

**Highlights from Cheryl Porter, Chief Operating Officer – Water & Field Services**

**The Energy, Research & Innovation Area key strategic initiative includes the following.**

❖ **Pursue Research of Treatment & Monitoring**

- Treatment techniques for emerging contaminants of concern
- Innovative monitoring tools

**Energy, Research & Innovation Contracts:**

The Energy, Research & Innovation budget contains several contractual services to assess the current innovation environment, create programs by tailoring them to the expectations, environment and resources of GLWA and launching the programs by establishing urgency and funding resources. Budgeted amounts beyond contract date are estimates for future study updates or subsequent implementation of a program. These services would generally require a separate procurement process. The following charts show a limited number of contracts for these services.

Project Name	Wayne State University Project	Wayne State University Project	Wayne State University Project	Michigan State University Project	University of Michigan Project	University of Michigan Project	
Project Description	PFAS Health & Ecological Impacts	Microplastics & Human Health	Lake Huron to Lake Erie Monitoring Platform, Photocatalytic UV materials	Transport & Fate of Nutrients in Biosolids	Smart Pipes	Biological Phosphorus Removal Pilot	Total
Prime Consultant	WSU	WSU	WSU	MSU	Regents of the University of Michigan	Regents of the University of Michigan	
Contract #	1902151			1902059	1900902	1900169	
Contract Amount	\$192,153	1904710		\$227,498	\$299,702	\$250,000	
Contract End Date	06/15/22	\$195,000	TBD	07/31/21	08/01/2021	05/31/2021	
Pre-FY 2020 Spend	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2020 Actual	-	-	-	140,759	159,687	84,690	385,135
FY 2021 Budget	96,000	85,000	71,000	114,000	150,000	125,000	641,000
<b>FY 2022 Requested</b>	<b>96,000</b>	<b>100,000</b>	-	<b>114,000</b>	<b>150,000</b>	-	<b>460,000</b>
FY 2023 Requested	10,000	110,000	35,000		150,000	125,000	430,000
FY 2024 Requested	110,000	110,000	35,000		175,000	125,000	555,000
FY 2025 Requested	150,000	-	35,000		175,000	125,000	485,000
FY 2026 Requested	-	-	-		-	-	-
Total	<b>\$ 462,000</b>	<b>\$ 405,000</b>	<b>\$ 176,000</b>	<b>\$ 368,759</b>	<b>\$ 959,687</b>	<b>\$ 584,690</b>	<b>\$ 2,956,135</b>

## Biennial Budget Request

The biennial budget reflects an increase of \$411,700 or 14.8% in Operations & Maintenance for FY 2022. This is a result of the key factors listed below.

- ❖ Transfer of Power Quality Manager Position from Water Engineering (\$122,600)
- ❖ Request for new Laboratory equipment at WRRF, Lake Huron Water Plant and Water Works Park (\$290,000)

### Biennial Budget Request by Expense Category

Expense Category	FY 2020 Actual	FY 2021 Adopted Budget	FY 2021 Activity thru 09.30.2020	FY 2022 Department Requested	FY 2022 Dollar Variance	FY 2022 Percent Variance	FY 2023 Department Requested
2.0 Personnel	\$ 544,300	\$ 791,400	\$ 155,300	\$ 913,900	\$ 122,600	15.5%	\$ 917,800
4.2 Supplies & Other	472,100	494,100	106,800	782,200	288,100	58.3%	663,200
4.3 Contractual Services	1,087,700	1,500,000	381,400	1,501,000	1,000	0.1%	1,988,000
<b>Grand Total</b>	<b>\$ 2,104,100</b>	<b>\$ 2,785,500</b>	<b>\$ 643,600</b>	<b>\$ 3,197,100</b>	<b>\$ 411,700</b>	<b>14.8%</b>	<b>\$ 3,569,000</b>

### Biennial Budget Request by Team

Team	FY 2020 Actual	FY 2021 Adopted Budget	FY 2021 Activity as of 09.30.2020	FY 2022 Department Requested	FY 2022 Dollar Variance	FY 2022 Percent Variance	FY 2023 Department Requested
Energy, Research & Innovation	\$ 2,104,100	\$ 2,785,500	\$ 643,600	\$ 3,197,100	\$ 411,700	14.8%	\$ 3,569,000
<b>Grand Total</b>	<b>\$ 2,104,100</b>	<b>\$ 2,785,500</b>	<b>\$ 643,600</b>	<b>\$ 3,197,100</b>	<b>\$ 411,700</b>	<b>14.8%</b>	<b>\$ 3,569,000</b>

## Personnel Budget

Energy, Research & Innovation personnel consists of seven positions for FY 2022 and is largely comprised of staffing that will provide ongoing monitoring of developments in order to allow new research priorities to be set and phase out topics that are no longer relevant. Research and innovation are essential pillars of a promising future strategy for shaping energy supplies of tomorrow. The staffing level is in the tables below. The increase in staffing includes the reassignment of the Power Quality Manager position from Water Engineering to Energy, Research, & Innovation. This move was performed since this position is directly related to energy management functions.

The following tables provide three alternate views of the staffing plans and budget.

*Staffing Plan* - The table below presents the number of positions in the plan. Each position has a value of one. The position count does not distinguish between a position that is filled 100% (2,080 hours per year), filled for a number of hours less than 2,080 per year, or one that is vacant.

*Staffing Plan – Number of Positions*

Team	Prior Year FY 2020 Staffing Plan	Current Year FY 2021 Staffing Plan	FY 2022 Staffing Plan	FY 2023 Staffing Plan	FY 2024 Staffing Plan	FY 2025 Staffing Plan	FY 2026 Staffing Plan
Energy, Research & Innovation	6.00	7.00	7.00	7.00	7.00	7.00	7.00

*Full-time Equivalents* - The table below presents “full-time equivalent” (FTE) staffing. FTE is based on the number of hours that the position is filled, or budgeted for, in a given year based upon a standard of 2,080 hours per year. For this budget area, the Staffing Plan and the FTEs are consistent.

*Full-time Equivalents*

Team	Prior Year FY 2020 FTEs	Current Year FY 2021 FTEs	FY 2022 FTEs	FY 2023 FTEs	FY 2024 FTEs	FY 2025 FTEs	FY 2026 FTEs
Energy, Research & Innovation	6.00	7.00	7.00	7.00	7.00	7.00	7.00

*Personnel Budget* - The table below presents the Water Operations personnel budget which consists of the following expense categories: Salaries & Wages and Employee Benefits. The values for the personnel budget are based on the full-time equivalents table above using current pay levels. Wage and benefit adjustments are based on merit increases and are included in the Unallocated Reserve line item for the Central Services Operating Area which is shown in detail in the Operating Financial Plan Introduction section.

*Personnel Budget*

Team	FY 2021 Adopted Budget	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested	FY 2026 Department Requested
Energy, Research & Innovation	\$ 791,400	\$ 913,900	\$ 917,800	\$ 921,600	\$ 925,500	\$ 929,300

## Five Year Financial Plan

### Five-Year Financial Plan by Expense Category

Expense Category	FY 2021 Adopted Budget	FY 2021 Activity as of 09.30.2020	FY 2022 Department Requested	FY 2022 Dollar Variance	FY 2022 Percent Variance	FY 2023 Requested Budget	FY 2024 Requested Budget	FY 2025 Requested Budget	FY 2026 Requested Budget
2.0 Personnel	\$ 791,400	\$ 155,300	\$ 913,900	\$ 122,600	15.5%	\$ 917,800	\$ 921,600	\$ 925,500	\$ 929,300
4.2 Supplies & Other	\$ 494,100	\$ 106,800	\$ 782,200	\$ 288,100	58.3%	\$ 663,200	\$ 674,200	\$ 675,200	\$ 856,200
4.3 Contractual Services	\$ 1,500,000	\$ 381,400	\$ 1,501,000	\$ 1,000	0.1%	\$ 1,988,000	\$ 1,966,000	\$ 1,882,000	\$ 1,702,000
<b>Grand Total</b>	<b>\$ 2,785,500</b>	<b>\$ 643,600</b>	<b>\$ 3,197,100</b>	<b>\$ 411,700</b>	<b>14.8%</b>	<b>\$ 3,569,000</b>	<b>\$ 3,561,800</b>	<b>\$ 3,482,700</b>	<b>\$ 3,487,500</b>

### Five-Year Financial Plan by Team

Team	FY 2021 Adopted Budget	FY 2021 Activity as of 09.30.2020	FY 2022 Department Requested	FY 2022 Dollar Variance	FY 2022 Percent Variance	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested	FY 2026 Department Requested
Energy, Research & Innovation	\$ 2,785,500	\$ 643,600	\$ 3,197,100	\$ 411,700	14.8%	\$ 3,569,000	\$ 3,561,800	\$ 3,482,700	\$ 3,487,500
<b>Grand Total</b>	<b>\$ 2,785,500</b>	<b>\$ 643,600</b>	<b>\$ 3,197,100</b>	<b>\$ 411,700</b>	<b>14.8%</b>	<b>\$ 3,569,000</b>	<b>\$ 3,561,800</b>	<b>\$ 3,482,700</b>	<b>\$ 3,487,500</b>

## Capital Outlay

Energy, Research & Innovations five-year capital outlay plan is funded by the Improvement & Extension (I&E) budget.

### Five-Year Capital Outlay Plan by Asset Category

Asset Category	FY 2021 Adopted Budget	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested	FY 2026 Department Requested
Improvement & Extension	\$ 125,000	\$ 170,000	\$ 230,000	\$ 155,000	\$ 155,000	\$ 35,000
Machinery & Equipment	\$ 125,000	\$ 170,000	\$ 230,000	\$ 155,000	\$ 155,000	\$ 35,000
Laboratory Equipment & Sensors	\$ 125,000	\$ 170,000	\$ 230,000	\$ 155,000	\$ 155,000	\$ 35,000
<b>Grand Total</b>	<b>\$ 125,000</b>	<b>\$ 170,000</b>	<b>\$ 230,000</b>	<b>\$ 155,000</b>	<b>\$ 155,000</b>	<b>\$ 35,000</b>

### Five-Year Capital Outlay Plan by Funding Source

Funding Source	FY 2021 Adopted Budget	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested	FY 2026 Department Requested
Improvement & Extension	\$ 125,000	\$ 170,000	\$ 230,000	\$ 155,000	\$ 155,000	\$ 35,000
<b>Grand Total</b>	<b>\$ 125,000</b>	<b>\$ 170,000</b>	<b>\$ 230,000</b>	<b>\$ 155,000</b>	<b>\$ 155,000</b>	<b>\$ 35,000</b>

### Five-Year Capital Outlay Plan by Team

Team	FY 2021 Adopted Budget	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested	FY 2026 Department Requested
Energy, Research, & Innovation	\$ 125,000	\$ 170,000	\$ 230,000	\$ 155,000	\$ 155,000	\$ 35,000
<b>Grand Total</b>	<b>\$ 125,000</b>	<b>\$ 170,000</b>	<b>\$ 230,000</b>	<b>\$ 155,000</b>	<b>\$ 155,000</b>	<b>\$ 35,000</b>

## Line Item Budget and Financial Plan

The five-year plan with a line item expense budget begins on the next page. The expenses are listed in report order by cost center. Because many of GLWA's initiatives expand multiple years, this planning document provides the information to smooth out expenses over time and/or plan for annual fluctuations.

Cost Center & Expense Category	FY 2020 Actual	FY 2021 Adopted Budget	FY 2021 Activity as of 09.30.2020	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested	FY 2026 Department Requested
882501 - Energy, Research & Innovation	2,104,100	2,785,500	643,600	3,197,100	3,569,000	3,561,800	3,482,700	3,487,500
2.1 Salaries & Wages	445,700	623,500	124,000	721,400	721,400	721,400	721,400	721,400
2.4 Employee Benefits	98,600	167,900	31,400	192,500	196,300	200,200	204,000	207,900
4.2 Supplies & Other	472,100	494,100	106,800	782,200	663,200	674,200	675,200	856,200
Capital Outlay less than \$5,000	14,100	2,000	-	290,000	170,000	180,000	180,000	360,000
Memberships, Licenses & Subscriptions	372,200	423,000	96,600	423,100	423,100	423,100	423,100	423,100
Mileage and Parking	2,800	2,000	-	2,000	2,000	2,000	2,000	2,000
Office Supplies	5,200	7,100	500	7,100	7,100	7,100	7,100	7,100
Operating Supplies	45,000	25,000	9,900	25,000	25,000	25,000	25,000	25,000
Postage	200	-	(200)	-	-	-	-	-
Training and Internal Meetings	13,300	20,000	-	20,000	20,000	20,000	20,000	20,000
Travel	19,300	15,000	-	15,000	16,000	17,000	18,000	19,000
4.3 Contractual Services	1,087,700	1,500,000	381,400	1,501,000	1,988,000	1,966,000	1,882,000	1,702,000
Contractual Professional Services	1,063,100	1,500,000	381,400	1,501,000	1,988,000	1,966,000	1,882,000	1,702,000
Covid-19 Study	24,600	-	-	-	-	-	-	-
<b>Grand Total</b>	<b>\$ 2,104,100</b>	<b>\$ 2,785,500</b>	<b>\$ 643,600</b>	<b>\$ 3,197,100</b>	<b>\$ 3,569,000</b>	<b>\$ 3,561,800</b>	<b>\$ 3,482,700</b>	<b>\$ 3,487,500</b>