,000
Physical Security Upgrades - Cameras	Install security cameras and integrate with SCADA	Physical Security	2	\$44,000
Sodium Hypochlorite System Upgrades	Abandon existing system and install three 2000 gal bulk tanks with single containment and new door at the back	Chemical Storage	3	\$110,000
Filter Rehabilitation	Rehabilitation of 8 filter incl. underdrains, air scour, filter media, blowers, valves and actuators (around 30) etc.	Gravity Filters	3	\$5,800,000
Hydrofluorosilicic Acid System Upgrades	Replace and upgrade fluoride system. Old steel tank (1300 gal) not in containment. Replace with 1300 - 1600 gal tank with containment.	Chemical Storage	3	\$45,000
Integration to Generator	Integrate well 2A, High Service pump #3 and #4 to run on existing generator	Emergency Power	2	\$12,000



SOUTH BEND WATER WORKS  
SOUTH BEND, INDIANA  
**Capital Needs**  
Edison Filtration Plant

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Air conditioning in Hypochlorite Room	Install A/C system in in hypo room to extend sodium hypochlorite storage life	Chemical Protection	3	\$490,000
Aeration System Demolition	Aeration system needs to be removed and plumbing needs to be modified	Operations	2	\$23,000
Old Brine Tank Demolition	Old Brine tank used for onsite generation system - needs demolished (located outside)	Operations	2	\$11,000
Overhead Door/ Double Door Installation	Install overhead door or large double door in chemical room for tank removal/installations	Operations	2	\$16,000
Flow meter replacement and vault upgrades	Replace 24" influent and 24" effluent flow meter, re-evaluate positioning of flowmeter (move into the yard); raw water flow meter - bring vault up to grade	Flow Control	3	\$140,000
Chlorine dosing location re-evaluation	Re-evaluate raw hypochlorite injection pit location - currently has mixing issues.	Process Control	3	\$19,000
<b>TOTAL</b>				<b>\$9,170,000</b>