EXHIBIT A
SCOPE OF SERVICES
2023 WASTEWATER MASTER PLAN
CITY OF BRYANT, ARKANSAS
HWEI PROJECT NO. 2023004
FEBRUARY 14, 2023

A. General

1. Conduct a Kick-Off Meeting with the Owner & Stakeholders

2. Conduct two (2) Progress Meetings with the Owner
   a) Provide meeting agenda at least three (3) business days prior to each meeting and meeting minutes no later than three (3) business days following each meeting.

3. Review the City of Bryant's existing 20-year wastewater master plan (2008)
   a) Document master plan's goals

   b) Document and evaluate master plan assumptions

   c) Review master plan assumptions & projections for accuracy

   d) Identify recommended projects yet to be completed, if any. If projects are determined to still be necessary, update the project cost estimate

4. Review Bryant's current Water/Wastewater Rate Analysis (2021)
   a) Review assumptions used in the rate analysis

   b) Review rate study adequacy to satisfy Arkansas Act 605 requirements

   c) Evaluate projected revenue for the City's existing Wastewater System

   d) Evaluate operating budgets for the City's Wastewater System
      i. Document operating budgets for existing system
      ii. Estimate required budget modifications based on updated master plan recommendations
      iii. Review adequacy of rates based on revenue projections from updated master plan flow projections and cost assumptions

5. Collect and review historical data, including reviewing 2017 Sanitary Sewer Evaluation and Capacity Assurance Plan (SECAP).
   a) Document and review historical assumptions

   b) Note collection system improvements not reflected in hydraulic modeling

   c) Discuss any ambiguities or concerns with RJN & Associates. Identify required model updates, if any. Facilitate model updates by RJN. RJN fees, if any, are excluded from HW's Scope of Services.

B. Collection System

1. Existing Lift Stations & Force Mains
   a) Review the following information from the City of Bryant:
      i. Record drawings for each lift station/force main (40 lift stations)
      ii. Pump curves and other pump, motor, and standby generator data/secondary sources of power (transfer switches)
      iii. Operation and maintenance data including pump run (hours) data
      iv. Maintenance records and work order histories
      v. Sanitary Sewer Overflow (SSO) records of lift station related spills

   b) Interview Bryant personnel to gain additional detail regarding the following:
      i. Lift station operation, maintenance, or safety concerns
      ii. Spare parts inventory and equipment
      iii. Emergency practices and procedures

   c) Field investigation of each lift station to verify historical data, obtain missing information, and photograph its key components

   d) Develop a detailed description of each pump station, including the following:
      i. Lift station structure
      ii. Pumping equipment
      iii. Controls
      iv. Supervisory Control and Data Acquisition (SCADA) system
      v. Primary and alternate power supplies

   e) Determine the peak, incoming dry-weather flow rate and peak wet-weather flow rates in the gravity sewer line tributary to each lift station.

2. Lift Station Condition & Capacity Evaluation
   a) Perform a condition assessment of each lift station. Lift station condition assessments may include:
      i. Lift station structure
      ii. Pumps
      iii. Motors
      iv. Valves
      v. Piping and support structures
      vi. Electrical, instrumentation, and SCADA components
      vii. Bar screens and associated components
      viii. Odor control equipment
      ix. Equalization basins and auxiliary components
      x. Floodplain/floodway issues
      xi. Surrounding neighborhood issues

   b) Determine, by field measurement, the actual firm capacity of each lift station with the largest pump out of service. For those lift stations that include wet-weather equalization storage, the firm capacity of the lift station shall be based upon operation of those components.

c) Comparison evaluation of the firm pump capacity of each lift station to the peak wet-weather flow rate(s) in the gravity sewer line(s) tributary to the lift station.

d) Determine the critical response time under both dry-weather and wet-weather conditions for each lift station.

3. Lift Station Improvements

a) Recommend improvements needed for each lift station based on capacity limitations, infrastructure condition, regulatory requirements, or safety.

b) Provide alternatives, implementation schedule and associated cost estimates

4. Force Main Condition & Capacity Evaluation

a) Work with RJN to perform a comparison evaluation of the capacity of each force main to the peak wet-weather flow rate(s) in the gravity sewer line(s) tributary to the force main.

b) Identify any redundant or stand-by force main(s) and its capacity as a percentage of the pump station's discharge and its typical operating mode (i.e., emergency standby, wet-weather standby, or other mode).

c) Perform an operational assessment of each force main including the following:
   i. Normal operating pressure
   ii. Maximum anticipated pressures resulting from:
      1. Pump shut-down or failure
      2. Valve failure
      3. Past maintenance records

5. Collection System Capacity
   a) Develop Sewer Demand Projections
      i. Determine current average daily flow (ADF) and peak daily flow (PDF) values
      ii. Perform growth study utilizing available Census and other data
      iii. Project future sewer capacity needs using historical data, population trends, or combination thereof to identify collection system and WWTP capacity improvements.

   b) Evaluate the City's Territorial Jurisdictions and other undeveloped areas as directed by the City Engineer and Public Works Director to determine magnitude of potential growth of sewage capacity demands for the next 5, 10, 15, and 20 years.
   c) Work with RJN to update the City's hydraulic model to reflect projected demand increases. Coordinate with RJN to obtain model simulations necessary to identify collection system capacity restrictions.

6. Collection System Improvements
   a) Evaluate need for additional regional lift stations and subsequent force mains for current service area and future

b) Recommend potential locations for future lift stations

c) Evaluate need for additional gravity collection mains and/or upsizing/replacing existing

d) Recommend location for potential future gravity collection mains

e) Provide alternatives, implementation schedule and associated cost estimates

C. Wastewater Treatment

1. Provide a long-range plan for the City of Bryant Wastewater Treatment Plant (WWTP)
   a) Determine existing plant maximum month and peak hour capacity. Identify hydraulic and treatment capacity bottlenecks within the plant

   b) Evaluate existing plant's ability to provide consistent compliance with current and assumed future NPDES permit requirements

   c) Interview Bryant Personnel and perform site visit to evaluate condition of existing wastewater treatment plant components and identify those items that have exceeded their design life and/or require replacement. Estimate cost for component replacement

   d) Evaluate potential WWTP improvements using modern technologies

   e) Identify required improvements to the WWTP based on condition assessment and projected demand

   f) Identify improvements required for anticipated regulation changes (i.e., parallel treatment, additional metals monitoring, nutrient removal, disinfection, etc.)

   g) Evaluate potential for alternate discharge location and/or additional WWTP locations

   h) Evaluate the effectiveness of solids handling and disposal practices and the potential for change driven by increasing cost or future regulation

   i) Provide cost estimates and milestone schedules for all recommended treatment plant improvements

D. Wastewater System Master Plan

1. Future Water/Wastewater Rate Recommendation
   a) Evaluate changes to water/wastewater rates required to provide revenue necessary to fund all recommended projects including reasonable contingency.

   b) Explore alternative funding sources including but not limited to new or increased fees (impact, connection, etc.), grants, bonds, SRF loans, etc.

   c) Recommend revenue generation plan to implement all master plan recommendations
      i. It should be noted that this plan is not a new rate study, rather it will provide a snapshot of revenue options and starting recommendations for the use in the City's next rate study.

   d) Identify potential funding sources for the recommended improvements

   e) Document changes to the operations budget necessitated by the recommended improvements

2. Prepare a draft Wastewater System Master Plan
   a) Prepare exhibits of the proposed improvements based on aforementioned evaluations

   b) Prepare budgetary design and construction cost estimates

   c) Prepare project milestone schedule based on needs at five (5)-year increments up to 20-years

   d) Solicit comments from the City's Public Works Director and City Engineer

   e) Incorporate all comments received from the Owner into the final Plan

   f) Present final Master Plan to the City's Public Works Director and City Engineer

3. Present Final Master Plan and findings to Bryant Water and Sewer Advisory Committee, Planning Commission, and City Council. Anticipate four (4) meetings at two (2) hours each)

4. Revise, reissue and deliver to the Owner five (5) copies of the Report, including exhibits and one (1) electronic copy of the Report and hydraulic model on CD.

E. Cost Summary

A. General	
B. Collection System	**$120,000**
1. Existing Lift Stations and Force Main	$18,000
2. Lift Station Condition & Capacity Evaluation	$37,000
3. Lift Station Improvements	$20,000
4. Force Main Condition & Capacity Evaluation	$10,000
5. Collection System Capacity	$20,000
6. Collection System Improvements	$15,000
C. Wastewater Treatment	**$40,000**
D. Wastewater System Master Plan	**$40,000**
1. Rate Review	$16,000
2. Master Plan	$24,000
TOTAL	**$200,000**