

Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

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

Project Status Active

Springwells filter building



CIP Type Project

Project New To CIP

Project Engineer/Manager Khader Hamad

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 3/29/2004

Class Lvl 3 Springwells

Year Project Added to CIP 2002

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.



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Lookup Driver	1 - Condition
Other Important Info	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.
Explanation	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 useful service life



Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

PM 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	

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Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

Cost Est. Class

Cost Est. Date

Cost Est. Source

Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2020	FY19	\$74	29	4	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	107	0	0	0	0	0	0	107

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



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 Construction Group - per Scott Schultz: Serial Capitalization of 30s filter beds, 58 serv bldg items

Phase Budget Water

Cost Allocation CTA

Phase Status Active

Funding Source Bond Proceeds

Start Date 7/8/2013

Fund Construction Bond Fund

End Date 12/14/2018

Useful Life >20Yrs? Yes

Tot. Federal Loan Amount

Cost Estimation Information

1	Cost Est. Class
1/1/2013	Cost Est. Date
CDM Smith	Cost Est. Source
CDM Smith	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	Todd King
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19	\$7,000			construction

Task	Start Date	End Date	Duration
Scope Development	10/9/2012	1/7/2013	90
Procurement	1/8/2013	7/7/2013	180
Project Execution	7/8/2013	4/1/2019	2093
Project Closeout	4/2/2019	7/2/2019	91

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	7,000	0	0	0	0	0	0	7,000

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



Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Study and Design and Construction Assistance

Contract CS-1425

Status Closed Out

Title CS-1425, CDM, SPW WTP 1958 Filter Rehabilitation and Auxiliary Facilities (E1 & E2)

CDM - per Scott Schultz: Serial Capitalization of 30s filter beds, 58 serv bldg items

Phase Budget Water

Cost Allocation CTA

Phase Status Closed Out

Funding Source Bond Proceeds

Start Date 1/18/2008

Fund Construction Bond Fund

End Date 12/14/2018

Useful Life >20Yrs? Yes

Tot. Federal Loan Amount

Cost Estimation Information

1	Cost Est. Class
1/1/2013	Cost Est. Date
CDM Smith	Cost Est. Source
CDM Smith	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19	\$0			

Task	Start Date	End Date	Duration
Scope Development	10/8/2010	1/6/2011	90
Procurement	1/7/2011	1/7/2012	365
Project Execution	1/8/2012	11/12/2018	2500
Project Closeout	11/13/2018	2/11/2019	90

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)



Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Construction Assistance

Contract cs-073

Status Active

Title CS-073, Lake Erie Electric Inspection Services (2nd C)

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

Cost Est. Class

Cost Est. Date

Cost Est. Source

Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

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)



Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Construction Assistance

Contract CS-200

Status Active

Title CS-200, CDM, SPW WTP 1958 Filter Rehabilitation and Auxiliary Facilities (E3)

Add CS-200 CDM

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

Cost Est. Class

Cost Est. Date

Cost Est. Source

Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19	\$871			

Task	Start Date	End Date	Duration
Project Execution	6/5/2017	12/18/2018	561

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	871	0	0	0	0	0	0	871

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

