



DIRECTOR OF ENGINEERING REPORT

Feb 17, 2021

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

20-11 Masonry Project:

SCOPE: The 054 building and 017 building have several locations where spalling bricks needed replaced and mortar needed tuckpointed.						
Contractor: Otto-Baum Inc.				Engineer: SDD		
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Scheduled Completion
09/18/20	10/01/20	10/13/20	10/21/20	11/06/20	11/09/20	60 days 01/08/21
Work Change Directives (WCD): 01 Owner Requests for Proposal/Change Order (RFPCO): 1						

Key Activities: A final change order is before the board for consideration under the consent agenda.

20-07 Digester Complex Improvements:

SCOPE: The useful life on Digester #3 floating cover has been exceeded and the lid is being replaced under this contract. Along with that work, the brick facia on the digester tanks is being replaced under this contract as well.						
Contractor: Christy-Foltz				Engineer: Donohue and Associates		
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Scheduled Completion
11/17/20	12/01/20	12/22/20	02/xx/21	02/xx/21	02/xx/21	360 Substantial 390 Final
Submittals Reviewed: Requests for Information (RFIs): Owner Requests for Proposal/Change Order (RFPCO):						

Key Activities: Bids were received as planned. There is a motion for contract award presented for consideration under the consent agenda.

20-01 Lake Shore Drive PS Replacement:

SCOPE: The Lake Shore pump station was originally built in 1953, modified in 1976, and subsequently modified again in August 2000 when ADM installed a force main to bypass the flow around the pump station. The original design of the pump station was for the 4 shaft driven pumps with the drive motors upstairs and the pumps 2 stories below. Staff has modified the pumps to be dry pit submersible style pumps to improve the reliability, however access to the lower level is restricted and the pipe gallery is undersized and is a very difficult environment to perform any maintenance. This project is scheduled to reconfigure the pump station to be submersible pumps and rehabilitate a 20" force main which will separate domestic flow from ADM flow from Lake Shore to the East Side Booster pump station.						
Contractor: TBD				Engineer: Clark Dietz Engineers, Inc		
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Scheduled Completion
12/02/20	01/05/21	01/19/21 02/03/21	03/xx/21	04/xx/21	04/xx/21	360 Substantial 390 Final
Submittals Reviewed: Requests for Information (RFIs):						



Owner Requests for Proposal/Change Order (RFPCO):

Key Activities: Bids were opened this last period. See the enclosed bid tabulation. No recommendation is being made this month as more time is necessary to review the bids/project costs and budgets. Lining costs of the abandoned 20" FM were higher than expected and further consideration is being given to mitigate that portion of the contract work.

Changes: NONE

20-01 South Shores Sewer Rehab:

SCOPE: The South Shores interceptor was constructed in 1965 with primarily reinforced concrete pipe and has not been rehabilitated. The sewer was built to serve the south side of town and was extended to serve the Village of Mt Zion in the 1980's (this extension is excluded from this work). The sewer has high root infiltration and chemical corrosion from H2S. Chemical damage to the concrete pipe is primarily sulfate (acid) corrosion of the concrete pipe, resulting from hydrogen sulfides in the wastewater and long travel times to the SDD wastewater treatment facility.

The work consists of CIPP lining approximately 17,700 LF of sewer, tie-in connections and approximately 700 vertical feet of cementitious manhole restoration. This system runs along the South side of Lake Decatur and has manholes that are difficult to access and require temporary access easements to perform the work.

Contractor: TBD

Engineer: Farnsworth Group, Inc

Advertise	Pre-bid	Bid Open	Intent Award Final Award	Notice to Proceed	Pre- Construction	Scheduled Completion
12/15/20	02/02/21	01/19/21 03/02/21	04/xx/21 06/xx/21	06/xx/21	06/xx/21	270 Substantial 300 Final

Submittals Reviewed:

Requests for Information (RFIs):

Owner Requests for Proposal/Change Order (RFPCO):

Key Activities: Virtual Prebid meeting was held as planned this last period with Addendum 01 issued; a second addendum is currently being developed. No updated information from IEPA regarding the loan application has been received.

Amendment #1 for construction related services (CRS) to the Professional Services Agreement with Farnsworth is before the board for consideration under the consent agenda.

Volkert Inc. has obtained all temporary construction easements. In addition, Volkert was charged with obtaining three of eight permanent easement parcels along this sewer for which there is no current permanent easement; 2 of the 3 are complete. The third remains open.

20-15 Hatch Replacement:

SCOPE: The Sanitary District has a working hatch replacement asset management plan. This project includes various hatch replacements needed to implement that plan.

Contractor: TBD

Engineer: SDD

Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre- Construction	Scheduled Completion
11/20/20	12/03/20	02/04/21	02/xx/21	02/xx/21	03/xx/21	140 days

Submittals Reviewed:

Requests for Information (RFIs):

Owner Requests for Proposal/Change Order (RFPCO):



Key Activities: Bids were opened as planned. There were two bids received the bid tabulation is attached. There is a motion before the board for consideration to award this contract work to Burdick Plumbing and Heating.

Changes: NONE

2020 Roads and Site Work Project – DIV A

SCOPE: Annual maintenance is performed at various locations throughout the District facilities. The work is divided into two (2) divisions – ROADS and CONCRETE (site work). DIV A - road work is in the immediate area surrounding the vehicle storage building where asphalt is being replaced; along with the oil and chip at the Wyckles facility that was damaged during the valve replacement project.						
Contractor: DIV A – ROADS – Dunn Company				Engineer: SDD		
Advertise	Pre-Bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Scheduled Completion
08/19/20	08/27/20	09/10/20	09/23/20	10/12/20	10/07/20	60 days
Submittals Reviewed: 3 shop drawings submitted /3 complete						
Requests for Information (RFIs): 2 received /2 answered						
Owner Requests for Proposal/Change Order (RFPCO): 0 issued /0 outstanding						

- o **Key Activities:** <<No contractor activity this period>> Dunn Company will apply sealcoating at the plant and A2 work at Wyckles in the spring.

NON-CONSTRUCTION ACTIVITY

PLANNING: PHOSPHORUS REMOVAL

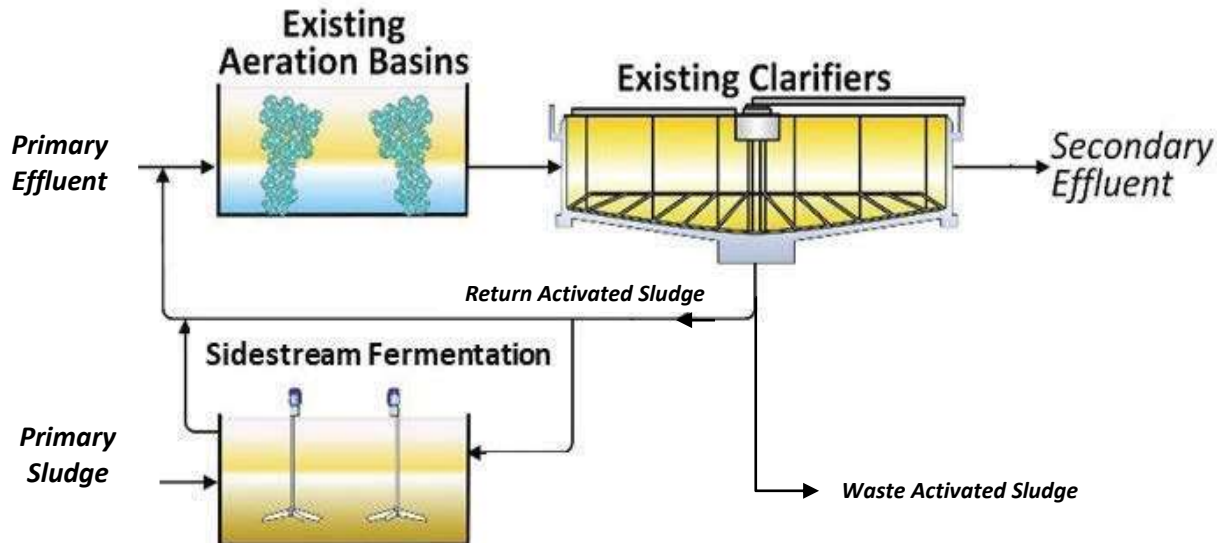
Design Fermentation Reactor – TBD

There is a professional services agreement with Black and Veatch before the board for consideration under the consent agenda for this design. Note the fermenter is intended to be large enough to allow SDD to perform pilot tests on potential treatment trains/processes and still be utilized as an integral part of the final BNR process. The reactor performance will create an environment where polyphosphate accumulating organisms (PAOs) should be preferred over other microorganisms and promote the development volatile fatty acids (VFAs) from both primary sludge and the decay and hydrolysis of mixed liquor biomass. A ratio of VFA to phosphorous ranging from 7:1 to 10:1 is considered “typical” for well-functioning enhanced biological phosphorous removal systems. Developing this reactor now aids the plant in determining the extent of “carbon limitation” specific to Decatur.

This agreement is for the design of the sidestream fermentation in the diagram below. For more information about the benefits of sidestream fermentation you can follow the link to an article written by Leon Downing, James Barnard, and Patrick Dunlap. All are part of Black and Veatch’s Water Technology Groups and lead investigators and advisors for a Water Research Foundation (WRF) study.

<https://www.wateronline.com/doc/sidestream-enhanced-biological-phosphorus-removal-made-easier-0001>

Typical *Sidestream Enhanced Biological Phosphorous Removal (S2EBPR)* configuration from Water Research Foundation (WRF) project #4975.



STUDY: ARC FLASH STUDY Main Treatment Facility

Industrial Technology Group (ITG) from Champaign, IL was awarded a professional services agreement on 01/22/2020 to update the main treatment plant ARC FLASH STUDY.

A final QA/QC check was completed this last period. ITG has indicated delivery by 2/18/21.

UPCOMING PROJECTS:

20-19 Wyckles Facility Sludge Inlet Repairs: Staff Advertised the repair to concrete chutes at the Wyckles facility (East Lagoon) on 01/22/20. Scope of work includes the removal of existing lagoon chutes that have collapsed and reinstalling chutes incorporating a shotcrete blanket to bridge the void left by removing the chute below the discharge.

2020 Roofing Project: Each year the SDD Asset Management Program plans for rehabilitation on roofing systems on the district facilities. With the major construction SDD undertook with the West Headworks Upgrades, the 2019 project was placed on hold. Staff began planning for the resumption of the program this year and 16 roofs that were scheduled in 2019 and 2020 have been inspected and specifications for repairs are being developed. Drawings are complete and the technical specifications are being reviewed before advertising the work.

Engineering Office Repairs: The Admin building 2nd floor window delivery is scheduled for the week of 2/14/20. Jones and Sullivan will be installing them once the windows are on site.

Given the cost of quotes received, staff is going to reject all quotes previously received and prepare a complete bid package to address the air conditioning issue. Staff requested Architectural Expressions develop a technical specification section for the mini-split system for staff to include in the bid solicitation package.

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Relocation of Grit Drying Bed: Staff is developing new plan sheets and specifications for upgrades at the existing location.

Replacement of Sludge Transfer Pump: <<No Update>> Staff is preparing plans for the procurement and installation of a replacement transfer pump. This pump moves sludge from the main treatment plant to the Wyckles Facility.

Sodium Bisulfite Tank Replacement: <<No Update>> Development of project plans to replace the two sodium bisulfite tanks is ongoing.

INTERGOVERNMENTAL ACTIVITIES

SDD had a review with CITY Public Works and AECOM to review current planning for sewer backup planning in basins 5 and 6 over this last period. Basins 5 and 6 are East of MacArthur HS and both North and South of Grand Ave.

All alternatives had not been completed as of the meeting. However, what was being proposed, before looking at a complete sewer separation project in these areas, was the quicker transport of stormwater to a stormwater regulating structure in Fairview park that feeds the 7th Ward CSO facility. The more rapid transport of combined wastewater into this structure has the potential to cause additional overflows to Stevens Creek (outfall A07 in our permit).

The CITY was asked to investigate the complete stormwater/sewer separation alternative with AECOM.



PROPOSED BOARD ACTION

For the Board's consideration from the Engineering Dept this meeting:

1. Hatch Replacement Project – Contract Award

Further details can be found in respective Summaries of Motion.

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

Sanitary District of Decatur
501 Dipper Lane * Decatur, Illinois 62522 * 217/422-6931

MEMORANDUM

TO: Don Miller

DATE: February 9, 2021

FR: Roger Dudley

RE: Sludge Inlet Repairs – Wyckles Facility

➤ Scope of work:

- Removal of existing inlet walls, removal of approx. 10' of inlet slab, installation of concrete piers, construction of new inlet walls and installation of shotcrete. Locations of sludge inlets are in the east lagoon.

➤ Project advertised – January 21, 2021

➤ Pre bid meeting – February 18, 2021.

➤ Bid opening – March 23, 2021.

➤ Bid is open to all qualified contractors and invitations to bid were sent to:

- Christy-Foltz, Inc.
- OttoBaum Company
- Plocher Construction

Sanitary District of Decatur
501 Dipper Lane * Decatur, Illinois 62522 * 217/422-6931

MEMORANDUM

TO: Don Miller
FR: Roger Dudley
RE: 2020-11 Brick and Masonry Repair

DATE: February 9, 2021

- Scope of work:
- Replacement of damaged Brick Building 017 and 054 +/- 250 brick and infill of retired openings +/- 150 brick and Glass Block. Tuck pointing 2500 liner feet.
- Bid Opening 12-October-2020
 - Outto Baum provided Bid
 - There were 6 Plan Holders
- Pre Construction Meeting 9-November-2020
- NTP issued
- Completion Date Projected 28-December-2020
- Remaining items to complete:
 - Apply sealer to exterior walls of Bldgs. 054 & 017.
 - Punchlist items.
- Change Order was presented to the board at the January meeting.

Sanitary District of Decatur
501 Dipper Lane * Decatur, Illinois 62522 * 217/422-6931

MEMORANDUM

TO: Don Miller

DATE: February 9, 2021

FR: Roger Dudley

RE: 2020-17 Window Installation – 2nd Floor

- Scope of work:
- Replacement of existing windows on the 2nd floor of the Bldg. 045 – Engineering Department.
- Quote Opening 21-January-2021
 - Christy-Foltz, Inc. & Jones-Sullivan provided bids.
 - Awarded project to Jones-Sullivan in the amount of \$5,500.00.
- Contractor has submitted window opening sizes.
- Sanitary District has proceeded with procurement of windows through Pella Windows, Inc.
- Windows are tentatively scheduled for delivery on February 19, 2021.
- Completion date is April 4, 2021.

Sanitary District of Decatur
CONTRACTOR PROPOSAL - BID TABULATION

Project: **2020-15 Hatch Replacement**
 Bid Date: **2/4/2021**
 Bid Time: **10:00am**

Item #	Pay Item	QTY	UOM	Engineers Estimate		Burdick Plumbing Heating		Christy-Foltz INC	
				Unit Price	Total	Unit Price	Total	Unit Price	Total
1	109-116-01 Access Hatch over Pump Area 109 P.S. (32"x50" w/ 1 pedestrian panel) - Remove and dispose of old hatch and install new replacement hatch.	1	each	\$ 3,780	\$ 3,780	\$ 3,265	\$ 3,265	\$ 11,500	\$ 11,500
2	115-116-01 Access Hatch over Meter Vault 115 (32"x50" w/ 1 pedestrian panel) - Remove and dispose of old hatch and install new replacement hatch.	1	each	\$ 3,780	\$ 3,780	\$ 3,265	\$ 3,265	\$ 11,500	\$ 11,500
3	200-116-01 N.W. Access Hatch Over Emergency By Pass (66"x50" w/ 2 pedestrian panels) - Remove and dispose of old hatch and install new replacement hatch.	1	each	\$ 4,950	\$ 4,950	\$ 5,790	\$ 5,790	\$ 12,000	\$ 12,000
4	200-116-02 N. E. Access Hatch Over Emergency By Pass (66"x50" w/ 2 pedestrian panels) - Remove and dispose of old hatch and install new replacement hatch.	1	each	\$ 4,950	\$ 4,950	\$ 5,790	\$ 5,790	\$ 12,000	\$ 12,000
5	200-116-03 S.W. Hatch Over Emergency By Pass (66"x50" w/ 2 pedestrian panels) - Remove and dispose of old hatch and install new replacement hatch.	1	each	\$ 4,950	\$ 4,950	\$ 5,790	\$ 5,790	\$ 12,000	\$ 12,000
6	200-116-04 S.E. Access Over Emergency By Pass (66"x50" w/ 2 pedestrian panels) - Remove and dispose of old hatch and install new replacement hatch.	1	each	\$ 4,950	\$ 4,950	\$ 5,790	\$ 5,790	\$ 12,000	\$ 12,000
7	211-116-01 Hatch to Wet Well Dewatering P.S. (48"x52" w/ 1 pedestrian panel) - Remove and dispose of old hatch and install new replacement hatch.	1	each	\$ 3,780	\$ 3,780	\$ 4,400	\$ 4,400	\$ 11,500	\$ 11,500
8	212-116-01 Access Hatch to Wet Well 212 P.S. (48"x52" w/ 1 pedestrian panel) - Remove and dispose of old hatch and install new replacement hatch.	1	each	\$ 3,780	\$ 3,780	\$ 4,400	\$ 4,400	\$ 11,500	\$ 11,500
9	237-116-01 Access Hatch to Meter Vault To NIT Aeration (33"x37" w/ 1 pedestrian panel) - Remove and dispose of old hatch and install new replacement hatch.	1	each	\$ 3,780	\$ 3,780	\$ 2,845	\$ 2,845	\$ 11,500	\$ 11,500
10									
ENGINEERING ESTIMATE: \$ 38,700.00									
TOTAL BID AS READ:						\$ 41,335.00		\$ 105,500.00	
TOTAL BID AS CORRECTED:						\$ 41,335.00		\$ 105,500.00	