



District Engineering manages projects, consultants, contractors, and equipment suppliers. Consultant reports and Project Managers reports are included in this section along with details regarding the status of the associated study, design, or construction projects.

ACTIVE PROJECTS

20ENG01 Lake Shore Drive PS Replacement:

Work is complete. *There is a final change order before the board for consideration.*

20ENG07 – Digester Complex Improvements:

Work is complete. *There is a final change order before the board for consideration.*

Toward the end of coating installation, staff encountered what was thought to be a static electricity discharge when touching a light on the mixer platform. Staff investigated all electrical grounds on the cover and found all of them to be satisfactory. High levels of friction between two dissimilar materials can result in “static buildup”, after which we experience “the shock”. It appears that when walking across the newly installed insulation prior to the walk pads being installed, static electricity built up in the staff person and was discharged when touching a metal light pole. While in operation, the cover will be in contact with water and no static electricity will build up as the lid will be grounded. Staff will be adding the potential for static electricity to the start-up/take-down procedures. Grounding of the access bridge to the cover will be completed prior to bringing the digester back into service.

Punchlist items remaining: Delivery of Final O&M manuals, as-built drawings (submitted but corrections needed)/test data and Westech certification of installation. **NOTE** the required seven (7) day test cannot be completed prior to filling the digester with process fluid.

22ENG44 East Headworks Grit Classifier Replacement:

SCOPE: Removal and replacement of the east headworks grit classifiers, grit removal conveyor and all appurtenances necessary to deliver a fully functioning integrated grit washing and removal system. SDD has pre-purchased grit washers, the removal conveyor, and grit dumpster distribution sweep plate. Contractor will assume responsibility for coordinating receiving, unloading, and staging equipment from the manufacturers.						
Contractor: TBD			Original Contract Price: TBD			
Engineer: SDD						
R.E. Inspector: SDD						
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
05/10/23	05/30/23	06/15/23	TBD	TBD	TBD	TBD

Key Activities: Expected delivery of equipment by mid-October 2023 procured via PO 004510 issued 11/03/2022. Bids were opened as expected, there were two bidders; Christy Foltz and Plocher Construction.

There is a recommendation before the board for consideration.

21CMP04 Fermentation Reactor Pilot:

SCOPE: The construction of a pilot fermenter system which will include installation of a new primary sludge pump in the existing Primary Clarifier Control Structure (Structure 210) and associated piping; piping modifications downstream of existing waste activated sludge (WAS) pump in the WAS Pump Station



DIRECTOR OF ENGINEERING REPORT

June 21, 2023

(Structure 112); a new compressed air mixing system; a steel frac tank that has been fabricated as a fermenter (Temporary Structure 100) and requires connections to primary sludge, WAS, compressed air mixing system, odorous air treatment system, and Primary Effluent Channel (Structure 022).						
Contractor: TBD			Original Contract Price: TBD			
Engineer: Black and Veatch						
R.E. Inspector: SDD						
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
03/24/23	04/04/23	05/09/23	TBD	TBD	TBD	TBD

Key Activities: The new primary sludge pump, frac tank, compressed air mixing system and one adjustable speed drive have been purchased by Owner (POs issued on 03/29/2023) and will be assigned to the Contractor upon contract award. One bid of ~\$960K received.

The bid has been reviewed and after review staff met with the sole bidder to attempt to value engineer out some of the cost of implementing the pilot study. The review resulted in a reduction of approximately \$108,000. *There is a recommendation before the board for approval of the original bid, to be followed immediately with CO#01, reducing the overall contract amount. The Change Order is also presented to the board for consideration.*

NON-CONSTRUCTION ACTIVITY

22ENG31 ADMINISTRATIVE OFFICE COMPLEX:

Trustees approved staff to begin negotiations with Dewberry Architects for the Design and Construction related services associated with the new Admin and Laboratory Building.

An update on the negotiations will be discussed.

22ENG02 – Lost Bridge Force Main Renewal

The Lost Bridge 10” force main is being replaced in this project. The FM crosses underneath Lake Decatur. Staff has negotiated both Design and limited Construction Related Services in this agreement, consistent with the scope of work outlined. The Professional Services Agreement is with Clark Dietz Engineers (CDI) out of Champaign.

The revised professional services agreement is before the trustees for consideration.

UPCOMING PROJECTS:

23ENG08 – Road Repairs

The district has an ongoing roadway maintenance program. Planning is complete for the in-plant roadwork. This project was advertised on May 23rd, Prebid was held June 13th and staff expects to open bids on 6/29/23. We anticipate this will be before the board for consideration in July.

22ENG08 – Roofing Replacement/Repairs Project

Projected scope is **042 (Wood Shop) REPAIR; 017 (Oiler bldg) REPAIR; 044 (Ferrous Pump Room) Replacement; 200 (Emergency Bypass) Replace Shingle roof with metal;** 043 Repairs; 059 Caulking Repairs; 077 PM touch up; 112 Vent Pipe left on roof that needs removed, apply protective coating on expansion joint; 113 Touch up repairs; 117 PM Repairs, loose wall flashing; 203 repairs, move to replace in 2024; 217 Misc repairs; 231 touch up repairs, 233 Repair in 2023; 334 Caulking repairs

Technical specifications were completed this period.

Collection System Master Plan - Resiliency Evaluation

Staff is negotiating the scope of work with Clark Dietz Engineers to assist with updating the collection system master plan. This effort will initially focus on the NE Quadrant of Decatur and will prepare us for a multi-year master planning effort.

Secondary Clarifier Rehabilitation (South Cluster)

Staff is preparing to begin drawings for multiple items in this project. Maintenance has been very difficult on these clarifiers due to groundwater management. The wells need routinely cleaned every 3-5 years to enable groundwater to migrate into the wells. The project includes replacement of 3 isolation gates on the influent channels, painting 2 carbon steel clarifiers, and maintenance work on the clarifier floors. Staff is working with Clark Dietz to providing drafting services to this in-house design work.

INTERGOVERNMENTAL ACTIVITIES

Don has participated in 3 meetings with the a joint CITY, ADM and SDD “work group” looking at the NE quadrant of Decatur for water and wastewater needs. ADM is working to supply information regarding the wastewater flows from their service partners. A new industrial customer immediately South of Richland Community College along the West side of Brush College road is planning for a peak of 1.8 MGD of wastewater conveyance need in the area. The process water demand is much higher and is necessary for cooling towers.

If there are any questions, please contact me by telephone at 422-6931 ext 216, or by email at DonM@sddcleanwater.org.

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ACTIVE PROJECTS

21ADM50 Front Gate, Fence, and Road Repairs:

SCOPE: Replacement of the damaged front gate, plant fencing repairs, and localized cast in place concrete work in the plant are included in this project. There are two Divisions of work to be awarded separately: 1) General/Concrete; and 2) Fence and Gate						
Contractor: Christy-Foltz			Original Contract Price: \$632,047			
Engineer: SDD						
R.E. Inspector: SDD						
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
08/11/22	08/30/22	10/04/22	10/26/22	11/16/22	11/15/22	Div 1 – 120 days Div 2 – 150 days

Key Activities: All activities completed. Awaiting final numbers for fencing from subcontractor and paperwork from gate manufacturer representatives for warranty/O&M. We expect to close this project next month.

22ENG45 Primary Clarifier #5 Replacement Project:

SCOPE: Removal and replacement of the existing primary clarifier. Work will include the procurement, installation and commissioning of a new circular primary clarifier and appurtenances. Painting of UV light exposed and submerged carbon steel components, and miscellaneous electrical adjustments to facilitate the removals and commissioning of the new process unit.						
Contractor: Plocher			R.E. Inspector: SDD			
Engineer: SDD						
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
09/16/22	09/27/22	11/01/22	11/17/22	11/30/22	Feb 2024 (tentative)	330 days-Substantial 360 days - Final

Key Activities: Component delivery moved from October 2023 to late February 2024 (provided by Walker Process representative). Original key dates were demolition starting 08/09/23, coating removal/reapplication start 08/23/23, clarifier install start 09/06/23, and cleanup/demobilization finish 10/12/23. New dates will be updated following solid manufacturing schedule.

Staff had a conference call with Walker Process and the contractor this last period to discuss the delay in delivery of the clarifiers.

21ENG40 Replacement of Sludge Transfer Pump:

SCOPE: Remove and replace the existing Abel Sludge Transfer Pump (south) that has reached the end of its useful life.						
Contractor: Burdick Plumbing and Heating			Engineer: SDD			
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
09/21/22	10/11/22	11/03/22	11/17/22	01/09/23	12/20/22	180 days-Substantial 210 days - Final



PROJECT MANAGER REPORT

June 12th, 2023

Key Activities: Current expected delivery is second week of July 2023 per David Donato (Abel Pump Sales Engineer) provided on May 16th, 2023. Installation expected to require approximately 45 calendar days to complete. Change of dates for substantial and final completion will follow manufacturer’s delivery.

21ENG15 Water Tower Painting:

SCOPE: Power washing the wet interior surfaces and top coating the exterior surfaces of the District’s 300K gallon elevated non-potable water storage tower. Also included is power washing the exterior surfaces of the District’s 32-ft inside diameter gas holding sphere.						
Contractor: Neumann Co.			R.E. Inspector: Dixon Engineering			
Engineer: SDD/Donohue						
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Contract Completion Dates
08/03/22	08/17/22	09/07/22	10/14/22	11/10/22	05/10/2023	330 days-Substantial 360 days - Final

Key Activities: Coating of water tower, gas sphere washdown, and demobilization expected to complete by 06/21/2023. It was discovered that the cathodic protection inside tank was broken in multiple places and would require a full replacement. Additionally, existing failed coating required additional surface prep (SSPC SP7 blasting) to remove it to a suitable substrate for overcoating.

Future Changes:

Work Change Directive #1 (replacement of failed cathodic protection arms)	\$14,200.00
Work Change Directive #2 (additional surface blast of exterior coating)	\$21,744.25
Work Change Directive #3 (additional surface blast of interior coating -T&M)	~\$45,000.00

ARCGIS UPDATES

2023 - PACP Inspection: Plan and execute the annual pipeline inspections.

Key Updates: Telescan started televising sewer systems on 5/22. As of 6/1, ~20% (8,052.6 linear feet) of sewers within current scope have been inspected. SDD has received a progress report spreadsheet and inspection reports/videos for the televised sewers. Project to be completed by October 15th,2023. Results will be uploaded to ArcGIS.

Biosolids Tracking: Create a dashboard to display past biosolid applications for calendar years 2016-2022.

Key Updates: Biosolid application information for the years 2016-2021 are compiled into a spreadsheet. From this spreadsheet, the fields SDD has delivered to will need to be connected to spatial data on ArcGIS in the form of parcels. The joined data will be added to the dashboard along with the biosolid information for 2022 and allow the user the ability to sort by Land Application Date.

ADM Forcemain Anaylsis: Created a dashboard for the Director of Engineering and ADM to aid in planning.

Key Updates: Compiled relevant data and investigated how to visualize flow capacities using ArcGIS. Published the dashboard containing in-use and abandoned forcemain information, as well as estimated water flow coming into and exiting ADM partner facilities.

Sanitary District of Decatur

BID TABULATION

Project: **22ENG44 East Headworks Grit Classifier Replacements**

Bid Date: **11/15/2023**

Bid Time: **10:00am**

Item #	Pay Item	QTY	UOM	Engineers Estimate		Christy Foltz		Plocher Construction	
				Unit Price	Total	Unit Price	Total	Unit Price	Total
1	Miscellaneous Owner Contingency	1	LS	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
2	Remove and Replace all items required to create functioning grit classifiers	1	LS	\$ 110,000	\$ 110,000	\$ 86,500	\$ 86,500	\$ 42,000	\$ 42,000
3	Remove and replace all items required to create a functioning grit removal conveyor	1	LS	\$ 10,000	\$ 10,000	\$ 5,300	\$ 5,300	\$ 11,000	\$ 11,000
4	Removal, installation and commissioning of a new classifier control system	1	LS	\$ 35,000	\$ 35,000	\$ 44,000	\$ 44,000	\$ 40,000	\$ 40,000
5	All other work not included in items 2-4 above	1	LS	\$ 23,250	\$ 23,250	\$ 25,150	\$ 25,150	\$ 100,000	\$ 100,000
TOTAL BID AS READ:				\$ 183,250.00		\$ 165,950.00		\$ 198,000.00	
TOTAL BID AS CORRECTED:									

ALTERNATE 1 BID : Includes all work of Base Bid excluding the removal and installation of the grit classifier control system. Connections for replacement equipment to the new control system are still within the scope of work.

Item #	Pay Item	QTY	UOM	Unit Price		Total		Unit Price		Total	
				Unit Price	Total	Unit Price	Total	Unit Price	Total		
1	Miscellaneous Owner Contingency	1	LS	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
2	Remove and Replace all items required to create functioning grit classifiers	1	LS	\$ 110,000	\$ 110,000	\$ 86,500	\$ 86,500	\$ 42,000	\$ 42,000	\$ 42,000	\$ 42,000
3	Remove and replace all items required to create a functioning grit removal conveyor	1	LS	\$ 10,000	\$ 10,000	\$ 5,300	\$ 5,300	\$ 11,000	\$ 11,000	\$ 11,000	\$ 11,000
4	NOT USED	1	LS		\$ -		\$ -		\$ -		\$ -
5	All other work not included in items 2-3 above	1	LS	\$ 24,000	\$ 24,000	\$ 36,176	\$ 36,176	\$ 104,000	\$ 104,000	\$ 104,000	\$ 104,000
TOTAL BID AS READ:				\$ 149,000.00						\$ 162,100.00	
TOTAL BID AS CORRECTED:						\$ 132,976.00				\$ 162,000.00	