REQUEST FOR PROPOSALS

FOR

RM CLAYTON WRC NUTRIENT HARVESTING DESIGN BUILD PROJECT

FC-8188

ATLANTA, GEORGIA

JoAnn J. Macrina, PE
Commissioner
Department of Watershed Management

Adam L. Smith, Esq., CPPO, CPPB, CPPM, CPP, CIPC, CISCC, CIGPM
Chief Procurement Officer
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DEPARTMENT OF PROCUREMENT
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Chief Procurement Officer
asmith@atlantaga.gov

September 21, 2015

ATTENTION INTERESTED PROPONENTS:

Your firm is hereby invited to submit to the City of Atlanta (the "**City**"), Department of Procurement (the "**DOP**"), a proposal for **FC-8188, RM Clayton WRC Nutrient Harvesting Design-Build Project.** The City's DOP, on behalf of the Department of Watershed Management ("**DWM**"), is soliciting proposals from qualified firms to design, purchase, install, test, and startup a Nutrient Recovery System. The project will include removing the phosphorus and ammonia from the dewatering system centrate, as well as provide for by-product management and system maintenance, and an extended equipment warranty.

A **Pre-Proposal Conference** will be held on **Wednesday, October 7, 2015, at 10:00 A.M. EDT**, at the DOP's Conference Room in Suite 1900, with Site Visit immediately following the conference. The purpose of the Pre-Proposal Conference is to provide Proponents with detailed information regarding the project and to address questions and concerns. There will be representatives from the Department of Watershed Management, the Ethics Office, the Office of Risk Management, and the Office of Contract Compliance available at the conference to discuss this project and to answer questions. A **Site Visit** is scheduled immediately following the Pre-Proposal Conference on **Wednesday, October 7, 2015**, at the RM Clayton WRC located at 2440 Bolton Road, NW, Atlanta, GA, 30318. The purpose of the Site Visit is to provide Proponents with an opportunity for a visual inspection of the site. Attendance at the Pre-Proposal Conference and Site Visit is ***STRONGLY*** encouraged for each Proponent desiring to submit a proposal.

Proponents will be allowed to ask questions during the Pre-Proposal Conference. However, please note that oral answers to questions during the Pre- Proposal Conference on April 28, 2015, are not authoritative. The last date to submit questions is **Wednesday, October 14, 2015, at 1:00 P.M. EDT**. Questions will be responded to in the form of an addendum.

Your response to this Request for Proposals will be received by designated staff of the Department of Procurement at 55 Trinity Avenue, S.W., City Hall South, Suite 1900, Atlanta, Georgia 30303, **no later than 2:00 P.M. EST, Wednesday, November 4, 2015**.

****ABSOLUTELY NO PROPOSALS WILL BE ACCEPTED AFTER 2:00 P.M. ****

Proponents' names will be publicly read at 2:01 P.M. on the respective due date at 55 Trinity Avenue, S.W., City Hall South, Suite 1900, Atlanta, Georgia 30303.

This RFP is being made available by electronic means. If accepted by such means, then the Proponent acknowledges and accepts full responsibility to insure that no changes are made to the RFP. In the event of conflict between a version of the RFP in the Proponent's possession and the version maintained by DOP, the version maintained by the DOP shall govern.

You are required to email and confirm receipt of your business name, contact person, address, phone number, fax number and the project number to Ms. Jill Watkins, Contracting Officer, at jewatkins@atlantaga.gov, to be placed on the Plan Holders List. Failure to do so will prevent you from receiving any addenda that are issued and may deem you non-responsive.

The proposal document may also be obtained from the Department of Procurement, Plan Room, City Hall South, Suite 1900, 55 Trinity Avenue, S.W., Atlanta, Georgia, 30303, at a cost of $150.00 per package, beginning on Monday, September 21, 2015. If you have any questions regarding this project, please contact **Ms. Jill Watkins, Contracting Officer**, at (404) 865-8703, or by email at jewatkins@atlantaga.gov. Any questions regarding the procedures for purchasing a copy of the document or obtaining a copy of the Plan Holder's List should be directed to the Plan Room at (404) 330-6204.

The City reserves the right to cancel any and all solicitations and to accept or reject, in whole or in part, any and all proposals when it is for good cause and in the best interest of the City.

Thank you for your interest in doing business with the City.

Sincerely,

Adam L. Smith

ALS/jew

FC-8188, RM Clayton WRC
Nutrient Harvesting Design Build Project

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PART 1

INFORMATION AND INSTRUCTIONS TO PROPONENTS

PART 1: INFORMATION AND INSTRUCTIONS TO PROPONENTS

1. **Work Being Procured:** This Request for Proposals ("RFP") from qualified proponents ("Proponent" or "Proponents") by the City of Atlanta ("City"), on behalf of its Department of Watershed Management ("DWM"), seeks to procure work ("Work") for the following project: Contract No. FC-8188: RM Clayton Water Reclamation Center Nutrient Harvesting Design/Build Project ("Project"). The RM Clayton Water Reclamation Center ("WRC") is located at 2440 Bolton Road, NW, Atlanta, GA, 30318. The RFP includes the following parts, including exhibits and appendices:

   - Part 1 – Information and Instructions to Proponents
   - Part 2 – Contents of Proposals / Required Submittals
   - Part 3 – Evaluation of Proposals
   - Part 4 – Required Procurement Documents
   - Part 5 – Standard Form of Agreement
   - Appendices

2. **Scope of Work:** The Project consists of the design, purchase, installation, testing, and startup of a Nutrient Recovery System to remove the phosphorus and ammonia from the dewatering system centrate, provide for by-product management and system maintenance, and an extended equipment warranty, as further described in the Proposal Documents. Proponent is to furnish all labor, equipment and material for the Project. The City intends to implement Project using a design-build delivery method. Work to be rendered by the Proponent(s) to complete the project are provided in more detail in the Basis of Design documents included herein.

3. **Method of Source Selection:** This procurement is being conducted in accordance with all applicable provisions of the City of Atlanta's Code of Ordinances, including its Procurement and Real Estate Code and the particular method of source selection for the work sought in this RFP is Code Section 2-1189; Competitive Sealed Proposal. By submitting a Proposal concerning this procurement, a Proponent acknowledges that it is familiar with all laws applicable to this procurement, including, but not limited to, the City's Code of Ordinances and Charter, which laws are incorporated into this RFP by reference.

4. Minimum Qualifications; Authority to Transact Business in Georgia:

   4.1 Each Proponent must submit with its Proposal documentation that demonstrates it is duly authorized to conduct business in the State of Georgia.

   4.2 The Proponent (Design Build Team), Equipment Manufacturer, and each Proponent Key Personnel and Key Sub-contractors shall meet the minimum qualifications as further described in the Statement of Proponents Qualifications.

   4.3 Proponent shall also provide for the hauling and disposal and/or Beneficial Reuse of the By-product, which shall be described in the By-Product Mangement Plan which shall be incorporated into a Service Agreement (in conjunction with the Maintenance Plan in substantial conformance with Exhibit E that shall continue for a period of five

(5) years with the option for three (3) five (5) year renewal terms at the City's sole discretion.

4.4 Proponent shall provide the City with an extended five (5) year warranty for the Nutrient Recovery System equipment, which shall become effective upon final acceptance of the Nutrient Recovery System, as defined in the Proposal Documents.

4.5 Proponent shall not have been terminated for cause from any City contract in the preceding ten (10) years nor shall Proponent have any active litigation or claims pending against the City.

4.6 Proponent shall either provide facilities or have a contract(s) for 100% of By-product for beneficial reuse or disposal. Failure to maintain such facilities or contracts shall be grounds for termination for cause.

5. **No Offer by City; Firm Offer by Proponent:** This procurement does not constitute an offer by City to enter into a Design-Build Agreement and cannot be accepted by any Proponent to form a Design-Build Agreement. This procurement is only an invitation for offers from interested Proponents and no offer shall bind City. A Proponent's offer is a firm offer and may not be withdrawn except under the rules specified in City's Code of Ordinances and other applicable law.

6. **Proposal Deadline:** Your response to this RFP must be received by the City's Department of Procurement, 55 Trinity Avenue, S.W., City Hall South, Suite 1900, Atlanta, Georgia 30303-0307 no later than **2:00 p.m., EST** (as verified by the Bureau of National Standards) on **Wednesday, November 4, 2015.** Any Proposal received after this time will not be considered and will be rejected and returned.

7. **Pre-Proposal Conference:** Each Proponent is strongly encouraged to attend the Pre-Proposal Conference scheduled for **Wednesday, October 7, 2015**, at **10:00 a.m.**, in the Department of Procurement's Bid Room, Suite 1900. Each Proponent must be fully informed regarding all existing and expected conditions and matters which might affect the cost or performance of the Work. Any failure to fully investigate the Jobsite(s) shall not relieve any Proponent from responsibility from evaluating properly the difficulty or cost of successfully performing the Work. A site tour is scheduled for **Wednesday, October 7, 2015** at **12:00 p.m**. at RM Clayton WRC. Proponents will have the opportunity to conduct sampling of centrate or other flows at this time, as may be desired by the Proponent. Proponents shall provide for all material, equipment and labor for such purposes and will be required to sign a waiver and release as a condition of conducting such sampling in a form acceptable to the City. Proponents will also be required to sign the waiver and release form included herein and submit to the City upon arrival at the facility as a condition of attending the site tour. Attendance at the site tour is ***STRONGLY*** encouraged.

8. Proposal Guarantee:

8.1 Each Proponent is required to furnish a Proposal Guarantee in the amount of five percent (5%) of the Maximum Payment Amount. At the option of the Proponent, the Proposal Guarantee may also be cash, a certified check payable to the order of City or a Proposal Bond as provided on Form 8 included in Part 4 herein. A surety executing a

Proposal Bond must meet the requirements set forth in Appendix B-Insurance and Bonding Requirements attached to the Agreement included in this RFP.

8.2 No Proposal shall be considered unless it is accompanied by the required guarantee. The Proposal Guarantee shall insure the execution of the Agreement and the furnishing of the performance and payment bonds and insurance by the successful Proponent as required by the Agreement Documents.

8.3 Each Proponent agrees that, if it is awarded the Agreement and fails to execute provide all other documents required to consummate the transaction within fifteen (15) days of the award, City will retain the Proposal Guarantee as liquidated damages and not as a penalty.

8.4 Attorneys-in-fact who sign Proposal Bonds must file with the bond a certified and effectively dated copy of their power of attorney.

9. **Procurement Questions; Prohibited Contacts:** Any questions regarding this RFP should be submitted in writing to, Jill E. Watkins, Contracting Officer, Department of Procurement, 55 Trinity Avenue, SW, Suite 1900, Atlanta, Georgia 30303-0307, by fax (404) 739-4683 or e-mail **jewatkins@atlantaga.gov**, and must be received by **1:00 p.m., EDT on Wednesday, October 14, 2015**. Questions received after the designated period may not be considered. Any response made by the City will be provided in writing to all Proponents by Addendum. It is the responsibility of each Proponent to obtain a copy of any Addendum issued for this procurement by monitoring the City' website at www.atlantaga.gov, and its Department of Procurement's Plan Room which is open during posted business hours, Suite 1900, 1st Floor, 55 Trinity Avenue, S.W., City Hall South, Atlanta, Georgia 30303. No Proponent may rely on any verbal response to any question submitted concerning this RFP. All Proponents and representatives of any Proponent are strictly prohibited from contacting any other City employees or any third-party representatives of the City on any matter having to do with this RFP. All communications by any Proponent concerning this RFP must be made to the City's contact person, or any other City representatives designated by the Chief Procurement Officer in writing.

10. **Ownership of Proposals:** Each Proposal submitted to the City will become the property of the City, without compensation to a Proponent, for the City's use, in its discretion.

11. **Georgia Utility Contractor's License:** The Proponent shall provide its Georgia Utility Contractor's License Number and a copy of the license with the documentation submitted in Part 4 of this RFP. A utility Contractor's license number held by a Subcontractor or issued by another state does **NOT** fulfill this requirement in lieu of the Proponent's Georgia Utility Contractor's License.

12. **Preparation of Proposals:** All Proposals must be submitted on forms supplied by the City and shall be subject to all requirements of the Agreement Documents. All Proposals must be regular in every respect and no interlineations, excisions, or special conditions shall be made or included in the Proposal by the Proponent.

12.1 Lump sum, unit price, and extensions of unit prices must be entered in the appropriate spaces provided on the Proposal Cost Form. Unit prices shall include an appropriate

allocation of overhead and other indirect costs so that the summation of unit price extensions and lump sum items represent the Proposal Total amount. In the case of any Proposal item for which a fixed amount predetermined by the City has already been entered on the Proposal Cost Form, the amount so entered shall be conclusive of all Proponents as the price for such item, and shall not be revised unless the City directs a change in the Scope of Work affecting the item to which such amount relates.

12.2 The City may consider as irregular any conditional Proposal or any Proposal on which there is an alteration of, or departure from, the Proposal Cost Form hereto attached and at its option may reject the same.

12.3 Erasure or other changes in the Proposals must be explained or noted over the signature of the Proponent. Failure to do so shall render the Proponent as non-responsive and cause rejection of the Proposal.

12.4 Failure to execute the Proposal Cost Form documents may render the Proponent as non-responsive and cause rejection of the Proposal.

13. **Georgia Open Records Act:** Each Proponent shall refer to the Georgia Open Records Acts (O.C.G.A. § 50-18-72) for information not subject to public disclosure.

14. **How to Submit Proposals**: The Proposal must be submitted in sealed envelope(s) or package(s) and the outside of the envelope(s) or package(s) must clearly identify the name of the project: **FC-8188: Design Build RM Clayton Water Reclamation Center Headworks Improvements Project**; and, the name and address of the Proponent. All proposals must be submitted to:

Adam L. Smith, Esq., CPPO, CPPB, CPPM, CPP
CIPC, CISCC, CIGPM
Chief Procurement Officer
Department of Procurement
55 Trinity Avenue, S.W.
City Hall South, Suite 1900
Atlanta, GA 30303-0307

14.1 A Proponent is required to submit one (1) original and seven (7) copies of its Informational Proposal. Each Informational Proposal must be submitted on 8½" x 11" single-sided, double-spaced, typed pages, using 12–point font size and such pages must be inserted in a standard three-hole ring binder. Each Informational Proposal must contain an index and separate sections for the information requirements set forth in this RFP, as well as for the forms required to be submitted.

14.2 In addition to the hard copy submission, each Proponent must submit two (2) digital versions of its Proposal in Adobe Portable Document Format (PDF) on compact disk (CDs). CD One (1) version should be a duplicate of the hard copy of the Proposal with no deviations in order or layout of the hard copy Proposal. CD Two (2) version should be a redacted version of your hard copy Proposal. Please refer to the Georgia Open Records Acts (O.C.G.A. Section 50-18-72) for those items of documents that can be redacted.

14.3 The City assumes no liability for differences in information contained in the Proponent's printed Proposal and that contained on the CDs. In the event of a discrepancy, the City will rely upon the information contained in the Proponent's printed material (Hard Copy). Each CD should be labeled with the Project Number, Project Name, and the CD Number.

14.4 A Proponent is required to submit, in a separate, sealed envelope, clearly marked "Cost Proposal", one (1) original, marked "Original" and seven (7) copies of its Cost Proposal with its Informational Proposal.

15. Execution of Proposal Documents: Proponents shall submit their Proposals, together with the Proposal Guarantee and all forms which the Proponent is required to sign, executed in the appropriate manner as set forth below:

15.1 If the Proponent is a corporation, all documents requiring execution by the Proponent shall be signed by the president or vice-president of the corporation, whose signature shall be attested by the secretary or assistant secretary of the corporation and the corporate seal affixed.

15.2 If the Proponent is an individual, he or she shall sign the documents and his or her signature shall be notarized by a notary public.

15.3 If the Proponent is an individual doing business under a trade name, all documents shall be signed by the Proponent whose signature shall be followed by either, "doing business as," or "trading as," followed by the trade name of the Proponent's business, and notarized by a notary public.

15.4 If the Proponent is a partnership, all forms shall be executed by placing the name of the partnership followed by "By: (the signature of the partner executing)" followed by the word "Partner," and notarized by a notary public.

15.5 If the Proponent is a joint venture, each party to the joint venture shall execute the Proposal Documents in the manner set forth in this article as appropriate for this type of organization.

16. Insurance and/or Bonding Requirements: The Insurance and/or Bonding requirements for any Agreement that may be awarded pursuant to this RFP are set forth in the Insurance and Bonding Requirements included in the appendix of this RFP.

17. Applicable City Office of Contract Compliance ("OCC") Programs: The OCC Programs applicable to this procurement are set forth in Appendix A; Office of Contract Compliance Requirements, included in this RFP. By submitting a Proposal in response to this procurement, each Proponent agrees to comply with such applicable OCC Programs.

18. Evaluation of Financial Information: The City's evaluation of financial information concerning a Proponent and its consideration of such information in determining whether a Proponent is responsive and responsible may involve a review of several items of information required to be included in a Proposal. City will review the information included in Form 3; Proponent Financial Disclosure attached to this RFP and any additional information required

on that form to be included in a Proposal. Further, if this RFP requires the provision of a Payment Bond and/or Performance Bond if an Agreement is awarded, the City will review the information included in the Form 4.2; Certification of Bonding Ability. A Proponent may include with that form and Form 4.1; Certification of Insurance Ability, (a) notarized letter(s) from its proposed insurer(s) and surety(ies) indicating that the financial capacity of the Proponent is such that the insurer(s)/surety(ies) is/are willing to issue insurance and Payment and Performance Bonds for the Proponent if an Agreement is awarded. Further, **if** this RFP requires a successful Proponent that is awarded an Agreement pursuant to this procurement to post some other type of performance guarantee (e.g. letter of credit, guarantee agreement, etc.), a Proponent must submit with its Proposal a notarized letter from an appropriate financial institution (e.g., bank) indicating that it is willing to issue such performance guarantee for the Proponent if an Agreement is awarded.

19. **Special Rules Applicable to Evaluation of Proposals:** A Proponent may be required to submit, in writing, the addresses of any proposed subcontractors or equipment manufacturers listed in the Proposal and to submit other material information relative to proposed subcontractors. City reserves the right to disapprove any proposed subcontractors or equipment manufacturers who's technical or financial ability or resources or whose experience are deemed inadequate.

20. Examination of Proposal Documents:

    20.1 Each Proponent is responsible for examining with appropriate care the complete RFP and all Addenda and for informing itself with respect to all conditions which might in any way affect the cost or the performance of any Work. Failure to do so will be at the sole risk of the Proponent, who is deemed to have included all costs for performance of the Work in its Proposal.

    20.2 Each Proponent shall promptly notify City in writing should the Proponent find discrepancies, errors, ambiguities or omissions in the Proposal Documents, or should their intent or meaning appear unclear or ambiguous, or should any other question arise relative to the RFP. Replies to such notices may be made in the form of an Addendum to the RFP, which will be issued simultaneously to all potential Proponents who have obtained the RFP from City.

    20.3 City may in accordance with applicable law, by Addendum, modify any provision or part of the RFP at any time prior to the Proposal due date and time. The Proponent shall not rely on oral clarifications to the RFP unless they are confirmed in writing by City in an issued Addendum.

    20.4 Each Proponent must confirm Addenda have been received and acknowledge receipt by executing the Form 5: Acknowledgment of Addenda attached to this RFP.

21. **Oral Presentations**: Responsive Proponents may be required to participate in an oral presentation to the City Evaluation Committee. The Key Personnel (or some group thereof) identified in the Proponent's Proposal must be active participants in the oral presentation. The Proponent's presentation should demonstrate an understanding of the project and work to be

provided. The City will notify responsive Proponent(s) of the date, time and location for the presentation and will provide an agenda or topics for discussion.

22. **Cancellation of Solicitation:** This solicitation may be cancelled in accordance to the City of Atlanta Code of Ordinances.

23. **Award of Agreement; Execution:** If the City awards an Agreement pursuant to this procurement, the City will prepare and forward to the successful Proponent an Agreement for execution substantially in the form included in this RFP. Subsequent to the award and within fifteen (15) days after the prescribed forms are presented for signature, the successful Proponent shall execute and deliver to the City six (6) copies of the Agreement as included in the Agreement Documents and provide performance and payment bonds and insurance certificates. The failure of the successful Proponent to execute the Agreement and to supply the required bonds within fifteen (15) days after the prescribed forms are presented for signature, or within such extended period as the City may grant, based upon reasons determined sufficient by the City, shall constitute a default, and the Proponent shall forfeit the Proposal Guarantee and the City may either award the Agreement to the next most responsive Proponent or re-advertise for Proposals, and may proceed against the Proposal Bond of the defaulted Proponent. If a more favorable Proposal is received by re-advertising, the defaulting Proponent shall have no claim against the City for a refund.

24. **Surety Bonds:** Regarding submission of surety bonds prior to or subsequent to the Proposal submission, the following requirements pertain:

    24.1 Any surety bond submitted in accordance with the Proposal or Agreement requirements must be issued by a corporate surety company satisfactory to the City and authorized to act as such in the State of Georgia;

    24.2 Such bonds shall conform to the forms provided with the RFP and be completed in accordance with the instructions thereon; and

    24.3 In accordance with Georgia law, and upon award of the Agreement, separate performance and payment bonds shall be required of the successful Proponent, each in an amount not less than the total amount payable under the Agreement.

        24.3.1 The performance bond shall remain in effect for two (2) year after final acceptance of the Work or the guaranty period under the Agreement, whichever is the longer.

        24.3.2 The payment bond shall remain in effect for the period required under Georgia law for the payment bonds on public construction agreements. Reference is made to the bond forms and the Agreement Documents for additional particulars of the terms required in the bonds. In the case of any inconsistency between the Bond Forms and Georgia law, the law shall control. Finally, alterations, extension of the time allowed for performance, extra and additional Work, and other changes authorized under the Agreement may be made without notice to or consent of the surety or sureties.

25. **Laws and Regulations:** The Proponent's attention is directed to the fact that all applicable state laws, municipal ordinances, and the rules and regulations of all authorities having

jurisdiction over construction of the Project shall apply to the Agreement throughout, to the extent that such requirements do not conflict with federal laws or regulations, and they will be deemed to be included in the Agreement the same as though therein written out in full.

Proponent's attention is directed to the following laws and regulations:

25.1 Wages under this Agreement must not be less than the minimum wage rates specified for Atlanta-funded projects as set forth in these documents;

25.2 Applicable provisions of the Occupational Safety and Health Act must be observed during Work under this Agreement; and

25.3 Appendix A – Requirements of the Office of Contract Compliance.

26. Agreement Terms: Contractor shall be fully mobilized within the five (5) calendar days after receipt of Notice to Proceed and shall substantially complete the Work within twenty three (23) months from issuance of the Notice to Proceed and fully complete the Work within fourteen (14) days of Substantial Completion.

27. Liquidated Damages: The performance of the Work under Agreement within the specified time is essential to the City's economic interests. The attention of potential Proponents is directed to the provisions of the Agreement Documents, which establish the basis for liquidated damages to be paid to the City in the event that the Work is not completed on schedule.

28. Pre-Construction Conference: A pre-construction conference may be held with the successful Proponent and all known Subcontractors at a time and place set by the City.

29. Substitutions: Whenever a Material, article or piece of Equipment is identified on the Plans or in the Specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, etc., it is intended to establish a standard, and any Material, article or Equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable, provided the Material, article or Equipment so proposed is, in the opinion of the City, of equal substance and function. A Material, article or piece of Equipment shall not be purchased or installed by the Proponent without the City's written approval.

29.1 If the term "OR EQUAL" follows the names of approved manufacturers, then other manufacturers desiring approval may submit the product to the City for approval during the bidding phase. The manufacturer should include the following items in this pre-submittal:

29.1.1 Descriptive literature, including information on Materials used, minimum design standards features, manufacturing processes and facilities, and similar information, which will indicate experience and expertise in the manufacture of the product being evaluated;

29.1.2 Performance Specifications applicable to the manufacturer's standard design, which indicate the level of performance to be expected from the product;

29.1.3 A complete set of submittal Drawings of similar Equipment that has been completed and placed into operation;

29.1.4 A list of existing installations of equipment similar in type and size;

29.1.5 Evidence of technical ability of the manufacturer to design and manufacture Equipment and systems meeting project requirements. Evidence submitted shall include, at a minimum, descriptions of engineering and manufacturing staff capabilities;

29.1.6 Information required to satisfy specified experience requirements or a copy of the bond to be submitted in lieu of experience;

29.1.7 A complete description of field service capabilities, including the location of field service facilities which would serve the proposed facility and the number and qualifications of personnel working from that location;

29.1.8 A complete list of all requirements of the Drawings and Specifications with which the manufacturer cannot conform, including reasons why alternate features are considered equivalent; and

29.1.9 All other information necessary to fully evaluate the product for consideration.

29.2 This pre-submittal shall reach the City no later than three (3) weeks prior to the Proposal due date. Manufacturers will be advised of approval or rejection in writing no later than fourteen (14) days prior to the Proposal due date. Rejected submittals may be supplemented with additional information and resubmitted no later than one (1) week prior to the Proposal due date. Manufacturers making supplementary submittals will be advised of approval or rejection in writing no later than three (3) days prior to the Proposal due date.

29.2.1 NOTE: Proposals based on Equipment, which has not received the approval of the City, will render the Proponent as non-responsive and cause rejection of the Proposal.

29.2.2 If the term "EQUAL TO" precedes the names of approved manufacturers in the Specifications, the Proponent may, after receiving the Notice to Proceed, submit Shop Drawings on the substitute product for the approval of the City.

29.2.3 Any Proponent intending to furnish substitute products is cautioned to verify that the item being furnished will perform the same functions and have the same capabilities as the item specified. The Proponent shall include in his Proposal the cost of accessory items, which may be required by the substitute product and any architectural, structural, mechanical, piping, electrical or other modifications required to accommodate the substitution.

29.2.4 Approval of the City is dependent on his determination that the product offered is essentially equal in function, performance, quality of manufacture, ease of maintenance, reliability, service life and other criteria to that on which the design is based, and will require no major modifications to structures, electrical systems, control systems, or piping systems.

30. **Illegal Immigration:** Each Proponent must complete and submit a Contractor's Affidavit, attached hereto as Form 1; Illegal Immigration Reform and Enforcement Act Forms with its Proposal. This RFP is subject to the Illegal Immigration Reform and Enforcement Act of 2011 (the "Act"). Pursuant to the Act, the Proponent must provide with its proposal proof of its registration with and continuing and future participation in the E-Verify Program established by the United States Department of Homeland Security. Under state law, the City cannot consider any Proposal which does not include a completed Contractor's Affidavit. It is not the intent of this notice to provide detailed information or legal advice concerning the Act. All Proponents intending to do business with the City are responsible for independently apprising themselves of and complying with the requirements of the Act and assessing its effect on City procurements and their participation in those procurements. For additional information on the E-Verify program or to enroll in the program, go to https://e-verify.uscis.gov/enroll.

31. **Multiple Awards:** The City reserves, at its sole discretion, the option to award to multiple Proponents. The award(s) will be based on the Scope of Work in its entirety or by components. Multiple awards may be made on the total Scope of Work or to components of the Scope of Work.

32. **Joint Venture**: Proponents will be required to form a Joint Venture ("JV"); each member of the JV will be required to fully complete and submit the required submittal forms in accordance with the instructions on the forms in Part 4.

33. **Conflict of Interest**: The Design-Builder, or any individual joint venture partner of a joint venture constituting the makeup of the Design-Builder, or any sub-contractor under this Agreement, shall not be permitted to participate in or provide services or work, as a proponent, bidder, joint venture partner, contractor or subcontractor, consultant or sub-consultant, **for any project or Task Order under another Agreement for which Services or Work are/will be performed under this Agreement**, which shall be considered a conflict of interest for purposes of this Agreement. However, in the event that the Design-Builder or a joint venture partner or sub-contractor under this Agreement is providing Services or work as a contractor/subcontractor, consultant/sub-consultant, Service Provider, or joint venture partner under another contact with the City and a dispute, claim or conflict of interest arises between the City and such Service Provider, contractor/subcontractor, Consultant/sub-Consultant or Joint Venture Partner under this Agreement or another contract, the City may in its sole determination and at its sole discretion, suspend all existing work under this Agreement and/or not issue any further work to the Consultant/sub-Consultant under this Agreement unless and until such dispute, claim, or conflict of interest is resolved to the City's satisfaction. In the event the City takes such action, Consultant/sub-Consultant shall not be entitled to any extended overhead, administrative costs, or increased or extended payments resulting from such action, provided that Consultant/Sub-Consultant may be paid for any authorized Services provided to the City under this Agreement prior to the effective date of any suspension of work. This provision shall not be deemed exclusive and shall be supplemental to any rights and remedies available to the City under this Agreement, any other contract or as may be available under applicable law. Additionally, the following shall apply:

    - The Design-Builder, or any individual joint venture partner of a joint venture constituting the makeup of the Design-Builder under this Agreement, shall not be

permitted to participate in or provide services, as a proponent, bidder, joint venture partner, contractor/sub-contractor, or consultant/sub-consultant, for any Task Orders involving

- Services for the City for or related to this Project, under FC-7383 Architectural, Design and Engineering Services, Contracts A, B, C, D, E, and F; and/or
- Services for the City in any capacity, under any agreement for Program Management Team services for the City of Atlanta Infrastructure Bond Program, which is anticipated to be awarded during the term of this Project.

PART 2

CONTENTS OF PROPOSALS/REQUIRED SUBMITTALS

Part 2; Contents of Proposals/Required Submittals

1. **General Contents of Proposals:** A Proponent must submit a complete Proposal in response to this RFP in the format specified in this RFP; no other format will be considered. A Proposal will consist of two (2) separate documents:

   1.1. Informational Proposal; and

   1.2. Cost Proposal (Form provided by City at Part 4; Required Procurement Documents. The Cost Proposal will become part of the Agreement attached to this RFP, if an Agreement is awarded pursuant to this procurement. A schedule of values is to be developed and provided in the Cost Proposal.

2. **Informational Proposals:** An Informational Proposal is comprised of two (2) sources of information:

   2.1. Volume I, information drafted and provided by a Proponent; and

   2.2. Volume II, information provided by a Proponent on forms provided by the City (or required to be created by a Proponent) in this RFP.

   The Informational Proposals must be tabbed as indicated to reflect the sections listed in the below Outline.

3. **Information Required to be Included in Informational Proposal**:

   3.1. Summary: The following is a summary of information and presentation order required to be contained in an Informational Proposal:

   3.1.1 Information Drafted and Provided by a Proponent: This information should be included in a **Volume I** to a Proposal:

   3.1.1.1. Executive Summary;

   3.1.1.2. Organizational Structure/Key Personnel;

   3.1.1.3. Overall Experience, Qualifications and Performance on Previous Similar Projects;

   3.1.1.4. Project Approach and Technical Approach; and

   3.1.1.5. Management Plan, By-Product Management Plan, Extended Maintenance Plan, Service Agreement, and Extended Warranty.

   3.1.2 Information Provided by a Proponent on Forms Provided by the City ("Required Submittals"): This information should be included in a **Volume II** to a Proposal:

   3.1.2.1. **Form 1**; Illegal Immigration Reform and Enforcement Act (IIREA) Forms;

   3.1.2.2. **Form 2**; Contractor Disclosure Affidavit and Questionnaire;

   3.1.2.3. **Form 3**; Proponent Financial Disclosure;

   3.1.2.4. **Form 4.1**; Certification of Insurance Ability;

3.1.2.5. **Form 4.2**; Certification of Bonding Ability;

3.1.2.6. **Form 5**; Acknowledgment of Addenda;

3.1.2.7. **Form 6**; Proponent Contact Directory;

3.1.2.8. **Form 7**; Reference List;

3.1.2.9. **Form 8**; Proposal Bond;

3.1.2.10. **Form 9**; Required Submittal Checklist;

3.1.2.11. Cost Proposal Form (This should be included in a separate sealed envelope and labeled "Cost Proposal");

3.1.2.12. Statement of Qualifications;

3.1.2.13. Safety Record Form;

3.1.2.14. Related Experience by Proposed Equipment Manufacturer;

3.1.2.15. Process Design/Expected Performance for the Nutrient Recovery System;

3.1.2.16. Operations and Maintenance Requirements;

3.1.2.17. Authority to Transact Business in the State of Georgia;

3.1.2.18. Georgia Utility Contractor's License;

3.1.2.19. Site Visit Release Form;

3.1.2.20. Appendix A: Office of Contract Compliance Requirements forms and submittals, including Joint Venture Agreement, if applicable; and

NOTE: Every space on every form must be completed. If the form requires a Notary, please comply. Failure to complete each form as required may deem you non-responsive. If there are any questions regarding any form, it is strongly recommended that you submit your question(s) to the Contracting Officer listed in the RFP prior to the deadline for submitting questions.

3.2. Information Requirements Details: The following is a more detailed summary of the requirements of certain portions of the Informational Proposal. Each Outlined Item should be included in your Proposals and tabbed as indicated:

3.2.1 Executive Summary (Tab in Volume I):

3.2.1.1. **Cover Letter:** The executive summary must include a letter with the Proponent's name, address, telephone number and fax number, signed by a person authorized to act on behalf of the Proponent. The letter should also include the name, title, address, e-mail address, telephone number and fax number of the person signing the letter and the name, title, address, e-mail address, telephone number and fax number of one (1) contact person to whom all future correspondence and/or communications may be directed by the City concerning this procurement, if that person is different from the person executing the

letter. The letter should also designate the type of business entity that proposes to enter into a Contract with the City and the identity of any other business entities that will comprise the Proponent and include a brief history of the Proponent and statement of the Proponent's approach to providing the work solicited in this RFP.

3.2.1.2. **Detailed Executive Summary:** The purpose of the Detailed Executive Summary is to provide an overview of the Proponent's qualifications to accomplish the project. At a minimum, the Detailed Executive Summary must contain the following information:

- Complete legal name of the Proponent and the name of the legal entities that comprise the Proponent. The Proponent must provide the domicile where each entity comprising it is organized, including entity name, brief history of the entity, contact name, address, phone number, and facsimile number, as well as the legal structure of the entity and a listing of major satellite offices;
- The general and specific capabilities and experience of the Proponent's Team. Each Proponent must identify examples where team members have worked together to complete a project and discuss how the team was formed and how the team will function as an integrated unit in providing services to the City;
- A description of the Proponent's plan for complying with the City's EBO goals. This section should include detailed information regarding the essential subcontractors/ subconsultants the Proponent intends to use and should indicate the role and responsibilities these firms will be assigned. Each Proponent must provide a letter from each essential subcontractor/subconsultant indicating that the firm concurs with the role and responsibility Proponent has described; and
- Litigation Disclosure Statement. A declarative statement as to whether the Proponent or any member of the Proponent team has an open dispute with the City or is involved in any litigation associated with work in progress or completed in both the private and public sector during the past five (5) years.
- The Executive Summary will be evaluated based on completeness of the information requested in a concise, easily understood form.

3.2.2 Organizational Structure (Tab in Volume I): The Proponent's Organizational Structure Section of the Proposal should introduce the proposed Proponent team by:

3.2.2.1. Providing the Proponent's Management Organizational Chart for the Design-Build Team, both graphically and in narrative format for personnel proposed to perform actual Services on the Project and estimated percentage of work performed on the Project (e.g., Principal 0.5% of time, Project Manager, 100%, etc.). The Organizational chart and narrative should provide a description of the Proponent's views on

how it will organizationally provide the Services, as well as depict the relationship of its key personnel roles to that of the Principal-in-Charge and other key members of the management team.

3.2.2.2. Providing a description of how this organizational structure will facilitate managing the Services requested and how an efficient flow of information will be realized from the organizational structure.

3.2.2.3. Providing the names of proposed candidates for each function on the chart.

3.2.3 Key Personnel (Tab in Volume I):

3.2.3.1. Identify the Key Personnel that the Design-Builder will use to fill the following positions:

- Overall Project Manager (e.g., responsible party who is also the primary project contact for the City);
- Design Consultant's Design Engineer;
- Manufacturer's Representative/Project Manager; and
- Construction Superintendent.

3.2.3.2. Key Personnel Experience demonstrating minimum qualifications shall be provided on the Statement of Proponent's Qualifications (Form provided by City at Part 4; Required Procurement Documents).

3.2.3.3. Submission of these names constitutes a commitment to use these individuals if the Proponent is selected, and changes may be made only with the prior written consent of the City. In the event there is need to replace Service Provider Key Personnel during the course of the project, Proponent must describe its back-up personnel plan providing the City with approval of replacement personnel that meet the original criteria.

3.2.4 Overall Experience, Qualifications and Performance on Previous Projects (Tab in Volume I):

3.2.4.1. Proponent Design-Build Team shall have successfully completed at least five (5) design/build contracts involving design and construction or refurbishment of Nutrient Recovery equipment, side stream treatment equipment, or similar design-build projects at wastewater treatment facilities. At least two (2) of the five (5) shall involve Nutrient Recovery Systems. These projects are to also demonstrate and document experience with piping, installation of mechanical equipment, electrical and instrumentation systems in an operating system in coordination with ongoing operations. The projects shall have a construction value of not less than Ten Million Dollars ($10,000,000) each.

3.2.4.2. Proponent and each of the Key Personnel identified in Paragraph 3.2.3.1 above shall provide the names, addresses, and current phone numbers of a minimum of five (5) references at municipal water

reclamation facilities **for which Proponent's proposed Manufacturer's equipment has been installed** and has been in operation at least two (2) years (Use Form 7 provided by City at Part 4; Required Procurement Documents). Provide a complete listing of operating installations and installations under contract but not completed (Use "Related Experience by Proposed Equipment Manufacturer" form provided by City at Part 4; Required Procurement Documents). This will serve as references for the proposed manufacturer of the Nutrient Recovery System. Include a brief description of the installation, whether phosphorus removal is included in the installation and the contact information for each installation. List in order of similarity of size and influent characteristics to RM Clayton WRC. If the Proponent has not installed this manufacturer's system, list similar projects in size and scope as references.

3.2.4.3. Proponent shall provide names and addresses of five (5) references at municipal water reclamation facilities for which Proponent has a Service Agreement for By-Product Management, Equipment Maintenance, or both (Use Form 7). Information shall be provided for each reference as to what type of agreement is in place, how long it has been in place, how many renewals have occurred, and if the agreement is current. Proponent may use same reference(s) provided above, if they meet both requirements.

3.2.4.4. The Design-Build Team Members must each have an established Safety Program with:

- Workman's Compensation Ratings (EMR-Experience Modification Rate) must not exceed 1.0 for any year during the last three (3) years (Provide for each Design-Build Team Member);
- The Design-Build Team Members OSHA Incidence Rates must not exceed the most current Industry Standard published by the U.S. Department of Labor for the last three (3) years. Proponent is to provide the following for each member of the Design Build Team:
  - Total Case Rates;
  - Days away, restricted, and transfer (DART) Case Rates;
  - Days Away from Work (DAFWII) Case Rates; and
  - Current Industry Standard for above three (3) case rates by Team Member.
- If there have been any fatalities during the last five (5) years on any projects performed by the Design-Builder (to include all members of the Design-Build Team) or on any work performed under the direct supervision of a proposed Project Manager or Construction Superintendent and either was cited by OSHA for "Willful" or "Serious" in performing the work in which the

fatality occurred, the Contractor will be disqualified based on the City's review. The Contractor may also be disqualified in the event that a Recordable Incident occurred due to the same condition that existed when a previous fatality occurred and resulted in an OSHA citation or failure to implement a corrective action plan. Proponent is to provide the following for each member of the Design Build Team:

- Fatalities during the last five (5) years where Contractor was cited by OSHA for "Willful" or "Serious" Violation; and
- Fatalities during the last five (5) years where the proposed Project Manager was cited by OSHA for "Willful" or "Serious" Violation.

3.2.4.5. Proponent to provide description of facilities owned by Proponent or copy of contracts with company(ies) for Beneficial Reuse of the By-Product to utilize **100% capacity of Proponent's Beneficial Reuse Goal (BRG). Proponent shall either provide facilities or have contracts, to meet 100% capacity of Proposal Annual Dry Tons generated.** Contact information for personnel most knowledgeable of details of said contract shall be provided with proposal for verification by City.

3.2.5 Project Approach and Technical Approach (Tab in Volume I): The information below should be provided by the Proponent to describe the overall general project and technical approach for providing all equipment, materials, labor and services required for this RFP. The Proposal Documents required for this section should be organized and submitted in the order requested, divided and labeled for each subsection. The evaluation criteria for this section will include completeness of the information, overall project approach and schedule, technical performance of the proposed system, extent of manual handling and direct intervention, and strength and completeness of the Plans.

3.2.5.1. **Overall Project Approach:** Based on the description of work and Project Criteria provided in the Proposal Documents, please provide the proponent's project approach including that will be used to implement the Project, meeting milestones and overall project goals, and the project stages. Include a list of critical assumptions and critical needs/decision points for the City based upon the approach.

Proponent to provide a draft project schedule taking into account the milestone dates listed below. Additionally proponent shall provide a list of any additional proposed milestones. The list shall be in a table form, noting the title, the contents, whether a milestone deliverable, the review time (if warranted) by the City, and the date from Notice to Proceed (NTP).

The approach shall take into account the following preliminary milestones, Substantial Completion, and Final Acceptance dates.

- Milestone 1: One (1) month after NTP: Thirty percent (30%) System design to be provided for review (City shall provide comments within ten (10) business days);
- Milestone 2: Three (3) months after NTP: System design shall be Substantially Complete. (City shall provide comments within thirty (30) days);
- Milestone 3: Twelve (12) months after NTP: Equipment manufacture shall be substantially complete;
- Milestone 4: Twenty one (21) months after NTP: Installation of System shall be Substantially Complete; and
- Final Milestone: Twenty three (23) months after NTP: Final Acceptance and Project Final Complete.

Nutrient Recovery Equipment: Proponents shall provide equipment manufactured by companies that are capable of providing the equipment specified herein within the proposed project timeframe. Proponent shall provide the following information related to the proposed nutrient recovery system equipment:

- Model (if applicable);
- Capacity per unit in Flow;
- Unit removal efficiencies; and
- Number of units required.

3.2.5.2. **Technical Approach:** A technical scope of work should be provided based upon the proposed design criteria. A design summary should include the following:

3.2.5.2.1. Vendor's preferred scope of work; If a COMPLETE system is not included in preferred scope of work, list other requirements for complete and functioning system;

3.2.5.2.2. Equipment Manufacturer, type, model number;

3.2.5.2.3. Equipment rated capacity and size;

3.2.5.2.4. Physical dimensions and equipment weight;

3.2.5.2.5. Proposed materials of construction;

3.2.5.2.6. Description of your nutrient recovery process including the following:

- Nutrient recovery reactors and process facilities including any buildings or other structures;
- Reactor capacities and the overall system's ability to consistently meet the phosphorus and ammonia removal quoted in Table 3;
- Ability to treat loads that differ from the estimated loads given in Table 1;
- Process control description: how and by whom the reactors and associated systems are controlled, COA

staff access to reactor control system programming, connection to plant SCADA system and security; and

- Final struvite product handling and storage including facilities necessary for loading for offsite transport.

3.2.5.2.7. Drawings;

3.2.5.2.8. Basic process flow diagram;

3.2.5.2.9. Sample plan view layout and site plan with nutrient recovery system location and approximate building dimensions;

3.2.5.2.10. Expected Nutrient Recovery Facility process performance design data using "Process Design/Expected Performance for the Nutrient Recovery System" (Form provided by City at Part 4; Required Procurement Documents);

3.2.5.2.11. Expected operations and maintenance requirements using "Operations and Maintenance Requirements" (Form provided by City at Part 4; Required Procurement Documents);

3.2.5.2.12. Other utility requirements (including utility water, air, etc.);

3.2.5.2.13. Chemicals required, including MSDS for each chemical; and

3.2.5.2.14. Examples of enhancements that vendor has implemented to its nutrient removal system as a result of lessons learned from previous projects.

3.2.6 Management Plan (Tab in Volume I): Based on the Proponent's Organizational structure, describe how the Proponent will manage the Services, specifically addressing the following:

3.2.6.1. Proponent's approach to team leadership;

3.2.6.2. How the Proponent will:

3.2.6.2.1. Ensure proper communications among pertinent project team members;

3.2.6.2.2. Assure the City that the Scope of Services will kept within any established time and budget constraints;

3.2.6.2.3. Establish and maintain the necessary cooperative relationships;

3.2.6.2.4. Coordinate all necessary project activities within that team relationship;

3.2.6.2.5. Identify the tools that are intended to be used to manage these project elements;

3.2.6.2.6. Proponent's proposed method to:

- Identify and resolve issues during the project duration; and
- Make critical decisions.

3.2.6.2.7. Proponents approach to the Nutrient Recovery System start-up;

3.2.6.2.8. Proponents approach and general plan for transition from the Substantial Completion and Final Acceptance of the Design Build to the City operation (with training to a level allowing operation to the manufacturers recommendations included) and Service Agreement including the Extended Warranty, By-Product Management Plan, and Maintenance Plan.

3.2.6.2.9. The evaluation criteria for the previous five (5) sections (Sections 3.2.1 – 3.2.5) which will be used include completeness of the information provided, the team organization with appropriate level of involvement by listed personnel, the direct level of experience of the proponent(s) and key personnel compared to the proposed scope, the OSHA rates and violations, the positive or negative nature of the References' provided information, and the long term performance with by-product management and Service Agreements, both as described and information provided by References.

3.2.7 By-Product Management Plan (Tab in Volume I): The By-Product Management Plan shall be incorporated into a Service Agreement that shall continue for a period of five (5) years with the option for three (3) five (5) year renewal options at the City's sole discretion. The proponent shall agree to submit an updated Plan annually on the anniversary of the execution of the Service Agreement. If there is a material change in the Plan during the calendar year, the proponent shall, within fourteen (14) days of such change, provide written notice and an updated management to the City at no cost to City. At a minimum the plan shall include:

3.2.7.1. Proponent shall provide descriptions of the proposed end use for the By-product for Beneficial Reuse, including proposed re-sale of the By-Product, purchase and sale agreements currently in place, marketing approach for purchase and sale agreements of the By-Product, if current agreement are not in place, business plan for the purchase and sale of the By-product, detailed description of the BRG. Proponent's Beneficial Reuse Plan shall also provide a contingency plan for the use and/or disposal of "off-specification" material;

3.2.7.2. Description of plan for compliance with applicable regulations for handling of the By-Product;

3.2.7.3. The Plan shall include detailed description of all hauling, location and general information of ultimate Disposal facilities used for the By-

Product, quantity and capacity of hauling vehicles, information and contracts for any third party transportation carriers proposed for this RFP, number of drivers, and other information to describe the proposed operation that will handle the transportation and Reuse/Disposal of the By-Product;

3.2.7.4. Beneficial Reuse Goal with specific targets (preference target 100%) including monthly and yearly goals as well as a backup plan for non-beneficial reuse (e.g. landfilling). The By-Product Management Plan shall specify a specific Beneficial Reuse Goal (BGR) but make provisions for material that does not meet required specifications for Beneficial Reuse; and

3.2.7.5. Monthly invoice system that shall be itemized and subtotaled for each Beneficial Reuse, not Beneficial Reuse but Remaining in accordance with Beneficial Reuse Goal, and not Beneficial Reuse and failing to meet Beneficial Reuse Goal, by individual load, daily totals and monthly totals for tons generated. If a 100% beneficial reuse is proposed, invoice will only reflect beneficial re-use and disposal.

3.2.8 Maintenance Plan (Tab in Volume I): Proponent shall provide a maintenance plan for the maintenance and repair of the Nutrient Recovery System. COA intends to only select proposals that include equipment that are capable of being maintained by the Design Builder (or their designee) following installation that shall continue for a period of five (5) years with the option for three (3) five (5) year renewal options at the City's sole discretion. The proposal shall include:

3.2.8.1. Draft Agreement for maintenance of the unit;

3.2.8.2. Eemergency (not greater than twenty-four (24) hours) and non-emergency response times (not greater than five (5) business days). Emergency maintenance shall be required for any maintenance need that requires the unit to stop operation;

3.2.8.3. Routine scheduled maintenance. The plan shall clearly delineate routine inspections, checks, or minor adjustments to be performed by City staff between scheduled preventive maintenance; and

3.2.8.4. Integrating maintenance records into the City's Maximo maintenance management system for documentation within fifteen (15) days of maintenance being performed.

3.2.9 Services Agreement (Tab in Volume I): By-Product Management and Maintenance Plans shall be included and shall be incorporated into a Service Agreement (in substantial conformance with the Draft Services Agreement attached to this RFP at **Exhibit E**) that shall continue for a period of five (5) years with the option for three (3) five (5) year renewal options at the City's sole discretion. The Service Agreement shall be executed as a condition of Substantial Completion. The proponent shall submit updated Plans annually on the anniversary of the execution of the Service Agreement. If there is a material change in the Plans during the calendar year, the proponent shall, within fourteen

(14) days of such change, provide written notice and an updated management to the City at no cost to City and implement the change only following the written approval of the City.

3.2.10 Extended Warranty: The Warranty shall extend for a period of five (5) years from the date of Substantial Completion, unless more stringent requirements are otherwise specified elsewhere in this Contract; provided, however, that the warranty shall not limit City's rights with respect to latent defects which shall last indefinitely. However, where a discovered defect in a Deliverable or service was, as a practical matter, impossible or difficult to detect through the normal course of events or through the acceptance testing process, then the foregoing five year warranty shall be extended until the date that is five (5) years after the date on which the defect was actually discovered or detected by the City.

4. **Cost Proposal.** Each Proponent must submit a **Lump Sum Amount for the design-build** of the Nutrient Recovery System, plus, **Pricing for the Extended Warranty; and Pricing for the Services Agreement**.

   Proponent to submit Cost Proposal on forms provided by the City at Part 4; Required Procurement Documents. The Cost Proposal must support the Scope of Services contained in the RFP and fully encompass all activities in the Proponent's Proposal. A schedule of values shall be included for interim payouts. The schedule of values shall allow for no more than eighty percent (80%) of the lump sum payout prior to Substantial Completion and no more than ninety (90%) of the lump sum payout prior to Final Acceptance.

5. **Submission of Proposals:** See Part 1, Paragraph 14.0, "How to Submit Proposals" of this RFP.

PART 3

EVALUATION OF PROPOSALS

PART 3: EVALUATION OF PROPOSALS

All Proposals will be evaluated in accordance with the City's Code of Ordinances and the criteria specified on the Percentage Evaluation Form and considering the information required to be submitted in each Proposal. An Evaluation Committee will review the Proposals in accordance with this RFP.

All Proposals will be evaluated using the following Evaluation Form:

RELATIVE WEIGHT	GRADED ITEM	SCORE
5	**Executive Summary/ Organization/ Key Personnel**	
20	**Overall Experience, Qualifications and Performance on Previous Similar Projects**	
25	**Overall Approach/ Technical Approach**	
15	**Management Plan/ By-Product Management Plan/ Extended Maintenance Plan/ Service Agreement/ Extended Warranty**	
15	**OCC Programs**	
10	**Financial Capability**	
10	**Cost Proposal**	
100%	**TOTAL SCORE**	

PART 4

REQUIRED PROCUREMENT DOCUMENTS

PART 4: REQUIRED SUBMITTAL FORMS

All Respondents, including, but not limited to, corporate entities, limited liability companies, joint ventures, or partnerships, that submit a Proposal or Bid in response to this solicitation must fill out all forms in their entirety, and all forms must be signed, notarized or sealed with the corporate seal (if applicable), as required per each form's instructions.

If Respondent intends to be named as a Prime Contractor(s) with the City, then Respondent must fill out all the forms listed in this solicitation document; otherwise, Respondent may be deemed non-responsive.

APPENDICES

APPENDIX A

OFFICE OF CONTRACT COMPLIANCE REQUIREMENTS

CITY OF ATLANTA

Kasim Reed
Mayor

SUITE 1700
55 TRINITY AVENUE, SW
ATLANTA, GA 30303
(404) 330-6010 Fax: (404) 658-7359
Internet Home Page: www.atlantaga.gov

OFFICE OF
CONTRACT COMPLIANCE
Larry Scott
Director
Lscott@atlantaga.gov

September 11, 2015

RE: Project No.: FC 8188, R. M. Clayton, WRC Nutrient Harvesting Design-Build Project

Dear Prospective City of Atlanta Bidder:

The Office of Contract Compliance information is an integral part of every City of Atlanta bid. All Bidders are required to make efforts to ensure that businesses are not discriminated against on the basis of their race, ethnicity or gender, and to demonstrate compliance with these program requirements at or prior to the time of Bid opening, or upon request by OCC. Bidders are required to ensure that prospective subcontractors, vendors, suppliers and other potential participants are not denied opportunities to compete for work on a City contract on the basis of their race, ethnicity, or gender, and must afford all firms, including those owned by racial or ethnic minorities and women, opportunities to participate in the performance of the business of the City to the extent of their availability, capacity and willingness to compete. Please read all of the information very carefully. Pay close attention to the specific goal of minority and female business enterprises for this project and the EBO program reminders listed on page 6.

If you have any questions about the information included in this section of the solicitation, please contact the City of Atlanta Office of Contract Compliance at (404) 330-6010.

The City of Atlanta looks forward to the opportunity to do business with your company.

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CITY OF ATLANTA

EQUAL BUSINESS OPPORTUNITY
EQUAL EMPLOYMENT OPPORTUNITY

POLICY STATEMENT

It is the policy of the City of Atlanta to promote full and equal business opportunity for all persons doing business with the City. The City must ensure that firms seeking to participate in contracting and procurement activities with the City are not prevented from doing so on the basis of the race or gender of their owners. The City is committed to ensuring that it is not a passive participant in any private scheme of discrimination. To ensure that businesses are not discriminated against with regard to prime contracting, subcontracting or other partnering opportunities with the City, the City has developed an Equal Business Opportunity (EBO) Program. It is also the policy of the City of Atlanta to actively promote equal employment opportunities for minority and female workers and prohibit discrimination based upon race, religion, color, sex, national origin, marital status, physical handicap or sexual orientation through the City's Equal Employment Opportunity (EEO) Program. The purpose of the Equal Business Opportunity and Equal Employment Opportunity Programs is to mitigate the present and ongoing effects of the past and present discrimination against women and minority owned businesses and women and minority workers so that opportunity, regardless of race or gender, will become institutionalized in the Atlanta marketplace. It is important to note that all bidders, without exception, including minority and female owned business enterprises, must comply with the City of Atlanta's EBO and EEO Program requirements. Goals for minority and female business enterprises are set for this project on page 6.

Implementation of EBO Policy

The Office of Contract Compliance will review information submitted by Bidders pertaining to efforts to promote opportunities for diverse businesses, including M/FBEs, to compete for business as subcontractors and/or Suppliers. A Bidder is eligible for award of a City contract upon a finding by OCC that the Bidder has engaged in, and provided with its bid submission documentation of, efforts to ensure that its process of soliciting, evaluating and awarding subcontracts, placing orders, and partnering with other companies has been non-discriminatory. To assist prime contractors in this effort, the Office of Contract Compliance has set forth in this solicitation document the M/FBEs goals within the relevant NAICS Codes, for this Project.

For subcontracting, the Subcontractor Project Plan must include all subcontractors to be utilized on the project, detail the services to be performed, the dollar value of the work to be performed by each subcontractor, and the *City of Atlanta* M/FBE certification number and supplier id number.

For Suppliers, the Subcontractor Project Plan must include all suppliers to be utilized on the project, the supplies to be provided, including the dollar value of the supplies being provided and the *City of Atlanta* M/FBE certification number and supplier id number.

Determination of Non-discrimination During Bid Process

No Bidder shall be awarded a contract on an Eligible Project unless the Office of Contract Compliance determines that the Bidder has satisfied the non-discrimination requirements of section 2-1448 on such Eligible Project. Accordingly, each Bidder shall submit with each Bid the following

1. Covenant of Non Discrimination. Each Bidder shall submit with her/his Bid a Covenant of Non-Discrimination which is set forth herein as Exhibit EBO1.

2. Outreach efforts documentation. Each bidder shall submit with her/his bid written documentation demonstrating the bidder's outreach efforts to identify, contact, contract with, or utilize businesses, including certified MFBEs and SBEs, as subcontractors or suppliers on the contract. This information shall be set forth on Exhibit EBO2, which is included herein.

3. Subcontractor project plan. Each bidder shall submit with her/his bid a completed and signed subcontractor project plan, in a form approved and provided by the office of contract compliance, which lists the name, address, telephone number and contact person of each subcontractor or other business to be used in the contract, the NAICS Code and the type of work or service each business will perform, the dollar value of the work and the scope of work, the ownership of each business by race and gender, if applicable the AABE, APABE, FBE, or HABE certification number of each business, and any other information requested by the office of contract compliance. In order for the office of contract compliance to officially consider a firm to be an MFBE, the MFBE firm must be certified by or have a certification application pending with the office of contract compliance prior to the bidder's submission of the bid. The subcontractor project plan shall not be changed or altered after approval of the plan and award of the contract without the written approval of the director of the office of contract compliance. A written letter to the director of the office of contract compliance requesting approval to

change the subcontractor project plan must be submitted prior to any change in the plan or termination of an MFBE's contract.

OCC Review of Bidder Submissions

The Office of Contract Compliance shall determine whether a Bidder has satisfied the non-discrimination requirements of section 2-1448 based on its review of the Covenant of Non Discrimination, the Outreach Efforts Documentation, the Subcontractor Project Plan, and its review of other relevant facts and circumstances, including complaints received as part of the bid process. In reviewing the documents submitted by a Bidder to determine whether the Bidder has satisfied the non-discriminatory practices requirement of this section, the Office of Contract Compliance will consider, among other things, the total project dollars subcontracted to or expended for services performed by other businesses, including certified MFBEs, whether such businesses perform Commercially Useful Functions in the work of the contract based upon standard industry trade practices, whether any amounts paid to Supplier businesses are for goods customarily and ordinarily used based upon standard industry trade practices, and the availability of certified MFBEs within the relevant NAICS Codes for such Eligible Project.

(a) Receipt of Complaint of Discrimination in the Bid Process

The Office of Contract Compliance shall accept complaints of alleged discrimination during the bid process regarding any participant in the bid process. Where the complaint of discrimination is specific to the procurement which is under consideration by the city, the office of contract compliance may investigate said complaint, determine its validity, and determine whether the actions complained of impact the bidder's responsiveness on the specific procurement. Allegations of discrimination based on events, incidents or occurrences which are unrelated to the specific procurement will be placed in the bidder's file maintained in the vendor relations database and handled in accordance with the procedure established in the city's vendor relations subdivision, section 2-1465, et seq.

(b) Determination of Violation of EBO Process

Determination of violation of EBO process. Where the office of contract compliance investigates a complaint of discrimination that is related to the specific bid process, the details of that investigation, including findings, shall be recorded and maintained in the vendor relations database, pursuant to section 2-1471.

(c) Office of Contract Compliance Determination of Non-Compliance

Office of contract compliance determination of non-compliance. When, based upon the totality of the circumstances, the office of contract compliance determines that a bidder fails to satisfy the requirements of section 2-1448(a) of a city bid solicitation, the director of the office of contract compliance shall present a written determination of non-compliance to the Chief Procurement Officer which states the determination and lists the

reasons for the determination. A bid that does not comply with the requirements set forth in section 2-1448(a) shall be deemed non-responsive and rejected.

Equal Business Opportunity Program Bid/RFP Submittals

The Office of Contract Compliance will make any determinations of non-responsiveness. The covenant of non-discrimination, the outreach efforts documentation, the subcontractor project plan, and any other information required by OCC in the solicitation document pursuant to section 2-1448(b) must be completed in their entirety by each bidder and submitted with the other required bid documents in order for the bid to be considered as a responsive bid. Failure to timely submit these forms, fully completed, will result in the bid being considered as a non-responsive bid, and therefore, excluded from consideration.

Monitoring Of EBO Policy

Upon execution of a contract with the City of Atlanta, the successful bidder's Subcontractor Project Plan will become a part of the contract between the bidder and the City of Atlanta. The Subcontractor Project Plan will be monitored by the City of Atlanta's Office of Contract Compliance for adherence with the plan. The successful bidder will be required to provide specific EBO information on a monthly basis that demonstrates the use of subcontractors and suppliers as indicated on the Subcontractor Project Plan. The failure of the successful bidder to provide the specific EBO information by the specified date each month shall be sufficient cause for the City to withhold approval of the successful bidder's invoices for progress payments, increase the amount of the successful bidder's retainage, or evoke any other penalties as set forth in the City of Atlanta Code of Ordinances, Section 2-1452.

Implementation of EEO Policy

The City effectuates its EEO policy by adopting racial and gender work force availability for every contractor performing work for the City of Atlanta. These percentages are derived from the work force demographics set forth in the 2000 Census EEO file prepared by the United States Department of Commerce for the applicable labor pool normally utilized for the contract.

Monitoring of EEO Policy

Upon award of a contract with the City of Atlanta, the successful bidder must submit a Contract Employment Report (CER), describing the racial and gender make-up of the firm's work force. If the CER indicates that the firm's demographic composition does not meet the adopted EEO goals, the firm will be required to submit an affirmative action plan setting forth the steps to be taken to reach the adopted goals. The CER and the affirmative action plan, if necessary, will become a part of the contract between the successful bidder and the City of Atlanta. Compliance with the EEO requirements will be monitored by the Office of Contract Compliance.

First Source Jobs Program Policy Statement

It is the policy of the City of Atlanta to provide job opportunities to the residents of the City of Atlanta, whenever possible. Every contract with the City of Atlanta creates a potential pool of new employment opportunities. The prime contractor is expected to work with the First Source Jobs Program to fill at least 50% of all new entry-level jobs, which arise from this project, with residents of the City of Atlanta. For more specific information about the First Source Jobs Program contact:

Michael Sterling
Interim Executive Director
First Source Jobs Program
Atlanta Workforce Development Agency
818 Pollard Boulevard
Atlanta, GA 30315
(404) 546-3001

Joint Venture Participation on City of Atlanta EBO Projects

The City of Atlanta encourages, where economically feasible, the establishment of joint ventures to ensure prime contracting opportunities for all businesses, including non-discriminatory outreach efforts to utilize certified minority and female business enterprises on Eligible Projects. On selected projects valued at five million dollars and over, the Office of Contract Compliance shall determine on a project-by-project basis whether non-discriminatory outreach efforts to enter into a joint venture shall be required. On such Eligible Projects, joint venture member businesses must have different race ownership, different gender ownership or both. The minority and female business enterprise members of the joint venture on projects on which a Joint Venture is required must be certified as such by the Office of Contract Compliance, and the joint venture team shall include in its bid submittal the M/FBE certification number of each M/FBE joint venture member.

A joint venture may submit its agreement to the Office of Contract Compliance for pre-approval no later than fourteen (14) calendar days prior to the date set for receipt of bids on an Eligible Project. Otherwise, agreements must be submitted on or before the date set for receipt of bids on an Eligible Project.

Components of a Joint Venture Agreement

The Joint Venture agreement should include at a minimum:

- The initial capital investment of each venture partner.
- The proportional allocation of profits and losses to each venture partner.
- The sharing of the right to control the ownership and management of the joint venture.
- A detailed description of the discrete portion of work or tasks that will be performed by each of the venture partners.
- The method of, and responsibility for, accounting.
- The methods by which disputes are resolved.
- All other pertinent factors of the joint venture.

Equal Business Opportunity M/FBE Goals for this Project

Project No.: FC 8188, R. M. Clayton, WRC Nutrient Harvesting Design-Build Project

Part 1: All proponents must ensure that non-discriminatory practices are utilized to enter into a Joint Venture Agreement in accordance with the City of Atlanta's EBO Ordinance. The Joint Venture Agreement, at the very least, should reflect details of the member company's/companies' involvement in the **R. M. Clayton, WRC Nutrient Harvesting Design-Build Project** throughout the life of the contract (See Page 6).

Part 2: All proponents must ensure that non-discriminatory practices are utilized during efforts to engage minority and female subcontractors and suppliers throughout the life of the contract. All outreach efforts must be documented and included with this bid submittal.

The availability of certified minority and female firms for the procurement categories listed in this project are:

17.5% AABE and 13% FBE

Please be reminded that no Bidder shall be awarded a contract on an Eligible Project unless the Office of Contract Compliance determines that the Bidder has satisfied the non-discrimination requirements of section 2-1448 on such Eligible Project. Details of the O.C.C. review process for determination of non-discrimination are outlined on page 2 of this document.

Equal Business Opportunity Program Reminders

1. Joint Venture Agreements. The Joint Venture member businesses must have different race ownership, different gender ownership, or both. MFBE members of the Joint Venture must be certified as such by the Office of Contract Compliance. The Joint Venture team shall include in its submittal the MFBE certification number of each MFBE Joint Venture member.

2. Subcontractor Certification. It is the prime contractor's responsibility to verify that MFBEs included on the Subcontractor Project Plan are certified by the City of Atlanta's Office of Contract Compliance, or have a certification application pending with the City of Atlanta's Office of Contract Compliance at the time that the bid is submitted.

3. Reporting. The successful bidder must submit monthly EBO participation reports to the Office of Contract Compliance.

4. Subcontractor Contact Form. It is required that bidders list and submit information on **all subcontractors** they solicit for quotes, all subcontractors who contact them with regard to the project, and all subcontractors they have discussions with regarding the project. Failure to provide complete information on this form will result in your bid being declared non-responsive.

5. EBO Ordinance. The EBO Program is governed by the provisions of the EBO Ordinance set forth in the City of Atlanta Code Division 12, section 2 - 1441 through 2 -1464. The ordinance can be obtained from the City of Atlanta Clerk's Office at (404) 330-6032.

6. Supplier Participation. In order to receive full M/FBE credit, suppliers must manufacture or warehouse the materials, supplies, or equipment being supplied for use on the Eligible Project.

7. OCC Registry of Certified Firms. To access OCC's real time registry of vendors (certified or non-certified), visit our PRISM Compliance Management portal at: https://pro.prismcompliance.com/default.aspx. Next, click the drop down arrow under "Visit a Jurisdiction", select "City of Atlanta", and click "go!". Once there, you may search by industry or Certification to obtain your desired results. You may also go to the website: www.atlantaga.gov/contractcompliance and scroll down to the section heading "Registry of Certified Firms". Click OCC's quarterly list to access the current directory of certified firms."

COVENANT OF NON-DISCRIMINATION

The undersigned understands that it is the policy of the City of Atlanta to promote full and equal business opportunity for all persons doing business with the City of Atlanta. The undersigned covenants that we have not discriminated, on the basis of race, gender or ethnicity, with regard to prime contracting, subcontracting or partnering opportunities. The undersigned further covenants that we have completed truthfully and fully the required forms EBO-2 and EBO-3. Set forth below is the signature of an officer of the bidding entity with the authority to bind the entity.

_____

Signature of Attesting Party

_____

Title of Attesting Party

On this _____ day of _____, 20___, before me appeared _____, the person who signed the above covenant in my presence.

_____

Notary Public

Seal

FORM EBO-1

OFFICE OF CONTRACT COMPLIANCE

SUBCONTRACTOR CONTACT FORM

List all subcontractors or suppliers (Majority & Minority Owned) that were contacted regarding this project

Name of Sub-Contractor/ Supplier	City of Atlanta Supplier ID Number	Company Name, Contact Name, Address and Phone Number	City Of Atlanta Business License? *(Yes or No)*	Type of Work Solicited for	Business Ownership *(See Code below)*	Certification No. and Expiration Date	Results of Contact

Name of Contractor/ Supplier (indicate if contact was for JV or protégé participation)	City ofAtlanta Supplier Number	Company Name, Contact Name, Address and Phone Number	City Of Atlanta Business License? (Yes or No)	Type of Work Solicited for	Business Ownership (see code below)	Certification No. and Expiration Date	Results of Contact

Business Ownership Code: AABE - African American Business Enterprise, HABE – Hispanic American Business Enterprise, FBE – Female Business Enterprise. APABE – Asian (Pacific Islander) American Business Enterprise

Proponent Name: _____ **Project Name:** _____ **FC#:** _____

Signature: _____ **Date:** _____

EQUAL BUSINESS OPPORTUNITY SUBCONTRACTOR PROJECT PLAN
SUBCONTRACTOR/SUPPLIER UTILIZATION

List all Majority, Minority and Female Business Enterprise subcontractors/suppliers, including lower tiers, to be used on this project.

Name of Sub-contractor/ Supplier	City of Atlanta Supplier ID Number	Company Name, Address and Phone Number	City Of Atlanta Business License? (yes or no)	NAICS Code(s)	Type of Work to be Performed	Ownership of Business (see code below)	Certification No. and Expiration Date	Dollar ($) Value of Work & Scope of Work	Percentage of Total Bid Amount

Total MBE%_____
Total FBE% _____

Code: AABE - African American Business Enterprise, HABE – Hispanic American Business Enterprise, FBE – Female Business Enterprise. APABE – Asian (Pacific Islander) American Business Enterprise

Proponent's Co. Name: _____ **Date:** _____ **FC#:** _____

Proponent's Contact Number: _____ **Project Name:** _____

Signature: _____ _____

First Source Job Information

Company Name: _____

FC No.: _____

Project Name: _____

The following entry level positions will become available as a result of the above referenced contract with the City of Atlanta.

1.

2.

3.

4.

5.

Include a job description and all required qualifications for each position listed above.

Identify a company representative and contact phone number who will be responsible for coordinating with the First Source Jobs Program.

Company Representative: _____

Phone Number: _____

FORM 4

First Source Jobs Agreement

THIS AGREEMENT REGARDING THE USE OF THE FIRST SOURCE JOBS PROGRAM BY CONTRACTORS WITH THE CITY OF ATLANTA TO FILL ENTRY LEVEL JOBS is made and entered into by _____

This_____ day of_____, 201__.

The City of Atlanta requires the immediate beneficiary or primary contractor for every eligible project to enter into a First Source Jobs employment agreement. The contractor agrees to the following terms and conditions:

- The first source for finding employees to fill all entry level jobs Created by the eligible project will be the First Source Program.
- The contractor will make every effort to fill 50% of the entry level jobs created by this eligible project with applicants from the First Source Program.
- The contractor shall make good faith effort to reach the goal of this employment agreement.
- Details as to the number and description of each entry level job must me provided with the bid.
- The contractor shall comply with the spirit of the First Source Jobs Policy beyond the duration of this agreement and continue to make good faith attempts to hire employees of similar backgrounds to those participating in the First Source Program.
- The contractor as a condition of transfer, assignment or otherwise shall require the transferee to agree in writing to the terms of the employment Agreement.

Upon a determination that a beneficiary or contractor has failed to comply with the terms of this Agreement, the City may impose the following penalties based on the severity of the non-compliance:

- The City of Atlanta may withhold payment from the contractor.
- The City of Atlanta may withhold 10 percent of all future payments on the contract until the contractor is in compliance
- The City of Atlanta may refuse all future bids on city projects or applications for financials assistance in any form from the City until the contractor demonstrated that the First Source requirements have been met, or cancellation of the eligible project.
- The City of Atlanta may cancel the eligible project.

All terms stated herein can be found in the City of Atlanta Code of Ordinances Sections 5-8002 through 5-8005.

The undersigned hereby agrees to the terms and conditions set forth in this agreement.

_____

Contractor

APPENDIX B

INSURANCE AND BONDING REQUIREMENTS

APPENDIX B

INSURANCE & BONDING REQUIREMENTS

FC-8188, RM Clayton WRC Nutrient Harvesting D-B Project

A. Preamble

The following requirements apply to all work under the agreement. Compliance is required by all Contractors/Consultants. **To the extent permitted by applicable law, the City of Atlanta ("City") reserves the right to adjust or waive any insurance or bonding requirements contained in this Appendix B and applicable to the agreement.**

1. Evidence of Insurance Required Before Work Begins

No work under the agreement may be commenced until all insurance and bonding requirements contained in this Appendix B, or required by applicable law, have been complied with and evidence of such compliance satisfactory to City as to form and content has been filed with City. Contractor/Consultant must provide City with a Certificate of Insurance that clearly and unconditionally indicates that Contractor/Consultant has complied with all insurance and bonding requirements set forth in this Appendix B and applicable to the agreement. If the Contractor/Consultant is a joint venture, the insurance certificate should name the joint venture, rather than the joint venture partners individually, as the primary insured. In accordance with the solicitation documents applicable to the agreement at the time Contractor/Consultant submits to City its executed agreement, Contractor/Consultant must satisfy all insurance and bonding requirements required by this Appendix B and applicable by law, and provide the required written documentation to City evidencing such compliance. In the event that Contractor/Consultant does not comply with such submittal requirements within the time period established by the solicitation documents applicable to the agreement, City may, in addition to any other rights City may have under the solicitation documents applicable to the agreement or under applicable law, make a claim against any bid security provided by Contractor/Consultant.

2. Minimum Financial Security Requirements

All companies providing insurance required by this Appendix B must meet certain minimum financial security requirements. These requirements must conform to the ratings published by A.M. Best & Co. in the current Best's Key Rating Guide - Property-Casualty. The ratings for each company must be indicated on the documentation provided by Contractor/Consultant to City certifying that all insurance and bonding requirements set forth in this Appendix B and applicable to the agreement have been unconditionally satisfied.

For all agreements, regardless of size, companies providing insurance or bonds under the agreement must meet the following requirements:

i) Best's Rating not less than A-,
ii) Best's Financial Size Category not less than Class VII, and
iii) Companies must be authorized to conduct and transact insurance contracts by the Insurance Commissioner, State of Georgia.
iv) All bid, performance and payment bonds must be underwritten by a U.S. Treasury Circular 570 listed company.

If the issuing company does not meet these minimum requirements, or for any other reason is or becomes unsatisfactory to City, City will notify Contractor/Consultant in writing. Contractor/Consultant must promptly obtain a new policy or bond issued by an insurer acceptable to City and submit to City evidence of its compliance with these conditions.

Contractor/Consultant's failure to comply with all insurance and bonding requirements set forth in this Appendix B and applicable to the agreement will not relieve Contractor/Consultant from any liability under the agreement. Contractor/Consultant's obligations to comply with all insurance and bonding requirements set forth in Appendix B and applicable to the agreement will not be construed to conflict with or limit Contractor/Consultant's/Consultant's indemnification obligations under the agreement.

3. Insurance Required for Duration of Contract

All insurance and bonds required by this Appendix B must be maintained during the entire term of the agreement, including any renewal or extension terms, and until all work has been completed to the satisfaction of City.

4. Notices of Cancellation & Renewal

Contractor/Consultant must, notify the City of Atlanta in writing at the address listed below by mail, hand-delivery or facsimile transmission, within 2 days of any notices received from any insurance carriers providing insurance coverage under this Agreement and Appendix B that concern the proposed cancellation, or termination of coverage.

Enterprise Risk Management
68 Mitchell St. Suite 9100
Atlanta, GA 30303
Facsimile No. (404) 658-7450

Confirmation of any mailed notices must be evidenced by return receipts of registered or certified mail.

Contractor/Consultant shall provide the City with evidence of required insurance prior to the commencement of this agreement, and, thereafter, with a certificate evidencing renewals or changes to required policies of insurance at least fifteen (15) days prior to the expiration of previously provided certificates.

5. Agent Acting as Authorized Representative

Each and every agent acting as Authorized Representative on behalf of a company affording coverage under this contract shall warrant when signing the Acord Certificate of Insurance that specific authorization has been granted by the Companies for the Agent to bind coverage as required and to execute the Acord Certificates of Insurance as evidence of such coverage. City of Atlanta coverage requirements may be broader than the original policies; these requirements have been conveyed to the Companies for these terms and conditions.

In addition, each and every agent shall warrant when signing the Acord Certificate of Insurance that the Agent is licensed to do business in the State of Georgia and that the Company or Companies are currently in good standing in the State of Georgia.

6. Certificate Holder

The **City of Atlanta** must be named as certificate holder. All notices must be mailed to the attention of **Enterprise Risk Management** at **68 Mitchell Street, Suite, 9100, Atlanta, Georgia 30303.**

7. Project Number & Name

The project number and name must be referenced in the description section of the insurance certificate.

8. Additional Insured Endorsements Form CG 20 26 07 04 or equivalent

The City must be covered as Additional Insured under all insurance (except worker's compensation and professional liability) required by this Appendix B and such insurance must be primary with respect to the Additional Insured. **Contractor/Consultant must submit to City an Additional Insured Endorsement evidencing City's rights as an Additional Insured for each policy of insurance under which it is required to be an additional insured pursuant to this Appendix B. Endorsement must not exclude the Additional Insured from Products - Completed Operations coverage. The City shall not have liability for any premiums charged for such coverage.**

9. Mandatory Sub-Contractor/Consultant Compliance

Contractor/Consultant must require and ensure that all subContractor/Consultants/subconsultants at all tiers to be sufficiently insured/bonded based on the scope of work performed under this agreement.

10. Self Insured Retentions, Deductibles or Similar Obligations

Any self insured retention, deductible or similar obligation will be the sole responsibility of the contractor.

B. Workers' Compensation and Employer's Liability Insurance

Contractor/Consultant must procure and maintain Workers' Compensation and Employer's Liability Insurance in the following limits to cover each employee who is or may be engaged in work under the agreement. :

Workers' Compensation. . . . . **Statutory**
Employer's Liability:
Bodily Injury by Accident/Disease **$1,000,000 each accident**
Bodily Injury by Accident/Disease **$1,000,000 each employee**
Bodily Injury by Accident/Disease **$1,000,000 policy limit**

C. Commercial General Liability Insurance

Contractor/Consultant must procure and maintain Commercial General Liability Insurance on form (CG 00 00 01 or equivalent) in an amount not less than **$1,000,000 per occurrence subject to a $2,000,000 aggregate**. The following indicated extensions of coverage must be provided:

- ☒ Contractual Liability
- ☒ Broad Form Property Damage
- ☒ Premises Operations
- ☒ Personal Injury
- ☒ Fire Legal Liability
- ☒ Medical Expense
- ☒ Independent Contractor/Consultants/SubContractor/Consultants
- ☒ Products – Completed Operations
- ☒ Pesticide or Herbicide Applicator Coverage
- ☒ Explosion, Collapse and Underground (XCU) Liability
- ☒ Additional Insured Endorsement* (primary& non-contributing in favor of the City of Atlanta)
- ☒ Waiver of Subrogation in favor of the City of Atlanta

D. Commercial Automobile Liability Insurance

Contractor/Consultant must procure and maintain Automobile Liability Insurance in an amount not less than **$1,000,000** Bodily Injury and Property Damage combined single limit. The following indicated extensions of coverage must be provided:

☒ Owned, Non-owned & Hired Vehicles
☒ Waiver of Subrogation in favor of the City of Atlanta

If Contractor/Consultant does not own any automobiles in the corporate name, non-owned vehicle coverage will apply and must be endorsed on either Contractor/Consultant's personal automobile policy or the Commercial General Liability coverage required under this Appendix B.

E. Excess or Umbrella Liability Insurance

Contractor/Consultant shall procure and maintain a policy providing Excess or Umbrella Liability Insurance which is at least as broad as the underlying policy. This insurance, which shall be maintained throughout the life of the contract, shall be in an amount of not less than **$5,000,000 per occurrence.**

☒ Coverage must follow form with primary policy
☒ May be used to achieve minimum liability limits
☒ Coverage must be as broad as primary policy

F. Builders Risk / Installation Floater

Contractor/Consultant shall procure and maintain policy for Builders Risk/ Installation Floater with all risk coverage to cover damage or destruction to renovations, repairs or equipment being installed or otherwise being handled or stored by the Contractor, including off-site storage, transit and installation. The following indicated extensions of coverage must be provided:

☒ All Risk Coverage
☒ Operational Testing Coverage included
☒ Loss Payee Endorsement

G. Property Coverage/Inland Marine

Contractor/Consultant shall procure and maintain all risk property coverage in an amount equal to replacement value for all equipment, furniture, fixtures, machinery and/ or personal property.

H. Professional Liability Insurance

Contractor/Consultant shall procure and maintain during the life of this contract Professional Liability Insurance in an amount of **$1,000,000** per occurrence and annual aggregate. The policy will fully address the Contractor/Consultant's professional services associated with the scope of work contained in this document. The policy will include at least a three year Extended Reporting Provision.

I. Pollution Liability

Contractor/Consultant must procure and maintain Pollution Liability Insurance in an amount not less than **$1,000,000** each occurrence/aggregate. Completed operations coverage shall remain in effect for no less than three (3) years after final completion. This coverage can also be satisfied with an endorsement to the General Liability policy.

J. Performance Bond and Payment Bond

Contractor/Consultant shall furnish a Payment Bond and a Performance Bond to the City in an amount equal to **100 percent of the total contract value** and for the duration of the entire term.

The person executing the Bonds on behalf of the surety shall file with the Bonds a general power of attorney unlimited as to amount and type of bonds covered by such power of attorney, and certified by an official of said surety. **Be a U.S. Treasury Circular 570 listed company.**

Required Submittal (FORM 1)

Illegal Immigration Reform and Enforcement Act Forms (Page 1 of 3)

INSTRUCTIONS TO PROPONENTS:

All Proponents must comply with the Illegal Immigration Reform and Enforcement Act of 2011, O.G.G.A § 13-10-90, et seq. (IIREA). IIREA was formerly known as the Georgia Security and Immigration Compliance Act or GSICA. Proponents must familiarize themselves with IIREA and are solely responsible for ensuring compliance. Proponents must not rely on these instructions for that purpose. They are offered only as a convenience to assist Proponents in complying with the requirements of the City's procurement process and the terms of this RFP.

1. The attached Contractor Affidavit must be filled out COMPLETELY and submitted with the Proposal prior to Proposal due date.

2. The Contractor Affidavit must contain an active Federal Work Authorization Program (E-Verify) User ID Number and Date of Registration.

3. Where the business structure of a Proponent is such that Proponent is required to obtain an Employer Identification Number (EIN) from the Internal Revenue Service, Proponent must complete the Contractor Affidavit on behalf of, and provide a Federal Work Authorization User ID Number issued to, the Proponent itself. Where the business structure of a Proponent does not require it to obtain an EIN, each entity comprising Proponent must submit a separate Contractor Affidavit.

   Example 1, ABC, Inc. and XYZ, Inc. form and submit a Proposal as Happy Day, LLC. Happy Day, LLC must enroll in the E-verify program and submit a single Contractor Affidavit in the name of Happy Day, LLC which includes the Federal Work Authorization User ID Number issued to Happy Day, LLC.

   Example 2, ABC, Inc. and XYZ, Inc. execute a joint venture agreement and submit a Proposal under the name Happy Day, JV. If, based on the nature of the JV agreement, Happy Day, JV. is not required to obtain an Employer Identification Number from the IRS, the Proposal submitted by Happy Day, JV must include both a Contractor Affidavit for ABC, Inc. and a Contractor Affidavit for XYZ, Inc.

4. All Contractor Affidavits must be executed by an authorized representative of the entity named in the Affidavit.

5. All Contractor Affidavits must be duly notarized.

6. All Contractor Affidavits must be submitted with the Proponent's Response to the RFP.

7. Subcontractor and sub-subcontractor affidavits are not required at the time of proposal submission, but will be required at contract execution or in accordance with the timelines set forth in IIREA.

Required Submittal (FORM 1)

Illegal Immigration Reform and Enforcement Act Forms (Page 2 of 3)

Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of the City of Atlanta has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

_____ _____

Federal Work Authorization User Identification Number Date of Authorization

Name of Contractor: _____

Name of Project: _____

Name of Public Employer: City of Atlanta

I hereby declare under penalty of perjury that the forgoing is true and correct.

Executed on _____, ____, 20__ in _____(city), _____(state)

_____

Signature of Authorized Officer or Agent

_____

Printed name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE
ME ON THIS THE ___, DAY OF _____, 20____

_____

NOTARY PUBLIC
My Commission Expires: _____

Required Submittal (FORM 1)

Illegal Immigration Reform and Enforcement Act Forms (Page 3 of 3)

Subcontractor Affidavit under O.C.G.A. § 13-10-91(b)(3)

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with (_____ (name of contractor)) on behalf of the City of Atlanta has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five business days of receipt. If the undersigned subcontractor receives notice of receipt of an affidavit from any sub-subcontractor that has contracted with a sub-subcontractor to forward, within five business days of receipt, a copy of such notice to the contractor. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

_____ _____

Federal Work Authorization User Identification Number Date of Authorization

Name of Subcontractor: _____

Name of Project: _____

Name of Public Employer: City of Atlanta

I hereby declare under penalty of perjury that the forgoing is true and correct.

Executed on _____, ____, 20__ in _____(city), _____(state)

_____

Signature of Authorized Officer or Agent

_____

Printed name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE
ME ON THIS THE ___, DAY OF _____, 20____

_____

NOTARY PUBLIC
My Commission Expires: _____

Required Submittal (FORM 2)
Contractor Disclosure Affidavit (Page 1 of 7)

DEFINITIONS FOR THE PURPOSES OF THIS DISCLOSURE AFFIDAVIT

"Affiliate"	Any legal entity that, directly or indirectly through one of more intermediate legal entities, controls, is controlled by or is under common control with the Respondent or a member of Respondent.
"Contractor"	Any person or entity having a contract with the city.
"Control"	The controlling entity: (i) possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of the controlled entity, whether through the ownership of voting securities or by contract or otherwise; or (ii) has direct or indirect ownership in the aggregate of fifty one (51%) or more of any class of voting or equity interests in the controlled entity.
"Respondent"	Any individual or entity that submits a proposal in response to a solicitation. If the Respondent is an individual, then that individual must complete and sign this Disclosure Affidavit where indicated. If the Respondent is an entity, then an authorized representative of that entity must complete and sign this Disclosure Affidavit where indicated. **If the Respondent is a newly formed entity (formed within the last three years), then an authorized representative of that entity must complete and sign this Disclosure Affidavit where indicated, and each of the members or owners of the entity must also complete and sign separate Disclosure Affidavits where indicated.**

Instructions: Provide the following information for the entity or individual completing this Statement (the "Individual/Entity").

A. Basic Information:

1. Name of Individual/Entity responding to this solicitation:

2. Name of the authorized representative for the responding Entity:

B. Individual/Entity Information:

1. Principal Office Address:

2. Telephone and Facsimile Numbers:

3. E-Mail Address:

4. Name and title of Contact Person for the Individual/Entity:

5. Is the individual/Entity authorized to transact business in the state of Georgia?

☐ Yes **(Attach Certificate of Authority to transact business in Georgia from Georgia Secretary of State.)**

☐ No

C. Questionnaire

If you answer "YES" to any of the questions below, please indicate the name(s) of the person(s), the nature, and the status and/or outcome of the information, indictment, conviction, termination, claim or litigation, the name of the court and the file or reference number of the case, as applicable. Any such information should be provided on a separate page, attached to this form and submitted with your Proposal.

1. Please describe the general development of the Respondent's business during the past ten (10) years, or such shorter period of time that the Respondent has been in business.

2. Are there any lawsuits, administrative actions or litigation to which Respondent is currently a party or has been a party (either as a plaintiff or defendant) during the past ten (10) years based upon fraud, theft, breach of contract, misrepresentation, safety, wrongful death or other similar conduct? **YES** ☐ **NO** ☐

3. If "yes" to question number 2, were any of the parties to the suit a bonding company, insurance company, an owner, or otherwise? If so, attach a sheet listing all parties and indicate the type of company involved. **YES** ☐ **NO** ☐

4. Has the Respondent been charged with a criminal offense within the last ten (10) years? **YES** ☐ **NO** ☐

5. Has the Respondent received any citations or notices of violation from any government agency in connection with any of Respondent's work during the past ten (10) years (including OSHA violations)? Describe any citation or notices of violation which Respondent received. **YES** ☐ **NO** ☐

6. Please state whether any of the following events have occurred in the last ten (10) years with respect to the Respondent. If any answer is yes, explain fully the circumstances surrounding the subject matter of the affirmative answer:

(a) Whether Respondent, or Affiliate currently or previously associated with Respondent, has ever filed a petition in bankruptcy, taken any actions with respect to insolvency, reorganization, receivership, moratorium or assignment for the benefit of creditors, or otherwise sought relief from creditors? **YES** ☐ **NO** ☐

(b) Whether Respondent was subject of any order, judgment or decree not subsequently reversed, suspended or vacated by any court permanently enjoining Respondent from engaging in any type of business practice? **YES** ☐ **NO** ☐

(c) Whether Respondent was the subject of any civil or criminal proceeding in which there was a final adjudication adverse to Respondent which directly arose from activities conducted by Respondent. **YES** ☐ **NO** ☐

Required Submittal (FORM 2)
Contractor Disclosure Affidavit (Page 3 of 7)

7. Has any employee, agent or representative of Respondent who is or will be directly involved in the project, in the last ten (10) years:

(a) directly or indirectly, had a business relationship with the City? **YES** ☐ **NO** ☐

(b) directly or indirectly, received revenues from the City? **YES** ☐ **NO** ☐

(c) directly or indirectly, received revenues from conducting business on City property or pursuant to any contract with the City? **YES** ☐ **NO** ☐

8. Whether any employee, agent, or representative of Respondent who is or will be directly involved in the project has or had within the last ten (10) years a direct or indirect business relationship with any elected or appointed City official or with any City employee? **YES** ☐ **NO** ☐

9. Whether Respondent has provided employment or compensation to any third party intermediary, agent, or lobbyist to directly or indirectly communicate with any City official or employee, or municipal official or employee in connection with any transaction or investment involving your firm and the City? **YES** ☐ **NO** ☐

10. Whether Respondent, or any agent, officer, director, or employee of your organization has solicited or made a contribution to any City official or member, or to the political party or political action committee within the previous five (5) years? **YES** ☐ **NO** ☐

11. Has the Respondent or any agent, officer, director, or employee been terminated, suspended, or debarred (for cause or otherwise) from any work being performed for the City or any other Federal, State or Local Government? **YES** ☐ **NO** ☐

12. Has the Respondent, member of Respondent's team or officer of any of them (with respect to any matter involving the business practice or activities of his or her employer been notified within the five (5) years preceding the date of this offer that any of them are the target of a criminal investigation, grand jury investigation, or civil enforcement proceeding? **YES** ☐ **NO** ☐

13. Please identify any Personal or Financial Relationships that may give rise to a conflict of interest as defined below *[Please be advised that you may be ineligible for award of contract if you have a personal or financial relationship that constitutes a conflict of interest that cannot be avoided]*:

(a) Personal relationships: executives, board members and partners in firms submitting offers must disclose familial relationships with employees, officers and elected officials of the City of Atlanta. Familial relationships shall include spouse, domestic partner registered under section 94-133, mother, father, sister, brother, and natural or adopted children of an official or employee. **YES** ☐ **NO** ☐

(b) Financial relationships: Respondent must disclose any interest held with a City employee or official, or family members of a City employee or official, which may yield, directly or indirectly, a monetary or other material benefit to the Respondent or the Respondent's family members. Please describe: **YES** ☐ **NO** ☐

_____

_____

_____

D. REPRESENTATIONS

Anti-Lobbying Provision. All respondents, including agents, employees, representatives, lobbyists, attorneys and proposed partner(s), subcontractor(s) or joint venturer(s), will refrain, under penalty of the respondent's disqualification, from direct or indirect contact for the purpose of influencing the selection or creating bias in the selection process with any person who may play a part in the selection process.

Certification of Independent Price Determination/Non-Collusion. Collusion and other anticompetitive practices among Proponents are prohibited by city, state and federal laws. All Respondents shall identify a person having authority to sign for the Respondent who shall certify, in writing, as follows:

> "I certify that this bid proposal is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting an bid or offer for the same supplies, labor, services, construction, materials or equipment to be furnished or professional or consultant services, and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of city, state and federal law and can result in fines, prison sentences, and civil damages awards. By signing this document, I agree to abide by all conditions of this solicitation and offer and certify that I am authorized to sign for this Respondent."

Certify Satisfaction of all Underlying Obligations. (If Applicable) If a Contract is awarded through this solicitation, then such Contractor should know that before final payment is made to a Contractor by the City, the Contractor shall certify to the City in writing, in a form satisfactory to the City, that all subcontractors, materialmen suppliers and similar firms or persons involved in the City contract have been paid in full at the time of final payment to the Contractor by the City or will be paid in full utilizing the monies constituting final payment to the Contractor.

Confidentiality . Details of the proposals will not be discussed with other respondents during the selection process. Respondent should be aware, however, that all proposals and information submitted therein may become subject to public inspection following award of the contract. Each respondent should consider this possibility and, where trade secrets or other proprietary information may be involved, may choose to provide in lieu of such proprietary information, an explanation as to why such information is not provided in its proposal. However, the respondent may be required to submit such required information before further consideration.

Equal Employment Opportunity (EEO) Provision. All bidders or Proponents will be required to comply with sections 2-1200 and 2-1414 of the City of Atlanta Code of Ordinances, as follows: During the performance of the agreement, the Contractor agrees as follows:

a. The Contractor shall not discriminate against any employee, or applicant for employment, because of race, color, creed, religion, sex, domestic relationship status, parental status, familial status, sexual orientation, national origin, gender identity, age, disability, or political affiliation. As used here, the words "shall not discriminate" shall mean and include without limitation the following:

Recruited, whether by advertising or other means; compensated, whether in the form of rates of pay, or other forms of compensation; selected for training, including apprenticeship; promoted; upgraded; demoted; downgraded; transferred; laid off; and terminated.

The Contractor agrees to and shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officers setting forth the provisions of the EEO clause.

b. The Contractor shall, in all solicitations or advertisements for employees, placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, creed, religion, sex, domestic relationship status, parental status, familial status, sexual orientation, national origin, gender identity, age, disability, or political affiliation.

c. The Contractor shall send to each labor union or representative of workers with which the Contractor may have a collective bargaining agreement or other contract or understanding a notice advising the labor union or workers' representative of the Contractor's commitments under the equal employment opportunity program of the City of Atlanta and under the Code of Ordinances and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The Contractor shall register all workers in the skilled trades who are below the journeyman level with the U.S. Bureau of Apprenticeship and Training.

d. The Contractor shall furnish all information and reports required by the contract compliance officer pursuant to the Code of Ordinances, and shall permit access to the books, records, and accounts of the Contractor during normal business hours by the contract compliance officer for the purpose of investigation so as to ascertain compliance with the program.

e. The Contractor shall take such action with respect to any subcontractor as the city may direct as a means of enforcing the provisions of paragraphs (a) through (h) herein, including penalties and sanctions for noncompliance; provided, however, that in the event the Contractor becomes involved in or is threatened with litigation as a result of such direction by the city, the city will enter into such litigation as is necessary to protect the interest of the city and to effectuate the equal employment opportunity program of the city; and, in the case of contracts receiving federal assistance, the Contractor or the city may request the United States to enter into such litigation to protect the interests of the United States.

f. The Contractor and its subcontractors, if any, shall file compliance reports at reasonable times and intervals with the city in the form and to the extent prescribed by the contract compliance officer. Compliance reports filed at such times directed shall contain information as to employment practices, policies, programs and statistics of the Contractor and its subcontractors.

g. The Contractor shall include the provisions of paragraphs (a) through (h) of this equal employment opportunity clause in every subcontract or purchase order so that such provisions will be binding upon each subcontractor or vendor.

h. A finding, as hereinafter provided, that a refusal by the Contractor or subcontractor to comply with any portion of this program, as herein provided and described, may subject the offending party to any or all of the following penalties:

(1) Withholding from the Contractor in violation all future payments under the involved contract until it is determined that the Contractor or subcontractor is in compliance with the provisions of the contract;

(2) Refusal of all future bids for any contract with the City of Atlanta or any of its departments or divisions until such time as the Contractor or subcontractor demonstrates that there has been established and there shall be carried out all of the provisions of the program as provided in the Code of Ordinances;

(3) Cancellation of the public contract;

(4) In a case in which there is substantial or material violation of the compliance procedure herein set forth or as may be provided for by the contract, appropriate proceedings may be brought to enforce those provisions, including the enjoining, within applicable law, of Contractors, subcontractors or other organizations, individuals or groups who prevent or seek to prevent directly or indirectly compliance with the policy as herein provided.

Prohibition on Kickbacks or Gratuities/Non-Gratuity. The undersigned acknowledges the following prohibitions on kickbacks and gratuities:

a. It is unethical for any person to offer, give or agree to give any employee or former employee a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy or other particular matter pertaining to any program requirement or a contract or subcontract or to any solicitation or proposal therefor.

b. It is unethical for any employee or former employee to solicit, demand, accept or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy or other particular matter pertaining to any program requirement or a contract or subcontract or to any solicitation or proposal therefor.

c. It is also unethical for any payment, gratuity or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime Contractor or higher tier subcontractor or any person associated therewith as an inducement for the award of a subcontract or order.

Declaration

Under penalty of perjury, I declare that I have examined this Disclosure Affidavit and Questionnaire and all attachments to it, if applicable, and, to the best of my knowledge and belief all statements contained herein and in any attachments, if applicable, are true, correct and complete.

I certify that this offer is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting an offer for the same supplies, services, construction, or professional or consultant services, and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of city, state and federal law and can result in fines, prison sentences, and civil damages awards. I agree to abide by all conditions of this solicitation and offer and certify that I am authorized to sign for this Respondent.

Sign here if you are an individual:

Printed Name: _____

Signature: _____

Date: _____, 20___

Subscribed and sworn to or affirmed by _____ **(name) this** ____ **day of** _____, **20**___.

_____

Notary Public of _____ (state)

My commission expires: _____

Sign here if you are an authorized representative of a responding entity or partnership:

Printed Name of Entity or Partnership:_____

Signature of authorized representative:_____

Title: _____

Date: _____, 20___

Subscribed and sworn to or affirmed by _____**(name), as the** _____**(title) of** _____**(entity or partnership name) this**_____**day of** _____, 20____.

_____

Notary Public of _____(state)

My commission expires: _____

Required Submittal (FORM 3)

Proponent Financial Disclosure (Page 1 of 5)

Instructions: It is necessary for the City to evaluate, verify, and understand the Proponent's financial capability and stability to undertake and perform the Services contemplated in this Solicitation. To accomplish this task, the Proponent must provide accurate and legible financial disclosures to the City as requested below.

A "Proponent" is an individual, entity or partnership submitting a proposal or Proposal in response to a Solicitation.

1. If the Proponent is an individual, financial disclosures for that individual must be provided.

2. If the Proponent is an entity or partnership, financial disclosures for that entity or partnership must be provided.

3. If the Proponent is a newly formed entity or partnership (formed within the last three years), financial disclosures for that entity or partnership must be provided together with full financial disclosure from the entity's or partnership's owners. Financial Disclosure includes a full response to all questions and requests for documentation listed in this Form.

For example, if the Proponent is a newly formed entity (formed within the last three years) made up of two separate entities (e.g., a majority interest owner and a minority interest owner), then financial disclosure is required from the Proponent entity, and financial disclosure is also required from each of the two owners (majority entity owner and minority entity owner) as well.

The Proponent (and its owners, if applicable) must submit hard copies of all financial disclosures in response to this Form.

Required Submittal (FORM 3)

Proponent Financial Disclosure (Page 2 of 5)

Part A - General Information:

Name of the Proponent: _____

Name of individual, entity or partnership completing this Form: _____

Relationship of individual, entity or partnership completing this Form to the Proponent: _____

Contact information of individual, entity or partnership completing this Form: _____

Address _____

Phone Number(s) _____

Email: _____

Required Submittal (FORM 3)

Proponent Financial Disclosure (Page 3 of 5)

Part B: Financial Information:

1. The Proponent, and its owners, if applicable, should demonstrate its financial capability and stability by selecting and providing documentation from one of the following three groups of requests (see below). Please circle which group, (a), (b), or (c), is selected and provide the supporting documentation with the proposal/Proposal.

   (a) Financial statements for the three (3) most recent consecutive fiscal years, audited by a Certified Public Accountant ("CPA"), including:

   (i) Income Statement;
   (ii) Balance Sheet; and
   (iii) Statement of Cash Flows.

   (b) Financial statements for the three (3) most recent consecutive fiscal years, either reviewed or compiled by a Certified Public Accountant ("CPA"), including:

   (i) Income Statement;
   (ii) Balance Sheet; and
   (iii) Satisfactory proof of Proponent's ability to obtain a Performance Bond for the amount described in Appendix B, if applicable.

   (c) Unaudited, self-prepared financial statements for the three (3) most recent consecutive fiscal years, including:

   (i) Income Statement;
   (ii) Balance Sheet;
   (iii) Satisfactory proof of Proponent's ability to obtain a Performance Bond for the amount described in Appendix B, if applicable;
   (iv) Two (2) banks or other institutional lenders' references; and
   (v) Dunn and Bradstreet report for the last two (2) years.

Required Submittal (FORM 3)

Proponent Financial Disclosure (Page 4 of 5)

2. Fill in the blanks below to provide a summary of all of the Proponent's assets and liabilities for the three (3) most recent years (calculated from the date of the end of the fiscal year).

ALL FIGURES BELOW MUST BE REPRESENTED IN U.S. CURRENCY ($).

Standard currency of Proponent's Financial Statements: _____

The exchange rate used: _____ = US $_____

Most recent three (3) years

	Year: 2012 (Thousands)	**Year: 2013** (Thousands)	**Year: 2014** (Thousands)
Current Assets	$.....	$.....	$.....
Current Liabilities	$.....	$.....	$.....
Property & Equip.	$.....	$.....	$.....
Working Capital	$.....	$.....	$.....
Sales/ Revenue	$.....	$.....	$ .....
Total Assets	$.....	$.....	$.....
Total Liabilities	$.....	$.....	$.....
Interest Charges	$.....	$.....	$.....
Net Income	$.....	$.....	$.....
Net-Worth	$.....	$.....	$.....

3. Do you plan to use or require an open line of credit for the project? Yes or No.

If yes, the Proponent must provide the source of the line of credit on bank letterhead for the bank providing the line of credit. The bank contact information must include: contact name, title, address, telephone, fax and e-mail address.

Required Submittal (FORM 3)

Proponent Financial Disclosure (Page 5 of 5)

Declaration

Under penalty of perjury, I declare that I have examined this Affidavit Disclosure form and all attachments to it, if applicable, and, to the best of my knowledge and belief, and all statements contained in it and all attachments, if applicable, are true, correct and complete.

Whether you are an individual executing this form or you are an authorized representative of an entity executing this form, the person signing below must sign or affirm in the presence of a Notary Public. The Notary Public's signature and seal must be provided, together with the date of the notarial act.

Sign here if you are an individual:

Printed Name: _____

Signature: _____

Date: _____, 20____

Subscribed and sworn to or affirmed by _____ (name) this _____ day of _____, 20___.

_____

Notary Public of _____(state)

My commission expires: _____

Sign here if you are an authorized representative of a responding entity:

Printed Name of Entity: _____

Signature of authorized representative: _____

Title: _____

Date: _____, 20.___

Subscribed and sworn to or affirmed by _____ (name), as the _____ (title) of _____ (entity name) this _____ day of _____, 20___.

_____

Notary Public of _____(state)

My commission expires: _____

Required Submittal (FORM 4.1)

Certification of Insurance Ability Instructions:

Proponents **MUST** submit **a completed copy of this form executed by their insurance company**. Failure to submit completed form will result in the Proponent being deemed non-responsive.

I, _____ [*insert an individual's name*], on behalf of _____ [*insert insurance company full name*], a _____ [*insert type of entity LLC, LLP, corporation, etc.*]("**Insurer**"), hereby represent and certify each of the following to the City of Atlanta, a municipal corporation of the State of Georgia ("**City**") on this _____ day of _____, 20____ [*insert date*]:

(a) Insurer is licensed by the Insurance and Safety Fire Commissioner of the State of Georgia to transact insurance business in the State of Georgia;

(b) Insurer has reviewed the Agreement attached to the solicitation for Project Number FC-____: _____ ("**Project**") and its corresponding **Appendix B for Insurance and Bonding Requirements;**

(c) Insurer certifies that if, as of the date written above, _____ ("**Proponent**") was selected as the successful Proponent for the Project, Insurer would provide insurance to Proponent for this Project in accordance with the terms set forth in the corresponding **Appendix B for Insurance Requirements**; and

PLEASE NOTE: If this Form 4.1 is executed by an Attorney-in-Fact, then Insurer must attach a copy of a duly executed Power-of-Attorney evidencing such authority in addition to correctly completing this Form 4.1. If Proponent is unable to provide City with insurance that comply with the terms of the corresponding Appendix for Insurance Requirements within ten (10) days of receiving notice of intent to award the Project from the City, the City may, in its sole discretion, retain Proponent's security submitted with its offer and/or disqualify Proponent from further consideration for the award of the Agreement.

By executing this certification, Insurer represents that all of the information provided by Insurer herein is true and correct as of the date set forth above.

Insurer: [*insert company name on line provided below*]

Authorized Signatory

_____

By:_____

Print Name:_____

Title:_____

_____

Notary Public of _____ (state)

My commission expires: _____

Required Submittal (FORM 4.2)

Certification of Bonding Ability Instructions:

Proponents **MUST** submit **a completed copy of this form executed by their surety.** Failure to submit completed form will result in the Proponent being deemed non-responsive.

I, _____ [*insert an individual's name*], on behalf of _____ [*insert surety company full name*], a _____ [*insert type of entity LLC, LLP, corporation, etc.*]("**Surety**"), hereby represent and certify each of the following to the City of Atlanta, a municipal corporation of the State of Georgia ("**City**") on this _____ day of _____, 20____ [*insert date*]:

(a) Surety is licensed by the Insurance and Safety Fire Commissioner of the State of Georgia to transact surety business in the State of Georgia;

(b) Surety has reviewed the Agreement attached to the solicitation for Project Number FC-____: _____ ("Project") and its corresponding **Appendix B for Insurance and BondingRequirements;**

(c) Surety certifies that if, as of the date written above, _____ ("**Proponent**") was selected as the successful Proponent for the Project, Surety would provide bonding to Proponent for this Project in accordance with the corresponding **Appendix B for Insurance and Bonding Requirements**; and

(d) **Surety only**: The Surety states that Proponent's uncommitted bonding capacity (not taking into account this Project) is approximately $ _____(U.S.). Surety's statement set forth in this Section (d) does not represent a limitation of the bonding capacity of Proponent or that Proponent will have the bonding capacity noted above at the time of contract execution for this Project.

PLEASE NOTE: If this Form 4.2 is executed by an Attorney-in-Fact, then Surety must attach a copy of a duly executed Power-of-Attorney evidencing such authority in addition to correctly completing this Form 4.2. If Proponent is unable to provide City with bonds that comply with the terms of the corresponding Appendix for Insurance Requirements within ten (10) days of receiving notice of intent to award the Project from the City, the City may, in its sole discretion, retain Proponent's security submitted with its offer and/or disqualify Proponent from further consideration for the award of the Agreement.

By executing this certification, Surety represents that all of the information provided by Surety herein is true and correct as of the date set forth above.

Surety: [*insert company name on line provided below*]

_____

By:_____

Print Name: _____

Title:_____

_____

Notary Public of _____ (state)
My commission expires: _____

Required Submittal (FORM 5)

Acknowledgment of Addenda

Proponents should sign below and return this form with their Proposal(s) to the Department of Procurement, 55 Trinity Avenue, City Hall South, Suite 1900, Atlanta, Georgia 30303, as acknowledgment of receipt of certain Addenda.

This is to acknowledge receipt of the following **Addenda** for **FC-____**; _____:

1. _____;
2. _____;
3. _____; and
4. _____.

Dated the _____day of _____, 20__.

Corporate Proponent: [Insert Corporate Name]	Non-Corporate Proponent: [Insert Proponent Name]
_____	_____
By:_____	By:_____
Print Name:_____	Print Name:_____
Title:_____	Title:_____
_____ Corporate Secretary/Assistant Secretary (Seal)	_____ Notary Public (Seal) My Commission Expires:_____

Required Submittal (FORM 6)

Proponent Contact Directory[1]

NAME	POSITION/TITLE	MAILING ADDRESS	OFFICE PHONE	CELL PHONE	EMAIL ADDRESS AND FAX NUMBER

[1] The purpose of the Proponent Contact Directory is to provide the City with a centralized, easily identified source of important contacts and other information regarding each of the business entities constituting a Proponent. This Proponent Contact Directory should include the names, positions/titles, firms, mailing addresses, phone and fax numbers and e-mail addresses for each of the following as it pertains to each of the firms in a Proponent's team:

1. At least two (2) individuals, one primary the other(s) secondary, authorized to represent the firm for purposes of this RFP; and
2. Proponent Service Provider Key Personnel (as appropriate) listed in the Services Agreement included in this RFP at Part 5.

Required Submittal (FORM 7)

Reference List

Each Proponent must provide a list of at least five (5) references using the below-referenced format. The City is interested in reviewing references that are able to attest to a Proponent's performance ability and credibility in a particular industry or trade.

Reference: Name
Address
City, State, Zip
Phone
Fax

Project Title:

Contact Person: _____
Direct Telephone: _____
Email Address: _____

Date(s) of Project: _____

Description of Services:

Total Amount of Contract Including Change Orders:

Proponent's Role and Responsibilities:

Current Completion Status:

(Use the Same Format to Provide the Additional References)

Required Submittal *"Unless a Proponent Elects to Submit an Alternative Form of Payment"*
(FORM 8)

Proposal Bond (Page 1 of 2)

KNOW ALL MEN BY THESE PRESENTS, THAT WE_____
_____
hereinafter called the PRINCIPAL, and _____
_____
hereinafter called the SURETY, a corporation chartered and existing under the laws of the State of _____, and duly authorized to transact Surety business in the State of Georgia, are held and firmly bound unto the City of Atlanta, Georgia **(OBLIGEE)**, in the penal sum of either: [i] _____ Dollars and Cents ($_____); or [ii] 5% of PRINCIPAL'S Proposal amount for **PROJECT NUMBER FC-___**; _____, good and lawful money of the United States of America, to be paid upon demand of the OBLIGEE, to which payment well and truly to be made we bind ourselves, our heirs, executors, administrators and assigns, jointly and severally and firmly by these presents.

WHEREAS the PRINCIPAL has submitted to the OBLIGEE, for **PROJECT NUMBER FC-__**; _____, a Proposal;

WHEREAS the PRINCIPAL desires to file this Bond in accordance with law, in lieu of a certified Proponent's check otherwise required to accompany this Proposal;

NOW THEREFORE: The conditions of this obligation are such that if the Proposal be accepted, the PRINCIPAL shall within ten (10) calendar days after receipt of written notification from the CITY of the award of the Contract execute a Contract in accordance with the Proposal and upon the terms, conditions and prices set forth therein, in the form and manner required by the City of Atlanta, Georgia, and execute sufficient and satisfactory Performance and Payment Bonds payable to the OBLIGEE, each in the amount of one hundred percent (100%) of the total Contract price in form and with security satisfactory to said OBLIGEE, then this obligation to be void; otherwise, to be and remain in full force and virtue in law; and the SURETY shall upon failure of the PRINCIPAL to comply with any or all of the foregoing requirements within the time specified above immediately pay to the OBLIGEE, upon demand the amount hereof in good and lawful money of the United States of America, not as a penalty but as liquidated damages.

In the event suit is brought upon this Bond by the OBLIGEE and judgment is recovered, the SURETY shall pay all costs incurred by the OBLIGEE in such suit, including attorney's fees to be fixed by the Court.

PLEASE NOTE: If this Form 8 is executed by an Attorney-in-Fact, then Surety must attach a copy of a duly executed Power-of-Attorney evidencing such authority in addition to correctly completing this Form 8.

Required Submittal *"Unless a Proponent Elects to Submit an Alternative Form of Payment"*
(FORM 8)

Proposal Bond (Page 2 of 2)

This Proposal Bond is for the Penal Sum of:

[i] _____ Dollars and Cents ($_____), being in the amount of 5% of the CONTRACT Sum; or [ii] 5% of PRINCIPAL'S Proposal amount for **PROJECT NUMBER FC-____;** _____. The money payable on this Bond shall be paid to the OBLIGEE, for the failure of the Proponent to execute a CONTRACT within ten (10) days after receipt of the Contract form and at the same time furnish a Payment Bond and Performance Bond.

IN TESTIMONY THEREOF, the PRINCIPAL and SURETY have caused these presents to be duly signed and sealed this _____day of _____20__.

Corporate Proponent:
[Insert Corporate Name]

_____
Signature:_____
Print Name:_____
Title:_____

_____
Corporate Secretary/Assistant Secretary
(Seal)

Non-Corporate Proponent:
[Insert Proponent Name]

_____
Signature:_____
Print Name:_____
Title:_____

_____
Notary Public (Seal)

My Commission Expires:_____

SURETY:

Signature:_____

Attorney-in-Fact:_____

Print Name:_____

Required Submittal (FORM 9)

Required Submittal Checklist

The following submittals shall be completed and submitted with each Proposal see table below "Required Proposal Submittal Check Sheet." Please verify that these submittals are in the envelope before it is sealed. *Disclaimer:* **It is each Proponents sole responsibility to ensure that their proposal to the City is inclusive of all required submittal documents outlined on the below-referenced checklist; as well as within other parts of the solicitation document.**

Submit one (1) Original Proposal, signed and dated, and seven (7) complete copies of the Original Proposal including all required attachments.

In addition to the hard copy submissions, each Proponent shall submit two (2) digital versions of its Proposal Submission in Adobe Portable Document Format ("PDF") on compact disk (CDs). CD One (1) version should be a duplicate of the hard copy of the Proposal with no deviations in order or layout of the hard copy proposal. CD Two (2) version should be a redacted version of the hard copy Proposal Submission. Please refer to the Georgia Open Records Acts (O.C.G.A. § 50-18-72) for information not subject to public disclosure.

The City assumes no liability for differences in information contained in the Proponent's printed Proposal Submission and that contained on the CDs. In the event of a discrepancy, the City will rely upon the information contained in the Proponent's printed material (Hard Copy). Each CD should be labeled with the Project Number, Project Name, and the CD Number.

Item Number	Required Proposal Submittal Check Sheet	Check ☐
1	**Volume I** – Informational Proposal: ☐ Executive Summary ☐ Organizational Structure ☐ Resumes of Key Personnel ☐ Overall Experience, Qualifications and Performance on Previous Similar Projects ☐ Management Plan ☐ Project Approach & Technical Approach	
2	**Volume II** - Office of Contract Compliance (**Appendix A** Required Submittals Forms 1-5)	
3	**Volume II** – All Required Procurement Documents (**if any of the required submittal documents are not submitted or incomplete within your Proposal submittal package, your firm may be deemed non-responsive**). Required Submittals include but are not limited to: ☐ Form 1; Illegal Immigration Reform and Enforcement Act ☐ Form 2; Contractor Disclosure Form ☐ Form 3; Proponent Financial Disclosure ☐ Form 4.1; Certification of Insurance Ability ☐ Form 4.2; Certification of Bonding Ability ☐ Form 5; Acknowledgement of Addenda ☐ Form 6; Proponent Contact Directory ☐ Form 7; Reference List ☐ Form 8; Proposal Bond ☐ Form 9; Required Submittal Checklist ☐ Statement of Qualifications ☐ Safety Record Form ☐ Related Experience by Proposed Equipment Manufacturer ☐ Process Design/Expected Performance for the Nutrient Recovery System ☐ Operations and Maintenance Requirements ☐ Authority to Transact Business in the State of Georgia ☐ Joint Venture Agreement ☐ Georgia Utility Contractor's License	
3A	**Separate Sealed Envelope** ☐ **Cost Proposal**	
4	**Proponent's Official Company Name:** **Company Physical Address:**	
5	**President/Vice President/Owner Name:** **Title:**_____ **Office Telephone Number:**_____ **Direct Cell Telephone Number:**_____ **Email Address:**_____	
6	**Primary Point-of-Contact Concerning RFP:**_____ **Title:**_____ **Office Telephone Number:**_____ **Direct Cell Telephone Number:**_____ **Email Address:**_____	

COST PROPOSAL FORM

FROM:
Proponent's Name: _____
Proponent's Address: _____
_____

FOR:
Project Name: FC-8188, RM Clayton WRC Nutrient Harvesting Design-Build Project

ITEMS:

No.	DESCRIPTION	TOTAL
1	Lump Sum Proposed Price[1]	$
2	Lump Sum Maintenance Price[2]	$
3	Owners Allowance[3]	$ 2,500,000.00
	TOTAL OF 1-3:	**$**

TOTAL ITEMS 1 THROUGH 3, INCLUSIVE, THE AMOUNT OF:

(Total Proposal Amount in Words) _____

_____ DOLLARS ($ _____).

*Lump Sum Prices shall include all business expenses (e.g., personnel, administrative, training, quality control, etc.) that will be assumed by Proponent for the Work.

[1] Lump Sum Bid Price includes cost of Design and Construction of a Nutrient Harvesting System – as described in Exhibit D-1 " Scope of Work".
[2] Lump Sum Maintenance Price is inclusive of a base term of five (5) years.
[3] Owner controlled allowance for unforeseen conditions.

Required Submittal

STATEMENT OF PROPONENT'S QUALIFICATIONS

KEY PERSONNEL EXPERIENCE

NAME: _____

Project Name	
Project Type & Design	
Project Location	
Design Builder	
Key Personnel's Role	
Owner's Representative: Name and Phone Number	
Design Engineer's Representative: Name and Phone Number	
Relevant Project Experience from Project:	
Initial Contract Amount	$
Final Contract Amount	$
Reason for Cost increase, if any	
Project Duration	Date Started: Date Completed:
Was Project Completed on Time?	
If not Completed on Time, Why?	
Description of Major Project Components as they apply to this proposal	

Required Submittal

SAFETY RECORD FORM

I. General Information

Name of Firm:	
Business Address:	
Telephone:	Fax:
Prepared by/Title:	Date prepared:

II. Experience Modification Rates

A. List your firm's Workers Compensation Experience Modification Rates (EMR) for the last three years.

Year	Experience Modification Rate (EMR)

III. OSHA Incidence Rates

A. List your firm's Occupational Safety Health Administration (OSHA) total recordable incidence rates for the last three years.

Year	Total Recordable Incidents	Total Hours Worked	OSHA Incidence Rate*

* Use your OSHA Form No. 200 and the formula:

(Total Incidents x 200,000 hours) ÷ (Number of hours worked) = Incidence Rate

III. OSHA Incidence Rates (cont'd)

B. Provide your incidence rates over the last three years for the following categories:

Category	Incidence Rate by Year*		
	Year _____	Year _____	Year _____
Injuries and Illness with Lost Work Days			
Injuries and Illness with Job Transfer or Restricted Work Days			

* Use your OSHA Form No. 200 and the formula:

(Total Incidents x 200,000 hours) ÷ (Number of hours worked) = Incidence Rate

C. Provide your incidences of fatality over the last five years:

Category	Fatalities by Year				
	Year _____	Year _____	Year _____	Year _____	Year _____
Number of Fatalities					

D. Does your firm have any upheld OSHA citations in the past five years?

Yes ☐ No ☐ (If yes, attach explanation)

IV. Safety Program Information

A. Do you have a written safety program?

Yes ☐ No ☐ (If yes, attach outline)

B. Which of the following does your safety program contain:

1. Does your company require health and safety training of its subcontractors?

   Yes ☐ No ☐

2. Is documentation of health and safety training required?

   Yes ☐ No ☐

3. Do you have a Hazard Communication Program (29 CFR 1910.1200, CCR Title 8 Section 5194)?

   Yes ☐ No ☐

4. Do you have a Confined Space Entry and Rescue Program (29 CFR 1910.146, CCR Title 8 Section 5156-5159)?

Yes ☐ No ☐ (If yes, attach explanation)

5. Do you have a "Hot Work" permit program (29 CFR 1910.146, CCR Title 8 5156-5159)?

   Yes ☐ No ☐ (If yes, attach explanation)

6. Do you have a "Lock-Out/Tag-Out" program (29 CFR 1910.417)?

   Yes ☐ No ☐ (If yes, attach explanation)

C. *Do you have an Equipment Maintenance Program for the following:*

1.	Miscellaneous construction tools and equipment?	Yes ☐	No ☐
2.	Ladders?	Yes ☐	No ☐
3.	Scaffolds?	Yes ☐	No ☐
4.	Heavy Equipment?	Yes ☐	No ☐
5.	Vehicles?	Yes ☐	No ☐

D. *Do you have a new employee safety orientation program?*

Yes ☐ No ☐

1. If yes, does it include instruction in the following:

(a)	Company Safety Policy	Yes ☐	No ☐
(b)	Company Safety Rules	Yes ☐	No ☐
(c)	Safety Meeting Attendance	Yes ☐	No ☐
(d)	Company Safety Record	Yes ☐	No ☐
(e)	Hazard Recognition	Yes ☐	No ☐
(f)	Hazard Reporting	Yes ☐	No ☐
(g)	Injury Reporting	Yes ☐	No ☐
(h)	Non-Injury Accident Reporting	Yes ☐	No ☐
(i)	Personal Protective Equipment	Yes ☐	No ☐
(j)	Respiratory Protection	Yes ☐	No ☐
(k)	Fire Protection	Yes ☐	No ☐
(l)	Housekeeping	Yes ☐	No ☐
(m)	Toxic Substance	Yes ☐	No ☐
(n)	Electrical Safety	Yes ☐	No ☐
(o)	Fall Protection	Yes ☐	No ☐
(p)	First-Aid/CPR	Yes ☐	No ☐
(q)	Driving Safety	Yes ☐	No ☐
(r)	Hearing Conservation	Yes ☐	No ☐
(s)	Lock-Out/Tag-Out	Yes ☐	No ☐
(t)	Bloodborne Pathogens	Yes ☐	No ☐
(u)	Asbestos	Yes ☐	No ☐
(v)	Confined Spaces	Yes ☐	No ☐
(w)	Hazard Communication	Yes ☐	No ☐

IV. Safety Program Information (cont'd)

E. Do you conduct safety meetings for your employees? Yes ☐ No ☐

1. If yes, how often:

   Daily ☐ Weekly ☐ Bi-weekly ☐ Monthly ☐ As Needed ☐

F. Do you conduct health and safety audits of work in progress?

Yes ☐ No ☐

1. If yes, who conducts the audits?

   _____

2. How often are the audits conducted?

   _____

G. Do you notify all employees of accidents and precautions related to accidents and near misses?

Yes ☐ No ☐

1. If yes, how is this notification accomplished?

   (a) Safety meetings Yes ☐ No ☐
   (b) Post notification in office Yes ☐ No ☐
   (c) Post notification at the site where the incident occurred Yes ☐ No ☐
   (d) Other _____

H. Is safety a criteria in evaluating the performance of:

1. Employees Yes ☐ No ☐
2. Supervisors Yes ☐ No ☐
3. Management Yes ☐ No ☐

I. Does your firm hold "tailgate" safety meetings? Yes ☐ No ☐

1. If yes, how often:

   Daily ☐ Weekly ☐ Bi-weekly ☐ Monthly ☐ As Needed ☐

J. Does your company have a drug and alcohol testing policy?

Yes ☐ No ☐

K. Does your company require that subcontractors participate in a drug surveillance/testing program?

Yes ☐ No ☐

L. Does your company have a method of disseminating safety information?

Yes ☐ No ☐

Required Submittal

RELATED EXPERIENCE BY PROPOSED EQUIPMENT MANUFACTURER

Location/Status	Description of Application	P- Removal?	Contact Information (name, phone #, email)

Required Submittal

PROCESS DESIGN/EXPECTED PERFORMANCE FOR THE NUTRIENT RECOVERY SYSTEM

(To be completed by Proponent)

Parameter	Current	Year 20	Year 30
Treatment capacity per reactor, gpd			
Proposed number of reactors, units			
Effluent TSS, mg/L			
TSS removal, %			
Effluent PO_4-P, mg/L			
PO_4-P removal, %			
Phosphorus removed, ppd			
Effluent NH_3-N, mg/L			
Ammonia removal, %			
Nitrogen removed, ppd			
Struvite production rate, tons/yr			
Process target pH			
Product onsite storage, days			

Required Submittal

OPERATIONS AND MAINTENANCE REQUIREMENTS

(To be completed by Proponent)

Parameter	Current	Year 20	Year 30
Electric power consumption, kW-hr/day			
Natural gas consumption, therms/day			
Maintenance Labor (full-time equivalents)			
Operations Labor (full-time equivalents)			
Maintenance parts/materials ($/year)			
Maintenance Agreement ($/year) 5 year minimum			
Chemical (_____), dry tons/year Fill in material type			
Chemical (_____),_____ /year Fill in material type and units			
Chemical (_____), dry tons/year Fill in material type			
Other (_____), _____ /year Fill in material type/Service and units			
Other (_____), _____ /year Fill in material type/Service and units			

Required Submittal

AUTHORITY TO TRANSACT BUSINESS IN GEORGIA

FC-8188, RM Clayton WRC Nutrient Harvesting Design Build Project

Copy of authorization must be included in Proposal

Required Submittal

GEORGIA UTILITY CONTRACTOR'S LICENSE CERTIFICATION

FC-8188, RM Clayton WRC Nutrient Harvesting Design Build Project

Contractor's Name: _____

Utility Contractor's License Number: _____

Expiration Date of License: _____

FC Number and Project Name: **FC-8188, RM Clayton WRC Nutrient Harvesting Design Build Project**

Copy of License must be included in Proposal

Required Submittal

JOINT VENTURE AGREEMENT

FC-8188, RM Clayton WRC Nutrient Harvesting Design Build Project

Copy of Joint Venture Agreement must be included in Proposal

Required Submittal
(Submit at the time of Site Visit)

Site Visit Release Form
FC-8188, RM CLAYTON WRC NUTRIENT HARVESTING DESIGN BUILD PROJECT (Solicitation)

Permission; Release: As part of the above referenced Solicitation, the City of Atlanta and its agents, employees and consultants ("City") grants the undersigned, on behalf of itself and any of its agents, affiliates, employees and/or authorized representatives listed below (collectively, "Proponent") access to the RM Clayton Water Reclamation Center Headworks Improvement Project located at 2440 Bolton Road, NW. Atlanta, Ga, 30318 premises ("Facilities"), for the purpose of assessing the work Site, as may be reasonably necessary for the purposes of developing a response to the Solicitation. The Proponent's access is expressly conditioned upon Proponent's execution and agreement to this "Site Tour Release Form", as follows:

Proponent, on behalf of itself and any of its agents, affiliates, employees and/or authorized representatives listed below acknowledges that the Facilities are owned and operated by the City as a (Wastewater Treatment Facility), which has inherent risks, dangers and hazardous conditions located on the premises as part of the day-to-day operations of the Facilities. Proponent further acknowledges and agrees that any of Proponent's actions or efforts related to taking any sampling of substances present inherent dangers and risks to Proponent, for which the Proponent is solely responsible and liable, including without limitation, providing any and all personnel, equipment safety measures and exercising the appropriate degree of safety and control as may be necessary and appropriate for such efforts. The City makes no representations or warranties of any kind as to the degree of safety, fitness or suitability of the Facilities for the purpose of entering the Facilities for any sampling, testing or inspection of the Facilities. Proponent agrees to accept and assume all risks arising directly or indirectly out of the site visit(s), entry, inspection, sampling or testing by Proponent to or of the Facilities. Proponent agrees that the City shall have no duty of care to keep the Facilities safe for entry or use. Proponent agrees that the City does not grant its permission, assume responsibility or incur liability for any injury, death, loss or damage to any person or property arising out of the activities of Proponent on the Facilities, and Proponent hereby releases the City and its employees, consultants and other agents from any and all actions, causes of action, suits, claims, liabilities, losses, damages, judgments and executions of any kind arising after the date hereof that Proponent, or its employees, representatives, affiliates and/or agents may have by reason of, arising out of, related to, or resulting from any visit, entry, inspection, study, test or other action by Proponent.

Indemnity and Hold Harmless: Notwithstanding any general liability or other insurance that may be maintained by Proponent, Proponent shall defend, indemnify and hold the City harmless (using counsel reasonably satisfactory to the City) from any and all actions, causes of action, suits, claims, liens, demands, liabilities, losses, costs, expenses (including, without limitation, reasonable attorneys' fees) and damages of any kind or nature that the City sustains or incurs by reason of or in connection with any visit, entry, inspection, study, test or other actions by Proponent; provided, however, that the indemnity obligations of Proponent shall not apply to any liability of damages arising out of bodily injury to persons or damage to property caused by or resulting from the sole negligence or willful misconduct of the City and its agents or employees.

Required Submittal
(Submit at the time of Site Visit)

Confidential Information: Proponent recognizes that their employee and/or agent may be exposed to Confidential Information and that the City desires to prevent unauthorized disclosure of such information. Except as required by law or by a court of competent jurisdiction, each party agrees that it will not disclose any Confidential Information of the other party and further agrees to take appropriate action to prevent such disclosure by its employees or agents.

Acknowledged and agreed this ____ day of _____, 20____.

Proponent and Proponent's Authorized Representatives

Name: _____
Title: _____
Company:_____
Telephone Number: _____
E-mail Address: _____
Fax Number: _____

Name: _____
Title: _____
Company:_____
Telephone Number: _____
E-mail Address: _____
Fax Number: _____

PART 5

STANDARD FORM OF AGREEMENT

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND DESIGN-BUILDER - LUMP SUM

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Standard Form of Agreement Between Owner and Design-Builder - Lump Sum

This document has important legal consequences. Consultation with an attorney is recommended with respect to its completion or modification.

This **AGREEMENT** is made as of the _____ day of _____ in the year of 20__, by and between the following parties, for services in connection with the Project identified below.

OWNER: THE CITY OF ATLANTA
(Name and address)

City of Atlanta Department of Watershed Management
72 Marietta Street
Atlanta, GA. 30303

DESIGN-BUILDER:

8182

PROJECT: FC-_XXX_RM Clayton WRC Nutrient Recovery System
(Include Project name and location as it will appear in the Contract Documents)

In consideration of the mutual covenants and obligations contained herein, Owner and Design-Builder agree as set forth herein.

Article 1

Scope of Work

1.1 Design-Builder shall perform all design and construction services, and provide all material, equipment, tools and labor, necessary to complete the Work described in and reasonably inferable from the Contract Documents.

Article 2

Contract Documents

2.1 The Contract Documents are comprised of the following:

2.1.1 All written modifications, amendments, and Change Orders to this Agreement issued in accordance with the Standard Form General Conditions of Contract ("General Conditions of Contract");

2.1.2 The Basis of Design Documents, including the Owner's Project Criteria, Design-Builder's Proposal and the Deviation List, if any, contained in the Design-Builder's Proposal, which shall specifically identify any and all deviations from Owner's Project Criteria;

2.1.3 This Agreement, including all exhibits, appendices, and attachments, executed by Owner and Design-Builder:

(List for example, performance standard requirements, performance incentive requirements, markup exhibits, allowances, or unit prices):

City Standard Specifications; and Scope of Services

2.1.4 General Conditions of Contract;

2.1.5 Special Conditions of Contract;

2.1.6 Construction Documents prepared and approved in accordance with Section 2.4 of the General Conditions of Contract.

2.1.7 Miscellaneous documents prepared and approved by Owner as required submittals for RFP.

2.1.8 Legislation authorizing Contract between Owner and Design-Builder

2.2 Completeness of Documents. The Design Builder's signature of the Agreement is a representation to Owner that Design Builder has visited the site where the Work will be performed, become familiar with the local conditions under which the Work is to be performed, and has correlated personal observations with the requirements of the Contract Documents. Except for any error, inconsistencies, conflicts, or omissions reported to Owner by Design-Builder as set forth in Article 3 herein, by signing the Agreement the Design-Builder represents that it has analyzed the Contract Documents and that they are sufficiently complete and detailed for the Work required herein and are consistent with the best practices in the construction and design industries.

Article 3

Interpretation and Intent

3.1 Omitted.

3.2 The Contract Documents are intended to permit the parties to complete the Work and all obligations required by the Contract Documents within the Contract Time(s) for the Contract Price. The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted in a manner consistent with construction and design industry standards. In the event of any inconsistency, conflict, or ambiguity between or among the Contract Documents, or between the Contract Documents and applicable standards or Legal Requirements, the Design-Builder shall 1) provide the better quality or greater quantity of Work and 2) comply with the more stringent requirement unless directed otherwise in writing by the City. Design-Builder shall take field measurements and verify existing field conditions prior to ordering materials or performing any Work and shall be responsible for the correctness of such measurements. Design-Builder shall not be entitled to any additional compensation or an extension of the Contract Time(s) arising from its failure to verify existing field conditions.

3.3 Terms, words and phrases used in the Contract Documents, including this Agreement, shall have the meanings given them in the General Conditions of Contract.

3.4 Omitted.

3.5 The Contract Documents form the entire agreement between Owner and Design-Builder and by incorporation herein are as fully binding on the parties as if repeated herein. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents.

Article 4

Ownership of Work Product

4.1 Work Product. All drawings, specifications and other documents and electronic data, including such documents identified in the General Conditions of Contract, furnished by Design-Builder to Owner under this Agreement ("Work Product") are deemed to be the property of the City upon payment therefore. The City shall retain the ownership and intellectual property interests of the Work Product, including copyright interests associated with the Work Product.

4.2 Non-Disclosure Requirements. Due to the sensitive nature of the Project, Design-Builder acknowledges and agrees that it must implement and maintain adequate safeguards to reduce unnecessary distribution of drawings, specifications, and other documents, as well as electronic data generated or received by Design-Builder under this Agreement or relating to the Project ("Materials"). Design-Builder shall limit the distribution of Materials to those third parties involved in the design, pricing, permitting, or construction of the Project. The Design-Builder shall incorporate the non-disclosure requirements of this Article 4.2 in all of its subcontracts and sub-consultant agreements.

4.3 Omitted.

4.4 Omitted.

4.5 Omitted.

Article 5

Contract Time

5.1 Date of Commencement. The Work shall commence within five (5) days of Design-Builder's receipt of Owner's Notice to Proceed ("Date of Commencement") unless a different time is required in the Owner's Notice to Proceed.

5.2 Substantial Completion and Final Completion.

5.2.1 Substantial Completion of the entire Work shall be achieved no later than twenty-one (21) months after the Date of Commencement ("Scheduled Substantial Completion Date").

5.2.2 Interim milestones and/or Substantial Completion of identified portions of the Work ("Scheduled Interim Milestone Dates"), if any, shall be achieved as set forth in Owner's Project Criteria, the other Contract Documents, or as follows: *(Insert any interim milestones for portions of the Work with different scheduled dates for Substantial Completion)*

Milestone 1: 1 month after Notice to Proceed/Date of Commencement, 30% System design to be provided for review (COA shall provide comments within 10 business days)

Milestone 2: 3 months after Notice to Proceed/Date of Commencement, System design shall be substantially complete. (COA shall provide comments within 30 days)

Milestone 3: 12 months after Notice to Proceed/Date of Commencement, Equipment manufacture shall be substantially complete.
Milestone 4: 21 months after Notice to Proceed/Date of Commencement, Installation of System shall be Substantially Complete.
Final Milestone: 23 Months after Notice to Proceed/Date of Commencement for Final Completion.

5.2.3 Final Completion is the date when all Work is complete pursuant to the definition of Final Completion set forth in Section 1.2.7 of the General Conditions of Contract.

5.2.4 All of the dates set forth in this Article 5 (collectively the "Contract Time(s)") shall be subject to adjustment in accordance with the General Conditions of Contract.

5.3 Time is of the Essence. Owner and Design-Builder mutually agree that time is of the essence with respect to the dates and times set forth in the Contract Documents.

5.4 Liquidated Damages. Design-Builder understands that if Substantial Completion is not attained by the Scheduled Substantial Completion Date, Owner will suffer damages which are difficult to determine and accurately specify. Design-Builder agrees that if Substantial Completion is not attained by fourteen (14) days of Substantial Completion Date, (the "LD Date'), Designer-Builder shall pay Owner One Thousand Dollars ($1,000.00), as liquidated damages for each calendar day that Substantial Completion extends beyond the LD Date.

5.5 Design-Builder understands that if Final Completion is not achieved within fourteen (14) days of the Substantial Completion Date, Owner will suffer damages which are difficult to determine and accurately specify. Design-Builder agrees that if Final Completion is not achieved within fourteen (14) days of Substantial Completion, Design-Builder shall pay to Owner One Thousand Dollars ($ 1,000.00), as liquidated damages for each calendar day that Final Completion is delayed beyond the above-referenced number of days.

5.6 The Liquidated Damages set forth in Articles 5.4 and 5.5 are hereby agreed upon as fixed liquidated damages due the City for Design-Builder's failure to complete the Work within the Contract Time(s). Design-Builder and its surety shall be liable for any liquidated damages in excess of the amount due Design-Builder.

5.6.1 If the Design-Builder's schedule projects an untimely completion with unexcused delay and the City in good faith believes that retainage will be insufficient to cover the City's damages, Design-Builder agrees that the City may withhold additional funds to assure the payment of the liquidated damages owed by Design-Builder.

5.6.2 The fixed liquidated damages are not established as a penalty but are calculated and agreed upon in advance by the City and Design-Builder due to the uncertainty and impossibility of making a determination as to the actual direct, incidental and consequential damages which are incurred by the City as a result of the failure on the part of Design-Builder to complete the Work within the Contract Time(s) specified in the Contract Documents. Liquidated Damages as they accrue may be deducted from periodic partial payments to the extent they are sufficient to cover the liquidated damages owing the City; provided that any excess liquidated damages owing over the periodic partial payment amount may be deducted from retainage. Such deduction shall be in addition to the retainage provided for in the Contract Documents. The remaining amount of liquidated damages owing upon completion will be deducted from any amounts owing as Final Payment to Design-Builder or its surety. Any excess amount owing to the City as liquidated damages shall be paid upon demand by Design-Builder or its surety.

5.7 Omitted.

Article 6

Contract Price

6.1 Contract Price. Owner shall pay Design-Builder in accordance with Article 6 of the General Conditions of Contract the sum of _____ Dollars ($_____) ("Contract Price"), subject to adjustments made in accordance with the General Conditions of Contract. Unless otherwise provided in the Contract Documents, the Contract Price is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements.

6.2 Markups for Changes. If the Contract Price requires an adjustment due to changes in the Work, and the cost of such changes is determined under Sections 9.4.1.3 or 9.4.1.4 of the General Conditions of Contract, the following markups shall be allowed on such changes:

6.2.1 For additive Change Orders, including additive Change Orders arising from both additive and deductive items, it is agreed that Design-Builder shall receive a Fee of Ten percent (10%) of the additional costs incurred for that Change Order.

6.2.2 For deductive Change Orders, including deductive Change Orders arising from both additive and deductive items, the deductive amounts shall include:

An amount equal to the sum of Ten percent (10%) applied to the direct costs of the net reduction (which amount will account for a reduction associated with Design-Builder's Fee).

6.3 Allowance Items and Allowance Values.

6.3.1 Any and all Allowance Items, as well as their corresponding Allowance Values, are set forth in the Owner's Project Criteria, other Contract Documents, or attached as an Exhibit or Appendix hereto.

6.3.2 Omitted.

6.3.3 No work shall be performed on any Allowance Item without Design-Builder first obtaining a written Work Authorization or Change Directive to proceed from Owner.

6.3.4 The Allowance Value for an Allowance Item includes the direct cost of labor, materials, equipment, transportation, taxes and insurance associated with the applicable Allowance Item. All other costs, including design fees, Design-Builder's overall project management and general conditions costs, overhead and fee, are deemed to be included in the original Contract Price, and are not subject to adjustment, regardless of the actual amount of the Allowance Item.

6.3.5 Whenever the actual costs for an Allowance Item is more than or less than the stated Allowance Value, the Contract Price shall be adjusted accordingly by Change Order, subject to Section 6.3.4. The amount of the Change Order shall reflect the difference between actual costs incurred by Design-Builder for the particular Allowance Item and the Allowance Value.

6.4 Performance Incentives.

6.4.1 Owner and Design-Builder have agreed to the performance incentive arrangements set forth in Exhibit N/A.

[The parties are encouraged to discuss and agree upon performance incentives that will influence project success. These incentives may consist of Award Fees, incentives for safety, personnel retention, client satisfaction and similar items.]

Article 7

Procedure for Payment

7.1 Progress Payments.

7.1.1 Design-Builder shall submit to Owner on the Fifteenth (15th) day of each month, beginning with the first month after the Date of Commencement, Design-Builder's Application for Payment in accordance with Article 6 of the General Conditions of Contract.

7.1.2 Owner shall make payment within forty-five days after Owner's receipt and approval of each properly submitted and accurate Application for Payment in accordance with Article 6 of the General Conditions of Contract, but in each case less the total of payments previously made, and less amounts properly withheld under Section 6.3 of the General Conditions of Contract.

7.1.3 Design-Builder acknowledges and agrees that all payments related to this Agreement are subject to the limitations set forth in Article 6.3 of the General Conditions.

7.2 Retainage on Progress Payments.

7.2.1 Owner will retain ten percent (10%) of each Application for Payment as retainage provided, however, that when fifty percent (50%) of the Work has been satisfactorily completed by Design-Builder and Design-Builder is otherwise in compliance with its contractual obligations, Owner may, in the Owner's sole discretion, reduce retainage to five percent (5%).

7.2.2 Within thirty (30) days after Substantial Completion of the entire Work or, if applicable, any portion of the Work, pursuant to Section 6.6 of the General Conditions of Contract, Owner shall release to Design-Builder all retained amounts relating, as applicable, to the entire Work or completed portion of the Work, less an amount equal to (a) the reasonable value of all remaining or incomplete items of Work as noted in the Certificate of Substantial Completion and (b) all other amounts Owner is entitled to withhold pursuant to Section 6.3 of the General Conditions of Contract.

7.3 Final Payment. Design-Builder shall submit its Final Application for Payment to Owner in accordance with Section 6.7 of the General Conditions of Contract. Owner shall make payment on Design-Builder's properly submitted and accurate Final Application for Payment within sixty (60) days after Owner's receipt and approval of the Final Application for Payment, provided that Design-Builder has satisfied the requirements for final payment set forth in Section 6.7.2 of the General Conditions of Contract.

7.4 The Contract Documents completely supersede the Georgia Prompt Pay Act as it relates to Owner payments and any modifications or successors to the Georgia Prompt Pay Act to the fullest extent allowed by law. Design-Builder acknowledges and agrees that payment shall be in accordance with the provisions of this Agreement and expressly waives its right to assert entitlement under O.C.G.A. § 13-1-11, *et. seq.* to the fullest extent permitted by law. Should the City fail to issue payment for undisputed amounts within ninety (90) days of approval, annual interest on the payment amount may accrue at the Prime Rate, plus one percent (1%). The Prime Rate shall be based on that published in the *Wall Street Journal* on the first business day of January or June, whichever has most recently passed of the current year.

7.5 Record Keeping and Finance Controls. With respect to changes in the Work performed on a cost basis by Design-Builder pursuant to the Contract Documents, Design-Builder shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles and as may be provided in the Contract Documents. During the performance of the Work and for a period of three (3) years after Final Payment, Owner and Owner's accountants shall be afforded access to, and the right to audit from time-to-time, upon reasonable notice, Design-Builder's records, books, correspondence, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating to Work performed on a cost basis in

accordance with the Contract Documents, all of which Design-Builder shall preserve for a period of three (3) years after Final Payment. Such inspection shall take place at Design-Builder's offices during normal business hours unless another location and time is agreed to by the parties.

Article 8

Termination for Convenience

8.1 The City shall have the right to terminate this Agreement without cause upon seven (7) calendar days' written notice to Design-Builder. In the event of such termination for the City's convenience, Design-Builder's recovery against Owner shall be limited to Work performed through the date of termination, calculated on a percent complete basis, together with any retainage withheld, as well as Design Builder's reasonable demobilization costs, if applicable. Design-Builder shall not be entitled to any other or further recovery against Owner, including, but not limited to, anticipated profit on work not performed. In no event shall Design-Builder be entitled to a "cost-plus" recovery from Owner.

Article 9

Representatives of the Parties

9.1 Owner's Representatives.

9.1.1 Owner designates the individual(s) listed below as the City's Representative(s) with authority to administer the Agreement as set forth in Section 3.4 of the General Conditions: *(Identify individual's name, title, address and telephone numbers)*

City Project Manager: [insert name]
72 Marietta St NW, Atlanta, GA 30303
404-_____-_____
_____@atlantaga.gov

City Construction Manager: [insert name]
City of Atlanta, Department of Watershed Management
_____, Atlanta, GA 30303
404-_____-_____
_____@atlantaga.gov

9.2 Design-Builder's Representatives.

9.2.1 Design-Builder designates the individual(s) listed below as Design-Builder's Representative(s), which have the authority and responsibility set forth in Article 2 of the General Conditions: *(Identify individual's name, title, address and telephone numbers)*

Name:
Title:
Address:
Phone:
Email:

Article 10

Bonds and Insurance

10.1 Design-Builder shall procure the insurance and bonding required by Appendix B to this Agreement.

Article 11

Other Provisions

11.1 Other provisions, if any, are as follows: *(Insert any additional provisions)*

11.1.1 Gratuities and Kickbacks. In accordance with the City of Atlanta's Code of Ordinances, Section 2-1484, as may be amended, it shall be unethical for any person to offer, give or agree to give any employee or former employee or for any employee or former employee to solicit, demand, accept or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy or other particular matter pertaining to any program requirement or a contract or subcontract or to any solicitation or proposal therefor. Additionally, it shall be unethical for any payment, gratuity or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith as an inducement for the award of a subcontract or order.

11.1.2 Fraud and misrepresentations. Any written or oral information provided by Design-Builder directly or indirectly related to the performance of the Work required by this Agreement constitutes material representations upon which the City relies for the requirements of the Agreement and compliance with local, state and federal rules and regulations. Design-Builder agrees to immediately notify the City of any information provided to the City that it knows and/or believes to be false and/or erroneous and immediately provide correct information to the City and take corrective action. Design-Builder further agrees to immediately notify the City of any actions or information that it believes would constitute fraud or intentional misrepresentations to the City in the performance of this Agreement, whether or not such information actually constitutes fraud and/or intentional misrepresentations, by contacting the **Integrity Line 1-800-884-0911**. Design-Builder agrees to place signage provided by the City regarding the Integrity Line at the location to which Design-Builder's employees report to perform the Work required by this Agreement. Design-Builder acknowledges and agrees that a finding of fraud or other impropriety on the part of the Design-Builder or any of its subcontractors may result in suspension or debarment; and the City may pursue any other actions or remedies that the City may deem appropriate. Design-Builder agrees to include this clause in its subcontracts and contracts with its Design Consultants and take appropriate measures to ensure compliance with this provision.

[Signatures on the following page.]

OWNER:

CITY OF ATLANTA

By:_____
Mayor

ATTEST:

_____
Municipal Clerk (SEAL)

RECOMMENDED:

_____
Commissioner, Department of
Watershed Management

APPROVED:

_____
Chief Procurement Officer

APPROVED AS TO FORM:

_____
City Attorney

DESIGN-BUILDER: [IF JOINT VENTURE]
[INSERT NAME OF JV]

By: [INSERT NAME OF JV PARTNER]

By:_____

Name (print):_____

Title:_____

Attest:

_____(seal)
Corporate Secretary

By: [INSERT NAME OF JV PARTNER]

By:_____

Name (print):_____

Title:_____

Attest:

_____(seal)
Corporate Secretary

[INSERT ALTERNATIVE SIGNATURE BLOCKS FOR DESIGN-BUILDER FOR APPROPRIATE CORPORATE STRUCTURE]

FOR A SINGLE CORPORATION

By: [INSERT NAME OF CORPORATION]

By:_____

Name (print):_____

Title:_____

Attest:

_____(seal)
Corporate Secretary

FOR A LIMITED LIABILITY CORPORATION (LLC)

By: [INSERT NAME OF LLC]
ITS: MANAGING MEMBER

By:_____

Name (print):_____

Title:_____

NOTARY PUBLIC

_____**(SEAL)**

MY COMMISSION EXPIRES:

EXHIBITS

EXHIBIT A

STANDARD FORM OF GENERAL CONDITIONS

STANDARD FORM OF GENERAL CONDITIONS OF CONTRACT BETWEEN OWNER AND DESIGN-BUILDER

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Article 1

General

1.1 Mutual Obligations

1.1.1 *Owner and Design-Builder* commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith, to permit each party to realize the benefits afforded under the Contract Documents.

1.2 Basic Definitions

1.2.1 *Agreement or Contract* refers to the executed contract between Owner and Design-Builder.

1.2.2 *Basis of Design Documents* are as follows: For these General Conditions, the Basis of Design Documents are the Owner's Project Criteria, Design-Builder's Proposal and the Deviation List, if any.

1.2.2.1 *Change* means any change in the Work authorized by the City in writing, including Field Changes, Change Directives, Work Authorizations, or Change Orders.

1.2.2.2 *Change Directive* means a written order prepared by the City and signed by the City directing a Change in the Work prior to or absent an agreement on adjustment, if any, in the Agreement Price or Agreement Time, or both.

1.2.2.3 *Change Order* means a written agreement signed by the Owner and Design-Builder establishing their written agreement upon all of the following: (1) the change in the Work that includes the addition or reduction of Work; (2) the amount of the adjustment, if any, in the Contract Price; and (3) the extent of adjustment, if any, in the Contract Time(s). A Change Order does not include a Field Change, Work Authorization, or Change Directive.

1.2.2.4 *City* refers to the City of Atlanta, State of Georgia in the United States of America.

1.2.2.5 *City Representative* has the meaning set forth in Section 3.4.

1.2.2.6 *Confidential Information* means information concerning the City which is not generally known to the public and is not subject to public disclosure through the Georgia Open Records Act.

1.2.3 *Construction Documents* are the documents, consisting of Drawings and Specifications, to be prepared or assembled by the Design-Builder consistent with the Basis of Design Documents unless a deviation from the Basis of Design Documents is specifically set forth in a Change Order executed by both the Owner and Design-Builder, as part of the design review process contemplated by Section 2.4 of these General Conditions of Contract.

1.2.4 *Day* or *Days* shall mean calendar days unless otherwise specifically noted in the Contract Documents.

1.2.5 *Design-Build Team* is comprised of the Design-Builder, the Design Consultant, and key Subcontractors identified by the Design-Builder.

1.2.6 *Design Consultant* is a qualified, licensed design professional who is not an employee of Design-Builder, but is retained by Design-Builder, or employed or retained by anyone under contract with Design-Builder, to furnish design services required under the Contract Documents. A Design Sub-Consultant is a qualified, licensed design professional who is not an employee of the Design Consultant, but is retained by the Design Consultant or employed or retained by anyone under contract to Design Consultant, to furnish design services required under the

Contract Documents.

1.2.6.1 *Field Change* means a Change in the Work that that does not require an adjustment in the overall Contract Price, overall Contract Time(s), established budget line items or quantities, or use of allowance items or contingency funds, which is required as a result of field conditions that require such adjustments. A Field Change does not include a Work Authorization, a Change Order or a Change Directive and must be agreed upon in writing and executed by an authorized City representative and the Design-Builder..

1.2.7 *Final Completion* is the date on which the City has beneficial use of the Project, all Work is finally completed to the satisfaction of the City, and the City has confirmed in writing that Design-Builder has achieved Final Completion. The requirements of Final Completion shall also include but not be limited to, any items identified in the punch list prepared under Section 6.6.1 and the submission of all documents set forth in Section 6.7.2.

1.2.8 *Force Majeure Events* are those events that are beyond the control of both Design-Builder and Owner, including the events of war, floods, earthquakes, epidemics, adverse weather conditions not reasonably anticipated, and other acts of God.

1.2.9 *General Conditions of Contract* refer to these General Conditions of Contract between Owner and the Design-Builder.

1.2.10 Omitted.

1.2.11 Omitted.

1.2.12 *Hazardous Conditions* are any materials, wastes, substances and chemicals deemed to be hazardous under applicable Legal Requirements, or the handling, storage, remediation, or disposal of which are regulated by applicable Legal Requirements.

1.2.12.1 *Key Personnel* means the personnel of Design-Builder identified in Article 2.1.

1.2.12.2 *Key Subcontractors* means the Subcontractors identified in Article 2.1.

1.2.13 *Legal Requirements* are all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work.

1.2.13.1 *Owner* means the City of Atlanta, State of Georgia in the United States of America.

1.2.14 *Owner's Project Criteria* are developed by or for Owner to describe Owner's program requirements and objectives for the Project, including use, space, price, time, site and expandability requirements, as well as submittal requirements and other requirements governing Design-Builder's performance of the Work. Owner's Project Criteria may include conceptual documents, design criteria, design performance specifications, design specifications, and LEED® or other sustainable design criteria and other Project-specific technical materials and requirements. The Owner's Project Criteria may also include the scope of work and Specifications, the drawings and reports, special conditions, appendices to the Agreement, and the other requirements of the Contract Documents.

1.2.15 *Site* is the land or premises on which the Project is located.

1.2.16 *Subcontractor* is any person or entity retained by Design-Builder as an independent contractor to perform a portion of the Work and shall include materialmen and suppliers.

1.2.17 *Sub-Subcontractor* is any person or entity retained by a Subcontractor as an independent contractor to perform any portion of a Subcontractor's Work and shall include materialmen and

suppliers.

1.2.18 *Substantial Completion* or *Substantially Complete* means the date on which the Work is sufficiently complete in accordance with the Contract Documents so that Owner (i) can occupy and has use of the Project for its intended purposes, (ii) the Design Builder has fulfilled all requirements for Substantial Completion set forth in Article 6,, and (iii) the City's authorized representative has confirmed in writing that the Project has achieved Substantial Completion.

1.2.19 *Work* is comprised of all Design-Builder's design, construction and other services required by the Contract Documents, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the Contract Documents.

1.2.20 *Work Authorization* means a written order executed by the City and Design-Builder, which authorizes utilization of an allowance or contingency item, as may be permitted and defined by the Contract Documents. Work Authorization(s) are used to document a Change in the Work that adds, changes or removes scope of work from the Contract but does not change the Contract Time(s) or the Contract Price. A Work Authorization does not include a Change Order, a Field Change or a Change Directive.

1.2.21 *Work Product* has the meaning set forth in Article 4 of the Agreement.

Article 2

Design-Builder's Services and Responsibilities

2.1 General Services.

2.1.1 Design-Builder's Representative shall be reasonably available to Owner and shall have the necessary expertise and experience required to supervise the Work. Design-Builder's Representative shall communicate regularly with Owner and shall be vested with the authority to act on behalf of Design-Builder. Design-Builder's Representative may be replaced only with the mutual agreement of Owner and Design-Builder. The following persons are identified by the Design-Builder as its key personnel that will provide the Work required by the Contract Documents (Proponents may provide documentation with equivalent information to augment forms.):

2.1.1.1 Key Personnel:
a. Project Manager
b. Design Consultant Project Manager
c. Nutrient Harvesting Equipment Manufacturer Representative/Project Manager
d. Construction Superintendent

2.1.1.2 Key Subcontractors:
a. Design Consultant
b. Nutrient Harvesting Equipment Manufacturer
c. Maintenance and By-Product Management Service Provider

2.1.1.3 Design-Builder shall not transfer, reassign or replace Key Personnel and/or Key Subcontractors identified in Articles 2.1.1.1 and 2.1.1.2, except as the result of retirement, voluntary resignation, involuntary termination for cause in Design-Builder's sole discretion, illness, disability, or death, during the term of this Agreement without the prior written approval from the Owner.

2.1.2 Design-Builder shall provide Owner with a monthly status report detailing the progress of

the Work, including (i) whether the Work is proceeding according to schedule, (ii) whether discrepancies, conflicts, or ambiguities exist in the Contract Documents that require resolution, (iii) whether health and safety issues exist in connection with the Work;; and (iv) other items that require resolution so as not to jeopardize Design-Builder's ability to complete the Work for the Contract Price and within the Contract Time(s).

2.1.3 Unless a schedule for the execution of the Work has been attached to the Agreement as an exhibit at the time the Agreement is executed, Design-Builder shall prepare and submit, at least three (3) days prior to the meeting contemplated by Section 2.1.4 hereof, a schedule for the execution of the Work for Owner's review and response. The schedule shall indicate the dates for the start and completion of the various stages of Work, including the dates when Owner information and approvals are required to enable Design-Builder to achieve the Contract Time(s). The schedule shall be revised as required by conditions and progress of the Work, but such revisions shall not relieve Design-Builder of its obligations to complete the Work within the Contract Time(s), as such dates may be adjusted in accordance with the Contract Documents. Owner's review of, and response to, the schedule shall not be construed as relieving Design-Builder of its complete and exclusive control over the means, methods, sequences and techniques for executing the Work.

2.1.4 The parties will meet within seven (7) days after execution of the Agreement to discuss issues affecting the administration of the Work and to implement the necessary procedures, including those relating to submittals and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents.

2.2 Design Professional Services.

2.2.1 Design-Builder shall, consistent with applicable state licensing laws, provide through qualified, licensed design professionals employed by Design-Builder, or procured from qualified, independent licensed Design Consultants, the necessary design services, including architectural, engineering and other design professional services, for the preparation of the required drawings, specifications and other design submittals to permit Design-Builder to complete the Work consistent with the Contract Documents within the Contract Time(s). Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Design Consultant.

2.3 Standard of Care for Design Professional Services.

2.3.1 The standard of care for all design professional services performed to execute the Work shall be the highest degree of care and skill used by members of the design profession practicing under similar conditions at the same time and locality of the Project.

2.4 Design Development Services.

2.4.1 Design-Builder and Owner shall, consistent with any applicable provision of the Contract Documents, agree upon any interim design submissions that Owner may wish to review, which interim design submissions may include design criteria, drawings, diagrams and specifications setting forth the Project requirements. Interim design submissions shall be consistent with the Basis of Design Documents, as the Basis of Design Documents may have been changed through the design process set forth in this Section 2.4.1. On or about the time of the scheduled submissions, Design-Builder and Owner shall meet and confer about the submissions, with Design-Builder identifying during such meetings, among other things, the evolution of the design and any changes to the Basis of Design Documents, or, if applicable, previously submitted design submissions. Changes to the Basis of Design Documents shall be processed in accordance with Article 9. Minutes of the meetings, including a full listing of all Changes, will be maintained by Design-Builder and provided to all attendees for review. Following the design review meeting, Owner shall review and approve the interim design submissions and meeting minutes.

2.4.2 Design-Builder shall submit to Owner Construction Documents setting forth in detail drawings and specifications describing the requirements for construction of the Work. The Construction Documents shall be consistent with the latest set of interim design submissions, as such submissions may have been modified in a design review meeting and recorded in the meetings minutes. The parties shall have a design review meeting to discuss, and Owner shall review and approve, the Construction Documents in accordance with the procedures set forth in Section 2.4.1 above. Design-Builder shall proceed with construction in accordance with the approved Construction Documents and shall submit approved Construction Documents to Owner prior to commencement of construction and provide copies of such approved Construction Documents to Owner.

2.4.3 Owner's review and approval of interim design submissions, meeting minutes, and the Construction Documents is for the purpose of mutually establishing a conformed set of Contract Documents compatible with the requirements of the Work. Neither Owner's review nor approval of any interim design submissions, meeting minutes, and Construction Documents shall be deemed to transfer any design liability from Design-Builder to Owner.

2.4.4 To the extent not prohibited by the Contract Documents or Legal Requirements, Owner may direct Design-Builder to prepare interim design submissions and Construction Documents for a portion of the Work to permit construction to proceed on that portion of the Work prior to completion of the Construction Documents for the entire Work.

2.5 Legal Requirements.

2.5.1 Design-Builder shall perform the Work in accordance with all Legal Requirements and shall provide all notices applicable to the Work as required by the Legal Requirements.

2.5.2 The Contract Price and/or Contract Time(s) shall be adjusted to compensate Design-Builder for the effects of any changes in the Legal Requirements enacted after the date of the Agreement affecting the performance of the Work. Such effects may include, without limitation, revisions Design-Builder is required to make to the Construction Documents because of changes in Legal Requirements.

2.6 Government Approvals and Permits.

2.6.1 Unless otherwise directed by the Contract Documents, Design-Builder shall obtain and pay for all necessary permits, approvals, licenses, government charges and inspection fees required for the prosecution of the Work by any government or quasi-government entity having jurisdiction over the Project.

2.6.2 In the event Owner elects to obtain certain permits directly, Design-Builder shall provide reasonable assistance to Owner in obtaining those permits.

2.7 Design-Builder's Construction Phase Services.

2.7.1 Unless otherwise provided in the Contract Documents to be the responsibility of Owner or a separate contractor, Design-Builder shall provide through itself or Subcontractors the necessary supervision, labor, inspection, testing, start-up, material, equipment, machinery, temporary utilities and other temporary facilities to permit Design-Builder to complete construction of the Project consistent with the Contract Documents.

2.7.2 Design-Builder shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the Contract Documents. Design-Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction.

2.7.3 Design-Builder shall employ only Subcontractors who are duly licensed and qualified to

perform the Work consistent with the Contract Documents. Owner may reasonably object to Design-Builder's selection of any Subcontractor.

2.7.4 Design-Builder assumes responsibility to Owner for the proper performance of the Work of Subcontractors and any acts and omissions in connection with such performance. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Subcontractor or Sub-Subcontractor, including but not limited to any third-party beneficiary rights.

2.7.5 Design-Builder shall coordinate the activities of all Subcontractors. If Owner performs other work on the Project or at the Site with separate contractors under Owner's control, Design-Builder agrees to reasonably cooperate and coordinate its activities with those of such separate contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption.

2.7.6 Design-Builder shall keep the Site reasonably free from debris, trash and construction wastes to permit Design-Builder to perform its construction services efficiently, safely and without interfering with the use of adjacent land areas. Upon Substantial Completion of the Work, or a portion of the Work, Design-Builder shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work or applicable portions thereof to permit Owner to occupy the Project or a portion of the Project for its intended use.

2.8 Design-Builder's Responsibility for Project Safety.

2.8.1 Design-Builder recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to (i) all individuals at the Site, whether working or visiting, (ii) the Work, including materials and equipment incorporated into the Work or stored on-Site or off-Site, and (iii) all other property at the Site or adjacent thereto. Design-Builder assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the Work. Design-Builder shall, prior to commencing construction, designate a Safety Representative with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the Work. Unless otherwise required by the Contract Documents, Design-Builder's Safety Representative shall be an individual stationed at the Site who may have responsibilities on the Project in addition to safety. The Safety Representative shall make routine daily inspections of the Site and shall hold weekly safety meetings with Design-Builder's personnel, Subcontractors and others as applicable.

2.8.2 Design-Builder and Subcontractors shall comply with all Legal Requirements relating to safety, as well as any Owner-specific safety requirements set forth in the Contract Documents, provided that such Owner-specific requirements do not violate any applicable Legal Requirement. Design-Builder will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to Owner's Representative and, to the extent mandated by Legal Requirements, to all government or quasi-government authorities having jurisdiction over safety-related matters involving the Project or the Work.

2.8.3 Design-Builder's responsibility for safety under this Section 2.8 is not intended in any way to relieve Subcontractors and Sub-Subcontractors of their own contractual and legal obligations and responsibility for (i) complying with all Legal Requirements, including those related to health and safety matters, and (ii) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injuries, losses, damages or accidents resulting from their performance of the Work.

2.9 Design-Builder's Warranty.

2.9.1 Design-Builder warrants to Owner that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the

Contract Documents, of good quality, in conformance with the Contract Documents and free of defects in materials and workmanship. Design-Builder's warranty obligation excludes defects caused by abuse, alterations, or failure to maintain the Work in a commercially reasonable manner. Nothing in this warranty is intended to limit any manufacturer's warranty which provides Owner with greater warranty rights than set forth in this Section 2.9 or the Contract Documents. Design-Builder agrees to assign to the Owner at the time of Substantial Completion of the Work all manufacturer's warranties relating to the Work, and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties.

2.10 Correction of Defective Work.

2.10.1 Design-Builder agrees to correct any Work that is found to not be in conformance with the Contract Documents, including that part of the Work subject to Section 2.9 hereof, within a period of one year from the date of Substantial Completion of the Work, or within such longer period to the extent required by any specific warranty included in the Contract Documents.

2.10.2 Design-Builder shall, within three (3) days of receipt of written notice from Owner that the Work is not in conformance with the Contract Documents, take meaningful steps to commence correction of such nonconforming Work, including the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. If Design-Builder fails to commence the necessary steps within such three (3) day period, Owner, in addition to any other remedies provided under the Contract Documents, may commence correction of such nonconforming Work with its own forces. If Owner does perform such corrective Work, Design-Builder and its surety shall be responsible for all reasonable costs incurred by Owner in performing such correction. If the nonconforming Work creates an emergency requiring an immediate response, the three (3) day period identified herein shall be deemed inapplicable.

2.10.3 The one-year period referenced in Section 2.10.1 above applies only to Design-Builder's obligation to correct nonconforming Work and is not intended to constitute a period of limitations for any other rights or remedies Owner may have regarding Design-Builder's other obligations under the Contract Documents. Additionally, the warranties set forth in this Article 2 and elsewhere in the Contract Documents shall survive Final Completion of the Work. All warranties identified in the Contract Documents are in addition to the rights, remedies, and redress that the City has at law or in equity, and none of Design-Builder's warranties shall be deemed a sole or exclusive remedy to the City.

Article 3

Owner's Services and Responsibilities

3.1 Duty to Cooperate.

3.1.1 Owner shall, throughout the performance of the Work, cooperate with Design-Builder and perform its responsibilities, obligations and services in a timely manner to facilitate Design-Builder's timely and efficient performance of the Work and so as not to delay or interfere with Design-Builder's performance of its obligations under the Contract Documents.

3.1.2 Owner shall provide timely reviews and approvals of interim design submissions and Construction Documents. Design-Builder shall provide Owner with at least fourteen (14) days for Owner's review of any such submissions and documents, unless a shorter review period is otherwise agreed to by Owner.

3.1.3 Omitted.

3.2 Furnishing of Services and Information.

3.2.1 Omitted.

3.2.2 Omitted.

3.3 Financial Information.

3.3.1 Design-Builder acknowledges that this Agreement and any changes to it by amendment, modification, Change Order or other similar document may have required or may require the legislative authorization of the City's Council and approval of the Mayor. Under Georgia law, Design-Builder is deemed to possess knowledge concerning the City's ability to assume contractual obligations and the consequences of Design-Builder's provision of goods or services to the City under an unauthorized contract, amendment, modification, Change Order or other similar document, including the possibility that the Design-Builder may be precluded from recovering payment for such unauthorized goods or services. Accordingly, Design-Builder agrees that if it provides goods or services to the City under an agreement that has not received proper legislative authorization or if Design-Builder provides goods or services to the City in excess of the any contractually authorized goods or services, as required by the City's Charter and Code, the City may withhold payment for any unauthorized goods or services provided by Design-Builder. Design-Builder assumes all risk of non-payment for the provision of any unauthorized goods or services to the City, and it waives and releases all claims to payment or to other remedies for the provision of any unauthorized goods or services to the City, however characterized, including, without limitation, all remedies at law or equity.

3.3.2 Omitted.

3.4 Owner's Representative.

3.4.1 The City will have the authority to designate a representative (the "City Representative" or "City Engineer") who may: serve as primary interface and the single-point of communication for the provision of the Work; have day-to-day interaction with Design-Builder to address issues relating to this Agreement; and to the extent provided under the Code, have the authority to execute any additional documents or Change Orders on behalf of City. Any Work, document, or item to be submitted or prepared by Design-Builder hereunder shall be subject to the review of the City Representative. The City Representative may disapprove of any submission, if in the City Representative's reasonable opinion, the Work, document or item is not in accordance with the requirements of the Contract Documents or sound professional principles, or is impractical, uneconomical or unsuited for the purposes for which the Work, document or item is intended. If any of the said items or any portion thereof are so disapproved, Design-Builder shall revise and/or correct the Work such that it meets the approval of the City Representative at no additional cost to the City.

3.5 Government Approvals and Permits.

3.5.1 Omitted.

3.5.2 Owner may provide reasonable assistance to Design-Builder in obtaining those permits, approvals and licenses that are Design-Builder's responsibility. No action or refusal to act by the City in connection with the provision of permits, approvals, or licenses related to the Work will relieve Design-Builder from any of its obligations under the Contract Documents. The Design-Builder acknowledges and agrees that any action or refusal to act by the City in connection with the provision of permits, approvals, or licenses related to the Work cannot serve as the basis of a claim for adjustment of the Contract Price and/or the Contract Time(s) and Design-Builder waives and releases any such claims.

3.6 Owner's Separate Contractors.

3.6.1 Owner is responsible for all work performed on the Project or at the Site by separate contractors under Owner's control. Owner shall contractually require its separate contractors to cooperate with, and coordinate their activities so as not to interfere with, Design-Builder in order to enable Design-Builder to timely complete the Work consistent with the Contract Documents.

Article 4

Hazardous Conditions and Investigation of Site Conditions

4.1 Hazardous Conditions.

4.1.1 Upon encountering any Hazardous Conditions, Design-Builder will stop Work immediately in the affected area and duly notify Owner immediately and, if required by Legal Requirements, all government or quasi-government entities with jurisdiction over the Project or Site. Design-Builder agrees to take necessary measures to ensure that the Hazardous Conditions are remediated or rendered harmless and will also take necessary measures to mitigate the Hazardous Conditions as directed by an Owner directed containment and remediation plan.

4.1.2 Omitted.

4.1.3 Omitted.

4.1.4 Subject to the limitations set forth in Article 8 of these General Conditions, Design Builder shall have the right to request an extension of the Contract Time(s) and an adjustment in the Contract Price in accordance with the requirements of Articles 9 and 10 of the General Conditions in the event that a Hazardous Condition, which was not caused by Design-Builder or anyone for whom it is responsible, impacts the critical path of Design Builder's schedule.

4.1.5 Omitted.

4.1.6 Owner is not responsible for Hazardous Conditions introduced to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable. To the fullest extent permitted by law, Design-Builder shall indemnify, defend and hold harmless Owner and Owner's officers, directors, employees and agents from and against all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from those Hazardous Conditions introduced to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable.

4.1.7 Design-Builder shall give all notices and comply with all Legal Requirements bearing on the safety of persons or property or their protection from damage, injury, or loss.

4.1.8 Design-Builder shall erect and maintain, as required by existing conditions and the progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

4.1.9 When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, Design-Builder shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

4.1.10 Design-Builder shall promptly remedy all damage or loss to any property caused in whole or in part by Design-Builder, any Subcontractor, any sub-tier contractor or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, except damage or loss attributable solely to the acts or omissions of the City or anyone directly or

indirectly employed by any of them in any way, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of Design-Builder.

4.1.11 Design-Builder shall not load or permit any part of the Work to be loaded so as to endanger its safety.

4.1.12 In any emergency affecting the safety of persons or property, Design-Builder shall act, at Design-Builder's discretion, to prevent threatened damage, injury or loss.

4.2 Design-Builder's Investigation of Site Conditions

Design-Builder acknowledges that it has taken steps necessary to ascertain the nature and location of the Work and that it has investigated and satisfied itself as to the general and local conditions which can affect the Work and its costs. The Design-Builder also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered or difficulties or access insofar as this information is ascertainable from an inspection of the Site, and available documents, including all information from exploratory or geotechnical work done by the Owner (if any) and its design consultants (if any) as well as from the Contract Documents. The Design-Builder has the right to request permission from the City to make any additional tests necessary to assure itself that the site conditions are satisfactory for the Work contemplated by the Contract Documents. The City agrees not to unreasonably withhold permission for any additional testing requested by Design-Builder.

4.3 Design-Builder's Analysis of Owner's Project Criteria and the Contract Documents

Before presenting its proposal to the City, and continuously after the execution of the Agreement, Design-Builder shall carefully study and compare the Owner's Project Criteria and other Contract Documents and shall at once report any error, ambiguity, inconsistency or omission that may be discovered, including any requirement which may be contrary to Legal Requirements. By submitting its proposal for the Agreement and the Work under it, Design-Builder agrees that the Contract Documents, along with any supplementary written instructions issued by or through the City that have become a part of the Contract Documents, appear accurate, consistent, and complete. No claims shall be made by Design-Builder based on claims of defects, errors, omissions, ambiguities or inconsistencies in the Owner's Project Criteria or other Contract Documents which were reasonably discoverable by a review of the Contract Documents and correlation thereof with the actual conditions at the Site. No observation of the City or its representatives, and no inspections, tests or approvals shall relieve Design-Builder from its obligation to perform its obligations in accordance with the Contract Documents. The Design-Builder acknowledges that the City is relying upon the Design-Builder's expertise as a qualified design professional and contractor. Accordingly, Design-Builder represents and warrants that it has determined, by its own investigation, research, and professional judgment that all the conditions affecting the Work and materials to be furnished and by signature of this Agreement represents and warrants that it shall perform the Work in accordance with the Contract Documents within the Contract Time(s) for the Contract Price.

THE CITY, ITS AGENTS AND EMPLOYEES MAKE NO REPRESENTATION OR WARRANTY OF ANY NATURE WHATSOEVER TO DESIGN-BUILDER CONCERNING THE CONTRACT DOCUMENTS. By the execution hereof, Design-Builder further acknowledges and represents that it has received, reviewed and carefully examined the Contract Documents, has found them to be accurate, adequate, consistent, coordinated and sufficient for design and construction, and that Design-Builder has not, does not, and will not rely upon any representations or warranties by the City concerning such documents as no such representations or warranties have been or are hereby made. Design-Builder acknowledges and agrees that its obligation to design and construct the Work in accordance with the Contract Documents is not in any way altered or affected by the observations or inspections of the City. Further, Design-Builder acknowledges and agrees that any warranty periods included herein merely set forth the time period during which Design-Builder is contractually required to specifically perform corrective work and that

these warranty periods are not and shall not be construed to be exclusive remedies of the City. Instead, Design-Builder acknowledges and agrees that it shall be liable to the City for the cost of correcting Work not performed in accordance with the Contract Documents for the full period of the applicable statute of limitations.

Article 5

Insurance and Bonds

5.1 Design-Builder's Insurance Requirements.

5.1.1 Design-Builder is responsible for procuring and maintaining the insurance for the coverage amounts all as set forth in Appendix B Insurance and Bonding Requirements.

5.1.2 Design-Builder's insurance shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of the Project.

5.1.3 Omitted.

5.1.4 Professional liability insurance required by Appendix B shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of the Project. Such policies shall be provided prior to the commencement of any design services hereunder.

5.2 Omitted

5.3 Omitted

5.4 Bonds and Other Performance Security.

5.4.1 Design-Builder shall furnish a Performance Bond and a Labor and Material Payment Bond each in the penal amount of at least the Contract Price. The bonds must meet all applicable statutory requirements, be provided substantially in the form required by Appendix B, and must be issued by a surety that is reasonably acceptable to Owner and licensed in the State of Georgia. Design-Builder shall provide the bonds to Owner prior to commencement of Work and as a condition precedent to any payment that would otherwise be due to Design-Builder.

5.4.2 Omitted.

5.5 Insurance and Bonding Requirements are not a Limit of Design-Builder's Liability.

Design-Builder acknowledges and agrees that the insurance and bonding required by this Article 5 and other applicable Contract Documents shall not serve as a limitation of Design-Builder's liability to the City.

Article 6

Payment

6.1 Schedule of Values.

6.1.1 Unless required by the Owner upon execution of this Agreement, within ten (10) days of execution of the Agreement, Design-Builder shall submit for Owner's review and approval a schedule of values for all of the Work. The Schedule of Values will (i) subdivide the Work into its respective parts, (ii) include values for all items comprising the Work and (iii) serve as the basis

for monthly progress payments made to Design-Builder throughout the Work.

6.1.2 Omitted.

6.2 Monthly Progress Payments.

6.2.1 On or before the date established in the Agreement, Design-Builder shall submit for Owner's review and approval its Application for Payment requesting payment for all Work performed as of the date of the Application for Payment. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents and/or established at the meeting required by Section 2.1.4 hereof. The Application for Payment will be substantially in the form attached to this Agreement as Appendix C.

6.2.2 Omitted.

6.2.3 Omitted.

6.2.4 The Application for Payment shall constitute Design-Builder's representation that the Work described herein has been performed consistent with the Contract Documents, has progressed to the point indicated in the Application for Payment, and that title to all Work will pass to Owner free and clear of all claims, liens, encumbrances, and security interests upon the incorporation of the Work into the Project, or upon Design-Builder's receipt of payment, whichever occurs earlier.

6.3 Withholding of Payments.

6.3.1 The City may decline to approve payment and may withhold any payment, in whole or in part because of: (a) defective work not remedied; (b) third party claims filed or reasonable evidence indicating probable filing of such claims; (c) failure of the Design-Builder to promptly make payments to Subcontractors or its Design Consultants; (d) reasonable evidence that the Work cannot be completed for the Contract Price; (e) reasonable evidence that the Work will not be completed within the Contract Time(s); (f) failure to carry out the Work in accordance with the requirements of the Contract Documents; (g) failure to comply with the insurance and bonding requirements of the Contract Documents; (h) Design-Builder's insolvency or reasonable evidence that Design-Builder fails to pay its debts as they come due; (i) Liquidated Damages owed the City; or (j) a material failure of the Design-Builder to comply with any of the requirements of the Contract Documents.

6.3.2 Notwithstanding anything to the contrary in the Contract Documents, Owner shall pay Design-Builder all undisputed amounts in an Application for Payment within the times required by the Agreement.

6.4 Interest.

6.4.1 As set forth in Article 7 of the Agreement, this Article 6 and the other Contract Documents completely supersede the Georgia Prompt Pay Act as it relates to Owner payments and any modifications or successors to the Georgia Prompt Pay Act to the fullest extent allowed by law. Design-Builder acknowledges and agrees that payment shall be in accordance with the provisions of the Agreement and expressly waives its right to assert entitlement under O.C.G.A. § 13-1-11, *et. seq.* to the fullest extent permitted by law. Should the City fail to issue payment for undisputed amounts within ninety (90) days of approval, annual interest on the payment amount may accrue at the Prime Rate, plus one percent (1%). The Prime Rate shall be based on that published in the *Wall Street Journal* on the first business day of January or June, whichever has most recently passed, of the current year.

6.5 Design-Builder's Payment Obligations.

6.5.1 Design-Builder will pay Design Consultants and Subcontractors, in accordance with its contractual obligations to such parties, all the amounts Design-Builder has received from Owner on account of their work. Design-Builder will impose similar requirements on Design Consultants and Subcontractors to pay those parties with whom they have contracted. Design-Builder will indemnify and defend Owner against any claims for payment and mechanic's liens as set forth in Section 7.3 hereof.

6.6 Substantial Completion.

6.6.1 Design-Builder shall notify Owner when it believes the Work, or to the extent permitted in the Contract Documents, a portion of the Work, is Substantially Complete. Within ten (10) days of Owner's receipt of Design-Builder's notice, Owner and Design-Builder will jointly inspect such Work to verify that it is Substantially Complete in accordance with the requirements of the Contract Documents. If such Work is Substantially Complete, Owner shall prepare and issue a Certificate of Substantial Completion that will set forth (i) the date of Substantial Completion of the Work or portion thereof, (ii) the remaining items of Work that have to be completed before final payment, (iii) provisions (to the extent not already provided in the Contract Documents) establishing Design-Builder's responsibility for the Project's security, maintenance, utilities and insurance pending final payment, and (iv) an acknowledgment that warranties commence to run on the date of Substantial Completion, except as may otherwise be noted in the Certificate of Substantial Completion.

6.6.2 Upon Substantial Completion of the entire Work or, if applicable, any portion of the Work, Owner shall release to Design-Builder all retained amounts relating, as applicable, to the entire Work or completed portion of the Work, less an amount equal to the reasonable value of all remaining or incomplete items of Work as noted in the Certificate of Substantial Completion.

6.6.3 Owner, at its option, may use a portion of the Work which has been determined to be Substantially Complete.

6.7 Final Payment.

6.7.1 After receipt of a Final Application for Payment from Design-Builder, Owner shall make final payment by the time required in the Agreement, provided that Design-Builder has achieved Final Completion.

6.7.2 At the time of submission of its Final Application for Payment, Design-Builder shall provide the following information to the City:

6.7.2.1 An affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, material, equipment, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect Owner's interests;

6.7.2.2 A general release executed by Design-Builder waiving, upon receipt of final payment by Design-Builder, all claims, except those claims previously made in writing to Owner and remaining unsettled at the time of final payment;

6.7.2.3 Consent of Design-Builder's surety, if any, to final payment;

6.7.2.4 All operating manuals, shop drawings, daily reports, warranties and other deliverables and Construction Documents required by the Contract Documents;

6.7.2.5 Certificates of insurance confirming that required coverages will remain in effect consistent with the requirements of the Contract Documents;

6.7.2.6 as-built drawings and CAD drawings of the completed Work; and

6.7.2.7 all training manuals, test reports, pre-construction and post-construction CCTVs, payroll reports, process control sheets, documentation substantiating that all defective and/or non-conforming Work has been remedied including correction of all Work identified as "MCNR" or "make corrections noted and re-submit," as well as submissions for systems and equipment, and Design-Builder has provided all required training to the Owner for competent operation and maintenance of the Work.

6.7.3 No payment(s) made, payment application(s) approved, partial use of the Work, or complete use of the Work by the City shall be deemed an acceptance of Work that does not conform to the requirements of the Contract Documents.

6.7.4 No money shall be paid by the City upon any claim, debt, demand or account whatsoever, to any person, firm, or corporation who is in arrears to the City for taxes, or any other debt or claim, and the City shall be entitled to counterclaim and/or offset any such debt, claim, demand or account in the amount of taxes so in arrears or other debts or claims of the City, and no assignment or transfer of such debt, claim, demand, or account after the said taxes are due or after any such debt or claim is asserted by the City, shall affect the right of the City to so offset the said taxes, debts, or other obligations against the same. Design-Builder agrees that the City shall be allowed to setoff and recoup any claim or demand that it may have against Design-Builder (or any of its constituent members if Design-Builder is a joint venture) whether such claim or demand is liquidated or unliquidated. Design-Builder further agrees that in the event it assigns or sells any amounts due or to become due under this Agreement, notice to the City of such assignment or sale shall not affect the City's rights of setoff or recoupment against Design-Builder for claims subsequently arising from this Agreement or any other contract with the City. Any assignee or purchaser of any amounts due Design-Builder under this Agreement shall be bound to these provisions and shall assume the risk of subsequently arising claims of setoff or recoupment.

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Article 7

Indemnification

7.1 Patent and Copyright Infringement.

7.1.1 Design-Builder shall defend any action or proceeding brought against Owner based on any claim that the Work, or any part thereof, or the operation or use of the Work or any part thereof, constitutes infringement of any United States patent or copyright, now or hereafter issued. Owner shall give prompt written notice to Design-Builder of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design-Builder shall indemnify and hold harmless Owner from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against Owner or Design-Builder in any such action or proceeding. Design-Builder agrees to keep Owner informed of all developments in the defense of such actions.

7.1.2 If Owner is enjoined from the operation or use of the Work, or any part thereof, as the result of any patent or copyright suit, claim, or proceeding, Design-Builder shall at its sole expense take reasonable steps to procure the right to operate or use the Work. If Design-Builder cannot so procure such right within a reasonable time, Design-Builder shall promptly, at Design-Builder's option and at Design-Builder's expense, (i) modify the Work so as to avoid infringement of any such patent or copyright or (ii) replace said Work with Work that does not infringe or violate any such patent or copyright.

7.1.3 Sections 7.1.1 and 7.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent or copyright (i) relating solely to a particular process

or product of a particular manufacturer specified by Owner and not offered or recommended by Design-Builder to Owner or (ii) arising from modifications to the Work by Owner or its agents after acceptance of the Work. If the suit, claim or proceeding is based upon events set forth in the preceding sentence, Owner shall defend, indemnify and hold harmless Design-Builder to the same extent Design-Builder is obligated to defend, indemnify and hold harmless Owner in Section 7.1.1 above.

7.1.4 The obligations set forth in this Section 7.1 shall constitute the sole agreement between the parties relating to liability for infringement of violation of any patent or copyright.

7.2 Omitted.

7.2.1 Omitted.

7.3 Payment Claim Indemnification.

7.3.1 Design-Builder acknowledges that neither it nor any of its Subcontractors or Design Consultants have lien rights on public property. Design-Builder shall indemnify, defend and hold harmless Owner from any claims or mechanic's liens brought against Owner or against the Project as a result of the failure of Design-Builder, or those for whose acts it is responsible, to pay for any services, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from Owner that such a claim or mechanic's lien has been filed, Design-Builder shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond. If Design-Builder fails to do so, Owner will have the right to discharge the claim or lien and hold Design-Builder and its surety liable for costs and expenses incurred, including attorneys' fees.

7.4 Design-Builder's General Indemnification.

7.4.1 Design-Builder, to the fullest extent permitted by law, shall indemnify, hold harmless and defend Owner, its officers, directors, and employees from and against claims, losses, damages, liabilities, including attorneys' fees and expenses, for bodily injury, sickness or death, and property damage or destruction (other than to the Work itself) to the extent resulting from the negligent acts or omissions of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable.

7.4.2 If an employee of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable has a claim against Owner, its officers, directors, employees, or agents, Design-Builder's indemnity obligation set forth in Section 7.4.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design-Builder, Design Consultants, Subcontractors, or other entity under any employee benefit acts, including workers' compensation or disability acts.

7.5 Omitted.

Article 8

Time

8.1 Obligation to Achieve the Contract Times.

8.1.1 Design-Builder agrees that it will commence performance of the Work and achieve the Contract Time(s) in accordance with Article 5 of the Agreement.

8.2 Delays to the Work.

8.2.1 If Design-Builder is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control and due to no fault of its own or those for whom Design-Builder is responsible, the Design-Builder shall be entitled to an extension of the time for completion only, and shall not be entitled to any additional payment on account of such delay. Without limiting the foregoing, the Design-Builder shall not be entitled to payment or compensation of any kind from Owner for direct, consequential, indirect or impact damages, including but not limited to costs of acceleration arising because of hindrance or delay from any cause whatsoever, whether such hindrances or delays be reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable; provided, however, that this provision shall not preclude recovery by the Design-Builder of damages for hindrances or delays due solely to fraud or bad faith on part of the Owner or its agents..

8.2.2 Omitted.

8.2.3 Damages For Delay, Acceleration, and Time Impacts. The extension of Contract Time specifically provided for in Article 8.2.1 shall be the Design-Builder's sole and exclusive remedy for delay, except to the extent specifically allowed herein. In the event the Design-Builder is delayed in the performance of the Work due solely to the fraud or bad faith of the Owner, then Design-Builder shall be entitled to an adjustment to the Contract Price for the direct job-site related costs (including General Conditions costs) incurred in performing the delayed Work if such delay (i) is not due to the fault, error, omission, or negligence of Design-Builder, its Design Consultant, Subcontractors, Design Consultants, or any others for whom Design-Builder is responsible, (ii) directly affects the performance of Work that is on the critical path of the construction schedule, (iii) was not reasonably foreseeable, (iv) would otherwise cause the Design-Builder to achieve Substantial Completion of the entire Work beyond the Scheduled Substantial Completion Date, and (v) cannot otherwise be reduced or eliminated by a work around plan or resequencing of the schedule at no extra cost to Design-Builder. In no instance shall Owner be liable for the following time-related costs or damages: (1) profit on any delay, acceleration, or impact costs, (2) loss of anticipated profit, (3) indirect expenses, (4) home office overhead, (5) consequential damages, including without limitation, loss of bonding capacity, loss of bidding opportunities, lost use of personnel, and insolvency, and (6) any claims preparation costs, expenses or consultant fees.

Article 9

Changes to the Contract Price and Time

Changes in the Work may be accomplished after execution of the Agreement, and without invalidating the Agreement, by Change Order, Field Change, Work Authorization, or Change Directive.

9.1 Change Orders.

9.1.1 A Change Order is a written instrument issued after execution of the Agreement signed by Owner and Design-Builder, stating their agreement upon all of the following:

9.1.1.1 The scope of the change in the Work;

9.1.1.2 The amount of the adjustment to the Contract Price; and

9.1.1.3 The extent of the adjustment to the Contract Time(s).

9.1.2 All changes in the Work authorized by applicable Change Order shall be performed under the applicable conditions of the Contract Documents. Owner and Design-Builder shall negotiate in

good faith and as expeditiously as possible the appropriate adjustments for such changes. All Change Orders shall be inclusive of all sales, use, consumer, and other taxes mandated by applicable Legal Requirements.

9.1.3 Omitted.

9.2 Change Directives.

9.2.1 A Change Directive is a written order prepared and signed by the City directing a Change in the Work prior to agreement on an adjustment in the Contract Price and/or the Contract Time(s). Upon receipt of a Change Directive from the City, Design-Builder shall promptly proceed with the performance of the Change in the Work.

9.2.2 Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for the Change Directive. Upon reaching an agreement, the parties shall prepare and execute an appropriate Change Order reflecting the terms of the agreement.

9.3 Work Authorizations

When directed by the City through a Work Authorization, the Design-Builder will perform Work that is expressly or generally contemplated under any allowance or contingency items designated by the Contract Documents, which may include a Change for the addition of Work that does not result in an increase in the overall Contract Price. Work Authorizations may include Work items that are not necessarily shown in the Contract Documents, but may be necessary for the successful completion of the Project. The performance of the Work Authorization items must conform to the standards of the Contract Documents. The funding for Work Authorizations is an allowance or contingency item only and not a compensable pay item. The City will retain ownership of any such funds not used after the completion of the Work and the Design-Builder will have no claim to such funds. The Work shall be assigned and directed by the City in writing. Measurement, payment, invoicing and pricing of adjustments for Work Authorizations will be in accordance with the Contract Documents.

9.3.1 Field Changes Design-Builder and the City may mutually agree in writing to a Field Change that modifies or adjusts the location of Work established by the Contract Documents provided that such modification or adjustment does not require an adjustment in the overall Contract Price, overall Contract Time(s), budget line items or quantities, or use of allowance items or contingency funds, which are required as a result of field conditions that require such adjustments. Design-Builder and the City shall promptly update all applicable Contract Documents to reflect the implementation of a Field Change upon written agreement to a Field Change by the City and Design-Builder.

9.4 Contract Price Adjustments.

9.4.1 The increase or decrease in Contract Price resulting from a Change in the Work shall be determined by one or more of the following methods:

9.4.1.1 Unit prices set forth in the Contract Documents or as subsequently agreed to between the parties;

9.4.1.2 A mutually accepted lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation by Owner;

9.4.1.3 Costs, fees and any other markups set forth in the Agreement; or

9.4.1.4 If an increase or decrease cannot be agreed to as set forth in items 9.4.1.1 through 9.4.1.3 above and Owner issues a Change Directive, the cost of the change of

the Work shall be determined by the reasonable expense and savings in the performance of the Work resulting from the change, including a reasonable overhead and profit, as may be set forth in the Agreement. If the net result of both additions and deletions to the Work is an increase in the Contract Price, overhead and profit shall be calculated on the basis of the net increase to the Contract Price. If the net result of both additions and deletions to the Work is a decrease in the Contract Price, overhead and profit shall be reduced in accordance with Article 6 of the Agreement. . Design-Builder shall maintain a documented, itemized accounting evidencing the expenses and savings associated with such changes.

9.4.2 If the quantities originally contemplated under the Contract Documents are materially changed so that application of such unit prices to quantities of the Work performed will cause substantial inequity to the Owner, the applicable unit prices shall be equitably adjusted. For purposes of this Section 9.4.2, a change in quantities may be considered material if such change is greater than or equal to forty percent (40%) more than the quantities set forth in the Contract Documents.

9.4.3 If Owner and Design-Builder disagree upon whether Design-Builder is entitled to be paid for any services required by Owner, or if there are any other disagreements over the scope of Work or proposed changes to the Work, Owner and Design-Builder shall resolve the disagreement pursuant to Article 10 hereof. As part of the negotiation process, Design-Builder shall furnish Owner with a good faith estimate of the costs to perform the disputed services in accordance with Owner's interpretations. If the parties are unable to agree and Owner expects Design-Builder to perform the services in accordance with Owner's interpretations, Design-Builder shall proceed to perform the disputed services, conditioned upon Owner issuing a written order to Design-Builder (i) directing Design-Builder to proceed and (ii) specifying Owner's interpretation of the services that are to be performed.

9.5 Emergencies.

9.5.1 In any emergency affecting the safety of persons and/or property, Design-Builder shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the Contract Price and/or Contract Time(s) on account of emergency work shall be determined as provided in this Article 9.

9.6 Written Change Order Requirement

9.6.1 Except as permitted in Article 9.2 regarding Change Directives, and notwithstanding the provisions of Article 10, an increase in the Contract Price or the Contract Time(s) shall be allowed only by a Change Order signed by Owner and either (1) requested by Design-Builder in writing in advance of performing the Work involved or affected or (2) otherwise agreed to in writing by Owner. The failure of Design-Builder to request in writing a Change Order in advance of performing the work affected or involved, whenever reasonably practicable to do so, prevents the Owner from considering cost and time saving measures and alternatives, and therefore shall be a waiver and release of any claim by Design-Builder for an increase in the Contract Price or the Contract Time(s). No eliminations, additions, or alterations shall be made in the Work except upon written order of the City. No course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the City has been unjustly enriched by any alteration or addition to the Work, shall be the basis of any claim for an increase in any amounts due under the Contract Documents or an increase in any time period provided for in the Contract Documents. No action, conduct, omission, prior failure, or course of dealing by the City shall waive, modify, change, or alter the requirement that Change Orders, Field Changes, Work Authorizations and Change Directives must be in writing signed by the City, and that written Change Orders are the exclusive methods for effecting any adjustment to the Contract Price or Contract Time(s). Design-Builder understands and agrees that the Contract Price and Contract Time(s) cannot be changed by implication, oral contracts, verbal directives, actions, inactions, course of conduct, or constructive change order. Design-Builder shall be

under no obligation to perform pursuant to an oral directive to perform work in addition to the Project scope excepting the case of an emergency threatening personal injury or property damage. Design-Builder acknowledges and agrees that no one in the City's organization has the authority to order Changes without a signed writing.

9.7 Accord and Satisfaction

9.7.1 Agreement on any Change Order, Field Change, or Work Authorization shall constitute a final settlement and an accord and satisfaction of all costs and changes to the Contract Price and Contract Time(s) relating to or arising out of the Change in the Work that is the subject of the Change, including but not limited to all claims for direct and indirect costs, impacts, overtime, accelerations, inefficiencies, compression, trade stacking, delays, interference, lost productivity, additional work, and the effect or accumulation of the changed work on any other Work or activities.

Article 10

Contract Adjustments and Disputes

10.1 Requests for Contract Adjustments and Relief.

10.1.1 Subject to the limitations set forth in Articles 8 and 9, Design-Builder shall provide written notice to the City of any claim for extension of the Contract Time(s) or modification of the Contract Price within seven (7) calendar days of the occurrence of the event giving rise to the claim, as well as (a) a narrative statement describing the amount and factual bases of the claim; (b) the precise number of days, if any, claimed as a result of any delay or impact to the Work; and (c) a detailed calculation of the precise amount of additional compensation claimed, if any, with any documentation supporting the claim. The failure of the Design-Builder to file any claim within the time limits prescribed herein or in the form or manner as required hereby shall be deemed a material prejudice to the interests of the City and shall constitute a waiver and release of the claim and the right to file or thereafter prosecute the same.

10.2 Mediation.

10.2.1 In the event of any controversy, claim, dispute or other matter in question arising out of or relating to this Agreement of the breach thereof or otherwise in connection with the Project to which this Agreement pertains, at the City's sole and exclusive option the parties shall, if the City so elects and as an express condition precedent to any party to this Agreement commencing legal action against the other relating to or arising out of the dispute, mediate the dispute utilizing a mutually agreeable mediator. Prior to commencing any legal action against the City, Design-Builder must either mediate the dispute, at the City's election, or obtain a written waiver from the City of its right to mediate.

10.2.2 Omitted.

10.2.3 Omitted.

10.2.4 Omitted.

10.3 Arbitration at the City's Election.

10.3.1 At the Owner's sole election, any claim arising out of or related to the Agreement shall be subject either to binding arbitration or litigation at the City's option. Prior to arbitration or litigation, the parties shall endeavor to resolve claims or disputes in accordance with the terms of this Agreement.

10.3.2 If claims are not resolved by negotiation, mediation, or otherwise, and the Owner elects arbitration, the arbitration shall be held in Atlanta, Georgia and shall be in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently then in effect. The demand for arbitration shall be in writing and filed with the appropriate organization selected by the Owner and shall be served on the Design-Builder. This agreement to arbitrate shall be specifically enforceable under applicable law in any court having jurisdiction thereof. In any arbitration or litigation, the arbitrators or the Court shall have the jurisdiction to award the City costs, arbitrator fees, expert fees, and attorneys' fees, and the arbitrators or the Court shall award all such fees to the City if it is the prevailing party. For purposes of this Section 10.3.2, the City shall be the "prevailing party" if it is successful on the material issues of the dispute, even if the City was not successful on all issues.

10.3.3 Except at Owner's sole discretion and with its consent, no arbitration or litigation arising out of or relating to the Agreement shall include, by consolidation or joinder or in any other manner, any other person or entity, including but not limited to the Design Consultant and its employees and consultants, any Subcontractors , and any other separate contractors or suppliers. The Owner's consent or election to allow consolidation or joinder or shall not constitute consent to arbitration of any claim not subject to arbitration pursuant to this Agreement.

10.3.4 Any award rendered by an arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

10.4 Litigation if Arbitration Not Elected.

10.4.1 If the Owner does not elect arbitration, any claims shall be resolved in Fulton County, Georgia Superior Court. Design-Builder hereby submits to the jurisdiction and venue of Fulton County, Georgia, and waives all defenses based on a lack of jurisdiction and/or venue. Design-Builder acknowledges that this Agreement was negotiated, at least in part, in Fulton County, Georgia. In any arbitration or litigation, the arbitrators or the court shall have the jurisdiction to award the City costs, arbitrator fees, expert fees, and attorneys' fees, and the arbitrators or the court shall award all such fees to the City if it is the prevailing party. For purposes of this Section 10.4.1, the City shall be the "prevailing party" if it is successful on the material issues of the dispute, even if the City was not successful on all issues.

10.5 Duty to Continue Performance.

10.5.1 Unless provided to the contrary in the Contract Documents, Design-Builder shall continue to perform the Work pending the final resolution of any dispute or disagreement between Design-Builder and Owner. Design-Builder's failure or refusal to work through disputes in accordance with this Article 10.5 shall be deemed a material default under this Agreement, which will entitle the City immediately rely upon Design-Builder's sureties to cure said default.

10.6 CONSEQUENTIAL DAMAGES.

10.6.1 NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY (EXCEPT AS SET FORTH IN SECTION 10.6.2 AND ARTICLE 11 BELOW), NEITHER DESIGN-BUILDER NOR OWNER SHALL BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL LOSSES OR DAMAGES, WHETHER ARISING IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO LOSSES OF USE, LOST PROFITS, BUSINESS, REPUTATION OR FINANCING.

10.6.2 The consequential damages limitation set forth in Section 10.6.1 above is not intended to affect the payment of liquidated damages set forth in Article 5 of the Agreement, which both parties recognize has been established, in part, to reimburse Owner for some damages that might otherwise be deemed to be consequential.

Article 11

Stop Work and Termination for Cause

11.1 Owner's Right to Stop Work.

11.1.1 Owner may, without cause and for its convenience, order Design-Builder in writing to stop and suspend the Work.

11.1.2 Subject to the limitations of Articles 8 and 9, Design-Builder is entitled to seek an adjustment of the Contract Time(s) if it has been adversely impacted by any suspension of stoppage of the Work by Owner.

11.2 Owner's Right to Perform and Terminate for Cause.

11.2.1 If Design-Builder fails to (i) provide a sufficient number of skilled workers, (ii) supply the materials required by the Contract Documents, (iii) comply with applicable Legal Requirements, (iv) timely pay Design Consultants or Subcontractors, (v) prosecute the Work with promptness and diligence to ensure that the Work is completed by the Contract Time(s), as such times may be adjusted, or (vi) perform material obligations under the Contract Documents, then Owner, in addition to any other rights and remedies provided in the Contract Documents or by law, shall have the rights set forth in Sections 11.2.2 and 11.2.3 below.

11.2.2 Upon the occurrence of an event set forth in Section 11.2.1 above, Owner may provide written notice to Design-Builder that it intends to terminate the Agreement unless the problem cited is cured within seven (7) days of Design-Builder's receipt of such notice. If Design-Builder fails to cure such problem within seven (7) days, then Owner may declare the Agreement terminated for default by providing written notice to Design-Builder of such declaration.

11.2.3 Upon declaring the Agreement terminated pursuant to Section 11.2.2 above, Owner may enter upon the premises and take possession, for the purpose of completing the Work, of all materials, equipment, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the Work, all of which Design-Builder hereby transfers, assigns and sets over to Owner for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, materials, equipment and other items. In the event of such termination, Design-Builder shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. At such time, if the unpaid balance of the Contract Price exceeds the cost and expense incurred by Owner in completing the Work, such excess shall be paid by Owner to Design-Builder. If Owner's cost and expense of completing the Work exceeds the unpaid balance of the Contract Price, then Design-Builder and its sureties shall be obligated to pay the difference to Owner. Such costs and expense shall include not only the cost of completing the Work, but also losses, damages, costs and expense, including attorneys' fees and expenses, incurred by Owner in connection with the reprocurement and defense of claims arising from Design-Builder's default, which costs and expenses are not subject to the waiver of consequential damages set forth in Section 10.6 hereof.

11.2.4 If Owner improperly terminates the Agreement for cause, the termination for cause will be converted to a termination for convenience in accordance with the provisions of Article 8 of the Agreement.

11.3 Omitted.

11.4 Omitted.

11.5 Bankruptcy of Design-Builder.

11.5.1 If Design-Builder institutes or has instituted against it a case under the United States Bankruptcy Code, such event may impair or frustrate the Design-Builder's ability to perform its obligations under the Contract Documents. Accordingly, should such event occur:

11.5.1.1 The Design-Builder, its trustee or other successor, shall furnish, upon request of the Owner, adequate assurance of the ability of the Design-Builder to perform all future material obligations under the Contract Documents, which assurances shall be provided within ten (10) days after receiving notice of the request; and

11.5.1.2 The Design-Builder shall file an appropriate action within the bankruptcy court to seek assumption or rejection of the Agreement within sixty (60) days of the institution of the bankruptcy filing and shall diligently prosecute such action. If the Design-Builder fails to comply with its foregoing obligations, the Owner shall be entitled to request the bankruptcy court to reject the Agreement, declare the Agreement terminated and pursue any other recourse available to the Owner under this Article 11.

11.5.2 The rights and remedies under Section 11.5.1 above shall not be deemed to limit the ability of the Owner to seek any other rights and remedies provided by the Contract Documents or by law, including its ability to seek relief from any automatic stays under the United States Bankruptcy Code.

Article 12

Electronic Data

12.1 Electronic Data.

12.1.1 The parties recognize that Contract Documents, including drawings, specifications and three-dimensional modeling (such as Building Information Models) and other Work Product may be transmitted among Owner, Design-Builder and others in electronic media as an alternative to paper hard copies (collectively "Electronic Data").

12.2 Transmission of Electronic Data.

12.2.1 Owner and Design-Builder shall agree upon the software and the format for the transmission of Electronic Data. Each party shall be responsible for securing the legal rights to access the agreed-upon format, including, if necessary, obtaining appropriately licensed copies of the applicable software or electronic program to display, interpret and/or generate the Electronic Data.

12.2.2 Neither party makes any representations or warranties to the other with respect to the functionality of the software or computer program associated with the electronic transmission of Work Product. Unless specifically set forth in the Agreement, ownership of the Electronic Data does not include ownership of the software or computer program with which it is associated, transmitted, generated or interpreted.

12.2.3 By transmitting Work Product in electronic form, the transmitting party does not transfer or assign its rights in the Work Product. The rights in the Electronic Data shall be as set forth in Article 4 of the Agreement. Under no circumstances shall the transfer of ownership of Electronic Data be deemed to be a sale by the transmitting party of tangible goods.

12.3 Electronic Data Protocol.

12.3.1 The parties acknowledge that Electronic Data may be altered or corrupted, intentionally or otherwise, due to occurrences beyond their reasonable control or knowledge, including but not limited to compatibility issues with user software, manipulation by the recipient, errors in transcription or transmission, machine error, environmental factors, and operator error.

Consequently, the parties understand that there is some level of increased risk in the use of Electronic Data for the communication of design and construction information and, in consideration of this, agree, and shall require their independent contractors, Subcontractors and Design Consultants to agree, to the following protocols, terms and conditions set forth in this Section 12.3.

12.3.2 Electronic Data will be transmitted in the format agreed upon in Section 12.2.1 above, including file conventions and document properties, unless prior arrangements are made in advance in writing.

12.3.3 The Electronic Data represents the information at a particular point in time and is subject to change. Therefore, the parties shall agree upon protocols for notification by the author to the recipient of any changes which may thereafter be made to the Electronic Data, which protocol shall also address the duty, if any, to update such information, data or other information contained in the electronic media if such information changes prior to Final Completion of the Project.

12.3.4 The transmitting party specifically disclaims all warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with respect to the media transmitting the Electronic Data. However, transmission of the Electronic Data via electronic means shall not invalidate or negate any duties pursuant to the applicable standard of care with respect to the creation of the Electronic Data, unless such data is materially changed or altered after it is transmitted to the receiving party, and the transmitting party did not participate in such change or alteration.

Article 13

Miscellaneous

13.1 Confidential Information.

13.1.1 Design-Builder agrees to preserve as strictly confidential all Confidential Information for two (2) years following the expiration or termination of this Agreement; provided, however, that Design Builder's obligation for Confidential Information that constitutes trade secrets pursuant to applicable law will continue for so long as such Confidential Information continues to constitute a trade secret under applicable law. Any Confidential Information that may be deemed Sensitive Security Information by the Department of Homeland Security or any other similar Confidential Information related to security will be considered trade secrets. Upon request by City, Design Builder will return any trade secrets to City. Design Builder agrees to hold the Confidential Information of the City in trust and confidence and will not disclose it to any person, or use it (directly or indirectly) for its own benefit or the benefit of any other person other than in the performance of its obligations under this Agreement. Design Builder will be entitled to disclose any Confidential Information if compelled to do so pursuant to: (i) a subpoena; (ii) judicial or administrative order; or (iii) any other requirement imposed upon it by applicable law. Prior to making such a disclosure, to the extent allowed pursuant to applicable law, the Design Builder shall provide the City with thirty six (36) hours prior notice by facsimile of its intent to disclose, describing the content of the information to be disclosed and providing a copy of the pleading, instrument, document, communication or other written item compelling disclosure or, if not in writing, a detailed description of the nature of the communication compelling disclosure with the name, address, phone number and facsimile number of the person requesting disclosure.

13.2 Assignment.

13.2.1 Design-Builder shall not, without the written consent of Owner assign, transfer or sublet any portion or part of the Work or the obligations required by the Contract Documents. Any such purported assignment shall be null and void absent Owner's written consent.

13.3 Successorship.

13.3.1 Design-Builder and Owner intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors and assigns.

13.4 Governing Law.

13.4.1 The Agreement and all Contract Documents shall be governed by the laws of the State of Georgia, without giving effect to its conflict of law principles.

13.5 Severability.

13.5.1 If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

13.6 No Waiver.

13.6.1 The failure of Owner to insist, in any one or more instances, on the performance of any of the obligations required by Design-Builder under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

13.7 Headings.

13.7.1 The headings used in these General Conditions of Contract, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

13.8 Notice.

13.8.1 Whenever the Contract Documents require that notice be provided to the other party, notice will be deemed to have been validly given (i) if delivered in person to the individual intended to receive such notice, (ii) four (4) days after being sent by registered or certified mail, postage prepaid to the address indicated in the Agreement, or (iii) if transmitted by facsimile, by the time stated in a machine generated confirmation that notice was received at the facsimile number of the intended recipient.

13.9 Amendments.

13.9.1 The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

13.10 Release of Quasi-Contractual Claims.

13.10.1 Design-Builder acknowledges and agrees that it may be adequately compensated in money damages for any claims arising from performance of the Contract Documents. Accordingly, Design-Builder waives and releases any right to assert a claim for *quantum meruit,* unjust enrichment, and any other equitable or quasi-contractual claim for relief that may be available under applicable law.

13.11 Equal Business Opportunity Compliance.

13.11.1 During the performance of this Agreement, Design-Builder agrees to comply with all provisions of Part 2, Chapter 2, Article X, Division 11, including Section 2-1441 through 2-1460 of the Code of Ordinances of the City of Atlanta, the Equal Business Opportunity ("EBO") Program as may be

hereafter amended.

13.12 No Construction Against the Drafter.

13.12.1 No presumption of any applicable law relating to the interpretation of contracts against the drafter shall apply to this Agreement.

13.13 Design-Builder not an Agent of the City.

13.13.1 Design-Builder is an independent contractor of the City and nothing in this Agreement shall be deemed to constitute Design-Builder and the City as partners, joint venturers, or be construed as requiring or permitting the sharing of profits or losses. Nothing in this Agreement shall be deemed to constitute Design-Builder and the City as principal and agent and neither party has the authority to represent or bind or create any legal obligations for or on behalf of the other party.

EXHIBIT B

SPECIAL CONDITIONS

SPECIAL CONDITIONS

SC-1 PRECONSTRUCTION VIDEO SURVEY AND INSPECTIONS

A. Design-Builder (D-B) is expressly advised that the protection of buildings, structures, equipment, electrical systems, instrumentation and related work adjacent and in the vicinity of its operations, wherever they may be, is solely its responsibility. Conditional inspection of buildings, structures, equipment, electrical systems and instrumentation shall be performed by and be the responsibility of the D-B.

B. D-B is to perform a preconstruction video survey and inspection in advance of construction to document the existing condition of buildings, facilities, structures, utilities, roads, driveways and related work.

C. Two (2) copies of surveys, photographs, videos, reports, etc., shall be given to the Engineer.

D. Repairs or replacement of all conditions disturbed by the construction shall be made to the satisfaction of the Engineer. This does not preclude conforming to the requirements of the insurance underwriters.

E. The video surveys and inspections shall clearly document the existing conditions and be completed before any operations have begun and subject areas disturbed by any construction activities. The video surveys and inspection notes, reports, etc. shall be submitted to the Engineer. The video surveys and inspections shall make an examination of the interior and exterior of buildings, structures, facilities and utilities, and record by notes, measurements, photographs, videos, etc., conditions which might be aggravated by construction activities. Prior to any type of blasting, video surveys and inspections of residences and other private structures existing within the survey and inspection corridor shall have been completed.

F. The D-B shall retain an independent Consultant, specializing in preconstruction surveys, to conduct the required inspections. The preconstruction survey will be performed by a firm specializing in performing such surveys. The qualifications and experience of the proposed consultant shall be submitted to the Engineer for approval prior to assignment of the Work.

G. The cost of all pre-construction video surveys and inspections shall be borne by the D-B.

SC-2 RIGHT OF WAY AND CONSTRUCTION ACCESS

Not Used

SC-3 SAFETY AND HEALTH

The D-B shall comply with all applicable health and safety standards and provisions required by the City of Atlanta, Fulton County, State of Georgia, and the Federal Government and its regulatory agencies. The D-B shall maintain an accurate record of all cases of death, occupational diseases, and injury requiring medical attention or causing loss of time from work arising out of and in the course of employment on work under the Contract. This project

involves work in and around operating combined and sanitary sewer systems. In these areas as well as in shafts and tunnels, the potential exists for toxic and/or explosive gases. The D-B shall exercise caution when entering any confined space. The atmosphere shall be tested for oxygen levels, presence of chemicals, and explosivity before entry. The D-B alone shall be responsible for the safety, efficiency, and adequacy of his facility(ies), appliances, and methods, and for any damage, which may result from their failure or their improper construction, maintenance, or operation.

A. Emergency phone numbers (fire, medical, police) shall be posted at the D-B's phone and its location known to all.

B. Accidents shall be reported immediately to the Engineer by messenger or phone.

C. All accidents shall be documented and a fully detailed written report submitted to the Engineer after each accident.

SC-4 LAYOUT OF THE WORK AND SURVEYING

SC-4.1 General

The Work required include providing field engineering Work, which includes establishing and maintaining survey control points and baselines as necessary to control the alignment (vertical and horizontal) and all parts of the Work within the specified tolerances, and documentation of the results.
The D-B shall be responsible for the development and implementation of a surveying program capable of satisfying all Project survey and accuracy requirements. This program shall be subject to the review of the Engineer before commencement of the work. The review shall in no way release the D-B of liabilities associated with or dependent on this part of the Work.
Control datum for the survey has been established by the Engineer and is indicated on the Drawings.

SC-4.2 Quality Control

A. Planning and execution of the field engineering Work shall be supervised by engineers or land surveyors registered in the State of Georgia and shall be conducted by personnel with documented experience in the specific types of work required.

B. The allowable combined errors of land surveys shall be compatible with excavation, and pipe placement tolerances.

SC-4.3 Submittals Related to D-B's Field Engineering Work

A. Submit qualifications of land surveyor supervisor(s) with detailed references made to projects requiring application of similar surveying procedures and techniques including name, address, and telephone number to the Engineer for review prior to commencement of any survey work.

B. Submit detailed description of proposed survey method, network diagrams and equipment type, accompanied with manufacturer's literature specifying probable accessories, calibration procedures, requirements and frequencies.

C. Submit shop drawings showing survey monument materials and methods of installation, preservation and recovery.

D. Submit mathematical pre-analysis to demonstrate that the required accuracies can be achieved using the proposed methods.

E. Submit, upon request, a complete and accurate log of control and survey work including documentation verifying accuracy of survey work as it progresses, and upon completion of the Work. Documentation shall include, but not be limited to, survey field books, sketches, drawings and layouts.

SC-4.4 General Requirements Related to D-B's Field Engineering Work

A. The Engineer has established basic survey control points as shown on the Drawings. The D-B shall examine and verify locations of survey control points, and shall notify the Engineer of any discrepancies discovered, within forty-eight (48) hours of discovery and before starting the Work.

B. Establish, verify and maintain a minimum of **three (3)** additional survey monuments for the work.. The monuments shall be permanent on site and referenced to the established survey control points. Record locations, with horizontal and vertical data, on Project Record Documents. Monuments will also be checked and verified by the construction verification surveyor. Survey notes relating to the monuments and primary control points shall be submitted to the Engineer.

C. At all times, protect, preserve and maintain survey control points used for the Work. Report to the Engineer the loss, destruction or relocation of any survey control point and replace survey control points based on original survey control. Make no changes without prior written notice to the Engineer.

D. Use equipment and implementation techniques such as forced centering techniques at survey control points as necessary to achieve required accuracies.

E. Furnish information to adjust, move or relocate existing structures, utility poles, lines, Work or other appurtenances located in, or affected by, construction. Through the Engineer, coordinate with local authorities having jurisdiction.

F. Establish elevations, lines and levels. Locate and layout by instrumentation and similar appropriate means:

1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes and invert elevations;
2. Grid or axis for structures; and
3. Foundation and wall locations, sloping floor elevations, and embedment centerlines and elevations.

G. Where the dimensions and locations of existing structures are of critical importance in the installation or connection of any part of the Work, verify such dimensions and locations in the field before the fabrication of any material or embedment, which is dependent on the correctness of such information.

SC-4.5 Calibration and Data Processing

A. Calibrate all procedures and instruments as required and as recommended by the instrument manufacturer. Maintain a log showing date and type of calibration performed indicating the name of the individual performing the calibration.

B. Data reduction shall incorporate calibrations and meteorological corrections, and rigorous reduction of measurements to the ellipsoid and thence to the coordinate system. Correct distance measurements by electro-optical distance measurement instrument for scale, cyclic error, zero error, and meteorological effects. Correct azimuths using the Laplace correction and include the effect of the deflection of the vertical components on angles and azimuth measurements.

C. Data processing shall include, as required, rigorous least squares adjustments. Employ data outlier detection. Determine horizontal and vertical confidence intervals.

SC-5 DISPOSAL OF WASTE MATERIAL

The disposal of all excavated material or spoil not required for use in the permanent Work shall be the responsibility of the D-B. He shall remove all excess excavated material or spoil from the site of the Work and dispose of the same in a legal manner at no additional cost to the City. Burning of debris on site will not be allowed.

SC-6 REMOVAL OF CONDEMNED MATERIAL

Material on the site, which has been determined by the Engineer to be unsuitable or not in conformity with the Contract documents shall be removed from the vicinity of the Work without delay and disposed of in an approved area.

If the D-B fails to do so within forty-eight (48) hours after the receipt of notice, the condemned materials may be removed by the City and the cost of said removal shall be borne by the D-B.

SC-7 DETECTION OF MOVEMENT

In order to detect any movement of buildings or structures that may be affected by his Work, D-B shall, prior to excavation, establish a system of vertical and horizontal control points on or about such buildings or structures, tied to bench marks and indices sufficiently remote to not be moved by his operations. A plan of this system shall be submitted to the Engineer for review. Reading shall be taken of these points and permanently recorded prior to the start of excavation. The City will not assume any responsibility for alleged damages to any building or structure arising from the Work performed under this Agreement.

SC-8 EXISTING UTILITIES

SC-8.1 Verification of the Location of the Existing Utilities

Representations of existing utilities, facilities, and structures in the Contract Documents are based upon the best available information. The City and the Engineer will not be responsible for the completeness or accuracy thereof nor for any deductions, interpretations, or conclusions drawn therefrom. The D-B shall verify to his own satisfaction by test pit or other means, the actual location of existing utilities prior to construction in their vicinity.

A. Should the D-B in the course of his operations encounter any underground utilities the presence of which was not previously known, or a different type than shown, he shall immediately notify the Engineer and take all necessary precautions to protect the utility and maintain continuance of service until said utilities can be adjusted by the appropriate owners.

B. D-B will notify all public utility corporations, jurisdictional agencies, or other owners to make all necessary adjustments to public utility fixtures and appurtenances within or adjacent to the limits of construction. Delays and additional cost resulting from a failure of the D-B to notify the utility or to provide adequate notice to the utility shall be at no additional cost to the City, when such facilities are indicated in the Agreement Documents, and in such case, no extension of time will be granted for delays caused by utility adjustments.

C. Damage caused to utilities either directly or indirectly by the D-B shall be repaired and the facilities restored to their original condition to the satisfaction of the Engineer and the utility owner, at no additional cost to the City.

SC-8.2 Work in Vicinity of Existing Utilities

At least three (3) working days prior to starting work in the vicinity of utility structures and appurtenances, D-B shall notify Engineer and appropriate utility companies and jurisdictional agencies. D-B shall support and protect all utility structures and appurtenances in accordance with the requirements of the Agreement Documents and the utility companies, and shall take any other steps necessary to protect the structures from disturbance or damage.

SC-8.3 Access to Utilities Facilities

The Contractor shall at all times permit free and clear access to the various affected facilities by personnel of the utility owners or operators who are working within the limits of work for the purpose of inspection, maintenance, or providing additional service requirements, and the construction of new facilities. When personnel of the utility owners or operators are working within the limits of work to be performed by D-B, the D-B will not be relieved of his responsibility for the maintenance and protection of such facilities.

SC-9 WORK IN FLOOD PLAIN AREAS

The D-B shall comply with all regulations of Section 16-26006 of the Zoning Ordinance of the City of Atlanta concerning work in Flood Hazard Districts, and Fulton County Zoning Resolutions regarding Flood Protection.

SC-10 MAINTENANCE OF TRAFFIC

Not Used

SC-11 ENVIRONMENTAL PROTECTION

SC-11.1 General

D-B shall conduct his operation in a manner to prevent pollution of the environment surrounding the area of work by every means possible and shall be responsible for furnishing all necessary items for fulfilling the work described herein.

SC-11.2 Material Transport

Not Used

SC-11.3 Waste Materials

No waste or erosion materials shall be allowed to enter natural or manmade water or sewage removal systems. Erosion materials from excavations, borrow areas, or stockpiled fill shall be contained within the work area. D-B shall develop methods for control of waste and erosion, which shall include such means as filtration, settlement, and manual removal to satisfy the above requirements.

SC-11.4 Burning

No burning of waste shall be allowed.

SC-11.5 Dust Control

The D-B shall at all times control the generation of dust by his operations. Control of dust shall be accomplished by water sprinkling or by other methods approved by the Engineer.

SC-11.6 Noise Control

The D-B shall take every action possible to minimize the noise caused by his operation.

When required by agencies having jurisdiction, noise-producing work shall be performed in less sensitive hours of the day or week as directed by the Engineer.
The D-B shall provide equipment that operates with the least possible noise. The use of noisy equipment is prohibited. Hoists and compressor plants shall be electrically operated unless otherwise permitted. The air intake of compressors shall be equipped with silencers, and machinery operated by gearing shall be provided with a type of gearing designed to reduce noise to a minimum. Internal combustion engines shall be equipped with mufflers in good order.

Noise generated by mobile construction equipment, stationary construction equipment, and other equipment involved in the construction of the Work shall not exceed the decibel levels indicated below. Noise generated by mobile and stationary construction equipment will be measured three to 6 feet from building lines, and on the A weighing network of Type-2 general purpose sound level meter set at fast response.

Noise Limits	Combined Residential and Commercial
Allowable Sound Levels of Mobile Construction Equipment:	
- From 7 a.m. to 10 p.m., Monday thru Saturday, Except Legal Holidays	85 dBA
- At times other than those listed above	70 dBA
Allowable Sound Levels of Stationary Construction Equipment:	
- From 7 a.m. to 10 p.m., Monday thru Saturday, Except Legal Holidays	70 dBA
- At times other than those noted above	60 dBA

D-B shall assure compliance by measuring noise levels as may be required.

SC-11.7 Use of Chemicals

All chemicals used during construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of either Environmental Protection Agency (EPA) or Food and Drug Administration (FDA). Use of all such chemicals and disposal of residues shall be in conformance with instructions.

SC-11.8 By-Passing During Construction

No wastewater shall be by-passed at sewage collection or treatment facilities during project construction unless a by-passing schedule has been approved by City and the Georgia Environmental Protection Division (EPD). It shall be the responsibility of the D-B to prepare and secure the approval of any by-passing not specifically identified in the Agreement Documents.

SC-11.9 Responsibility for Spills and Accidental Discharges

In the event that the D-B causes or has a spill or accidental discharge for which the City is fined by the State of Georgia EPD, the D-B agrees to remediate the spill or discharge immediately in accordance with current EPD regulations and to pay any fines assessed against the City and/or D-B, and pay for the City's cost associated with efforts to remediate the situation.

SC-12 RIGHT TO OPERATE

As soon as any portion of structures and equipment are ready for use, the City shall have the right to operate such portion upon written notice to the D-B by the City. The City shall also issue a certificate of completion for that portion of the Work. Guarantee period on that portion of Service will begin upon issuance of certificate of completion for that portion.

Testing of equipment and appurtenance and training of City's personnel as specified hereinunder shall not constitute operation.

The execution of the bonds shall constitute the consent of the surety.

The D-B shall provide an endorsement to his insurance permitting occupancy of the structures and use of equipment during the remaining period of construction.

SC-13 LIST OF MATERIALS, FIXTURES AND EQUIPMENT

A. Within thirty (30) days after issuance of the Notice to Proceed, before any materials, fixtures or equipment are purchased, and prior to start of construction, the D-B shall submit for approval by the Engineer the names and addresses of the manufacturers, and their catalog numbers and trade names for all materials, equipment and fixtures listed under the following Sections of the Agreement Documents:

Divisions 2, 3, 5, 7, 8, 9, 11, 12, 13, 15 and 16

The D-B shall furnish other detailed information when so directed, under the various items. No consideration will be given to partial lists submitted from time to time except that approval of long delivery items of equipment may be requested individually. Items which are not in accordance with the Specification requirements may be rejected. The D-B shall furnish a statement giving a complete description of all points wherein the equipment he proposes to furnish does not comply with the Specifications as well as any exceptions he may take to the Specifications. Failure to furnish such statements will be interpreted to mean that the equipment meets all requirements of the Specifications.

B. In the event the D-B wishes to resubmit items of materials, fixtures and equipment for review subsequent to obtaining approval as indicated in "A" above, then the D-B shall pay the cost of the Engineering review of each such resubmittal including shop drawing review if this review has been performed.

SC-14 CITY OF ATLANTA PROJECT SIGN

Not used

SC-15 PROJECT MEETINGS

The Engineer shall schedule progress meetings. The progress meetings will be held weekly and may be scheduled at a different interval by the Engineer if necessary. Progress meetings shall be held at a location designated by the Engineer.

Progress meetings shall be attended by the Engineer, D-B, Subcontractors as appropriate to the agenda, suppliers as appropriate to the agenda and others as required.

The meeting agenda shall generally include review and approval of minutes of previous meeting, review of work progress since previous meeting, field observations, problems, and conflicts, problems which impede Construction Schedule, review of off-site fabrication and delivery schedules, corrective measures and procedures to regain project schedule, revisions to Construction Schedule, progress and schedule of the preceding work period, coordination of schedules, review of submittal schedules and status, status of requests for information, maintenance of quality standards, pending changes and substitutions, and other business.

SC-16 SCHEDULE

Timely performance is of the essence on this Project. The D-B may complete the Project or any part of the Project earlier than is stipulated in the Contract and the Milestone requirements. The D-B may schedule his work to complete earlier than required by the Contract or stipulated in the approved schedule, however, under no circumstances shall the D-B be entitled to added compensation for delays, which occur during the originally stipulated contract period.

The City has purchased the entire scheduled time period by virtue of this Contract.

SC-16.1 Procedures

A. The Work under this Contract shall be planned, scheduled, executed, reported and accomplished using the Precedence Diagramming Critical Path Method (hereinafter referred to as CPM). The work required by this section includes the requirement to prepare, maintain, and update all detailed schedules as described in this section. The CPM Schedules shall be prepared in such a manner as to permit the orderly planning, organization, and execution of the Work and be sufficiently detailed to accurately depict all the Work required by the Contract. D-B shall resource (labor, material and equipment) and cost load its Schedule as specified herein.

B. D-B hereby agrees that in the process of preparing its baseline schedule and monthly updates, it will consult with all key subcontractors and suppliers to assure concurrence with the feasibility and achievability of D-B's planned start dates, sequencing, durations, and completion dates. A copy of the computer input files, XER format shall be submitted on CD-R with each submittal. The procedures, technical details and D-B's participation and responsibilities shall be as hereinafter described.

C. D-B is responsible for determining the sequence of activities, the time estimates for the detailed construction activities and the means, methods, techniques and procedures to be employed. The Schedules identified herein shall represent the D-B's best judgment of how it will prosecute the Work in compliance with the Contract requirements. D-B shall ensure that the Schedule is current and accurate and is properly and timely monitored, updated and revised as Project conditions may require and as required by the Contract Documents.

D. D-B's construction schedule shall be prepared using the latest version of Primavera Project Planner (P6) for Windows. Any and all costs incurred by the D-B in researching, training and/or educating its personnel in CPM and/or P6 (or

the utilization of outside consultants) shall be part of the D-B's bid price and not reimbursed separately by the City.

1. The Project Network Schedule Diagram, mathematical analysis, written narrative and monthly updates will be reviewed by either the Engineer or an independent consultant selected by the Engineer. Items will be reviewed for compliance with these Specifications and accurate reporting by the D-B of work in place, resource loading and work activity durations.

2. 2. Submit to the Engineer an accepted final CPM Construction Schedule and Final Schedule of Values including Allowance Items, allocated to the CPM Schedule activities within forty five days of the Notice to Proceed. Requirements for the final CPM Construction and Final Schedule of Values are further described hereinafter. D-B's Application for Payment will not be approved until the final CPM Schedule and Schedule of Values have been accepted. The Contract Baseline Schedule submittal shall not show any progress until it is accepted by Engineer.

SC-16.2 Standards

A. Definition: CPM, as required by this Section, shall comply with the standards outlined in the Associated General D-Bs' publication, "Construction Planning and Scheduling" unless specifically changed by this Section.

B. CPM Construction Schedule: The D-B's CPM Construction Schedule shall include a graphic time scaled logic network, computerized tabular report and resource loading as described below. To be acceptable, the schedule must demonstrate the following:

1. A logical succession of Work from start to finish. This logical succession, when accepted, is the D-B's work plan and, contrary to normal CPM standards, is designated as early start/early finish solely to accommodate the Primavera software;

2. Clear definition of each activity including cost, manpower, equipment and material quantities as resources. The assigned dollar value (cost loading) of each activity shall cumulatively equal the contract price;

3. Proper interfacing of related activities including submittals, major material and equipment deliveries, procurement, required permits and other constraints such as equipment or manpower/crew availability. Submittal dates must include review periods and permit schedules must include agency review and issue dates. The narrative shall explain the rationale for all constraints, lags and unusual relationships; and

4. Agreement with the interim milestones, schedule coordination requirements, and completion dates indicated in the Contract Documents.

C. CPM Graphic Logic Network

1. The CPM graphic logic network or diagram shall be in the form of a time-scaled diagram of the customary precedence diagram and may be divided into

a number of separate pages with suitable notation relating the interface points among the pages. Individual pages shall not exceed 34-inch by 44-inch. Notation on each activity line shall include activity descriptions, total float, and durations as a minimum.

2. All construction activities and procurement shall be indicated in a time-scaled format, and a calendar shall be shown on all sheets along the entire sheet length. Each activity shall be plotted so the beginning and completion dates of said activity can be determined graphically by comparison with the calendar scale. A legend shall be included clearly distinguishing between critical and non-critical path activities and progress to date.

D. Duration: The duration indicated for each activity shall be in units of whole working days and shall represent the single best time considering the scope of the Work and resources planned for the activity including time for holidays and inclement weather. The calendar for the network shall be in calendar days. Except for certain non-labor activities, such as submittal preparation and review, curing concrete, delivering and fabrication of materials, or other activities described specifically in the Contract, activity durations shall not exceed fourteen(14) days, be less than one Day, nor exceed Fifty Thousand Dollars ($50,000) in value unless otherwise accepted by the Engineer.

E. For all equipment and materials to be fabricated or supplied for the Project, the Contract Baseline Schedule shall show a sequence of activities including: (a) preparation of shop drawings and sample submissions; (b) thirty (30) calendar days for review of shop drawings and samples; (c) shop fabrication, delivery and storage; (d) erection or installation; and (e) testing of equipment and materials

F. The Interim Schedule and Contract Baseline Schedule shall show dependencies (or relationships) between each activity. Each activity must have a successor and predecessor, except for the Project Start and Finish Milestone. The use of date constraints shall be limited to Contract Milestones and Contract Completion dates only, unless approved by the Engineer.

G. Contract Baseline Schedule shall contain or be able to demonstrate that the following items have been addressed: (a) the Project's name; (b) the D-B's name; (c) revision or edition number; (d) activities of completed work; (e) activities relating to different areas of responsibility, such as subcontracted Work which is distinctly separated from that being done by the D-B directly; (f) labor resources distinguished by craft or crew requirements; (g) equipment and material resources distinguished by equipment and material requirements; (h) distinct and identifiable subdivisions of work such as structural slabs, beams, columns; (i) locations of work within the contract limit lines that necessitates different times or crews to perform; (j) outage schedules for existing utility Work that will be interrupted during the performance of the Work; (k) acquisition and installation of equipment and materials supplied and/or installed by the Owner or its separate contractors; (l) material to be stored on site; (m) Phases; and (n) Interim Milestones and the Contract Completion dates.

H. Computerized Tabular Reports: Reports shall include the following for each activity depicted in the schedule.

1. Activity ID;
2. Activity Description;
3. Duration (original and remaining);
4. Early Start Date;
5. Early Finish Date;
6. Total Float;
7. Percent Complete;
8. Activity Cost and Resources;
9. Actual Start Date; and
10. Actual Finish Date.

I. Project Information: Each report shall be prefaced with the following summary data.

1. Project Name;
2. D-B;
3. Type of Tabulation (Initial or Updated);
4. Project Duration;
5. Project Scheduled Completion Date; and
6. Projected Completion Date.

J. The Contract Baseline Schedule shall include coding (both activity and project coding) to allow additional grouping and sorting means. The Engineer shall provide the coding dictionary. Coding shall include (but shall not be limited to) the following:

1. Area;
2. Department;
3. Phase;
4. CSI Code;
5. Responsibility; and
6. Crew/ Craft.

SC-16.3 Acceptance

A. The finalized CPM Construction Schedule will be acceptable to the Engineer when it:

1. Provides an orderly progression of the Work from Notice to Proceed to Final Completion in accordance with the Contract requirements.
2. Adequately defines the D-B's work plan.
3. Provides a workable arrangement for processing submittals in accordance with the requirements, and properly allocates resource values for manpower, major materials, equipment and costs to each activity (free of unbalances in resources) as determined by the Engineer. Manpower may be represented as composite crews in the CPM Construction Schedule. The network diagram and tabular reports when accepted by the Engineer shall constitute the CPM Construction Schedule until revised and re-accepted.

B. When the CPM Construction Schedule has been accepted, the D-B shall submit to the Engineer:
   1. Six (6) copies of the CPM graphic logic network,
   2. Six (6) copies of a computerized, tabular report in which activities have been Sequenced by early starting date,
   3. Two (2) copies of the schedule on CD
   4. Six (6) copies of the narrative.

C. The Engineer's review and acceptance of the D-B's CPM Construction Schedule is for conformance to the requirements of the Contract Documents only. Review and acceptance by the Engineer of the D-B's CPM Construction Schedule does not relieve the D-B of any of its responsibility for the accuracy or feasibility of the CPM Construction Schedule, or of the D-B's ability to meet interim milestone dates and the Contract completion date. Nor does such review and acceptance expressly or impliedly warrant, acknowledge, or admit the reasonableness of the logic, durations, and resource value loading of the D-B's CPM Construction Schedule.

D. The D-B shall participate in a conference with the Engineer to review the Engineer's comments on the schedule and evaluation of the proposed network diagram, mathematical analysis and monetary value of activities. The intent is to reach a clearer understanding of the CPM and reach consensus on any revisions to be made. Any revisions necessary as a result of this review shall be resubmitted to the Engineer within 10 calendar days after the conference. The accepted schedule shall then be used by the D-B for planning, organizing and directing the work and for reporting progress. If the D-B desires to make changes in his method of performing the Work, he shall notify the Engineer in writing stating the reason for the changes and receive written acceptance of the change prior to putting the change into the accepted schedule.

SC-16.4 Qualifications

A. The D-B shall demonstrate competence in the use of CPM scheduling through the submission of a fully compliant CPM Construction Schedule with the initial CPM submission. In the event the D-B fails to so demonstrate competence in the CPM

scheduling, the Engineer may direct the D-B to employ the services of a Scheduling Firm that can demonstrate competence. The D-B shall comply with such directive.

B. The D-B shall use the services of scheduler who has verifiable training and credentials in preparing and maintaining computerized CPM Construction Schedule using Primavera software as specified herein. The scheduler must qualify within the planning period.

1. Required Experience: Performed CPM scheduling on at least 2 completed construction projects of value at least 75 percent as large as this one and having at least 75 percent as many schedule items as this one. Scheduling of both projects shall have been done using Primavera software (P6 for Windows) or equal.

2. Submit the following if requested:

a. Descriptions of at least 2 projects of the value and complexity above;
b. Copy of a CPM schedule from one of the previous projects;
c. Names and telephone numbers of facility owner representative, design engineer, and construction manager for each project; and
d. Evidence supporting the above qualifications shall be submitted to the Engineer.

SC-16.5 Submittal Requirements

A. Initial submittal, revisions and monthly updates of the network diagram, mathematical analysis, and written narrative shall be submitted in six hard copies and two data copies on CD. Submittals will not be accepted unless they are complete as described herein.

B. The D-B shall submit the following:

1. A CPM timescaled logic network, computer generated using Primavera Project Planner software (The latest version of P6 for Windows);

2. Computerized Tabular Reports;

a. Activity sort by early start, organized by facility or area;
b. Predecessor/successor listing;
c. Activity code dictionary; and
d. Resource code dictionary.

3. Basis of schedule narrative describing the logic and reasoning of the schedule. The narrative shall summarize the overall approach to construction sequencing, including but not limited to 1) anticipated lost days due to weather; 2) the rationale for all constraints, lags and unusual relationships; 3) the definition of labor and crews; 4) a list and durations for all major pieces of equipment and resources; and 5) work proposed to be performed on an other than single shift five (5) day workweek basis;

4. Resource value allocation by activity;

5. Breakdown of specific cost amount for each component of multi-component activities in the CPM Schedule in spreadsheet format (using Microsoft Excel) showing component unit quantities as well as costs. Such breakdown, when accepted by the Engineer shall constitute the Schedule of Values for the Project; and

6. CD copy of entire schedule, narrative and spreadsheet.

SC-16.6 SCHEDULE ORIENTATION SESSION

A. D-B shall, upon notification from the Engineer, attend a Schedule Orientation Session relating to the Schedules and Reports requirements for this Contract. The Schedule Orientation Session is designed to review in detail, the objectives of the Schedules and Reports requirements and the requirements. D-B shall arrange for its Project Manager, Superintendent, and Scheduler to attend the Schedule Orientation Session.

B. The following items shall be discussed during the Schedule Orientation Session: (a) The procedures and requirements for the preparation of the Contract Baseline Schedule, and monthly updates by D-B; (b) how the requirements of the Contract Documents will be monitored and enforced by the Engineer; (c) long-lead items and time requirements for the Work by Subcontractors will be identified and included in the Contract Baseline Schedule; (d) testing and startup; (e) coding and logic for the Contract Baseline Schedule; and (f) identification and scheduling of shop drawings and other submittals.

SC-16.7 Schedule of Values

The schedule of Values is that from the Design-Build Agreement Cost Proposal.

A. Form and Content of Schedule of Values

1. Identify the Schedule of Values submittal with:
   a. Title of Contract and location;
   b. Contract Number;
   c. Name and address of D-B; and
   d. Date of submission.
2. The D-B's Schedule of Values shall list the installed value of the component parts of the Work in sufficient detail to serve as the basis for computing values for progress payments during construction;
3. Identify accounts with the location code and area code as defined in the Primavera Schedule format; and
4. Account data pertaining to the Schedule of Values shall, at a minimum, include the following for each Account:
   a. CPM Activity number;
   b. City of Atlanta Standard Code listed on the Bid Schedule;
   c. WBS code (as used Primavera Project Planner scheduling software), including location, responsibility and area codes;

d. Construction Specification Institute (CSI) Specification Section Number; and

e. Account Type: Lump Sum (LS), Allowance (AL), or Change Order (CO).

5. Upon approval of the Schedule of Values and the Project Baseline Schedule, the Schedule of Values will be merged with the Project Baseline Schedule in P6.

B. Lump Sum Accounts (LS):

1. The LS Items established in the D-B's Bid shall be further divided into pay from the Schedule of Values by the D-B and submitted to the Engineer for approval. Payment for LS Accounts will be based upon physical progress (percent complete) for each related activity in the Progress Schedule.

2. The dollar value allocated to LS Accounts shall be representative of the D-B's actual costs for performing the Work including overhead and profit, and shall be balanced to ensure that sufficient funds are allocated for each portion of the Work and shall be subject to acceptance by the Engineer.

3. In the event account values cannot be agreed to between the Engineer and the D-B, the Engineer shall have the exclusive right to determine the account dollar amounts contained in the Schedule of Values.

4. Mobilization costs shall be specifically identified in the Schedule of Values. All mobilization sub-accounts contained in the Schedule of Values must have a corresponding CPM Schedule activity. Payments for mobilization sub-accounts will be based upon LS values as accepted by the Engineer.

C. Allowance (AL) Accounts: Payment for AL Accounts will be based upon invoices submitted by the D-B subject to conditions and limitations of the Contract Documents. Refer to Section 01200, Measurement and Payment, for requirements. The AL shall be adjusted to the actual amount paid for such Work, and adjusted by CO either at the end of that phase of the Work or at the completion of the Work. The City will have sole discretion on determining when to make adjustments to the AL.

D. Cost of materials shall be assigned to the appropriate item of work in the schedule of values, and allocated to materials Sub-account. All materials items contained in the Schedule of Values must have a corresponding CPM Schedule activity, for various portions of the Work:

1. Except for AL Accounts identified in Section 01200, each account shall include a directly proportional amount of the D-B's overhead and profit.

2. For accounts on which progress payments will be requested for materials suitably stored on site, break down the value into:

a. The cost of each material delivered and unloaded; and

b. Paid invoices.

E. The D-B shall include in his Schedule of Values items for site maintenance, and compliance with the terms of permit stipulations, as appropriate. These items will

be monitored on a monthly basis. Non-compliance will result in monies being deducted from the appropriate items.

F. A new account will be added to the Schedule of Values for approved CO work. Payment for Time and Expense CO work shall be based upon the General and Supplementary Conditions of these Specifications.

G. The sum of all Account Values listed in the Schedule of Values shall equal the total Contract Price, excluding Allowance Items.

16.7.1 Sub-Accounts

A. Include a breakdown of major accounts into sub-accounts on which progress payments will be requested. The sub-account breakdown shall include elements for pay items/progress items as appropriate, and show the weight of each sub-account; e.g., fabrication, installation, etc., with the total weight of the sub-accounts equal to 100 percent of the major account.

B. The form of the submittal shall be consistent with the Schedule of Values, with each account identified the same as the line item in the Schedule of Values.

C. The D-B's Schedule of Values shall list the delivered value of the products, manuals and Work provided. The lists shall be sufficiently detailed to serve as a basis for computing values for progress payments during the construction period.

SC-16.8 Monthly Application for Payment

A. Monthly Application for Payment: D-B shall provide monthly Schedule Update, monthly Payment Report and monthly Narrative Report as his monthly Application for Payment package. Failure to submit all of the aforementioned submittals will result in the cessation of the pay application process until all documents are received. A pay application is to be submitted by the 15th of the following month.

B. Monthly Schedule Update: The D-B shall submit, at intervals of thirty (30) calendar days, an update of all activities in the as-planned CPM schedule. The Period-Ending Date shall be the 25th of each month. Update shall be created by updating the mathematical analysis and the corresponding computerized network diagram of the Schedule.

1. The schedule shall be updated by entering the following: Actual start and completion dates of completed activities and the actual start date and remaining duration of activities in progress.

2. The updated network diagram shall be submitted in the same format as noted in Specification Section SC-16.1, with the calendar starting from the date of the update.

3. The updated mathematical analysis shall be submitted in the same format noted in Specification Section SC-16.1.

4. The schedule update shall include an update of the cash flow projections in the same format as the original approved submittal.

5. The schedule update will state the percentage of the work actually completed and scheduled as of the report date.

C. The Monthly Payment Report shall show the activities or portions of activities completed during the reporting period, their total monetary values and the monetary values earned as a basis for the D-B's Application for Payment. A mutually agreed upon percent complete will be assigned to each completed and partially completed activity to be used for calculating the monetary value earned to date. For activities underway, the percent complete shall not be related to the remaining duration.

D. A monthly narrative report shall be submitted including, but not limited to the following:

1. Description of work accomplished;
2. Summary of safety and quality issues occurring during the month and corrective actions taken;
3. D-B evaluation of actual progress versus progress planned;
4. If the project is behind schedule, progress along all paths with negative float shall be reported along with the reasons for the delay; and
5. A description of all revisions made to the schedule including: all accepted, added, deleted, and revised activities; all logic revisions; and all duration revisions.
6. A description of the problem areas, current and anticipated delaying factors and their impact, and an explanation of corrective actions taken or proposed.

E. If the D-B fails to submit any of the required components of the Application for Payment, the Engineer will withhold approval of the Application for Payment until such time as the D-B submits the required components.

SC-16.9 Progress Meetings and Look-Ahead Schedules

A. For the weekly progress meetings, the D-B shall submit a four (4) week Look-Ahead Schedule. This schedule will cover four (4) weeks: the immediate past week, the current week, and the forthcoming two (2) weeks. This schedule will include all activities which are complete, started, are incomplete or underway, or scheduled to be worked during this four (4) week time frame. This schedule shall list all activities from the accepted CPM Construction Schedule which are complete, are scheduled for Work during the period, are currently planned to be worked, even if out of sequence, and Work which is unfinished but scheduled to be finished. Actual start and completion dates shall be provided for the Work that has been completed the prior week; forecast start and finish dates shall be provided for the Work that is in-process or upcoming.

B. Each activity noted above shall be identified by activity number corresponding to the accepted CPM Construction Schedule and detailed description of the activity.

C. The Look-Ahead Schedule shall be delivered to the Engineer twenty-four (24) hours prior to the weekly progress meeting.

D. The Look-Ahead Schedule shall be in a format approved by the Engineer.

E. Tabular reports for manpower and equipment resources shall be provided for and with each Look-Ahead Schedule.

SC-16.10 CPM Construction Schedule Revisions

A. The Engineer may direct and, if so directed, the D-B shall propose revisions to the CPM Construction Schedule upon occurrence of any of the following instances:

1. The actual physical progress of the Work falls more than five percent (5%) behind the accepted CPM Construction Schedule, as demonstrated by comparison to the accepted monthly CPM Construction Schedule updates or as determined by the Engineer if a current accepted CPM Construction Schedule does not exist;

2. The Engineer considers milestone or completion dates to be in jeopardy because of "activities behind schedule". "Activities behind schedule" are all activities that have not or cannot be started or completed by the dates shown in the CPM Construction Schedule, regardless of the existence of positive float on the activity; and

3. A CO has been issued that changes, adds, or deletes scheduled activities or affects the time for completion of scheduled activities.

B. When the instances requiring revision to the CPM Construction Schedule occur, the D-B shall submit the proposed revised CPM Construction Schedule within ten (10) working days after receiving direction from the Engineer to provide such Schedule. No additional payment will be made to the D-B for preparation and submittal of proposed revised CPM Construction Schedules. However, if the Engineer accepts the proposed revised CPM Construction Schedule, it shall replace and supersede all previous CPM Construction Schedules and substitute for the next monthly CPM Construction Schedule update that would otherwise be required.

C. Revisions to the CPM Construction Schedule shall comply with all of the same requirements applicable to the original schedule.

SC-16.11 Schedule Recovery

A. If a revised CPM Construction Schedule accepted by the Engineer requires the D-B to employ additional manpower, equipment, hours of work or work shifts, or to accelerate procurement of materials or equipment, or any combination thereof, as schedule recovery measures to meet Contract milestones, the D-B shall implement such schedule recovery measures without additional charge to the City. All schedules containing negative float shall mandate the submission of a recovery schedule.

B. Furthermore, if efforts to recover are not deemed effective as determined by the Engineer, or if prior to submittal of the recovery schedule, the Engineer

determines that critical milestones are in jeopardy, the Engineer may direct the D-B to implement the above or any other recovery efforts at no additional costs to the City.

SC-16.12 Time Impact Analysis Requirement

A. When delays are experienced by the D-B and a time extension is requested, the D-B shall submit to the Engineer a written Time Impact Analysis illustrating the influence of all changes or all delays on the current Project completion date. The Time Impact Analysis shall be constructed on an As-Built Schedule Analysis approach. The As-Built Schedule that is created will incorporate all actual start and finish dates, actual durations of activities, actual sequences of construction (referred to as the As-Built Logic) current as of the time the Time Impact Analysis is performed. This Time Impact Analysis shall incorporate all delays (including Engineer, D-B and third party delays without exception) in the time frame that they actually occurred with actual logic ties. The As-Built Schedule data shall be obtained from the most recent approved monthly schedule update. The As-Built Schedule shall be created as an early start schedule with the actual start and finish dates coinciding with the early start and finish dates from the most recent approved monthly schedule update. The As-Built Schedule shall show the original activity durations equal to the actual duration and the actual logic driving all activities. The Engineer will validate this As-Built Schedule. All requests for time extension shall be based upon an analysis of this As-Built Schedule. The critical path will be established and all Engineer -caused delays on the critical path will be identified. The time extension will be based solely upon the cumulative duration of all City and third party caused delays that are on the critical path. Any time extensions to the project's Interim Milestone Dates, if any, shall be non-compensable time extensions only.

B. Each Time Impact Analysis shall demonstrate the estimated time impact based on the events of delay, the status of construction at that point in time, and the event time computation of all activities affected by the change or delay. The event times used in the analysis shall be those included in the latest approved update of the project schedule in effect at the time the change or delay was encountered.

SC-17 COOPERATION WITH OTHER CONTRACTORS AND FORCES

During progress of work under this Agreement, it will be necessary for other contractors and persons employed by the City to work in or about the Project. The City reserves the right to put such other contractors to work and to afford such access to the Site of the work to be performed hereunder at such times as the City deems proper. The D-B shall not impede or interfere with the work for such other contractors engaged in or about the Work and shall so arrange and conduct his work that such other contractors may complete their work at the earliest date possible.

When the D-B and any contractor or subcontractor performing Work under or pursuant to another City Agreement are employed on related or adjacent work, or are using the same materials source, storage area, or disposal area, the D-B shall be responsible to the other for any injury, damage, or loss caused the other by his operations, by his unnecessary delay or hindrance

of the other's work, or by his failure to complete the Work or any portion thereof within the time specified for its completion. The D-B shall indemnify and save harmless the City and the Engineer, and all officers and employees of the City connected with the Work from all claims, suits, or actions of any nature brought, on account of any injury, damage, Work or Service loss.

D-B's responsibilities under the preceding paragraph shall be not greater as to any injury, damage, or loss than those imposed on the D-B or subcontractor under the comparable provision of this Agreement or subcontract.

The Engineer will decide any disputed questions regarding the performance of the Work, access and cleaning up of the site, and priority in all relations between the D-B and other contractors in utility companies, and maintenance crews.

The D-B shall cooperate with all other contractors requiring access to the Work for the purpose of maintenance of security, temporary facilities, cleaning of the site, and like matters requiring common effort.

SC-18 EXTENDED SHIFT, WEEKEND AND HOLIDAY WORK

The City observes the following holidays:

New Year's Day, Martin Luther King's Birthday, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and following Friday, and Christmas Day.

Should the D-B deem it necessary to work on Saturdays, Sundays, holidays or longer than eight hours (8) per shift in order to comply with his construction schedule, or because of any emergency, the D-B shall request permission of the Engineer to do so at least Forty-Eight (48) hours in advance.

SC-19 PROJECT CLOSEOUT

SC-19.1 Restoration of Miscellaneous Surface Facilities

Construction operations on the Work may disturb or otherwise damage the surface contours and vegetation of natural and landscaped areas. Restoration of these areas shall be part of the Agreement. Restoration of pavements, trees, and ground vegetation is specified in the Technical Specifications.

SC-19.2 Pavement Restoration

D-B shall secure permits from the appropriate jurisdictional Agency for all pavement restoration prepared in accordance with the requirements of the Agreement Documents and the jurisdictional Agency and submit them to the Engineer.

SC-20 EQUIPMENT SERVICE

The D-B shall furnish the Work of a competent factory representative of the manufacturer of the equipment to be installed, for the purpose of supervising and/or inspecting the installation, placing the equipment in service, and calibrating and adjusting each item of equipment. Qualification of the representative shall be appropriate to the type of equipment furnished and subject to the approval of the Engineer. Where equipment furnished has significant process

complexity, engineering personnel knowledgeable in the process involved and the function of the equipment shall be furnished. This Work shall be furnished in accordance with the requirements of the Technical Specifications.

When approved by the Engineer, periods of service on more than one item of equipment furnished by the same manufacturer may run concurrently. Each of these manufacturers shall furnish supervisory and/or inspection Work for all equipment, which he furnishes.

During the initial operation period, a functional test shall be performed on each piece of equipment. The test shall consist of operation of the equipment on a normal duty cycle for a sufficient period of time to determine satisfactory operation (twenty-four [24] hours minimum). To the maximum extent practical, the full capabilities of all equipment shall be exercised, including remote operation, instrumented control schemes, alternate modes of operation, and emergency operation.

SC-21 CONCRETE POUR CARD

An approved concrete pour card must be obtained by the D-B prior to the placement of concrete. The card shall be as provided to the D-B by the Engineer. The pour card shall be completed by the D-B and approved by the Engineer before concrete is placed.

SC-22 PARTNERING STATEMENT

The City intends to encourage the foundation of a cohesive partnership with the D-B and its subcontractors. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient Agreement performance, intended to achieve completion within budget, on schedule, and in accordance with plans and specifications.

This partnership will be bilateral in makeup, and participation will be totally voluntary. Any costs associated with effectuating this partnership will be agreed to by both parties and will be shared equally with no change in Agreement price. To implement this partnership initiative, it is anticipated that within sixty (60) days of Notice to Proceed, the D-B's on-site project manager and the City's on-site representative will attend a partnership development seminar followed by a team-building workshop, attended by key on-site staff from the D-B's forces and City's personnel. Follow-up workshops will be held periodically through the duration of the Agreement as agreed by the D-B and City. The City and D-B shall mutually agree on a partnering facilitator and off-site facilities for the partnering sessions.

An integral aspect of partnering is the resolution of disputes in a timely, professional, and non-adversarial manner. Alternative dispute resolution methods will be encouraged to promote and maintain amicable working relationships at all levels of the project and to strengthen the partnership.

The mutual goals and objectives of the stakeholders form the Partnering Charter. The charter for each project, then, will be unique to that project. The charter may be a simple statement about communication and cooperation in all matters and resolution of conflicts at the lowest level. The following provides an idea of objectives, which might be included in the charter:

A. We are a team dedicated to providing a quality project in accordance with the Agreement. We are committed to both employee and public safety, protection of the environment, and minimizing inconvenience to the public.

1. Communication Objectives: We intend to deal with each other in a fair, reasonable, trusting and professional manner including:
    a. Communicate and resolve problems within the terms of the Agreement;
    b. Decision making at the lowest possible level;
    c. Open, honest communication;
    d. Treat each other with mutual respect, resolve conflicts immediately, and avoid personal attacks;
    e. Timely notification of future meetings; and
    f. Do not allow personal antagonism to interfere with professionalism.
2. Conflict Resolution System:
    a. Step 1: It is preferred that conflict be discussed and resolved at the level on which it originates;
    b. Step 2: When conflict is not resolved at the originating level, it is taken to the next level of supervision;
    c. Step 3: When conflict is not resolved at the immediate supervisory level, it is taken to the Project Manager and Engineer; and
    d. Step 4: When conflict is not resolved by the Project Manager and Engineer, it is submitted to the Disputes Review Board for adjudication.
3. Performance Objectives:
    a. Complete the project without litigation;
    b. Utilize cost reduction incentive proposals;
    c. Finish the project on time;
    d. No delays to project;
    e. No lost time injuries;
    f. Promote positive public relations;
    g. Make the project enjoyable to work on;
    h. Render a finished product everyone can be proud of; and
    i. Construct and administer the Agreement so that all parties are treated fairly.

SC-23 COLOR COORDINATION

The City will require a color coordination of architectural materials. All coatings are to be custom matched.

SC-24 TIE-INS OR MODIFICATIONS TO EXISTING SYSTEMS

Anytime the D-B ties into or modifies an existing system, a detailed work plan shall be required. Submittal of this work plan must be a minimum of thirty (30) days in advance of commencement of the subject work. This work plan shall include a detailed description of the Work, a step-by-

step plan of the modification or tie-in, a schedule, a detailed list of materials and equipment required, demonstrated communications capacity, and a listing of any gates or valves, which must be operated. A temporary safety plan covering the period of the Work, and a listing of contingency plans and supplies, including but not limited to spill prevention planning and spill containment kits, may be required at the City's sole discretion. A coordination meeting with the City's plant operating staff, the D-B, the Engineer and the Designer must be held at least seven (7) days prior to the commencement of the modification or tie-in, though the timeframe can be shortened with written permission by the City. The day before the commencement of the modification or tie-in, a final coordination shall be held giving final detailed work assignments to all parties involved.

The City and the Engineer have the right to require, at no additional cost to the City, stand-by equipment on any item(s) deemed critical enough to delay the work. The D-B shall have available stand-by personnel to supplement the committed forces should problems arise. The D-B is responsible for meeting all Occupational Safety and Health Administration (OSHA) standards including entrance and exit safety, confined space entry, fall protection, scaffolding, rigging, etc.

SC-25 NOTICES OF COMMENCEMENT

A. The D-B shall file all "Notice of Commencement" required for this Project in accordance with O.C.G.A. § 36-91-92et. seq., as applicable, setting forth:

   1. The name, address, and telephone number of the person providing the labor, material, machinery, or equipment;
   2. The name and address of each person at whose instance the labor, material, machinery, or equipment is being furnished;
   3. The name and location of the public work; and
   4. A description of the labor, material, machinery, or equipment being provided and, if known, the Agreement price or anticipated value of the labor, material, machinery, or equipment to be provided or the amount claimed to be due, if any.

B. The D-B shall respond to all requests for copies of a Notice of Commencement. Should the City or Engineer receive such a request, this request will be forwarded to the D-B for further handling. The name and address of the City shall be as follows:

City of Atlanta
Department of Watershed Management
55 Trinity Avenue, S. W.
South Tower
Suite 5400
Atlanta, Georgia 30303

C. The name and description of the Project shall be as stated in the Invitation to Bid or the Request for Proposals.

SC-26 VALUE ENGINEERING CHANGE PROPOSALS

Not Used

SC-27 ENCOUNTERING HAZARDOUS OR POTENTIALLY HAZARDOUS MATERIAL DURING CONSTRUCTION ACTIVITIES

Provide all labor, materials, supplies, and incidentals to protect onsite workers and the surrounding public from exposure to potentially hazardous substances, prevent spread of potentially contaminated or hazardous substances, notify Engineer, and stop all work until notified by the Engineer.

An emergency situation or imminent hazard may include, but is not limited to, the following;

A. Buried drums or containers with unknown or known toxic contents;

B. Groundwater or soils of unnatural color;

C. Spills or leaks of chemicals, solvents, or petroleum products;

D. Unusual odors; and

E. Other perceived threats.

If a potentially hazardous substance is discovered during construction activities, do not remove it from the site. Leave the potentially hazardous substance in place and stop all work in the immediate area. If the material appears to be leaking or spreading, the D-B shall contain or abate the spread of material. Take all measures to prevent the release of the material to the environment and protect all onsite workers and the public from potential exposure.

During the course of substance containment or evacuation of site personnel, the D-B shall protect onsite workers, non-workers, and the general public from contact with or exposure to the contaminated substances or materials.

EXHIBIT C

DIVISION 01 SPECIFICATIONS

City of Atlanta Specifications

The following specifications are provided in Exhibit C

01011	Unique Requirements
01014	Work Sequence
01016	Occupancy
01040	Coordination
01100	Special Project Conditions
01200	Measurement and Payment
01350	Project Document Tracking and Control Systems
01410	Testing Laboratory Services
01540	Security and Safety
01600	General Material and Equipment Requirements
01610	Transportation and Handling
01640	Manufacturer's Services
01650	Facility Startup
01664	Training
01780	Asset Management Records
01800	Maintenance

Acronym List

ACI	American Concrete Institute
ANSI	American National Standards Institute
AWWA	American Water Works Association
BMP	Best Management Practice
City	City of Atlanta/City of Atlanta, Department of Watershed Management
CMMS	Computerized Maintenance Management System
DCS	Distributed Control System
DTCS	Document Tracking and Control System
DVD	Digital Video Disk/Digital versatile disk
GA	State of Georgia
GPM	Gallons per Minute
HVAC	Heating , ventilating, and air Conditioning
ICEA	Insulated Cable Engineers Association
I/O	Input/Output
ISA	International Society of Automation
MCCS	Motor Control Centers
Mg	Magnesium
mg/l	Milligram per liter
MGD	Million Gallons per Day
MSDS	Material Safety Data Sheet (AKA Safety Data Sheet)
N	Nitrogen
NETA	National Educational Telecommunications Association
NH_4	Ammonia
NIST	National Institute of Standards and Technology

NPDES	National Pollutant Discharge Elimination System
NEMA	National Electrical Manufacturers Association
NRS	Nutrient Recovery System
NTP	Notice to Proceed
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
P	Phosphorus
PLC	Programmable logic Controller
PO_4	Orthophosphate
PLC	Programmable logic Controller
ppd	pounds per day
PC	Pollution Control
SAE	Society for Automotive Engineers
SCADA	Supervisory Control and Data Acquisition
UN	Unified
UNR	Unified external threads only
WRC	Water Reclamation Center

SECTION 01014
WORK SEQUENCE

PART 1 – GENERAL

1.01 DESCRIPTION

A. Work under this Section includes construction sequencing and provision of temporary facilities necessary to maintain the efficiency of the wastewater treatment facilities and to prevent wastewater bypasses and basement flooding during the performance of this Work.

B. The existing wastewater treatment plant is currently and continuously receiving and treating sewage, and those functions shall not be interrupted except as specified herein. The Contractor shall coordinate the Work to avoid any interference with normal operation of plant equipment and processes. The Contractor shall comply with the following general requirements:

1. Provide temporary pumps and other facilities necessary to meet the requirements of this Section.
2. Notify the Engineer at least forty-eight (48) hours prior to starting to relocate piping or taking existing components out of service.
3. Bypassing of untreated or partially treated sewage to surface waters or drainage courses is prohibited during construction. In the event accidental bypassing is caused by the Contractor's operations, the City shall immediately be entitled to employ others to stop the bypassing without giving written notice to the Contractor.

C. Penalties imposed on the City as a result of any bypass caused by the actions of the Contractor, his employees, or subcontractors, shall be borne in full by the Contractor, including legal fees and other expenses to the City resulting directly or indirectly from the bypass.

1.02 SUBMITTALS

A. In accordance with the General Conditions, the Contractor shall submit a detailed outage plan and time schedule for operations which will make it necessary to remove a tank, pipeline, channel, electrical circuit, equipment or structure from service. The schedule shall be coordinated with the construction schedule specified in the Special Conditions and shall meet the restrictions and conditions specified in this Section. The detailed plan shall describe the Contractor's method for preventing bypassing of other treatment units, the length of time required to complete said operation, the necessary plant, and equipment which the Contractor shall provide in order to prevent bypassing of associated treatment units.

B. Sequence Submittal: The sequence provided in Part 3 of this Section is offered as a suggestion to the Contractor. Submit a proposed sequence with appropriate times of starting and completion of tasks to Engineer for review.

C. Alternate Sequences: Contractor may propose alternate sequences to that shown in Part 3 of this Section in an attempt to reduce the disruption of the operation of the existing facility or streamline the tasks of this Contract.

1.03 QUALITY ASSURANCE

At least two (2) weeks prior to any proposed activity which will require any portion of the plant to be removed from operation, require bypassing or require interruption of plant flow, the Contractor shall schedule a meeting with plant operating personnel and the Engineer. At this meeting, the Contractor shall present Contractor's detailed plan for the proposed operation for general discussion. The plan shall meet the minimum requirements below:

A. Plan shall be written outline form and presented in a format which shall show the progression of events in sequential and/or concurrent order of activity and the duration of each activity.

B. The written plan shall be supplemented by drawings, sketches, and details as required to show the logic of the plan and make it understandable.

C. The plan shall delineate the responsibilities of the plant operating personnel and the Contractor, so as to eliminate any delay due to conflicting viewpoints upon implementation of the plan.

D. After discussion of the plan at the meeting, any changes agreed upon shall be incorporated into the plan and a copy of the plan and details shall be distributed to plant operating personnel, the engineer, and Contractor personnel at least one (1) week prior to commencement of activities. On the day prior to commencement of activity a brief meeting of involved parties shall be convened. In this meeting the starting time and initial activity of plant operating personnel and Contractor's personnel shall be agreed upon.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 GENERAL

The sequence of construction is outlined for the major items of Work required; no attempt has been made to describe every detail of the Project. The Contractor shall coordinate his work with the plant operating personnel to minimize disruptions in plant operation. It shall be the Contractor's responsibility to insure that all existing facilities are protected and will not be

damaged as a result of this construction. No settlement of existing facilities will be acceptable and all work shall be performed in a safe manner.

3.02 PROPOSED CONSTRUCTION SEQUENCE

The contractor will prepare a construction plan that details the approach and methods that will be used to accomplish the task together with a schedule for review and approval of the plant operations.

3.03 REQUIRED SEQUENCES – NOT USED

3.04 COORDINATION WITH OTHER CONTRACTORS

The performance of the project shall be coordinated with other work going on at the same time on the project site. Certain portions of the project are required to be completed so that others can perform their work in a timely manner. The construction schedule prepared by the Contractor shall take in account the intermediate requirements depicted on the sequence diagram included.

3.05 LIMITS OF CONSTRUCTION - NOT USED

3.06 MISCELLANEOUS CONSTRUCTION

Miscellaneous work necessary to complete any flow diversion required may include piping, electrical work, diversion plugs, bulkheads, and equipment installation, etc. The cost for these items shall be included in the Contractor's base bid.

3.07 OPERATION OF EXISTING FACILITIES

The City will pay all costs for power and chemicals which are required to operate the existing plant during any flow diversion.

+++END OF SECTION 01014+++

SECTION 01016
OCCUPANCY

PART 1 – GENERAL

1.01 PARTIAL OCCUPANCY BY CITY

Whenever, in the opinion of the Engineer, any section or portion of the Work is in suitable condition, it may be put into use upon the written order of the Engineer and such usage will not be held in any way as an acceptance of said work, or any part thereof, or as a waiver of any of the provisions of these Specifications and the Contract. Pending completion and final acceptance of the Work, all necessary repairs, and replacements, due to defective materials or workmanship or operations of the Contractor, for any section of the Work so put into use shall be performed by the Contractor at Contractor's own expense.

+++END OF SECTION 01016+++

SECTION 01040
COORDINATION

PART 1 - GENERAL

1.01 SUMMARY

A. Coordinate execution of the Work with subcontractors and the Engineer as required to maintain operation of the existing facilities and satisfactory progress of the Work.

B. Requirements of this Section will be in addition to those stated in the General Conditions.

C. The Engineer may require a written explanation of the Contractor's plan for accomplishing separate phases of the Work.

1.02 CUTTING AND PATCHING

A. The Contractor shall leave all chases or openings for the installation of its own or any of its subcontractor's work, or shall cut the same in existing Work, and shall see that all sleeves or forms are at the Work and properly set in ample time to prevent delays. See that all such chases, openings and sleeves are located accurately and are of proper size and shape, and shall consult with the Engineer and its subcontractors concerned in reference to this Work. In case of its failure to leave or cut all such openings or have all such sleeves provided and set in proper time, the Contractor shall cut them or set them afterwards at its own expense, but in so doing shall confine the cutting to the smallest extent possible consistent with the work to be done. In no case shall structural members be cut without the written consent of the Engineer.

B. Carefully fit around, close up, repair, patch, and point around the Work specified herein to the satisfaction of the Engineer.

C. All of this Work shall be done by careful workers competent to do such work and with the proper small hand tools. Power tools shall not be used except where, in the opinion of the Engineer, the type of tool proposed can be used without damage to any work or structures and without inconvenience or interference with the operation of any facilities. The Engineer's concurrence with the type of tools shall not in any way relieve or diminish the responsibility of the Contractor for such damage, inconvenience, or interference resulting from the use of such tools.

D. Do not cut or alter the Work of any subcontractor, except with the written consent of the subcontractor whose work is to be cut or altered, or with the written consent of the Engineer. All cutting and patching or repairing made necessary by the negligence, carelessness or incompetence of the Contractor or any of its subcontractors, shall be done by, or at the expense of, the Contractor and shall be the responsibility of the Contractor.

1.03 EXISTING UTILITIES

A. Consult with the Engineer on a daily basis while the Contractor is performing demolition, excavation, or any other alteration activity. No sewer function, utility or structure is to be altered, shut off or removed unless approved in advance, and in writing, by the Engineer. The Contractor shall give the Engineer at least forty-eight (48) hours advanced notice, in writing, of the need to alter, shut off or remove such function.

B. Coordinate the Work with the Engineer and revise daily activities if needed so as to not adversely affect system operations. Such revisions in the proposed work schedule will be accomplished with no additional compensation to the Contractor.

C. Not Used.

+ + + END OF SECTION 01040 + + +

SECTION 01100
SPECIAL PROJECT PROCEDURES

PART 1 – GENERAL

1.01 CONNECTIONS TO EXISTING SYSTEMS

The Contractor shall perform all work necessary to locate, excavate, and prepare for connections to the terminus of the existing systems as shown on the Drawings. The cost for this work and for the actual connection to the existing systems shall be included in the bid price for the project and shall not result in any additional cost to the City. Connections shall be made only after approval by the Engineer.

1.02 RELOCATIONS

The Contractor shall be responsible for the relocation of structures, including but not limited to light poles, signs, sign poles, fences, piping, conduits, and drains that interfere with the positioning of the Work as set out on the Drawings. The cost of all such relocations shall be included in the bid price.

1.03 EXISTING UNDERGROUND PIPING, STRUCTURES, AND UTILITIES

A. The attention of the Contractor is drawn to the fact that during excavation, the possibility exits of the Contractor encountering various water, gas, telephone, electrical, or other utility lines not showed on the Drawings. The Contractor shall exercise extreme care before and during excavation to locate and flag these lines so as to avoid damage to the existing lines. Should damage occur to an existing line, the Contractor shall repair the line at no cost to the City.

B. The locations of existing underground piping structures and utilities are shown without express or implied representation, assurance, or guarantee that they are complete or correct or that they represent a true picture of underground piping to be encountered.

C. The existing piping and utilities that interfere with new construction shall be rerouted as shown, specified, or required. Before any piping and utilities not shown on the Drawings are disturbed, the Contractor shall notify the Engineer of the location of the pipeline or utility and shall reroute or relocate the pipeline or utility as directed.

D. The Contractor shall exercise care in any excavation to locate all existing piping and utilities. All utilities, which do not interfere with complete work, shall be carefully protected against damage. Any existing utilities damaged in any way by the Contractor shall be restored or replaced by the Contractor at its expense as directed by the Engineer.

1.04 HAZARDOUS LOCATIONS

The facility is an operational wastewater treatment plant with process areas that are hazardous with potential for moving equipment, sewage gas (including but not limited to hydrogen sulfide and methane), possibility of flooding or engulfment, slip/trip/fall hazards, biological hazards and pathogenic organisms, and other conditions consistent with an industrial facility.

1.05 CONNECTIONS TO WORK BY OTHERS

A. Pipelines constructed under this Contract are to be connected to pipelines to be built by others.

B. Pipelines built under this Contract will be connected to pipelines constructed by others by removing the plugs and making the connection, as needed.

C. If the pipelines have not been constructed by others, the pipeline (under this Contract) shall be laid to the required line and grade, terminated with a plugged connection and then backfilled and marked with a stake.

1.06 WATER FOR CONSTRUCTION PURPOSES

All water for testing, flushing and construction shall be furnished by the City. The City shall have the option of recouping the cost of plant water usage. It may be available by connecting to the City's water system at a point approved by the Engineer. There shall be installed in each and every connection to the City's potable water supply, a meter and a backflow preventer meeting the requirements of the City of Atlanta, Department of Water.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

+++END OF SECTION 01100+++

SECTION 01200
MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 SCOPE

A. Work includes furnishing all plant, labor, equipment, tools, materials, and performing all operations required to complete the Work satisfactorily, in-place, as specified and as indicated on the Drawings.

B. All costs of required items of Work and incidentals necessary for the satisfactory completion of the Work shall be considered as included in the Total Bid. The cost of work not directly covered by the pay items shall be considered incidental to the contract and no additional compensation shall be allowed.

C. The Contractor shall take no advantage of any apparent error or omission on the Drawings or Specifications, and the Engineer shall be permitted to make corrections and interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.

1.02 SUBMITTALS

A. The Contractor shall submit to the Engineer for approval, in the form directed or acceptable to the Engineer, a complete schedule of values of the various portions of the Work, including quantities and unit prices, aggregating the Contract Price. An unbalanced breakdown providing for overpayment to the Contractor on items of Work, which would be performed first, will not be approved.

B. Submit application for payment on a form approved by the Engineer showing allowances, lump sum schedule of value items, and unit price items in accordance with Section SC-16.

C. Final payment quantities shall be determined from the record drawings. The record drawing lengths, dimensions, quantities, etc. shall be determined by a survey after completion of all required Work. The precision of final payment quantities shall match the precision shown for that item in the Bid Schedule.

1.03 LUMP SUM ITEM

A. Payment of the lump sum item (Bid Item No. 1) established in the Contractor's Bid shall be full compensation for all labor, materials, and equipment required to furnish, install, construct, and test the Work covered under the lump sum bid item.

B. Payment of the lump sum item (Bid Item No. 1) established in the Contractor's Bid shall also fully compensate the Contractor for any other work which is not specified or shown, but which is necessary to complete the Work.

C. The lump sum item shall be specifically subdivided by Activity, broken-out in the Schedule of Values.

D. Payments for the lump sum items specifically broken-out in the Schedule of Values will be based upon physical progress for each activity in accordance with the breakdown of the Lump Sum prices agreed to in the Schedule of Values.

1.04 UNIT PRICE ITEMS

Not used

1.05 ALLOWANCES

A. The allowance specified in the Bid Schedule is established as a fund to pay the cost of items for which the City and Design Builder could not anticipate or foresee, are not direct elements of the NRS or its buildings and connections to existing systems. This work shall be completed only at the written direction of the Engineer, and the cost of such work shall be approved prior to performance of the work.

B. The Contractor shall be responsible for the payment for these services to the appropriate payee providing such service, and shall submit evidence of payments to the Engineer prior to its inclusion in the progress payments.

C. Payment will be made for invoices submitted by the Contractor subject to the conditions and limitations in the Contract Documents.

D. Allowance allocations shall only be paid to the Contractor for completed work authorized by the Engineer. All allowance dollar amounts not expended shall revert to the City at the completion of the project. Should the final allowance costs be less than the specified amount of the allowance the Contract will be adjusted accordingly by change order. The amount of change order will not recognize any changes in handling costs at the site, labor, overhead, profit and other expenses caused by the adjustment to the allowance item.

+++END OF SECTION 01200+++

SECTION 01350
PROJECT DOCUMENT TRACKING AND CONTROL SYSTEM

1.01 SCOPE

A. The Contractor shall utilize the City of Atlanta's Project Document Tracking and Control System (DTCS). The primary function of the system is to facilitate timely processing and approval of all contract documentation in coordination with the overall Project Schedule established by these Specifications and the Contractor. This system will utilize Oracle Unifier for document tracking and control and Lynx Photo Management software. The Oracle Unifier software will:

1. Facilitate communication among the Owner, Engineer and Contractor;
2. Facilitate turn-around time with regard to responses and approvals;
3. Provide a central location for all Project information to facilitate all Project participants in performing their tasks based on the latest Project data;
4. Provide a standard system of project administration with accountability.

B. The Contractor shall be required to utilize the web-based DTCS system that resides on the Department of Watershed Management server to generate documents in the proper format for submission to the City. The Contractor shall access the system through the internet using a compatible web browser from the Contractor's administrative field office location, and/or other locations where work associated with the Project is being performed.

C. The Contractor shall be required to generate Project documents and records utilizing the aforementioned system. The Contractor shall be required to transmit and submit the Project documents within the system to the City.

D. The Contractor shall utilize a high capacity scanner capable of scanning 11 x 17 documents, double sided, on site for the entire duration of the Project. All documents must be scanned in and attached to the appropriate Contract Manager document, including submittals, shop drawings, O&M's and all other documents requested by the Engineer.

E. The Contractor shall utilize the DTCS to create and maintain Project documents, including, but not limited to the following:

1. Company Directory: Addresses, Phone Numbers, Personnel Contacts, etc.;
2. Drawings Log: Current Drawing revision log;
3. Submittals (Integrated with Project Schedule through Activity codes);
4. Transmittals;
5. Requests for Information and Answers (RFIs) ;

6. Change Documents, Including:
    a. Work Authorizations (WAs);
    b. Change Order Requests (CORs);
    c. Change Orders (CO).
7. Daily Reports (Daily Diaries);
8. Field Decisions & Clarification Memos;
9. Notice of Non-Compliance;
10. Construction Issue Memos;
11. Punch lists;
12. Meeting Minutes & Agendas;
13. Correspondence;
14. Work Plans;
15. Start-up Plans;
16. Equipment Operation and Maintenance Training; and
17. Spare Parts.

F. The Contractor shall utilize the complete capabilities of the DTCS to meet the requirements of this Section. The Contractor shall provide a highly trained and experienced construction project controls person knowledgeable in construction work sequencing, productivity, scheduling and application of the Skire Unifier Manager Software system. This person, along with the Contractor's management team, shall work closely with the City to deliver the documents outlined in this Section.

G. Software Support
    1. The Contractor is to provide for a one day training class in the base bid for the Lynx PM software for ten (10) personnel, seven (7) for City of Atlanta and three (3) for the Contractor. Type of class to be determined by the City. The Contractor may contact Lynx PM Representative at 1-877-955-7711.
    2. The contractor shall purchase five (5) additional licenses of the Skire Unifier software on behalf of the City for use during the project. At project close, the licenses will remain City property.
    3. The Contractor shall be required to establish an internet connection using DSL or better to connect to the DTCS to permit the forwarding and receipt of documents.
        a. The Skire Unifier Manager software supports the following Email programs, and the Contractor is to utilize:
            (1) Microsoft Outlook 2003; and
            (2) Microsoft Outlook 2007.

b. The Contractor shall also provide two (2) days of consulting services in the base bid for troubleshooting and maintenance of the DTCS at any location designated by the City or at the Contractor's administrative field office (if authorized by the City). Troubleshooting, maintenance, upgrade, configuration, and set up shall be performed by DWM contractor or other contractor approved by DWM in writing, based on a scope pre-defined by the City of Atlanta. The Contractor shall utilize the custom data fields, dictionaries, and coding systems as required by the City of Atlanta.

H. The Contractor shall be required to attend a two (2)-day training session on the operation of the City's DTCS, provided by a Skire Authorized Trainer. The Contractor shall provide the training session for ten (10) participants (fee for the Skire Authorized Trainer). The training session shall be attended by the Contractor (limited to three (3) participants) as well as representatives of the Owner (seven (7) participants). The Contractor shall be responsible for the cost of training for additional members of their firm or future retraining, as may be deemed necessary by the Contractor.

I. The Contractor shall meet with the City within fifteen (15) days after the Contract is awarded to discuss access requirements and the Contractor's plan to utilize DTCS and execute the document control functions herein.

J. Access through the internet to the DTCS shall be operational within thirty (30) days following the pre-construction meeting date. This must be operational from the Contractor's administrative field office location.

1.02 COMPANY DIRECTORY

The Contractor and the City will monitor and manage the company directory. The directory must include company name, company abbreviation, contact names, address, phone numbers and e-mail addresses.

1.03 DRAWING LOG

The City will maintain a log of initial "issued for construction" drawings in the DTCS. Information shall include drawing number, title and revision number. In addition to logging the initial project drawing list, the City will maintain a log on the DTCS of all subsequent revisions to these drawings and any sketches resulting from clarification memos, RFIs, field orders and Change Orders. It is the Contractor's responsibility to utilize the latest drawings and sketches in the performance of the Work.

1.04 SUBMITTALS/SHOP DRAWINGS

A. Requirements: This section specifies supplemental requirements related to the processing of submittals and shop drawings. The Contractor will utilize the DTCS to log and track submittals, as well as generate associated transmittal letters.

B. Submittals & Product Data: A list of all required submittals will be entered into the DTCS by the Contractor. Submittals shall be incorporated into packages, with numbering to be provided by the COA's engineer. The Contractor will log and track all submittals utilizing the DTCS. Each review cycle shall be entered into the DTCS. The Contractor shall identify as activities in the CPM schedule, specified in SC-16, to include all data submittals, as well as those involving complex reviews and long lead deliveries, and all procurement items required for construction activities Submittal schedule information shall be updated monthly with the Contractor's updated project CPM schedule, as specified in SC-16.

C. Samples: A list of all required sample submittals will be entered into the DTCS by the Contractor. Sample submittals shall be identified as individual submittals within the submittal packages with numbering as specified above.

D. Guarantees/Warranties: A list of all required Guarantee/Warranty submittals will be entered into the DTCS by the Contractor. These submittals shall be identified as individual submittals within the submittal packages with numbering as specified above.

E. Work Plans, Start-up Plans, O&M Submittals and Spare Parts: All testing, Start-up and O&M submittals will be entered into the DTCS by the Contractor. These submittals shall be identified as individual submittals within the submittal packages identified with numbering as specified above.

F. Submittal Procedures: The Contractor shall prepare all submittal packages utilizing the submittal numbering system, description and packaging conventions described above. Submittals prepared by the Contractor, which fail to follow the conventions described above, will be returned "amend and resubmit". Should the Contractor determine that a submittal is required and is not covered by the listing within the DTCS, consultation with the City to determine the submittal number, description and packaging will be required.

1.05 CORRESPONDENCE

The City shall monitor and manage the correspondence, Non-Compliance Notices, Field Decisions & Clarification Memos and Construction Issue Memo logs. The Contractor is responsible for generating Project correspondence within the DTCS, and forwarding the correspondence to the City.

1.06 TRANSMITTAL LOG

The Contractor and the City will monitor and manage the transmittal log. All Project transmittals shall be created electronically, automatically sequentially numbered and logged into the DTCS system as they are created. The Contractor is responsible for utilizing the system to create transmittals for items transmitted to the Owner, Engineer, Resident Inspection Staff and other Contractors.

1.07 REQUEST FOR INFORMATION & ANSWERS

The Contractor shall be responsible for generating RFIs on the DTCS system. The Contractor shall notify the City when an RFI is submitted. The City will monitor and manage the RFI log. The City will generate an Answer document in response to each RFI and forward them to the Contractor. The DTCS will track "Ball in Court" for all RFIs and Answers, as well as date of original generation and response date. In addition the RFIs will reference the relative Specification Section and Drawings. The DTCS will identify the date of the request and the originator, responsible party for a response and the date of the response.

1.08 CHANGE DOCUMENTS

NOT USED

1.09 DAILY REPORTS

The Contractor is responsible for creating daily reports (daily diaries) utilizing the DTCS. The Contractor is required to enter the Daily Reports into the DTCS by 10:00 a.m. of the subsequent day that the Contractor or any subcontractor performs work. All daily reports shall be logged into the DTCS by the Contractor. The Contractor shall also provide one signed hard copy of all daily reports on a weekly basis. Required information shall include Contractor, Date, Day, Temperature, Precipitation, Sky, Wind, Work Activity, Equipment, Field Force, Visitors, Materials, and Scheduled Activities utilizing the schedule activity codes. Daily reports which fail to link work activities to the active schedule will not be acceptable.

1.10 PUNCHLISTS

The City will monitor and manage punch lists, and will create Punch lists to be forwarded to the Contractor. The Contractor shall address the Punch list items that have been assigned to the Contractor and forward updates to the City. Once accepted as complete, the City will access the punch list in the DTCS and close it out.

1.11 MEETING MINUTES AND AGENDA

The City shall monitor and manage the meeting minute process. The City will forward meeting minutes to the Contractor electronically. The City will log the meeting minute items into the DTCS within three (3) days of the meeting date.

1.12 PROGRESS PAYMENTS /REQUISITIONS FOR PAYMENT

The Contractor is responsible for creating progress payment applications directly from the Skire Unifier software and then forwarding them to the City electronically along with hard copies by 4:00 p.m. at the end of each update/billing period. The Contractor shall also simultaneously provide a separate submittal of the updated progress schedule (P5 or latest version at the time of purchase), as specified in SC-16. All Progress Payments and schedule of values shall be developed as defined in the Special Conditions Required information within the Pay Application shall be coordinated with the City's Project Manager. Maintenance of the "As Built" record documents by the Contractor shall be verified before processing will be approved. Failure of a Contractor to maintain project record documents, maintain current and properly prepared daily reports or to submit the project schedule update per SC-16 will be just cause for withholding of the monthly or final payment.

1.13 LYNX PHOTO MANAGEMENT SOFTWARE

The Lynx PM software shall be utilized by the City and the Contractor for the duration of the project. The daily construction photographs will be the permanent visual record of the pre-construction conditions, daily construction site activities, and the completion of construction work. The Contractor must submit to the City no less than four (4) record photos for each activity ID listed in the project schedule per the last schedule update. Applicable photos must accompany each Pay Application.

+++ END OF SECTION 01350 +++

SECTION 01410
TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 SCOPE

A. From time to time during progress of the Work, the Engineer may require that testing be performed to determine that materials provided for the Work meet the specified requirements, in accordance with the requirements of the Specifications. Such testing includes, but is not necessarily limited to:

1. Cement
2. Aggregate
3. Concrete
4. Concrete block
5. Pipe
6. Steel and metals
7. Welding
8. Soil compaction
9. Bituminous pavement

B. Requirements for testing may be described in various sections of these Specifications; where no testing requirements are described but the Engineer decides that testing is required to demonstrate compliance with specified material or performance standards, the Engineer may require testing to be performed under current pertinent standards for testing.

C. Employment of a testing laboratory shall in no way relieve the obligation to perform work meeting the requirements of the Contract.

D. The independent testing laboratory shall be selected and paid by the Design Builder and approved in writing by the Engineer before any testing services are performed.

E. The Design Builder shall pay directly for the services of the independent testing laboratory, approved by the Engineer, for all testing required under this Contract.

1.02 LABORATORY DUTIES

A. Perform specified inspections, sampling and testing of materials and methods of construction.

1. Comply with specified standards, ASTM, other recognized authorities and as specified.

2. Ascertain compliance with requirements of Contract Documents.

B. Promptly notify Engineer and Design Builder of irregularity or deficiency of work which are observed during performance of services.

C. Promptly submit three (3) copies (two (2) copies to Engineer and one (1) copy to Design Builder) of report of inspections and tests in hard and electronic copy in addition to those additional copies required by the Design Builder including:

1. Date issued
2. Project title and number
3. Testing laboratory name and address
4. Name and signature of inspector
5. Date of inspection or sampling
6. Record of temperature and weather
7. Date of test
8. Identification of product and Specification section
9. Location of Project
10. Type of inspection or test
11. Results of test
12. Observations regarding compliance with Contract Documents

D. Perform additional services as required.

E. Laboratory is not authorized to:

1. Release, revoke, alter or enlarge on requirements of Contract Documents.
2. Approve or accept any portion of Work.

1.03 DESIGN BUILDER RESPONSIBILITIES

A. Cooperate with laboratory personnel; provide access to Work and/or manufacturer's requirements.

B. Provide to laboratory, preliminary representative samples, in required quantities, of materials to be tested.

C. Furnish copies of mill test reports.

D. Furnish required labor and facilities.

1. To provide access to Work to be tested;

2. To obtain and handle samples at the site;

3. To facilitate inspections and tests; and

4. Build or furnish a holding box for concrete cylinders or other samples as required by the laboratory.

E. Notify laboratory sufficiently in advance of operation to allow for the assignment of personnel and schedules of tests.

F. Laboratory Tests: Where such inspection and testing are to be conducted by an independent laboratory agency, the sample or samples shall be selected by such laboratory or agency or the Engineer and shipped to the laboratory by the Design Builder at Design Builder's expense.

G. Copies of all correspondence between the Design Builder and testing agencies shall be provided to the Engineer.

1.04 QUALITY ASSURANCE

Testing, when required, will be in accordance with all pertinent codes and regulations and with procedures and requirements of the American Society for Testing and Materials (ASTM).

1.05 PRODUCT HANDLING

Promptly process and distribute all required copies of test reports and related instructions to insure all necessary retesting or replacement of materials with the least possible delay in progress of the Work.

1.06 FURNISHING MATERIALS

The Design Builder shall be responsible for furnishing all materials necessary for testing.

1.07 CODE COMPLIANCE TESTING

Inspections and tests required by codes or ordinances or by a plan approval authority, and made by a legally constituted authority, shall be the responsibility of and shall be paid for by the Design Builder, unless otherwise provided in the Contract Documents.

1.08 DESIGN BUILDER'S CONVENIENCE TESTING

Inspection or testing performed exclusively for the Design Builder's convenience shall be the sole responsibility of the Design Builder.

1.09 SCHEDULES FOR TESTING

A. Establishing Schedule

1. The Design Builder shall, by advance discussion with the testing laboratory determine the time required for the laboratory to perform its tests and to issue each of its findings, and make all arrangements for the testing laboratory to be on site to provide the required testing.
2. Provide all required time within the construction schedule.

B. When changes of construction schedule are necessary during construction, coordinate all such changes of schedule with the testing laboratory as required.

1.10 TEST AND CERTIFICATIONS

A. General: As a minimum, the following tests shall be performed and the following certifications provided:

1. Cement: Certified test results by cement manufacturer or by independent laboratory shall be furnished as required by the Engineer.

2. Aggregate and Mortar Sand: Certified test results by aggregate producer or by independent laboratory shall be furnished as required by the Engineer.

3. Concrete

a. At least five (5) standard 6-inch cylinders shall be taken each day for each 100 cubic yard or fraction thereof for each class of concrete used.
b. The number of cylinders, the point of sampling, and the method of securing the samples shall be determined by the Engineer.
c. The five (5) samples shall be taken to the testing laboratory for laboratory curing.
d. Two (2) of the laboratory cured samples shall be tested at 7 days, two (2) samples tested at 28 days; one (1) sample in reserve.
e. Test all concrete in accordance with ASTM C31-69, C39-71 and C-172.
f. Slump Tests
   (1) Perform slump tests on the job in accordance with ASTM standards.
   (2) One (1) slump test shall be performed for each 25 cubic yards of concrete.
   (3) More slump tests shall be performed if deemed necessary by the Engineer.
g. Perform air entrainment tests in accordance with the following standards:
   (1) Field tests - ASTM C 173
   (2) Laboratory tests - ASTM C 231

B. Precast and Concrete Block for Buildings

1. Block and precast may be visually inspected on the site by the Engineer.

2. The Engineer reserves the right to have the concrete block tested by an independent laboratory.

C. Steel and Miscellaneous Metal: Reinforcing steel, structural steel and miscellaneous metal may be inspected visually on the site by the Engineer.

D. Welding: 1 percent of all structural welds during construction shall be inspected either visually or by an independent laboratory as required by the Engineer.

E. Compaction of Earthwork

1. The compaction shall be tested by the Engineer or by an independent laboratory.

2. The testing shall be performed in a manner in accordance with these Specifications.

3. Bituminous Concrete: The material testing for the bituminous concrete shall be performed by an independent laboratory as deemed necessary by the Engineer.

1.11 TAKING SPECIMENS

Unless otherwise provided in the Contract Documents, all specimens and samples for tests will be taken by the testing laboratory or the Engineer.

1.12 TRANSPORTING SAMPLES

The Design Builder shall be responsible for transporting all samples, except those taken by testing laboratory personnel, to the testing laboratory.

+++ END OF SECTION 01410 +++

SECTION 01540
SECURITY AND SAFETY

Part 1 - GENERAL

The Contractor will abide by the most current requirements of the Office of Safety and Security for obtaining contractor identification badges for employees that will spend more than twenty (20) working days on the facility. The Contractor will be responsible for providing the required information on the required form to the Engineer for the personnel to receive identification badges within two (2) weeks of NTP and/or one (1) week prior to new person requiring access (whichever is earlier by date), having employees report to the required location with Government issued identification to receive their badges at the designated date and time (with at least forty-eight (48) hour notice), and signing for and escorting any employees without an identification badge in the interim.

1.01 SECURITY PROGRAM

A. The Contractor shall protect the Work, including all field office trailers and their contents from theft, vandalism, and unauthorized entry.

B. The Contractor shall initiate a site security program at the time of mobilization onto the worksite, which provides adequate security for site stored and installed material.

C. The Contractor shall maintain the security program throughout the Contract duration.

D. The Contractor and subcontractors are wholly responsible for the security of their storage compound and lay down areas and for all their plant, material, equipment and tools at all times.

E. The Contractor shall provide the Engineer with a list of twenty-four (24) hour emergency phone numbers including chain of command.

1.02 ENTRY CONTROL

The Engineer has the right to refuse access to the site or request that a person or vehicle be removed from the site if found violating any of the City safety, security or conduct rules.

1.03 BARRICADES, LIGHTS AND SIGNALS

A. The Contractor shall furnish and erect such barricades, fences, lights and danger signals and shall provide such other precautionary measures for the protection of persons or property and of the work as necessary. Barricades shall be painted in a color that will be visible at night. From sunset to sunrise, the Contractor shall furnish and maintain at least one light at each barricade and sufficient numbers of barricades

shall be erected to keep vehicles from being driven on or into any work under construction.

B. The Contractor will be held responsible for all damage to the work and any resulting injuries due to failure of barricades, signs and lights and whenever evidence is found of such damage, the Contractor shall immediately remove the damaged portion and replace it at Contractor's cost and expense. The Contractor's responsibility for the maintenance of barricades, signs and lights shall not cease until the Project has been accepted by the City.

1.04 RESTRICTIONS

The Contractor shall not allow cameras on site or photographs taken except with approval of the City or the Engineer.

1.05 CONTRACTOR SAFETY/HEALTH AND SECURITY PLAN

A. Prior to the performance of any work the Contractor will prepare a contract specific Safety/Health and Security Plan signed by an officer of the Contractor's organization. Adequacy is the responsibility of the Contractor.

B. The Engineer will not review the Contractor's safety plan for the adequacy of the plan. The plan shall:

1. Identify the person(s) responsible for implementation and enforcement of Safety/Health and Security rules and regulations for this Project.
2. Generally address safe work procedures for the activities within the Contractor's scope of work.
3. Include a new employee orientation program, which addresses job and site specific rules, regulations and hazards.
4. Include the Contractor's Drug Free Work Place Policy including substance abuse prevention and testing program.
5. Include provisions to protect all of the Contractor's employees, other persons and organizations who may be affected by the work from injury, damage or loss.
6. Comply with current Fed/OSHA, Safety/Health and Security Plan, facility safety program (when applicable), and locally accepted safety codes, regulations and practices.
7. Include a site specific emergency action and evacuation plan.
8. Include Hazard Communication/Right To Know Program.
9. Include security procedures for the Contractor's work, tools, and equipment.
10. Include the capability of providing the Engineer with documentation to show compliance with their plan, plus accidents and investigation reports.

11. Address any other contract specific requirement, including the, Unique Requirements of these specifications.

C. Provide a Job Safety Analysis (JSA) for the scope of work, prior to the start of work.

D. Review of the Contractor's Safety Plan by the Engineer shall not impose any duty or responsibility upon the Engineer for the Contractor's performance of the work in a safe manner.

E. The Contractor shall be fully responsible for the safety and health of its employees, its subcontractors and lower tier contractors during performance of its work.

F. The Contractor shall provide the Engineer with all safety reports, training records, competent person list, and accident reports prepared in compliance with Fed/OSHA and the Project Safety/Health and Security Plan.

1.06 PROJECT SAFETY COORDINATOR

The Contractor shall be responsible for the safety of the Contractor's and Engineer's employees, the City's personnel and all other personnel at the site of the Work. The Contractor shall identify a Project Safety Coordinator, on the job with an appropriate office on the job site to maintain and keep available safety records up-to-date.

+ + + END OF SECTION 01540 + + +

SECTION 01600
GENERAL MATERIAL AND EQUIPMENT REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. All installed materials and equipment are to be the latest version of the manufacturer's product line and not be outdated by newer versions at the time of purchasing. Materials and equipment, which show any signs of extended storage such as corrosion, scratches and dents, will not be accepted for installation in this project.

B. All equipment used for performing the Work shall conform to the latest version of all applicable safety standards including but not limited to OSHA requirements. Contractor shall not exceed or ignore any requirements or recommendations of the equipment manufacturer. Equipment not meeting requirements of this Section will be barred from use on the project.

C. All installed material and equipment shall meet or exceed the latest applicable code requirements including but not limited to, Underwriters Laboratory, Standard Building Code and OSHA, as well as requirements of these Specifications. Where there is conflict with requirements of the Contract Documents and code requirements, comply with the more stringent requirements with no additional compensation to the Contractor.

PART 2 - MATERIALS AND EQUIPMENT

2.01 ANCHOR BOLTS

A. All anchor bolts to be ANSI type 316 stainless steel unless otherwise specified or indicated, and must conform to requirements of this Section and the material articles in the appropriate Sections they are used.

B. All anchor bolts are to be supplied by the manufacturer or fabricator of the specific material or equipment to be installed.

C. Design criteria for anchor bolts:

1. When the size, length or load carrying capacity of an anchor bolt, expansion anchor, or concrete insert is not shown on the Drawings, provide the size, length and capacity required to carry the design load times a minimum safety factor of four (4).
2. Determine design loads as follows:

a. For equipment anchors, use the design load recommended by the manufacturer and approved by the Engineer.

b. For pipe hangers and supports, use one half (½) the total weight of pipe, fittings, valves, accessories and water contained in pipe, between the hanger or support in question and adjacent hangers and supports on both sides.

c. Allowances for vibration are included in the safety factor specified above.

d. Anchors shall develop ultimate shear and pull-out loads of not less than the following values in concrete:

Bolt Diameter (Inches)	**Min. Shear (Pounds)**	**Min. Pull-Out Load (Pounds)**
½	**4,500**	**6,300**
⅝	**6,900**	**7,700**
¾	**10,500**	**9,900**

3. Embedment depth to be six (6) inches for epoxy anchors and four (4) inches for steel expansion anchors, unless noted otherwise on the drawings.

D. Anchor Type and Manufacturer

1. Where epoxy anchors are noted on the drawings, provide ANSI type 316 stainless steel threaded rod with Speed Bond #1 epoxy injection as manufactured by Prime Resins, Inc. Or Equal.

2. For all other applications, provide ANSI type 316 steel expansion anchors from one of the following manufacturers.

   a. Hilti, Incorporated;

   b. Ramset, Incorporated;

   c. Or Equal.

3. Install anchors per manufacturer's recommendations and this Section. Drilled anchorage holes are to be blown out with compressed air before installing anchor.

2.02 CONNECTION BOLTS

A. Materials shall be as specified in other Sections of the Specifications, or as shown on the Drawings. Where materials are not specified or shown on the Drawings, they shall be of ANSI Type 316 stainless steel, with ANSI Type 316 stainless steel nuts and washers.

B. Unless otherwise specified, stud, tap and machine bolts and nuts shall be ANSI Type 316 stainless steel and shall conform to the requirements of ASTM Standard Specification for Carbon Steel Externally and Internally Threaded Standard Fasteners, Designation A307-80. Hexagonal nuts of the same quality of metal as the bolts shall be used. All threads shall be clean cut and shall conform to AN Standard B1.1-1974 for Unified Inch Screw Threads (UN and UNR Thread Form).

2.03 CONCRETE INSERTS

Concrete inserts for hangers shall be designed to support safely, in the concrete that is used, the maximum load that can be imposed by the hangers used in the inserts. Inserts for hangers shall be of a type, which will permit adjustment of the hangers both horizontally (in one plane) and vertically and locking of the hanger head or nut. All inserts shall be galvanized, then epoxy phenolic primed and top coated with PVC, using thermal bond process.

2.04 SLEEVES

A. Unless otherwise indicated on the Drawings or specified, openings for the passage of pipes through floors and walls shall be formed of sleeves of standard-weight, stainless-steel pipe. The sleeves shall be of ample diameter to pass the pipe and its insulation, if any, and to permit such expansion as may occur. Sleeves shall be of sufficient length to be flush at the walls and the bottom of slabs and to project four inches (4-in.) above the finished floor surface. Threaded nipples shall not be used as sleeves.

B. Sleeves in exterior walls below grade or in walls to have liquids on one or both sides shall be as detailed on the Drawings and specified in other sections.

C. All sleeves shall be set accurately before the concrete is placed or shall be built in accurately as the masonry is being built.

2.05 ELECTRICAL EQUIPMENT ENCLOSURES

All items of electrical equipment that are furnished with process equipment shall conform to the requirements specified under the appropriate electrical sections of the specifications. Enclosures for electrical equipment such as switches, starters, etc., shall conform to the requirements specified under the appropriate electrical sections of the specifications.

2.06 EQUIPMENT DRIVE GUARDS

All equipment driven by open shafts, belts, chains, or gears shall be provided with acceptable all-metal guards enclosing the drive mechanism. Guards shall be constructed of epoxy paint coated, galvanized sheet steel or galvanized woven wire or expanded metal set in a frame of galvanized steel members. Guards shall be secured in position by steel braces or straps, which will permit easy removal for servicing the equipment. The guards shall conform in all respects to all applicable safety codes and regulations.

2.07 NAMEPLATES

D. With the exception of the items mentioned below, each piece of equipment shall be provided with a substantial nameplate of non-corrodible metal, securely fastened in place and clearly and permanently inscribed with the manufacturer's name, model or type designation, serial number, principal rated capacities, electrical or other power characteristics, and similar information as appropriate.

E. This requirement shall not apply to standard, manually operated gate, lobe, check and plug valves.

F. Each process valve shall be provided with a substantial tag of non-corrodible metal securely fastened in place and inscribed with an identification number in conformance with the tag numbers indicated on the Process and Instrumentation Drawings.

2.08 LUBRICANTS

During testing and prior to acceptance, the Contractor shall furnish all lubricants necessary for the proper lubrication of all equipment furnished under this contract.

2.09 PROTECTION AGAINST ELECTROLYSIS

Where dissimilar metals are used in conjunction with each other, suitable insulation shall be provided between adjoining surfaces so as to eliminate direct contact and any resultant electrolysis. The insulation shall be bituminous impregnated felt, heavy bituminous coatings, nonmetallic separators or washers, or other acceptable materials.

2.10 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

A. Packing and Shipping:

1. Product and materials shall be shipped and handled in ways which will prevent damage.
2. Equipment shall be protected against damage from moisture, dust, handling, or other cause during transport from manufacturer's premises to the project site. Bearing housing, vents and other types of openings shall be wrapped or otherwise sealed to prevent contamination by grit and dirt.
3. Ship equipment, material, and spare parts in assembled units except where partial disassembly is required by transportation regulations or for protection of components.
4. Pipe and appurtenances shall be handled, stored, and installed as recommended by the manufacturer. Pipes shipped with interior bracing shall have the bracing removed only when recommended by the pipe manufacturer.
5. Stiffeners shall be used where necessary to maintain shapes and to give rigidity.

6. Each item or package shall be marked with the number unique to the specification reference covering the item. Spare parts shall be packed in containers bearing labels clearly designating contents and pieces of equipment for which intended.

B. Acceptance at Site:

1. Damaged items will not be permitted as part of the work except in cases of minor damage that have been satisfactorily repaired and are acceptable to the Engineer.
2. Damage shall be corrected to conform to the requirements of the Contract before the assembly is incorporated into the Work.

C. The Contractor shall bear the costs arising out of dismantling, inspection, repair, and reassembly.

D. Storage and Protection:

1. During the interval between the delivery to the site and installation, equipment and materials shall be stored in an enclosed space affording protection from weather, dust, and mechanical damage and providing favorable temperature, humidity, and ventilation conditions to ensure against equipment deterioration. Manufacturer's recommendations shall be adhered to in addition to these requirements.
2. Equipment and materials to be located outdoors may be stored outdoors if protected against moisture condensation. Equipment shall be stored at least six (6) inches above ground. Temporary power shall be provided to energize space heaters or other heat sources for control of moisture condensation. Space heaters or other heat sources shall be energized without disturbing the sealed enclosure.

2.11 UNIT RESPONSIBILITY

A. Equipment systems made up of two (2) or more components shall be provided as a unit by the responsible manufacturer. Unless otherwise specified, the Contractor shall obtain each system from the supplier of the driven equipment, which supplier shall provide all components of the system to enhance compatibility, ease of construction, and efficient maintenance. The Contractor shall be responsible to the City for performance of all system in accordance with the provisions of the General Conditions of the Contract Documents.

B. Where the detailed specifications require the Contractor to furnish a certificate of unit responsibility, such certificate executed by the manufacturer. No other submittal material shall be processed until the Certificate of Unit Responsibility has been received and has been found to be satisfactory. A typical Manufacturer's Certificate of Unit Responsibility form is included in this specification.

2.12 SERVICES OF MANUFACTURER'S REPRESENTATIVE

A. Where manufacturers' services are specified, Contractor shall furnish a qualified representative of the manufacturer to provide these services. Where time is necessary in excess of that stated in the Specifications for the manufacturers' service representative to complete the specified services, the additional time required to perform the services shall be considered incidental work for which the Contractor will receive no additional compensation.

B. After installation of the listed equipment has been completed and the equipment is presumably ready for operation, but before it is operated by others, the representative shall inspect, operate, test and adjust the equipment. The inspection shall include, but shall not be limited to, the following points as applicable:

1. Soundness (without cracked or otherwise damaged parts).
2. Completeness in all details, as specified.
3. Correctness of setting, alignment, and relative arrangement of various parts.
4. Adequacy and correctness of packing, sealing and lubricants.

C. The operation, testing and adjustment shall be as required to prove that the equipment is left in proper condition for satisfactory operation under the conditions specified.

D. On completion of its work, the manufacturer's or supplier's representative shall submit in triplicate to the Engineer Certificate Submittals in accordance with paragraph M of this paragraph and a complete signed report of the result of his inspection, operation, adjustments, and tests. The report shall include detailed descriptions of the points inspected, tests and adjustments made, quantitative results obtained if such are specified, and suggestions for precautions to be taken to ensure proper maintenance. The report also shall include a certificate that the equipment conforms to the requirements of the Contract and is ready for permanent operation and that nothing in the installation will render the manufacturer's warranty null and void.

E. After the Engineer has reviewed the reports from the manufacturers' representative, the Contractor shall make arrangements to have the manufacturers' representatives present when the field acceptance tests are made.

F. Requirements of this paragraph will be in addition to those of appropriate equipment and material Sections.

G. Definitions

For purposes of furnishing manufacturers' services, refer to Specification Section 01664, and the following definitions shall apply:

1. Manufacturer's Representative: Employee of manufacturer who is factory trained and knowledgeable in technical aspects of their products and systems.
2. Construction Period: The time period from the Contractor's purchase order date to the date of certification by the manufacturer that the material or equipment is properly installed and that functional and performance tests, as applicable to the equipment specified, have been successfully demonstrated.
3. Man-Day: One (1) man for eight (8) hours straight time, exclusive of Saturdays, Sundays, or holidays.

H. Fulfillment of Specified Minimum Services

1. Only those manufacturers' services, including trips to the jobsite or training classroom, receiving prior written acceptance or authorization by the Engineer shall act to fulfill the specified services.
2. If manufacturer's representative is found deficient in training or experience by the Engineer, furnish other acceptable representatives after acceptance of resumes and other documentation of proposed representatives.

I. Proper Installation of Products and Systems

Furnish manufacturers' representatives of products and systems. Representatives shall resolve assembly or installation problems attributable to or associated with, their products and systems, whether or not specifically required in the Specifications.

J. Functional Testing

1. Where functional (or run) testing is required in the Specifications, furnish manufacturer's representative to assist with the test. This shall include checking for proper rotation, alignment, speed, excessive vibration, and quiet operation. Perform initial equipment and system adjustment and calibrations in the presence and with the assistance of the manufacturer's representative.
2. Obtain manufacturer's review and acceptance of Contractor's certification of functional testing, where such certification is specified.

K. Performance Testing

1. Where performance testing is specified, furnish manufacturer's representative to assist the test as specified for the particular equipment, and to correct malfunction of equipment. Follow specified test procedures.
2. These services shall continue until:
   a. Equipment or systems have been successfully tested for performance.
   b. Performance test report has been reviewed and accepted.
   c. Equipment or systems have been accepted by Engineer for startup.

3. Unless otherwise specified, performance testing shall use plant fluid or material that the equipment or system is designed to handle during normal service conditions.

L. Training of City's Personnel

1. Contractor's Personnel: Designate and provide Contractor's personnel to be responsible for coordinating and expediting training duties. The person(s) shall be present during training coordination meetings with the Engineer and shall be familiar with the Operation and Maintenance (O & M) Manual information required. O&M Manuals must be supplied prior to Equipment acceptance or turnover to the City for operations or maintenance.
2. Manufacturer's Representative: Where training of City's personnel is required in the Specifications, furnish manufacturer's representative to provide detailed instructions to City's personnel for operation and maintenance of the specified equipment. Separate classes are to be held for operational personnel from maintenance personnel with the information specific to the personnel being trained.
    a. Training services include pre-startup classroom instruction, post-startup classroom instruction, and onsite equipment instruction.
    b. Manufacturer's representative shall be familiar with plant O & M requirements as well as with the specified equipment. Training is to be specific to the equipment provided and not generic to manufacturer's line of equipment.
3. Pre-startup Training: Coordinate pre-startup training periods with Owner's operating personnel and manufacturers' representatives, and with submittal of O & M Manuals.
    a. Pre-startup training shall be completed at least fourteen (14) days prior to actual startup.
    b. O & M Manuals shall be reviewed, accepted, and resubmitted, in accordance with Section SUBMITTALS, before startup.
4. Post-Startup Training: Where post-startup training is required in the Specifications, furnish and coordinate the specified manufacturers' services and Contractor's personnel for post-startup training of Owner's operating personnel.

M. Certificate Submittals

The forms included with this Section are to be used by the Contractor and by manufacturers of systems and products to certify proper installation, completion of functional testing, and performance testing results.

MANUFACTURER'S CERTIFICATE
OF
PROPER INSTALLATION

Contractor: _____

Equipment Name: _____

Equipment Tag Number(s): _____

Specification Section: _____

Manufacturer/Phone No.: _____

Service Rep./Phone No.: _____

Date: _____Hours on Site: _____

Purpose: To verify installation recommendations and warranty is valid.

At a minimum, the following items (if applicable) must be checked:

	Yes	No	NA
Equipment serviced with proper lubricants.			
All safety equipment properly installed.			
Proper electrical connections.			
Proper mechanical connections.			
Equipment meets all warranty requirements.			

List additional items checked: (See Detailed Specification Section _____).

_____

Comments: _____

_____

(List and attach additional pages, if necessary.)

Signatures (*Do not initial.*)

Contractor: _____ Date: _____

Manufacturer: _____ Date: _____

Engineer: _____ Date: _____

MANUFACTURER'S CERTIFICATE
OF
FUNCTIONAL TEST ACCEPTANCE INSTALLATION

Contractor: _____

Equipment Name: _____

Equipment Tag Number(s): _____

Specification Section: _____

Manufacturer/Phone No.: _____

Service Rep./Phone No.: _____

Date: _____Hours on Site: _____

Purpose: To verify installation, that proper adjustments have been made, that the equipment or system is ready for plant startup and operation and warranty is valid.

At a minimum, the following items (if applicable) must be checked:

	Yes	No	NA
Rotation			
Alignment			
Speed			
Noise level			
Initial adjustments			
Initial calibration			

List additional items checked: (See Detailed Specification Section _____)

_____

_____

Comments:_____

_____

(List and attach additional pages, if necessary.)

Signatures (*Do not initial.*)

Contractor: _____ Date: _____

Manufacturer: _____ Date: _____

Engineer: _____ Date: _____

MANUFACTURER'S CERTIFICATE
OF
PERFORMANCE TEST ACCEPTANCE

Contractor: _____

Equipment Name: _____

Equipment Tag Number(s): _____

Specification Section: _____

Manufacturer/Phone No.: _____

Service Rep./Phone No.: _____

Date: _____ Hours on Site: _____

Purpose: To certify that the equipment or system identified above has been successfully tested for performance and is ready to be accepted by the City for full-time operation. This certifies that the above equipment or system operated under actual performance conditions, and that the equipment or system meets the specified performance criteria.

Comments: _____

(List and attach additional pages, if necessary.)

Signatures (*Do not initial.*)

Contractor: _____ Date: _____

Manufacturer: _____ Date: _____

Engineer: _____ Date: _____

CONTRACTOR'S CERTIFICATE

OF

EQUIPMENT START-UP READINESS

Contractor: _____

Equipment Name(s): _____

_____

_____

Equipment Tag Number(s): _____

_____

_____

Specification Section: _____

"I, the undersigned, do hereby certify that all of the necessary hydraulic structures, piping systems, and valves have been successfully tested; that all necessary equipment systems and subsystems have been checked for proper installation, started. and successfully tested to indicate that they are all operational; that the systems and subsystems are capable of performing their intended functions; and that the facilities noted above are ready for startup and intended operation."

_____	_____	_____
Signature	Title	Date

MANUFACTURER'S CERTIFICATE

OF

UNIT RESPONSIBILITY

Manufacturer: _____

Equipment Name: _____

Specification Section(s):_____

Manufacturer/Phone No.: _____

Service Rep./Phone No.: _____

Purpose: To certify that the equipment or system manufacturer identified above accepts unit responsibility for equipment or systems furnished.

This certifies that the above equipment or system manufacturer accepts unit responsibility for equipment or systems furnished under the indicated specification section(s) and that the components furnished are compatible and comprise a functional unit suitable for the specified performance and design requirements.

Signatures (*Do not initial.*)

Contractor: _____ Date: _____

Manufacturer: _____ Date: _____

+ + + END OF SECTION 01600 + + +

SECTION 01610
TRANSPORTATION AND HANDLING

PART 1 – GENERAL

1.01 SCOPE

A. The Contractor shall provide transportation of all equipment, materials and products furnished under these Contract Documents to the Work site. In addition, the Contractor shall provide preparation for shipment, loading, unloading, handling and preparation for installation and all other work and incidental items necessary or convenient to the Contractor for the satisfactory prosecution and completion of the Work.

B. All equipment, materials and products damaged during transportation or handling shall be repaired or replaced by the Contractor at no additional cost to the City prior to being incorporated into the Work.

1.02 TRANSPORTATION

A. All equipment shall be suitably boxed, crated or otherwise protected during transportation.

B. Where equipment will be installed using existing cranes or hoisting equipment, the Contractor shall ensure that the weights of the assembled sections do not exceed the capacity of the cranes or hoisting equipment.

C. Small items and appurtenances such as gauges, valves, switches, instruments and probes which could be damaged during shipment shall be removed from the equipment prior to shipment, packaged and shipped separately. All openings shall be plugged or sealed to prevent the entrance of water or dirt.

1.03 HANDLING

A. All equipment, materials and products shall be carefully handled to prevent damage or excessive deflections during unloading or transportation.

B. Lifting and handling drawings and instructions furnished by the manufacturer or supplier shall be strictly followed. Eyebolts or lifting lugs furnished on the equipment shall be used in handling the equipment. Shafts and operating mechanisms shall not be used as lifting points. Spreader bars or lifting beams shall be used when the distance between lifting points exceeds that permitted by standard industry practice.

C. Under no circumstances shall equipment or products such as pipe, structural steel, castings, reinforcement, lumber, piles, poles, etc., be thrown or rolled off of trucks onto the ground.

D. Slings and chains shall be padded as required to prevent damage to protective coatings and finishes.

+++END OF SECTION 01610+++

SECTION 01640
MANUFACTURERS' SERVICES

PART 1 - GENERAL

1.01 DEFINITIONS

A. Reference Section 01650, FACILITY STARTUP.

B. Man-Day: One (1) person for eight (8) hours.

1.02 SUBMITTALS

Submittals shall be made in accordance with the requirements of the Contract Documents. In addition, the following specific information shall be provided:

A. Preliminary Training Plan: Submit within one hundred & twenty (120) days after Notice to Proceed.

B. Training Schedule: Submit not less than thirty (30) days prior to start of equipment installation and revise as necessary for acceptance.

C. Training Materials:

1. Submit written outlines of proposed training sessions not less than thirty (30) days prior to scheduled training.
2. Furnish complete training materials, to include operation and maintenance data as required in this section. Provide twelve (12) extra copies of all training materials to Owner.
3. Quality Control Submittals: When specified in the individual Specifications, submit:
   a. Qualifications and resume of Manufacturer's Representative performing specified services.
   b. Manufacturer's Certificate of Proper Installation: On form appended to this section.

1.03 QUALIFICATION OF MANUFACTURER'S REPRESENTATIVE

A. Authorized representative of the manufacturer, factory trained, and experienced in the technical applications, installation, operation, and maintenance of respective equipment, subsystem, or system. Additional qualifications may be specified elsewhere.

B. Representative subject to acceptance by Owner and Engineer. No substitute representatives will be allowed unless prior written approval by Engineer has been given.

1.04 FULFILLMENT OF SPECIFIED MINIMUM SERVICES

A. Where manufacturers' services are specified, furnish manufacturer's qualified representative. Where time is necessary in excess of that stated in the Specifications for manufacturers' services, additional time required to perform the specified services shall be considered incidental work.

B. Schedule manufacturer's services to avoid conflicting with other onsite testing or other manufacturer's onsite services.

1. Determine that all conditions necessary to allow successful testing have been met before scheduling services.
2. Only those days of service approved by Engineer will be credited to fulfill the specified minimum services.
3. If specified, manufacturer's onsite services shall be eight (8) hours minimum and include as a minimum:
    a. Assistance during product (system, subsystem, or component) installation to include observation, guidance, instruction of Contractor's assembly, erection, installation or application procedures.
    b. Inspection, checking, and adjustment as required for product (system, subsystem, or component) to function as warranted by manufacturer and necessary to furnish written approval of installation.
    c. Revisiting the site as required to correct problems and until installation and operation are acceptable to Engineer.
    d. Resolution of assembly or installation problems attributable to, or associated with, respective manufacturer's products and systems.
    e. Assistance during functional and performance testing and startup demonstration, and until product acceptance by the Owner.
    f. Training of Owner's personnel in the operation and maintenance of respective product as required.
    g. Completion of Manufacturer's Certificate of Proper Installation (form enclosed at end of this section) with applicable certificates for proper installation and initial, interim, and final test or service.
    h. Additional requirements which may be specified elsewhere.

1.05 TRAINING PLAN

A. Preliminary Training Plan: If specified, and within one hundred twenty (120) days after Notice of Award, submit for each proposed course:

1. Title and objectives.
2. Training schedule.

3. Prerequisite training and experience of attendees.
4. Recommended types of attendees (e.g., managers, engineers, operators, maintenance).
5. Course description and outline of course content.
6. Duration.
7. Location (e.g., training center or site).
8. Format (e.g., lecture, self-study, demonstration, hands-on).
9. Instruction materials and equipment requirements.

B. Final Training Plan: Submit the following after training coordination meeting, if specified.

1. Updated versions of course descriptions from preliminary training plan.
2. Who will attend each course.
3. Schedule of training courses including dates, durations, and locations of each class.
4. Detailed course schedule for each day showing time allocated to each topic.
5. Resumes of instructors providing the training.

1.06 TRAINING SCHEDULE

A. List specified equipment and systems with respective manufacturers that require training services of manufacturers' representatives and show:

1. Estimated dates for installation completion.
2. Estimated training dates to allow for multiple sessions when several shifts are involved.

B. Adjust training schedule to ensure training of appropriate personnel as deemed necessary by Owner, and to allow full participation by manufacturers' representatives. Adjust schedule for interruptions in operability of equipment.

C. Coordinate with Progress Schedules as specified in Special Conditions and Section 01650, FACILITY STARTUP.

1.07 TRAINING CITY'S PERSONNEL

A. Furnish trained, articulate personnel to coordinate and expedite training, to be present during training coordination meetings with Owner, and familiar with operation and maintenance manual information.

B. Furnish manufacturers' representatives for detailed classroom and hands-on training to Owner's personnel on operation and maintenance of specified product (system, subsystem, and component) and as may be required in applicable Specifications.

C. Manufacturer's Representative: Familiar with plant operation and maintenance requirements as well as with specified equipment.

D. Pre-startup Training:

1. Coordinate training sessions with Owner's operating personnel and manufacturers' representatives.

2. Complete at least seven (7) days, but no more than fourteen (14) days, prior to actual startup.

E. Post-Startup Training: Furnish and coordinate training of Owner's operating personnel by respective manufacturer's representatives. Manufacturer's representative shall be required for a follow-up visit of one (1) day.

F. Taping of Training Sessions: The Owner will provide audio/video taping of all training sessions. Manufacturer's trainer is to provide appropriate props, such as, charts, photographs and samples in large enough sizes to be videotaped. All trainers are to provide their full cooperation to the Owner's video technician.

1.08 SUPPLEMENTS

The supplements listed below, following "END OF SECTION," are part of this Specification.

A. Manufacturer's Certificate of Proper Installation.

B. Manufacturer's Instruction Certification Form.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

CITY OF ATLANTA

MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION

OWNER:_____	EQPT SERIAL NO:_____
EQPT TAG NO:_____	EQPT/SYSTEM:_____
PROJECT NO:_____	SPEC. SECTION:_____
SITE LOCATION: _____	

I hereby certify that the above-referenced equipment/system has been:

- ☐ Installed in accordance with Manufacturer's recommendations.
- ☐ Inspected, checked, and adjusted.
- ☐ Serviced with proper initial lubricants.
- ☐ Electrical and mechanical connections meet quality and safety standards.
- ☐ All applicable safety equipment has been properly installed.
- ☐ System has been performance tested, and meets or exceeds specified performance requirements. (When complete system of one manufacturer)
- ☐ System has been started up and meets or exceeds performance requirements.

I, the undersigned Manufacturer's Representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate his equipment and (iii) authorized to make recommendations required to assure that the equipment furnished by the manufacturer is complete and operational, except as may be otherwise indicated herein. I further certify that all information contained herein is true and accurate.

Date:_____,20___

Manufacturer:_____

Signature of Manufacturer's Authorized Representative: _____

CITY OF ATLANTA

MANUFACTURER'S INSTRUCTION CERTIFICATION FORM

Contract No.: _____ Specification Section: _____

Equipment Name: _____

Contractor: _____

Manufacturer of Equipment Item: _____

The undersigned manufacturer certifies that a manufacturer's representative service engineer has instructed the City operating personnel in the proper maintenance and operation of the equipment designated herein.

Operations Check List (check appropriate spaces and include the date of the review)

- ☐ Startup procedure reviewed _____
- ☐ Shutdown procedure reviewed _____
- ☐ Normal operation procedure reviewed _____
- ☐ Other(s): _____

Maintenance Check List (check appropriate spaces)

- ☐ Described normal oil changes (frequency) _____
- ☐ Described special tools required _____
- ☐ Described normal items to be reviewed for wear _____
- ☐ Described preventive maintenance instructions _____
- ☐ Described greasing frequency _____
- ☐ Other(s): _____

Manufacturer _____

Signature of Authorized Representative_____ Date_____

Signature of City's Representative_____ Date_____

Signature of Contractor's Representative_____

+++ END OF SECTION 01640 +++

SECTION 01650
FACILITY STARTUP

PART 1 - GENERAL

1.01 RELATED SECTIONS

Not Used

1.02 DEFINITIONS / PROCEDURES

A. Pre-Operational Checkout (Step 1): Documented physical checks (tests) that must occur to insure that an item of equipment or equipment system is ready for functional testing. Example components of pre-operational checkout /testing include but are not limited to the following:

1. Pressure and/or leakage tests, water-tightness of concrete structures, and pipe testing;
2. Electrical testing, resistance testing in accordance with NETA - section 16T. Also, Phase/motor rotation checks;
3. Instrument calibration and loop tests. Pre-operational check-out of instrumentation system controls; and
4. Pre-operational checkout of mechanical and HVAC equipment to include alignment, lubrication, and other checks as recommended by the manufacturer.

B. Functional Test: (Step 2): A test or tests, in the presence of the Engineer and Owner, to demonstrate that the installed equipment or system meets manufacturer's installation and adjustment requirements and other requirements.

The testing of the individual items of equipment within a system will be performed under simulated conditions to determine contract compliance. This test will utilize plant effluent, potable water, or another acceptable substitute test media. The equipment will be operated long enough to gather information (data) on noise, temperature, vibration, performance characteristics, and to make initial adjustments of any applicable controls. Initial baseline data will be gathered on equipment with motors greater than one (1) horsepower including amperage, bearing temperatures, and vibration.

The instrumentation and control field testing (loop checks from the field devices to PLC or distributed control systems as well as field calibrations), will be accomplished during the pre-operational checkout and functional testing stages as defined above.

C. Operational Test (Step 3): A test, performed in the presence of the Engineer and Owner, of all components within a system collectively to insure that the system and all of its integral components function as intended. Water and/or other temporary media supplied by the Contractor will be circulated through the completed

facility/system for five (5) days with systems being operated under various loading conditions as proposed by the Contractor and approved by the City's Engineer.

The instrumentation and control system automatic function for the overall system will be verified and documented during the operational testing stage as described above.

D. Punch list: All items that could affect, or be affected by, the full time operation of the system (as deemed critical by the City Engineer) must be complete prior to the Operational Test phase.

E. Acceptance Test (Step 4): The start-up and operation of the systems installed, under actual operating conditions, as part of the actual plant process. The acceptance test period is thirty (30) days. The Owner's O&M staff will be responsible for running the system with the Contractor's support team being available for assistance twenty-four hours per day, seven days per week (24/7). Upon completion of this commissioning period the Contractor may apply for a Substantial Completion certificate.

F. Performance Test: Any special tests, performed in the presence of the Engineer and Owner, called for by the specific equipment or system specification which are to be performed in addition to the installation and acceptance tests noted in this start-up specification (pre-operational checkout, functional testing, operational testing, and acceptance testing).

G. System: The overall process, or a portion thereof, that performs a specific function. A system may consist of two (2) or more subsystems as well as two (2) or more types of equipment. Examples of systems on this Project are as follows:

1. Pumps, motors, and controls; and
2. Instrumentation and control system(s).

H. Substantial Completion: The date certified by the City Engineer when all or a part of the work as identified in the Engineer's certification, has been properly installed per the contract documents and manufacturer recommendations, deemed operational through the completion of the Pre-operational checkout, Functional Test, Operational Test, has all test documents with Operation and Maintenance manuals delivered, is sufficiently completed in accordance with the requirements of the Contract Documents and has been demonstrated through the thirty (30) day Acceptance Test thus proving that the identified portion of the Work can reliably be utilized for the purposes for which it is intended.

1.03 SUBMITTALS

A. Administrative Submittals:

1. Functional and performance test schedules and plan for equipment, units, and systems at least fourteen (14) days prior to start of related testing. Include test plan, procedures, and log format.

2. Schedule and plan of facility startup activities at least twenty-one (21) days prior to commencement.

B. Quality Control Submittals:

1. Manufacturer's Certificate of Proper Installation as required.
2. Test Reports: Functional and performance testing, in format acceptable to Engineer and certification of functional and performance test for each piece of equipment or system specified.
3. Certifications of Calibration: Testing equipment.

1.04 CONTRACTOR FACILITY STARTUP RESPONSIBILITIES

A. General:

1. The Contractor shall provide, at no expense to the City, all power, fuel, compressed air supplies, water, and chemicals; as well as all labor, temporary piping, heating, ventilating, and air conditioning or bypass pumping, for any areas where the Improved Facilities are not complete and operable at the time of Acceptance Testing and its prerequisites. Contractor shall provide all other items and work required to complete Acceptance Testing and its prerequisites. Temporary facilities shall be maintained until permanent systems are in service.
2. The Contractor shall also provide all necessary qualified operations' personnel and manufacturer's field service personnel of the major equipment suppliers on an eight hour per day basis at the facilities and on a twenty-four (24) hour per day basis locally during the operational and acceptance test period.
3. At no time during startup shall the Contractor allow the facility to be operated in a manner which subjects equipment to conditions that are more severe than the maximum allowable operating conditions for which the equipment was designed.

B. Tie-Ins or Modifications To The Existing Systems

1. Anytime the Contractor ties into or modifies an existing system, a detailed work plan shall be required. Submittal of this work plan must be a minimum of thirty (30) days in advance of commencement of the subject work. This work plan shall include a detailed description of the work, a step-by-step plan of the modification or tie-in, a detailed timeline schedule, a detailed list of materials and equipment required, demonstrated communications capacity, and a listing of any gates or valves which must be operated. Working drawings shall be submitted for any permanent or temporary structural modifications. A temporary safety plan covering the period of the work, and a listing of contingency plans and supplies, including but not limited to spill prevention planning and spill containment kits, shall be required. A coordination meeting with the City's plant operating staff, the Contractor, the Engineer and the Designer must be held at least seven (7) days prior to the commencement of the modification or tie-in. The day before the

commencement of the modification or tie-in, a final coordination meeting shall be held giving final detailed work assignments to all parties involved.

2. The City and Engineer have the right to require, at no additional cost to the City, stand-by equipment on any item(s) deemed critical enough to delay the work. The Contractor shall have available stand-by personnel to supplement the committed forces should problems arise. The Contractor is responsible for meeting all OSHA standards including entrance and exit safety, confined space entry, fall protection, scaffolding, rigging, etc.

C. Contractor's Startup Quality Assurance Manager

The Contractor shall appoint an operations engineer or equally qualified operations specialist as Startup Manager to manage, coordinate, and supervise all aspects of the Contractor's startup and testing program including, but not limited to those components of the program as listed with this appendix. The Startup Manager shall have at least five (5) years of total experience, or experience on at least five (5) separate projects, in managing the startup commissioning of mechanical, electrical, instrumentation, HVAC, and piping systems. Operations engineers shall be graduates from a minimum four (4) - year course in mechanical, civil or a related program of study. Operations specialists shall have equivalent documented experience in plant operation and maintenance. Contractor shall submit the Startup Manager's resume for review and approval a minimum of six (6) months prior to any testing, or prior to fifty percent (50%) completion of the first constructed system.

D. Contractor's Testing Team

1. Contractor's Testing Team shall include at a minimum the Quality Assurance Manager, qualified Mechanical/Equipment Foreman, qualified Electrical Journeyman, qualified Instrument Technician, and qualified/Certified Plant Operations personnel.

2. Contractor is responsible to have the appropriate personnel, procedures, and test forms at the test site when performing a scheduled checkout/testing activity that is to be witnessed by the City Engineer.

E. Test Equipment

1. All test equipment (gauges, meters, thermometers, analysis instruments, and other equipment) used for calibrating or verifying the performance of equipment installed under this contract shall be calibrated to within plus or minus two (2) percent of actual value at full scale. Test equipment employed for individual test runs shall be selected so that expected values as indicated by the detailed performance specifications will fall between sixty (60) and eighty-five (85) percent of full scale. Pressure gages shall be calibrated in accordance with ANSI/ASME B40.1. Thermometers shall be calibrated in accordance with ASTM E77 and shall be furnished with a certified calibration curve.

2. Test instruments shall be calibrated to references traceable to the National Bureau of Standards and shall have a current sticker showing date of calibration, deviation from standard, name of calibration laboratory and technician, and date recalibration is required.

3. Calibration equipment/test instruments utilized for start-up and testing shall be documented to include identification (by make, manufacturer, model, and serial number) of the test equipment, date of original calibration, subsequent calibrations, calibration method, and test laboratory as well as documentation of current calibration.

4. All analysis instruments, sensors, gauges, and meters used for performance testing shall be subject to recalibration to confirm accuracy after completion, but prior to acceptance of each performance test. All analysis instruments, sensors, gages, and meters installed under this contract shall be subject to recalibration prior to Acceptance.

5. Test equipment used to simulate inputs and read outputs shall have a rated accuracy at the point of measurement at least three (3) times greater than the component under test. Buffer solutions and reference fluids shall be provided as necessary for tests of analytical equipment.

1.05 OWNER/ENGINEER FACILITY STARTUP RESPONSIBILITIES

A. General:

1. Review Contractor's test plan and schedule.

2. Witness each functional, operational (portions of) and performance test.

3. Coordinate other plant operations, if necessary, to facilitate Contractor's tests.

B. Startup Test Period:

1. Operate process units and devices, with support of Contractor.

2. Provide sampling, labor, and materials as required and provide laboratory analyses.

3. Make available spare parts and special tools and operation and maintenance information for Owner-furnished equipment.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 START-UP PROGRAM IMPLEMENTATION

A. Start-Up Meetings

1. The Contractor shall schedule and conduct regular periodic start-up meetings (separate from regular progress meetings). The start-up meetings will be held at

least every ten (10) days (once start-up planning commences) and may be scheduled at a more frequent interval by the City Engineer if necessary. Start-up meetings shall be held at a location designated by the Contractor and approved by the City Engineer.

2. Start-up meetings shall be attended by the City Engineer, Contractor, and Subcontractors as appropriate to the agenda, suppliers as appropriate to the agenda and others as required.

3. The meeting agenda shall generally include review and approval of minutes of previous meeting, review of start-up progress since the previous meeting, field observations, problems, and conflicts, problems which impede Start-Up Schedule, delivery schedules, corrective measures and procedures to regain the start-up schedule, revisions to Start-Up Schedule, progress and schedule of the preceding work period, coordination of schedules, review of start-up submittal schedules and status, status of start-up related requests for information, and any other business deemed appropriate.

B. Start-up and Testing Schedule

1. The Contractor shall produce an overall testing schedule setting forth the sequence contemplated for performing the test work. The schedule shall be in bar chart form, plotted against calendar time, shall detail the equipment and systems to be tested, and shall be coordinated with the Construction Schedule. The testing schedule shall show the contemplated start date, duration of the test and completion of each test.

2. The preliminary test schedule shall be submitted with the overall Start-up Acceptance Test Plan. The City Engineer will not witness any testing work until the Contractor has submitted a schedule to which the City Engineer takes no exception. The test schedule shall be updated weekly, and presented at each start-up meeting, showing actual dates of test work, indicating systems and equipment testing completed satisfactorily and meeting the requirements of the Contract Standards, and also re-forecast the upcoming testing and reflect any schedule adjustments accompanied by written reason for the change. The Contractors baseline start-up and testing schedule is to be submitted with the overall test plan.

C. Documentation

1. The Contractor shall develop a records-keeping system to document all activities associated with Acceptance Testing and its prerequisites.

2. Equipment and system documentation shall include date of test, equipment number or system name, nature of test, test objectives, test results, test instruments employed for the test and signature spaces for witness by the City Engineer, the Contractor's Start-Up/Quality Assurance Manager, and the Equipment Manufacturer. A separate file shall be established for each system, organized by start-up phase (i.e., pre-operational, functional, operational, acceptance test phase), and will include sections for each item of

equipment. These files shall include the following information and documentation as a minimum. Test plan and documentation organization shall be detailed in the next paragraph.

D. Test Plan Organization

1. Index.
2. Schedule
3. Step 1 & 2: Each type of equipment will have its own section within the system and include the following:
   a. The detailed pre-operational test procedures.
   b. The detailed functional test procedures.
   c. Customized mechanical equipment, customized electrical, and customized instrumentation pre-operational and functional test forms as applicable.
   d. Other pre-operational test documentation as required for piping and mechanical equipment.
4. Step 3: A separate section will be created for the system operational testing and include the following:
   a. The detailed five (5) day operational test procedure.
   b. A detailed operational system check/sign-off sheet (based on system tests, control checks, and interlock checks to be performed).
   c. System operational test completion sign-off form.
5. Step 4: Another section is to be designated for the Acceptance Testing and include the following:
   a. Detailed work plans communications plan, safety plan, and contingencies, as well as other requirements outlined under tie-ins and modifications to existing systems (SC-24).
   b. Thirty (30) day test overview and proposed spreadsheet forms to be utilized by the Contractors staff to record appropriate operational and performance data on a regular interval for the thirty (30) days.
   c. System acceptance test completion/sign-off form.
6. The forms attached to this Exhibit Care samples showing the required format and level of detail for documentation. The Contractor is advised that these are samples only and are not specific to this project or to any item of equipment or system to be installed under this contract. The Contractor shall develop test documentation forms specific to each item of equipment and system installed under this contract. Acceptable example documentation forms for all systems and items of equipment shall be produced and submitted for review and approval by the City Engineer [as a condition precedent to the Contractor's receipt of progress payments in excess of sixty (60) percent of the contract amount]. Once the City

Engineer has reviewed and taken no exception to the forms proposed by the Contractor, the Contractor shall produce customized forms for each item of equipment and system and include these individual forms in the overall test plan that will be submitted for approval.

7. The complete test plan and all its sections are to be submitted sixty (60) days prior to any testing) and approved, Code 1 or Code 1C, prior to the start of any testing.

3.02 TEST PLAN IMPLEMENTATION

This program will be implemented in four (4) distinct steps (phases). These steps are the Pre-Operational Checkout, the Functional Testing, the Operational Testing, and the Acceptance Testing.

3.03 PRE-OPERATIONAL CHECKOUT AND TESTING

A. The first step involves the Pre-operational checkout. This would include multi-discipline work completion and physical checkout .The Pre-operational Completion Verification and Pre-operational test reports include the following required testing. Examples of these documented tests include, but are not limited to:

1. Field pressure/leakage test reports for all pipe, valves, and appurtenances.
2. Wire insulation megohm reports for all 120V and greater wire.
3. Phasing, ratio, polarity, ground resistance, current injection, insulation resistance, over potential test, and circuit breaker contact resistance reports for medium voltage switchgear.
4. Insulation power factor and resistance test reports for surge arresters.
5. Megger reports for Unit Substations, Three (3) Winding Transformers, and 4160V motor control centers.
6. Megger reports and ground connection tests.
7. Loop Status Report and Component Calibration forms.
8. Equipment installation checkout forms.

B. Pipe Testing

1. Prior to application of insulation on exposed piping, test the piping systems at the appropriate pressure according to the requirements of related piping specifications. All buried piping shall be tested prior to any backfill being placed, unless prior approval by the Engineer is given in writing. Test duration shall be one-hundred twenty (120) minutes for all tests and witnessed by a City Engineer. Isolate equipment that may be damaged by the specified test conditions. Testing shall be performed using calibrated test gages and calibrated volumetric measuring equipment to determine leakage rates. Each test gage shall be selected so that the specified test pressure falls within the upper half of the gage's range. Testing shall include existing piping systems that connect with new

pipe systems. Existing pipe shall be tested to the nearest existing valve. Any piping that fails the test shall be repaired.

2. For gas, air, and vapor systems, the allowable leakage rate for systems tested with air shall be based on a maximum pressure drop of five (5) percent of the specified test pressure for the duration of the period. Prior to starting a test interval using air, the air shall be at ambient temperature and specified test pressure. The allowable leakage rate for hazardous gas systems, insulated systems, and systems tested with water shall be zero (0) at the specified test pressure throughout the specified test period. Hazardous gas systems shall include sulfur dioxide, chlorine, propane, sludge gas and natural gas systems. Testing medium shall be as follows for gas, air, and vapor systems:

Pipeline size	Specified test pressure	Testing medium
2 inch and smaller	**75 psi or less**	**Air or water**
2 inch and smaller	**Greater than 75 psi**	**Water**
Greater than 2 inch	**3 psi or less**	**Air or water**
Greater than 2 inch	**Greater than 3 psi**	**Water**

3. For liquid systems, leakage shall be zero (0) at the specified test pressure throughout the specified duration for exposed piping, buried insulated piping, and buried or exposed piping carrying liquid chemicals. Leakage from other buried liquid piping systems shall be less than two hundredth (0.02) gallon per hour per inch diameter per one- hundred (100) feet of buried piping. Drain systems, other than pumped drain systems, shall be tested in accordance with Georgia State Minimum Standards.

4. For hydraulic and lube oil systems, upon completion of cleaning, all field connections shall be completed and the system tested at the specified pressure. Pressure loss shall be zero (0) for the specified test period. For fluid power systems, the manufacturer shall supervise the installation and testing of all system components including all field piping.

C. Pipe System Cleaning and Flushing

1. Piping systems shall be cleaned following completion of testing and prior to connection to operating, control, and regulating or instrumentation equipment. The Contractor may, at his option, clean and test sections of buried or exposed piping systems. Use of this procedure, however, will not waive the requirement for a full pressure test of the completed system. Unless specified otherwise, piping twenty- four (24) inches in diameter and smaller shall first be

cleaned by pulling a tightly fitting cleaning ball or swab through the system. Piping larger than twenty- four (24) inches in diameter may be cleaned manually or with a cleaning ball or swab.

2. Upon completion of the cleaning, the Contractor shall connect the piping systems to related process equipment. Temporary screens, provided with locator tabs that remain visible from the outside when the screens are in place, shall be inserted in pipelines at the suction of pumps and compressors in accordance with the following table:

Equipment suction or piping size, inches	Maximum screen opening, inches
0 to 1	1/16
1-1/4 to 3 (1/2)	1/4
3-1/2 to 6	1/2
Over 6	1

3. The Contractor shall maintain the screens during all testing prior to the start of Acceptance testing. In special cases, screens may be removed as required for performance tests. Prior to the start of Acceptance Testing, the Contractor shall remove the temporary screens and make the final piping connections after the screens have remained clean for at least twenty-four (24) consecutive hours of operation. Systems handling solids are exempted.

4. Gas and air system piping six (6) inches in diameter and smaller shall be blown out, using air or the testing medium specified. Piping larger than six (6) inches shall be cleaned by having a swab or "pig" drawn through the separate reaches of pipe. After connection to the equipment, it shall then be blown out using the equipment. Upon completion of cleaning, the piping shall be drained and dried with an air stream. Sludge gas, natural gas and propane systems shall be purged with nitrogen and a nitrogen pad maintained at ten (10) psig until the piping is placed in service.

5. After completion of cleaning, liquid systems, unless otherwise specified, shall be flushed with clean water. With temporary screens in place, the liquid shall be circulated through the piping system using connected equipment for a minimum period of fifteen (15) minutes and until no debris is collected on the screens. Potable water piping systems shall be flushed and disinfected in accordance with AWWA C651.

6. Upon completion of all field piping, but before connection to any control components, hydraulic and fluid power oil systems shall be flushed and cleaned by circulating special flushing oil through the system. Flushing oil and procedures

shall comply with ASTM D4174. System shall be cleaned such that internal contamination of system, when tested using procedures specified in SAE J1227, Section 2.3, shall not exceed the Allowable Cleanliness Level (ACL). Unless otherwise specified, the ACL value shall be established by the manufacturer of the major hydraulic system components in accordance with SAE J1227, Section 9.1. System supplier shall provide certificate of compliance that the ACL has been met.

D. Equipment – Pre-Operational Checkout

Equipment pre-operational checks and tests shall include, but are not limited to the following:

1. Check for proper installation, alignment, support, and anchorage per the applicable manufacturers operation and maintenance manual and in accordance with the contract documents.
2. Check the equipment for proper adjustment, packing of seals, lubrication, drive connection, motor connection, and belt/chain tension per the applicable manufacturers operation and maintenance manual and in accordance with the contract documents.
3. Check the associated process, seal water, drain, and vent pipe connections for proper routing and connection. Check to insure the pipe testing was performed and signed as completed for all the associated piping.
4. Insure that the equipment is clean and free of any construction debris that could potentially cause a malfunction.
5. Insure that all safety guards, signage, and other safety measures such as hearing protection, etc., are in place.
6. Have the manufacturer's representative perform all pre-operational tests per the manufacturers' recommendations and review the equipment installation and sign the Manufacturer's Installation portion of the certification form. If the manufacturer's representative brings his own checklist, obtain a copy of the completed form and attach it to the Contractors completed forms. Note that the manufacturer must also fill out the contract approved checkout form (their own form will not serve as a substitute).
7. All gates and valves associated with the equipment system must be checked for proper installation, adjustment, and lubrication per the manufacturer's recommendations.

E. Concrete Tanks – Pre-Operational Checkout

All water-retaining concrete structures shall be tested for water tightness in accordance with ACI 350.1R. The maximum allowable leakage rate shall be seventy-five hundredth percent (0.075%) over a twenty-four (24)-hour period.

F. Electrical Pre-Operational Checks/Tests

Prior to energizing electrical circuits, use a one thousand (1,000)-volt megohmeter to measure insulation resistance on conductors and insulated parts of electrical equipment. All measurements shall meet or exceed the appropriate ICEA, NEMA, or ANSI standard. Any insulation resistance less than ten (10) megohms is unacceptable. Record results, as well as ambient temperature. See attached form for example.

1. Measure phase-to-ground insulation resistance for all circuits one hundred twenty (120) volts and above, with the exception of lighting circuits. Measurements may be made with motors and other equipment connected, except that solid state equipment shall be disconnected unless the equipment is normally tested by the manufacturer at voltages in excess of one thousand (1000) volts DC.
2. Complete Test Form for each installed motor. Measure the insulation resistance of all motors before connection. Measure the insulation resistance for all motors at the time of delivery as well as when connected. Insulation resistance values less than ten (10) megohms are not acceptable.
3. Adjust and make operative all protective devices. Perform a functional check of the control circuit prior to energization of the equipment.
4. Review all associated electrical terminations, switches, and breakers for satisfactory installation.

G. Individual Component/Instrument Calibration Pre-Operational Check/Test

1. Each instrument and final element shall be field calibrated in accordance with the manufacturer's recommended procedure. Instruments shall then be tested in compliance with ISA S51.1 and the data entered on the applicable test report form. Alarm trips, control trips, and switches shall be set to initial values specified in the design at this time. Final elements shall be checked for range, dead band, and speed of response.
2. Calibration of analysis instruments, sensors, gauges, and meters installed under this contract shall proceed on a system-by-system basis. No equipment or system operational, performance or acceptance tests shall be performed until instruments, gages, and meters to be installed in that particular system have been calibrated and the calibration work has been witnessed by the City's Engineer.
3. Testing of instrument process piping/tubing, wiring and individual components shall be completed and documented on the approved test forms provided to the City Engineer as part of the pre-operational testing phase and prior to commencement of individual loop testing conducted during the pre-operational functional test phase.
4. Any component which fails to meet the required tolerances shall be repaired by the manufacturer or replaced, and the above tests repeated until the component is within tolerance.

5. System instrumentation equipment supplied and installed must also be reviewed for proper installation and termination as part of the pre-operational checkout.

H. Pre-Operational Checkout Summary

1. The pre-operational checkout and testing for each item shall be carried out in accordance with the Contractors submitted and approved procedures and documented on the Contractors approved pre-operational test forms.

2. The Contractor shall complete the pre-operational testing requirements listed above, at a minimum, for each item of mechanical, electrical, instrumentation, and HVAC equipment prior to beginning any functional testing with regard to the equipment or the systems in which the equipment functions.

3.04 STEP 2 - FUNCTIONAL TEST

A. General

1. The second step in the program is the Functional Test. This is the functional testing of the equipment. These tests begin for each item of equipment only after the Pre-operational Checks have been completed for all components for the particular equipment.

2. The functional testing for each item of equipment shall be carried out in accordance with the Contractors submitted and approved procedures and documented on the Contractors approved functional test forms.

3. Once 1) all affected equipment has been subjected to the required pre-operational testing procedures; and 2) the City Engineer has witnessed and has not found deficiencies in that portion of the work, individual items of equipment and systems may be started and operated under simulated operating conditions to determine as nearly as possible whether the equipment and systems meet the Contract Standards. If available, plant process media may be employed for the testing of all liquid systems except gaseous, oil, or chemical systems. If not available, potable water shall be employed as the test medium. Test media for these systems shall either be the intended fluid or a compatible substitute. The equipment shall be operated for a sufficient period of time to determine machine operating characteristics, including noise, temperatures and vibration; to observe performance characteristics; and to permit initial adjustment of operating controls. When testing requires the availability of auxiliary systems such as looped piping, electrical power, compressed air, control air, or instrumentation which have not yet been placed in service, the Contractor shall provide acceptable substitute sources, capable of meeting the requirements of the machine, device, or system at no additional cost to the City. Disposal methods for test media shall be subject to review by the City Engineer. During the functional test period, the Contractor shall obtain baseline operating data on all equipment with motors greater than one (1) horsepower to include amperage, bearing temperatures, and vibration. The baseline data shall be collected for use in the CMMS.

4. Test results shall be within the tolerances set forth in the detailed specification sections of the Contract Documents and as indicated in the Contractors functional test plan and the manufacturers criteria. If no tolerances have been specified, test results shall conform to tolerances established by recognized industry practice. Where, in the case of an otherwise satisfactory functional test, any doubt, dispute, or difference should arise between the City Engineer and the Contractor regarding the test results or the methods or equipment used in the performance of such test, then the City Engineer may order the test to be repeated at the Contractors expense. Where the results of any functional test fail to comply with the Contract Standards for such test, then such repeat tests as may be necessary to achieve the Contract Standards shall be made by the Contractor at his expense.

B. The **Functional Test** reports (test documentation) include the required testing. Examples of these types of reports include, but are not limited to:

1. The Functional Field Test of valves.
2. The cycling/functions checks of the sluice gates, slide gates, weir gates, stop logs, and stop plates.
3. The leakage testing of sluice gates, slide gates, weir gates, stop logs, and stop plates in accordance with AWWA specifications.
4. Vibration, noise, and capacity testing of Pumps.
5. Air distribution and leakage test of any diffused air systems.
6. Loop functional test for Instrumentation and Control.

C. Process/Mechanical/Equipment – (Functional Testing)

1. During the Functional Verification Check and Testing process, the Contractor and the various Manufacturers' Technical representatives shall examine and record the initial start-up performance of the components provided by their respective firms in accordance with the Contractors approved functional test procedure.
2. The initial operation, testing and adjustment shall be as required to prove that the equipment has been installed properly and operates under the conditions specified.
3. Upon completion of this work, the manufacturer's field service technician shall complete the Contractors approved functional test form as well as their own signed report to record the results of his/her inspection, operation, adjustments and tests. The report shall include detailed descriptions of the points inspected, tests and adjustments made, quantitative results if such are specified, and suggestions for precautions to be taken to ensure proper maintenance.

D. Electrical - (Functional Testing)

1. The Contractors' electrician shall be present during all testing to confirm the electrical, provide troubleshooting assistance, repair as needed, and assist in gathering baseline data such as motor amperages.
2. Energize each control circuit and operate each control, alarm or malfunction device and each interlock in turn to verify that the specified action occurs. The Contractor shall submit a description of his proposed functional electrical test procedures as part of the testing plan.
3. Verify that motors are connected to rotate in the correct direction. Verification may be accomplished by momentarily energizing the motor, provided the Contractor confirms that neither the motor nor the driven equipment will be damaged by reverse operation.

E. Instrumentation and Control – (Functional Testing)

1. The Contractors' instrumentation representative shall be on site full time during the functional test phase to perform loop checks and to support the Contractors start-up team as needed. Any packaged equipment or manufacturer supplied control panels must be field tested to verify all control interlocks and control functions during this phase of testing by the equipment supplier. Note that the Contractors functional test procedure for each piece of equipment shall define each interlock to be tested.
2. Each instrument loop shall be tested. This testing shall check operation from transmitter to readout components. Signals shall be generated utilizing the primary measuring elements where possible. Signals shall be injected only if primary element is unavailable.
3. If any output device fails to indicate properly, corrections to the loop shall be made as necessary and the test repeated until all instruments operate properly.

F. Functional Testing Summary

The functional testing for each item of equipment, electrical, and instrumentation shall be carried out in accordance with the Contractors submitted and approved procedures and documented on the Contractors approved functional test forms.

3.05 STEP 3 – OPERATIONAL TESTING

A. The third step in the program is the Operational Testing. This step begins after all Pre-operational checks and Functional tests have been satisfactorily completed. The Contractor shall plan his activities to allow for City witnessing of all tests and shall provide twenty-four (24) hours advance notice of all testing activities.

B. The Contractors operational test plan shall be a detailed procedure to confirm all System Automatic Mode functions, verify all system interlocks, and reconfirm all

equipment functions and controls. All design and performance criteria will be demonstrated and documented during this five (5) day period. The Contractors manufacturer, electrical, and instrumentation representatives will be on site on an eight (8) hour a day basis and locally on a twenty-four (24) hours a day basis during this period.

C. In the event of failure to demonstrate satisfactory performance of the system on the first or any subsequent attempt, all necessary alterations, adjustments, repairs and replacements shall be made. When the system is again ready for operation, it shall be brought on line and a new test shall be started. This procedure shall be repeated as often as necessary until the system has operated continuously to the satisfaction of the Owner and Engineer, for the specified duration.

3.06 STEP 4 – ACCEPTANCE TESTING

A. The fourth step in the program is Acceptance Testing. The acceptance test period shall not begin until all new systems and equipment have successfully completed the operational test period.

B. The Operations and Maintenance staff shall receive spare parts, safety equipment, tools and maintenance equipment, lubricants, approved operation and maintenance data and the specified operation and maintenance instruction prior to the startup with plant process media. All valve tagging shall also be complete prior to this startup.

C. As part of the acceptance test plan the Contractor shall submit detailed work plans, communications plan, safety plan, contingencies, and other requirements as outlined under tie-ins and modifications to existing systems (SC-24). A 30 (thirty) day test overview and proposed spreadsheet forms to be utilized by the Contractors operations staff to record appropriate operational and performance data on a regular interval for the thirty (30) days is to be developed by the Contractor and approved by the City prior to Acceptance Testing.

D. Prerequisites

1. Prior to the City's issuance of a Certificate of Substantial Completion for all Design/Build Improvements, the Contractor shall perform Acceptance Testing. Acceptance Testing and the Acceptance Test Plan shall comprehensively cover all potential modes of operation, including failure scenarios, as well as the operation of ancillary systems, to demonstrate full functionality of the Improved Facilities. Any failures of process, equipment or systems shall result in re-starting the acceptance testing period. The testing period shall be a minimum of thirty (30) days of continuous operation, during which the facility must meet the following criteria:

   a. Continuous satisfactory operation at the rated capacity;

   b. Operation without violating the Contract Standards;

c. Operation without creating a materially unsafe condition, nuisance condition or unacceptable risk to personnel, facilities or the public;

d. Operation without producing Biosolids products, air or water emissions, traffic, noise, odors, or other environmental impacts that the City, in its sole discretion, determines to be unacceptable to public safety, health or welfare.

2. All portions of the acceptance test phase will be carried out by qualified/certified operations personnel (supplied by the Contractor) that have a thorough knowledge of the process and can fully implement and document the facility performance as well as the Contractors acceptance test plan.

E. Instrumentation Acceptance Test

1. The instrument loop acceptance test shall fully demonstrate stable operation of the loop under normal operating conditions. This test shall be witnessed by a City Engineer and performed and documented by the Instrumentation System Supplier.

2. Tuning parameters (proportional gain, integral time constant, and derivative time constant) for each control loop shall be adjusted to provide one-fourth (1/4) amplitude damping unless otherwise specified and witnessed during system supplier factory testing.

F. Flow Meters

Liquid flow meters, including all open channel flow meters and all meters installed in pipelines with diameters greater than two (2) inches shall be calibrated insitu using either the total count or dye dilution methods. Gas flow meters installed in piping systems with diameters greater than six (6) inches shall be calibrated insitu using the pitot tube velocity averaging method. Flow meter calibration work shall be performed by individuals skilled in the techniques to be employed. Calibration tests for flow metering systems shall be performed over a range of not less than ten (10) percent to at least seventy – five (75) percent of system full scale. At least five (5) confirmed valid data points shall be obtained within this range and witnessed by a City Engineer. Confirmed data points shall be validated by not less than three (3) test runs with results which agree within plus or minus two (2) percent.

G. In the event of failure to demonstrate satisfactory performance of the system on the first or any subsequent attempt, all necessary alterations, adjustments, repairs and replacements shall be made. When the system is again ready for operation, it shall be brought on line and a new test shall be started. This procedure shall be repeated as often as necessary until the system has operated continuously to the satisfaction of the Owner and Engineer, for the specified duration.

H. All completed operational test forms will be placed into the master record test plan binder and provided to the City of Atlanta prior to acceptance

+ + + END OF SECTION 01650 + + +

SECTION 01664
TRAINING

PART 1 – GENERAL

1.01 DESCRIPTION

This section contains requirements for training the City's personnel, by persons retained by the CONTRACTOR specifically for the purpose, in the proper operation and maintenance of the equipment and systems installed under this Contract.

1.02 QUALITY ASSURANCE

Where required by the detailed specifications, the CONTRACTOR shall provide on-the-job training of the City's personnel. The training sessions shall be conducted by qualified, experienced, factory-trained representatives of the various equipment manufacturers. Training shall include instruction in both operation and maintenance of the subject equipment.

1.03 SUBMITTALS

The following information shall be submitted to the City's Engineer. The material shall be reviewed and accepted by the City's Engineer as a condition precedent to receiving progress payments in excess of seventy- five (75) percent of the Contract amount and not less than three (3) weeks prior to the commencement of training.

A. Lesson plans for each training session to be conducted by the manufacturer's representatives or other qualified individual. In addition, training manuals, handouts, visual aids, and other reference materials shall be included, as needed.

B. Subject of each training session, identity and qualifications of individuals to be conducting the training, and tentative date and time of each training session, which must be approved by the Operational Staff of the facility.

PART 2 - PRODUCTS

2.01 GENERAL

Where specified, the CONTRACTOR shall conduct training sessions for the City's personnel to instruct the staff on the proper operation, care, and maintenance of the equipment and systems installed under this contract. Training shall take place at the site of the work after the equipment has been installed and tested , is operational at the time of training, and will include any operational condition the City may encounter. Approved operation and maintenance manuals shall be available at least thirty (30) days prior to the date scheduled for the individual training session.

Training sessions and lesson plans will be developed and implemented separately for operations and maintenance staff and at least two (2) training session for each type of lesson plan will be provided on two (2) separate dates.

2.02 LOCATION

Training sessions shall take place at the site of the work. The City will provide the classroom training space.

2.03 LESSON PLANS

A. Formal written lesson plans shall be prepared for each training session. Lesson plans shall contain an outline of the material to be presented along with a description of visual aids to be utilized during the session. Each plan shall contain a time allocation for each subject.

B. One (1) complete set of originals of the lesson plans, training manuals, handouts, visual aids, and reference material shall be the property of the City and shall be suitably bound for proper organization and easy reproduction. The CONTRACTOR shall furnish a minimum of ten (10) copies of necessary training manuals, handouts, visual aids and reference materials for each training session, unless directed otherwise by the City.

2.04 FORMAT AND CONTENT

Each training session shall be comprised of time spent both in the classroom and at the specific location of the subject equipment or system. As a minimum, training session shall cover the following subjects for each item of equipment or system:

A. Familiarization:

1. Review catalog, parts lists, drawings, etc., which have been previously provided for the plant files and operation and maintenance manuals;
2. Check out the installation of the specific equipment items;
3. Demonstrate the installed unit; and
4. Answer questions.

B. Safety:

1. Using material previously provided and installed equipment, review safety references. Cover any safety equipment/controls on the system and explain how they operate and what they control/prevent from a safety standpoint.
2. Discuss proper precautions around equipment and proper safety requirements for working on equipment.
3. Draft Lock out/Tag out/Verify procedures specific to each piece of equipment shall be included and shall be demonstrated for maintenance staff in full and operations staff to the extent necessary.

C. Operation:

1. Using material previously provided and installed equipment, review reference literature;
2. Explain all modes of operation (including emergency);
3. Check out City's personnel on proper use of the equipment by having them either correctly operate or walkthrough the proper operation. Maintenance staff shall have operation explained and demonstrated to the level needed to check out equipment during or following maintenance to ensure proper maintenance has been completed and the equipment is ready for operation; and
4. Demonstrate at the equipment the specific areas for operations to observe that may indicate a need for maintenance, including any gauges to be checked (with warning levels clearly marked), specific signs of wear (with clear delineation of tolerances), or other signs/checks to observe. Clearly delineate issues that require equipment shutdown immediately and those that should be reported for maintenance under the Maintenance plan but do not require immediate equipment shutdown.

D. Preventive Maintenance:

1. Using material previously provided and installed equipment, review preventive maintenance (PM) lists including:
   a. Reference material; and
   b. Daily, weekly, monthly, quarterly, semi-annual, and annual jobs.
2. Specify especially those that will be performed under the maintenance plan and those required to be performed by the City
3. Demonstrate how to perform PM jobs.
4. Demonstrate to City's personnel what to look for as indicators of equipment problems.

E. Corrective Maintenance:

1. List possible problems;
2. Discuss repairs; point out special problems. Clearly delineate maintenance activities that should be performed by the City, and those covered under the Maintenance Plan. Clearly delineate issues that require equipment shutdown immediately and those that should be reported for maintenance under the Maintenance plan but do not require immediate equipment shutdown; and
3. Open up installed equipment and demonstrate procedures, where practical.

F. Parts:

1. Show how to use previously provided parts list and order parts.

2. Check over spare parts on hand. Make recommendations regarding additional parts that should be available.

G. Local Representatives:

1. Where to Order Parts: Name, address, and telephone.
2. Service Problems:
   a. Who to call; and
   b. How to get emergency help.

H. Operation and Maintenance Manuals:

1. Review any other material submitted.
2. Update material, as required.

2.05 VIDEO RECORDING

The CONTRACTOR will retain the services of a commercial video-taping service to record each training session. After taping, the material may be edited and supplemented by the CONTRACTOR with professionally produced graphics to provide a permanent record. The CONTRACTOR shall advise all manufacturers providing training sessions that the material will be video-taped and shall make available to the City's video-taping CONTRACTOR such utility services and accommodation as may be required to facilitate the production of the video tape record. The CONTRACTOR may substitute manufacturer specific training for the topics if reviewed and approved by the City in Writing. Once recorded, five (5) DVDs of each training session shall be provided. Training shall not be copyright protected.

PART 3 – EXECUTION

3.01 GENERAL

A. Training shall be conducted in conjunction with the operational testing and commissioning periods. Classes shall be scheduled such that classroom sessions are interspersed with field instruction in logical sequence. The CONTRACTOR shall arrange to have the training conducted on consecutive days, with no more than six (6) hours of classes scheduled for any one (1) day. Concurrent classes shall not be allowed. Contractor/Manufacturer is to plan for up to three (3) classes in any twenty-four (24) hour period to ensure all shifts are properly trained

B. Acceptable operation and maintenance manuals for the specific equipment shall be provided to the City prior to the start of any training. Videotaping shall take place concurrently with all training sessions.

C. The following services shall be provided for each item of equipment or system as required in individual specification sections. Additional services shall be provided, where specifically required in individual specification sections.

1. As a minimum classroom equipment training for operations personnel will include:
    a. Using slides and drawings, discuss the equipment's specific location in the plant and an operational overview.
    b. Purpose and plant function of the equipment.
    c. A working knowledge of the operating theory of the equipment.
    d. Startup, shutdown, normal operation, and emergency operating procedures, including a discussion on system integration and electrical interlocks, if any.
    e. Identify and discuss safety items and procedures.
    f. Routine preventative maintenance, including specific details on lubrication and maintenance of corrosion protection of the equipment and ancillary components.
    g. Operator detection, without test instruments, of specific equipment trouble symptoms.
    h. Required equipment exercise procedures and intervals.
    i. Routine disassembly and assembly of equipment if applicable (as judged by the City on a case-by-case basis) for purposes such as operator inspection of equipment.
2. As a minimum, hands-on equipment training for operations personnel will include:
    a. Identify location of equipment and review the purpose.
    b. Identifying piping and flow options.
    c. Identifying valves and their purpose.
    d. Identifying instrumentation.
    e. Location of primary element.
    f. Location of instrument readout.
    g. Discuss purpose, basic operation, and information interpretation.
    h. Discuss, demonstrate, and perform standard operating procedures and routine checks.
    i. Discuss and perform the preventative maintenance activities.
    j. Discuss and perform startup and shutdown procedures.
    k. Perform the required equipment exercise procedures.
    l. Perform routine disassembly and assembly of equipment if applicable.
    m. Identify and review safety items and perform safety procedures, if feasible.
3. Classroom equipment training for the maintenance and repair personnel will include:

a. Theory of operation.

b. Description and function of equipment.

c. Startup and shutdown procedures.

d. Normal and major repair procedures.

e. Equipment inspection and troubleshooting procedures including the use of applicable test instruments and the "pass" and "no pass" test instrument readings.

f. Routine and long-term calibration procedures.

g. Safety procedures.

h. Preventative maintenance such as routine lubrication; normal maintenance such as belt, seal, and bearing replacement; and up to major repairs such as replacement of major equipment part(s) with the use of special tools, bridge cranes, welding jigs, etc.

4. Hands-on equipment training for maintenance and repair personnel shall include:

   a. Locate and identify equipment components.

   b. Review the equipment function and theory of operation.

   c. Review normal repair procedures.

   d. Perform startup and shutdown procedures.

   e. Review and perform the safety procedures.

   f. Perform City approved practice maintenance and repair job(s), including mechanical and electrical adjustments and calibration and troubleshooting equipment problems.

+ + + END OF SECTION 01664 + + +

SECTION 01780
ASSET MANAGEMENT RECORDS

PART 1 - GENERAL

1.01 SCOPE:

The work under this Section includes gathering and electronically recording financial and technical information needed to support the Owner's Fixed Asset Registry and Computerized Maintenance Management System (CMMS).

1.02 FIXED ASSETS:

A. The Contractor shall generate the financial information necessary to support the Owner's Fixed Asset Registry, CMMS and submit the information periodically, as directed by the Engineer.

B. Financial information (Purchase/Salvage/Disposal Price) shall be provided for the following categories of assets:

1. Equipment - All equipment with a purchase value of $5,000 or more and all equipment that has been assigned an "equipment" or "tag" number in contract documents. The term "equipment" includes but is not limited to: all process equipment, HVAC equipment, instrumentation, valves and gates (including actuators), tanks, electrical panels (including switchgear, MCCs, VFDs, panel boards, automatic transfer switches, heat trace panels, and the like), factory and field control panels, patch panels, control system panels (including PLC and DCS cabinets, marshalling (I/O) cabinets, etc.), roll-up doors, cranes and hoists, copiers, maintenance equipment, shelving, cabinets, laboratory equipment, furniture and A/V equipment. The asset value of the equipment shall be the Contractor's actual purchase price including installation, taxes, overheads, or mark-ups. The Contractor shall obtain a breakdown of equipment values from its vendors and suppliers, where possible, and use its best efforts to provide or estimate the actual purchase price. In addition, the Contractor shall provide an estimate of the cost of installation of each equipment item (e.g., setting, aligning, grouting, etc.)

2. Structure – The cost of structures (typically those structures that require individual building permits) including all labor associated with the structure and all materials (including piping, raceway, wiring, supports, and appurtenances) incorporated into the structure. The structure cost shall include all improvements to the structure and, as applicable, the cost of demolition or other changes to the structure, as directed by the Engineer.

3. Site Improvements – The cost of site improvements shall include all earthwork, manholes / hand holes, culverts and drainage structures, piping, duct bank and wiring not incorporated in a structure, roads, curbs, sidewalks, grassing and landscaping, demolition, and any other improvements to the site. The site

improvements cost shall include all improvements to the site and, as applicable, the cost of demolition or other changes to the site, as directed by the Engineer.

4. Special Items – Certain portions of the construction may have a different useful life (from an accounting standpoint). An example of this is roofing on a structure. These special items, as directed by the Engineer, shall be listed separately. The Contractor shall also provide an estimate of the installation cost of the special item.
5. General Costs - The Contractor shall provide, as a separate line item when directed by the Engineer, the contractor's general costs (general conditions, field engineering, management, supervision, overhead, profit, mobilization, demobilization, permits, bonds, insurance, etc.), associated with the Project.
6. Salvage Items - The Contractor shall provide, as a separate line item when directed by the Engineer, description of items removed from service and returned to the City as Salvage associated with the Project.
7. Disposed Items - The Contractor shall provide, as a separate line item when directed by the Engineer, description of items removed from service and disposed associated with the Project.

C. The Contractor shall provide the required financial information in a format acceptable to the Engineer, with the cost information displayed individually, distributed, or rolled up as directed by the Engineer. See Part 1.06 of this Section for examples.

D. Information to be included as part of fixed asset reporting shall include, as applicable:

1. Tag Number (equipment number, structure number, other unique identification number, as applicable, and as directed by the Engineer);
2. Structure Name (for site improvements use "Site Improvements");
3. Description (equipment description or description of asset);
4. Manufacturer;
5. Vendor (or supplier);
6. Model Number;
7. Serial Number;
8. Purchase Price (cost as defined in Part 1.02 Paragraph B.1 above, if applicable);
9. Installed Date (usually the date of Substantial Completion) or Date removed from service; and
10. Extended Warranty Information (if applicable).

1.03 COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM:

A. In addition to the Fixed Asset information described above, the Contractor shall collect information needed to support data input for the Owner's CMMS and submit

the information periodically, as directed by the Engineer. Both the Fixed Asset and CMMS data information will be submitted monthly as a requirement of the payment application process.

B. The Contractor will collect equipment information on all installed equipment that has an associated preventative maintenance in the vendor's O&M manuals.

C. The Contractor shall take digital photos of all equipment nameplates and electronically file the information by Structure Name and Tag Number. Data (such as serial numbers) must be collected or verified from equipment after it is in its installed location.

D. A substantial part of the data needed for the CMMS is provided on the equipment nameplates, however, the Contractor may need to refer to submittals, operations and maintenance manuals, and/or other manufacturer information to obtain dimensions, weights, etc., that are not included on nameplates.

E. Part 1.05 below provides examples of information needed for various types of equipment. Multiple forms may be needed for a single piece of equipment. Actual information required will be as directed by the Engineer.

1.04 INFORMATION SUBMITTALS:

A. The Contractor shall record in a Microsoft Excel spreadsheet file, the data collected for the Asset Registry and CMMS to the Owner through the Engineer.

B. The format of a typical Asset – CMMS Spreadsheet is as shown in the first two exhibits under Part 1.06 with each asset on a separate row and the various data fields in columns (only the first nine (9) columns of a 100+ column spreadsheet are shown). Due to the nature of instrumentation, a separate detailed Instrumentation Spreadsheet (which allows multiple model / serial numbers and other unique information to be associated with a single instrument) is also shown in the third exhibit under Part 1.06. The total cost for instrumentation from the Instrumentation Spreadsheet, in the example, is entered as a line item in the Asset – CMMS Spreadsheet.

C. A separate Asset – CMMS Spreadsheet shall be prepared for each structure or portion of the Project, including site improvements, as directed by the Engineer.

D. A database with a single table and forms similar to those shown in Part 1.05 is a suggested means for data entry, with such database table exported to an MS Excel spreadsheet to produce the required spreadsheet for each structure or portion of the Project. The creation of the database is not required.

E. To the extent available, the Contractor should obtain a list(s) of equipment as described in Part 1.02 Paragraph B.1 above from the Engineer for importation into the database or spreadsheet(s).

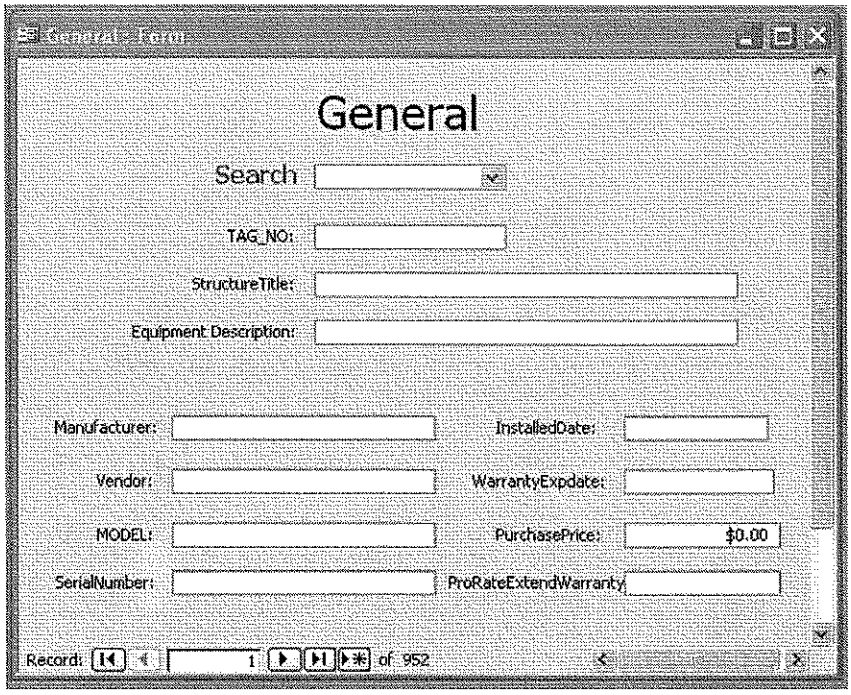
F. The Contractor shall submit to the Engineer, a draft of the Asset – CMMS Spreadsheet for each structure or portion of the Project, by the fifty percent (50%) construction complete stage of the structure or portion of the Project, for review as to form and completeness of the asset list. If requested by the Engineer, the Contractor shall submit copies of the spreadsheet periodically (but no more than once a month), as a work in progress for the Engineer's review. Failure to submit the spreadsheets, as requested by the Engineer, may result in delayed processing of the most current pay request (until the spreadsheet is submitted and accepted).

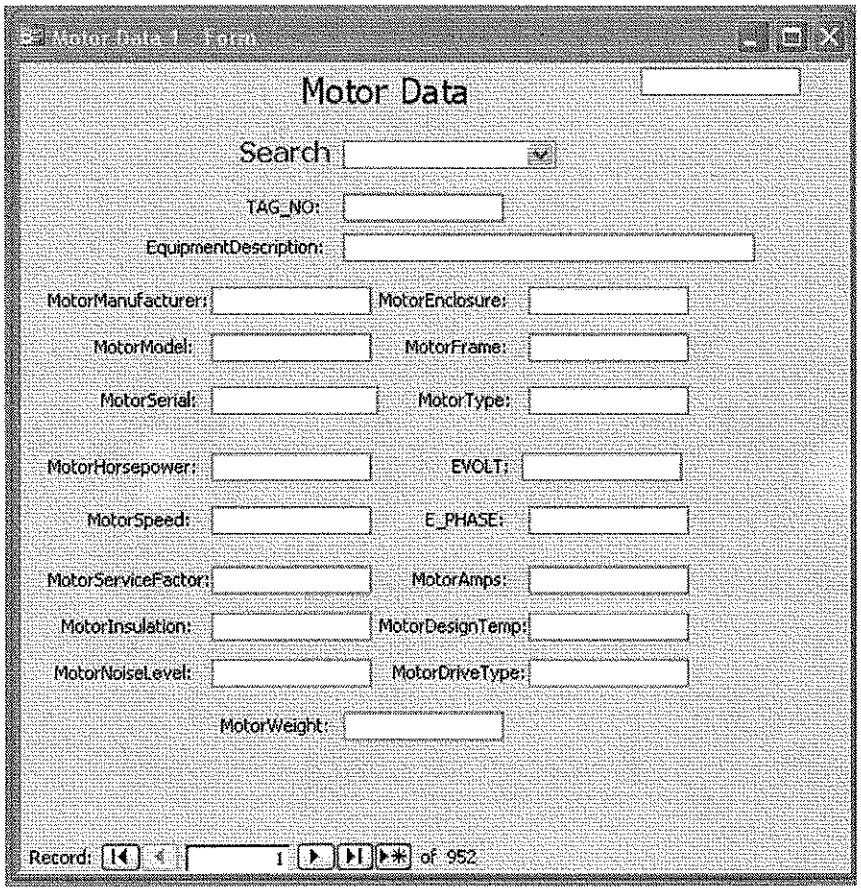
G. After an O&M has been accepted with no exceptions taken, the preventative maintenance detailed in the O&M manual shall be entered in an Excel spreadsheet for importation into the City's CMMS. The Contractor will submit copies of the spreadsheet as part of the CMMS Spreadsheet submittal as a work in progress for the Engineer's review. Failure to submit the spreadsheets, as requested by the Engineer, may result in delayed processing of the most current pay request (until the spreadsheet is submitted and accepted).

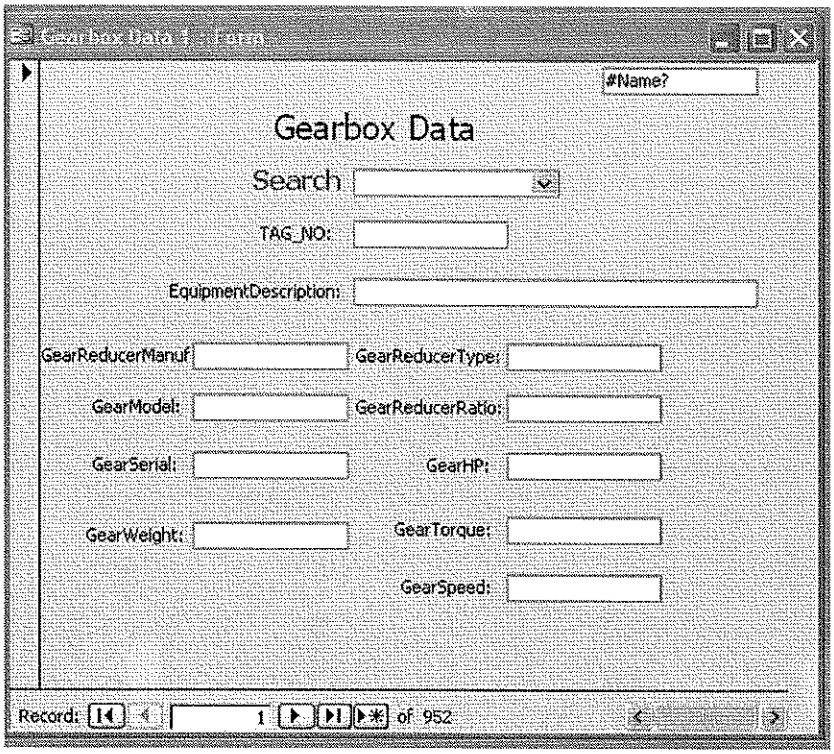
H. The Contractor shall submit, to the Engineer, a preliminary copy of the Asset - CMMS Spreadsheet for any structure or portion of the Project a minimum of sixty (60) days prior to the anticipated Substantial Completion date for that structure or portion of the Project, with all information complete, except for the date of Substantial Completion. The final Asset - CMMS Spreadsheet for each structure or portion of the Project shall be submitted as part of the requirement for Substantial Completion. Failure to submit the spreadsheet as described above may result in delay in achieving Substantial Completion.

I. At the end of the Project, all Asset -CMMS Spreadsheets pertaining to the Work must be complete, submitted to and accepted by the Engineer in order to achieve Final Completion of the Project. The total of all spreadsheets for the Project must equal the total Contract Price.

1.05 EXAMPLES OF TYPICAL DATA AND SUGGESTED DATABASE TABLES:



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GearModel:
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GearSerial:
GearHP:
GearWeight:
GearTorque:
GearSpeed:
Record:
1
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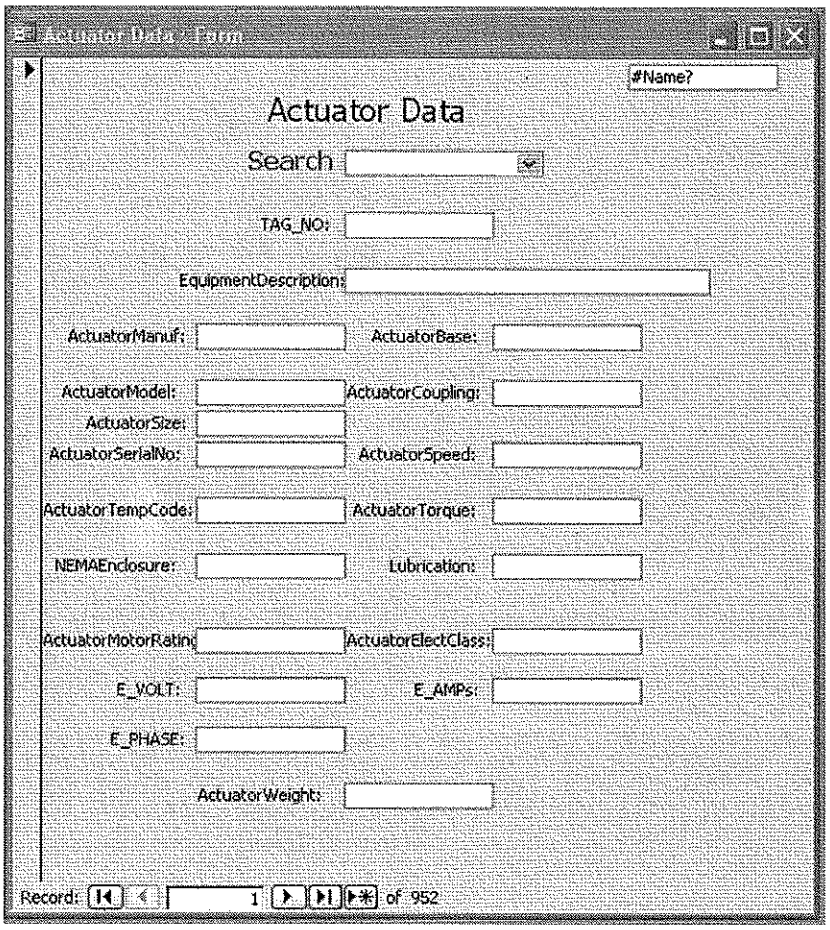
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ActuatorModel:
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ActuatorSpeed:
ActuatorTempCode:
ActuatorTorque:
NEMAEnclosure:
Lubrication:
ActuatorMotorRating
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E_AMPs:
E_PHASE:
ActuatorWeight:
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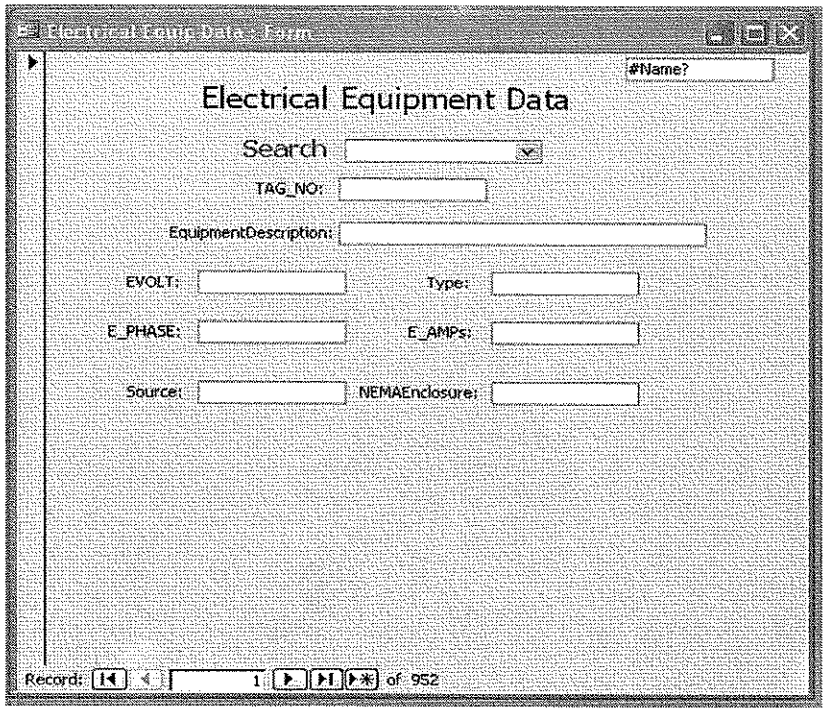
1
of 952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Type:
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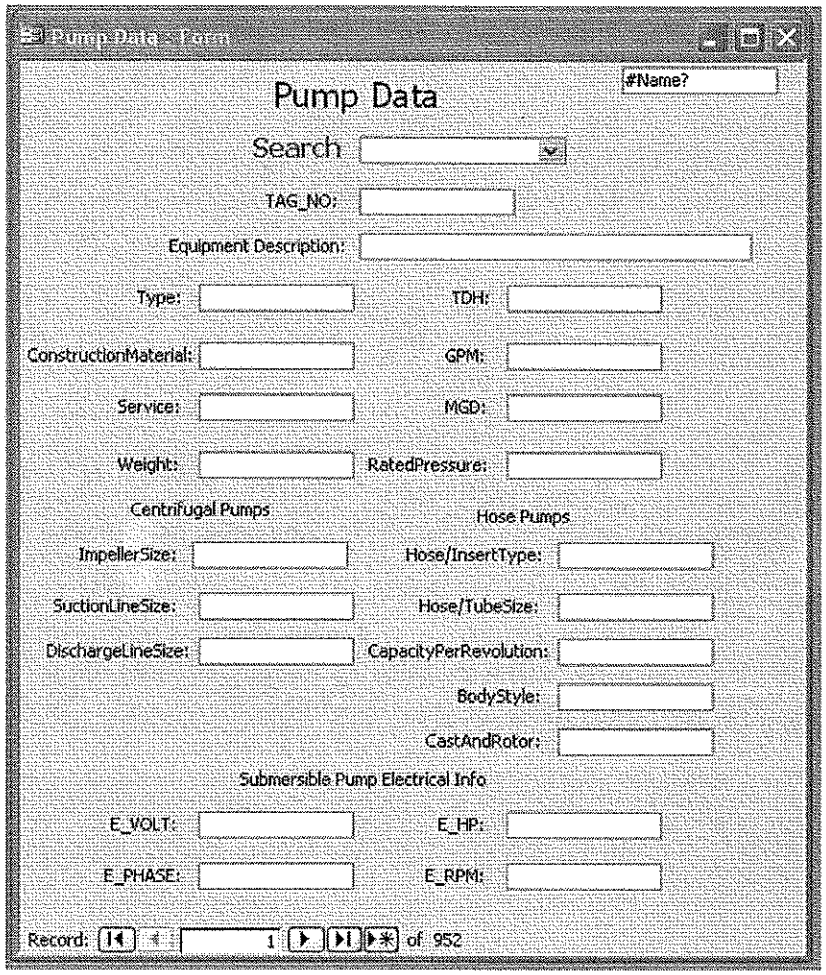
E_AMPs:
Source:
NEMAEnclosure:
Record: 1 of 952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GPM:
Service:
MGD:
Weight:
RatedPressure:
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Hose Pumps
ImpellerSize:
Hose/InsertType:
SuctionLineSize:
Hose/TubeSize:
DischargeLineSize:
CapacityPerRevolution:
BodyStyle:
CastAndRotor:
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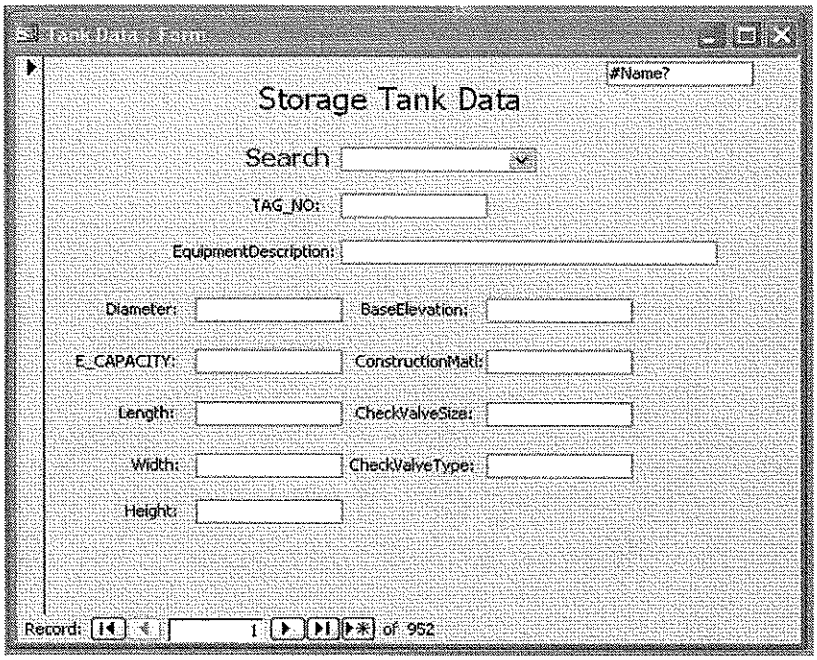
E_PHASE:
E_RPM:
Record: 1 of 952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BaseElevation:
E_CAPACITY:
ConstructionMatl:
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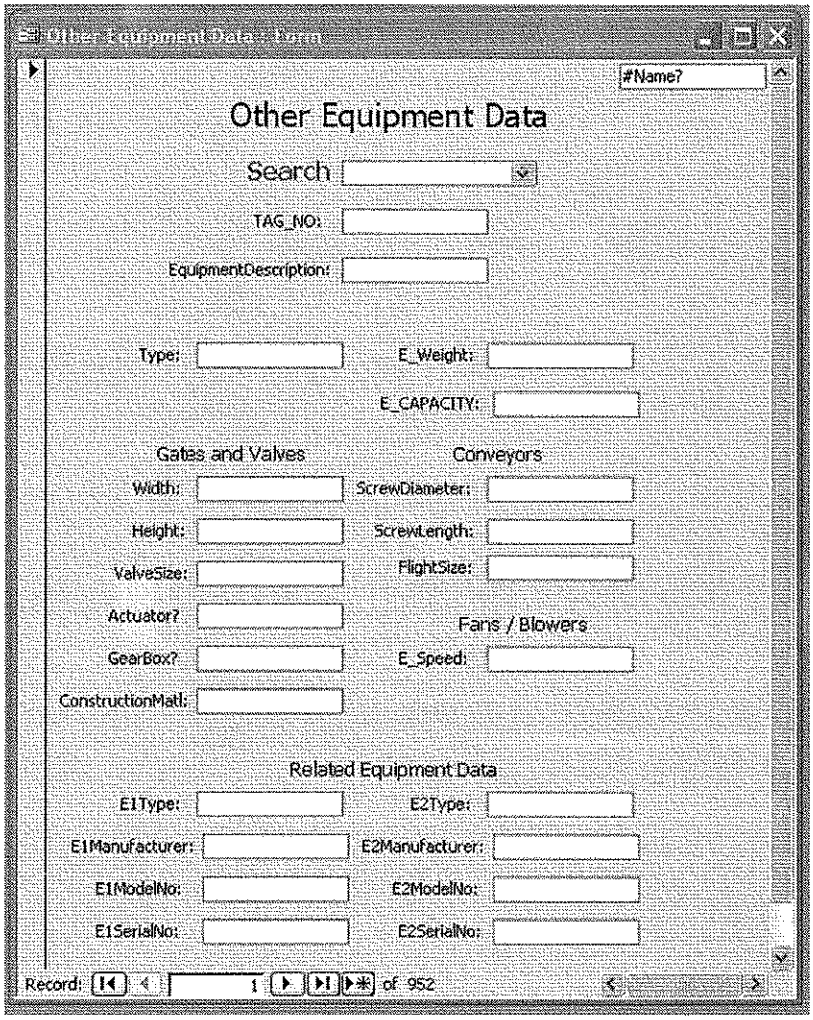
Width:
CheckValveType:
Height:
Record:
1
of 952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E_CAPACITY:
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Conveyors
Width:
ScrewDiameter:
Height:
ScrewLength:
ValveSize:
FlightSize:
Actuator?
Fans / Blowers
GearBox?
E_Speed:
ConstructionMatl:
Related Equipment Data
E1Type:
E2Type:
E1Manufacturer:
E2Manufacturer:
E1ModelNo:
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E2SerialNo:
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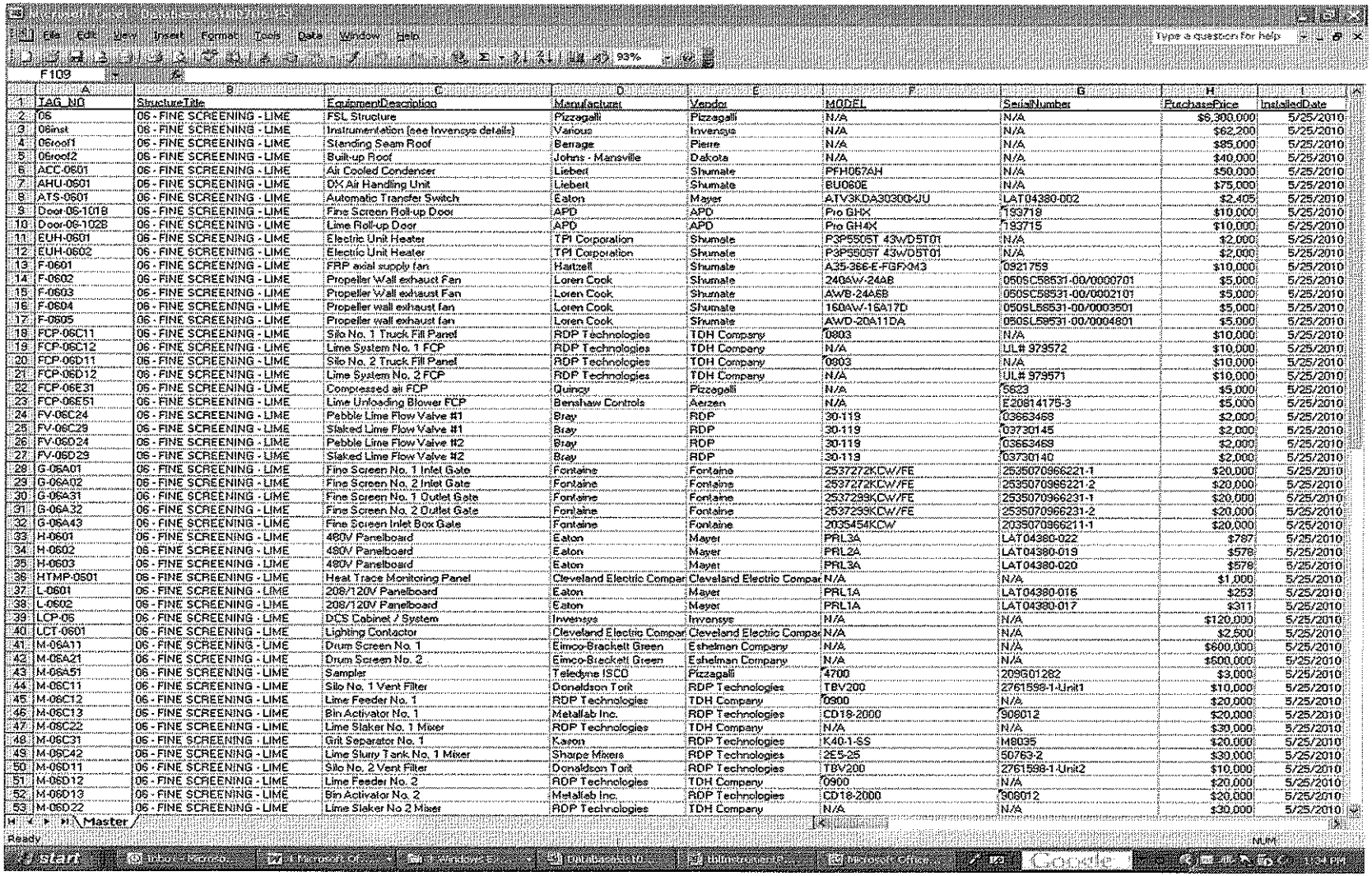
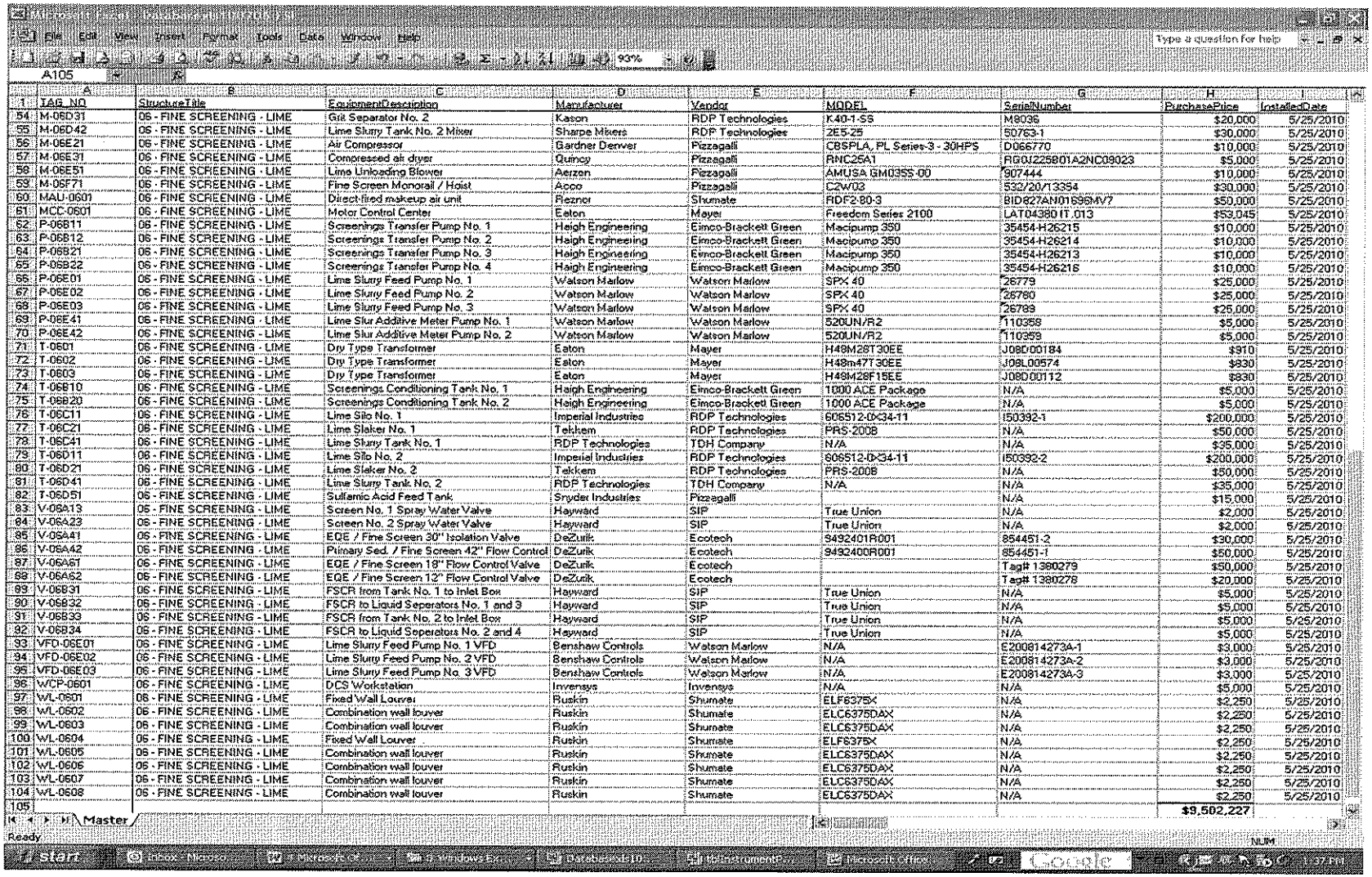
1.06 ASSET REGISTRY CMMS SPREADSHEET EXAMPLES:

Line Item 3 →



	A	B	C	D	E	F	G	H	I
1	TAG_NO	StructureTitle	EquipmentDescription	Manufacturer	Vendor	MODEL	SerialNumber	PurchasePrice	InstalledDate
2	06	06 - FINE SCREENING - LIME	FSL Structure	Pizzagalli	Pizzagalli	N/A	N/A	$6,300,000	5/25/2010
3	06inst	06 - FINE SCREENING - LIME	Instrumentation (see Invensys details)	Various	Invensys	N/A	N/A	$62,200	5/25/2010
4	06roof1	06 - FINE SCREENING - LIME	Standing Seam Roof	Berrage	Pierre	N/A	N/A	$85,000	5/25/2010
5	06roof2	06 - FINE SCREENING - LIME	Built-up Roof	Johns - Mansville	Dakota	N/A	N/A	$40,000	5/25/2010
6	ACC-0601	06 - FINE SCREENING - LIME	Air Cooled Condenser	Liebert	Shumate	PFH067AH	N/A	$50,000	5/25/2010
7	AHU-0601	06 - FINE SCREENING - LIME	DX Air Handling Unit	Liebert	Shumate	EU060E	N/A	$75,000	5/25/2010
8	ATS-0601	06 - FINE SCREENING - LIME	Automatic Transfer Switch	Eaton	Mayer	ATV3KDA30300HJU	LAT04380-002	$2,405	5/25/2010
9	Door-06-1018	06 - FINE SCREENING - LIME	Fine Screen Roll-up Door	APD	APD	Pro GHX	193718	$10,000	5/25/2010
10	Door-06-1028	06 - FINE SCREENING - LIME	Lime Roll-up Door	APD	APD	Pro GH4X	193715	$10,000	5/25/2010
11	EUH-0601	06 - FINE SCREENING - LIME	Electric Unit Heater	TPI Corporation	Shumate	P3P5505T 43WD5T01	N/A	$2,000	5/25/2010
12	EUH-0602	06 - FINE SCREENING - LIME	Electric Unit Heater	TPI Corporation	Shumate	P3P5505T 43WD5T01	N/A	$2,000	5/25/2010
13	F-0601	06 - FINE SCREENING - LIME	FRP axial supply fan	Hartzell	Shumate	A35-366-E-FGFXM3	0921759	$10,000	5/25/2010
14	F-0602	06 - FINE SCREENING - LIME	Propeller Wall exhaust Fan	Loren Cook	Shumate	240AW-24AB	050SC58531-00/0000701	$5,000	5/25/2010
15	F-0603	06 - FINE SCREENING - LIME	Propeller Wall exhaust Fan	Loren Cook	Shumate	AWB-24A6B	050SC58531-00/0002101	$5,000	5/25/2010
16	F-0604	06 - FINE SCREENING - LIME	Propeller wall exhaust fan	Loren Cook	Shumate	160AW-16A17D	050SL58531-00/0003501	$5,000	5/25/2010
17	F-0605	06 - FINE SCREENING - LIME	Propeller wall exhaust fan	Loren Cook	Shumate	AWD-20A11DA	050SL58531-00/0004801	$5,000	5/25/2010
18	FCP-06C11	06 - FINE SCREENING - LIME	Silo No. 1 Truck Fill Panel	RDP Technologies	TDH Company	0803	N/A	$10,000	5/25/2010
19	FCP-06C12	06 - FINE SCREENING - LIME	Lime System No. 1 FCP	RDP Technologies	TDH Company	N/A	UL# 979572	$10,000	5/25/2010
20	FCP-06D11	06 - FINE SCREENING - LIME	Silo No. 2 Truck Fill Panel	RDP Technologies	TDH Company	0803	N/A	$10,000	5/25/2010
21	FCP-06D12	06 - FINE SCREENING - LIME	Lime System No. 2 FCP	RDP Technologies	TDH Company	N/A	UL# 979571	$10,000	5/25/2010
22	FCP-06E31	06 - FINE SCREENING - LIME	Compressed air FCP	Quincy	Pizzagalli	N/A	5623	$5,000	5/25/2010
23	FCP-06E51	06 - FINE SCREENING - LIME	Lime Unloading Blower FCP	Benshaw Controls	Aerzen	N/A	E208141753-3	$5,000	5/25/2010
24	FV-06C24	06 - FINE SCREENING - LIME	Pebble Lime Flow Valve #1	Bray	RDP	30-119	03663468	$2,000	5/25/2010
25	FV-06C29	06 - FINE SCREENING - LIME	Slaked Lime Flow Valve #1	Bray	RDP	30-119	03730145	$2,000	5/25/2010
26	FV-06D24	06 - FINE SCREENING - LIME	Pebble Lime Flow Valve #2	Bray	RDP	30-119	03663469	$2,000	5/25/2010
27	FV-06D29	06 - FINE SCREENING - LIME	Slaked Lime Flow Valve #2	Bray	RDP	30-119	03730140	$2,000	5/25/2010
28	G-06A01	06 - FINE SCREENING - LIME	Fine Screen No. 1 Inlet Gate	Fontaine	Fontaine	2537272KCW/FE	2535070966221-1	$20,000	5/25/2010
29	G-06A02	06 - FINE SCREENING - LIME	Fine Screen No. 2 Inlet Gate	Fontaine	Fontaine	2537272KCW/FE	2535070966221-2	$20,000	5/25/2010
30	G-06A31	06 - FINE SCREENING - LIME	Fine Screen No. 1 Outlet Gate	Fontaine	Fontaine	2537299KCW/FE	2535070966231-1	$20,000	5/25/2010
31	G-06A32	06 - FINE SCREENING - LIME	Fine Screen No. 2 Outlet Gate	Fontaine	Fontaine	2537299KCW/FE	2535070966231-2	$20,000	5/25/2010
32	G-06A43	06 - FINE SCREENING - LIME	Fine Screen Inlet Box Gate	Fontaine	Fontaine	2035454KCW	2035070966211-1	$20,000	5/25/2010
33	H-0601	06 - FINE SCREENING - LIME	480V Panelboard	Eaton	Mayer	PRL3A	LAT04380-022	$787	5/25/2010
34	H-0602	06 - FINE SCREENING - LIME	480V Panelboard	Eaton	Mayer	PRL2A	LAT04380-019	$578	5/25/2010
35	H-0603	06 - FINE SCREENING - LIME	480V Panelboard	Eaton	Mayer	PRL3A	LAT04380-020	$578	5/25/2010
36	HTMP-0501	06 - FINE SCREENING - LIME	Heat Trace Monitoring Panel	Cleveland Electric Compar	Cleveland Electric Compar	N/A	N/A	$1,000	5/25/2010
37	L-0601	06 - FINE SCREENING - LIME	208/120V Panelboard	Eaton	Mayer	PRL1A	LAT04380-016	$253	5/25/2010
38	L-0602	06 - FINE SCREENING - LIME	208/120V Panelboard	Eaton	Mayer	PRL1A	LAT04380-017	$311	5/25/2010
39	LCP-06	06 - FINE SCREENING - LIME	DCS Cabinet / System	Invensys	Invensys	N/A	N/A	$120,000	5/25/2010
40	LCT-0601	06 - FINE SCREENING - LIME	Lighting Contactor	Cleveland Electric Compar	Cleveland Electric Compar	N/A	N/A	$2,500	5/25/2010
41	M-06A11	06 - FINE SCREENING - LIME	Drum Screen No. 1	Eimco-Brackett Green	Eshelman Company	N/A	N/A	$600,000	5/25/2010
42	M-06A21	06 - FINE SCREENING - LIME	Drum Screen No. 2	Eimco-Brackett Green	Eshelman Company	N/A	N/A	$600,000	5/25/2010
43	M-06A51	06 - FINE SCREENING - LIME	Sampler	Teledyne ISCO	Pizzagalli	4700	209G01282	$3,000	5/25/2010
44	M-06C11	06 - FINE SCREENING - LIME	Silo No. 1 Vent Filter	Donaldson Torit	RDP Technologies	TBV200	2761598-1-Unit1	$10,000	5/25/2010
45	M-06C12	06 - FINE SCREENING - LIME	Lime Feeder No. 1	RDP Technologies	TDH Company	0900	N/A	$20,000	5/25/2010
46	M-06C13	06 - FINE SCREENING - LIME	Bin Activator No. 1	Metallab Inc.	RDP Technologies	CD18-2000	908012	$20,000	5/25/2010
47	M-06C22	06 - FINE SCREENING - LIME	Lime Slaker No. 1 Mixer	RDP Technologies	TDH Company	N/A	N/A	$30,000	5/25/2010
48	M-06C31	06 - FINE SCREENING - LIME	Grit Separator No. 1	Kason	RDP Technologies	K40-1-SS	M8035	$20,000	5/25/2010
49	M-06C42	06 - FINE SCREENING - LIME	Lime Slurry Tank No. 1 Mixer	Sharpe Mixers	RDP Technologies	2E5-25	50763-2	$30,000	5/25/2010
50	M-06D11	06 - FINE SCREENING - LIME	Silo No. 2 Vent Filter	Donaldson Torit	RDP Technologies	TBV200	2761598-1-Unit2	$10,000	5/25/2010
51	M-06D12	06 - FINE SCREENING - LIME	Lime Feeder No. 2	RDP Technologies	TDH Company	0900	N/A	$20,000	5/25/2010
52	M-06D13	06 - FINE SCREENING - LIME	Bin Activator No. 2	Metallab Inc.	RDP Technologies	CD18-2000	908012	$20,000	5/25/2010
53	M-06D22	06 - FINE SCREENING - LIME	Lime Slaker No 2 Mixer	RDP Technologies	TDH Company	N/A	N/A	$30,000	5/25/2010



	A	B	C	D	E	F	G	H	I
1	TAG_NO	StructureTitle	EquipmentDescription	Manufacturer	Vendor	MODEL	SerialNumber	PurchasePrice	InstalledDate
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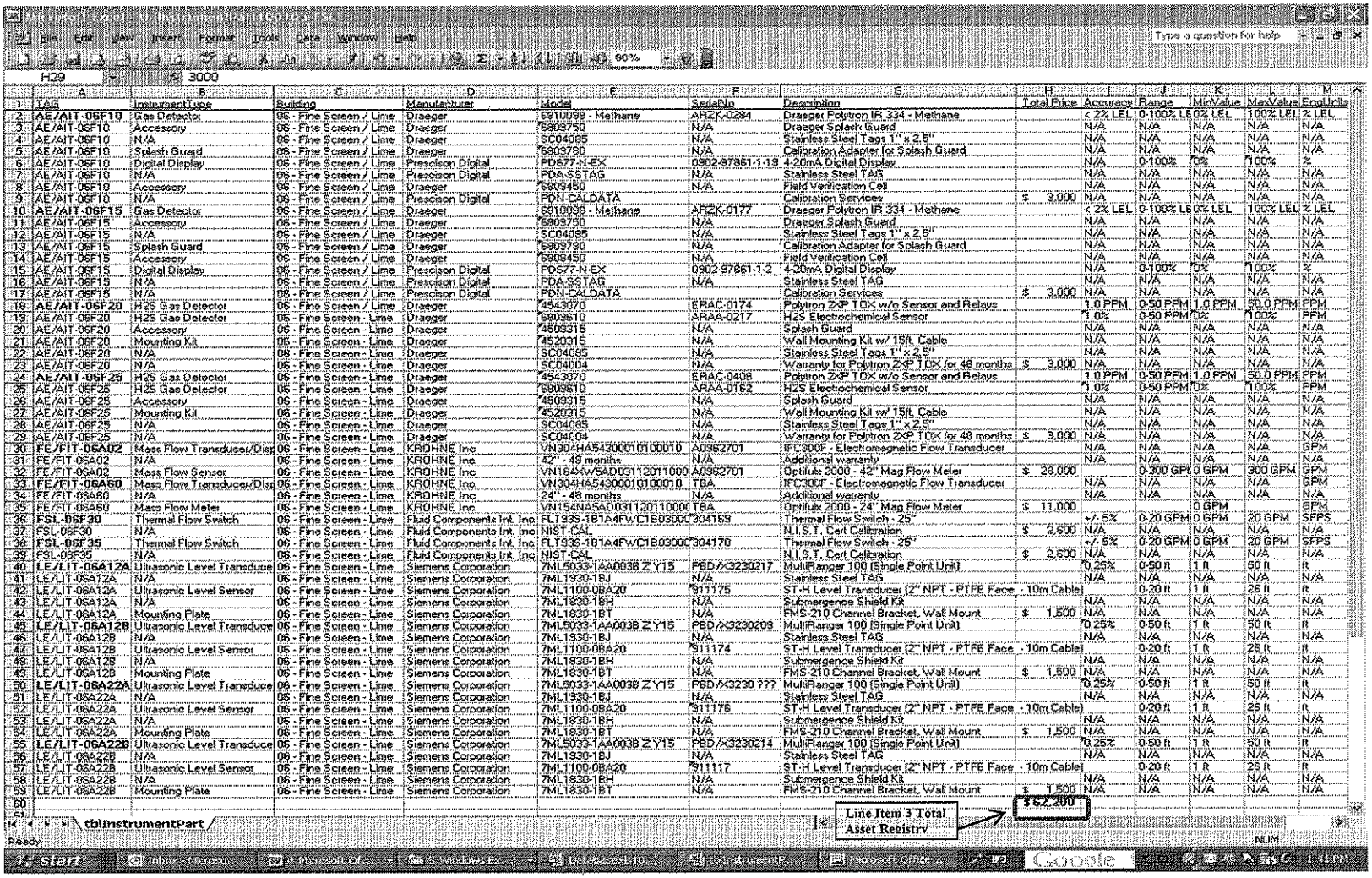
55	M-06D42	06 - FINE SCREENING - LIME	Lime Slurry Tank No. 2 Mixer	Sharpe Mixers	RDP Technologies	2E5-25	50763-1	$30,000	5/25/2010
56	M-06E21	06 - FINE SCREENING - LIME	Air Compressor	Gardner Denver	Pizzagalli	CBSPLA, PL Series-3 - 30HPS	D066770	$10,000	5/25/2010
57	M-06E31	06 - FINE SCREENING - LIME	Compressed air dryer	Quincy	Pizzagalli	RNC25A1	RG0J225B01A2NC09023	$5,000	5/25/2010
58	M-06E51	06 - FINE SCREENING - LIME	Lime Unloading Blower	Aerzen	Pizzagalli	AMUSA GM035S-00	907444	$10,000	5/25/2010
59	M-06F71	06 - FINE SCREENING - LIME	Fine Screen Monorail / Hoist	Acco	Pizzagalli	C2W03	532/20/13354	$30,000	5/25/2010
60	MAU-0601	06 - FINE SCREENING - LIME	Direct-fired makeup air unit	Reznor	Shumate	RDF2-80-3	BID827AN01S96M-MV7	$50,000	5/25/2010
61	MCC-0601	06 - FINE SCREENING - LIME	Motor Control Center	Eaton	Mayer	Freedom Series 2100	LAT04380 IT ,013	$53,045	5/25/2010
62	P-06B11	06 - FINE SCREENING - LIME	Screenings Transfer Pump No. 1	Haigh Engineering	Eimco-Brackett Green	Macipump 350	35454-H26215	$10,000	5/25/2010
63	P-06B12	06 - FINE SCREENING - LIME	Screenings Transfer Pump No. 2	Haigh Engineering	Eimco-Brackett Green	Macipump 350	35454-H26214	$10,000	5/25/2010
64	P-06B21	06 - FINE SCREENING - LIME	Screenings Transfer Pump No. 3	Haigh Engineering	Eimco-Brackett Green	Macipump 350	35454-H26213	$10,000	5/25/2010
65	P-06B22	06 - FINE SCREENING - LIME	Screenings Transfer Pump No. 4	Haigh Engineering	Eimco-Brackett Green	Macipump 350	35454-H26216	$10,000	5/25/2010
66	P-06E01	06 - FINE SCREENING - LIME	Lime Slurry Feed Pump No. 1	Watson Marlow	Watson Marlow	SPX 40	26779	$25,000	5/25/2010
67	P-06E02	06 - FINE SCREENING - LIME	Lime Slurry Feed Pump No. 2	Watson Marlow	Watson Marlow	SPX 40	26780	$25,000	5/25/2010
68	P-06E03	06 - FINE SCREENING - LIME	Lime Slurry Feed Pump No. 3	Watson Marlow	Watson Marlow	SPX 40	26789	$25,000	5/25/2010
69	P-06E41	06 - FINE SCREENING - LIME	Lime Slur Additive Meter Pump No. 1	Watson Marlow	Watson Marlow	520UN/R2	110358	$5,000	5/25/2010
70	P-06E42	06 - FINE SCREENING - LIME	Lime Slur Additive Meter Pump No. 2	Watson Marlow	Watson Marlow	520UN/R2	110359	$5,000	5/25/2010
71	T-06D1	06 - FINE SCREENING - LIME	Dry Type Transformer	Eaton	Mayer	H49M28T30EE	J08D00184	$910	5/25/2010
72	T-06D2	06 - FINE SCREENING - LIME	Dry Type Transformer	Eaton	Mayer	H48m47T30EE	J08L00574	$830	5/25/2010
73	T-06D3	06 - FINE SCREENING - LIME	Dry Type Transformer	Eaton	Mayer	H49M28F15EE	J08D00112	$830	5/25/2010
74	T-06B10	06 - FINE SCREENING - LIME	Screenings Conditioning Tank No. 1	Haigh Engineering	Eimco-Brackett Green	1000 ACE Package	N/A	$5,000	5/25/2010
75	T-06B20	06 - FINE SCREENING - LIME	Screenings Conditioning Tank No. 2	Haigh Engineering	Eimco-Brackett Green	1000 ACE Package	N/A	$5,000	5/25/2010
76	T-06C11	06 - FINE SCREENING - LIME	Lime Silo No. 1	Imperial Industries	RDP Technologies	606512-0X34-11	150392-1	$200,000	5/25/2010
77	T-06C21	06 - FINE SCREENING - LIME	Lime Slaker No. 1	Tekkem	RDP Technologies	PRS-2008	N/A	$50,000	5/25/2010
78	T-06C41	06 - FINE SCREENING - LIME	Lime Slurry Tank No. 1	RDP Technologies	TDH Company	N/A	N/A	$95,000	5/25/2010
79	T-06D11	06 - FINE SCREENING - LIME	Lime Silo No. 2	Imperial Industries	RDP Technologies	606512-0X34-11	150392-2	$200,000	5/25/2010
80	T-06D21	06 - FINE SCREENING - LIME	Lime Slaker No. 2	Tekkem	RDP Technologies	PRS-2008	N/A	$50,000	5/25/2010
81	T-06D41	06 - FINE SCREENING - LIME	Lime Slurry Tank No. 2	RDP Technologies	TDH Company	N/A	N/A	$35,000	5/25/2010
82	T-06D51	06 - FINE SCREENING - LIME	Sulfamic Acid Feed Tank	Snyder Industries	Pizzagalli		N/A	$15,000	5/25/2010
83	V-06A13	06 - FINE SCREENING - LIME	Screen No. 1 Spray Water Valve	Hayward	SIP	True Union	N/A	$2,000	5/25/2010
84	V-06A23	06 - FINE SCREENING - LIME	Screen No. 2 Spray Water Valve	Hayward	SIP	True Union	N/A	$2,000	5/25/2010
85	V-06A41	06 - FINE SCREENING - LIME	EQE / Fine Screen 30" Isolation Valve	DeZurik	Ecotech	9492401R001	854451-2	$30,000	5/25/2010
86	V-06A42	06 - FINE SCREENING - LIME	Primary Sed. / Fine Screen 42" Flow Control	DeZurik	Ecotech	9492400R001	854451-1	$50,000	5/25/2010
87	V-06A61	06 - FINE SCREENING - LIME	EQE / Fine Screen 18" Flow Control Valve	DeZurik	Ecotech		Tag# 1380279	$50,000	5/25/2010
88	V-06A62	06 - FINE SCREENING - LIME	EQE / Fine Screen 12" Flow Control Valve	DeZurik	Ecotech		Tag# 1380278	$20,000	5/25/2010
89	V-06B31	06 - FINE SCREENING - LIME	FSCR from Tank No. 1 to Inlet Box	Hayward	SIP	True Union	N/A	$5,000	5/25/2010
90	V-06B32	06 - FINE SCREENING - LIME	FSCR to Liquid Seperators No. 1 and 3	Hayward	SIP	True Union	N/A	$5,000	5/25/2010
91	V-06B33	06 - FINE SCREENING - LIME	FSCR from Tank No. 2 to Inlet Box	Hayward	SIP	True Union	N/A	$5,000	5/25/2010
92	V-06B34	06 - FINE SCREENING - LIME	FSCR to Liquid Seperators No. 2 and 4	Hayward	SIP	True Union	N/A	$5,000	5/25/2010
93	VFD-06E01	06 - FINE SCREENING - LIME	Lime Slurry Feed Pump No. 1 VFD	Benshaw Controls	Watson Marlow	N/A	E200814273A-1	$3,000	5/25/2010
94	VFD-06E02	06 - FINE SCREENING - LIME	Lime Slurry Feed Pump No. 2 VFD	Benshaw Controls	Watson Marlow	N/A	E200814273A-2	$3,000	5/25/2010
95	VFD-06E03	06 - FINE SCREENING - LIME	Lime Slurry Feed Pump No. 3 VFD	Benshaw Controls	Watson Marlow	N/A	E200814273A-3	$3,000	5/25/2010
96	WCP-0601	06 - FINE SCREENING - LIME	DCS Workstation	Invensys	Invensys	N/A	N/A	$5,000	5/25/2010
97	WL-0601	06 - FINE SCREENING - LIME	Fixed Wall Louver	Ruskin	Shumate	ELF6375X	N/A	$2,250	5/25/2010
98	WL-0602	06 - FINE SCREENING - LIME	Combination wall louver	Ruskin	Shumate	ELC6375DAX	N/A	$2,250	5/25/2010
99	WL-0603	06 - FINE SCREENING - LIME	Combination wall louver	Ruskin	Shumate	ELC6375DAX	N/A	$2,250	5/25/2010
100	WL-0604	06 - FINE SCREENING - LIME	Fixed Wall Louver	Ruskin	Shumate	ELF6375X	N/A	$2,250	5/25/2010
101	WL-0605	06 - FINE SCREENING - LIME	Combination wall louver	Ruskin	Shumate	ELC6375DAX	N/A	$2,250	5/25/2010
102	WL-0606	06 - FINE SCREENING - LIME	Combination wall louver	Ruskin	Shumate	ELC6375DAX	N/A	$2,250	5/25/2010
103	WL-0607	06 - FINE SCREENING - LIME	Combination wall louver	Ruskin	Shumate	ELC6375DAX	N/A	$2,250	5/25/2010
104	WL-0608	06 - FINE SCREENING - LIME	Combination wall louver	Ruskin	Shumate	ELC6375DAX	N/A	$2,250	5/25/2010
105								$9,502,227	

INSTRUMENTATION SPREADSHEET (ASSET REGESTRY - Details of Line Item 3)



TAG	InstrumentType	Building	Manufacturer	Model	SerialNo	Description	Total Price	Accuracy	Range	MinValue	MaxValue	EngUnits
AE/AIT-06F10	Gas Detector	06 - Fine Screen / Lime	Draeger	6810098 - Methane	ARZK-0284	Draeger Polytron IR 334 - Methane		< 2% LEL	0-100% LE	0% LEL	100% LEL	% LEL
AE/AIT-06F10	Accessory	06 - Fine Screen / Lime	Draeger	6809750	N/A	Draeger Splash Guard		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F10	N/A	06 - Fine Screen / Lime	Draeger	SC04085	N/A	Stainless Steel Tags 1" x 2.5"		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F10	Splash Guard	06 - Fine Screen / Lime	Draeger	6809780	N/A	Calibration Adapter for Splash Guard		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F10	Digital Display	06 - Fine Screen / Lime	Prescison Digital	PD577-N-EX	0902-97861-1-19	4-20mA Digital Display		N/A	0-100%	0%	100%	%
AE/AIT-06F10	N/A	06 - Fine Screen / Lime	Prescison Digital	PDA-SSTAG	N/A	Stainless Steel TAG		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F10	Accessory	06 - Fine Screen / Lime	Draeger	6809450	N/A	Field Verification Cell		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F10	N/A	06 - Fine Screen / Lime	Prescison Digital	PDN-CALDATA		Calibration Services	$ 3,000	N/A	N/A	N/A	N/A	N/A
AE/AIT-06F15	Gas Detector	06 - Fine Screen / Lime	Draeger	6810098 - Methane	ARZK-0177	Draeger Polytron IR 334 - Methane		< 2% LEL	0-100% LE	0% LEL	100% LEL	% LEL
AE/AIT-06F15	Accessory	06 - Fine Screen / Lime	Draeger	6809750	N/A	Draeger Splash Guard		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F15	N/A	06 - Fine Screen / Lime	Draeger	SC04085	N/A	Stainless Steel Tags 1" x 2.5"		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F15	Splash Guard	06 - Fine Screen / Lime	Draeger	6809780	N/A	Calibration Adapter for Splash Guard		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F15	Accessory	06 - Fine Screen / Lime	Draeger	6809450	N/A	Field Verification Cell		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F15	Digital Display	06 - Fine Screen / Lime	Prescison Digital	PD577-N-EX	0902-97861-1-2	4-20mA Digital Display		N/A	0-100%	0%	100%	%
AE/AIT-06F15	N/A	06 - Fine Screen / Lime	Prescison Digital	PDA-SSTAG	N/A	Stainless Steel TAG		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F15	N/A	06 - Fine Screen / Lime	Prescison Digital	PDN-CALDATA		Calibration Services	$ 3,000	N/A	N/A	N/A	N/A	N/A
AE/AIT-06F20	H2S Gas Detector	06 - Fine Screen / Lime	Draeger	4543070	ERAC-0174	Polytron 2XP TOX w/o Sensor and Relays		1.0 PPM	0-50 PPM	1.0 PPM	50.0 PPM	PPM
AE/AIT-06F20	H2S Gas Detector	06 - Fine Screen - Lime	Draeger	6809610	ARAA-0217	H2S Electrochemical Sensor		1.0%	0-50 PPM	0%	100%	PPM
AE/AIT-06F20	Accessory	06 - Fine Screen - Lime	Draeger	4509315	N/A	Splash Guard		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F20	Mounting Kit	06 - Fine Screen - Lime	Draeger	4520315	N/A	Wall Mounting Kit w/ 15ft. Cable		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F20	N/A	06 - Fine Screen - Lime	Draeger	SC04085	N/A	Stainless Steel Tags 1" x 2.5"		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F20	N/A	06 - Fine Screen - Lime	Draeger	SC04004	N/A	Warranty for Polytron 2XP TOX for 48 months	$ 3,000	N/A	N/A	N/A	N/A	N/A
AE/AIT-06F25	H2S Gas Detector	06 - Fine Screen - Lime	Draeger	4543070	ERAC-0408	Polytron 2XP TOX w/o Sensor and Relays		1.0 PPM	0-50 PPM	1.0 PPM	50.0 PPM	PPM
AE/AIT-06F25	H2S Gas Detector	06 - Fine Screen - Lime	Draeger	6809610	ARAA-0162	H2S Electrochemical Sensor		1.0%	0-50 PPM	0%	100%	PPM
AE/AIT-06F25	Accessory	06 - Fine Screen - Lime	Draeger	4509315	N/A	Splash Guard		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F25	Mounting Kit	06 - Fine Screen - Lime	Draeger	4520315	N/A	Wall Mounting Kit w/ 15ft. Cable		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F25	N/A	06 - Fine Screen - Lime	Draeger	SC04085	N/A	Stainless Steel Tags 1" x 2.5"		N/A	N/A	N/A	N/A	N/A
AE/AIT-06F25	N/A	06 - Fine Screen - Lime	Draeger	SC04004	N/A	Warranty for Polytron 2XP TOX for 48 months	$ 3,000	N/A	N/A	N/A	N/A	N/A
FE/FIT-06A02	Mass Flow Transducer/Disp	06 - Fine Screen - Lime	KROHNE Inc	VN304HA543000101000010	A0962701	IFC300F - Electromagnetic Flow Transducer		N/A	N/A	N/A	N/A	GPM
FE/FIT-06A02	N/A	06 - Fine Screen - Lime	KROHNE Inc	42" - 48 months	N/A	Additional warranty		N/A	N/A	N/A	N/A	N/A
FE/FIT-06A02	Mass Flow Sensor	06 - Fine Screen - Lime	KROHNE Inc	VN164Xw5AD03112011000	A0962701	Optiflux 2000 - 42" Mag Flow Meter	$ 28,000		0-300 GPI	0 GPM	300 GPM	GPM
FE/FIT-06A60	Mass Flow Transducer/Disp	06 - Fine Screen - Lime	KROHNE Inc	VN304HA543000101000010	TBA	IFC300F - Electromagnetic Flow Transducer		N/A	N/A	N/A	N/A	GPM
FE/FIT-06A60	N/A	06 - Fine Screen - Lime	KROHNE Inc	24" - 48 months	N/A	Additional warranty		N/A	N/A	N/A	N/A	N/A
FE/FIT-06A60	Mass Flow Meter	06 - Fine Screen - Lime	KROHNE Inc	VN154NA5AD03112011000(	TBA	Optiflux 2000 - 24" Mag Flow Meter	$ 11,000		0 GPM			GPM
FSL-06F30	Thermal Flow Switch	06 - Fine Screen - Lime	Fluid Components Int. Inc	FLT93S-181A4FWC1B0300(	304169	Thermal Flow Switch - 25"		+/- 5%	0-20 GPM	0 GPM	20 GPM	SFPS
FSL-06F30	N/A	06 - Fine Screen - Lime	Fluid Components Int. Inc	NIST-CAL		N.I.S.T. Cert Calibration	$ 2,600	N/A	N/A	N/A	N/A	N/A
FSL-06F35	Thermal Flow Switch	06 - Fine Screen - Lime	Fluid Components Int. Inc	FLT93S-181A4FWC1B0300(	304170	Thermal Flow Switch - 25"		+/- 5%	0-20 GPM	0 GPM	20 GPM	SFPS
FSL-06F35	N/A	06 - Fine Screen - Lime	Fluid Components Int. Inc	NIST-CAL		N.I.S.T. Cert Calibration	$ 2,600	N/A	N/A	N/A	N/A	N/A
LE/LIT-06A12A	Ultrasonic Level Transduce	06 - Fine Screen - Lime	Siemens Corporation	7ML5033-1AA003B Z Y15	P8DAX3230217	MultiRanger 100 (Single Point Unit)		0.25%	0-50 ft	1 ft	50 ft	ft
LE/LIT-06A12A	N/A	06 - Fine Screen - Lime	Siemens Corporation	7ML1930-1BJ	N/A	Stainless Steel TAG		N/A	N/A	N/A	N/A	N/A
LE/LIT-06A12A	Ultrasonic Level Sensor	06 - Fine Screen - Lime	Siemens Corporation	7ML1100-0BA20	911175	ST-H Level Transducer (2" NPT - PTFE Face - 10m Cable)			0-20 ft	1 ft	26 ft	ft
LE/LIT-06A12A	N/A	06 - Fine Screen - Lime	Siemens Corporation	7ML1830-1BH	N/A	Submergence Shield Kit		N/A	N/A	N/A	N/A	N/A
LE/LIT-06A12A	Mounting Plate	06 - Fine Screen - Lime	Siemens Corporation	7ML1830-1BT	N/A	FMS-210 Channel Bracket, Wall Mount	$ 1,500	N/A	N/A	N/A	N/A	N/A
LE/LIT-06A12B	Ultrasonic Level Transduce	06 - Fine Screen - Lime	Siemens Corporation	7ML5033-1AA003B Z Y15	P8DAX3230209	MultiRanger 100 (Single Point Unit)		0.25%	0-50 ft	1 ft	50 ft	ft
LE/LIT-06A12B	N/A	06 - Fine Screen - Lime	Siemens Corporation	7ML1930-1BJ	N/A	Stainless Steel TAG		N/A	N/A	N/A	N/A	N/A
LE/LIT-06A12B	Ultrasonic Level Sensor	06 - Fine Screen - Lime	Siemens Corporation	7ML1100-0BA20	911174	ST-H Level Transducer (2" NPT - PTFE Face - 10m Cable)			0-20 ft	1 ft	26 ft	ft
LE/LIT-06A12B	N/A	06 - Fine Screen - Lime	Siemens Corporation	7ML1830-1BH	N/A	Submergence Shield Kit		N/A	N/A	N/A	N/A	N/A
LE/LIT-06A12B	Mounting Plate	06 - Fine Screen - Lime	Siemens Corporation	7ML1830-1BT	N/A	FMS-210 Channel Bracket, Wall Mount	$ 1,500	N/A	N/A	N/A	N/A	N/A
LE/LIT-06A22A	Ultrasonic Level Transduce	06 - Fine Screen - Lime	Siemens Corporation	7ML5033-1AA003B Z Y15	P8DAX3230 ???	MultiRanger 100 (Single Point Unit)		0.25%	0-50 ft	1 ft	50 ft	ft
LE/LIT-06A22A	N/A	06 - Fine Screen - Lime	Siemens Corporation	7ML1930-1BJ	N/A	Stainless Steel TAG		N/A	N/A	N/A	N/A	N/A
LE/LIT-06A22A	Ultrasonic Level Sensor	06 - Fine Screen - Lime	Siemens Corporation	7ML1100-0BA20	911176	ST-H Level Transducer (2" NPT - PTFE Face - 10m Cable)			0-20 ft	1 ft	26 ft	ft
LE/LIT-06A22A	N/A	06 - Fine Screen - Lime	Siemens Corporation	7ML1830-1BH	N/A	Submergence Shield Kit		N/A	N/A	N/A	N/A	N/A
LE/LIT-06A22A	Mounting Plate	06 - Fine Screen - Lime	Siemens Corporation	7ML1830-1BT	N/A	FMS-210 Channel Bracket, Wall Mount	$ 1,500	N/A	N/A	N/A	N/A	N/A
LE/LIT-06A22B	Ultrasonic Level Transduce	06 - Fine Screen - Lime	Siemens Corporation	7ML5033-1AA003B Z Y15	P8DAX3230214	MultiRanger 100 (Single Point Unit)		0.25%	0-50 ft	1 ft	50 ft	ft
LE/LIT-06A22B	N/A	06 - Fine Screen - Lime	Siemens Corporation	7ML1930-1BJ	N/A	Stainless Steel TAG		N/A	N/A	N/A	N/A	N/A
LE/LIT-06A22B	Ultrasonic Level Sensor	06 - Fine Screen - Lime	Siemens Corporation	7ML1100-0BA20	911177	ST-H Level Transducer (2" NPT - PTFE Face - 10m Cable)			0-20 ft	1 ft	26 ft	ft
LE/LIT-06A22B	N/A	06 - Fine Screen - Lime	Siemens Corporation	7ML1830-1BH	N/A	Submergence Shield Kit		N/A	N/A	N/A	N/A	N/A
LE/LIT-06A22B	Mounting Plate	06 - Fine Screen - Lime	Siemens Corporation	7ML1830-1BT	N/A	FMS-210 Channel Bracket, Wall Mount	$ 1,500	N/A	N/A	N/A	N/A	N/A
							$62,200					

Line Item 3 Total Asset Registry

+++ END OF SECTION 01780 +++

SECTION 01800
MAINTENANCE

PART 1 - GENERAL

1.01 DESCRIPTION

A. Contractor will be required to maintain stored and installed equipment and materials until Final Acceptance of the Work. Work included, but is not limited to:

1. Perform all required maintenance.
2. Repair and maintain protective coatings.
3. Repair and replace scratched and damaged materials and equipment.
4. Maintain and operate new equipment placed into service.

B. Work per this Section starts on the date the equipment and materials are received and continued until the Date of Final Acceptance.

C. Contractor will monitor equipment storage and subsequently the operation and material functionality on a continual basis during the specified time period. Any deterioration of materials or malfunction of equipment will be followed by swift repair action to minimize the damage. Such repair may include repair and technical services by an independent contractor if the Engineer deems the Contractor's efforts are ineffective in correcting the problem.

D. All costs for maintenance and repair of stored and installed equipment and materials, including costs from an independent contractor, during the specified time period will be the sole responsibility of the Contractor.

+ + + END OF SECTION 01800 + + +

EXHIBIT D

BASIS OF DESIGN DOCUMENTS

EXHIBIT D-1

SCOPE OF WORK

Acronym List

ACI	American Concrete Institute
ANSI	American National Standards Institute
AWWA	American Water Works Association
BMP	Best Management Practice
City	City of Atlanta/City of Atlanta, Department of Watershed Management
CMMS	Computerized Maintenance Management System
DCS	Distributed Control System
DTCS	Document Tracking and Control System
DVD	Digital Video Disk/Digital versatile disk
GA	State of Georgia
GPM	Gallons per Minute
HVAC	Heating , ventilating, and air Conditioning
ICEA	Insulated Cable Engineers Association
I/O	Input/Output
ISA	International Society of Automation
MCCS	Motor Control Centers
Mg	Magnesium
mg/l	Milligram per liter
MGD	Million Gallons per Day
MSDS	Material Safety Data Sheet (AKA Safety Data Sheet)
N	Nitrogen
NETA	National Educational Telecommunications Association
NH_4	Ammonia
NIST	National Institute of Standards and Technology

NPDES	National Pollutant Discharge Elimination System
NEMA	National Electrical Manufacturers Association
NRS	Nutrient Recovery System
NTP	Notice to Proceed
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
P	Phosphorus
PLC	Programmable logic Controller
PO_4	Orthophosphate
PLC	Programmable logic Controller
ppd	pounds per day
PC	Pollution Control
SAE	Society for Automotive Engineers
SCADA	Supervisory Control and Data Acquisition
UN	Unified
UNR	Unified external threads only
WRC	Water Reclamation Center

Supplemental Definitions

When used in the Contract Documents, the following capitalized terms have the following meanings:

"Beneficial Reuse" means an agricultural grade By-product used for soil amendment or in a saleable product in compliance with all local, state, federal and international regulations. Beneficial reuse does not include burial of By-product at landfills other than for soil amendment or landfill close-outs.

"Beneficial Reuse Goal" or "BRG" is the goal established by Service Provider expressed as a percentage of total By-Product hauled, processed, and disposed on a monthly basis.

"By-product" is the product that is made as a result of making another product. For this Scope of Work, the By-product is Struvite as a result of removing nutrients from the centrate stream in order to improve the return water quality.

"By-Product Management Plan" is the Plan which specifies the management of the By-product (e.g. Struvite) including onsite storage, transport vehicle loading, hauling, and final destination beneficial reuse or disposal in compliance with all local, state, federal and international regulations.

"Facility" or "Facilities" means the physical premises, locations and operations owned or leased by a Party and from or through which Service Provider will provide any Services.

"Gross Weight" is the total loaded weight of the vehicle used in the transportation of material(s) referred to in these specifications and is determined by the combined weight of said vehicle and the load and is determined by State of Georgia certified scales.

"Maintenance Plan" is the Plan which specifies the times and types of maintenance measures for the Nutrient Recovery System, ancillary installed systems, and any attached appurtances.

"Nutrient Recovery System" is the necessary equipment and processes (inclusive of additional chemical treatment, material transfers, and chemical or by-product storage) required to recover nutrients (specifically in the form of Struvite) from the wastewater dewatering centrate to the extent specified in the scope of work.

"Struvite" (magnesium ammonium phosphate) is a phosphate mineral with formula: $NH_4MgPO_4 \cdot 6H_2O$.

SCOPE OF WORK

1. GENERAL

1.1 Background

R.M. Clayton Water Reclamation Center ("**WRC**") (2440 Bolton Road, NW, Atlanta, GA 30318, illustrated on Figure 1) is initiating a nutrient recovery project to remove struvite from the Dewatering System (illustrated on Figure 2, No. 5) centrate.

The City of Atlanta's Department of Watershed Management (City) operates, maintains, and administers the R.M. Clayton WRC. The WRC currently operates at an average of approximately seventy-five (75) MGD, which varies from forty (40) MGD to three hundred (300) MGD instantaneous flows. The WRC discharge permit requires the effluent to meet a total phosphorus limit. The plant employs a combination of chemical and biological phosphorus removal to meet this limit. Waste activated sludge produced at the plant is centrifuge thickened, anaerobically digested, centrifuge dewatered, then incinerated. The WRC dewatering centrate has a high concentration of dissolved nutrients, specifically phosphorus and ammonia. The presence of these nutrients at high concentration causes unintentional struvite scale to form. The formation of struvite is currently providing a benefit to the plant, as phosphorus that would normally be recycled to the head of the plant is currently being removed with the plant's dewatered sludge or via removal by adherence to the pipes in the form of struvite crystals. However, that same benefit results in underground and aboveground piping to be abandoned or removed and replaced on a regular basis increasing costs and introducing operational and compliance risk.

Returning high nutrient load to the main plant imposes additional treatment demands on biological nutrient removal processes. These loads increase treatment requirements, requiring operators to supplement biological removal with chemical (e.g. ferric chloride and Polyaluminum Chlorides) to precipitate phosphorus to meet effluent phosphorus limits.

1.2 Summary of Work

The Work to be performed under this Contract, includes, but is not limited to the design, purchase, installation, testing, and startup of a Nutrient Recovery System (NRS) to treat the Dewatering System centrate to remove the phosphorus from the system and provide for by-product (struvite) removal from the plant site as a final product. Prior to or during startup, the City Staff are to be trained to the extent necessary to correctly operate the equipment in conformance with the manufacture's recommendations as a condition of Substantial Completion. An extended warranty for five (5) years shall be provided for the NRS equipment. Additionally, a Service Agreement for By-product management (described below in Section 1.2.1) shall be included that shall continue for a period of five (5) years with the option to renew for

three (3) additional five (5) year terms at the City's sole discretion in conjunction with the maintenance services (described below in Section 1.2.2. As a condition of final acceptance of the Nutrient Recovery System, Design-Builder shall execute a Service Agreement in substantial form as included in the RFP (Exhibit E) for by-product management and maintenance as required in the By-Product Management and Maintenance Plans, respectively, according to the final terms and conditions negotiated with the Design-Builder included in this Agreement.

1.3 Proponent shall provide for the hauling and disposal and/or Beneficial Reuse of the By-product, which shall be described in the By-Product Management Plan which shall be incorporated into a Service Agreement (in conjunction with the Maintenance Plan in substantial conformance with Exhibit E that shall continue for a period of five (5) years with the option for three (3) five (5) year renewal options at the City's sole discretion in conjunction with the maintenance services described in Section 1.3, below. Proponent shall provide for the Beneficial Reuse of the by-product to the extent feasible and be responsible for ultimate Disposal of the By-product. Proponent shall provide the City with a complete hauling, processing and disposal plan for By-product with the proposal.

1.4 Proponent shall provide the City with a maintenance which shall be incorporated into a Service Agreement (in conjunction with the By-Product Management Plan in substantial conformance with Exhibit E) for five (5) years with the option for three (3) five (5) year renewal options at the City's sole discretion.

1.5 Proponent shall provide the City with an extended five (5) year warranty for the Nutrient Recovery System equipment, which shall become effective upon final acceptance of the Nutrient Recovery System, as defined in the Proposal Documents.

1.6 City Responsibilities

Upon Substantial Completion and the necessary training of plant personal has been conducted, the City will be responsible for operation of the NRS. Upon Final Acceptance, the NRS and any related installations, equipment, and appurtances become the property of the City and take title. During the duration of the Service Agreement and warranty period, The City shall provide temporary storage space for spare parts for use by Contractor maintenance representatives. Replacement parts shall be installed on an exchange basis at no additional charge to City of Atlanta. Parts removed on an exchange basis become the property of Contractor; parts installed become the property of the City of Atlanta.

1.7 Site Location and Facilities

City site location and facilities shall be as-is. The City makes no representation or warranty with respect to the City's facilities, utilities, quantity or quality of centrate or flows, or any other condition at the WRC. Based upon its review of the available data samples (if any), site investigations, investigations and other inquiries made by Design-Builder, which the Design-Builder acknowledges to be sufficient for this purpose, the

Design-Builder assumes the risk of the quantities and quality of the centrate and flows and understands the existing, "as-is" condition of the WRC as such condition may affect and impact: 1) the quantity and quality of the centrate and flows; and 2) the ability of the Design-Builder to comply with Applicable Laws in the provision of Work described under the Agreement. The Design-Builder agrees that any latent or patent defect, flaw, error, inoperability, inadequacy or other condition or aspect of the WRC that exists as of the execution of this Agreement or that may be revealed during the term of the Agreement shall not relieve Design-Builder from performing its obligations under this Agreement.

1.8 Nutrient Recovery Process Design Description and Loadings

The nutrient recovery process shall be designed to treat the phosphate-rich centrate from the dewatering centrifuge system. The quantities stated in the proposal are based on the City's best estimate of present and forecasted characteristics. Both historical RMC WRC plant data and actual samples have been made available for Design-Builder to independently project anticipated characteristics. Table 1 shows expected concentrations of applicable streams and flow rates for current operations. Table 2 provides the current predicted plant operational characteristics and Table 3 the future predicted plant influent flow characteristics[1]. The system shall be sized to treat the current flows and loads with space in the physical layout to accommodate future reactors as needed to treat the Year 20 flows and loads.

Table 1 - Predicted Process Flow Stream Concentrations

Year 1 – Centrate Stream Data[2]		
Parameter	**Value**	**Units**
Flow Rate	400	GPM
Orthophosphate Concentration (OP)	214	mg/L PO_4-P
Ammonia Concentration	465	mg/L NH_4-N
Magnesium Concentration	20	mg/L Mg
pH	7.39	pH units

[1] Based on the Technical Memorandum, City of Atlanta, Water Resource Management Plan: Wastewater Component Process Modeling, BGR, March 15, 2013.
[2] Based on Pilot Testing conducted April 30 to May 16, 2013. Pilot Test Report provided as Attachment 1.

Table 2 – RM Clayton Current predicted process flow characteristics

Influent (includes recycle streams)	
Flow, mgd	71.8
COD, mg/L	470
cBOD, mg/L	109
BOD, mg/L	130
TSS, mg/L	242
NH3-N, mg/L	23.6
TP, mg/L	5.9
Primary Effluent	
cBOD, mg/L	94
BOD, mg/L	112
TSS, mg/L	69
NH3-N, mg/L	23.1
Operation	
Temp, °C	19.5
MLSS, mg/L	3130
RAS TSS, mg/L	8540
Final Effluent	
TSS, mg/L	1.2
cBOD, mg/L	2.1
COD, mg/L	14.1
TKN, mg/L	0.38
NH3-N, mg/L	0.08
Org N, mg/L	0.30
TP, mg/L	0.11
OP, mg/L	0.08
Solids	
Primary Sludge, %TS	3.7
TWAS, %TS	7.93
Dewatering Feed, mgd	0.417
Dewatering Feed, %TS	2.58
Dewatered Cake, %TS	25.3
Dewatered Cake, lbs/d	99400

Table 3 RM Clayton WRC Future projected Characteristics

Parameter	Maximum Month	Annual Average
20 Year Projections 2033		
Flow1, mgd	99.4	89.6
cBOD, mg/L (lbs/d)	160 (132,600)	148 (111,000)
TSS, mg/L (lbs/d)	335 (278,300)	273 (204,400)
COD, mg/L (lbs/d)	524 (434,300)	473 (353,200)
NH3-N2, mg/L (lbs/d)	21.4 (17,800)	21.2 (15,800)
TP, mg/L (lbs/d)	5.7 (4,700)	5.4 (4,020)
30 Year Projections 2043		
Flow1, mgd	104.4	94.1
cBOD, mg/L (lbs/d)	165 (143,400)	153 (120,000)
TSS, mg/L (lbs/d)	345 (300,800)	281 (221,000)
COD, mg/L (lbs/d)	539 (469,500)	486 (381,800)
NH3-N2, mg/L (lbs/d)	22.1 (19,200)	21.8 (17,100)
TP, mg/L (lbs/d)	5.8 (5,080)	5.5 (4,350)

[1]Subtracted 2.0 mgd of scrubber water flow in model simulations (no incinerators in future)
[2]Assumed NH3-N/TKN ratio of 0.70

2. Nutrient Recovery System Requirements

Minimum removal efficiencies[3] by the installed system (for the dewatering centrate) are to be:

Orthophosphate ($P\text{-}PO_4$)	85%
Ammonia ($N\text{-}NH_4$)	20%

Removed material is to be in a commercially viable form suitable for use in agricultural grade fertilizer, soil amendment or other beneficial reuse to be specified by the Proponent in their By-Product Management Plan.

The system is to be designed and constructed to have a lifespan of thirty (30) years with the ability to treat the twenty (20) year projected flow based on the above projected characteristics and shall meet or exceed City Technical Specifications as well as those provided in Exhibit C. Where possible, energy star rated equipment, lighting, etc. shall be specified in order to make the facility as energy efficient as possible. The system controls

[3] To be monitored daily, with weekly average required to be above the minimum removal efficiencies. Weekly average is calculated by the sum of the daily values divided by the number of days monitored.

shall be integrated into the plant SCADA System with local and remote monitoring, operation, and alarms.

Location of Nutrient Recovery System shall be in close proximity to the current dewatering facilities with pumping minimized to the extent possible for energy efficiency. Any demolition or site preparation is the responsibility of the Design-Builder. By-product management and storage shall be automated with minimal manual intervention and optimized for cost effective quantities for hauling. Security features (e.g. cameras with connection to the City's Security Control Center, lighting, etc.) shall be installed in substantial conformance with the existing system at the RM Clayton WRC warehouse and capable of integration to the City's existing monitoring system.

An extended warranty for the NRS to last five (5) years from final acceptance shall be included in the Proposal.

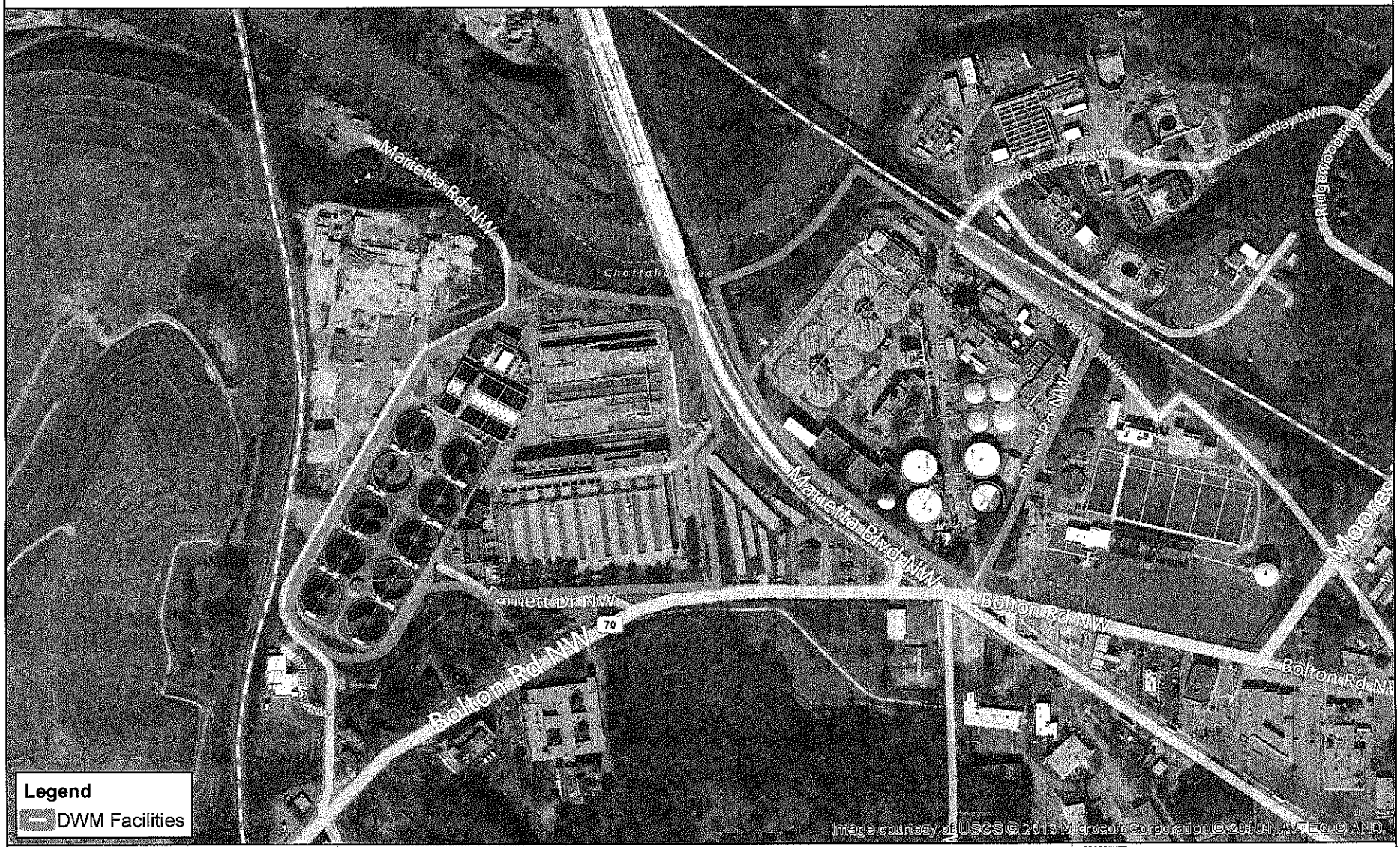
By-Product Management and Maintenance Plans (Plans) shall be included in the Proposal. Both Plans shall be incorporated into a Service Agreement (in substantial conformance with Exhibit E) that shall continue for a period of five (5) years with the option to renew for three (3) additional five (5) year terms at the City's sole discretion as a condition of Substantial Completion. The Proponent shall submit updated Plans annually on the anniversary of the execution of the Services Agreement. If there is a material change in the Plans during the calendar year, the Proponent shall, within fourteen (14) days of such change, provide written notice and an updated management plan to the City at no cost to City and implement the change only following the written approval of the City. The By-Product Management Plan shall specify a specific Beneficial Reuse Goal (BGR) but make provisions for material that does not meet required specifications for Beneficial Reuse. The Maintenance Plan shall clearly specify the maintenance to be performed under the Service Agreement and shall provide detailed information on any routine inspections, checks, or minor adjustments to be performed by City staff between scheduled preventive maintenance. The plan will include integrating maintenance records into the City's Maximo maintenance management system for documentation within fifteen (15) days of maintenance being performed.

City of Atlanta Specifications

The following specifications are provided in Exhibit C

01011	Unique Requirements
01014	Work Sequence
01016	Occupancy
01040	Coordination
01100	Special Project Conditions
01200	Measurement and Payment
01350	Project Document Tracking and Control Systems
01410	Testing Laboratory Services
01540	Security and Safety
01600	General Material and Equipment Requirements
01610	Transportation and Handling
01640	Manufacturer's Services
01650	Facility Startup
01664	Training
01780	Asset Management Records
01800	Maintenance

RMC Site Location



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The City of Atlanta has made known that these data contain known errors and inconsistencies. The City of Atlanta in no way ensures, represents, or warrants the accuracy and/or reliability of the data and/or map products being developed. The user of the data and or map products assumes all risks and liabilities which may arise from the information produced by maps or data furnished to the user by the City of Atlanta.

City of Atlanta
Department of Watershed Management

COORDINATE SYSTEM	NAD 1983 STATE PLANE GEORGIA WEST
MAP UNITS	U.S. SURVEY FEET
DATE	9/6/2013
AUTHOR	DWM GIS
TICKET #	238
MAP SCALE	1:6,000 1 in = 500 ft

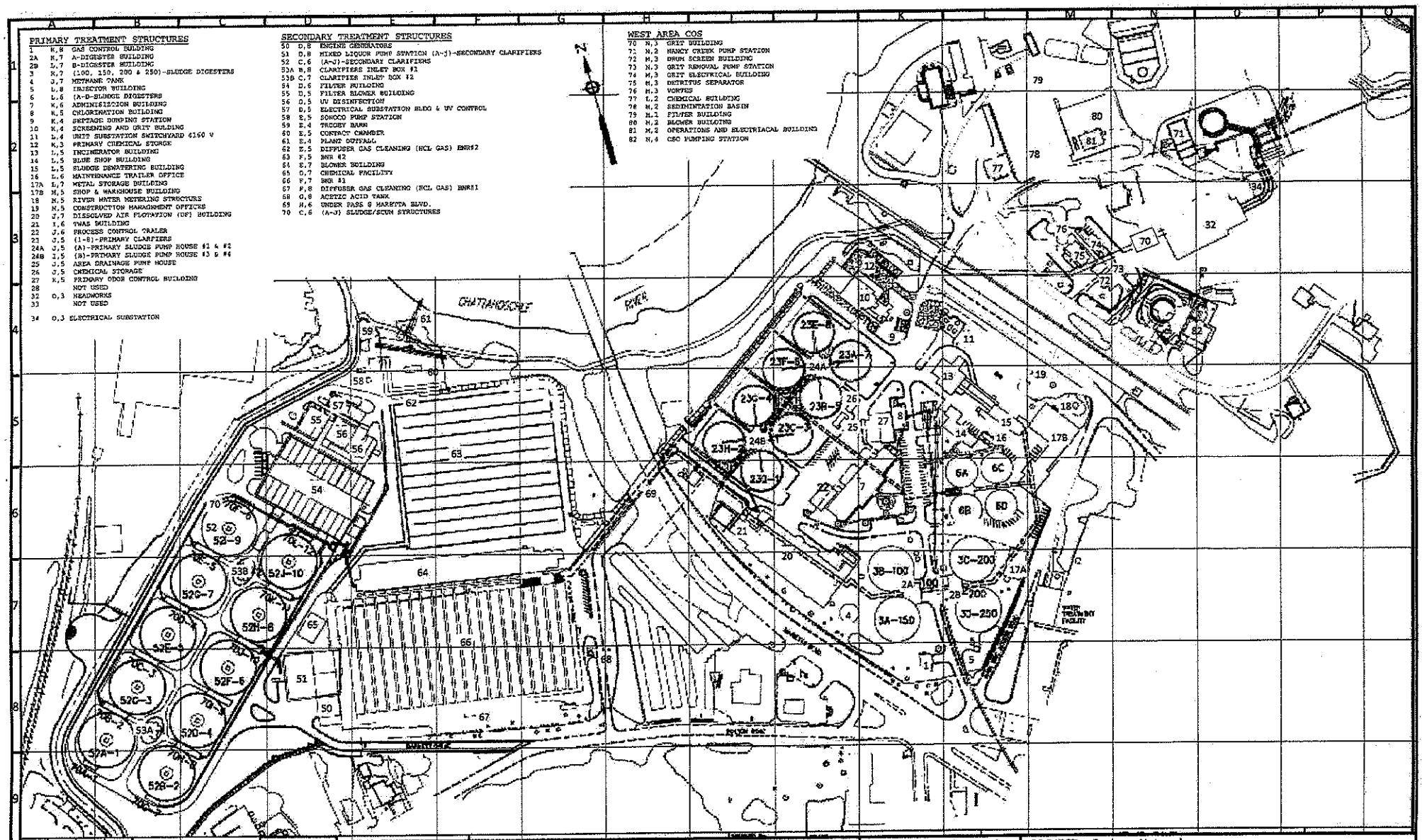
COMMENTS:

N W E S

File Location: C:\Documents and Settings\hwatson\My Documents\Data\Ticket_Number_238\RMCSiteLocation.mxd

FIGURE 2

RM CLAYTON INJECTION BUILDING



CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
RM CLAYTON WCR
2440 BOLTON ROAD, NW
ATLANTA GA 30318

RM CLAYTON WCR SITE MAP

COA ENGINEER: J Bentley		PROJECT: Foxboro Network	
COA PO#:		FILE: dcs_drawing	TAB: AREA
DATE: 9/28/2012		DRAWING NUMBER:	SHEET: 3 of 12

PRIMARY TREATMENT STRUCTURES

1	K,8	GAS CONTROL BULDING
2A	K,7	A-DIGESTER BUILDING
2B	L,7	B-DIGESTER BUILDING
3	K,7	(100, 150, 200 & 250)-SLUDGE DIGESTERS
4	J,7	METHANE TANK
5	L,8	INJECTOR BUILDING
6	L,6	(A-D-SLUDGE DIGESTERS
7	K,6	ADMINISIZTION BUILDING
8	K,5	CHLORINATION BUILDING
9	K,4	SEPTAGE DUMPING STATION
10	K,4	SCREENING AND GRIT BULDING
11	L,4	UNIT SUBSTATION SWITCHYARD 4160 V
12	K,3	PRIMARY CHEMICAL STORGE
13	L,5	INCINERATOR BUILDING
14	L,5	BLUE SHOP BUILDING
15	L,5	SLUDGE DEWATERING BUILDING
16	L,6	MAINTENANCE TRAILER OFFICE
17A	L,7	METAL STORAGE BUILDING
17B	M,5	SHOP & WAREHOUSE BUILDING
18	M,5	RIVER WATER METERING STRUCTURE
19	M,5	CONSTRUCTION MANAGEMENT OFFICES
20	J,7	DISSOLVED AIR FLOTATION (DF) BUILDING
21	I,6	TWAS BUILDING
22	J,6	PROCESS CONTROL TRALER
23	J,5	(1-8)-PRIMARY CLARFIERS
24A	J,5	(A)-PRIMARY SLUDGE PUMP HOUSE #1 & #2
24B	I,5	(B)-PRIMARY SLUDGE PUMP HOUSE #3 & #4
25	J,5	AREA DRAINAGE PUMP HOUSE
26	J,5	CHEMICAL STORAGE
27	K,5	PRIMARY ODOR CONTROL BUILDING
28		NOT USED
32	O,3	HEADWORKS
33		NOT USED
34	O,3	ELECTRICAL SUBSTATION

SECONDARY TREATMENT STRUCTURES

50	D,8	ENGINE GENERATORS
51	D,8	MIXED LIQUOR PUMP STATION (A-j)-SECONDARY CLARIFIERS
52	C,8	(A-J)-SECONDARY CLARFIERS
53A	B,8	CLARFIERS INLET BOX #1
53B	C,7	CLARFIER INLET BOX #2
54	D,6	FILTER BUILDING
55	D,5	FILTER BLOWER BUILDING
56	D,5	UV DISINFECTION
57	D,5	ELECTRICAL SUBSTATION BLDG & UV CONTROL
58	E,5	SONOCO PUMP STATION
59	E,4	TROOEY BARN
60	E,5	CONTACT CHAMBER
61	E,4	PLANT OUTFALL
62	E,5	DIFFUSER GAS CLEANING (HCL GAS) BNR#2
63	F,5	BNR #2
64	F,7	BLOWER BUILDING
65	D,7	CHEMICAL FACILITY
66	F,7	BNR #1
67	F,8	DIFFUSER GAS CLEANING (HCL GAS) BNR#1
68	G,8	ACETIC ACID TANK
69	H,6	UNDER PASS @ MARETTA BLVD.
70	C,6	(A-J) SLUDGE/SCUM STRUCTURES

WEST AREA CSO

70	N,3	GRIT BUILDING
71	N,2	NANCY CREEK PUMP STATION
72	M,3	DRUM SCREEN BUILDING
73	N,3	GRIT REMOVAL PUMP STATION
74	M,3	GRIT ELECTRICAL BUILDING
75	M,3	DETRITUS SEPARATOR
76	M,3	VORTES
77	L,2	CHEMICAL BUILDING
78	M,2	SEDIMINTATION BASIN
79	M,1	FILTER BUILDING
80	M,2	BLOWER BUILDING
81	M,2	OPERATIONS AND ELECTRIACAL BUILDING
82	N,4	CSO PUMPING STATION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
RM CLAYTON WCR
2640 BOLTON ROAD, NW
ATLANTA GA 30318

RM CLAYTON WCR SITE MAP
AREA INDEX

COA ENGINEER: J Bentley	PROJECT: Foxboro Network		
COA PO#:	FILE: dcs_drawing	TAB:	INDX
DATE: 9/28/2012	DRAWING NUMBER:	SHEET:	2 of 12

EXHIBIT D-2

OSTARA – PILOT SCALE PROJECT

OSTARA

Pilot Scale Nutrient Recovery Project at the R.M. Clayton Water Reclamation Center

June 12, 2013

Prepared for: The City of Atlanta,
Department of Watershed Management

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1. Executive Summary

The City of Atlanta Department of Watershed Management is evaluating the Ostara Pearl® Nutrient Recovery Process to recover nutrients and prevent nuisance struvite scale formation at the R.M. Clayton Water Reclamation Center (R.M. Clayton WRC). The City of Atlanta's Department of Watershed Management (the City) experiences severe struvite scaling of centrate drain lines and must rely on costly chemicals to support biological phosphorus removal and ensure phosphorus discharge permit limits are met.

Nutrient recovery offers many triple-bottom-line benefits to the City, including:

1. Preventing struvite scale formation and associated costs
2. Significantly reducing the load of phosphorus returned to the main plant
3. Reducing the load of ammonia returned to the main plant
4. Reducing the volume of sludge requiring treatment and disposal
5. Improving anaerobic digester performance (increased volatile solids destruction and gas production.)
6. Recovering struvite as a premium fertilizer product, generating revenues
7. Increasing environmental sustainability

Ostara conducted a pilot study treating centrifuge centrate at R.M. Clayton WRC to demonstrate the performance and operational characteristics of the Pearl® process. The study began on April 30 and was completed on May 16, 2013.

The principal results of the study include:

1. Treated centrate ortho-phosphate concentration averaged 36 mg/l and 19 mg/l at pH setpoints of 7.5 and 7.8 respectively, corresponding to average ortho-phosphate removal efficiencies of 84% and 91%.
2. The process produced high-quality fertilizer conforming with applicable fertilizer standards and confirming that a full scale system will produce fertilizer meeting the high-quality standards necessary to be marketed and sold under the Crystal Green® brand.

These results demonstrate that the Pearl® process is a viable technology to convert nutrients in the City's centrate into a high quality fertilizer product, achieving the City's efficiency and sustainability goals. Ostara acknowledges the diligent support received from the City and Gresham Smith during the planning, setup, operation, and decommissioning of the pilot plant. This assistance was critical to the success of the project.

2. Background

The City of Atlanta's Department of Watershed Management operates, maintains, and administers the R.M. Clayton WRC. The WRC has a design capacity of 240 MGD and currently treats a flow of approximately 75 MGD. The WRC discharge permit requires the effluent to meet a total phosphorus limit. The permit also requires orthophosphate to be reported, indicating the potential for a future orthophosphate discharge limit. The plant employs biological phosphorus removal to meet the discharge permit. Waste activated sludge produced at the plant is centrifuge thickened, anaerobically digested, centrifuge dewatered, then incinerated.

The R.M. Clayton WRC dewatering centrate has a high concentration of dissolved nutrients, specifically phosphorus and ammonia. The presence of these nutrients at high concentration causes unintentional struvite scale to form. Struvite scale has completely blocked the plant's buried centrate drain line, which is now abandoned. The replacement line also blocks frequently, requiring continuous replacement. Returning this high nutrient load to the main plant imposes additional treatment demands on biological nutrient removal processes. These loads often overwhelm treatment capacity, requiring operators to add large doses of ferric chloride to precipitate phosphorus to meet effluent phosphorus limits.

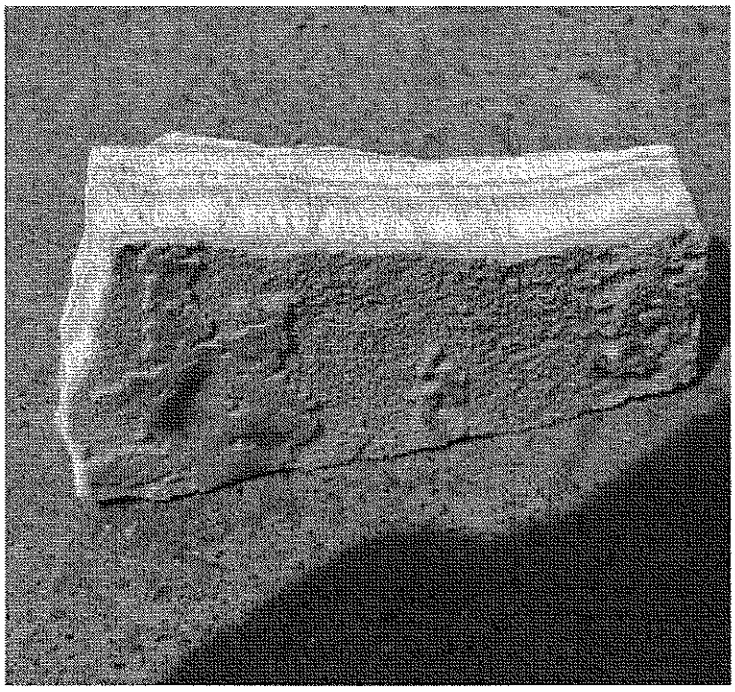

Figure 1. Nuisance struvite (as seen at a WWTP in Gwinnett County, GA above) completely blocked RM Clayton WRC's buried centrate line, forcing the line to be abandoned. Ostara's Pearl® process protects centrate lines and produces a high-quality commercial fertilizer in the process.

Gresham Smith identified Ostara's nutrient recovery technology as a potential solution to overcome struvite scale and nutrient recycle challenges. The technology not only improves treatment plant reliability and efficiency, but also produces a high-quality fertilizer, generating revenues for the City and compelling triple bottom line benefits.

Ostara's core technology is the Pearl® nutrient recovery process. Pearl extracts nutrients from concentrated used water streams, transforming them into high quality Crystal Green® fertilizer.

Gresham Smith recommended that Ostara pilot test the Pearl® Nutrient Recovery process at the R.M. Clayton WRC. Ostara completed this testing between April 30 and May 16, 2013.

2.1 The Pearl® Process

The Pearl® Nutrient Recovery Process operates by initiating and controling struvite precipitation within an upflow fluidized bed reactor. Struvite is a crystalline mineral comprised of one mole each of magnesium, ammonium and phosphate bound together with six waters of hydration ($NH_4MgPO_4 \cdot 6H_2O$.) Struvite forms when these three ions are present in a solution above the saturation point. In the Pearl Process, the limiting mineral(s) is added to form struvite. In municipal sewage treatment applications (including the R.M. Clayton WRC), orthophosphate is the constituent we are trying to remove and magnesium is the limiting precipitant, Ammonia is normally available in excess following anaerobic digestion where proteins are broken down. Hence, magnesium is added (typically in the form of magnesium chloride) at an equi-molar ratio to the available phosphorus. With an excess of available ammonia, struvite crystals form when the pH exceeds the saturation limit. Figure 1 depicts the process configuration.

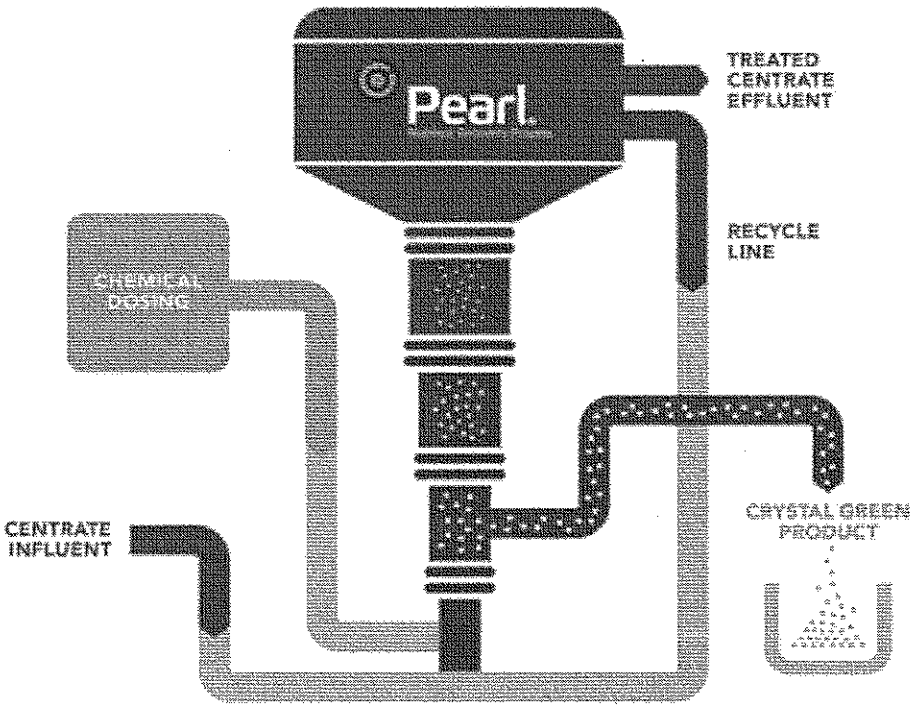

Figure 2. The Pearl® Process - a simple, proven technology that recovers phosphorus from used waters producing a premium quality, slow release fertilizer.

The rate of struvite formation in the Pearl® process is carefully controlled, to produce a high quality product with specific physical properties (size, hardness, purity etc.) Struvite formation is strongly influenced by pH; pH adjustment is provided to control process performance (the process is generally operated at a pH of between 7.2 and 8). The Pearl® process is capable of achieving phosphate removal rates well in excess of 90%, but the economic optimum operating point varies by waste stream characteristics and treatment objectives.

The Pearl® process provides many benefits to the City, including:

- Controlling struvite formation during sludge treatment and centrate return - improving plant reliability and facilitating efficient operation and maintenance.
- Significantly reducing phosphorus returned to the secondary treatment process – tackling reliance on chemical dosing to meet permit limits and freeing up treatment capacity.
- Reducing sludge volumes requiring treatment and disposal
- Recovering nutrients as a premium quality, environmentally-friendly fertilizer - generating recurring revenues and conserving finite natural resources

Ostara markets and sells the product made by the Pearl® process as a slow release fertilizer (branded Crystal Green®.) Crystal Green® has been thoroughly tested, and consistently found to be completely inorganic, very high in purity, and pathogen-free. Crystal Green® has a number of characteristics that differentiate it relative to conventional phosphorus fertilizers and position it as a valuable product, including slow nutrient release, beneficial magnesium content, and environmentally sustainable production. Ostara has certified Crystal Green® as a fertilizer (not as biosolids) in the United States, Canada and Europe. Ostara sells Crystal Green® to both commercial and retail consumers. Ostara has made substantial investments to establish a fertilizer business, and commits to purchase all Crystal Green® produced by the City. We take full responsibility for the product from the moment it is loaded onto our collection vehicle, shielding the City from fertilizer sales risk. Our expert fertilizer team includes Sales, Marketing, and Agronomy to maximize the value you obtain from your resource.

3. Objectives

The objectives of this study were to:

- Demonstrate the phosphorus and nitrogen removal performance of Ostara's Pearl® nutrient recovery process on RM Clayton WRC sludge dewatering centrate
- Demonstrate the operational characteristics and process robustness
- Demonstrate the relationship between pH adjustment and process performance
- Demonstrate that struvite manufactured at full scale will be of an appropriate quality to be marketed by Ostara as Crystal Green® fertilizer

4. Method

Ostara assembled its Pearl® pilot plant in the dewatering building at the R.M. Clayton WRC on April 30th 2013. On May 1st, Ostara seeded the reactor with product from an existing full-scale nutrient recovery facility and began feeding centrate from R.M. Clayton WRC. The photo below (Figure 3) shows Ostara's equipment setup - not shown is the caustic storage tank and effluent buffer tank.

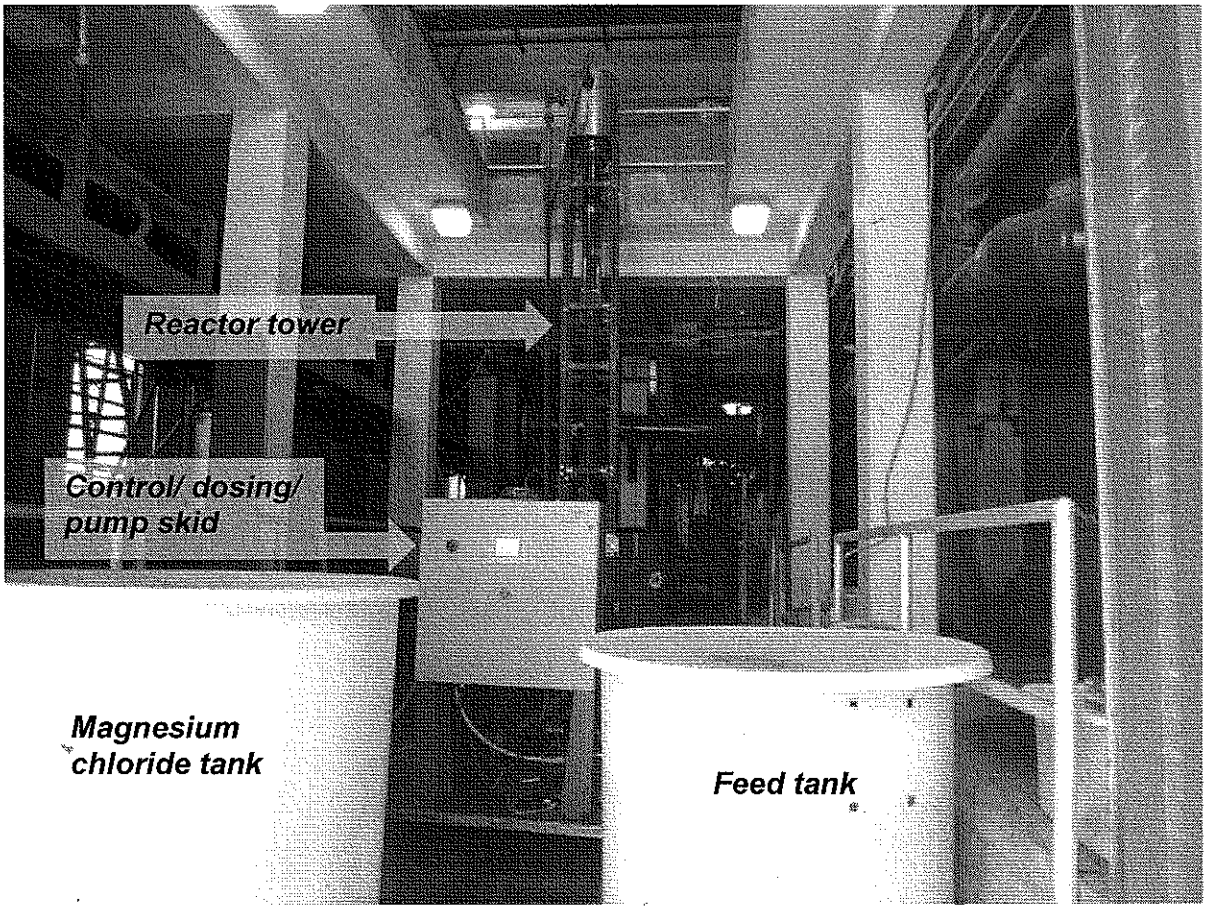

Figure 3. Ostara's pilot unit at the R.M. Clayton WRC demonstrated 84-91% phosphorus recovery from centrate

The feed to the Pearl unit was obtained by constantly redirecting a small quantity of centrate from the main centrate drain line to a feed buffer tank. The buffer tank eliminated flow variations and allowed the Pearl process to operate during periods when dewatering was shutdown. The feed to the buffer tank was stopped when the centrifuges were being cleaned to avoid centrifuge wash water diluting the feed stream. On May 6 the feed to the buffer tank inadvertently included washwater (due to an

automated shut down of the centrifuge). The feed was diluted and phosphorus removal performance dropped on this day.

The pilot equipment ran continuously whenever possible. Operation was only stopped when centrate was unavailable (caused by centrifuge operational challenges), during power outages, to maintain the pilot equipment, or to harvest fertilizer product.

Samples of process influent and effluent were collected on a daily basis. Ostara analyzed samples on site with a Hach spectrophotometer, testing for ammonia, dissolved magnesium, and ortho-phosphate concentration. The City also analyzed influent and effluent centrate at the beginning of the study when Ostara was waiting for a replacement Hach unit (the first unit was lost in transit by the courier). The pilot plant is equipped with on-line pH and flow measurement, which were monitored and recorded daily.

The process was primarily controlled by maintaining a consistent molar ratio of magnesium to phosphorus in the reactor. This was accomplished by adjusting magnesium chloride dosing relative to the orthophosphate concentration measured on-site. Magnesium chloride stock solution was made by adding water to magnesium chloride flakes in a dilute magnesium chloride storage/batch tank. The solution was then metered into the reactor through a dosing pump at the calculated setpoint. On May 1 and 2, the molar ratio was maintained at 1.05:1 Mg to P, then increased to 1.1:1 Mg to P for the remainder of the study to encourage precipitation.

Sodium hydroxide was dosed automatically using feedback from the reactor's pH probe to maintain a target pH set point. Two operating conditions were tested: pH 7.5 from May 1 to May 10, and pH 7.8 from May 11 to May 15. We tested two pH conditions to determine the impact of increased pH on struvite production so we can determine your system's optimal operating pH. Concentrated sodium hydroxide solution (provided by the City) was diluted in a batch tank and automatically dosed using a metering pump.

5. Results and Analysis

The MS Excel spreadsheet included with this report ("Pearl Demonstration Project – R.M Clayton – May 2013.xls") provides the raw chemical analyses from Ostara's Hach kit tests and operational data collected during the test. An analysis of the key data is presented below.

5.1 Pearl Process Results

Orthophosphate and ammonia removal results are summarized in the graphs (Figures 4 and 5) below:

Figure 4. Phosphorus Removal Results Demonstrate Consistent Performance

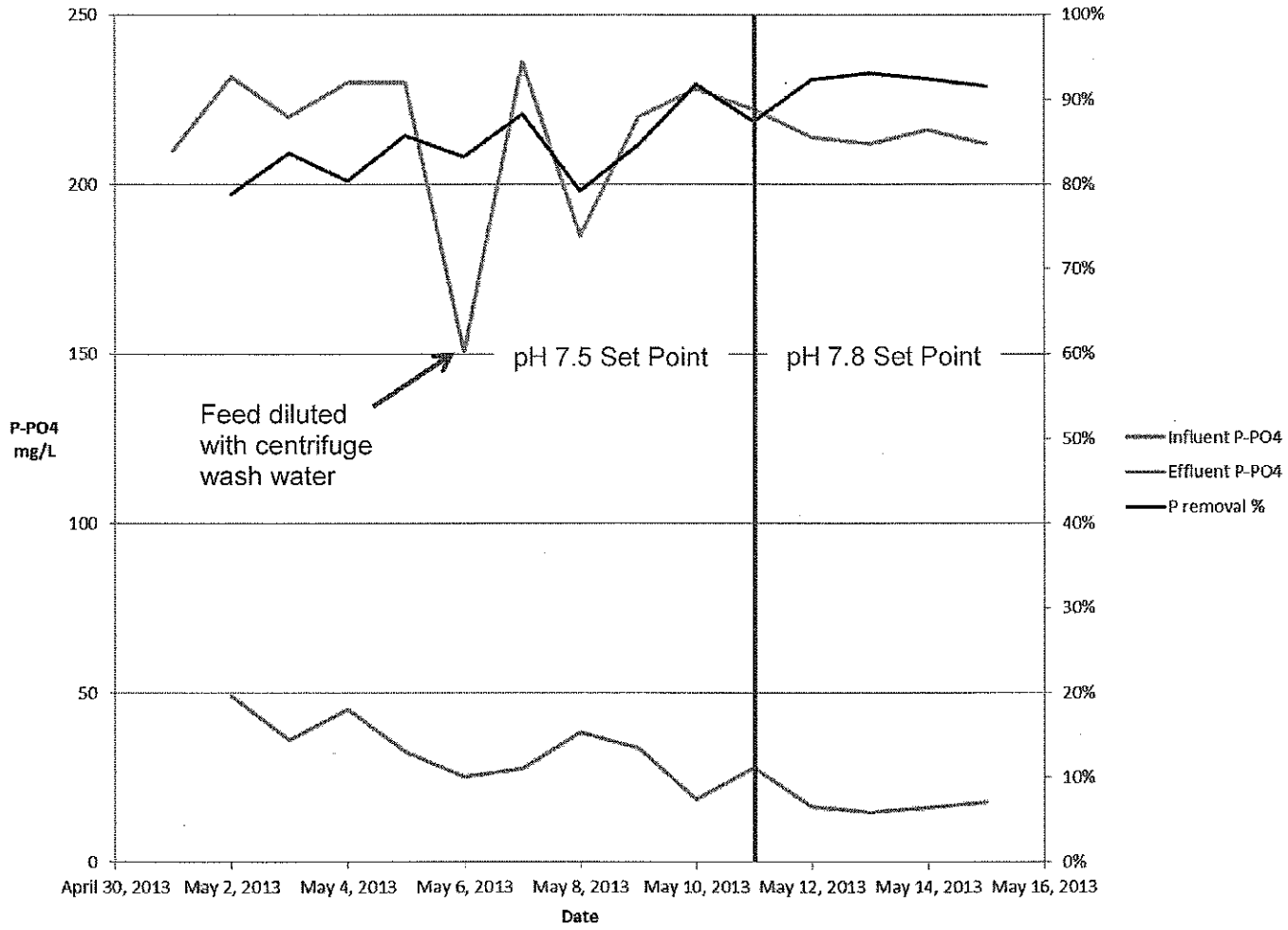

Figure 5. Ammonia Removal Consistently Exceeded 20-percent

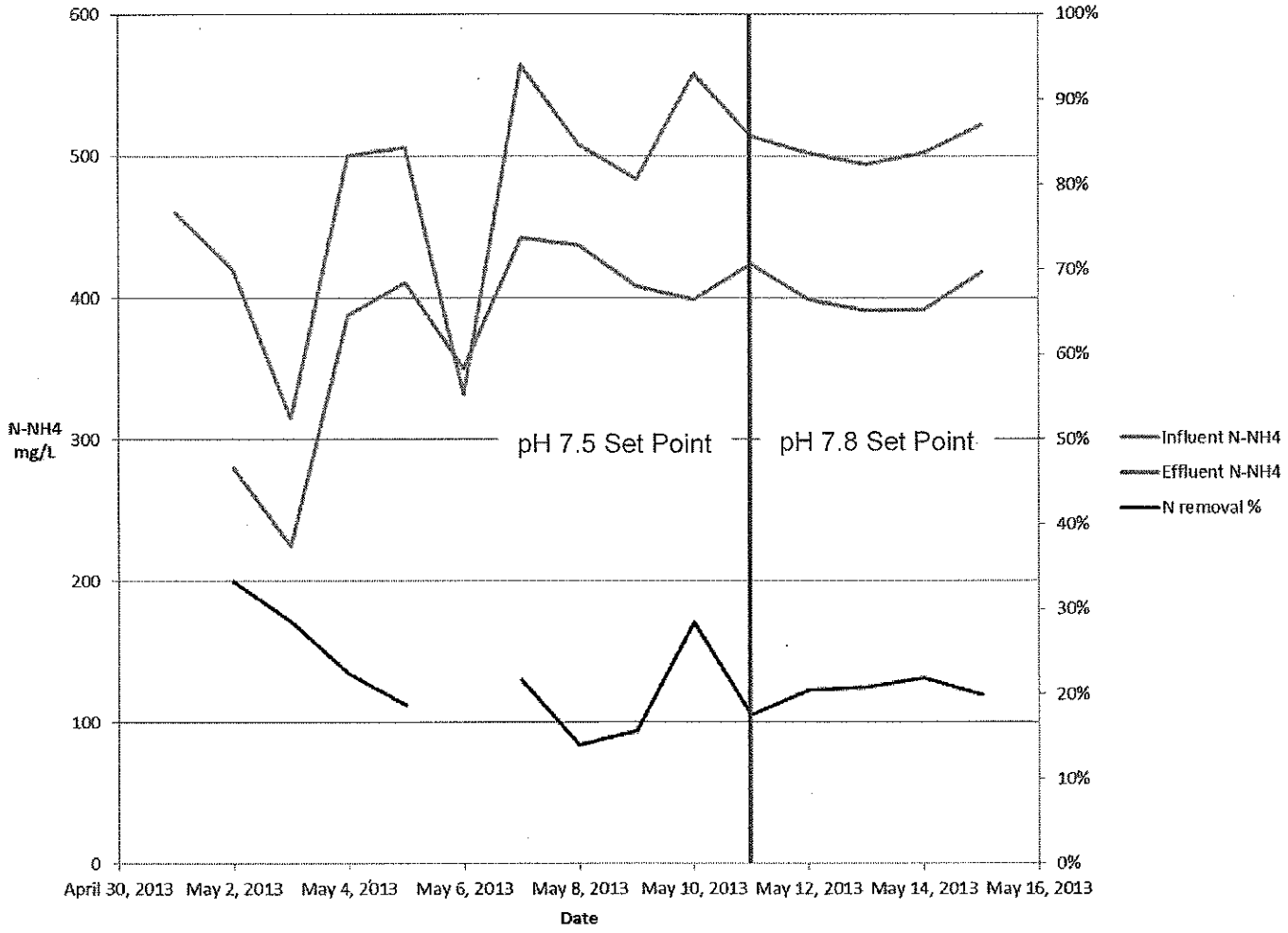

Table 1 summarizes the average study conditions and removal results during each test phase (Phase 1 = pH 7.5, Phase 2 = pH 7.8). This information helps us determine the right operating pH during design.

Table 1: Average Study Conditions and Removal Results

Phase	Parameter	Influent	Effluent	Removal
1 (pH 7.5)	Orthophosphate ($P\text{-}PO_4$)	214 mg/L	34 mg/L	85%
	Ammonia ($N\text{-}NH_4$)	465 mg/L	371 mg/L	20%
2 (pH 7.8)	Orthophosphate ($P\text{-}PO_4$)	215 mg/L	19 mg/L	91%

	Ammonia ($N\text{-}NH_4$)	507 mg/L	405 mg/L	20%

Process performance during both phases was consistent with Ostara's expectations, as predicted by our process model. The ammonia concentration was highly variable. In Ostara's experience, this is typical and is caused primarily by analytical inaccuracy (resulting from high dilution during testing), as opposed to wide variations in process performance.

The pH of the centrate feed averaged 7.35 throughout the study. A significant portion of the streams dissolved phosphorus (85%) was removed in Phase 1 (pH 7.5), and this is likely to be the most economical mode of operation. Sodium hydroxide consumption measured during this study yielded dosing rates greater than those Ostara typically observes under these operating conditions. A subsequent titration jar test of the WRC's centrate stream (completed June 5, 2013) indicated that a dose of 75 mg/L was sufficient to achieve Phase 1 performance. This value is in line with Ostara's previous experience at full-scale facilities, as well as our experience in over 30 pilot studies.

5.4 Struvite Quality

Approximately 63-pounds of Crystal Green® were produced during the study. Samples of this material were sent to a specialized laboratory to measure its quality as a fertilizer and to confirm that the product meets all regulatory standards. Appendix A lists the results of this test work. The data confirm that the struvite produced at the R.M. Clayton WRC met all regulatory requirements, and that a full-scale facility will produce fertilizer meeting the high quality standards necessary to be marketed and sold as Crystal Green®.

Figure 6. Fertilizer produced during the pilot project (shown above) meets stringent quality standards necessary for the product to be marketed under Ostara's fertilizer brand, Crystal Green®.

6. Discussion and Conclusions

Based on Ostara's experience with over 30 pilot tests, we consider this pilot scale demonstration project to have successfully fulfilled all identified objectives.

The results confirm stable nutrient removal performance in accordance with expectations.

Analysis of the struvite recovered during the study confirmed that a high quality fertilizer product suitable for marketing as Crystal Green will be recovered by a full-scale Pearl process installation is built at the R.M. Clayton WRC.

Ostara's nutrient recovery technology is a viable option for the City at the R.M. Clayton WRC that delivers considerable technical, financial and environmental benefits.

APPENDIX A: STRUVITE PRODUCT ANALYSIS RESULTS

Date of Analysis: 28-May-13
DATE of Report: 6-Jun-13
PROJECT No: Ostara

APPROVED BY: Julia Socol

CLIENT: Ostara

CONTACT:

Mark Silvanovich msilvanovich@ostara.com

KEMETCO RESEARCH INC

Kemetco Research Inc.

445-5600 Parkwood Way
Richmond, B.C., Canada

Tel: 604 273 3600
fax: 604 273 3609

COMMENTS:

METHODS: ICP-OES Analysis of Total & Dissolved Metals in Water and Wastewater, 5240/5245 v.5.0

Kemetco ID		130527B-02	130527B-03
	DL	10-May-13	13-May-13
Sample Name		Sample #1 Fertilizer	Sample #2 Fertilizer
		mg/kg	mg/kg
Ag Silver	2	<2.	<2.
Al Aluminium	8	23.1	20.9
As Arsenic	8	<8.	<8.
B Boron	20	<20.	<20.
Ba Barium	0.4	0.69	0.60
Be Beryllium	0.4	<0.4	<0.4
Bi Bismuth	20	<20.	<20.
Ca Calcium	4	714	525
Cd Cadmium	0.4	<0.4	<0.4
Co Cobalt	2	<2.	<2.
Cr Chromium	2	<2.	<2.
Cu Copper	4	<4.	<4.
Fe Iron	4	231	187
K Potassium	20	920	1043
Li Lithium	4	<4.	<4.
Mg Magnesium	4	96030	96840
Mn Manganese	0.4	55.4	52.6
Mo Molybdenum	4	<4.	<4.
Na Sodium	20	134	110
Ni Nickel	2	<2.	<2.
P Phosphorus	12	125549	126771
Pb Lead	8	<8.	<8.
S Sulfur	8	113	109
Sb Antimony	8	<8.	<8.
Se Selenium	8	<8.	<8.
Si Silicon	20	21.62	<20.
Sn Tin	8	<8.	<8.
Sr Strontium	0.4	0.69	0.61
Ti Titanium	4	<4.	<4.
Tl Thallium	8	<8.	<8.
U Uranium	20	<20.	<20.
V Vanadium	4	<4.	<4.
Zn Zinc	2	4.53	4.00
NH3 mgN/L		56306	56828
O-P mgP/L		122932	127211

EXHIBIT E

DRAFT SERVICES AGREEMENT

DRAFT SERVICES AGREEMENT; CONTRACT NO. FC-8188

This Services Agreement ("Agreement") is entered into and effective as of _____ (the "Effective Date") between the City of Atlanta ("City") and the service provider ("Service Provider") set forth below.

Contract Name: RM Clayton WRC Nutrient Harvesting Design-Build Project	**Contract No. FC-8188**
Service Provider	**City of Atlanta**
Name:	**Using Agency: Department of Watershed Management**
Address:	**Address: 72 Marietta Street, 7th Floor, Atlanta, GA 30303**
Phone:	**Phone: 404-350-4902**
Fax:	**Fax:**
Authorized Representative:	**Authorized Representative: Sandra Glenn**

1. Background.

1.1 City desires to obtain from Service Provider the services ("Services") described generally on **Exhibit A** attached.

1.2 The total not to exceed compensation amount payable by City during the initial term of this Agreement is $_____ ("Maximum Payment Amount"). More detailed terms concerning compensation payable under this Agreement are set forth on **Exhibit A.**

2. Term.

2.1 Initial Term. The initial term of this Agreement will be five (5) years. This Agreement shall commence on the Effective Date and end five (5) years later. The initial term of the Agreement and any renewal term(s) are collectively referred to as the "Term".

2.2 Renewal Terms. City shall have the right in its sole discretion to renew this Agreement for three (3) additional five (5) year terms according to the following procedure:

2.2.1 If City desires to exercise an option to renew, it will submit legislation authorizing such renewal for consideration by City's Council and Mayor prior to the expiration of the prior Term. The legislation will establish that the date of such renewal will be the day immediately following the expiration day of the prior Term;

3. If such legislation is enacted, within fifteen (15) days of such enactment, City will notify Service Provider of such renewal, at which time Service Provider shall be bound to provide Services during such renewal Term, without the need for the Parties to execute any further documents evidencing such renewal, it being acknowledged by Service Provider that its initial

execution of this Agreement is deemed its agreement to continue to provide Services during any renewal Term.

4. Interpretation.

4.1 All capitalized terms used in this Agreement shall have the meanings ascribed to them in the Contract Documents and on **Exhibit B** attached hereto.

4.2 If there is a conflict between any of the Contract Documents, precedence shall be given in the following order:[1]

1. Agreement
2. Exhibit A – Services and Additional Compensation Terms
3. Exhibit B - Definitions
4. Exhibit D - City Security Policies
5. Exhibit E - Dispute Resolution Procedures
6. Appendix A - Office of Contract Compliance Requirements
7. Appendix B - Insurance and Bonding Requirements
8. Additional Contract Documents

5. Authorization. If applicable, this Agreement is authorized by legislation adopted by City which is attached as **Exhibit C**.

5. Services.

5.1 Description of Services. Service Provider agrees to provide to City the Services per this Agreement. Exhibit A sets forth the following: (a) the period of time during which the Services will be provided; (b) a description of the Services to be provided; (c) the amounts payable and payment schedule for the Services; and (d) any additional provisions applicable to the Services. If any services to be performed are not specifically included on Exhibit A, but are reasonably necessary to accomplish the purpose of this Agreement, they will be deemed to be implied in the scope of the Services to the same extent as if specifically described on **Exhibit A**.

5.2 Resources. Unless otherwise expressly provided in this Agreement, all equipment, software, Facilities and Service Provider Personnel required for the proper performance of Services shall be furnished by and be under the control of Service Provider. Service Provider shall be responsible, at its sole cost, for procuring and using such resources in proper and qualified and high quality working and performing order.

5.3 Change Documents.

5.3.1 This section will govern changes to the Agreement, whether such changes involve an increase in the Maximum Payment Amount or not. Changes in the Services or other

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[1] For purposes of this provision, authorized changes to an item listed in the order of precedence pursuant to a Change Document take precedence over the particular item changed.

aspects of this Agreement shall be made by written document ("Change Document" or "Unilateral Change Document").[2] All changes shall be implemented pursuant to this subsection (the "Change Document Procedures") and any Applicable Law.

5.3.2 Potential Change Documents that may be issued concerning this Agreement include, but are not limited to:

(a) Change Documents to the Agreement involving an increase to the Maximum Payment Amount executed between City and Service Provider which may or may not require legislative approval under Code Section 2-1292;

(b) Change Documents to the Agreement involving no increase to the Maximum Payment Amount, changes in the value of the Charges or changes in the terms or amounts of compensation under the Maximum Payment Amount executed between City and Service Provider pursuant to Code Section 2-1292(d); and

(c) Unilateral Change Documents to the Agreement issued by City pursuant to Code Section 2-1292(d) involving no increase to the Maximum Payment Amount, changes in the value of the Charges or changes in the terms or amounts of compensation under the Maximum Payment Amount.

Change Documents that do not involve an increase in the Maximum Payment Amount will be executed pursuant to Code Section 2-1292(d) either bilaterally or unilaterally by City.

5.3.3 City may propose a change in the Services or other aspects of this Agreement by delivering written notice to Service Provider describing the requested change ("Change Request"). Within ten (10) days of receipt of City's Change Request, Service Provider shall evaluate it and submit a written response ("Proposed Change Document"). A Change Request which involves the reduction of Services shall be effective upon written notice to Service Provider.

5.3.4 Service Provider may, without receiving any Change Request, on its own submit a Proposed Change Document describing its own proposed requested change to the Agreement.

5.3.5 Each Proposed Change Document shall include the applicable schedule for implementing the proposed change, any applicable changes to the Charges (either increased or decreased) and all other information applicable to the proposed change. Each Proposed Change Document shall constitute an offer by Service Provider and shall be irrevocable for a period of sixty (60) days. City shall review and may provide Service Provider with comments regarding a Proposed Change Document, and Service Provider shall respond to such comments,

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[2] Change Documents may assume numerous multiple forms and titles depending on the nature of the change involved (e.g. Change Order, Unilateral Change Order, Amendment, Contract Modification, Renewal, etc.).

if any. A Proposed Change Document from Service Provider will become effective only when executed by an authorized representative of City.

5.3.6 City may propose any changes to the Agreement, including, but not limited to, changes that it contends do not involve an increase to the Maximum Payment Amount, a change in the Charges or changes in the terms or amounts of compensation under the Maximum Payment Amount, and Service Provider shall, in good faith, evaluate such proposed Change Request. If City and Service Provider are able to reach agreement on such Change Request, each will execute a Change Document concerning such Change Request pursuant to Code Section 2-1292(d). Nothing in this Agreement shall, in the event of disagreement between City and Service Provider concerning a proposed Change Request, or otherwise, prohibit City from issuing a Unilateral Change Document to Service Provider, pursuant to Code Section 2-1292(d), and City and Service Provider agree to resolve their dispute pursuant to the Dispute Resolution Procedures set forth in **Exhibit E**. During the pendency of such dispute, Service Provider shall continue to perform the Services, as changed by such Unilateral Change Document.

5.4 Suspension of Services. City may, by written notice to Service Provider, suspend at any time the performance of any or all of the Services to be performed under this Agreement. Upon receipt of a suspension notice, Service Provider must, unless the notice requires otherwise, (a) immediately discontinue suspended Services on the date and to the extent specified in the notice; (b) place no further orders or subcontracts for materials, services or facilities with respect to suspended Services, other than to the extent required in the notice; and (c) take any other reasonable steps to minimize costs associated with the suspension.

6. Service Provider's Obligations.

6.1 Service Provider Personnel. Service Provider shall be responsible, at its own cost, for all recruiting, hiring, training, educating and orienting of all Service Provider Personnel, all of whom shall be fully qualified and shall be authorized under Applicable Law to perform the Services.

6.2 Service Provider Authorized Representative. Service Provider designates the Service Provider Authorized Representative named on page 1 of this Agreement ("Service Provider Authorized Representative") and, such Person shall: (a) be a project executive and employee within Service Provider's organization, with the information, authority and resources available to properly coordinate Service Provider's responsibilities under this Agreement; (b) serve as primary interface and the single-point of communication for the provision of Services by Service Provider; (c) have day-to-day responsibility and authority to address issues relating to the Services; and (d) devote adequate time and efforts to managing and coordinating the Services.

6.3 Qualifications. Upon City's reasonable request, Service Provider will make available to City all relevant records of the education, training, experience, qualifications, work history and performance of Service Provider Personnel.

6.4 Removal of Personnel Assigned to City Contract. Within a reasonable period, but not later that seven (7) days after Service Provider's receipt of notice from City that the continued assignment to the City Contract of any Service Provider Personnel is not in the best interests of City, Service Provider shall remove such Service Provider Personnel from City's Contract. Service Provider will not be required to terminate the employment of such individual. Service Provider will assume all costs associated with the replacement of any Service Provider Personnel. In addition, Service Provider agrees to remove from City's Contract any Service Provider Personnel who has engaged in willful misconduct or has committed a material breach of this Agreement immediately after Service Provider becomes aware of such misconduct or breach.

6.5 Subcontracting. Unless specifically authorized in this Agreement, Service Provider will not enter into any agreement with or delegate or subcontract any Services to any Third Party without the prior written approval of City, which City may withhold in its sole discretion. If Service Provider subcontracts any of the Services (after having first obtained City's prior written approval, in its sole discretion), Service Provider shall: (i) be responsible for the performance of Services by the subcontractors; (ii) remain City's sole point of contact for the Services; and (iii) be responsible for the payment to any subcontractors.

6.6 Key Service Provider Personnel and Key Subcontractors.

6.6.1 The following Persons are identified by Service Provider as Key Service Provider Personnel under this Agreement:

(a) _____;

(b) _____; and

(c) _____.

6.6.2 The following Persons are identified by Service Provider as Key Subcontractors under this Agreement:

(a) _____;

(b) _____; and

(c) _____.

6.6.3 Service Provider shall not transfer, reassign or replace any Service Provider Key Personnel or Key Subcontractor, except as a result of retirement, voluntary resignation, involuntary termination for cause in Service Provider's sole discretion, illness, disability or death, during the term of this Agreement without prior written approval from City.

6.7 Conflicts of Interest. Service Provider shall immediately notify City in writing, specifically disclosing any and all potential or actual conflicts of interests, which arise or may arise during the execution of its work in the fulfillment of the requirements of the Agreement.

City shall make a written determination as to whether a conflict of interest actually exists and the actions to be taken to resolve the conflict of interest.

6.8 Commercial Activities. Neither Service Provider nor any Service Provider Personnel shall establish any commercial activity, issue concessions, or permits of any kind to third Parties for establishing any activities on City property.

7. City's Authorized Representative.

7.1 Designation and Authority. City designates the City Authorized Representative named on page 1 of this Agreement (the "City Authorized Representative") who shall: (a) serve as primary interface and the single-point of communication for the provision of Services; (b) have day-to-day responsibility to address issues relating to this Agreement; and (c) to the extent provided under the Code, have the authority to execute any additional documents or changes on behalf of City.

7.2 City's Right to Review and Reject. Any Service or other document or item to be submitted or prepared by Service Provider hereunder shall be subject to the review of the City Authorized Representative. The City Authorized Representative may disapprove, if in the City Authorized Representative's sole opinion the Service, document or item is not in accordance with the requirements of this Agreement or sound professional service principles, or is impractical, uneconomical or unsuited in any way for the purposes for which the Service, document or item is intended. If any of the said items or any portion thereof are so disapproved, Service Provider shall revise the items until they meet the approval of the City Authorized Representative. However, Service Provider shall not be compensated under any provision of this Agreement for repeated performance of such disapproved items.

8. Payment Procedures.

8.1 General. City will not be obligated to pay Service Provider any amount in addition to the Charges for Service Provider's provision of the Services. Service Provider Personnel hourly rates, reimbursable expenses and other compensable items under this Agreement are set forth on **Exhibit A**.

8.2 Invoices. Service Provider shall prepare and submit to City invoices for payment of all Charges in accordance with **Exhibit A**. Each invoice shall be in such detail and in such format as City may reasonably require. To the extent not set forth on **Exhibit A**, Service Provider shall invoice City monthly for Services rendered.

8.3 Taxes. The Charges are inclusive of all taxes, levies, duties and assessments ("Taxes") of every nature due in connection with Service Provider's performance of the Services. Service Provider is responsible for payment of such Taxes to the appropriate governmental authority. If Service Provider is refunded any Tax payments made relating to the Services, Service Provider shall remit the amount of such refund to City within forty-five (45) days of receipt of the refund.

8.4 Payment. City shall endeavor to pay all undisputed Charges within thirty (30) days of the date of the receipt by City of a properly rendered and delivered invoice.

Notwithstanding the forgoing, unless otherwise provided on **Exhibit A**, all undisputed Charges on an invoice properly rendered and delivered shall be payable within forty-five (45) days of the date of receipt by City.

8.5 Disputed Charges. If City in good faith disputes any portion of an invoice, City may withhold such disputed amount and notify Service Provider in writing of the basis for any dispute within thirty (30) days of the later of: (a) receipt of the invoice; or (b) discovery of the basis for any such dispute. City and Service Provider agree to use all reasonable commercial efforts to resolve any disputed amount in any invoice within thirty (30) days of the date City notifies Service Provider of the disputed amount.

8.6 No Acceptance of Nonconforming Work. No payment of any invoice or any partial or entire use of the Services by City constitutes acceptance of any Services.

8.7 Payment of Other Persons. Prior to the issuance of final payment from City, Service Provider shall certify to City in writing, in a form satisfactory to City, that all subcontractors, materialmen, suppliers and similar firms or persons engaged by Service Provider in connection with this Agreement have been paid in full or will be paid in full utilizing the monies constituting final payment to Service Provider.

9. Service Provider Representations and Warranties. As of the Effective Date and continuing throughout the Term, Service Provider warrants to City that:

9.1 Authority. Service Provider is duly incorporated or formed, validly existing and is in good standing under the laws of the state in which it is incorporated or formed, and is in good standing in each other jurisdiction where the failure to be in good standing would have a material adverse affect on its business or its ability to perform its obligations under this Agreement. Service Provider has all necessary power and authority to enter into and perform its obligations under this Agreement, and the execution and delivery of this Agreement and the consummation of the transactions contemplated by this Agreement have been duly authorized by all necessary actions on its part. This Agreement constitutes a legal, valid and binding obligation of Service Provider, enforceable against it in accordance with its terms. No action, suit or proceeding in which Service Provider is a party that may restrain or question this Agreement or the provision of Services by Service Provider is pending or threatened.

9.2 Standards. The Services will be performed in a workmanlike manner in accordance with the standards imposed by Applicable Law and the practices and standards used in well managed operations performing services similar to the Services.

9.3 Conformity. The development, creation, delivery, provision, implementation, testing, maintenance and support of all Services shall conform in all material respects to the description of such Services in the Contract Documents.

9.4 Materials and Equipment. Any equipment or materials provided by Service Provider shall be new, of clear title, not subject to any lien or encumbrance, of the most suitable grade of their respective kinds for their intended uses, shall be free of any defect in design or workmanship and shall be of merchantable quality and fit for the purposes for which they are intended.

10. Compliance with Laws.

10.1 General. Service Provider and its subcontractors will perform the Services in compliance with all Applicable Laws.

10.2 City's Socio-Economic Programs. Service Provider shall comply with Appendix A and any applicable City socio-economic programs, including, but not limited to, City's EBO and EEO Programs, and requirements set forth in the Code in the performance of the Services.

10.3 Consents, Licenses and Permits. Service Provider will be responsible for, and the Charges shall include the cost of, obtaining, maintaining and complying with, and paying all fees and taxes associated with, all applicable licenses, authorizations, consents, approvals and permits required of Service Provider in performing Services and complying with this Agreement.

11. Confidential Information.

11.1 General. Each Party agrees to preserve as strictly confidential all Confidential Information of the other Party for two (2) years following the expiration or termination of this Agreement; provided, however, that each Party's obligations for the other Party's Confidential Information that constitutes trade secrets pursuant to Applicable Laws will continue for so long as such Confidential Information continues to constitute a trade secret under Applicable Law. Any Confidential Information that may be deemed Sensitive Security Information by the Department of Homeland Security or any other similar Confidential Information related to security will be considered trade secrets. Upon request by City, Service Provider will return any trade secrets to City. Each Party agrees to hold the Confidential Information of the other in trust and confidence and will not disclose it to any Person, or use it (directly or indirectly) for its own benefit or the benefit of any other Person other than in the performance of its obligations under this Agreement.

11.2 Disclosure of Confidential Information or Information Other Party Deems to be Confidential Information. Each Party will be entitled to disclose any Confidential Information if compelled to do so pursuant to: (i) a subpoena; (ii) judicial or administrative order; or (iii) any other requirement imposed upon it by Applicable Law. Prior to making such a disclosure, to the extent allowed pursuant to Applicable Law, each Party shall provide the other with thirty six (36) hours prior notice by facsimile of its intent to disclose, describing the content of the information to be disclosed and providing a copy of the pleading, instrument, document, communication or other written item compelling disclosure or, if not in writing, a detailed description of the nature of the communication compelling disclosure with the name, address, phone number and facsimile number of the Person requesting disclosure. Should the non-disclosing Party contest the disclosure, it must: a) seek a protective order preventing such disclosure; or b) intervene in such action compelling disclosure, as appropriate. This Section shall be applicable to information that one Party deems to be Confidential Information but the other Party does not.

12. Work Product.

12.1 Except as otherwise expressly provided in this Agreement, all reports, information, data, specifications, computer programs, technical reports, operating manuals and similar work or other documents, all deliverables, and other work product prepared or authored

by Provider or any of its contractors exclusively for the City under this Agreement, and all intellectual property rights associated with the foregoing items (collectively, the "Work Product") shall be and remain the sole and exclusive property of the City. Any of Provider's or its contractors' works of authorship comprised within the Work Product (whether created alone or in concert with City or Third Party) shall be deemed to be "works made for hire" and made in the course of services rendered and, whether pursuant to the provisions of Section 101 of the U.S. Copyright Act or other Applicable Law, such Work Product shall belong exclusively to City. Provider and its contractors grant the City a non-exclusive, perpetual, worldwide, fully paid up, royalty-free license to all Work Product not exclusively developed for City under this Agreement.

12.2 If any of the Work Product is determined not to be a work made for hire, Service Provider assigns to City, worldwide and in perpetuity, all rights, including proprietary rights, copyrights, and related rights, and all extensions and renewals of those rights, in the Work Product. If Service Provider has any rights to the Work Product that cannot be assigned to City, Service Provider unconditionally and irrevocably waives the enforcement of such rights and irrevocably grants to City during the term of such rights an exclusive, irrevocable, perpetual, transferable, worldwide, fully paid and royalty-free license, with rights to sublicense through multiple levels of sublicensees, to reproduce, make, have made, create derivate works of, distribute, publicly perform and publicly display by all means, now known or later developed, such rights.

12.3 City shall have the sole and exclusive right to apply for, obtain, register, hold and renew, in its own name or for its own benefit, all patents, copyrights, applications and registrations, renewals and continuations and all other appropriate protection.

12.4 To the extent exclusive title or complete and exclusive ownership rights in any Work Product created by Service Provider Personnel may not originally vest in City by operation of Applicable Law, Service Provider shall, immediately upon request, unconditionally and irrevocably assign, transfer and convey to City all rights, title and interest in the Work Product.

12.5 Without any additional cost to City, Service Provider Personnel shall promptly give City all reasonable assistance and execute all documents City may reasonably request to enable City to perfect, preserve, enforce, register and record its rights in all Work Product. Service Provider irrevocably designates City as Service Provider's agent and attorney-in-fact to execute, deliver and file, if necessary, any documents necessary to give effect to the provisions of this Section and to take all actions necessary, in Service Provider's name, with the same force and effect as if performed by Service Provider.

13. Audit and Inspection Rights.

13.1 General.

13.1.1 Service Provider will provide to City, and any Person designated by City, access to Service Provider Personnel and to Service Provider owned Facilities for the purpose of performing audits and inspections of Service Provider, Service Provider Personnel and/or any of the relevant information relating to the Services and this Agreement. Such audits, inspections

and access may be conducted to: (a) verify the accuracy of Charges and invoices; (b) examine Service Provider's performance of the Services; (c) monitor compliance with the terms of this Agreement; and (d) any other matters reasonably requested by City. Service Provider shall provide full cooperation to City and its designated Persons in connection with audit functions and examinations by regulatory authorities.

13.1.2 All audits and inspections will be conducted during normal business hours (except with respect to Services that are performed during off-hours).

13.1.3 Service Provider shall promptly respond to and rectify the deficiencies identified in and implement changes suggested by any audit or inspection report.

13.1.4 If any audit or inspection of Charges or Services reveals that City has overpaid any amounts to Service Provider, Service Provider shall promptly refund such overpayment and Service Provider shall also pay to City interest on the overpayment amount at the rate of one-half percent (0.5%) per month (or such maximum rate permissible by Applicable Law, if lower) from the date the overpayment was made until the date the overpayment is refunded to City by Service Provider.

13.2 Records Retention. Until the later of: (a) six (6) years after expiration or termination of this Agreement; (b) the date that all pending matters relating to this Agreement (*e.g.*, disputes) are closed or resolved by the Parties; or (c) the date such retention is no longer required to meet City's records retention policy or any record retention policy imposed by Applicable Law, if more stringent than City's policy, Service Provider will maintain and provide access upon request to the records, data, documents and other information required to fully and completely enable City to enforce its audit rights under this Agreement.

14. Indemnification by Service Provider.

14.1 General Indemnity. Service Provider shall indemnify and hold City, its agencies and its and their respective officers, directors, employees, advisors, and agents, successors and permitted assigns, harmless from any losses, liabilities, damages, demands and claims, and all related costs (including reasonable legal fees and costs of investigation, litigation, settlement, judgment, interest and penalties) arising from claims or actions based upon:

(a) Service Provider's or Service Provider Personnel's performance, non-performance or breach of this Agreement;

(b) compensation or benefits of any kind, by or on behalf of Service Provider Personnel, or any subcontractor, claiming an employment or other relationship with Service Provider or such subcontractor (or claiming that this Agreement creates an inherent, statutory or implied employment relationship with City or arising in any other manner out of this Agreement or the provision of Services by such Service Provider Personnel or subcontractor);

(c) any actual, alleged, threatened or potential violation of any Applicable Laws by Service Provider or Service Provider Personnel, to the extent

such claim is based on the act or omission of Service Provider or Service Provider Personnel, excluding acts or omissions by or at the direction of City;

(d) death of or injury to any individual caused, in whole or in part, by the tortious conduct of Service Provider or any Person acting for, in the name of, at the direction or supervision of or on behalf of Service Provider; and

(e) damage to, or loss or destruction of, any real or tangible personal property caused, in whole or in part, by the tortious conduct of Service Provider or any Person acting for, in the name of, at the direction or supervision of or on behalf of Service Provider.

14.2 Intellectual Property Indemnification by Service Provider. Service Provider shall indemnify and hold City Indemnitees, harmless from and against any losses, liabilities, damages, demands and claims, and all related costs (including reasonable legal fees and costs of investigation, litigation, settlement, judgment, interest and penalties) arising from claims or actions based upon any of the materials and methodologies used by Service Provider (or any Service Provider agent, contractor, subcontractor or representative), or City's use thereof (or access or other rights thereto) in connection with the Services infringes or misappropriates the Intellectual Property Rights of a Third Party. If any materials or methodologies provided by Service Provider hereunder is held to constitute, or in Service Provider's reasonable judgment is likely to constitute, an infringement or misappropriation, Service Provider will in addition to its indemnity obligations, at its expense and option, and after consultation with City regarding City's preference in such event, either: (A) procure the right for City Indemnitees to continue using such materials or methodologies; (B) replace such materials or methodologies with a non-infringing equivalent, provided that such replacement does not result in a degradation of the functionality, performance or quality of the Services; (C) modify such materials or methodologies, or have such materials or methodologies modified, to make them non-infringing, provided that such modification does not result in a degradation of the functionality, performance or quality of the materials or methodologies; or (D) create a feasible workaround that would not have any adverse impact on City.

15. Limitation of Liability.

15.1 General. THE MAXIMUM AGGREGATE LIABILITY OF CITY HEREUNDER IS LIMITED TO THE TOTAL OF ALL CHARGES ACTUALLY PAID DURING THE CURRENT YEAR UNDER THE AGREEMENT. EXCEPT FOR PROVIDER'S INDEMNITY OBLIGATIONS SET FORTH IN THE **SECTION ENTITLED "INDEMNIFICATION BY SERVICE PROVIDER"** AND WILLFUL MISCONDUCT OR GROSS NEGLIGENCE BY PROVIDER, NEITHER PARTY SHALL BE LIABLE FOR ANY INDIRECT, CONSEQUENTIAL, OR PUNITIVE DAMAGES (OR ANY COMPARABLE CATEGORY OR FORM OF SUCH DAMAGES, HOWSOEVER CHARACTERIZED IN ANY JURISDICTION), ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OR NONPERFORMANCE OF ITS OBLIGATIONS UNDER THIS AGREEMENT, REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY, PRODUCTS LIABILITY OR OTHERWISE, AND EVEN IF

FORESEEABLE OR IF SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

15.2 Exceptions to Limitations. The limitations set forth in the immediate subsection shall not apply to: (a) personal injury, wrongful death or tangible property damage; or (b) any claim involving a violation of any Applicable Law concerning homeland security, terrorist activity or security sensitive information, regardless of the manner in which such damages are characterized.

16. Insurance and Bonding Requirements. Service Provider shall comply with the insurance and bonding requirements set forth on **Appendix B**.

17. Force Majeure. Neither Party will be liable for default or delay in the performance of its obligations under this Agreement to the extent such default or delay is caused by a Force Majeure Event. Upon the occurrence of a Force Majeure Event, the non-performing Party will be excused from performance or observance of affected obligations for as long as: (a) the Force Majeure Event continues; and (b) the Party continues to attempt to recommence performance or observance to the extent commercially reasonable without delay. If any Force Majeure Event continues for thirty (30) consecutive days, City may, at its option during such continuation, terminate this Agreement, in whole or in part, without penalty or further obligation or liability of City.

18. Termination.

18.1 Termination by City for Cause. City may at its option, by giving written notice to Service Provider, terminate this Agreement:

(a) for a material breach of the Contract Documents by Service Provider that is not cured by Service Provider within seven (7) days of the date on which City provides written notice of such breach;

(b) immediately for a material breach of the Contract Documents by Service Provider that is not reasonably curable within seven (7) days;

(c) immediately upon written notice for numerous breaches of the Contract Documents by Service Provider that collectively constitute a material breach or reasonable grounds for insecurity concerning Service Provider's performance; or

(d) immediately for engaging in behavior that is dishonest, fraudulent or constitutes a conflict of interest with Service Provider's obligations under this Agreement or is in violation of any City Ethics Ordinances.

18.2 Re-procurement Costs. In addition to all other rights and remedies City may have, if this Agreement is terminated by City pursuant to the above subsection entitled **"Termination by City for Cause"**, Service Provider will be liable for all costs in excess of the Charges for all terminated Services reasonably and necessarily incurred by City in the completion of the Services, including the cost of administration of any agreement awarded to other Persons for completion. If City improperly terminates this Agreement for cause, the

termination for cause will be considered a termination for convenience in accordance with the provisions of the **Section entitled "Termination by City for Convenience"**.

18.3 Termination by City for Insolvency. City may terminate this Agreement immediately by delivering written notice of such termination to Service Provider if Service Provider: (a) becomes insolvent, as that term may be defined under Applicable Law, or is unable to meet its debts as they mature; (b) files a voluntary petition in bankruptcy or seeks reorganization or to effect a plan or other arrangement with creditors; (c) is adjudicated bankrupt or makes an assignment for the benefit of its creditors generally; (d) fails to deny or contest the material allegations of an involuntary petition filed against it pursuant to any Applicable Law relating to bankruptcy, arrangement or reorganization, which is not dismissed within sixty (60) days; or (e) applies for or consents to the appointment of any receiver for all or any portion of its property.

18.4 Termination by City for Convenience. At any time during the Term of this Agreement, City may terminate this Agreement for convenience upon fourteen (14) days written notice of such termination. Upon a termination for convenience, Service Provider waives any claims for damages, including loss of anticipated profits. As Service Provider's sole remedy and City's sole liability, City will pay Charges for the Services properly performed prior to the notice of termination, plus all reasonable costs for Services performed after the termination, as specified in such notice, and reasonable administrative costs of settling and paying claims arising out of the termination of Services under purchase orders or subcontracts except to the extent any products under such purchase orders or subcontracts can be used by Service Provider in its business within the thirty (30) days following termination. If requested, Service Provider shall substantiate such costs with proof satisfactory to City.

18.5 Termination for Lack of Appropriations. If, during the Term of this Agreement, legislation establishing a Maximum Payment Amount for the following year is not enacted, this Agreement will terminate in its entirety on the last day of the annual term for which a Maximum Payment Amount has been legislatively authorized.

18.6 Effect of Termination. Unless otherwise provided herein, termination of this Agreement, in whole or in part and for any reason, shall not affect: (a) any liabilities or obligations of either Party arising before such termination or out of the events causing such termination; or (b) any remedies to which a Party may be entitled under this Agreement, at law or in equity. Upon termination of this Agreement, Service Provider shall immediately: (i) discontinue Services on the date and to the extent specified in the notice and place no further purchase orders or subcontracts to the extent that they relate to the performance of the terminated Services; (ii) inventory, maintain and turn over to City all work product, licenses, equipment, materials, plant, tools, and property furnished by Service Provider or provided by City for performance of the terminated Services; (iii) promptly obtain cancellation, upon terms satisfactory to City, of all purchase orders, subcontracts, rentals or any other agreements existing for performance of the terminated Services, or assign those agreements, as directed by City; (iv) comply with all other reasonable requests from City regarding the terminated Services; and (v) continue to perform in accordance with all of the terms and conditions of this Agreement any portion of the Services that are not terminated.

19. Dispute Resolution.

19.1 All disputes under the Contract Documents or concerning Services shall be resolved under this **Section** and **Exhibit E**. Both Parties shall continue performing under this Agreement while the Parties are seeking to resolve any such dispute unless, during that time, this Agreement is terminated or expires. A dispute over payment will not be deemed to preclude performance by Service Provider.

19.2 Applicable Law. The Contract Documents shall be governed by and construed in accordance with the substantive laws of the State of Georgia without regard to its choice of law principles.

19.3 Jurisdiction and Venue. The Parties hereby submit and consent to the exclusive jurisdiction of the state courts of Fulton County, Georgia or in the United States District Court for the Northern District of Georgia and irrevocably agree that all actions or proceedings relating to this Agreement will be litigated in such courts, and each of the Parties waives any objection which it may have based on improper venue or forum non conveniens to the conduct of any such action or proceeding in such court.

20. General.

20.1 Notices. Any notice under this Agreement shall be in writing and sent to the respective Party at the address on page 1 of this Agreement, or, if applicable, to the City's Department of Procurement at 55 Trinity Avenue, Suite 1790, Atlanta, Georgia, 30303, and shall be deemed delivered: (a) when delivered by hand or courier or by overnight delivery with signature receipt required; (b) when sent by confirmed facsimile with a copy sent by another means specified in this **Section**; or (c) three (3) days after the date of mailing by United States certified mail, return receipt requested, postage prepaid. Any Party may change its address for communications by notice in accordance with this Section.

20.2 Waiver. Any waiver by the Parties or failure to enforce their rights under this Agreement shall be deemed applicable only to the specific matter and shall not be deemed a waiver or failure to enforce any other rights under this Agreement, and this Agreement shall continue in full force and effect as though such previous waiver or failure to enforce any rights had not occurred. No supplement, modification, amendment or waiver of this Agreement will be binding on City unless executed in writing by the City Authorized Representative.

20.3 Assignment. Neither this Agreement, nor any rights or obligations under it, are assignable in any manner without the prior written consent of the other Party and any attempt to do so without such written consent shall be void ab initio.

20.4 Publicity. Service Provider shall not make any public announcement, communication to the media, take any photographs or release any information concerning City, the Services or this Agreement without the prior written consent of City.

20.5 Severability. In the event that any provision of this Agreement is declared invalid, unenforceable or unlawful, such provision shall be deemed omitted and shall not affect the validity of other provisions of this Agreement.

20.6 Further Assurances. Each Party shall provide such further documents or instruments required by the other Party as may be reasonably necessary to give effect to this Agreement.

20.7 No Drafting Presumption. No presumption of any Applicable Law relating to the interpretation of contracts against the drafter shall apply to this Agreement.

20.8 Survival. Any provision of this Agreement which contemplates performance subsequent to any termination or expiration of this Agreement or which must survive in order to give effect to its meaning, shall survive the expiration or termination of this Agreement.

20.9 Independent Contractor. Service Provider is an independent contractor of City and nothing in this Agreement shall be deemed to constitute Service Provider and City as partners, joint venturers, or principal and agent, or be construed as requiring or permitting the sharing of profits or losses. Neither Party has the authority to represent or bind or create any legal obligations for or on behalf of the other Party.

20.10 Third Party Beneficiaries. This Agreement is not intended, expressly or implicitly, to confer on any other Person any rights, benefits, remedies, obligations or liabilities.

20.11 Cumulative Remedies. Except as otherwise provided herein, all rights and remedies under this Agreement are cumulative and are in addition to and not in lieu of any other remedies available under Applicable Law, in equity or otherwise.

20.12 Entire Agreement. The Contract Documents contain the entire Agreement of the Parties relating to their subject matter and supersede all previous communications, representations or agreements, oral or written, between the Parties with respect to such subject matter. This Agreement may only be amended or modified by a writing executed by each Party's authorized representative and each such writing shall be deemed to incorporate the Contract Documents, except to the extent that City is authorized under Applicable Law to issue Unilateral Change Documents. SERVICE PROVIDER MAY NOT UNILATERALLY AMEND OR MODIFY THIS AGREEMENT BY INCLUDING PROVISIONS IN ITS INVOICES, OR OTHER BUSINESS FORMS, WHICH SHALL BE DEEMED OBJECTED TO BY CITY AND OF NO FORCE OR EFFECT.

20.13 Unauthorized Goods or Services. Service Provider acknowledges that this Agreement and any changes to it by amendment, modification, change order or other similar document may have required or may require the legislative authorization of the City's Council and approval of the Mayor. Under Georgia law, Service Provider is deemed to possess knowledge concerning the City's ability to assume contractual obligations and the consequences of Service Provider's provision of goods or services to the City under an unauthorized contract, amendment, modification, change order or other similar document, including the possibility that the Service Provider may be precluded from recovering payment for such unauthorized goods or services. Accordingly, Service Provider agrees that if it provides goods or services to the City under a contract that has not received proper legislative authorization or if Service Provider provides goods or services to the City in excess of the any contractually authorized goods or services, as required by the City's Charter and Code, the City may

withhold payment for any unauthorized goods or services provided by Service Provider. Service Provider assumes all risk of non-payment for the provision of any unauthorized goods or services to the City, and it waives all claims to payment or to other remedies for the provision of any unauthorized goods or services to the City, however characterized, including, without limitation, all remedies at law or equity.

The Parties hereto by authorized representatives have executed this Agreement as of the Effective Date.

City of Atlanta **[Service Provider]**

_____

Mayor

_____

Municipal Clerk (Seal)

Approved:

_____

[Using Agency]

_____

Chief Procurement Officer

Approved as to form:

_____

City Attorney

DRAFT

Signature Block Options for Service Provider:

Corporate signature:

[Insert Corporate Name]

_____

By:_____

Name:_____

Title:_____

_____

Corporate Secretary/Assistant Secretary (Seal)

Limited Liability Company:

[Insert LLC Name]

_____

By:_____

Name:_____

Title:_____

_____

Notary Public (Seal)

My Commission Expires:_____

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EXHIBIT A
SERVICES AND ADDITIONAL COMPENSATION TERMS

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EXHIBIT B
DEFINITIONS

When used in the Contract Documents, the following capitalized terms have the following meanings:

"Applicable Law(s)" means all federal, state or local statutes, laws ordinances, codes, rules, regulations, policies, standards, executive orders, consent orders, orders and guidance from regulatory agencies, judicial decrees, decisions and judgments, permits, licenses, reporting or other governmental requirements or policies of any kind by which a Party may be bound, then in effect or which come into effect during the time the Services are being performed, and any present or future amendments to those Applicable Laws, including those which specifically relate to: (a) the business of City; (b) the business of Service Provider or Service Provider's subcontractors; (c) the Agreement and the Contract Documents; or (d) the performance of the Services under this Agreement.

"Charges" means the amounts payable by City to Service Provider under this Agreement.

"City Security Policies" means the policies set forth in **Exhibit D**.

"Code" means the Code of Ordinances for the City of Atlanta, Georgia, as amended.

"Contract Documents" include this Agreement and the exhibits and other documents attached or referenced herein as well as any authorized changes or addenda hereto.

"Facility" or "Facilities" means the physical premises, locations and operations owned or leased by a Party and from or through which Service Provider will provide any Services.

"Force Majeure Event(s)" means acts of war, domestic and/or international terrorism, civil riots or rebellions, quarantines, embargoes and other similar unusual governmental actions, extraordinary elements of nature or acts of God.

"Party" or "Parties" means City and/or Service Provider.

"Person" means individuals, partnerships, agents, associations, corporations, limited liability companies, firms or other forms of business enterprises, trustees, executors, administrators, successors, permitted assigns, legal representatives and/or other recognized legal entities.

"Service Provider Personnel" means and refers to Service Provider employees or subcontractors hired and maintained to perform Services hereunder.

"Third Party" means a Person other than the Parties.

EXHIBIT C
AUTHORIZING LEGISLATION

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EXHIBIT D
CITY SECURITY POLICIES

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Exhibit D

SECURITY AND SAFETY

PART 1 - GENERAL

1.01 COMPLIANCE WITH CITY'S SECURITY REQUIREMENTS

A. Contractor must comply with City's security requirements for all job sites and DWM facilities. The City shall provide copies to the Contractor.

B. Contractor must cooperate with City on all security matters and must promptly comply with any project security arrangements established by the City.

C. It is the Contractor's obligations to comply with all applicable governmental requirements and regulations and to undertake reasonable actions to establish and maintain secure conditions at any jobsite.

1.02 SECURITY PROGRAM

A. The Contractor shall comply with the site security program at all times on City facilities.

B. The Contractor shall maintain the security program throughout the Contract duration.

C. The Contractor and his subcontractors are wholly responsible for the security of their employees, work areas, and for all their material, equipment and tools at all times.

D. The Contractor shall provide the owner with a list of 24-hour emergency phone numbers including chain of command.

1.03 ENTRY CONTROL

A. The Contractor shall restrict entry of unauthorized personnel and employees and vehicles onto the Project site.

B. The Contractor shall allow entry only to authorized persons with proper City-approved identification. All Contractors/Subcontractors will be required to have their personnel working at these facilities photographed for an I.D. badge before they start work.

C. The Contractor shall maintain a current Employee Log of employees performing work on site and a Visitor Log and make the log available to the City upon request. This log shall be available to the Owner upon request and submitted to the Owner as necessary.

D. The Contractor shall require all employees performing activities on site to sign the Employee Acknowledgment of Project Site Rules Log included at the end of this Section. All employees, subcontractor employees and lower tier contractor employees will receive a new employee orientation. Signing the Employee Log by the employee is certifying that the orientation training has been received.

E. The City has the right to refuse access to the site or request that a person or vehicle be removed from the site if found violating any of the safety, security, or conduct rules as outlined.

1.04 BARRICADES, LIGHTS AND SIGNALS

A. The Contractor shall furnish and erect such barricades, fences, lights, danger signals and other precautionary measures for the protection of persons or property and of the work as necessary.

B. The Contractor will be held responsible for all damage to the work and any negligence resulting in injuries due to his failure of erecting adequate barricades, signs, lights and safety provisions as required. Whenever evidence is found of such damage, the Contractor shall immediately remove the damaged portion and replace it at the Contractor's cost and expense.

C. The Contractor's responsibility for the maintenance of barricades, signs and lights shall not cease until the City has been accepted in writing the Project.

1.05 RESTRICTIONS

The Contractor shall not allow cameras on site or photographs taken except with approval of the City.

1.06 CONTRACTOR SAFETY/HEALTH AND SECURITY PLAN

A. Prior to the performance of any work the Contractor will comply with the specified Safety/Health and Security Plan.

1. Basic pre-employment background checks for criminal convictions, veracity of previous employment and education statements, driving record and financial responsibility as applicable to the position. Record of satisfactory drug/alcohol testing for two years will be provided for those contractor employees with CDL. Proof of citizenship or work status will be provided for each contract employee.

2. Security Education and Awareness training applicable to the job.

3. SOPs for safeguarding City equipment, supplies and property.

4. Certification requested under the SAFETY Act, Homeland Security Act of 2002, if applicable. Provide date and result as requested.

5. Established process for identification of employees PFD including location. Emergency notification procedures.

6. If applicable, procedures for entry permits and badges. Procedures for returning badges upon termination of employment.

7. Anti-terrorism training provided to employees including the state of national alert with appropriate procedures.

8. Emergency evacuation procedures including accounting for employees at a safe haven.

9. Procedures for reporting post-contract criminal convictions and traffic accidents to the Contract Officer or DWM project manager.

10. SOPs for protecting employees when performing required duties off-site including training for reporting accidents, calling for immediate assistance, job reporting procedures and personal duress codes or alarms.

B. It is not the City's responsibility to verify the Contractor's safety plan for the adequacy and compliance of the plan. The plan shall provide:

1. Identify the person(s) responsible for implementation and enforcement of Safety/Health and Security rules and regulations for this contract.

2. Generally address safe work procedures for the activities within the Contractor's scope of work.

3. Included a new employee orientation program, which addresses job and site specific rules, regulations and hazards.

4. Include the Contractor's Drug Free Work Place Policy including substance abuse prevention and testing program.

5. Include provisions to protect all of the Contractor's employees, other persons and organizations that may be affected by the work from injury, damage or loss.

6. Comply with current Fed/OSHA, Safety/Health and Security Plan, facility safety program (when applicable), and locally accepted safety codes, regulations and practices.

7. Include a site-specific emergency action and evacuation plan.

8. Include Hazard Communication/Right To Know Program.

9. Include security procedures for the Contractor's work, tools, and equipment.

10. Include the capability of providing the Engineer with documentation to show compliance with their plan, plus accidents and investigation reports.

11. Address any other contract specific requirement, including the requirements of Section 01011, Unique Requirements of these specifications (if applicable).

C. Provide a Job Safety Analysis (JSA) for the scope of work, prior to the start of work.

D. Review of the Contractor's Safety Plan by the City shall not impose any duty or responsibility upon the City for the Contractor's performance of the work in a safe manner.

E. The Contractor shall be fully responsible for the safety and health of its employees, its subcontractors and lower tier contractors during performance of its work.

F. The Contractor shall provide the City with all safety reports, training records, competent person list, and accident reports prepared in compliance with Fed/OSHA and the Project Safety/Health and Security Plan as requested.

1.07 PROJECT SAFETY COORDINATOR

A. The Contractor shall be responsible for the safety of the Contractor's and Engineer's employees, the City's personnel and all other personnel at the site of the work caused by their operations.

B. If applicable, the Contractor shall have a Project Safety Coordinator, as required under the General Conditions.

C. The Project Safety Coordinator shall ensure compliance with all applicable health and safety requirements of all governing legislation.

1.08 PROJECT SAFETY/SECURITY REQUIREMENTS OF THE CONTRACTOR

A. It is the responsibility of the Contractor to ensure that all articles of possible personal or monetary value found by Contractor's employees are turned in to the appropriate Facilities Manager.

B. The Contractor shall be responsible for maintaining satisfactory standards of employees' competency, conduct, courtesy, appearance, honesty, and integrity, and shall be responsible for taking such disciplinary action with respect to any employee, as may be necessary.

C. Should the Contractor dismiss employees who have been given access to DWM facilities while the contract is in force, the Contractor will advise the DWM Security office.

D. The City may request the Contractor to immediately remove from the premises and/or dismiss any employee found unfit to perform duties due to one or more of the following reasons:

1. Neglect of duty, absenteeism, security or safety problems and sleeping on the job.

2. Disorderly conduct, use of abusive or offensive language, quarreling, intimidation by words or actions or fighting.

3. Theft, vandalism, immoral conduct of any other criminal action.

4. Selling, consuming, possessing, or being under the influence of intoxicants, alcohol, or illegal substances, which produce similar effects while on duty.

5. Vehicle accident while on City property or driving City equipment. No employee, Contractor, or Subcontractor will be extended privileges to drive City equipment on City property if driving privileges have been withdrawn by the State of residence.

E. All employees shall be required to sign in and out on a designated log sheet. All employees shall be required to sign in and out on a designated log sheet.

F. All employees shall be required to wear at all times in an observable location, above the waist, on outer clothing, appropriate photo I. D., badges to be furnished by the Contractor and approved by the City.

G. Prior to the beginning of each workday, the Contractor shall file with the Department Security representative a list of all employees to be used at the work site. Employee names will be checked using this list and a State or Contractor issued photo I. D. card at the entry gates. Employees not named on the list or without appropriate identification will not be allowed entry.

H. No one under age sixteen is permitted on the premises after normal working hours. Contractor's employees are allowed on premises only during the specified hours and only when working on this contract. No Contractor employee will be allowed on the premises when not specifically working on this contract at predetermined times and dates.

1.09 EMPLOYEE ACKNOWLEDGEMENT OF THE PROJECT SITE RULES

A. All employees and agents of the Contractor must adhere to and abide by the contract documents and project rules.

B. By Signing this Employee Log, I acknowledge that I understand and agree to abide by the project rules outlined below.

I further acknowledge that I have been briefed on specific hazards, hazardous substances that are on-site and the site emergency action procedure.

C. PROHIBITED ACTIVITIES:

1. Unauthorized removal or theft of CITY property
2. Violation of safety or security rules or procedures
3. Possession of firearms or lethal weapons on jobsite
4. Acts of sabotage
5. Destruction or defacing CITY property
6. Failure to use sanitary facilities
7. Failure to report accidents or job related injuries
8. Being under the apparent influence of drugs, alcohol or other intoxicants or in possession of drugs, alcohol or other intoxicants on the property
9. Wearing shorts or tennis shoes on the jobsite
10. Failure to wear a hardhat/safety glasses as required by law.
11. Gambling at any time on the project
12. Fighting, threatening behavior, or engaging in horseplay on the project
13. Smoking in unauthorized areas on the project
14. Open fire cooking or making unauthorized fires on project property
15. Selling items or raffles without authorization
16. Use of unauthorized cameras on the project
17. Use of radio or television in the construction area
18. Failure to park personal vehicle in authorized parking area
19. Failure to wear designated identification [Site Specific]
20. Failure to use designated gates
21. Use or storage of unauthorized chemicals or substances on site.

I have read, understand and agree to abide by the PROJECT SITE RULES. Furthermore, I understand failure to abide by these rules is grounds for being denied access to the project site. I have received a personal copy for my use and reference.

*****(END OF SECTION)*****

EMPLOYEE LOG

BY SIGNING THIS LOG I ACKNOWLEDG THAT I HAVE READ, UNDERSTAND AND AGREE TO ABIDE BY THE PROJECT RULES OUTLINED ABOVE AND ALL LOCAL, STATE, FEDERAL, AND/OR ANY OTHER CONTRACT OBLIGATIONS THAT MAY APPLY. I FURTHER ACKNOWLEDGE THAT I HAVE BEEN ORIENTATED BY A REPRESENTATIVE OF THE COMPANY AS TO THE SITE SPECIFIC HAZARDS, ANY HAZARDOUS SUBSTANCES THAT I MAY BE EXPOSED TO WHILE ON THE SITE AND THE SITE/COMPANY EMERGENCY ACTION PROCEDURES.

EMPLOYEES (PRINT)	SIGNATURE	COMPANY NAME	DATE
Signature of Company Representative		Date Signed	

(a)

(b) VISITOR LOG

BY THE SIGNING OF THIS LOG I ACKNOWLEDGE THAT I HAVE READ, UNDERSTAND AND AGREE TO ABIDE BY THE PROJECT RULES OUTLINE ABOVE. THIS IS NOT FOR A VEHICLE ACCESS PERMIT.

VISITOR'S NAME PRINT	SIGNATURE	COMPANY VISITED	DATE	IN	OUT

EXHIBIT E
DISPUTE RESOLUTION PROCEDURES

1. If Service Provider contends it is entitled to compensation or any other relief from City or if there are any disagreements over the scope of Services or proposed changes to the Services, Service Provider shall, without delay and within three (3) days of being aware of the circumstances giving rise to Service Provider's claim, provide written notice of its claim to City. If Service Provider fails to give timely notice as required by this subsection or if Service Provider commences any alleged additional work without first providing notice, Service Provider shall not be entitled to compensation or adjustment for any such work to the extent timely notice was not provided. Such notice shall include sufficient information to advise City of the circumstances giving rise to the claim, the specific contractual adjustment of relief requested and the basis for such request. Within ten (10) days of the date that Service Provider's written notice to City is required under this subsection, Service Provider shall submit a Proposed Change Document relating to the claim meeting the requirements of Subsection 5.3.2 of this Agreement.

2. The parties are fully committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize disputes or disagreements. If disputes or disagreements do arise, Service Provider and City each commit to resolving such disputes or disagreements in an amicable, professional and expeditious manner so as to avoid unnecessary losses, delays and disruptions to the Services.

3. If a dispute or disagreement cannot be resolved informally Service Provider Authorized Representative and Authorized City Representative, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than thirty (30) days after such a request is made, to attempt to resolve such dispute or disagreement. Prior to any meetings between the Authorized Representatives, the parties will exchange relevant information that will assist the parties in resolving their dispute or disagreement.

4. If City and Service Provider are still unable to resolve their dispute, each agrees to consider submitting such dispute to mediation or other acceptable form of alternate dispute resolution.

APPENDIX A; OFFICE OF CONTRACT COMPLIANCE REQUIREMENTS

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APPENDIX B; INSURANCE AND BONDING REQUIREMENTS

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