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Construction of Water Processing Facility

project

www.ashvilleohio.gov

Mayor Charles K. Wise



Nelson R. Embrey President Pro Tempore Roger L. Clark Randy S. Loveless R. David Rainey Matt Scholl Steve Welsh

Utility Committee

Roger L. Clark R. David Rainey Steve Welsh Adam Kehoe * James Welsh * Franklin Christman * Chad Noggle* * Ex Officio Member

Clerk-Treasurer April Grube

Planning & Zoning

Jason J. Bartholow, Chair Bryan Brunton Michael Peters Matt Scholl, Village Representative Adam Trimmer, Inspector Charles K. Wise, Mayor

Chief of Service Gregory L. Sturgill

Tax Administrator Patricia S. Cavinee

Personnel Director Brian M. Garvine

Chief of Police Jeffrey A. George

Chief of Wastewater Adam P. Kehoe

Chief of Water James R. Welsh

Village Administrator Franklin Christman



Preliminary Scope of Services

The Consultant shall furnish planning, design, permitting, bidding, and construction administration services for the Water Treatment Plant (WTP) Expansion. The Consultant may propose modifications to this scope of services if desired.

The consultant shall assign a project manager who will be the Village's primary contact and be responsible for the consultant's work (including sub consultant work if applicable).

- 1) Village of Ashville owner/client
- 2) 140 Park Street, Ashville, Ohio 43103 Location
- 3) Franklin Christman, Village Administrator and James Welsh, Chief of Water Operations owner/client's representative
- 4) Other involved groups Village Council Utility Committee: Roger Clark David Rainey Steve Welsh (Chairperson)
 - Ex Officio Members: Mayor-Charles Wise Fire Chief-Chad Noggle

Chief of Water-Jim Welsh Engineer-Chris Village Administrator-Franklin Christman

Engineer-Christopher Tebbe



PHASE I: PLANNING - DETAILED DESIGN MEMORANDUM (DDM)

Task 1.1 ~ Project Management and Administration

- The consultant shall assign a project manager who will be the Village's primary contact and be responsible for the consultant's work (including sub consultant work if applicable).
- Perform project management and administration throughout Phase I of the WTP Expansion Project.
- Schedule and participate in a project kickoff meeting with the Village.
- Prepare meeting agenda and minutes for the kickoff meeting.
- Schedule and participate in monthly update and coordination meetings or conference calls with the Village.
- Prepare meeting agendas and minutes for monthly meetings or conference calls.
- Prepare monthly invoices for services rendered.
- Develop and update the project schedule and communicate any changes to the Village.

Task 1.2 ~ Develop DDM

- Prepare a report to identify the current condition and capacity of the WTP and future needs to accommodate growth and increased water strength. The DDM for the WTP improvements is anticipated to include: Introduction and Project Description, Basis of Planning, Existing Facilities and Performance, Capacity Analysis, Alternatives Analysis, Cost Analysis, and Description of Recommended Improvements.
- Review population projections and potential development projects provided by the Village.
- Use the water population projections to determine if any intermediate operational measures are required before the WTP reaches its planned 2.0 MGD capacity.
- Meet with the WTP operators to review Operations and Maintenance (O & M) issues.
- Review existing As-Built drawings of the WTP.
- Evaluate up to three (3) alternatives to expand each process of the plant. An alternative shall be up to three

 (3) different equipment manufacturers, different process technologies, or a combination of the two. Develop
 a summary table or matrix for analyzing the processes and equipment of the WTP.
- Evaluate WTP expansion alternatives including objectives mentioned above.
- Perform a field review of the existing mechanical, electrical, and HVAC equipment ancillary to the process
 equipment and buildings, and recommend upgrades to lighting, heating, ventilation, and plumbing systems in
 the existing buildings at the WTP. Lighting will be evaluated in the screen building and recommendations will be
 made to improve lighting efficiency and reduce power consumption.
- Provide capital costs for equipment in each alternative and a Present Worth Analysis (PWA) of operational, maintenance, and replacement costs over a 20-year life cycle.
- Provide a process flow diagram, preliminary site plan, and figures showing the process equipment based on the preferred equipment and alternatives. Up to three (3) process flow diagrams and preliminary site plans shall be provided.
- Provide quality control reviews of internal work and provide quality assurance reviews of deliverables prior to submitting to the Village and reviewing agencies.
- Submit one (1) electronic (PDF format) copy and two (2) paper copies of the DDM to the Village for review and comment. The Village shall provide written review comments to ENGINEER within 30 calendar days from submittal of the DDM.
- Incorporate all comments received into a Final DDM for submission to the Village and Ohio EPA for approval.
 One (1) electronic (PDF format) and two (2) paper copies of the Final DDM will be provided.



Task 1.3 ~ Funding Assistance

- Assist the Village with funding strategy, applications, and procurement. This task includes assisting with identification of applicable State/Federal funding programs, preparation of funding applications, coordinating with funding agencies, and other work associated with securing low-interest loans or grant funds for the project.
- Identify applicable funding sources for the implementation of the recommended WTP expansion improvements. Potential funding sources include OhioEPA Water Supply Revolving Loan Account (WSRLA), Ohio Water Development Authority (OWDA), Ohio Development Services Agency (ODSA), Ohio Public Works Commission (OPWC), and General Obligation (GO) or Revenue Bonds (RB).
- Perform a general evaluation of the Village's current revenue system and sewer rates as well as the impact
 of the proposed improvements on those rates.
- If the Village would like to pursue United Stated Department of Agriculture Rural Development (USDA RD) funding, the DDM will need to be modified in the USDA Preliminary Engineering Report (PER) format with additional environmental and other requirements. If known prior to commencing work on the DDM, there shall be no additional compensation.

PHASE II: ENGINEERING DESIGN SERVICES

Task 2.1 Project Management and Administration

- Perform project management and administration throughout Phase II of the WTP Expansion Project.
- Schedule and participate in monthly update and coordination meetings or conference calls with the Village.
- Prepare meeting agendas and minutes for monthly meetings or conference calls.
- Prepare monthly invoices for services rendered.
- Maintain and update the project schedule and communicate any changes to the Village.

Task 2.2 Field Surveying and Base Mapping

ENGINEER shall:

- Perform all field surveys, site investigations, and base mapping necessary to facilitate and prepare the preliminary design, final construction drawings, specifications, and bid documents for the WTP Expansion project. All survey work shall be performed under the direction of a Professional Surveyor licensed in the State of Ohio and data shall be collected in the State Plane Coordinate System South and NAVD datum 1988. The anticipated survey area at the Ashville WTP site is approximately one and ³/₄ acres (1.75 acres).
- The Village shall clearly mark utilities, to the best of their ability, inside the WTP property.

Task 2.3 Preliminary (30%) Water Treatment Plant Expansion Design

Preliminary Design will include civil, structural, architectural, process, mechanical, and electrical disciplines. ENGINEER shall:

- Prepare engineering construction documents to a 30% Design Plans level including civil, structural, architectural, process, mechanical, and electrical disciplines.
 - Design plans shall be prepared in AutoCAD 2018 (or newer) software. o All design plans (preliminary and detailed) shall be developed in accordance with the Village of Ashville Design Criteria.
 - Civil design will include yard piping, and other site improvements. Provide structural design for new tanks, buildings, and other process design support. Architectural services will include any modifications to existing buildings and new buildings to match the existing WTP structures.
- Develop an opinion of probable construction costs to accompany the 30% design submittal. Costs will be based on manufacturer's quotes, cost estimating manuals, and the ENGINEER's experience.
- Develop an estimated construction schedule.
- Submit one (1) electronic (PDF format) copy, two (2) full-sized (22-inch x 34-inch) paper copies, and two (2) half-sized (11-inch x 17-inch) copies of the plans and specifications to the Village for review and comment. The Village shall provide written review comments to ENGINEER within 30 calendar days from submittal of the Preliminary Design documents.
- Develop a hydraulic profile to analyze the hydraulic grade line of the WTP. o conditions at 0.650 MGD and at the proposed 1.2 to 2.0 MGD.
- Provide quality control reviews of internal work and provide quality assurance reviews of deliverables prior to submitting to the Village and reviewing agencies.



Task 2.4 Detailed (60% and 90%) Water Treatment Plant Expansion Design

60% WTP Expansion Design

- Advance the Preliminary (30%) Design and provide the detailed design configurations and parameters established for a singular (1) alternative for public bid. The 60% design submittal shall consist of the following items:
 - o Draft set of Engineering Design Plans illustrating the proposed WTP expansion improvements.
 - Draft Specifications, including draft Bid Lump Sum Forms
 - Draft Permit Applications, including:
 - Notice of Intent (NOI) for Ohio EPA stormwater permitting requirements.
 - Ohio EPA Water Plan Approval application.
 - Ohio EPA NPDES permit modification application for increases in discharge from the lime sludge holding tanks.
 - Ohio EPA Antidegradation Addendum (if needed).
 - Ohio EPA Antidegradation Addendum (if needed).
 - Draft Engineer's Estimate of Probable Construction Cost.
- The Design Specifications will set forth the kind and quality of various materials to be used in construction, the type, capabilities, operating requirements, pertinent tests, guarantees to be met, and similar information needed to solicit competitive bids for construction of the Project. Specifications shall be prepared with the Construction Specifications Institute (CSI) Master Format 2008, Ashville Design Criteria, ODOT Construction and Material Specifications, and requirements per the funding/reviewing agencies.
- Prepare for review and approval, the standard Front-End Documents including Contract Bond, Bid Guaranty and Contract Bond, Owner-Contractor Agreement forms, General Conditions, Bid Forms, Notice to Bidders, and Instructions to Bidders, and other related documents.
- Submit one (1) electronic (PDF format) copy, two (2) full-sized (22-inch x 34-inch) paper copies, and two (2) half-sized (11-inch x 17-inch) paper copies of the plans and specifications to the Village for review and comment.
- Provide quality control reviews of internal work and provide quality assurance reviews of deliverables prior to submitting to the Village and reviewing agencies.

90% WTP Expansion Design

- Advance the 60% Design and provide the detailed design configurations and parameters established for a singular (1) alternative for public bid. The 90% design submittal shall consist of the following items:
- Draft Final set of Contract Drawings illustrating the proposed water treatment facilities, including:
 - o Title sheet, sheet index, general notes, abbreviations, nomenclature, legends, etc.
 - Process drawings
 - o Architectural drawings
 - o Structural drawings
 - Mechanical drawings
 - Electrical drawings Instrumentation drawings
- Draft Final Specifications, including draft Bid Forms (lump sum)
 - Draft Final Permit Applications, including:
 - Draft Notice of Intent (NOI) for Ohio EPA stormwater permitting requirements. Draft Ohio EPA Water Plan Approval application.
 - Draft OhioEPA NPDES permit modification application. Draft Ohio EPA Antidegradation Addendum (if needed).
- Draft Final Engineer's Estimate of Probable Construction Cost
- Update for review and approval, the standard Front-End Documents including Contract Bond, Bid Guaranty
 and Contract Bond, Owner-Contractor Agreement forms, General Conditions, Bid Forms, Notice to Bidders,
 and Instructions to Bidders, and other related documents.



- Submit one (1) electronic (PDF format) copy, two (2) full-sized (22-inch x 34-inch) paper copies, and two (2) half-sized (11-inch x 17-inch) paper copies of the plans and specifications to the Village for review and comment.
- Submit appropriate electronic (PDF format) and paper copies of the plans and specifications to the funding agencies and permitting agencies as required. The Village shall provide written review comments to ENGINEER within 30 calendar days from submittal of the 90% Design documents.
- Provide quality control reviews of internal work and provide quality assurance reviews of deliverables prior to submitting to the Village and reviewing agencies.

Task 2.5 Final (100%) Water Treatment Plant Expansion Design

- Finalize all Engineering Design Documents in preparation for project bidding. The Final Design will be represented in the documents to be used for bidding purposes and building permits. This includes final drawings, specifications, and cost estimates. The Final Design submittal will incorporate the Village's, Ohio EPA's, and funding agencies' comments and will be complete and suitable for bid purposes.
- The Final Design submittal shall include the following:
 - \circ $\;$ Advertisement for Bid and Information to Bidders.
 - Lump Sum proposal forms.
 - Technical Specifications.
 - Special instructions to the Contractor regarding the sequence of construction to maintain WTP operations.
 - Final Engineering Design Plans and Specifications.
 - Final Engineer's Estimate of Probable Construction Cost.
 - Completion of permits and approvals.
- Submit one (1) electronic (PDF format) copy, two (2) full-sized (22-inch x 34-inch) paper copies, and two (2) half-sized (11-inch x 17-inch) paper copies of the plans and specifications to the Village.
- Shall submit one (1) electronic (PDF format) and one (1) paper copy of the Advertisement for Bid, Information to Bidders, Lump Sum Proposal Form, Bond Forms, Contract Documents, and detailed technical specifications to the Village.
- Submit appropriate electronic (PDF format) and paper copies of the plans and specifications to the funding agencies and permitting agencies as required.
- Provide quality control reviews of internal work and provide quality assurance reviews of deliverables prior to submitting to the Village and reviewing agencies.

Task 2.6 Permitting

- Assist the Village with permitting applications and procurement. This task includes assisting with permit applications, coordinating with regulatory agencies, and other work associated with securing required permits for the project. Permit fees shall be paid by the Village.
- Schedule and participate in up to two (2) government agency coordination meetings or conference calls to seek input on permit applications and incorporate agency input into the project.
- Coordinate with the permitting agency to identify any potential future regulations that may impact the operation of the WTP.
- Prepare meeting agendas and minutes for government agency meetings or conference calls.



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PHASE III: BIDDING AND CONSTRUCTION SERVICES

(To be completed with a future Request for Proposal - RFP)

Task 3.1 Project Management and Administration

- Perform project management and administration throughout Phase III of the WTP Expansion Project.
- Schedule and participate in monthly update and construction progress meetings with the Village.
- Prepare meeting agendas and minutes for monthly progress meetings.
- Prepare monthly invoices for services rendered.
- Maintain and update the project schedule and communicate any changes to the Village.

Task 3.2 Bidding Assistance

- Prepare bidding documents for advertisement. The Bidding Phase will commence upon notice to proceed from the Village that the Project is ready to bid and terminate upon ENGINEER furnishing the Village with an engineering recommendation concerning the award of the construction contract.
- The following services are included in Bidding Assistance: o Provide the Final Engineering Design Documents, Technical Specifications, and Contract Documents to a hosting agency (such as Builders Exchange and/or Key Blueprints) to advertise the project to potential bidders, obtain construction bids, distribute addenda, and maintain a list of plan holders.
 - Conduct a pre-bid meeting to review the Project requirements and address questions that may arise. Prepare meeting minutes and distribute as an addendum.
 - Prepare written addenda to address questions, and to clarify, correct or revise the Contract Documents prior to the bid opening. o Attend the bid opening and tabulate the construction bids received. Bids are to be tabulated on a spreadsheet and submitted to the Village.
 - Assist the Village in evaluating the bids received and the bidders. Recommend award of the Contract based upon the evaluation of bids for the "Lowest and Best Bidder."
 - ENGINEER shall provide a written notice of award for execution by the Village and Contractor.

Task 3.3 Engineering Services during Construction

- Perform the following tasks for the estimated 18-month construction duration of the improvements:
 - Coordinate and direct the pre-construction meeting, including distributing agenda prior to and minutes subsequent to the meeting.
 - Attend monthly construction progress meetings to maintain the project schedule and address issues that may arise.
 - o Answer contractor's questions and requests for information (RFIs) during construction.
 - Review and approve contractor shop drawing submittals and provide feedback on submittals as appropriate.
 - Review contractor's pay applications, review contractor's quantities, and provide technical assistance during construction activities.
 - Review any potential contractor's claims for additional costs, assist the Village in negotiations, and prepare change orders as may be necessary.
 - ENGINEER shall perform all field surveys to facilitate and prepare the as-built construction documents for the WTP Expansion project. All survey work shall be performed under the direction of a Professional Surveyor licensed in the State of Ohio and data shall be collected in the State Plane Coordinate System South and NAVD datum 1988. This survey work is limited to the location of installed improvements designed and constructed as part of this WTP Expansion project. ENGINEER shall provide a final set of record drawings in electronic and paper formats to the Village incorporating information from the as-built survey.



• Assist the Village in preparing and submitting funding reimbursement requests from the applicable funding agencies.

Task 3.4 Construction Inspection Services

- Provide a full-time Resident Project Representative (RPR) for 16 months during construction of the Project. The RPR shall be on-site for observation of the construction work. The RPR shall attend construction meetings that are required, provide field checks of the materials being used and quality of workmanship, calculate the quantities of materials installed, review contractor payment applications, and review any deviations from the contract documents or existing conditions.
- Only be responsible for determining the provisions of the Contract: materials, quantities, equipment placement, quality of work, etc., to meet compliance with the Contract. Such review and approval shall not extend to means, methods, sequences, procedures of construction or to safety precautions and programs incident thereto, as such are the responsibility of the contractor(s). It is the contractor(s) responsibility to adhere to the General Conditions and Special Provisions, as well as all other specifications outlined in the Contract.
- Maintain daily project Inspection Reports, which record the work in progress, pay quantities, labor and equipment employed, site conditions, weather, visitors, accidents, plan revisions, complaints, conversations, and other information affecting the work being performed. This will be performed using ENGINEER's in-house, web-based, construction management program, APPIA. All reports will be entered directly into the program by the RPR in the field using a tablet and shall be approved by ENGINEER's Construction Manager. Project pay estimates will also be generated using this software and provided to the contractor for review.

Task 3.5 Startup Services

• Assist the Village during the startup and testing of the new equipment and processes at the WTP to demonstrate that the equipment meets the functional, technical, and process design criteria in the contract documents.

IF-AUTHORIZED SERVICES

The following services will be included in the scope of work for Phase II and III services. None of the services will be performed without written authorization from the Village. No services shall be invoiced unless prior authorization from the Village to perform the services is granted.

- 1. Subsurface Utility Engineering: ENGINEER (or subcontractor) shall perform up to 12 SUE Level A investigations to identify the location and depth of buried utilities within the WTP site.
- 2. Geotechnical Investigations: ENGINEER (or subcontractor) shall perform up to four (4) soil borings at the WTP site and laboratory testing to determine soil bearing capacity, depth to groundwater, depth to bedrock, and other standard geotechnical parameters for the site.
- 3. Operation and Maintenance Manual: ENGINEER shall prepare an Operation and Maintenance (O & M) Manual for the WTP equipment to supplement O & M instructions furnished by the equipment manufacturers during construction. The objective will be to prepare guidance documents in language which will be understood by the plant operators. The anticipated scope of work for the O & M Manual shall include:
 - Summarize the equipment and facilities applicable to operation and maintenance.
 - Prepare schematic flow diagrams, figures, and necessary drawings of the facilities to explain relationships of the various facilities and treatment processes.
 - Summarize the design criteria and describe the intended methods of operation of the facilities.
 - Outline reasonably foreseeable emergency operation procedures where applicable.
 - Prepare an index of equipment manufacturer's operation and maintenance data furnished by Contractor.

