WASTEWATER TREATMENT PLANT RECONSTRUCTION AND DESIGN ADVISORY COMMITTEE MEETING MINUTES April 17, 2025

A meeting of the Wastewater Treatment Plant Reconstruction and Design Advisory Committee was held at 10:00 a.m. at the Wastewater Treatment Plant, 3100 S Lewis Blvd, Sioux City, IA 51106.

BOARD PRESENT	STAFF PRESENT	VIRTUAL
Tom Pingel	Renee Heath	Estefani Valdez
Vicki Baker		Mike Collett
William Martin		Jason Yockey
Rusty Montagne, 10:04am, exit at 11:00am		
Aaron Lincoln		
William Bradbury		
Erik Kafka, 10:06am		
Craig Levine		
Julie Schoenherr, 10:04am, exit 10:42am		
BOARD ABSENT		**GUEST**
Desiree McCaslen		Matt Dworak - AGP
Chris Baltushis		Max McClean - Kiewit
Mark Fuehrer		William Burrows
Carl Hesse		Jamie Gellner - Hazen
Teresa Fitch		John Hanson – Insulators 39
Andrew Tramp		Joe Nussrallah - Insulators 39
Lance Hedquist		Jose Montes – Local 21
Dale McKinney		Jason Kvidera – City Sgt Bluff
Kelly Jorgensen		Ariel Pokett - KTIV

1. **Call of the Roll**
   Meeting was called to order by Pingel at 10:02 a.m.

2. **Approval of Minutes**
   Meeting minutes from March 27, 2025, will be approved at the next meeting.

3. **Previous Meeting Recap**
   Pingel recapped the March meeting outlining Kiewit's process as the CMAR.
   Bradbury inquired when the 30% design will be presented from Kiewit, Pingel responded May 15th.

   Schoenherr and Montagne entered at 10:04am

4. **WTFAP Grant Overview**
   Pingel shared that Hazen and McClure acquired a water quality grant from the State of Iowa for $500,000 to contribute to the design and construction costs for phase one. This is an annual program, and we'll look at this again next year.

Kafka entered at 10:06am

5. **City WWTP Update**

Baker informed the Committee that Final Clarifier #5 has been offline since last September, waiting on parts from the vendor which showed up last week. Maintenance staff have been working on the two week rebuild. The Centrifuge parts also showed up which will be worked on once Final Clarifier #5 is complete. Another centrifuge went down over the weekend so currently running on one centrifuge.

Baker said that since the last meeting the SCADA has not been working properly. The plant is unable to run the digesters through the SCADA so the operators are having to do that manually. Pingel stated that the SCADA is the centralized computer system in which the operators control everything for the plant including the pumps, processes, heat and the levels of the tanks. The SCADA system has not been updated since about 2012. The software that runs the SCADA system is called Wonderware and because the software has not been updated for so long the software company will not assist until we upgrade to the newest package which is around $60,000. Bradbury asked whether a new control system is figured into Phase 1. Martin replied it is included, but is a few years out. It includes specialized expertise and specialized software. Pingel also stated that it is a very high cost, everything would need to be recoded into the new software.

Martin discussed that there are underlining issues including software upgrade cost, startup cost and the amount of overtime to operate the plant manually would be astronomical. Hazen, Kiewit, and City will be looking at options and different alternatives to balance the cost, working through details now, possibly agreeing with the state to get project funds for some early work. Having a CMAR gives us the flexibility to look at and implement in real time, having Kiewit onboard is an advantage.

Montagne questioned if they tried different vendors. He stated that North Sioux uses Dakota Pump out of Mitchell, South Dakota and he can control everything from his phone. He also mentioned that the City of Sioux Falls used an intern from South Dakota State who built their SCADA from the ground up. Pingel said you have to be certified to work on the Wonderware software. R.E. Pedrotti is who was previously used but the last time the SCADA went down it took them over five weeks to return the call, because of this Thompson Solutions worked on it. He stated that when they went to connect the UV to the SCADA system it crashed everything. Martin added there are three components to this system which are hardware, software and the site-specific coding. The City would like to get away from using the Wonderware software which are ran off of two servers. Kafka asked if there are systems that can work with what we currently have. Martin said the plan is to build a new system with a new software package, and over time pull over different process areas. Levine inquired about Thompson Solutions; would they be an option again to help with the SCADA. Pingel stated they are currently helping but opted out in case it would not start back up which has happened in the past.

Baker updated the Committee on the UV Disinfection System. It is in manual mode, currently disinfecting, pulling certified permit samples and getting the E. coli kill. Trojan has been here twice; they are waiting on parts. Cannot take the banks out of the water, self-cleaning mechanism is not working and unable to use one out of the two channels. Pingel stated Journey is still on the project, it is not completed, they are under contract, and City is holding 5% of the retainage until it is completed.

6. **Emergency Repairs Project Update**
Martin updated the Committee regarding the Primary Clarifiers. The contractor completed the repairs on Primary Clarifier #4 a few weeks ago and transitioned over to Primary Clarifier #2 last week. The City has been working on modifying the scope on this project, currently under the original bid based on change orders from the contractor. Baker is looking at replacing the equipment in tank #4, once that is completed new equipment will be installed in tank #2. Structural repairs will be done later this year on tank #3. Pingel added that the City took out a design loan for the emergency repairs around fifteen million dollars and will not have to use much of it. ARPA money was used and saving money with the emergency repairs.

7. **Digester Project Update**
Baker shared that the lid will be removed from S1 soon and next week will be starting on the building. Thompson has completed the electrical work. Pingel stated it will pick up this Spring.

8. **CMAR Update**
McClean, Preconstruction Manager with Kiewit, gave an overview of the on-going CMAR items. The weekly task force meetings have been occurring set up by discipline which include structural, electrical, process mechanical and civil. Part of the meetings were design assumptions which were reviewed with Hazen and adjustments were made if needed. Another part of the task force meetings is MOPO, Maintenance of Plan Operations. Discussed how systems will continue to operate during construction in order to get the cost model as accurate as possible. Discussed process pipes and understanding which pipes can be taken down and which new pieces have to be installed.

Kiewit uses the decision and resolution tracker (DART) form to track the value engineering ideas that are discussed and reviewed. Initially, the north odor control could not be built until the primary treatment was completed but Hazen was able to move the layout of the north odor control to eliminate that constraint which allows construction to be started earlier saving money on temporary odor control. McClean stated that they want to continue to look for ideas like this to improve schedule and reduce cost.

McClean shared that the potholing crew has almost completed the two hundred design potholes for subsurface utility locating except a few around the North Primary's. Coordination with the City needs to happen in order to complete the last few. 30% design review continues to be discussed in the weekly task force meetings. The 30% cost model development is in full force where at least ten estimators are working on that. Pricing is coming back on all the equipment, electrical and mechanical are complete. Even at 30%, Kiewit will do a full detailed estimate and share that information with the City and Hazen on May 15th. He shared a summary of the construction schedule development and review with the Committee. The schedule continues to get refined and discussions with the City and Hazen continue to stay on the same page. The decision was made this week to move the Aeration Basins up in the schedule.

Kiewit has in house Geotechnical experts that are involved in reviewing and providing input on the design. For the 30% cost model they are assuming piles under the majority of all the structures where holes are drilled in the ground and rebar cages are put in filled with concrete. This design does have a higher cost, looking at balancing the cost and ground improvement system so the buildings do not settle. Currently working with Hazen and the geotechnical experts on a hybrid design that may cost less.

McClean continued with the design procurement evaluation and assistance, working with Hazen and the City on a blower RFP document. Kiewit is reaching out to three different blower manufacturers. Bids will be due around middle of May, will be reviewed together and determine which blowers to use. There will be a cost escalation formula included so vendor can hold their price.

Bradbury inquired whether the existing plant structures are currently on piles and are they needed for uplift. Pingel replied that Headworks and Disinfection chemical storage are currently on piles. Terracon has made all the test borings. McClean stated that the preliminary design for the cost model currently does not assume uplift. Discussions continue regarding what should be used and determine if it will affect the design. Bradbury asked where the water table is. Martin replied that it is in the Geotech, and it is correlated closely with the river. There are a couple deep structures that may sit below it.

9. <u>Odor Control Updates</u>

Martin gave an update to the Committee regarding the odor controls. A year ago, samples were taken and evaluated for odor strength. An odor dispersion model was used to assess what the impacts of different sources here at the plant are on the community. There is an odor strength metric called dilution to threshold, the way it is measured in a laboratory. The approach is to minimize offsite odor concentrations, 10 odor units or dilution to threshold (D/T) is the level where a person can detect an odor. The goal is to not reach this level off-site with a cost-effective approach. Martin presented the worst-case conditions for the odor dispersion modeling results. During phase one there will be two very large odor control systems. The north odor control system which will take odor sources from headworks and dewatering and the central odor control system for the new primary treatment systems - the final lift pump and primary tanks.

Schoenherr exited at 10:42am

Martin discussed the vapor phase treatment and biofilter odor control system. This is a two-stage treatment system using a renewable biological process to do most of the work with a biofilter as the first stage on both of the systems that has a synthetic media. The microorganisms convert odorous compounds to non-odorous forms. Using a synthetic media is an upgrade in technology which lasts longer, lower maintenance and minimal energy usage. The City used to have an organic wood chip style media. This is great technology that has been around in wastewater treatment facilities, relatively simple, operates with no chemical input and low-cost operation. Each will have a dry media system targeted to clean up any of the hydrogen sulfide that passes through the biofilters and has a specialized media to pick up anything else that is harder to treat. This treats very effectively, has a proven track record but is expensive if replacing frequently. Bradbury asked if it is activated carbon and whether it can be regenerated on-site. Martin replied it is a two-bed system, and it will be sent off-site to regenerate.

The odor control system is essential as there are many huge odor sources in the plant including Headworks and the new Primary complex. On the northside of the plant there is an open box where flow comes in where the plant bypasses under wet weather conditions. On the aeration basins there is a channel that takes primary effluent from the final lift station distributes it out to the aeration basins which are both potential odor sources. These smaller sources are more difficult to treat. Discussed receptor areas where odor would impact different locations including Lincoln Woods, Park View Homes, South Lewis Boulevard, South Ravine Park and Prairie Park.

Martin displayed the odor dispersion model results for the influent channel and junction box. The results showed the percent of time at each odor level. Looking to see if odor control is needed and putting in a SuperOx phase treatment system at the Floyd Lift Station to reduce sulfide formation. Expect odors to decrease with these improvements to upstream liquid phase treatment. With the influent channel and junction box looking at about twenty hours of very low odor concentrations offsite. Discussed a few options with the City, possibly putting in a small system north side of the plant, depending on a future bike path, which would be difficult to get power and to maintain. These models are very conservative, combining high odor strength conditions with specific meteorological conditions. Did the same type of evaluation on the Primary Effluent Channels where there would be odor concentration approximately three days every year so not cost effective to have an odor control system.

Montagne exited at 11:00am

Martin discussed the last odor control piece which are the Primary Clarifiers. These are a big odor source and have been looking at conservatively covering the entire tank and taking the air flow into the odor flow treatment system which requires a lot of air. Very expensive to build, operate and maintain. Currently, the design entails the 72,000 cubic feet per minute system. If the Super Ox system works well at Floyd may not need this system and would be able to cut it in half and go with launder covers on the Primary Clarifiers. Plant staff wants launder covers instead of the aluminum dome which are better for the equipment and is a safety benefit as there is no confined space. Will continue to look at the data to keep odor as a priority on the project. Bradbury inquired whether the oxygen can be controlled at Floyd, Martin responded there would need to be more research as he thought there was a set input of how many pounds of oxygen per day. Need to go into the activated sludge process with controlled oxygen conditions. This will be done at the Floyd, York and Riverside Lift Stations.

10. Open Discussions

Bradbury asked if much of the equipment comes form overseas or is it mainly US manufacturers. Gellner responded it varies depending on the piece of equipment and regarding the impact of tariffs, with the CMAR process they will be actively tracking in terms of escalation risk with equipment costs. They are uncertain what the impact will be but have the ability through the project and the structure working with Kiewit closely to bring that into focus along with any other escalation risks. Levine stated that he did hear of other construction projects being cancelled or delayed because of tariffs. Gellner added that the impact of tariffs is huge and that the focus is making sure what the impact would be and are able to manage the risk. The City has a say in how the risk is managed and allocated.

11. Overview of upcoming meetings

The next meeting will be held on May 22, 2025.

12. Adjournment

There being no further business, discussion ended at 11:12 a.m.

Recorded by Renee Heath
Administrative Secretary