

114001 CIP#

## Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

☐ Innovation ☐ Water MP Right Sizing ☐ Reliability/Redundancy ☐ NEWTP Repurposing

**Project Status** Active

**CIP Type** Project

Project New To CIP □

Springwells filter building



Project Engineer/Manager Khader Hamad

Manager Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 3/29/2004

Year Project Added to CIP 2002

**Budget** Water

Class Lvl 1 Water

Class Lvl 2 Treatment Plants and Facilities

Class Lvl 3 Springwells

**Location** Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance Reconstruction of the 40 filters and 19 filters at the Springwells 1958 and 1930 filter plants, respectively has provided 295 MGD of reliable filtration capacity at the Springwells Water Treatment Plant. The existing mechanical HVAC, dehumidification, electrical, instrumentation, and controls systems serving the 1958 filters have also been upgraded to make them more reliable and efficient. Likewise, the existing mechanical HVAC and dehumidification system serving the 1930 filter building was replaced with new again to provide reliability and efficiency. The existing elevators at the facility have been replaced with new and upgraded to bring them into compliance with current building codes and safety standards. The administration building offices and laboratory have been improved architecturally, including new HVAC and lighting systems.

Scope of Work This project includes the study, design (CS-1425) and construction assistance (CS-1425 and CS-200) of improvements to the Springwells WTP that includes the replacement of Phosphoric Acid Feed System, rehabilitation of the 1958 Filters, rehabilitation of failed 1930s Filters, Update of Operation and Maintenance Manuals, and addition of polymer systems and controls. Provide construction services to furnish and install new filter media, underdrains, filter valves, and rate controllers; replace the existing filter control consoles, hydraulic control valves with electric control valves, enclosures; add appurtenances to enable automatic backwashing of the filters; provide a Filter Aid Polymer System to the 1930 and 1958 filter complexes; Programmable Logic Controller-based controls for automatic control of the polymer system; install a local instrumentation and controls system.

Challenges Completion of the

Related Project Contract Nos. CS-1425 and CS-200 with CDM Smith for the Design and Construction Administration Services Contract No. SP-563 with Walsh for construction.



useful service life

#### **GLWA FY 2020-2024 CIP**

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Lookup Driver	1 - Condition
•	There are a total of 108 filters at the Springwells Water Treatment Plant. This project has reconstructed 59 of these filters, including all 40 filters at the 1958 filter building and 19 filters at the 1930 filter building. The 19 filters at the 1930 filter building were previously equipped with plastic-block underdrains with porous plates. These underdrains failed and were replaced with low-profile type 316 stainless steel, slotted direct-media retaining underdrains.
•	The existing 1958 filtration system equipment, including filter media, surface wash sweeps, filter piping, filter control valves, valve operators, electrical, lighting, and controls were original 1958 construction all well beyond their



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<b>PM</b>	Weighted
	Score

62.2

Criteria	Score	Comment
Condition	4	
Efficiency and Innovation	3	
Financial	2	
O&M	4	
Performance (Service Level/Reliability)	4	
Public Benefit	3	
Public Health & Safety	2	
Regulatory (Environmental/Legal)	3	

## RC Weighted Score

62.2

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hase GLWA Employ		ct managen	nent		C	Contract NA	4	Stat	us Active		
Phase Budget Wat	ter						Cost Alloc	ation CTA			
Phase Status Acti	ive						Funding Sc	<b>burce</b> Bond	Proceeds		
Start Date								Fund Cons	truction Bor	nd Fund	
End Date						U	seful Life >2	OYrs? Yes			
Cost E	stimation I	nformation				Tot. Fede	ral Loan Am	nount			\$0
	1	Cost Est. C	ass			Prog	gram/Allow	ance Task I	nformation		
1/1/	2013	Cost Est. De	ate	Р	roject	Manager					
CDM Smith		Cost Est. So	ource	C	IP Nu	mber					
CDM Smith		Cost Est. Pr	epared By	D	escrip	otion					
Cost Type	F	iscal Year	Expens	е	Fringe	e BenefitNor	nPersonne	C	Comment		
SLWA Salaries CIP20	)20 FY1	9		\$74		29	4				
Prior Yr Actuals	FY19	FY20	FY21	FY	22	FY23	FY24	FY25+	Total		
	107	0	0		0	0	0	0	107		

Phase Total Expenses By FY (All figures are in \$1,000's)

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# Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Design and Build Contract SP-563 Status Active

Title SP-563, Walsh, SPW WTP 1958 Filter Rehabilitation and Auxiliary Facilities ©

	- , -					- /									
Walsh Constructi	on Group	o - pe	r Scott Sch	ultz: Serial Ca	pitali	ization (	of 30s filte	er l	oeds, 58 se	erv bld	g item	ns			
Phase Budget V	Vater								Cost Alloc	cation	СТА				
Phase Status A	Active				Funding Source							Proceeds			
Start Date			7/8/	′2013	Fund Construction Bond Fund							d			
End Date			12/14/	′2018				Us	seful Life >2	20Yrs?	Yes				
Cos	Cost Estimation Information						Tot. Federal Loan Amount								
	1		Cost Est. C	lass			Pr	og	ram/Allow	ance	Task lı	nformation			
1	/1/2013		Cost Est. D	ate	P	roject <i>l</i>	Manage	*	Todd King						
CDM Smith			Cost Est. So	ource		CIP Num	nber								
CDM Smith			Cost Est. Pi	repared By		Descript	ion								
Cost Typ	е	Fis	scal Year	Expense	<del>)</del>	Fringe	BenefitN	on	Personne		С	omment			
Design-Build		FY19	9	\$7,	,000				C	constru	ıction				
Task		St	art Date	End Date	Dur	ration									
Scope Developm	nent		10/9/2012	1/7/2013		90									
Procurement			1/8/2013	7/7/2013		180									
Project Execution	1		7/8/2013	4/1/2019		2093									
Project Closeout			4/2/2019	7/2/2019		91									
Prior Yr Actuals	FY1	9	FY20	FY21	FY:	22	FY23		FY24	FY2	5+	Total			
	7	7,000	0	0		0	(	)	0		0	7,000			

Phase Total Expenses By FY (All figures are in \$1,000's)

Prior Yr Actuals

FY19

0

FY20

0

FY21

0

### **GLWA FY 2020-2024 CIP**

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## Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase	Study and Design and C	Construction Assistance	Contract	CS-1425	Status	Closed Out
Title	CS-1425, CDM, SPW WTP	1958 Filter Rehabilitation and Au	xiliary Facilit	ies (E1 & E2)		

CDM - per Scot	t Schultz: Se	rial Capitalizat	ion of 30s filte	r bed	s, 58 sei	rv bldg it	ems			
Phase Budget	Water						Cost All	ocation	СТА	
Phase Status	Closed Out					Funding	Bond Proceeds			
Start Date		1/18,	/2008	Fund Construction Bond Fund						
End Date		12/14,	/2018		Yes					
Co	ost Estimatio	n Information				Tot. Fed	eral Loan	Amount		
	1	Cost Est. C	lass			Pro	ogram/Alle	owance	Task Information	
	1/1/2013	Cost Est. D	ate	Pr	oject N	Nanager				
CDM Smith				CIP Number						
CDM Smith		Cost Est. P	repared By	ed By Descripti						
Cost Ty	pe	Fiscal Year	Expense	<del>)</del>	Fringe E	BenefitNo	onPersonn	е	Comment	
Engineering Serv	vices	FY19		\$0						
Task	,	Start Date	End Date	Dur	ation					
Scope Develop	ment	10/8/2010	1/6/2011		90					
Procurement		1/7/2011	1/7/2012		365					
Project Executio	n	1/8/2012	11/12/2018		2500					
Project Closeou	t	11/13/2018	2/11/2019		90					

Phase Total Expenses By FY (All figures are in \$1,000's)

0

FY23

0

FY24

0

FY25+

0

Total

0

FY22

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# Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

hase Construction	Assistance			C	Contract CS	5-073	Stat	tus Active			
tle CS-073, Lake I	Erie Electric	Inspection S	ervices (2nd	d C)							
Phase Budget Wo	ater					Cost Alloco	ation CTA				
Phase Status Ac	tive					Funding So	urce Bono	l Proceeds			
Start Date						I	Fund Cons	truction Bo	nd Fund		
End Date		<u> </u>			U	seful Life >20	Yrs? Yes	Yes			
Cost	Estimation Ir	nformation			Tot. Fede	eral Loan Am	ount				
	1	Cost Est. Cl	ass		Prog	gram/Allowo	ance Task	Information			
1/1	/2013	Cost Est. Do	ıte	Project	Manager						
CDM Smith		Cost Est. So	urce	CIP Nu	mber						
CDM Smith		Cost Est. Pro	epared By	Descri	otion						
Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total			
	0	0	0	0	0	0	0	0			

Phase Total Expenses By FY (All figures are in \$1,000's)

Prior Yr Actuals

FY19

871

FY20

0

FY21

0

### **GLWA FY 2020-2024 CIP**

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## Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Construct	tion Assistar	nce			Contract	CS-200	Status	Active	
Title CS-200, CD	om, spw w	TP 1958 Filter Re	habilitation (	and Aux	iliary Facilitie	es (E3)			
Add CS-200 CD	М								
Phase Budget	Water					Cost Allocati	on CTA		
Phase Status	Active					Funding Sour	ce Bond Pro	oceeds	
Start Date						Fu	nd Construc	ction Bond Fund	
End Date						Useful Life >20Y	rs? Yes		
Co	ost Estimatio	on Information			Tot. Fe	ederal Loan Amou	ınt		
	1	Cost Est. C	lass		F	Program/Allowan	ce Task Info	ormation	
	1/1/2013	Cost Est. D	ate	Pro	ject Manage	er			
CDM Smith		Cost Est. So	ource	CIP	Number				
CDM Smith		Cost Est. P	repared By	Des	scription				
Cost Typ	pe	Fiscal Year	Expense	e Fr	inge Benefit	NonPersonne	Con	nment	
Engineering Serv	vices .	FY19		\$871					
Task		Start Date	End Date	Durat	ion				
Project Executio	n	6/5/2017	12/18/2018		561				

Phase Total Expenses By FY (All figures are in \$1,000's)

0

FY23

0

FY24

0

FY25+

0

Total

871

FY22



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<b>Phase</b> not applic	cable				Contract	١A	Stat	tus Closed C	Dut		
<b>itle</b> Prior Year A	Actual Exp	enses									
Phase Budget	Water					Cost Alloc	cation CTA				
Phase Status	Closed Ou	J†									
Start Date				Fund							
End Date				Useful Life >20Yrs?							
Со	st Estimati	ion Information			Tot. Fed	eral Loan Ar	mount				
	1	Cost Est. C	Class		Pro	ogram/Allow	ance Task	Information			
	1/1/2013	Cost Est. D	ate	Pr	oject Manager						
CDM Smith		Cost Est. S	ource	С	IP Number						
CDM Smith		Cost Est. P	repared By	De	escription						
Cost Typ	oe	Fiscal Year	Expens	9	Fringe BenefitNo	onPersonne		Comment			
Construction		FY18-	\$5	5,333		F	Y18				
ngineering Serv	rices	FY18-		\$868		F	Y18				
Jnknown		FY18-	\$82	2,885		F	Y16-17				
GLWA Salaries C	IP2020	FY18-		\$89	35	100 F	Y18				
Prior Yr Actual	s FY1	9 FY20	FY21	FY2	2 FY23	FY24	FY25+	Total			
89,3	310							89,310			
		P	hase Total Ex	pense	s By FY (All figu	es are in \$1,	,000's)				
Pro	oiect To	tal Expenses	By FY Co	mpar	ed to Prior C	IPs (All fig	ures are	in \$1.000's	)		

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018	56759	20,353	310						0	0	77,422
2019	0	82,682	7,281	3,501						0	93,464
2020	0	0	89,310	7,978	0	0	0	0	0	0	97,288