GLWA
Great Lakes Water Authority

Appendix C: Centralized Services Business Case Evaluations

Please consider the environment before printing this document.

Contents

Ordered by old CIP number

*New CIP 380700, Old CIP 1147, was moved to the Water budget as there is no Wastewater component to this contract

GLWA
Great Lakes Water Authority

CIP 956: As-needed CIP Implementation Assistance and Related Services

No Proposal Available

Finance Page Follows

GLWA Great Lakes Water Authority

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 956

Project Title: **As-needed CIP Implementation Assistance and Related Services (1)** **Contract Number:**

Description: Provide multi discipline engineering services, program management, technical services, and project oversight on an as needed basis

Lead Division: Division Leader:

Project Manager: Phone: Department Charged: Water Sewage X Both

Project Type: Study **(S)** X Design **(D)** X Construction **(C)** Construction Management **(CM)** X Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-22 FY $ 100 Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs

Project Costs $(000)

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
601997	Capital Allocation: Fringe Benefits	40%	-				-	-	-	-	-	-	-
601998	Capital Allocation: Nonpersonnel	5%	-				-	-	-	-	-	-	-
616900	Construction		-					$ -	$ -	$ -	$ -	$ -	-
617950	Contractual Engineering Service		-	3,770	1,000	$ 1,400	$ 100	$ -	$ -	$ -	$ -	$ -	6,270
	Materials		-				$ -	$ -	$ -	$ -	$ -	$ -	-
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ 3,770	$ 1,000	$ 1,400	$ 100	$ -	$ -	$ -	$ -	$ -	$ 6,270
Funding Source(s)													
Water Construction Bonds			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Water I&E			-										-
Sewer Construction Bonds			-	3,770	1,000	1,400	100	-		-	-		6,270
Sewer I&E			-				-	-	-	-			-
	Project Total		$ -	$ 3,770	$ 1,000	$ 1,400	$ 100	$ -	$ -	$ -	$ -	$ -	$ 6,270

(000)	FY 2016-17	FY 2017-18	PROJECTED	FY 2018-19	(000) FY 2019-20	FY 2020-21	2021-22	Remaining	TOTAL
WSS	$0	$0		$0	$0	$0	$0	$0	$0
SDS	$6,170	$100		$0	$0	$0	$0	$0	$6,270

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes [ ] No [0] Date:

(circle applicable funding source): **Bond** **I&E** CMG

Budget Approval: Date:

Finance Manager

Accounting Approval: Date:

Authorization to Proceed: Date:

Chief Executive Officer/Chief Operating Officer

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

GLWA
Great Lakes Water Authority

CIP 1026: Department-wide General Engineering Services on an As-needed Basis

No Proposal Available

Finance Page Follows

GLWA Authority Program

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1026

Project Title: **Department-wide General Engineering Services on an As-needed Basis (1)**

Contract Number:

Description: Various engineering as needed services for design and replacement of aging water and sewer lines.

Lead Division:

Division Leader:

Project Manager: Unknown

Phone:

Department Charged: Water X Sewage X Both X

Project Type: Study **(S)** Design **(D)** X Construction **(C)** Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-2022FY $ 228

Estimated Start Date *:

Estimated Completion Date *:

In-House Project Costs

Project Costs $(000)

GL Account #	GL Description	Rate	Amount	Estimate FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -							-
601997	Capital Allocation: Fringe Benefits	40%	-										-
601998	Capital Allocation: Nonpersonnel	5%	-										-
616900	Construction		-	-	$ -	$ -	$ -	$ -					-
617950	Contractual Engineering Service		-	9,865	200	228	228						10,521
	Materials		-										
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ 9,865	$ 200	$ 228	228	-	-	-	-	-	10,521
Funding Source(s)													
Water Construction Bonds			$ -	$ 4,933	$ 100	$ 114	$ 114						$ 5,261
Water I&E			-										-
Sewer Construction Bonds			-	$ 4,932	100	114	114		-	-	-	-	5,260
Sewer I&E			-										-
	Project Total		$ -	$ 9,865	$ 200	$ 228	$ 228	$ -	$ -	$ -	$ -	$ -	$ 10,521

PROJECTED EXPENDITURES FOR EACH FISCAL YEAR (000)

(000)	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Remaining	TOTAL
WSS	$5,146	$114	$0	$0	$0	$0	$0	$5,260
SDS	$5,146	$114	$0	$0	$0	$0	$0	$5,260

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes [ ] No [0] CMG Date:

(circle applicable funding source): **Bond I&E**

Budget Approval: Date:
Finance Manager

Accounting Approval: Date:
Accounting Manager/ General Ledger

Authorization to Proceed: Date:
Chief Executive Officer/Chief Operating Officer

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

Revised: April 7, 2017

GLWA
Great Lakes Water Authority

CIP 1031: General Engineering Services

No Proposal Available

Finance Page Follows

GLWA

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1031

Project Title: **General Engineering Services** Contract Number:

Description: Allowance for the study and design of critical projects throughout the system prior to bidding and construction.

Lead Division: Division Leader:

Project Manager: Unknown Phone: Department Charged: Water X Sewage X Both X

Project Type: Study **(S)** Design **(D)** X Construction **(C)** Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-2022FY $ 822 Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs

Project Costs $(000)

GL Account #	GL Description	Rate	Amount	Estimate FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -							-
601997	Capital Allocation: Fringe Benefits	40%	-										-
601998	Capital Allocation: Nonpersonnel	5%	-										-
616900	Construction		-	-	$ -	$ -	$ -	$ -					-
617950	Contractual Engineering Service		-	13,811	200	446	$ 436	$ 386					15,279
	Materials		-										
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ 13,811	$ 200	$ 446	436	386	-	-	-	-	15,279
	Funding Source(s)												
	Water Construction Bonds		$ -	$ 6,906	100	$ 336	$ 336	$ 336					$ 8,014
	Water I&E		-										-
	Sewer Construction Bonds		-	$ 6,906	100	110	100	50	-	-	-	-	7,266
	Sewer I&E		-										-
	Project Total		$ -	$ 13,811	$ 200	$ 446	$ 436	$ 386	$ -	$ -	$ -	$ -	$ 15,279

PROJECTED EXPENDITURES FOR EACH FISCAL YEAR (000)

(000)	FY 2016-17	FY 2017-18		FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Remaining	TOTAL
WSS	$7,342	$336		$336	$0	$0	$0	$0	$8,014
SDS	$7,116	$100		$50	$0	$0	$0	$0	$7,266

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes [ ] No [0] CMG Date:

(circle applicable funding source): **Bond I&E**

Budget Approval: Finance Manager Date:

Accounting Approval: Accounting Manager/ General Ledger Date:

Authorization to Proceed: Chief Executive Officer/Chief Operating Officer Date:

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

Revised: April 7, 2017

GLWA
Great Lakes Water Authority

CIP 1147: As-needed Engineering Services for Concrete Testing, Geotechnical Soil Borings, other Testing Services, and Related Services

No Proposal Available

Finance Page Follows

GLWA

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1147

Project Title: **Design of Telegraph Rd, Wick Rd, Park-Merriman, & Schoolcraft water main projects.** Contract Number:

Description: As-needed Engineering Services for Concrete Testing, Geotechnical Soil Borings, other Testing Services, and Related Services

Lead Division: Division Leader:

Project Manager: Greg Marker Phone: Department Charged: Water X Sewage Both

Project Type: Study **(S)** Design **(D)** X Construction **(C)** X Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-22 FY $ 1,906 Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs

Project Costs

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
601997	Capital Allocation: Fringe Benefits	40%	-				-	-	-	-	-	-	-
601998	Capital Allocation: Nonpersonnel	5%	-				-	-	-	-	-	-	-
616900	Construction		-	-	-	$ -		$ -	$ -	$ -	$ -	$ -	-
617950	Contractual Engineering Service		-	-	-	$ 650	$ 907	$ 333	$ 333	$ 333	$ -	$ -	2,556
Jill: Need GL Code	Materials		-										-
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ -	$ -	$ 650	$ 907	$ 333	$ 333	$ 333	$ -	$ -	$ 2,556
Funding Source(s)													
Water Construction Bonds			$ -	$ -	$ -	$ 650	$ 907	$ 333	$ 333	$ 333	$ -	$ -	$ 2,556
Water I&E			-										-
Sewer Construction Bonds			-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		-
Sewer I&E			-				-	-	-	-			-
	Project Total		$ -	$ -	$ -	$ 650	$ 907	$ 333	$ 333	$ 333	$ -	$ -	$ 2,556

PROJECTED (000)

(000)	FY 2016-17 and prior	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	2021-22	Remaining	TOTAL
WSS	$650	$907	$333	$333	$333	$0	$0	$2,556
SDS	$0	$0	$0	$0	$0	$0	$0	$0

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes 0 No CMG Date:

(circle applicable funding source): **Bond I&E**

Budget Approval: Finance Manager Date:

Accounting Approval: Date:

Authorization to Proceed: Chief Executive Officer/Chief Operating Officer Date:

W Fund No: 0 Cost Center 0 Object No. 0 WSS Project No.: 0

S Fund No: 0 Cost Center 0 Object No. 0 SDS Project No.: 0

GLWA
Great Lakes Water Authority

CIP 1153: Consolidated Process Control System Upgrades

No Proposal Available

Finance Page Follows

New CIP 361001

GLWA Water Authority
ovement Program

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1153

Project Title: **Consolidated Process Control System Upgrades** **Contract Number:**

Description: Provide reliability, redundancy and improved functionality to department-wide Process Control System.

Lead Division: Division Leader:

Project Manager: Phone: Department Charged: Water X Sewage X Both X

Project Type: Study **(S)** Design **(D)** Construction **(C)** Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** X Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-22 FY $ - Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs

Project Costs $(000)

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
601997	Capital Allocation: Fringe Benefits	40%	-				-	-	-	-	-	-	-
601998	Capital Allocation: Nonpersonnel	5%	-				-	-	-	-	-	-	-
616900	Construction		-	3,928	-	$ 640	$ -	$ -	$ -	$ -	$ -	$ -	4,568
617950	Contractual Engineering Service		-	-	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-
	Materials		-										-
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ 3,928	$ -	$ 640	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,568

Funding Source(s)

Water Construction Bonds		$ -	$ 3,925	$ -	$ 312	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,237
Water I&E		-											-
Sewer Construction Bonds		-	$ 3	$ -	$ 328	$ -	$ -	$ -	$ -	$ -	$ -		331
Sewer I&E		-				-	-	-	-	-			-
Project Total		$ -	$ 3,928	$ -	$ 640	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,568

(000)	FY 2016-17 and prior	FY 2017-18	PROJECTED FY 2018-19	(000) FY 2019-20	FY 2020-21	2021-22	Remaining	TOTAL
WSS	$4,237	$0	$0	$0	$0	$0	$0	$4,237
SDS	$331	$0	$0	$0	$0	$0	$0	$331

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: [ ] Yes [0] No CMG Date:

(circle applicable funding source): **Bond** **I&E**

Budget Approval: Date:
Finance Manager

Accounting Approval: Date:

Authorization to Proceed: Date:
Chief Executive Officer/Chief Operating Officer

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

GLWA
Great Lakes Water Authority

CIP 1164: Geotechnical and Related Services on an As-Needed Basis

No Proposal Available

Finance Page Follows

GLWA

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1164

CIP #:

Project Title: **Geotechnical and Related Services on an As-Needed Basis**

Description: As Needed consultant geotechnical service.

Lead Division: Division Leader:

Project Manager: Phone: Department Charged: Water X Sewage Both

Project Type: Study **(S)** Design **(D)** X Construction **(C)** Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-2022FY $ 1 Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs

Project Costs $(000)

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -							-
601997	Capital Allocation: Fringe Benefits	40%	-										-
601998	Capital Allocation: Nonpersonnel	5%	-										-
616900	Construction		-			$ -							-
617950	Contractual Engineering Service		-	2,441		$ 132							2,573
	Materials		-										
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ 2,441	$ -	$ 132	-	-	-	-	-	-	2,573
Funding Source(s)													
Water Construction Bonds			$ -	$ 2,441	$ -	$ 132	$ -	$ -	$ -	$ -		$ -	$ 2,573
Water I&E			-										-
Sewer Construction Bonds			-		-	-			-	-	-	-	-
Sewer I&E			-										-
	Project Total		$ -	$ 2,441	$ -	$ 132	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,573

PROJECTED EXPENDITURES FOR EACH FISCAL YEAR (000)

(000)	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Remaining	TOTAL
WSS	$2,573	$0	$0	$0	$0	$0	$0	$2,573
SDS	$0	$0	$0	$0	$0	$0	$0	$0

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes [ ] No [0] CMG Date:

(circle applicable funding source): **Bond I&E**

Budget Approval: Date:
Finance Manager

Accounting Approval: Date:
Accounting Manager/ General Ledger

Authorization to Proceed: Date:
Chief Executive Officer/Chief Operating Officer

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

Revised: April 7, 2017

GLWA
Great Lakes Water Authority

CIP 1182: General Engineering Services

No Proposal Available

Finance Page Follows

New CIP 380900

GLWA Water Authority
ovement Program

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1182

Project Title: **General Engineering Services (1)** **Contract Number:**

Description: As needed multi-discipline engineering services for various small scale projects at WTP.

Lead Division: Division Leader:

Project Manager: Phone: Department Charged: Water X Sewage X Both X

Project Type: Study **(S)** Design **(D)** X Construction **(C)** Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-22 FY $ 1,154 Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs

Project Costs $(000)

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
601997	Capital Allocation: Fringe Benefits	40%	-				-	-	-	-	-	-	-
601998	Capital Allocation: Nonpersonnel	5%	-				-	-	-	-	-	-	-
616900	Construction		-	-	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-
617950	Contractual Engineering Service		-	28	-	$ 1,250	$ 1,154	$ -	$ -	$ -	$ -	$ -	2,432
	Materials		-										-
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ 28	$ -	$ 1,250	$ 1,154	$ -	$ -	$ -	$ -	$ -	$ 2,432
Funding Source(s)													
Water Construction Bonds			$ -	$ -	$ -	$ 741	$ 772	$ -	$ -	$ -	$ -	$ -	$ 1,513
Water I&E			-										-
Sewer Construction Bonds			-	$ 28	$ -	$ 509	$ 382	$ -	$ -	$ -	$ -		919
Sewer I&E			-				-	-	-	-			-
	Project Total		$ -	$ 28	$ -	$ 1,250	$ 1,154	$ -	$ -	$ -	$ -	$ -	$ 2,432

(000)	FY 2016-17 and prior	FY 2017-18	PROJECTED FY 2018-19	FY 2019-20	FY 2020-21	2021-22	Remaining	TOTAL
WSS	$741	$772	$0	$0	$0	$0	$0	$1,513
SDS	$537	$382	$0	$0	$0	$0	$0	$919

(000)

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes [ ] No [0] CMG Date:

(circle applicable funding source): **Bond I&E**

Budget Approval: Date:
Finance Manager

Accounting Approval: Date:

Authorization to Proceed: Date:
Chief Executive Officer/Chief Operating Officer

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

GLWA
Great Lakes Water Authority

CIP 1206: Data Center Reliability/Availability Improvements

No Proposal Available

Finance Page Follows

New CIP 361002

GLWA

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1206

Project Title: **Data Center Reliability/Availability Improvements (1)** **Contract Number:**

Description: Pending Close Out

Lead Division: Division Leader:

Project Manager: Phone: Department Charged: Water X Sewage X Both

Project Type: Study **(S)** Design **(D)** Construction **(C)** Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** X Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-22 FY $ - Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs

Project Costs

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
601997	Capital Allocation: Fringe Benefits	40%	-				-	-	-	-	-	-	-
601998	Capital Allocation: Nonpersonnel	5%	-				-	-	-	-	-	-	-
616900	Construction		-	6,003	-	$ 10	$ -	$ -	$ -	$ -	$ -	$ -	6,013
617950	Contractual Engineering Service		-		-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-
Jill: Need GL Code	Materials		-										-
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ 6,003	$ -	$ 10	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,013

Funding Source(s)

Water Construction Bonds		$ -	$ 2,845	$ -	$ 5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,850
Water I&E		-											-
Sewer Construction Bonds		-	$ 3,158	$ -	$ 5	$ -	$ -	$ -	$ -	$ -	$ -		3,163
Sewer I&E		-					-	-	-	-			-
	Project Total	$ -	$ 6,003	$ -	$ 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,013

(000)	FY 2016-17 and prior	FY 2017-18	PROJECTED FY 2018-19	(000) FY 2019-20	FY 2020-21	2021-22	Remaining	TOTAL
WSS	$2,851	$0	$0	$0	$0	$0	$0	$2,851
SDS	$3,163	$0	$0	$0	$0	$0	$0	$3,163

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes 0 No CMG Date:

(circle applicable funding source): **Bond I&E**

Budget Approval: Finance Manager Date:

Accounting Approval: Date:

Authorization to Proceed: Chief Executive Officer/Chief Operating Officer Date:

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

GLWA
Great Lakes Water Authority

CIP 1207: SCADA Radio Network Upgrade

No Proposal Available

Finance Page Follows

GLWA

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1207

Project Title: **SCADA Radio Network Upgrade (1)** Contract Number:

Description: Pending Close Out

Lead Division: Division Leader:

Project Manager: Biren Saparia Phone: Department Charged: Water X Sewage X Both X

Project Type: Study **(S)** Design **(D)** Construction **(C)** Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** X Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-22 FY $ - Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs

Project Costs

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
601997	Capital Allocation: Fringe Benefits	40%	-				-	-	-	-	-	-	-
601998	Capital Allocation: Nonpersonnel	5%	-				-	-	-	-	-	-	-
616900	Construction		-	$ 6,221	-	$ 218	$ -	$ -	$ -	$ -	$ -	$ -	6,439
617950	Contractual Engineering Service		-		-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-
Jill: Need GL Code	Materials		-										-
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ 6,221	$ -	$ 218	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,439

Funding Source(s)

Water Construction Bonds		$ -	$ 3,375	$ -	$ 109	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,484
Water I&E		-											-
Sewer Construction Bonds		-	$ 2,846	$ -	$ 109	$ -	$ -	$ -	$ -	$ -	$ -		2,955
Sewer I&E		-					-	-	-	-			-
	Project Total	$ -	$ 6,221	$ -	$ 218	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,439

(000)	FY 2016-17 and prior	PROJECTED FY 2017-18		FY 2018-19	(000) FY 2019-20	FY 2020-21	2021-22	Remaining	TOTAL
WSS	$3,484	$0		$0	$0	$0	$0	$0	$3,484
SDS	$2,955	$0		$0	$0	$0	$0	$0	$2,955

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes [ ] No [0] CMG Date:

(circle applicable funding source): **Bond** **I&E**

Budget Approval: Date:

Finance Manager

Accounting Approval: Date:

Authorization to Proceed: Date:

Chief Executive Officer/Chief Operating Officer

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

Project Title	1279 - Roofing Systems Replacement at Water Plants and Booster Stations
Project Significance	This CIP provides funds to replace roofing systems that are past their useful service life and thus too costly to repair. Sound roofing systems are important to protect the process infrastructure inside GLWA's buildings.
Problem Statement	Aging roof infrastructure at the Water Treatment Plants and Booster Stations requires continuing inspection and repair to minimize exposure of critical assets at these sites.
Potential Challenges	Weather dependent and seasonal work. May require management of several construction projects simultaneously to complete the work.
Project Driver	Condition
Project Cost Estimate	$11,500
BCE Date	10-11-16
Project Status	
Project Location	WTPs and Boosters
Project Category	WTPs and Boosters
Service Area	WSO
Project Type	Design & Construction
Primary Focus	WTPs and Boosters : WTPs and Boosters
Related Projects	None
Alternative	Rehabilitate
Description of Alt. Eval.	Alternative Evaluation performed based on life cycle cost analysis with consideration for operations and maintenance issues.

Phase	Status	Past Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future Years	Phase Total	Phase Dura-tion
		$3,000	$3,000	$3,000	$2,500				$11,500	4

CIP Total Score	2.19

GLWA Great Lakes Water Authority Program

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1279

Project Title: **Roofing System Replacement at Water Plants and Booster Pump Stations** **Contract Number:**

Description: Evaluate Roofing at all Water Treatment Plants and Booster Stations for need to repair or replace Roofing Systems

Lead Division: Division Leader:

Project Manager: Grant Gartrell Phone: Department Charged: Water X Sewage Design Build (DB) Both Purchase Order (PO) or Information Technology (IT)

Project Type: Study (S) X Design (D) X Construction (C) X Construction Management (CM) Construction Assist. (CA) or Design Build Assistance (DBA)

CIP Budgeted Amount: 2018-2022FY $ 8,500 Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs

Project Costs $(000)

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-
601997	Capital Allocation: Fringe Benefits	40%	-				-	-	-	-	-	-	-
601998	Capital Allocation: Nonpersonnel	5%	-				-	-	-	-	-	-	-
616900	Construction		-			$ 2,650	$ 2,650	$ 2,650	$ 2,200		$ -	-	10,150
617950	Contractual Engineering Service		-			$ 350	$ 350	$ 350	$ 300	$ -		-	1,350
Jill: Need GL Code	Materials		-										
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ -	$ -	$ 3,000	3,000	3,000	2,500	-	-	-	11,500
Funding Source(s)													
Water Construction Bonds			$ -	$ -	$ -	$ 3,000	$ 3,000	$ 3,000	$ 2,500			$ -	$ 11,500
Water I&E			-										-
Sewer Construction Bonds			-		-	-			-	-	-	-	-
Sewer I&E			-										-
	Project Total		$ -	$ -	$ -	$ 3,000	$ 3,000	$ 3,000	$ 2,500	$ -	$ -	$ -	$ 11,500

PROJECTED EXPENDITURES FOR EACH FISCAL YEAR (000)

(000)	FY 2016-17 and Prior	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Remaining	TOTAL
WSS	$3,000	$3,000	$3,000	$2,500	$0	$0	$0	$11,500
SDS	$0	$0	$0	$0	$0	$0	$0	$0

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes 0 No CMG Date:

(circle applicable funding source): **Bond I&E**

Budget Approval: Date:
Finance Manager

Accounting Approval: Date:
Accounting Manager/ General Ledger

Authorization to Proceed: Date:
Chief Executive Officer/Chief Operating Officer

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

Revised: April 7, 2017

GLWA
Great Lakes Water Authority

CIP 1343: Energy Management: Electric Metering Improvement Program

No Proposal Available

Finance Page Follows

New CIP 381000

GLWA Water Authority
ovement Program

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1343

Project Title: **Energy Management: Electric Metering Improvement Program** **Contract Number:**

Description: Procure Meters to measure demand and reduce electricity costs.

Lead Division: Division Leader:

Project Manager: Shaker Manns Phone: Department Charged: Water X Sewage X Both

Project Type: Study **(S)** X Design **(D)** X Construction **(C)** Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-22 FY $ 5,000 Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs $(000)

Project Costs

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
601997	Capital Allocation: Fringe Benefits	40%	-				-	-	-	-	-	-	-
601998	Capital Allocation: Nonpersonnel	5%	-				-	-	-	-	-	-	-
616900	Construction		-				$ -	$ -	$ -	$ -	$ -	$ -	-
617950	Contractual Engineering Service		-				$ -	$ -	$ -	$ -	$ -	$ -	-
Jill: Need GL Code	Materials		-				$ -	$ -	$ -	$ -	$ -	$ -	-
617960	Other Capital Improvement Costs		-			$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000		$ 6,000
	Project Total		$ -	$ -	$ -	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ -	$ 6,000
Funding Source(s)													
Water Construction Bonds			$ -	$ -	$ -	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ -	$ 3,000
Water I&E			-										$ -
Sewer Construction Bonds			-		-	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500		$ 3,000
Sewer I&E			-										-
	Project Total		$ -	$ -	$ -	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ -	$ 6,000

PROJECTED (000)

(000)	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	2021-22	Remaining	TOTAL
WSS	$500	$500	$500	$500	$500	$500	$0	$3,000
SDS	$500	$500	$500	$500	$500	$500	$0	$3,000

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes No CMG Date:

(circle applicable funding source): **Bond I&E**

Budget Approval: Date:

Finance Manager

Accounting Approval: Date:

Authorization to Proceed: Date:

Chief Executive Officer/Chief Operating Officer

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

GLWA Great Lakes Water Authority

Project Title	**Water Facility Lighting Renovations (CIP 1366)**
Project Significance	Energy savings, improved visibility and safety

1. PROJECT SUMMARY INFORMATION

Date Business Case Prepared Click dropdown to enter date. **Project Origin** Project Origin

Project Manager/Sponsor	Shaker Manns	Energy Manager	Planning Services
	Shaker.Manns@glwater.org		313-910-6156
CMG Rep	Monica Y. Daniels	Capital Management Group Manager	CMG
	Monica.daniels@glwater.org		313-964-9248

Other Project Team Members

Name	Title	Division	Phone	Email
Name	Title	Division	Phone	Email

Site Name	Multiple Water Facilities
If Facility, Facility Address	See Attached
Service Area	Water Operating Services
Project Category	Energy Management
Project Type	Construction
Primary Focus	Water production and water booster operations
Previous Project Status	New - Active Planning
Current CIP Project Status	New - Intended

2. PROJECT INFORMATION

Project Photo & Map

Photo Caption

Try to include an actual picture of the project area/asset. Enter short caption/description for photo.

Include caption for the map. Map is especially important for linear assets.

Problem Statement	A 2015 system wide, lighting audit revealed GLWA facilities have inadequate lighting levels and outdated lighting systems. Replacement parts are often difficult to locate to maintain the lighting systems in an operation condition. The proposal for System Lighting improvements will not only result in improved lighting levels for safety purposes but also result in tremendous energy savings for GLWA year after year.
History / Background	An audit was complete in 2010/2011 but little action was taken. Advancements in lighting technology since this audit has rendered the first audit obsolete as to technology and cost. Across the system, equipment is in poor condition and exceeds its end of life. Some existing fixtures are antiques and compared to today's lighting that it cannot meet minimum lighting standards.
Preliminary Scope of Work	Remove identified old fixtures and replace with new LED technology and lamps.
Related projects currently underway or planned	Re lamp of Conner Creek and part of Northeast for safety issues.

Potential Challenges	Some outfalls are below the river elevation; installation may be challenging.
Other – important project information, photos, etc. not fitting in other	Click here to enter text; box will expand if more space is needed.

Additional Reference Documents: Use button below or include file path to network location.

Double-click here to Insert File

Enter filepath for network file, or attach file using button to the left.

3. PROJECT DRIVER

Primary criteria driving project	1 - Condition
Explanation	Technology of LED lamps and associated fixtures will reduce electrical operating expenses and improve worker safety.

4. PROJECTED PROJECT COSTS & SCHEDULE

Definitions are available if you hover over a blue underlined word. Numbers are in thousands unless otherwise noted.

Life Cycle Cost: The total discounted dollar cost of owning, operating, maintaining, and disposing of a facility or equipment over a period of time.

Life Cycle Cost Analysis: It is an economic evaluation technique that determines the total cost of owning and operating a facility over a period of time.

Present Value: The current value of one or more future cash payments discounted at some appropriate interest rate.

Salvage Value: The estimated value of an asset at the end of its useful life.

Equivalent Annual Cost: The annual cost of owning an asset over its entire life.

Book Values for Existing Assets – Contact CMG for Book Values and identify all WAM Asset ID's for assets being modified/replaced/rehabbed

Asset Name	WAM Asset ID	Book Value	Treatment
Asset Name	WAM Asset ID	Book Value	Rebuild, rehab, replace, etc.

Cost Estimate Source Preliminary Design Estimate

Date of Cost Estimate 8/4/2016 **Prepared By** Linda Rasor **Division** Planning Services

Initial Capital Cost Estimate

This table to be filled out in initial iteration of document only. Please use actual costs where possible. Include all phases of project. Record numbers in thousands.

Phase	Status	Past Years	FY2018	FY2019	FY2020	FY2021	FY2022	Future Years	Phase Total	Phase Duration
Construction 1	New	$0	$933	$933	$933	$0	$0	$0	$2,799	
Year Totals		$0	$933	$933	$933	$0	$0	$0	**$2,799**	

Double-click here to update table calculations

Capital Cost Estimate Update

This table to be updated when project is updated. Please use actual costs where possible. Include all phases of project. Record numbers in thousands.

Phase	Status	Past Years	FY2018	FY2019	FY2020	FY2021	FY2022	Future Years	Phase Total	Phase Duration
Choose/add phase.	Select Status of Work	$0	$0	$0	$0	$0	$0	$0	$ 0	Phase Duration
Choose/add phase.	Select Status of Work	$0	$0	$0	$0	$0	$0	$0	$ 0	Phase Duration
Year Totals		$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	**$ 0**	Project Duration

Double-click here to update table calculations

Notes

Write any notes on the capital cost estimate table. Record reasons for change in estimate, and FY of new estimate.

5. ALTERNATIVES EVALUATION

Alternative (Pick)	Do Nothing/Status Quo/Run to Failure
Description of Alternative Evaluation	NA

Please describe any other alternatives evaluated:

Include description & financial calculations, REI, Cost/Benefit ratio, etc. for any other alternatives evaluated.

6. PROJECT MANAGER PRIORITIZATION ANALYSIS

Provide details as necessary to support in the boxes below. Higher scores require more detailed justification. For scoring purposes the Project Manager shall consult the "Capital Improvement Project (CIP) Prioritization Guidance Document" which can be found below.

Guidance Document - FINAL D

Criteria	Project Manager Score (0-5)	Details
1) Condition	5	Immediate replacement or rehabilitation required since some are missing and existing ones exceeded their service life.
2) Performance (Service Level / Reliability)	4	Likelihood of serious inconveniences and business impacts for affected customers.
3) Regulatory (Environmental / Legal)	4	Compliance failure would result in environmental impact.
4) O&M	3	Reduction in reactive maintenance activities.
5) Public Health & Safety	3	Project will have a moderate positive impact on public health and safety and environment
6) Public Benefit	4	Not implementing the project will have a chance to have a major negative public impact
7) Financial	3	Unlikely to have wide budget implication
8) Efficiency	2	Project will have little or no time and cost saving

7. PRIORITIZATION ANALYSIS – For CIP Committee Use Only

Prioritization Criteria. For all criteria, indicate score (0-5) from evaluation and justification for the score. Project Manager will do the initial scoring and justification in section 9. The CIP Committee will review and update the score and provide justification if different than PM score.

Refer to the Prioritization Criteria Definitions Document for detailed direction (Section 6 above).

Double-click here to update table calculations

Criteria	Project Manager Score	CIP Committee Score (0-5)	Calculated Score	CIP Committee Justification
1) Condition 12%	5	3	7.20	On average 50% useful life of bulbs remaining
2) Performance (Service Level / Reliability) 15%	4	3	9.00	Many currently have residential instead of industrial lighting, but generally design needs are met
3) Regulatory (Environmental / Legal) 18%	4	3	10.80	Some are not explosion-proof (OSHA)
4) O&M 11%	3	4	8.80	LED bulbs have much longer lives and require less changing – 50-75% reduction in maintenance work
5) Public Health & Safety 17%	3	3	10.20	Moderate impact on safety of working conditions
6) Public Benefit 8%	4	1	1.60	Minimal public impact
7) Financial 10%	3	3	6.00	10-15 yr ROI, $250K-1M. Rebates.
8) Efficiency 9%	2	4	7.20	10-20% decrease in energy use
Total Modifier Points			Enter Modifier Points	Explain modifier points – how many given due to which criteria?
Total Score			**60.80**	

Modifier points are decided by the CIP Review Committee as outlined in the Prioritization Guidance Document.

Double-click here to update table calculations

8. ASSET MANAGEMENT GROUP COMPLETENESS CHECK

Completed by Asset Management Group.

Data completeness check Complete

9. DOCUMENT REVISION HISTORY

Completed by PM/Business Case Owner.

Name	Date of Change	Reason for Change
Name	Date	Reason

10.FINAL BUSINESS CASE REVIEW AND APPROVAL

Identification of In-house responsibility:
Design &Construction: System Control Center Contact Persons: Biren Saparia Manager Mini Panicker Engineer Thomas Hall Team Leader

I recommend approval of this Project/Change Authorization Request:

Approval Type	Name	Date
Project Manager	Linda Rasor/Shaker Manns Shaker Manns	Date
Manager	Digital signature Manager Name	Date
Chief	Digital signature Chief Name	Date

New CIP 351001

GLWA thority rogram

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1366

Project Title: **Water Facility Lighting Renovations** **Contract Number:**

Description: Technology of LED lamps and associated fixtures will reduce electrical operating expenses and improve worker safety.

Lead Division: Division Leader:

Project Manager: Shaker Manns Phone: 313-964-9301 Department Charged: Water X Sewage Both

Project Type: Study **(S)** Design **(D)** Construction **(C)** X Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** Design Build **(DB)** Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-2022FY $ 2,799 Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs $(000)

Project Costs

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -								-
601997	Capital Allocation: Fringe Benefits	40%	-										-
601998	Capital Allocation: Nonpersonnel	5%	-										-
616900	Construction		-				933	933	933				2,799
617950	Contractual Engineering Service		-			-	-						-
Jill: Need GL Code	Materials		-										-
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ -	$ -	$ -	933	933	933	-	-	-	2,799

Funding Source(s)

Water Construction Bonds	$ -	$ -	$ -		$ 933	$ 933	$ 933	$ -	$ -	$ -	$	2,799
Water I&E	-											-
Sewer Construction Bonds	-			-	-	-	-	-	-	-		-
Sewer I&E	-											-
Project Total	$ -	$ -	$ -	$ -	$ 933	$ 933	$ 933	$ -	$ -	$ -	$	2,799

PROJECTED EXPENDITURES FOR EACH FISCAL YEAR (000)

(000)	FY 2016-17	FY 2017-18		FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Remaining	TOTAL
WSS	$0	$933		$933	$933	$0	$0	$0	$2,799
SDS	$0	$0		$0	$0	$0	$0	$0	$0

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes No CMG Date:

(circle applicable funding source): **Bond I&E**

Budget Approval: Date:
Finance Manager

Accounting Approval: Date:
Accounting Manager/ General Ledger

Authorization to Proceed: Date:
Chief Executive Officer/Chief Operating Officer

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

Revised: April 5, 2017

GLWA
Great Lakes Water Authority

Project Title	CIP-1387, Roofing Systems Replacement at GLWA Wastewater Treatment Plant, CSO Retention Treatment Basins (RTB) and Screening Disinfection Facilities (SDF)
Project Significance	Some of the roofs at GLWA wastewater facilities are near its end of useful life. The roofs help protect the expensive equipment by preventing rain water entering through roofs into the facilities.

1. PROJECT SUMMARY INFORMATION

Date Business Case Prepared **8/8/2016** **Project Origin** Needs Assessment

Project Manager/Sponsor	Tarlochan Bhullar	Engineer	Wastewater Design
	tarlochan.bhullar@glwater.org		(313) 297-5925
CMG Rep	Monica Y Daniels	Manager	Financial Services
	Monica.daniels@glwater.org		(313) 964-9248

Other Project Team Members

Name	Title	Division	Phone	Email
Ravi Yelamanchi	Engineer	Wastewater Design	(313) 297-5925	Ravi.Yelamanchi@glwater.org

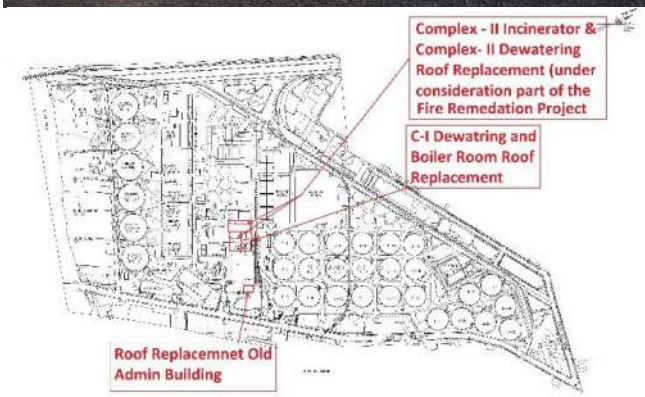
Site Name	Wastewater Facilities
If Facility, Facility Address	9300 West Jefferson Ave, Detroit, MI 48209
Service Area	Wastewater Operating Services
Project Category	Wastewater Treatment & Ops
Project Type	Study, Design and Construction
Primary Focus	This project will focus on roof rehabilitation and replacement at various GLWA wastewater facilities.
Previous Project Status	New - Active Planning
Current CIP Project Status	New - Active Planning

2. PROJECT INFORMATION

Project Photo & Map

Photo Caption

Photo of Complex – I Dewatering Roof at the WWTP. Complex – II Incinerator ($1.8M) and Complex – II Dewatering ($1.0 M) replacement are under consideration to be part of fire remediation project.



WWTP near term Roof Replacement for the C-I Dewatering, Old Admin Building C-II Incinerators and C-II Dewatering Buildings Map

Problem Statement

GLWA Wastewater Treatment Plant facilities roof systems for Complex-II Incinerators and Complex-II Dewatering Building are under consideration to be replaced under emergency fire remediation contract (Approx. $3 Million included in this CIP budget). The other buildings need roof replacement in the near term are the Old Administration Building, Complex – I Dewatering Building, and Boiler Room Building are at the end of its useful life and needs replacement. During the needs assessment walkthrough all the three roofs were categorized to be replaced based on the visual condition assessment. Other Wastewater Treatment Plant building roofs such as: Electrical Room EB-9, EB-10, EB-11, Maintenance Building, Pump Station # 1 Rack & Grit, Scum Incineration Build and Chlorination and De-Chlorination building are leaking and needs patch repair work and can last 5 more years. The roofing contractor's inspection report requested by GLWA in 2013 recommended all the above roof systems to be immediately replaced in 2013. The roof systems at the CSO RTB's Seven Mile Rd and Puritan-Fenkell are 17 year old shingle type roof system and near end of its useful life. The roof at these CSO RTB's are spot leaking and needs to be inspected and repaired or replaced. The jet cleaning of clogged roof drains, removal of all debris trash is key to deterioration, debris retain moisture for longer periods, which cause rotting to roof systems. Debris removal prevents roof from rotting due to moisture, which decreases the useful life of roof. The safety hand rails at parapet walls needs to be installed, especially at a hatch's near the wall. Since GLWA roof systems are

	old, roof material testing before demolition and before flashing is recommended as low levels of asbestos are very common in these type of roof systems.
History / Background	Majority of GLWA Wastewater Treatment Plant facilities have Built-Up-Roof (BUR) membranes systems commonly referred as "tar and gravel" roofs. The old Administration building constructed in 1938 and Newer Administration building's built in 1981 have tar and gravel type of roof systems. The CSO RTB's and SDF's have metal and shingle type of roof systems. Majority of the roofs are over 15 years old and few are even older up to 30 years old. These roof systems has been maintained through regular maintenance and repair or patch work performed to fix the leaking roof spots.
Preliminary Scope of Work	Inspect the roofing system conditions and assess drainage conditions on all the GLWA wastewater related facility buildings. The inspection work shall involve, as a minimum, non-destructive testing, interior leak surveys, exterior inspections, and exploratory test openings where necessary to confirm the as-built and existing conditions of the roofing systems. Document the roofing systems inspections by taking and submitting high-quality photographs, scaled drawings, sketches, and inspection notes to adequately describe the conditions and deficiencies of the roofing systems and their drainage facilities and the extent of the roofing repairs and replacements required. Include the area of each roof for each building inspected on the project. The scale drawings shall show roof penetrations, generic identification of roofing system components, and shall depict the results of the condition inspections. Differentiate the roofs into three (3) main categories, including 1) those roofs that require complete replacement, 2) those roof that only require repair, and those roofs that require no action within the next 10 years. Develop a recommended implementation/planning schedule with budgetary costs tied to the schedule for roofing system repairs and replacements that GLWA should plan for over the next 10 years. Develop specific recommendations on the roofing repairs and replacements that are needed by building. The specific new roofing systems and repairs that are recommended shall be described and illustrated so that GLWA knows the basis for the budgetary cost estimates. Provide preventative care suggestions for the GLWA's roofing systems evaluated under this contract. Provide any OHSA compliance suggestions that may be applicable for the GLWA's roofing systems evaluated under this contract.
Related projects currently underway or planned	This CIP budget includes approximately $3 Million for Complex-II Incinerators and Complex-II Dewatering Building replacement presently under consideration to be completed through the emergency fire remediation contract.
Potential Challenges	Roof material testing for asbestos before demolition and flashing will be challenge to manage as low levels of asbestos are very common in the GLWA's old roof type systems.
Other – important project information,	Click here to enter text; box will expand if more space is needed.

photos, etc. not fitting in other	

Additional Reference Documents: Use button below or include file path to network location.

Double-click here to Insert File

Enter filepath for network file, or attach file using button to the left.

3. PROJECT DRIVER

Primary criteria driving project	1 - Condition
Explanation	GLWA wastewater roof systems are old and some are near end of its useful life

4. PROJECTED PROJECT COSTS & SCHEDULE

Definitions are available if you hover over a blue underlined word. Numbers are in thousands unless otherwise noted.

Life Cycle Cost: The total discounted dollar cost of owning, operating, maintaining, and disposing of a facility or equipment over a period of time.

Life Cycle Cost Analysis: It is an economic evaluation technique that determines the total cost of owning and operating a facility over a period of time.

Present Value: The current value of one or more future cash payments discounted at some appropriate interest rate.

Salvage Value: The estimated value of an asset at the end of its useful life.

Equivalent Annual Cost: The annual cost of owning an asset over its entire life.

Book Values for Existing Assets – Contact CMG for Book Values and identify all WAM Asset ID's for assets being modified/replaced/rehabbed

Asset Name	WAM Asset ID	Book Value	Treatment
Asset Name	WAM Asset ID	Book Value	Rebuild, rehab, replace, etc.

Cost Estimate Source Opinion Of Cost

Date of Cost Estimate 8/9/2016 **Prepared By** Wastewater Design **Division** Wastewater

Initial Capital Cost Estimate

This table to be filled out in initial iteration of document only. Please use actual costs where possible. Include all phases of project. Record numbers in thousands and **type 0 if there is no cost in a particular year** (the calculation will not work properly if the cells are left blank).

Phase	Status	Past Years	FY2018	FY2019	FY2020	FY2021	FY2022	Future Years	Phase Total	Phase Duration
Study, Design/ Const. Assist.	In Proposed CIP	$0	$200	$60	$60	$50	$40	$140	$ 550	10 Year
Construction	In Proposed CIP	$0	$2000	$2000	$1000	$1000	$500	$2000	$8,500	10 Year
Year Totals		$ 0	$2,200	$2,060	$1,060	$1,050	$ 540	$2,140	**$9,050**	10 Year

Double-click here to update table calculations

Capital Cost Estimate Update

This table to be updated when project is updated. Please use actual costs where possible. Include all phases of project. Record numbers in thousands and **type 0 if there is no cost in a particular year** (the calculation will not work properly if the cells are left blank).

Phase	Status	Past Years	FY2018	FY2019	FY2020	FY2021	FY2022	Future Years	Phase Total	Phase Duration
Choose/add phase.	Select Status of Work	$(000s)	$(000s)	$(000s)	$(000s)	$(000s)	$(000s)	$(000s)	$ 0	Phase Duration
Choose/add phase.	Select Status of Work	$(000s)	$(000s)	$(000s)	$(000s)	$(000s)	$(000s)	$(000s)	$ 0	Phase Duration
Year Totals		$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	**$ 0**	Project Duration

Double-click here to update table calculations

Notes

Write any notes on the capital cost estimate table. Record reasons for change in estimate, and FY of new estimate.

5. ALTERNATIVES EVALUATION

Alternative (Pick)	**Replace with different type of more durable new roofing materials.**
Description of Alternative Evaluation	New roofing material instead of BUR “tar and gravel” material will be more expensive.
Alternative (Pick)	Alternative Method Type
Description of Alternative Evaluation	Include description & financial calculations, ROI, REI, Cost/Benefit ratio, etc.

Please describe any other alternatives evaluated:

Any other calculations

6. PROJECT MANAGER PRIORITIZATION ANALYSIS

Provide details as necessary to support in the boxes below. Higher scores require more detailed justification. For scoring purposes the Project Manager shall consult the "Capital Improvement Project (CIP) Prioritization Guidance Document" which can be found below.

Guidance Document - FINAL D

Criteria	Project Manager Score (0-5)	Details
1) Condition	4	Roofs are at the end of useful life and needs to be replaced.
2) Performance (Service Level / Reliability)	4	Roofs are already leaking and needs repair or replacement.
3) Regulatory (Environmental / Legal)	4	Leaking roof can cause equipment failure resulting in NPDES permit violations and fines.
4) O&M	4	Roof repair will reduce O&M cost.
5) Public Health & Safety	3	Will create a much better work environment for staff.
6) Public Benefit	2	Project will have minimal impact on public/customers.
7) Financial	4	Implementing project will avoid significant O&M costs.
8) Efficiency	4	Good clean environment provide work efficiency, a leaking roof can result in loss of productivity.
Preliminary Score (Auto-calculates based on above scores)		

7. PRIORITIZATION ANALYSIS – For CIP Committee Use Only

Prioritization Criteria. For all criteria, indicate score (0-5) from evaluation and justification for the score. Project Manager will do the initial scoring and justification in section 9. The CIP Committee will review and update the score and provide justification if different than PM score.

Refer to the Prioritization Criteria Definitions Document for detailed direction (Section 6 above).

Double-click here to update table calculations

Criteria	Project Manager Score	CIP Committee Score (0-5)	Calculated Score	CIP Committee Justification
1) Condition 12%	4	Score 0-5	0.00	If different from PM Score.
2) Performance (Service Level / Reliability) 15%	4	Score 0-5	0.00	If different from PM Score.
3) Regulatory (Environmental / Legal) 18%	4	Score 0-5	0.00	If different from PM Score.
4) O&M 11%	4	Score 0-5	0.00	If different from PM Score.
5) Public Health & Safety 17%	3	Score 0-5	0.00	If different from PM Score.
6) Public Benefit 8%	2	Score 0-5	0.00	If different from PM Score.
7) Financial 10%	4	Score 0-5	0.00	If different from PM Score.
8) Efficiency 9%	4	Score 0-5	0.00	If different from PM Score.
Total Modifier Points			Enter Modifier Points	Explain modifier points – how many given due to which criteria?
Total Score			**0.00**	

Modifier points are decided by the CIP Review Committee as outlined in the Prioritization Guidance Document.

Double-click here to update table calculations

8. ASSET MANAGEMENT GROUP COMPLETENESS CHECK

Completed by Asset Management Group.

Data completeness check Complete

9. DOCUMENT REVISION HISTORY

Completed by PM/Business Case Owner.

Name	Date of Change	Reason for Change
Tarlochan Bhullar	8/8/2016	Document created

10.FINAL BUSINESS CASE REVIEW AND APPROVAL

Identification of In-house responsibility:
Click here to enter who is taking responsibility in-house.

I recommend approval of this Project/Change Authorization Request:

Approval Type	Name	Date
Project Manager	Digital signature Tarlochan Bhullar	Date
Manager	Digital signature Manager Name	Date
Chief	Digital signature Chief Name	Date

GLWA authority Program

REQUEST FOR C.I.P. PROJECT NUMBER

CIP #: 1387

Project Title: **Roofing Systems Replacement at GLWA Wastewater Treatment Plant CSO Retention Treatment Basins (RTB) and Screening Disinfection Facilities (SDF)**

Contract Number:

Description: Roofing is failing and rain water/snow is falling on expensive equipment within several Wastewater facilities. Must repair or replace roofing to protect assets within these roofed buildings.

Lead Division: Division Leader:

Project Manager: Tarlochan Bhullar Phone: 313-297-5925 Department Charged: Water Sewage X Both

Project Type: Study **(S)** X Design **(D)** X Construction **(C)** X Construction Management **(CM)** Construction Assist. **(CA)** or Design Build Assistance **(DBA)** X Design Build **(DB)** Purchase Order **(PO)** or Information Technology **(IT)**

CIP Budgeted Amount: 2018-2022FY $ 6,910 Estimated Start Date *: Estimated Completion Date *:

In-House Project Costs $(000)

Project Costs

GL Account #	GL Description	Rate	Amount	FY 2015 & Prior	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate	FY 2023 +	Total
601995	Capital Allocation: Salaries & Wages		$ -	$ -	$ -	$ -	13	13	6	6	3	13	55
601997	Capital Allocation: Fringe Benefits	40%	-				5	5	3	3	1	5	22
601998	Capital Allocation: Nonpersonnel	5%	-				1	1	0	0	0	1	3
616900	Construction		-				1,981	1,982	990	991	496	1,981	8,420
617950	Contractual Engineering Service		-				200	60	60	50	40	140	550
Jill: Need GL Code	Materials		-				-	-	-	-	-	-	-
617960	Other Capital Improvement Costs		-										-
	Project Total		$ -	$ -	$ -	$ -	2,200	2,060	1,060	1,050	540	2,140	9,050

Funding Source(s)

Water Construction Bonds	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Water I&E	-											-
Sewer Construction Bonds	-			-	-	2,200	2,060	1,060	1,050	540	2,140	9,050
Sewer I&E	-											-
Project Total	$ -	$ -	$ -	$ -	$ 2,200	$ 2,060	$ 1,060	$ 1,050	$ 540	$ 2,140	$ 9,050	

PROJECTED EXPENDITURES FOR EACH FISCAL YEAR (000)

(000)	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Remaining	TOTAL
WSS	$0	$0	$0	$0	$0	$0	$0	$0
SDS	$0	$2,200	$2,060	$1,060	$1,050	$540	$2,140	$9,050

Requested By: Date:

Division Manager: Date:

Division Director: Date:

Capital Management Group (CMG) - FUNDS AVAILABLE: Yes 0 No CMG Date:

(circle applicable funding source): **Bond I&E**

Budget Approval: Date:
Finance Manager

Accounting Approval: Date:
Accounting Manager/ General Ledger

Authorization to Proceed: Date:
Chief Executive Officer/Chief Operating Officer

W Fund No: 0 **Cost Center** 0 **Object No.** 0 **WSS Project No.:** 0

S Fund No: 0 **Cost Center** 0 **Object No.** 0 **SDS Project No.:** 0

Click to return to Appendix C contents