TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 13, 2023

Nick C. Heilenman, P.E.
Quiddity Engineering, LLC
6330 West Loop South, Suite 150
Bellaire, TX 77401

Re: Ashton Gray Development LLC
Ashland 0.2 MGD WWTP; Polishing Ponds to Serve Ashland WWTP
Permit No. WQ0016176-001
WWPR Log No. 0623/053
CN606024818, RN111511218
Brazoria County

Dear Mr. Heilenman:

Texas Commission on Environmental Quality (TCEQ) received the project summary transmittal letter dated June 9, 2023, and the subsequent submittal of the revised project summary transmittal letter along with additional project information, received on August 25, 2023.

The rules which regulate the design, installation and testing of domestic wastewater projects are found in 30 TAC, Chapter 217, of the Texas Commission on Environmental Quality (TCEQ) rules titled, Design Criteria for Wastewater Systems.

The projects include construction of a 0.2 MGD average daily flow (ADF) leased interim wastewater treatment plant (WWTP) and two polishing ponds to serve the WWTP. The engineer indicates that a draft permit was issued in January 2023 for the Ashland WWTP (TPDES Permit No. WQ0016176001), but the final permit has not yet been issued. Interim phase I of the draft permit allows a daily average flow 0.20 MGD (2-hour peak of 556 gallons per minute) and effluent limits of 5 mg/L of CBOD5, 5 mg/L of TSS, 2 mg/L of Ammonia Nitrogen, 6 mg/L minimum dissolved oxygen (DO), and 100 CFU or MPN of *E. coli* per 100 mL. The design influent raw wastewater constituent concentrations are 250 mg/L of BOD5, 250 mg/L of TSS, and 40 mg/L of Ammonia Nitrogen.

The projects will include the following components:

Ashland 0.2 MGD WWTP

- Influent screening box with manual bar screen: 4'-6" x 3" x 3'-6" tall tank.
- Two (2) Aeration basins, each 52' x 12' x 11.47' side water depth (SWD), total volume of 14,315 cu ft.
- One (1) 34' diameter x 10' SWD clarifier

- One (1) chlorine contact basin, 36' x 12' x 8.75' peak SWD, with an effective volume of 3,377 cu ft. (after subtracting 403 cu ft for mixing chamber, final effluent chamber, and curved corners).
- Two tertiary filter tanks (one main, one redundant), each 11'-8" x 8'-9" x 7.94' SWD with 144 square feet proposed filter area per tank (288 square feet total including spare tank).
- Two (2) digesters, each 52' x 12' x 11.67 SWD, total volume of 14,564 cu ft.
- Three (3) blowers (2 duty, one spare), each 850 scfm, 1700 scfm firm capacity.
- Sodium hypochlorite disinfection system.

Polishing ponds to serve Ashland WWTP

- Two (2) polishing ponds. Total surface area of 270,713 square feet with a 6'-0" side water depth at the normal water surface elevation, and 2-ft clay liner. The polishing ponds are overlying the recharge zone of the Gulf Coast Aquifer.

The summary transmittal letter also contained the following requests for variance:

1. The engineer requests a variance from the requirements of Chapter 217 regarding a channel approach section to a weir requiring a straight length of at least 20 times the expected head on a weir in §217.33(c)(2)(A) for the chlorine contact basin. The engineer indicates that the manufacturer's equipment capabilities allow for a shorter length of run while still maintaining accurate flow measurement in the chlorine contact basin flow measurement chamber. The proposed chlorine contact flow measurement chamber will have a straight run of 8.5 feet resulting in a length of 11.3 times the expected head on the weir. The engineer requests a straight run of 11.3 times the expected head on the weir be approved for the chlorine contact basin flow measurement chamber for this project. Upon review, TCEQ is granting this variance.
2. The engineer requests a variance from the requirements of Chapter 217 regarding the minimum width of 10 ft for the top of an embankment in of §217.203(f)(1) for the polishing ponds. The engineer indicates that in order to maintain adequate clearances from the existing ditch that the ponds will discharge to on the east side of the property and from the existing easements surrounding the property, smaller widths at the tops of the berms are proposed. A width of five feet at the top of top of the embankment is proposed on the northeast side of Polishing Pond 1 (north) and a width of ten feet at the top of the embankment is proposed on the other three sides of the pond. A width of eight feet at the top of the embankment is proposed on all sides of Polishing Pond 2 (south). The engineer indicates they have designed and constructed ponds with widths of five feet at the top of the embankments in the past and find them suitable for use in the design of the proposed pond embankments based on the features of this project. The engineer requests a minimum width of five feet at the top of the embankments be approved for the polishing ponds for this project. Because TCEQ is not approving the polishing ponds project, we are unable to grant this variance.

TCEQ has completed the review of the submitted information. Based on the results of our review, TCEQ is approving the 0.2 MGD wastewater treatment plant design project only. We are not approving the polishing ponds project because the proposed clay liner thickness (2-ft) does not meet the requirements established in

Chapter 309.13(9), which require that " A wastewater treatment facility surface impoundment may not be located in areas overlying the recharge zone of major or minor aquifers, as defined by the Texas Water Development Board, unless the aquifer is separated from the base of the containment structure by a minimum of three feet of material with a hydraulic conductivity toward the aquifer not greater that 10-7 cm/sec.

You must keep certain materials on file for the life of the project and provide them to TCEQ upon request. These materials include an engineering report, test results, a summary transmittal letter, and the final version of the project plans and specifications. These materials shall be prepared and sealed by a Professional Engineer licensed in the State of Texas and must show substantial compliance with Chapter 217. All plans and specifications must conform to any waste discharge requirements authorized in a permit by the TCEQ. Certain specific items which shall be addressed in the engineering report are discussed in §217.6(d). Additionally, the engineering report must include all constants, graphs, equations, and calculations needed to show substantial compliance with Chapter 217. The items which shall be included in the summary transmittal letter are addressed in §217.6(d)(1)-(9).

Within 60 days of the completion of construction, an appointed engineer shall notify both the Wastewater Permits Section of the TCEQ and the appropriate Region Office of the date of completion. The engineer shall also provide written certification that all construction, materials, and equipment were substantially in accordance with the approved project, the rules of the TCEQ, and any change orders filed with the TCEQ. All notifications, certifications, and change orders must include the signed and dated seal of a Professional Engineer licensed in the State of Texas.

Please be reminded of 30 TAC §217.7(a) of the rules which states, "Approval given by the executive director or other authorized review authority does not relieve an owner of any liability or responsibility with respect to designing, constructing, or operating a collection system or treatment facility in accordance with applicable commission rules and the associated wastewater permit".

If you have any questions, or if we can be of any further assistance, please call me at (512) 239-4924.

Sincerely,

Baltazar Lucero-Ramirez, P.E.
Wastewater Permits Section (MC 148)
Water Quality Division
Texas Commission on Environmental Quality

cc: TCEQ, Region 12 Office