July 8, 2026

MEMORANDUM

To: Board of Mayor and Aldermen

CC: Gerald Herman, City Administrator

From: Travis Garmon, Wastewater Director

Re: Request for purchase authorization: WWTP Headworks/EQ Improvements

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Please be advised that on this day (July 16th, 2026), the Wastewater Department is requesting that the Board of Mayor and Aldermen approve and authorize the City to enter into contract with Jacobs Engineering for all task orders associated with the proposed Wastewater Treatment Plant (WWTP) Headworks and Equalization (EQ) Improvements design, in the amount of $998,000.

The purpose of the proposed project is to design a replacement Headworks structure at the WWTP, and to redesign current facility EQ capabilities. The recently-completed WWTP Facility Plan prepared by Jacobs Engineering was drafted to forecast growth trends through approximately 2050, and identifies future growth/expansion needs for the facility in the order that they will arise. The first capacity hurdle identified is the existing Headworks structure, which was not replaced or significantly modified during the most recent facility expansion project. Additionally, expanded/improved equalization capabilities have been identified as a critical and cost-effective need for all additional future expansion projects.

The existing Headworks structure utilizes rotary drum-screens, with influent force-mains plumbed directly to the screens. These units experience significant hydraulic constraints during peak flows, as a result. These existing screens are also in an open-air configuration, which results in both odor issues as well as severe icing problems in the winter months. Due to these difficulties, the new facility will be designed to be a fully enclosed structure, and will utilize a completely different in-channel screening technology better capable of handling surge-loads than the current structure.

This proposed agreement is for design services for the new facility. The Wastewater Department tentatively expects to break ground on this project in approximately 2 years.

Jacobs

AGREEMENT FOR PROFESSIONAL SERVICES

WWTP HEADWORKS FACILITY

Task Order No. _____

Client Project No. _____ Engineer Project No. _____

This Task Order is entered into on the effective date noted above pursuant to the "Master Agreement for Professional Services" between CITY of WHITE HOUSE, Tennessee ("Client") and JACOBS ENGINEERING GROUP INC. ("Engineer"), dated February 18, 2016 ("Agreement"). The Agreement is incorporated herein and forms an integral part of this Task Order.

Services Authorized & Compensation

The Client authorizes the Engineer to perform services and be compensated as detailed within Exhibits A and B.

CITY OF WHITE HOUSE, TENNESSEE	JACOBS ENGINEERING GROUP INC.
By: _____	By: _____
Date: _____	Name: Robert Cook, P.E.
	Title: Manager of Projects
	Date: _____

Project Understanding

The City of White House (the City) owns and operates the White House Wastewater Treatment Plant (WWTP), which includes an aerated equalization lagoon, headworks, bioreactors, tertiary filtration, and ultraviolet (UV) disinfection systems. The WWTP discharges treated effluent to Frey Branch in accordance with an existing National Pollutant Discharge Elimination System (NPDES) permit.

The City has requested professional services for site investigation and detailed design associated with one of the priority improvements to WWTP outlined in the recently completed WWTP Facility Plan Report. The improvements focus on headworks screening, aerated equalization, and equalization pumping. The proposed upgrades include construction of a new headworks screening building, installation of larger equalization pumps, and replacement of the existing aerators within the equalization lagoon. The objective of the project is to provide reliable headworks screening and better utilize the existing equalization lagoon to mitigate the current and future peak flows received during and following rain events.

Task 1: Project Management

Services will include:

1. Prepare project management plan including a schedule, quality control plan, and field safety instructions.
2. Prepare and host scheduled status update meetings with the City to review and discuss the progression of the project. Anticipated number of status update meetings consists of one per month (12 total).
3. Prepare and submit monthly invoices and supporting documentation.
4. Prepare and hold Kick-Off Meeting with the City.
5. Conduct major milestone workshops (30%, 60%, and 90%) to review the detailed design.

Task 2: Data Collection and Field Investigation

Services include:

1. Topographic Survey and Subsurface Utility Engineering (SUE) Services:
    a. Topographic survey:
        i. Jacobs' survey team will:
            a) Prepare 1-foot contours of the existing White House WWTP,
            b) Survey perimeter of above ground improvements within an area approximately 4 acres.
            c) Survey the utilities identified and marked by the SUE subcontractor
            d) Survey accessible critical elevations internal of structures (weirs, top of structures/walls, etc).
            e) Provide four horizontal and vertical temporary control points as benchmarks at the site. These would be ½ "rebar with cap or nail and washer in pavement.

f) Establish the horizontal datum as Tennessee State Plane (NAD 83) and the vertical datum as NAVD 88, using observations tied to the local virtual GPS network.

b. SUE Services:

i. Jacobs will subcontract the SUE services. The subcontractor will:

a) Designate/mark conductive subsurface utilities such as water lines, gas lines, electric lines, and telephone as can be determined utilizing radio frequency and Ground Penetrating Radar (GPR) techniques (Quality Level B).

b) Vacuum excavation to determine the depth of existing utilities is included. Jacobs will determine the location and quantity of vacuum excavations necessary to support the design of improvements.

c) SUE services are limited to existing and proposed headworks area.

2. Geotechnical Investigation

i. Jacobs will subcontract geotechnical field investigation to:

a) Perform soil borings, field oversight, and collect soil samples,

b) Perform laboratory analysis and provide a geotechnical data report (GDR).

Task 2 Deliverables

1. Signed reproducible and separate PDF of the completed base map survey, at 1" = 20' scale on a 22" X 34" sheet, with original seal and signature of a Tennessee Professional Land Surveyor along with digital drawing files in AutoCAD Civil 3D. The AutoCAD Civil 3D digital files will provide planimetric data in two dimensions along with a digital terrain model (DTM).
2. One electronic copy (PDF) of the Geotechnical Data Report

Task 3: Schematic (30%) Design

This phase of the project involves advancing relevant components in the previous alternative study into a Basis of Design Report and includes 30-percent design drawings, list of specification sections, and drafts of major equipment specifications. The design will include sizing the Headworks Facility and EQ Basin and Pump Station, associated structures, and major equipment, as well as recommended equipment layout. Scope items include:

1. Design phase hydraulic model evaluation using the hydraulic model developed in the previous plant evaluation and alternatives analysis. The model will be updated with data from the topographical survey and finalized for use in design of the improvements; a preliminary hydraulic profile will be developed.
2. Jacobs will coordinate with the City to schedule a one-day site visit. The purpose of the site visit to for the design leads to perform site and facility reconnaissance to support development of the 30-percent design.
3. With the above information, the design team will proceed with preparation of 30-percent design drawings, list of specification sections, and draft of major equipment specifications. The design will include sizing all facilities, structures, and major equipment, as well as recommended equipment layout. The design will include the following:

a. An overall process flow diagram.

b. An updated preliminary hydraulic profile.

c. Overall site plan with routing of onsite major piping.

d. Equipment list with vendor cut sheets.

e. 2D drawings to convey conceptual design.

f. Plan drawings for headworks facility indicating space allocations and building elevations.

g. Structural, mechanical, architectural, electrical, and instrumentation design criteria and parameters for subsequent design phases.

h. Preliminary control block diagram defining integration with existing supervisory control and data acquisition (SCADA) and networks.

i. Preliminary single-line diagrams including concept for backup or alternate power sources.

j. Quality control (QC) review will be conducted prior to delivering 30-percent design documents to the City.

4. Update opinion of probable construction cost (OPCC) prepared in the recently completed WWTP Facility Plan Report.

5. Jacobs will prepare a Final Basis of Design Report that includes 30-percent design drawings, list of specifications, draft of major equipment specifications, and summary of design criteria to be used by all disciplines. Jacobs will provide the 30-percent drawings, specifications list, and BODR to the City for review prior to the review workshop.

6. Jacobs will submit the BODR and WWTP Facility Plan (prepared under other Task Order) to TDEC to satisfy requirements of the PER and 30-percent design submittal review requirements.

Task 3 Deliverables

1. Electronic copy (PDF) of the Basis of Design Report (Draft and Final)

2. 30-percent construction cost estimate

3. 30-percent review workshop meeting notes

Task 4: Detailed Design Development (60%, 90%, and Final Phases)

Utilizing the completed BODR and workshop comments from the City, Jacobs will advance the design through the remaining design phase milestones at 60-percent, 90-percent, and Final Design. An estimated drawing list is provided in Exhibit C. Key tasks include:

60-Percent Design Development

1. Detailed design drawings, details, and technical specifications will be developed to a 60 percent completion level, including responses and resolutions to issues raised in the 30 percent design workshop, integrating mutually agreed-upon improvements into the design.

2. Draft technical specifications developed using Jacobs standard specification sections for each project component.

3. A technical quality control (QC) review will be conducted prior to delivering the 60-percent documents to the City.

4. Jacobs will provide the 60-percent drawings, details, and specifications to the City for review prior to the 60-percent review workshop.

5. Jacobs will present the 60-percent design at a workshop with the City. Comments from the City will be captured and summarized in meeting notes and incorporated in subsequent detailed design phases.

6. Upon resolution of the 60% review comments the design concepts will be "frozen" (not changed) for the development of the final design phases.

90-Percent Design Development

1. Detailed design drawings, details, and technical specifications will be developed to a 90 percent completion level, including responses and resolutions to issues raised in the 60 percent design workshop, integrating mutually agreed-upon improvements into the design.
2. A three-dimensional design models will be substantially developed and presented at the workshop to fully define the Headworks Facility and EQ Pump Station.
3. Technical specifications developed using the Jacobs team standard specification sections for each project component.
4. A QC review will be conducted prior to delivering the 90-percent documents to the City.
5. Jacobs will provide the 90-percent drawings, details, and specifications to the City for review prior to the 90-percent review workshop.
6. Jacobs will present the 90-percent design at a workshop with the City. Comments from the City will be captured and summarized in meeting notes and incorporated in subsequent detailed design phases.

Final Design Development

Prepare detailed design drawings and technical specifications to achieve the 100-percent Final Design submittal. This effort includes addressing all comments from the 90-percent design workshop and integrating only those improvements mutually agreed upon by the Owner and Engineer. The engineer will sign and seal the complete set of contract documents for bid phase.

Permitting

1. Prepare and submit a Notice of Intent (NOI) to TDEC for a General National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges from Construction Activities (TNR100000), including the development of a site-specific stormwater pollution prevention plan (SWPPP).
2. Jacobs will submit the final drawings and specifications to TDEC for review and approval.

Task 4 Deliverables

1. 60-percent deliverable including draft drawings and technical specifications in three volume electronic binder (PDF).
2. 60-percent review workshop meeting notes.
3. 90-percent deliverables including drawings and technical specifications, and draft bid documents in a three volume electronic binder (PDF)
4. 90-percent review workshop meeting notes
5. Final deliverables including final signed and sealed contract documents in a three volume electronic binder (PDF)
6. Submitted permit applications.

Estimated Schedule

The anticipated schedule of major deliverables and events is listed below. A detailed schedule will be prepared as part of Task 1 of this Task Order and will be provided to the City prior to the project kickoff meeting.

Description	Estimated Date
Notice to Proceed	July 24, 2026
City Kickoff Meeting	August 11, 2026
30% Design Deliverable	October 29, 2026
City 30% Review Workshop	November 12, 2026
60% Design Deliverable	January 28, 2027
City 60% Review Workshop	February 11, 2027
90% Design Deliverable	May 27, 2027
City 90% Review Workshop	June 10, 2027
Final Design Deliverable (TDEC Submittal)	August 12, 2027
Anticipated TDEC Approval (~45 Day Review Period)	September 27, 2027

Assumptions and Exclusions

1. Engineer proposes to provide the services necessary to complete the work in a timely manner. The proposed schedule is based on the orderly and continuous progression of the work through completion. In the event that issues arise beyond the Engineer's control, the proposed schedule shall be adjusted accordingly.
2. Approximately 45 days are included in the schedule for TDEC review period. This duration is subject to vary based upon TDEC availability to review.
3. The City shall provide Jacobs with the relevant data necessary to develop the detailed design documents. Jacobs will reasonably rely upon the accuracy and completeness of the information/data provided by the City.
4. The schedule anticipated the City to review and provide comments to Jacobs no later than two weeks after receipt of documents.
5. The planned improvements will not reclassify space or require code driven upgrades to existing electrical components.
6. The fee herein is an estimate and if additional services are necessary beyond the estimated fee the City and Jacobs will negotiate an amendment or authorize under a separate task order.
7. The design documents will be prepared for a single construction contract.
8. Foundation improvements or deep foundations is not required for proposed facilities.
9. Corrosion protection is limited to coatings and linings
10. Construction cost estimates will be in accordance with AACE Cost Estimate Classification System, Practice 18R-97 for Process Industries. Since the Engineer has no control over market conditions, the Engineer does not warrant that bids or ultimate costs will not vary from prepared estimates.
11. Deliverables are being provided under the terms of this task order and are not intended or represented to be suitable for reuse on any other project.

12. Differences may exist between the electronic files and the corresponding printed documents (hard copies). Because of the potential that the information presented in any digitally delivered files can be altered, modified and/or supplemented, unintentionally or otherwise, Jacobs makes no representation or warranty of any kind regarding the accuracy or completeness of the electronic files received. In the event that a conflict arises between the sealed PDF files prepared by Jacobs and any electronic files, the sealed PDFs shall govern in all respects.

13. In soils, foundation, groundwater, utilities, and other subsurface investigations, the actual characteristics may vary significantly between successive test points and sample intervals and at locations other than where observations, exploration, and investigations have been made. Because of the inherent uncertainties in subsurface evaluations, changed or unanticipated underground conditions may occur that could affect total project cost and/or execution. These conditions and cost/execution effects are not the responsibility of Jacobs.

14. Jacobs does not warrant or guarantee work performed by others, including vendors and subconsultants.

15. Existing Sanitary and Storm sewer sizes, types and materials will be determined as accurately as possible without entry to confined spaces. Inlets full of debris or inaccessible will be noted. Lines entering or exiting structures which cannot be tied to another upstream or downstream structure with certainty will be indicated and a direction of the observed line will be shown.

16. Due to lack of apparent evidence, site conditions, and/or missing records, additional active utilities, abandoned utilities, and below grade structures within the project limits may exist that are not shown on the base map.

17. The accuracy of subsurface infrastructure, as located by SUE investigation methods, can be influenced by factors beyond ENGINEER'S control, such as conductivity of materials and their surroundings, moisture, proximity of other underground utilities or structures, depth, etc. As such, ENGINEER is not liable for resulting inconsistencies or for information provided by others

18. Jacobs will reasonably rely upon the accuracy, and completeness of the information/data provided by the City or other third parties.

19. The topographic surveying scope of services does not include the following items. We will be pleased to offer these services upon your authorization for a reasonable adjustment in scope and compensation:

    a. Surveying, computing, or overlaying property lines and right-of-way.

    b. Location of individual plants or trees.

    c. Research of existing easements

    d. 3D laser scanning or modeling of exterior or interior of existing buildings or other above ground structures.

20. Jacobs does not warrant or guarantee work performed by others, including subcontractors.

21. Should additional services beyond the Scope of Services defined above be requested, an amendment or separate task order will be negotiated.

22. Design Phase Definitions:

    a. 30% Design: Basis of design concepts, parameters, and layouts

    b. 60% Design: Key equipment defined, elevations set, draft drawings developed. Upon resolution of 60% review comments all design concepts are "frozen" (not changed) for the development of the final design phases

    c. 90% Design: Complete design drawings and specifications available for client review and comment

    d. 100% Design: Bid documents submitted for bid phase

Compensation

For the services described herein, the City agrees to pay the Engineer monthly, for work completed, on the basis of the standard hourly billing rates provided in Attachment B.

Travel expenses include automobile mileage (at current IRS rate) will be reimbursable at cost. Direct expenses (including subcontractor, outside services, field equipment, etc.) are reimbursable at cost plus five percent. Projected reimbursable expenses have been included in the Task budgets.

Task Name	Estimated Fee
Project Management	$25,000
Field Services	$40,000 (allowance)
30% Design	$162,000
60% Design	$309,000
90% Design	$300,000
Final Design	$136,500
Permitting[1]	$25,500
Total (not to exceed)	**$998,000**

1) Permitting fees are not included and assumed to be paid by the City.

Attachment B
Task Order 2026.09
Rate Schedule
WWTP Headworks Facility

Functional Classification - Description	Hourly Rates[1]
Admin Staff I	79.31
Admin Staff II	101.97
Project Coordinator / Admin Staff	124.63
Designer / RPR - 0	90.64
Designer / RPR - 1	101.97
Designer / RPR - 2	125.66
Designer / RPR - 3	135.96
Designer / RPR - 4	147.29
Designer / RPR - 5	163.77
Designer / RPR - 6	181.28
Engineer / Consultant- 0	101.97
Engineer / Consultant- 1	118.45
Engineer / Consultant- 2	142.14
Engineer / Consultant- 3	163.77
Engineer / Consultant- 4	186.43
Engineer / Consultant- 5	197.76
Engineer / Consultant- 6	215.27
Engineer/ Consultant- 7	224.54
Project Manager / Design Manager / Construction Manager - 1	186.43
Project Manager / Design Manager / Construction Manager - 2	210.12
Project Manager / Design Manager / Construction Manager - 3	225.57
Project Manager / Design Manager / Construction Manager - 4	237.93
Technologist / Subject Matter Expert - 0	210.12
Technologist / Subject Matter Expert - 1	225.57
Principal Manager /Technologist / Subject Matter Expert - 2	254.41
Principal Manager /Technologist / Subject Matter Expert - 3	288.4
Principal Manager / Subject Matter Expert - 4	307.97

1. Rates are subject to 3% annual escalation each year on January 1st

Attachment C
Task Order 2026.09
Anticipated Drawing Index
WWTP Headworks Facility

Estimated Sheet Count	Sheet Number	Drawing Title
1	001-G-1000	Cover
2	001-G-1001	Drawing List
3	001-G-1002	Abbreviations
4	001-G-1003	Civil and General Legend
5	001-G-1004	Architectural Legend
6	001-G-1005	Structural Notes
7	001-G-1006	Structural Notes
8	001-G-1007	Process Mechanical Legend
9	001-G-1008	HVAC Legend
10	001-G-1009	Electrical Legend
11	001-G-1010	Electrical Legend
12	001-G-1011	I&C Legend
13	001-G-1012	I&C Legend
14	001-G-1013	Process Flow Diagram - Headworks and EQ
15	001-G-1014	Hydraulic Profile
16	005-C-1001	Existing Conditions Overall Survey Map
17	005-C-1002	Existing Conditions Partial Site Survey
18	005-C-1003	Overall Site and Paving Plan
19	005-C-1004	Partial Site Layout and Paving Plan
20	005-C-1005	Partial Site Grading and Drainage Plan
21	005-C-1006	Erosion and Sediment Control Plan
22	005-C-1007	Erosion and Sediment Control Details
23	005-C-5001	Civil Details
24	005-C-5002	Civil Details
25	005-Y-2001	Overall Yard Piping Plan
26	005-Y-2002	Partial Yard Piping Plan
27	005-Y-3001	Yard Piping Plan and Profile
28	005-Y-3002	Yard Piping Plan and Profile
29	005-Y-5001	Yard Piping Details
30	005-Y-5002	Yard Piping Details
31	005-E-4001	Electrical Overall Site Plan
32	005-E-4002	Electrical Partial Site Plan
33	005-E-4003	Electrical Duct Bank Sections
34	005-E-4004	Electrical Duct Bank Sections
35	008-N-6001	P&ID Headworks
36	008-N-6002	P&ID EQ Basin and PS
37	008-N-6003	Network Block Diagram
38	008-N-7001	Typical I/O Wiring Diagrams
39	009-A-2001	Life Safety Plan and Code Data
40	009-A-2002	Headworks Immediate Plan
41	009-A-2003	Headworks Upper Plan
42	009-A-2004	Headworks Building Roof Plan
43	009-A-3001	Headworks Building Elevations
44	009-A-5001	Headworks Building Details
45	009-A-5002	Standard Details
46	009-S-2001	Headworks Building Foundation Plan
47	009-S-2002	Headworks Building Intermediate Plan
48	009-S-2003	Headworks Building Roof Plan
49	009-S-3001	Headworks Building Sections
50	009-S-3002	Headworks Building Sections

Estimated Sheet Count	Sheet Number	Drawing Title
51	009-S-3003	Headworks Building Sections
52	009-S-3004	Headworks Building Partial Plan and Sections
53	009-S-4001	Headworks Building Sections and Details
54	009-S-4002	Headworks Building Sections and Details
55	009-S-5001	Standard Details
56	009-S-5002	Standard Details
57	009-S-5003	Standard Details
58	009-D-2001	Headworks Building Overall Plan
59	009-D-2002	Headworks Building Plan Lower
60	009-D-2003	Headworks Building Plan Upper
61	009-D-3001	Headworks Building Section
62	009-D-3002	Headworks Building Section
63	009-D-3003	Headworks Building Section
64	009-D-5001	Headworks Building Details
65	009-D-5002	Headworks Building Details
66	009-D-5003	Headworks Building Details
67	009-D-5004	Standard Details
68	009-D-5005	Standard Details
69	009-M-2001	Headworks Building HVAC Plan
70	009-M-3001	Headworks Building HVAC Sections, Details
71	009-M-4001	Schedules and Control Descriptions
72	009-E-2001	Headworks Building Power Plan
73	009-E-2002	Headworks Building Lighting Plan
74	011-S-2001	EQ Pump Station Foundation Plan and Section
75	011-S-2002	EQ Blower Foundation Plan and Section
76	011-S-5001	EQ Pump Station Structural Details
77	011-S-5002	EQ Blower Structural Details
78	011-D-2001	EQ Pump Station Plan
79	011-D-2002	EQ Blower Plan
80	011-D-2003	EQ Lagoon Diffuser Plan
81	011-D-3001	EQ Pump Station Sections
82	011-D-3002	EQ Blower Sections
83	011-D-5001	EQ System Details
84	011-D-5002	EQ System Details
85	011-E-2001	EQ Basin and PS Power Plan
86	011-E-3001	EQ Basin and PS Lighting Plan
87	060-E-2001	Electrical Building Plan and MCC Modifications
88	070-E-6001	Overall Plant One Line Diagram
89	070-E-6002	One Line Diagram - Headworks
90	070-E-6003	One Line Diagram - EQ Basin and PS
91	070-E-6004	Control Diagrams and Schedules
92	070-E-6005	Panel Schedules
93	070-E-6006	Standard Details

Note: Sheet count is estimated.