

RESOLUTION NO. R17-846

**A RESOLUTION TO AUTHORIZE A TASK ORDER FOR CERTAIN
SCADA WATER SYSTEM IMPROVEMENTS**

WHEREAS, the City of Stockbridge ("City") is a municipal corporation duly organized and existing under the laws of the State of Georgia and is charged with being fiscally responsible concerning the use and expenditure of all public funds; and

WHEREAS, the City proposes to approve a task order for SCADA water system improvements;

THEREFORE, THE CITY COUNCIL OF THE CITY OF STOCKBRIDGE HEREBY RESOLVES:

SECTION 1. Approval of Purchase. The Task Release Number 3 attached hereto as Exhibit A is hereby approved by the City Council in an amount not to exceed \$36,600.00.

SECTION 2. Public Record. This document shall be maintained as a public record by the City Clerk and shall be accessible to the public during all normal business hours of the City of Stockbridge.

SECTION 3. Authorization of Execution. The Mayor is hereby authorized to sign all documents necessary to effectuate this Resolution.

SECTION 4. Attestation. The City Clerk is authorized to execute, attest to, and seal any documents which may be necessary to effectuate this ordinance, subject to approval as to form by the City Attorney.

SECTION 5. Effective Date. This resolution shall become effective immediately upon its adoption by the Mayor and City Council of the City of Stockbridge as provided in the City Charter.

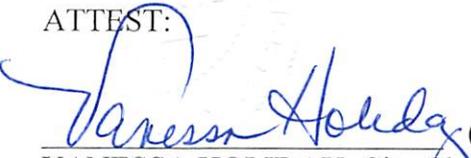
[SIGNATURES APPEAR ON FOLLOWING PAGE]

SO RESOLVED this 14th day of August, 2017.



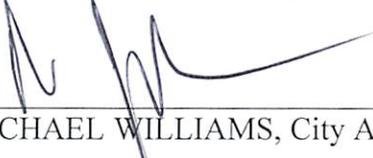
JUDY NEAL, Mayor

ATTEST:



VANESSA HOLIDAY, City Clerk

APPROVED AS TO FORM:



MICHAEL WILLIAMS, City Attorney

Task Release

THIS ___ day of _____, 2017 the undersigned Owner offers and the undersigned Engineer agrees to provide and perform services as identified herein (the “Work”) on a project identified herein (the “Project”) under the terms and conditions set forth herein and in a certain extension of **Master Agreement** for engineering services, dated January 31, 2017, between the Owner and the Engineer (the “Master Agreement”) which is incorporated herein by reference and made a part hereof as if fully restated herein.

1. The Project:

- 1.1 This Task Release is for a Project described as:
SCADA System Improvements

2. The Work:

- 2.1 Engineer shall provide the following Work on the Project as defined herein and as follows:

- A. Engineering Design*
- B. Construction Administration*
- C. Construction Observation*

A. Engineering Design

The Engineer will meet with the Owner to discuss and define the scope and boundaries of the project. Other preliminary work may include developing conceptual plans and preliminary opinions of probable project costs.

Carter & Sloope, Inc. will not furnish a survey crew to survey the project areas as it is not needed for design. Instead, the SCADA integrator will be responsible for conducting site surveys to determine viability of communication.

We will conduct two (2) site visits to coordinate with existing power systems and control systems and to take photographs and make sketches of the existing SCADA system and their installation sites. We will utilize this information to develop the necessary plans and specifications. It is our understanding that the existing sites use a 400 mHz radio system that has never proven reliable. The City wishes to replace that system with cellular based system using M/R Systems as the Systems Integrator (Contractor). The City wants to be able to remotely monitor and control facilities in the water and sewerage system and have a more reliable method for sending and acknowledging alarms by City staff. The City would like to replace SCADA at the following sites:

- a. Henry Co. Valve Station

- b. 500,000 Gal. Elevated Tank
- c. 1,000,000 Gal. Elevated Tank
- d. Well T2
- e. Well T3
- f. Well B
- g. Ground Storage Tank
- h. Groundwater Pumping Station
- i. Seven (7) sewage pump station sites

Detailed list of SCADA requirements for each of the water system sites is included in Exhibit A.

We will prepare preliminary design documents for the proposed SCADA system improvements within three (3) weeks. At approximately 60% completion, we will meet with Owner's personnel to present the preliminary design for review. Within two (2) weeks after receipt of any comments, we will address any comments the Owner has with the preliminary design and then prepare and furnish detailed final design Drawings and Specifications in a 16-division format (100% complete) indicating the scope, extent and character of the work to be performed and furnished by the SCADA System Integrator during the construction of the project. We will submit the 100% complete Drawings and Specifications to the Owner for their review and approval and we will review any comments and recommendations and incorporate needed changes in the final design 100% complete Documents, which will include detailed construction plans and technical specifications.

In general, our design services will include:

- a. Electrical engineering design including power and SCADA design.

Contemporaneous with the presentation of each design, Carter & Sloope will provide the Owner with a Preliminary Opinion of Probable Construction Cost and Total Project Costs known to the Engineer for both the preliminary design (60% complete) and final designs (100% complete). This preliminary cost estimate will itemize the quantities and anticipated unit prices for each component needed for the project.

Carter & Sloope, Inc. will also provide the Owner with two (2) full-size sets of final design documents (100% complete) plus digital copies in Adobe Acrobat (PDF) format. All other documents, including calculations, estimates, etc., will be submitted in their native format.

B. Permitting Assistance

Since this project will not involve any land disturbance and will replace existing infrastructure, we do not anticipate the City will need any permits from EPD so permitting assistance is excluded from our scope of work.

C. Bidding

Since the City will be using M/R Systems for its SCADA integration, we have excluded bidding services from our scope of work.

D. Construction Administration

Management of construction efforts (i.e. “construction management” services) are specifically excluded from our Scope of Work; however, during construction, C&S will provide professional services in the general administration of the construction contract and act as the Owner’s representative to the extent and limitations of the duties, responsibilities and authority of the Engineer as established in this written Agreement and in the Contract Documents. After the contracts have been executed by all parties, C&S will complete, with reasonable promptness, the following tasks as needed during construction of the project:

- a. *Pre-Construction Conference:* Attend and lead one (1) pre-construction conference that will be hosted by the Owner at their office and issue a Notice to Proceed to the selected Contractor.
- b. *Clarifications and Interpretations (Field Orders):* Respond in writing with reasonable promptness to Requests for Information (RFI’s) and issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of Contractor’s work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents and shall be provided as part of the Engineer’s Scope of Services; however, if the Contractor’s request for information, clarification, or interpretation are, in the Engineer’s professional opinion, for information readily apparent from reasonable observation of field conditions or a review of the Contract Documents, or are reasonably inferable there from, the Engineer shall be entitled to compensation for Additional Services for the Engineer’s time spent responding to such request provided the Engineer notify Owner in advance that it deems such request to be so apparent, seek compensation for such clarification and interpretation and Owner does not timely instruct the Engineer not to undertake the clarification or interpretation. Should the Owner agree to reimburse the Engineer for these Additional Services, the Engineer shall prepare a Change Order for the Owner that will deduct the cost of these Additional Services from the Owner’s contract with the Contractor.
- c. *Change Orders:* Review and recommend Change Order justifications and prepare change orders to modify the Contract Documents as may be necessary.
- d. *Shop Drawings and Samples:* Review and approve or take other appropriate action in respect to Shop Drawings and Samples and other data which Contractor is required to submit, but only for general conformance with the information given in the Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto.

- e. *Schedules*: Review and determine the acceptability schedules which the Contractor is required to submit to Engineer, including the Progress Schedule, Schedule of Submittals, and Schedule of Values.
- f. *Substitutes and "or equal"*: Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by the Contractor, but subject to the provisions outlined in Additional Services.
- g. *Progress Meetings*: C&S will attend progress meetings at the jobsite as needed, but at a minimum, on a monthly basis. We will prepare meeting agendas, lead the progress meetings and issue meeting minutes for review and approval by the Owner and Contractor.
- h. *Applications for Payments*: Based on Engineer's observations as an experienced and qualified professional and on review of Applications for Payment and accompanying supporting documentation:
 - 1) Determine the amount that Engineer recommends Contractor be paid. Such recommendations of payment will be in writing and will constitute Engineer's representation to Owner, based on such observations and review, that, to the best of Engineer's reasonable knowledge, information and belief, Contractor's Work has progressed to the point indicated, the quality of such Work is generally in accordance with the Contract Documents, to the results of any subsequent tests called for in the Contract Documents, and being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe Contractor's Work. In the case of unit price work, Engineer's recommendations of payment will include final determinations of quantities and classifications of Contractor's Work (subject to any subsequent adjustments allowed by the Contract Documents).
 - 2) By recommending any payment to the Contractor, Engineer shall not thereby be deemed to have represented that observations made by Engineer to check the quality or quantity of Contractor's Work as it is performed and furnished have been exhaustive, extended to every aspect of Contractor's Work in progress, or involved detailed or special inspections of the Work beyond the responsibilities specifically assigned to Engineer in this Agreement. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment including final payment will impose on Engineer responsibility to supervise, direct, or control Contractor's Work in progress or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs incident thereto, or Contractor's compliance with Laws and Regulations applicable to Contractor's furnishing and performing the Work beyond the responsibilities specifically assigned to the Engineer in this Agreement. It will also not impose responsibility on Engineer to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract

Price, or to determine that title to any portion of the Work in progress, materials, or equipment has passed to Owner free and clear of any liens, claims, security interests, or encumbrances, or that there may not be other matters at issue between Owner and Contractor that might affect the amount that should be paid.

- i. Record Drawings:* We will prepare and furnish the Owner one (1) set of reproducible and one (1) electronic copy in Adobe PDF format of the Project Record Drawings showing appropriate record information that is annotated and furnished to us by the Contractor in accordance with the Contract Documents after construction is complete.
- j. Contractor's Completion Documents:* Receive from the Contractor and transmit to the Owner operating and maintenance manuals, schedules, guarantees, bonds, certificates or other evidence of insurance required by the Contract Documents, certificates of inspection, tests and approvals, Shop Drawings, Samples and other data, including the annotated Record Documents and Record Drawings which are to be assembled by Contractor and furnished to us.
- k. Substantial Completion:* After receiving notice from Contractor that they consider the entire Work complete and ready for its intended use, we will conduct one (1) pre-final observation in company with the Owner and Contractor to observe the Contractor's work to determine if, based on the Engineer's professional opinion and belief and based only on information available at the time of pre-final on-site observation, the Work is substantially complete. If we do not consider the Work substantially complete, we will notify the Contractor in writing giving reasons therefore. If, after considering any objections of Owner, Engineer considers the Work substantially complete, Engineer shall deliver a certificate of Substantial Completion to Owner and Contractor in accordance with the provisions in the Contract Documents. Attached to the certificate will be a punch-list of items that, in the Engineer's professional opinion, knowledge and belief, are deficient and must be completed or corrected before we recommend final payment be made to the Contractor by the Owner. The certificate of Substantial Completion is intended to be interpreted only as an expression of professional opinion and therefore does not constitute an expressed warranty or guarantee.
- l. Final Notice of Acceptability of the Work:* After receiving notice from the Contractor that the punch-list items are completed, we will conduct one (1) final on-site observation in company with Owner and the Contractor to determine if the completed Work of Contractor is acceptable in the Engineer's professional opinion, reasonable knowledge and belief and based only on information available at the time of final on-site observation and to the extent of the services provided by Engineer under this Agreement, so that Engineer may recommend, in writing, final payment to Contractor. We will notify the Contractor and the Owner in writing of any particulars in which the final observation reveals that the Work is incomplete or defective.

- m. Limitation of Responsibilities:* Engineer shall not be responsible for the acts or omissions of any Contractor, or of any subcontractors, suppliers, or other individuals or entities performing or furnishing any portions of the Work, or any agents or employees of any of them. The Engineer shall not be responsible for the failure of any Contractor to perform or furnish the Work in accordance with the Contract Documents or any laws, codes, rules or regulations.

E. Construction Observation

C&S will provide visits to the Project site at intervals appropriate to the various stages of construction, as Engineer deems necessary, or as otherwise agreed to in writing by the Owner and the Engineer, during construction, to observe the progress and quality of Contractor's executed Work. Such visits and observations by Engineer, and/or his representative, if any, are not intended to be an exhaustive check or to extend to every aspect of Contractor's Work in progress or to involve detailed inspections or Special Inspections or tests of Contractor's Work in progress beyond the responsibilities specifically assigned to the Engineer in this Agreement and the Contract Documents, but rather our site visits will be limited to spot checking and similar methods of general observation of the Work based on Engineer's exercise of professional judgment. Based on information obtained during such visits and general observations, Engineer will determine, in general, if the Work is proceeding in accordance with the Contract Documents, and Engineer shall keep the Owner informed of the progress of the Work. Continuous onsite observation by a Resident Project Representative at the Project site will not be included in our budget, unless requested by the Owner and agreed to by the Engineer as Additional Services in accordance with the terms of this Agreement and the Agreement amended accordingly. The purpose of Engineer's visits to, and representative's visits, if any, at the Project site will be to enable Engineer to better carry out the duties and responsibilities assigned to and undertaken by Engineer during the Construction Phase, and, in addition, by the exercise of Engineer's efforts as an experienced professional, to become generally familiar with the Work in progress and to determine, in general, if the Work is proceeding in accordance with the Contract Documents and that Contractor has implemented and maintained the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents. The Engineer and/or his representative will not supervise, direct or have control over Contractor's work during such visits or as a result of such observations of Contractor's Work, nor will we have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by Contractor's furnishing and performing the Work. These rights and responsibilities are solely those of the Contractor in accordance with the Contract Documents. Accordingly, we will neither guarantee the performance of any Contractor nor assume responsibility for any Contractor's failure to furnish and perform the Work in accordance with the Contract Documents.

- a. Jobsite Safety:* Neither the professional activities of the Engineer, or the presence of the Engineer or its employees and sub-consultants at a construction site / Project site, shall impose any duty on the Engineer,

nor relieve the Contractor of its obligations, duties and responsibilities including, but not limited to, construction means, methods, sequence, techniques or procedures necessary for performing, superintending and coordinating the Work in accordance with the Contract Documents and any health or safety precautions required by any regulatory agencies. The Engineer and its personnel have no authority to exercise any control over any construction contractor or its employees in connection with their work or any health or safety programs or procedures. The Owner agrees that the Contractor shall be solely responsible for jobsite safety, and warrants the intent shall be carried out in the Owner's contract with the Contractor. The Owner also agrees that the Contractor shall defend and indemnify the Owner, the Engineer and the Engineer's sub-consultants and they shall be made additional insureds under the Contractor's policies of general liability insurance.

- b. *Inspections and Tests:* The Engineer will require special inspections or tests of Contractor's work as deemed reasonably necessary, and receive and review all certificates of inspections, tests, and approvals required by Laws and Regulations or the Contract Documents. Engineer's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the requirements of the Contract Documents. Engineer shall be entitled to rely on the results of such tests.
- c. *Defective Work:* The Engineer will recommend to Owner that the Contractor's Work be rejected while it is in progress if, on the basis of Engineer's or his representative's observations, Engineer believes that such Work will not produce a completed Project that conforms generally to the Contract Documents or that it will threaten the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents.
- d. *Disagreements between Owner and Contractor:* The Engineer will render formal written decisions on all duly submitted issues relating to the acceptability of Contractor's work or the interpretation of the requirements of the Contract Documents pertaining to the execution, performance, or progress of Contractor's Work; review each duly submitted Claim by Owner or Contractor, and in writing either deny such Claim in whole or in part, approve such Claim, or decline to resolve such Claim if Engineer in its discretion concludes that to do so would be inappropriate. In rendering such decision, Engineer shall be fair and not show partiality to Owner or Contractor and shall not be liable in connection with any decision rendered in good faith in such capacity.

3. **Contract Time:**

Upon execution of this Contract and commitment by Owner of funds to complete the Project, Engineer will commence performance of its services hereunder, and will

complete same within a time period mutually established between Owner and Engineer to meet Project schedules.

4. **Fee Summary:**

Fee Basis

We propose to complete our work for Basic Services described herein for the lump sum amounts or hourly, not-to-be exceeded, amounts as scheduled below. Hourly, not-to-exceed amounts shall be determined in accordance with our Hourly Fee Schedule. No fee amount may be exceeded without prior written approval from the Owner.

<u>Task No.</u>	<u>Description</u>	<u>Fee Basis</u>
1	Engineering Design	Hourly not-to-exceed \$ <u>28,000</u>
2	Construction Administration	Hourly not-to-exceed \$ <u>10,000</u>
3	Construction Observation (assumes 60 man-hours)	Hourly not-to-exceed \$ <u>8,000</u>

Total of Items 1 - 3 Inclusive: \$ 46,000

Hourly fee amounts listed above shall not-exceed the amounts listed without prior written authorization.

Hourly rates for Basic Services Additional Services are listed provided in the Master Agreement.

4.1 The Owner agrees to pay the Engineer for the Work described the hourly amounts up to the not-to-exceed pricing provided herein for the agreed upon scope described herein.

4.2 **Reimbursable Expenses:** None except for engineering sub-consultants.

4.3 **Additional Services:** Services not included within the Basic Scope of Services above, which are considered Additional Services, are specifically excluded from the Scope of the Engineer's services, but can be provided on an hourly basis in accordance with Exhibit A in the Master Agreement executed between the Owner and the Engineer. Additional Services include, but are not limited to, the following:

- a. Services resulting from significant changes in the scope, extent, or character of the portions of the Project designed or specified by Engineer or its design requirements including, but not limited to, changes in size, complexity, Owner's schedule, character of construction, or method of financing; and revising previously accepted reports, Drawings or Specifications, or other project related documents when such revisions are required by changes in Laws and regulations enacted subsequent to the date of this proposal or are due to any other causes beyond Engineer's control.
- b. Services required as a result of Owner providing incomplete or incorrect Project information to Engineer.

- c. Furnishing services of Engineer's Sub-Consultants, if any, for other than Basic Services.
- d. Preparing for, coordinating with, participating in and responding to structured independent review processes, including, but not limited to construction management, cost estimating, project peer review, value engineering, and constructability review requested by Owner; and performing or furnishing services required to revise studies, reports, Drawings, Specifications, or other Bidding Documents as a result of such review processes.
- e. Preparing additional Bidding Documents or Contract Documents for alternate bids or prices requested by Owner for the Work or a portion thereof.
- f. Assistance in connection with bid protests, rebidding, or renegotiating contracts for construction, materials, equipment, or services.
- g. Providing Construction Phase services beyond the construction Contract Times, which is estimated at 6 months, or man-hours listed herein.
- h. Preparing to serve or serving as a consultant or witness for Owner in any litigation, arbitration, or other dispute resolution process related to the Project. Preparation time for deposition and trial testimony or arbitration will be charged at hourly rate multiplied by 1.25. Actual time for deposition, trial testimony or arbitration including travel time will be charged at hourly rate multiplied by 2.0. Reimbursable expenses will be charged at actual cost multiplied by 1.15.
- i. Providing more extensive services required to enable Engineer to issue notices or certifications requested by Owner and not specifically provided in the Basic Services.
- j. Services in connection with Work Change Directives and Change Orders to reflect changes requested by Owner so as to make compensation commensurate with the extent of the Additional Services rendered.
- k. Services in making revisions to Drawings and Specifications occasioned by the acceptance of substitute materials or equipment other than "or-equal" items; and services after the award of the Construction Contract in evaluating and determining the acceptability of a substitution which is found to be inappropriate for the Project or an excessive number of substitutions.
- l. Additional or extended services during construction made necessary by (1) emergencies or acts of God endangering the Work, (2) the presence at the Site of any Hazardous Materials and/or Environmental Conditions (the presence of asbestos, PCBs, petroleum, hazardous substances or waste, and radioactive materials), (3) Work damaged by fire or other cause during construction, (4) a significant amount of defective, neglected, or delayed work by Contractor, (5) acceleration of the progress schedule involving services beyond normal working hours, or (6) default by Contractor.
- m. Reviewing Shop Drawings more than two (2) times as a result of repeated inadequate submissions by Contractor. In such an event, the Engineer shall prepare a Change Order for the Owner that will deduct the cost of these Additional Services from the Owner's contract with the Contractor.
- n. Geotechnical engineering;
- o. Archeological and Historical Preservation consulting;
- p. Delineating wetlands or flood plain determinations;
- q. U.S. Army Corps of Engineering Permitting;
- r. Providing topographic surveys or construction surveys and/or staking to enable Contractor to perform its work and any type of property or boundary surveys or easements or related engineering or surveying services needed for the transfer of interests in real property; and providing other special field surveys not specifically detailed in the Basic Services.

- s. Assistance with funding alternative including, but not limited to, loan/funding applications, grant writing, engineering reports, rates studies, etc. unless specifically included in the Basic Services;
- t. Environmental Surveys including, but not limited to, wetlands, endangered species, cultural resources, historic preservation resources or special sub-consultants for permits;
- u. Preparing for and participating in public meetings and/or public hearings unless specifically included in the Basic Services;
- v. Other services performed or furnished by Engineer not otherwise detailed or provided for in this Agreement.
- w. All building and permit fees and building inspection fees

5. The Primary Contacts:

5.1 The Engineer designates the following individual as its primary contact for day-to-day communications with the Owner under this Task Release:

Martin C. Boyd, P.E. (706) 769-4119
 Name Phone
mboyd@cartersloope.com
 Email

5.2 The Owner designates the following individual as its primary contact for day-to-day communications with the Engineer under this Task Release:

Decius T. Aaron (678) 393-6965
 Name Phone
DAaron@cityofstockbridge-ga.gov
 Email

WITNESS the signatures of the Owner's and the Engineer's authorized representatives placed on duplicate copies of this Task Release on the day and year first above written.

Carter & Sloope, Inc. ("Engineer")	City of Stockbridge ("Owner")
<u>Martin C. Boyd</u>	<u>Judy Deal</u>
Signature	Signature
By: <u>Martin C. Boyd, PE.</u>	By: <u>representing</u>
Title: <u>Senior Engineer</u>	Title: <u>City Manager</u>
Date: <u>August 3</u> , 2017	Date: <u>08.23</u> , 2017

Exhibit A
City of Stockbridge
Water System SCADA System Improvements
(from email from Jeff Bledsoe dated 05/19/2017)

Henry Co. Valve Station

1. Monitor
 - a. Meter flow to include rate of flow and total consumption. Want to see the actual consumption that is on the meter dials.
 - b. Incoming electrical power status with alarm.
 - c. Communication with host/master computer status with alarm.
 - d. Valve position to include: open, closed, or failed with alarm for failure.
 - e. High flow alarm.
2. Control
 - a. Valve position: open, close, or auto. Operate valve by the SCADA HMI hand, off, auto selector. If in the auto position, valve operation shall be controlled by the water level in the selected elevated water tank as per the operator set points.
3. Repair/Replace
 - a. Repair or place electrically actuated SCADA controlled 8" butterfly valve.
 - b. Repair or place unit used to obtain flow and consumption data from the existing Henry Co. 8" x 2" Sensus fire line meter. The water meter will not be changed and coordination with Henry Co. Water Auth. will be necessary to gain access to the vault.

500,000gal Elevated Tank

1. Monitor
 - a. Incoming electrical power status with alarm.
 - b. Communication with host/master computer status with alarm.
 - c. Water level in tank to be measured in feet of water with high and low water level alarm.
2. Control
 - a. Option to switch between the 500,000gal elevated tank and the 1,000,000gal elevated tank to control the call to run of the Groundwater Pumping Sta., Henry Co. Valve, and GST Booster pump station.

1,000,000gal Elevated Tank

1. Monitor
 - a. Incoming electric power status with alarm.
 - b. Communication with host/master computer status with alarm.
 - c. Water level in tank to be measured in feet of water with high and low water level alarm.
2. Control
 - a. Option to switch between the 500,000gal elevated tank and the 1,000,000gal elevated tank to control the call to run of the Groundwater Pumping Sta., Henry Co. Valve, and GST Booster pump station.

Well T2

1. Monitor
 - a. Incoming electric power: Generator (ON/OFF and Generator fail, if option exists), incoming electric power (ON/OFF) from the utility company.
 - b. Communication with host/master computer status with alarm.
 - c. Water meter flow to include rate of flow and total consumption. Want to see the actual consumption that is on the meter dials. Meter is manufacturer is Water Specialties.
 - d. Pump status: on, off, or fail.
 - e. Pump - Hand, Off, Auto switch position.
 - f. Pump run time.
 - g. Generator run time.
2. Control
 - b. Operate pump by the SCADA hand, off, auto selector. If in the auto position, well pump operation shall be controlled by the water level in the raw water well at the groundwater pumping station as per the operator set points.

Well T3

1. Monitor
 - a. Incoming electric power: Generator ON/OFF (Generator fail, if option exists), incoming electric power from the utility company.
 - b. Communication with host/master computer status with alarm.
 - c. Water meter flow to include rate of flow and total consumption. Want to see the actual consumption that is on the meter dials. Meter is manufacturer is Water Specialties.
 - d. Pump status: on, off, or fail.
 - e. Pump - Hand, Off, Auto switch position.
 - f. Pump run time.
 - g. Generator run time.

2. Control
 - a. Operate pump by the SCADA hand, off, auto selector. If in the auto position, well pump operation shall be controlled by the water level in the raw water well at the groundwater pumping station as per the operator set points.

Well B

1. Monitor
 - a. Incoming electric power: Generator ON/OFF (Generator fail, if option exists), incoming electric power from the utility company.
 - b. Communication with host/master computer status with alarm.
 - c. Water meter flow to include rate of flow and total consumption. Want to see the actual consumption that is on the meter dials. Meter is manufacturer is Water Specialties.
 - d. Pump status: on, off, or fail.
 - e. Pump - Hand, Off, Auto switch position.
 - f. Pump run time.
 - g. Generator run time.
2. Control
 - a. Operate pump by the SCADA hand, off, auto selector. If in the auto position, well pump operation shall be controlled by the water level in the raw water well at the groundwater pumping station as per the operator set points.

Ground Storage Tank

1. Monitor
 - a. Incoming electrical power status with alarm. (No Generator)
 - b. Communication with host/master computer status with alarm.
 - c. Water level in tank to be measured in feet of water with high and low water level alarm.
 - d. Pump status: on, off, or fail with alarm for failure.
 - e. Valve position to include: open, closed, or failed with alarm for failure.
 - f. Pump run time.
2. Control
 - a. Operate pump by the SCADA hand, off, auto selector. If in the auto position, booster pump operation shall be controlled by the water level in the 500,000gal or 1,000,000gal elevated tank as per the operator set points.

Groundwater Pumping Station

1. Monitor
 - a. Incoming electric power: Generator ON/OFF (Generator fail, if option exists), incoming electric power from the utility company.
 - b. Communication with host/master computer status with alarm.

- c. Water meter flow to include rate of flow and total consumption. Want to see the actual consumption that is on the meter dials. Meter manufacturer is Water Specialties. Alarm for high and low flow. May need change meter?
- d. High Service Pump (1 and 2) status: on, off, or fail.
- e. High Service Pump (1 and 2) - Hand, Off, Auto switch position.
- f. Pump control valve status. – Open, Closed, Fail with alarm.
- g. High Service Pump (1 and 2) run time.
- h. Generator run time
- i. Both elevated water storage tanks.
- j. Raw water well water level to be measured in 10ths of feet.
- k. Hach CL17 chlorine residual analyzer. Chlorine level, alarm, and shut off plant if chlorine is too high or too low.
- l. Chlorine booster pump. ON, Off, Fail. If fail, turns off high service pumps.
- m. Phosphate and Fluoride chemical pumps.
- n. Chlorine gas leak monitor. (Alarm)
- o. Entrance Door alarm. (Alarm)
- p. Fluoride scales.

2. Control

- a. Well pump operation will depend upon raw water well level.
- b. Plant operation depending on distribution storage tank levels.
- c. Both high service pumps.
- d. Set points.