

CONTRACT AND SPECIFICATIONS

for

Wastewater Treatment System Upgrade at J.F. Shields High School

Prepared for:

Monroe County Board of Education
109 Rosenwald Drive
Monroeville, Alabama 36460

CWSRF Project #CSO10950-01

Superintendent:
Greg Shehan

Maintenance Director:
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Board Members:
Tony Powell, Chairman
Barbara Turner, Vice Chairman
Kenneth Smith
Martha Jordan
Sabrina Kidd

February 2024

Prepared by:



2860 Dauphin Street, Suite D
Mobile, Alabama 36606

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Appendix A – EPA Form 6100-2 DBE Subcontractor Participation Form

Appendix B – EPA Form 6100-3 DBE Subcontractor Performance Form

Appendix C – EPA Form 6100-4 DBE Subcontractor Utilization Form

Appendix D – EPA Form 5700-52 A MBE/WBE Utilization Reports

Appendix E – Project Sign Details

Appendix F – SRF Project Review and Cost Summary Form

Appendix G – Monroe County Davis Bacon Rates

I. Advertisement for Bids

Notice is hereby given that the **Monroe County Board of Education, Monroe County, Alabama**, will receive sealed bids in the Board Office, 109 Rosenwald Drive, until **1:00 P.M., CST March 7, 2024**, and promptly thereafter the same will be publicly opened and read aloud for:

Wastewater Treatment System Upgrade at J.F. Shields High School

The work consists of, but is not limited to, the following: Perform all work and furnish all material according to the SPECIFICATIONS herein and furnish all labor and equipment necessary to complete the Project. The Project includes the evacuation of sludge from cell #2 and #3 of the lagoon system, berm restoration of designated areas of the lagoon, construction and installation of the Ares Lagoon Aeration System, a cover over a portion of cell #3, and construction and installation of a disinfection system.

The bidding contractor shall be responsible for all work. The names of all subcontractors will be submitted to the Board for approval prior to beginning work. The Board shall have the right to disallow any subcontractor. No proposal will be accepted after the above stated time. Bids shall not be withdrawn for a period of sixty (60) days following the bid opening unless approved by the Board. No proposal will be considered unless the bidder is properly qualified to submit a proposal for this construction in accordance with all applicable laws of the State of Alabama, which includes holding a current license from the State Licensing Board for General Contractors, Montgomery, Alabama.

Bids will only be accepted from experienced contractors who have successfully completed at least five (5) treatment plant upgrade projects or wastewater projects over the last ten years. Documentation of these projects shall be provided with the bid documents.

The bidder must submit proposals for lump sum price and alternates as indicated. **Monroe County Board of Education** reserves the right to reject any and all proposals and to waive informalities in the bidding.

Instructions to bidders, Contract Documents, and Specifications may be obtained from the office of the ENGINEER, McFadden Engineering, Inc., 2860 Dauphin Street, Suite D Mobile, Alabama 36602 by depositing a non-refundable fee of **\$100.00** per set, which is the cost of copying and distribution. No plans or specifications will be issued to CONTRACTORS after February 29, 2024, which is the date of the mandatory pre-bid site meeting for the project.

McFadden Engineering, Inc.
2860 Dauphin Street, Suite D
Mobile, Alabama 36606
(251) 470-6870

Monroe County Board of Education
109 Rosenwald Drive
Monroeville, Alabama 36460
(251) 743-2150

II. Instructions to Bidders

Sealed bids, subject to the conditions contained herein, will be received by the **Monroe County Board of Education, Monroe County, Alabama**, until **1:00 P.M. CST, March 7, 2024**, and then publicly opened and read for furnishing all labor and materials and performing all work for the **Wastewater Treatment System Upgrade at J.F. Shields High School**.

Contract documents, and specifications may be inspected at the office of the ENGINEER:

McFadden Engineering, Inc.
2860 Dauphin Street, Suite D
Mobile, Alabama 36606

A Bid Bond with good and sufficient surety in the amount of five (5%) percent of the bid amount contained in the Bid Proposal shall be required with the bid. Should bidder be awarded contract, execute contract and commence the work, said bid bond will be returned to bidder. Bid bond must be submitted on the standard **Bid Bond Form** contained herein.

A Performance Bond with good and sufficient surety will be required as follows:

- one hundred (100%) percent of the contract price.

A Labor and Material Bond with good and sufficient surety will be required as follows:

- one hundred (100%) percent of the contract price.

Both bonds shall be in full compliance with **Code of Alabama 1975**, Section 39-1-1, and shall be submitted on the **standard bond forms** contained herein.

Bid must be submitted upon the **standard proposal form** contained herein.

The right is reserved, as the interests of the Monroe County Board of Education may require, to reject any and all bids and to waive any informality in bids received.

Envelopes containing bids must be sealed, marked and addressed as follows, and delivered to City Clerk, Monroe County Board of Education, Alabama:

" Wastewater Treatment System Upgrade at J.F. Shields High School"
Monroe County Board of Education, Monroe County, Alabama,
to be opened 1:00 P.M. CST, March 7, 2024.

The awarding of a contract to the successful bidder will be conditioned upon, and the contract, therefore, will require the CONTRACTOR to adhere and comply with the following statutes where applicable, as contained in **Code of Alabama 1975**, as amended, Section 39-1-1 (Performance Bond, Labor and Material Bond, advertisement of completion, final settlement); Section 39-31-1 (use materials, supplies, etc., manufactured, mixed, processed or otherwise produced in the United States, if available, at resalable prices, and payment of liquidated damages in amount of 20% of contract price in event of breach thereof); Section 39-3-2 (preference given to employment of workmen, etc., who have actually resided in state

for two [2] years); Section 39-3-4 (use of domestic steel; contract revoked in event of non-compliance); Section 39-3-5 (preference given to resident contractors and requirements of non-resident bidders); copies of said statutes being attached hereto.

Attention of Bidders is further called to the license required by **Code of Alabama 1975**, Section 35-8-1, et. seq., as amended, relating to the licensing of General Contractors and that it will be necessary for all persons submitting bids for work to show satisfactory evidence of license as a general contractor and to show satisfactory evidence of license to make maximum bid sufficient to enable contractor to bid on this project.

The Bidder shall examine the site of the work, the quantity of work, and the time of completion, and satisfy himself that the work can be completed as set forth in these Specifications. The Bidder shall notify the ENGINEER at least 48 hours before the Bid Opening of any disagreements with the stated requirements relating to quantity of work, completion time, etc.

The CONTRACTOR shall submit with his bid a list of five (5) projects that involved similar construction techniques in which he was the prime contractor. Each bidder shall provide location, completion date, contact names and contact information (email or telephone numbers) for each project.

The successful bidder upon NOTICE TO PROCEED shall begin construction of the work within 10 days and shall fully complete the work within **180 calendar days**. Work is to be satisfactorily completed as provided in the contract documents.

Preparation of Bid:

Each bid must be submitted on the prescribed form and accompanied by the appropriate forms, bonds, and insurance certificates for the project. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures, and the foregoing certifications must be fully completed and executed when submitted.

Bids will only be accepted from contractors who have attended the mandatory pre-meeting and mandatory site visit the same day as the pre-bid meeting scheduled for **February 29, 2024, at 10:00 A.M.** at the Monroe County Board of Education office. Contractors that fail to attend the pre-bid meeting will be ineligible to submit a bid.

Monroe County Board of Education
1009 Pickens Street
Monroeville, Alabama 36460

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his/her address, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed and specified in the bid form.

Subcontracts:

The bidder is specifically advised that any person, contractor, or other party to whom it is proposed to award a subcontract under this contract:

1. Must be acceptable to the Owner.
2. Holds a valid General Contractor's License in the State of Alabama.

Addenda and Interpretations:

No interpretation of the meaning of the plans, specification or other pre-bid document will be made to any bidder orally. Every request for such interpretation should be in writing addressed to:

McFadden Engineering, Inc.
2860 Dauphin Street, Suite D
Mobile, Alabama 36606

Each request that is to be given consideration must be received at least five (5) days prior to the date fixed for the opening bids. Any and all such interpretations and any supplemental instructions will be in the form written addenda to the specifications which, if issued, will be mailed by certified mail with return receipt requested to all prospective bidders (at the respective addresses furnished for such purposes), not later than three (3) days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addendum or interpretation shall release such bidders from any obligation under his/her bid as submitted. All addenda so issued shall become part of the contract documents.

Safety Standards and Accident Prevention:

With respect to all work performed under this contract, the contractor shall:

1. Comply with the latest safety standards provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596) and the requirement, Section 1518 as published in the "Federal Register", Volume 36, No. 75, Saturday, April 17, 1971.
2. Exercise every precaution at all times for the prevention of accidents and the protection of all persons (including employees) and property.
3. Maintain at his/her office or other well-known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or a doctor's care of persons (including employees), who may be injured on the job site.

III. Instructions to Contractors and Insurers

1. Contractors and Subcontractors and Insurance

The CONTRACTOR shall not commence work under this contract until (i) he has obtained all the insurance hereinafter required, (ii) such insurance has been approved by the OWNER, and (iii) and such insurance is with companies licensed by the State of Alabama. CONTRACTORS shall not allow any subcontractor to commence work on his subcontract until the insurance required of the subcontractor hereunder has been obtained and approved. Evidence of insurance shall be furnished to the OWNER on certificates of insurance showing that the minimum coverage and limits of liability required hereunder are maintained during the duration of the Contract and in the instance of completed operations for a period of not less than twelve (12) months from date of acceptance of the Contract. Certificate(s) of insurance evidencing the requirements of insurance shall stipulate that the policy shall neither be canceled, nor reduced in coverage, until after thirty (30) days written notice of such cancellation or reduction have been mailed to the OWNER at the OWNER'S address. OWNER and ENGINEER shall be named as an additional insured on all policies of insurance.

2. Workmen's Compensation Insurance

The CONTRACTOR shall procure and shall maintain during the life of the Contract, Workmen's Compensation Insurance for all of his employees to be engaged in work on the project under the Contract, and, in case of any such work sublet, the CONTRACTOR shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation Insurance. In case any class of employees engaged in hazardous work on the project under this contract is not protected under the Workmen's Compensation Statute, the CONTRACTOR shall provide and shall cause each subcontractor to provide adequate employer's general liability insurance for the protection of such of his employees as are not otherwise protected. The insurance required shall be statutory Worker's Compensation and Employer's Liability (coverage B). The Certificate of Insurance must evidence coverage in the State of Alabama and must evidence a limit of liability for employer's liability of not less than \$1,000,000.00/\$1,000,000.00/\$1,000,000.00.

3. Comprehensive General Liability Insurance

The CONTRACTOR shall procure and shall maintain during the life of the contract a Comprehensive General Liability Insurance Policy including products liability, completed operations liability, blanket contractual liability, broad form property damage coverage and personal injury liability insurance with limits of at least \$2,000,000.00 per occurrence combined single limit. The Contractual Insurance coverage provided thereunder shall provide coverage for the liability assumed by CONTRACTOR under the indemnity provision of the Contract. The Certificate of Insurance must specifically state that such indemnity paragraph is insured and it must be signed by the insurance company, not the agent or broker. Such policy shall contain a severability clause, providing that, in the event

of a suit between OWNER and CONTRACTOR, coverage shall be provided for CONTRACTOR. The policy shall also include Contractor's protective coverage for subcontractors (independent contractor coverage). Coverage shall also be provided for the hazards commonly referred to as the X, C and U exclusions, such that coverage provide for all damages arising from explosion, collapse, or underground hazards. The certificate of insurance shall stipulate OWNER and ENGINEER have been made additional insurers under the policy with respect to all operations or services performed under the Contract by the CONTRACTOR or Subcontractor(s) thereof.

4. Comprehensive Automobile Liability Insurance

The CONTRACTOR shall carry a Comprehensive Automobile Liability Policy providing coverage for any owned, non-owned or hired vehicle with limits of at least \$2,000,000.00 per occurrence combined single limit bodily injury and property damage. The certificate of insurance shall stipulate OWNER and ENGINEER have been made additional insurers under the policy with respect to all operations or services performed under the Contract by the CONTRACTOR or Subcontractor(s) thereof.

5. Owner's Protective Liability Insurance

The CONTRACTOR shall at his expense provide an Owner's Protective Liability policy issued in the names of the OWNER and ENGINEER covering their liability for the operations of the CONTRACTOR. The policy shall provide limits of liability of at least \$2,000,000.00 per occurrence combined single limit bodily injury and property damage.

6. Fire and Extended Coverage Insurance

The CONTRACTOR shall maintain, as applicable, in an insurance company or insurance companies acceptable to the OWNER, fire, extended coverage and vandalism and malicious mischief insurance on buildings and structures, while in the course of construction, including foundations, additions, attachments and all permanent fixtures belonging to and constituting a part of said building or structures. The policy or policies shall also cover machinery, if the cost of machinery is included in the contract. The amount of insurance must at all times be at least equal to the actual cash value of the insured property. The policy shall be in the name of the OWNER and the CONTRACTOR, as their interest may appear, and shall also cover the interest of all subcontractors performing work.

7. Umbrella Insurance Coverage

The CONTRACTOR shall procure and shall maintain during the life of the contract an Umbrella Liability Insurance Policy over all underlining coverage and limits described in the insurance policies required above in an amount not less than \$3,000,000.00.

8. Hold Harmless

The CONTRACTOR shall and hereby agrees to indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses and expenses, including, but not limited to, attorneys' fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense: (1) is attributable to bodily injury, sickness, disease or health, or injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission of CONTRACTOR, subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this paragraph.

The obligations of the CONTRACTOR under this Paragraph shall not extend to the liability of the ENGINEER, his agents or employees arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the ENGINEER, his agents or employees.

9. Subcontractor's Public Liability and Property Damage Insurance

The CONTRACTOR shall require each of his subcontractors to produce and maintain during the life of his subcontract a comprehensive general liability policy and a comprehensive automobile insurance policy, as well as workmen's compensation insurance, of the type specified above in amounts approved by the OWNER.

IV. Certificate of Insurance Requirements

The following certificate shall be used in submitting evidence of compliance with the above requirements. The insurance company's representative shall execute four signed copies of the certificate plus such additional copies as may be required for the company's records. One executed copy shall be forwarded to the CONTRACTOR for attachment to the original policy as an endorsement and three copies shall be submitted to the OWNER. Similar certification will be required for subcontractors unless they are covered by the CONTRACTOR'S insurance.

Three executed copies of each subsequent endorsement affecting the coverage of policies and of each cancellation shall be forwarded to the OWNER in accordance with Items 3 and 4 of the insurers Agreement contained in this certificate.

The certificate of insurance shall stipulate OWNER and ENGINEER have been made additional insureds under the policy with respect to all operations or services performed under the Contract by the CONTRACTOR or Subcontractor(s) thereof.

**CERTIFICATE OF CONTRACTOR'S AND SUBCONTRACTOR'S
INSURANCE TO OWNER**

OWNER: _____ DATE: _____

This is to certify that the policies designated below have been issued by the _____ and are in full force on the date borne by this certificate.

1. Location and Designation of Project: _____
2. Name and address of insured for whom this certificate is issued: _____

INSURANCE: _____ POLICY EXP: _____

Type of Insurance	Policy No.	Expiration Date	Person	Acct.	Aggregate
Statutory					
Workmen's Comp.					
Contractor's Public					
Bodily Injury					
Property Damage					
Automobile					
Bodily Injury					
Property Damage					
Owner's Protective Liability					
Other Insurance					

Such insurance as is afforded by the above policies covers the operation undertaken by the insured with respect to the construction of the project above designated.

The insurance afforded by the above designated policies is in accordance with the company's standard policies, specimen copies of which have been filed with the OWNER, and to each of which is attached the following endorsement:

The insurer agrees with the insured as follows:

1. That it will furnish to said OWNER a certificate of insurance in four copies on a form approved for such purpose by said OWNER, setting forth the pertinent information regarding the policy to which this endorsement is attached, regarding the policy to which this endorsement is attached, for each project of said OWNER, to which the policy applies.
2. That it will attach to each said certificate of insurance executed copies of any endorsements other than this endorsement which are attached to said policy at the time said policy is issued, provided only that said endorsements affect the coverage of said

policy in respect of operations involved in the construction of project of said OWNER to which the policy applies.

3. That it will mail to the OWNER, four executed copies of each endorsement subsequently issued to become a part of said policy provided only that endorsement affects the coverage of said policy in respect of operations involved in the construction of the projects of said OWNER to which the policy applies.
4. That it will mail to the OWNER, at least thirty (30) days before the effective date thereof, notice of cancellation of said policy.

(Insurer)

By: _____
(Authorized Representative)

V. Proposal

TO: Monroe County Board of Education
109 Rosenwald Drive
Monroeville, AL 36460

SUBMITTED: _____, 2024

The undersigned, as Bidder, hereby declares that it has examined the site of the work and informed itself fully in regard to all conditions pertaining to the place where the work is to be done; that it has examined the specifications for the work and the contract and other contract documents relative thereto, and has read all general and special conditions furnished; and that it has satisfied itself relative to the work to be performed.

Bidder proposes and agrees, if this proposal is accepted, to perform and complete all the work described in the Contract and Contract Documents for the following:

Total Bid prices shown on the Lump Sum Bid. The total bid price includes all labor, materials, taxes and fees, overhead, profit, insurance, permits, incidentals, cost of tests and expenses incurred with any and all test laboratories, etc. to cover and finish work of the several kinds specified in the Scope of Work indicated below.

1. Scope of Work

The project includes the upgrading of the existing lagoon treatment system for J.F. Shields High School. The first cell of the existing lagoon system will be left “as is” to continue to treat the wastewater with a single Ares lagoon aerator placed at the end of the lagoon near the discharge to the second cell. Two Ares lagoon aerators will be installed in the second cell. A fourth Ares aerator will be purchased and will be employed in the third cell and can be used as a spare aerator in case one of the other aerators in cell #1 or cell #2 needs to be taken offline for maintenance or repair. Aeration will increase treatment efficiencies and reduce the algae through the mixing process. The Ares aerators combine efficient fine-bubble aeration as well as providing coarse bubble mixing within the same unit. The units are also portable and can be moved around providing flexibility in the treatment process should conditions change in the future. A blower will be centrally located to provide air to the aerators. Half of the third cell will be covered with a polyethylene floating cover (i.e. HexProtect Aqua Cover) to prevent algae from growing and baffled to allow settling to occur after the aeration and prior to discharge.

The second and third cells of the lagoons will have the existing sludge removed and transferred to the first cell. Estimates include that approximately 8-12 inches of sludge is present in these lagoons. During water and solid transfer, the Contractor is responsible for any noncompliant discharge, any fines associated from the spill and reporting the spill to the Project Engineer and Alabama Department of Environmental Management in accordance with ADEM Admin. Code r. 335-6-6-.02(hh)

Targeted areas of the lagoon berms will be rehabilitated to eliminate low spots in the berms that could lead to overflows during high flow events. Disinfection and flow monitoring will also be provided.

Any details for incidental work which is necessary for a complete workmanlike job and which may not be specifically prescribed shall be performed as part of this item. Reproducible "As-Built" drawings, 3 copies will be required of the contractor for all work performed. Also, before and after photos of all work areas will be required from the contractor.

The alternate deduct bids shall include the substitution of items listed on the bid form. These alternate deduct bids shall include all incidentals necessary for the complete installation of the items listed.

Bids and alternate bids shall be lump sum prices. The contractor shall provide a breakdown of the lump sum bid into major items for partial payment purposes.

Contractor shall provide any temporary utilities required for construction.

The bidder further proposes and agrees, if this proposal is accepted, to contract with the Monroe County Board of Education in the form of contract specified, to furnish all necessary bonds and proof of insurance documents upon execution of the contract and to furnish all necessary materials, equipment, machinery, tools, apparatus, power, means of transportation and labor necessary to complete the construction of:

Wastewater Treatment System Upgrade at J.F. Shields High School
J.F. Shield Highschool
MONROE COUNTY, ALABAMA

in full and complete accordance with the shown, noted, described and reasonably intended requirements of the specifications and contract documents to the full and entire satisfaction of the Mobile County Board of Education with a definite understanding that no money will be allowed for extra work except as set forth in the Contract Documents.

The Bidder further proposes and agrees hereby to commence the work with an adequate force and equipment upon NOTICE TO PROCEED and to fully complete the work in **180** calendar days.

The undersigned further agrees that, in case of failure on his part to execute the said Contract and to submit all bonds and other required documents within ten (10) consecutive calendar days after written notice being given of the award of the Contract, the bid bond of five (5%) percent of the bid amount contained in the Bid Schedule, as a bid guarantee accompanying this bid, and the monies payable thereon shall be paid into the funds of the Monroe County Board of Education as liquidated damages for such failure; otherwise, the bid bond accompanying this proposal shall be returned to the undersigned.

Attached hereto is a bid bond for the sum of (\$ _____) Dollars made payable to the _____.

RESPECTFULLY SUBMITTED:

Contractor: _____
Name and Title: _____
Signature of Contractor: _____
Contractor Address: _____
License Number: _____ (SEAL - if BID is by a Corporation):

ATTEST: _____ Contractor's License Number: _____
Its: _____
ADDRESS: _____

2. Lump Sum Bid

The construction of the wastewater treatment upgrades for J.F. Shields High School shall be based on a lump sum bid. The appropriate forms for submitting said bids are included on the following pages.

3. Proposed Deducts for Owner-Selected Equipment, Materials, and Supplier Alternates

The Bidder may propose materials/supplier alternates by submitting a written proposal to the ENGINEER that includes the minimum amount of the deduct to the OWNER and all information required below. Any submittal for a proposed alternate shall be made no less than ten (10) days prior to the date for opening bids.

Should a Bidder propose a materials/supplier alternate, he shall include in his bid any and all additional construction costs associated with the alternate and reimbursement to the OWNER for any incurred engineering redesign and/or review costs associated with the alternate. The Bid shall also include any paid-up licenses necessary for the use of the equipment if required by the manufacturer.

No equipment/materials/supplier alternate will be considered unless a deduct is offered and, in the opinion of the OWNER, it conforms to the requirements of the Contract Documents in all respects except for make, manufacture, and minor details. Equipment/materials/supplier alternates will generally be deemed "equal" provided that, in the sole opinion of the OWNER, the alternate is the same or better than the named materials/supplier in function, performance, reliability, quality, and general configuration. Determination of equality in reference to the project requirements will be made by the OWNER. OWNER's allowance of a materials/supplier alternate will constitute neither a waiver of the requirements of the Contract Documents nor agreement by the OWNER that the alternate is equal to the named equipment/materials/supplier.

The OWNER may determine any proposed materials/supplier alternate to be "not desired" as the OWNER determines will best suit the Board's sole best interests.

Should a proposed materials/supplier alternate be determined "not equal" or "not desired" by the OWNER, or should no proposed alternate be indicated, then the Bidder must provide the named materials/supplier listed in the drawings and specifications.

SUBMITTAL REQUIREMENTS FOR PROPOSED EQUIPMENT, MATERIALS, AND SUPPLIER ALTERNATES

Upon request by the OWNER, Bidder shall submit information as described below for the Owner's use in determining the equality or desirability of proposed materials/supplier alternates. Submittal of this information with the Proposal is required. Bidder's failure to comply with the following requirements will result in a determination by the OWNER that the proposed alternate is "not desired".

For each proposed materials/supplier alternate, Bidder shall submit the following information with his written proposal:

- A. Dimensional and weight information of components and assemblies.
- B. Catalog information.
- C. Manufacturer's specifications, including materials descriptions and paint systems descriptions.
- D. Complete listing of requested exceptions to the requirements of the Contract Documents.
- E. Performance data (E.G., pump curves).
- F. Horsepower of all motors.
- G. Utility requirements (water, electric power, air, etc.).
- H. Address and phone number of nearest parts/repair service centers and nearest manufacturer's representative.
- I. A listing of the three most recent installations where similar equipment by the manufacturer is currently in service, including contact names and telephone numbers for the Owner and installation Contractor.
- J. Written description and Drawings regarding all changes and modifications to the work necessary to adapt the equipment to the arrangement shown or function described in the Contract Documents.
- K. Time of delivery.

4. Bid Schedule

Completion of Wastewater Treatment System Upgrades at J.F. Shields High School

Item Number	Description	Lump Sum Bid
1	Procurement and installation of Triple Point Ares System, Hex Protect cover for half of third cell, floating baffle for third cell, sludge transfer from cells #2 and #3 to cell #1, targeted berm rehabilitation, electrical service, disinfection and flow monitoring	
Subtotal		\$
Less Deductions		\$
Total Amount of Bid		\$

Contractor may continue on additional pages if necessary.

Owner will have discretion to choose whichever bid is deemed in its "best interest".

If any alternate is determined by the Owner to not be approved, then the Contractor will provide the item listed in the specifications.

VI. Bid Bond

KNOW ALL MEN BY THESE PRESENTS:

That _____
(Name of Contractor)
of _____ as Principal, and _____
(Address) (Address)

as Surety are held and firmly bound unto the **Monroe County Board of Education**, Obligee, in the full and just sum of _____ (\$_____) Dollars lawful money of the United States, for the payment of which sum, well and truly to be made, we bond ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal is herewith submitting its proposal for:

**Wastewater Treatment System Upgrade at J.F. Shields High School
Monroe County Board of Education, Monroe County, Alabama**

The condition of this obligation is such that if the aforesaid Principal shall be awarded the contract, the said Principal will, within ten (10) consecutive calendar days after Notice of Award, enter into a formal contract and give a good and sufficient bond to secure the performance of the terms and conditions of the contract, then this obligation to be void; otherwise, the Principal and the Surety will pay unto the Obligee the difference of the proposal of the next lower bidder. If no other bids are received, the full amount of the proposal guaranty shall be retained or recovered as liquidated damages for such default.

Signed, sealed and delivered this _____ day of _____ 2024.

Witness as to Principal: _____
(Name of Contractors Firm)

By: _____
(Name of Surety)_

**BIDS WILL NOT BE CONSIDERED UNLESS BID BOND IS SIGNED BY
PRINCIPAL AND SURETY.**

VII. Contract

This Agreement made and entered into the ____ day of _____, 2024, by and between _____ of _____ (CONTRACTOR), party of the first part, and Monroe County Board of Education, (OWNER), party of the second part.

Witness

That the first party, for the consideration hereinafter fully set out, hereby agrees with the second party as follows:

1. The first party shall abide by, furnish all the materials, and perform all the work in the manner and form as provided by this Contract and the following Contract Documents:

- Advertisements for Bids
- Instructions to Bidders
- Instructions to Contractors and Insurers
- Certificate of Insurance
- Proposal and Bid Schedule
- Bid Bond
- Contract
- Performance Bond
- Labor and Material Bond
- Notice of Award
- Notice to Proceed
- General Conditions
- Special Conditions
- Technical Specifications

for the construction of the following work:

**Wastewater Treatment System Upgrade at J.F. Shields High School
Monroe County Board of Education
Monroe County, Alabama**

which are attached hereto and made a part hereof, as if fully contained herein, including the following Addenda:

If there is a conflict, error or discrepancy in or between this Contract and the Contract Documents, then the various documents shall be given precedence as follows: Contract, Contract Modifications, if any, Instructions to Bidders, Instructions to Contractors and Insurers/Certificate of Insurance, Proposal, Bid Bond, Performance Bond, Labor and Materials Bond, Special Conditions, Supplemental Conditions, if any, General Conditions, Bid/Technical Specifications. If the Contract or Contract Modifications are more stringent than the other Contract Documents, then the more stringent requirements shall apply.

2. The first party shall commence the work upon acceptance of NOTICE TO PROCEED and shall complete the work in 180 calendar days.

3. The second party hereby agrees to pay to the first party for the faithful performance of this contract, subject to additions and deductions as provided in the specifications or proposal, in lawful money of the United States as follows:

_____ DOLLARS, (\$_____), the contract price, in accordance with the lump sum price set forth in the proposal, subject, however, to the said contract price being added to or deleted from according to the alternate prices set forth in the proposal as directed by the ENGINEER.

4. Based upon written applications for payment submitted to the ENGINEER by the first party and written certificates for payment issued by the ENGINEER to the second party, the second party shall make progress payments to the first party on account of the contract price for the period ending the last day of each calendar month as follows:

On or about the 20th day of each month, ninety (90%) percent of the value of work completed through the previous month, based on the contract price, less the aggregate of previous payments; and upon substantial completion of the entire work, a sum sufficient to increase the total payments to ninety (90%) percent of the contract price, the remaining ten (10%) percent of the contract price to be paid upon completion and final acceptance of the complete project by the ENGINEER and the second party. Substantial completion is the date certified by the ENGINEER when construction is sufficiently complete so that the second party can occupy or utilize the work for the use for which it is intended. Payments may be withheld on account of:

1. defective work not remedied
2. claims filed
3. failure of first party to make payments properly to subcontractors or for labor, material, or equipment
4. damages to second party or another contractor
5. persistent failure of first party to carry out the work in accordance with the plans and specifications and other contract documents.
6. any fines, citations, etc. imposed on the OWNER for NPDES violations.

5. Upon submission by the first party of evidence satisfactory to the second party that all payrolls, material bills, and other costs incurred by the first party in connection with the construction of the work have been paid in full, final payment on account of this agreement shall be made within thirty (30) days after the completion by the first party of all work covered by this agreement and the acceptance of such work by the ENGINEER and by the second party. The making of final payment hereunder shall constitute a waiver of all claims by the second party except those arising from: (1) unsettled liens, (2) faulty or defective work appearing after substantial completion, (3) failure of the work to comply with the requirements of the plans and specifications and other contract documents, or (4) breach of the terms of any special warranties required hereunder or by any other contract documents. The acceptance of final payment by first party shall constitute a waiver of all claims by the first party against second party. Notwithstanding any provision above, final payment shall not be made in any event until CONTRACTOR has fully complied with **Code of Alabama**

1975, Section 39-1-1, as same governs notice and advertisement regarding completion of public works.

6. The ENGINEER shall be McFadden Engineering, Inc., 2860 Dauphin Street, Suite D, Mobile, Alabama 36606.

7. The first party agrees to the following duties, responsibilities, warranties, and/or obligations:

- (a) The CONTRACTOR shall supervise and direct the work, using his best skill and attention; he shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions under the contract;
- (b) Unless otherwise specified, the CONTRACTOR shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, permits, and other facilities and services necessary for the proper execution and completion of the work, whether temporary or permanent and whether or not incorporated or to be incorporated into the work;
- (c) The CONTRACTOR shall at all times enforce strict discipline and good order among its employees and shall not employ on the work any unfit person or anyone not skilled in the task assigned to him;
- (d) The CONTRACTOR warrants to the OWNER and the ENGINEER that all materials and equipment incorporated in the work shall be new unless otherwise specified, and that all work will be of good quality, free from faults and defects and in conformance with the plans and specifications and other contract documents. All work not conforming to these requirements shall be considered defective;
- (e) Unless otherwise provided herein, the CONTRACTOR shall pay all sales, consumer, use and other similar taxes which are legally enacted at the time bids are received, and shall secure and pay any and all permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the work;
- (f) The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the work, and shall promptly notify the ENGINEER if the plans and specifications are at variance therewith;

- (g) The CONTRACTOR shall be responsible to the OWNER for the acts and omissions of its employees, subcontractors, and their agents and employees, and other persons performing any of the work under a contract with the CONTRACTOR;
- (h) The CONTRACTOR at all times shall keep the premises free from accumulation of waste materials and rubbish caused by its operations. At the completion of the work it shall remove all its waste materials and rubbish from and about the project as well as its tools, construction equipment, machinery and surplus materials;
- (i) The CONTRACTOR shall and hereby agrees to indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses and expenses, including, but not limited to, attorneys' fees arising out of resulting from the performance of the work, provided that any such claim, damage, loss or expense: (1) is attributable to bodily injury, sickness, disease or health, or injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission of CONTRACTOR, subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this paragraph.

The obligations of the CONTRACTOR under this Paragraph shall not extend to the liability of the ENGINEER, his agents or employees arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the ENGINEER, his agents or employees.

- (j) The CONTRACTOR shall in the performance of the work hereunder use materials, supplies and products manufactured, mined, processed, or otherwise produced in the United States or its territories, if the same are available at reasonable prices, in strict compliance with **Code of Alabama 1975**, Section 39-3-1; in the event CONTRACTOR breaches its warranty to use domestic products, CONTRACTOR shall pay to OWNER as liquidated damages for such breach a sum equal to ten (10%) percent of the gross amount of the contract. Such provision for liquidated damages is in addition to and shall be construed separate and apart from any other provision for liquidated damages contained herein.
- (k) CONTRACTOR shall and hereby agrees to employ only workmen and laborers who have actually resided in Alabama for two (2) years next proceeding such employment in strict compliance with **Code of Alabama 1975**, Section 39-3-2, unless said employment is exempted by said statute.
- (l) CONTRACTOR shall and is hereby required to use steel produced within the United States of America when the specifications in this Contract require the use of steel. This

warranty of CONTRACTOR shall be in strict conformance with **Code of Alabama 1975**, Section 39-3-4. In the event CONTRACTOR violates the domestic steel requirement herein, this Contract shall be automatically revoked and CONTRACTOR shall not be entitled to any set-off or recoupment for labor or materials used up to the time of such revocation.

(m) CONTRACTOR shall use materials supplied from manufacturers who have been manufacturing the specified item for a minimum of 5 years for use in wastewater treatment projects. When in question, the ENGINEER may require a list of references from municipalities where manufacturer has supplied such materials. If, in the opinion of the ENGINEER, the manufacturer does not show adequate experience, the ENGINEER may require the contractor to locate other manufacturers who meet the experience requirement. This requirement may be waived by the ENGINEER, if in the opinion of the ENGINEER, it will not adversely affect the quality of the project. Cost shall not be a reason to waive this requirement.

8. The first party shall not employ any subcontractor to perform any part of the work without the written consent of the second party, and in the event such consent is given, such subcontractor shall enter into a written agreement with the first party as approved by the second party prior to the subcontractor entering into any work. Notwithstanding the above, in no event shall the CONTRACTOR subcontract more than twenty-five (25%) percent of the work. Each subcontractor shall be licensed to perform the work, and the CONTRACTOR shall provide OWNER with a complete list of subcontractors, their business addresses, the work to be performed by each, and references (if requested); copies of policies of insurance, insuring subcontractors, in compliance within the insurance requirements hereunder shall be furnished OWNER upon request.

9. The first party shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. It shall take all reasonable precautions for the safety of, and shall provide all reasonable protection for damage, injury or loss to: (1) all employees and subcontractors on the work and other persons who may be affected thereby, (2) all the work and all materials and equipment to be incorporated therein, and (3) other property at the site or adjacent thereto. The first party shall give all notices and comply with all applicable laws, ordinances, rules, regulations, and orders of any public authority bearing on the safety of persons and property and their protection from damage, injury or loss. The CONTRACTOR shall promptly remedy all damage or loss to any property caused in whole or in part by the CONTRACTOR, any subcontractor, 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 to acts or omissions of the OWNER or ENGINEER or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the CONTRACTOR, his/its subcontractors or anyone directly or indirectly employed by any of them. The foregoing obligations of the CONTRACTOR are in addition to his obligations under Paragraph 7 hereof.

10. The CONTRACTOR shall purchase and maintain sufficient insurance in full compliance with Instructions to Contractors and Insurers attached hereto and made a part

hereof in the Contract Documents. Certificates of all such required insurance shall be filed with the OWNER prior to the commencement of the work, shall name the OWNER and ENGINEER as an additional insured hereunder, and shall provide for thirty (30) days' prior notice to OWNER before cancellation; further, at the request of OWNER, CONTRACTOR shall make available to OWNER any and all policies of insurance required hereunder for OWNER'S and/or ENGINEER'S inspection and copying.

11. The OWNER, without invalidating the contract, may order changes in the work consisting of additions, deletions, or modifications, the contract price and the contract time being adjusted accordingly. All such changes in the work shall be authorized by written change order signed by the OWNER and the ENGINEER. Any such change order not in writing shall be null and void.

12. The CONTRACTOR shall promptly correct any work rejected by the ENGINEER as defective or as failing to conform to the plans and specifications or other contract documents whether observed before or after substantial completion and whether or not fabricated, installed or completed, and shall correct any work found to be defective or nonconforming within a period of one (1) year from the date of substantial completion of the contract or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by any of the contract documents. The provisions of this paragraph apply to work done by subcontractors as well as to work done by direct employees of the CONTRACTOR.

13. Before commencing any of the work contracted for herein, the first party shall submit a performance bond and a labor and materials bond sufficient to comply in every respect with **Code of Alabama 1975**, Section 39-1-1 and shall submit a certificate of insurance as required in the Contract Documents.

14. If CONTRACTOR should be adjudged a bankrupt, or make a general assignment for the benefit of creditors, or if a receiver should be appointed on account of insolvency, or if CONTRACTOR should persistently or repeatedly refuse or fail to supply enough properly skilled workmen or proper materials or fail to make prompt payments to subcontractors, or if CONTRACTOR'S workmen should leave the work before its completion for any reason whatever or disregard the instructions of OWNER or should CONTRACTOR'S work be impeded by strike or labor disruption by CONTRACTOR'S employees, agents or servants, or otherwise be guilty of a substantial violation of any of the provisions of this contract, or of the provisions of the Federal Occupational Safety and Health Act 1970, as amended, or if the CONTRACTOR defaults or persistently fails or neglects to carry out the work in accordance with the contract or any of the contract documents or fails to perform any provision of the contract, plans or specifications or other contract documents, the OWNER, after three (3) days' written notice to the CONTRACTOR, and without prejudice to any other remedy it may have, (i) may make good any such deficiencies in the work and may deduct the cost thereof, including compensation for the ENGINEER'S additional services made necessary thereby, from the payment then or thereafter due the CONTRACTOR or (ii) at its option, and upon certification by the ENGINEER that sufficient cause exists to justify such action, may terminate the contract and take possession of the site and all materials, equipment, tools, and construction equipment and machinery thereon owned by

the CONTRACTOR and may finish the work by whatever method it may deem expedient, and if the unpaid balance of the contract price exceeds the expense of finishing the work, such excess shall be paid to the CONTRACTOR, but if such expense exceeds such unpaid balance, the CONTRACTOR shall pay the difference to the OWNER.

15. It is mutually agreed between the parties hereto that time is of the essence of this contract, and in the event the construction and progress of the work is not completed as specified in paragraph two (2) hereof, it is agreed that from the compensation otherwise to be paid to the CONTRACTOR, the second party may retain the sum of **\$1,500.00** per day for each day the work remains uncompleted, Sundays and holidays included, which sums shall represent the actual damages which the OWNER will have sustained per day for interest, administration, engineering and inspection by failure of the CONTRACTOR to complete the work within the time stipulated, and these sums are not a penalty, being the stipulated monetary damages the second party will have sustained for such said interest, administration, engineering and inspection in the event of such failure by the first party to timely complete the work as herein specified. In the event OWNER elects to terminate the contract as provided in Paragraph 14 after the time specified or any written extension thereof have expired, such daily damages to completion of contract shall be in addition to any and all additional sums or damages owed by CONTRACTOR to OWNER to complete the work under the provisions of this paragraph.

16. It is further mutually agreed between the parties hereof that if at any time after the execution of this agreement and the surety bond(s) hereto attached for its faithful performance, the second party shall deem the surety or sureties upon such bond(s) to be unsatisfactory, or if, for any reason, such bond(s) ceases to be adequate to cover the performance of the work, the first party shall at its expense, within five (5) days after the receipt of notice from the second party so to do, furnish an additional bond or bonds in such form and amount and with such surety or sureties as shall be satisfactory to the second party. In such event, no further payment to the first party shall be deemed to be due under this agreement until such new or additional security for the faithful performance of the work shall be furnished in manner and form satisfactory to the second party.

17. This Contract shall be governed and construed according to the laws of the State of Alabama.

18. In addition to any other remedy provided hereunder, the OWNER shall be entitled to specific performance of this contract. Further, in the event of CONTRACTOR'S breach of contract, OWNER or ENGINEER may, at its option, elect to file suit for any and all damages and/or for specific performance, and in such event, CONTRACTOR agrees to be responsible for and to pay all attorney's fees, expenses, and court costs incurred by second party in the event second party prevails in such suit. CONTRACTOR agrees and hereby consents to the jurisdiction and venue of the Circuit Court of Baldwin County, Alabama, or the United States District Court for the Southern District of Alabama, and hereby waives any objection to improper venue, should suit be filed on this Contract in the above jurisdictions.

19. All time limits stated herein and in any of the Contract Documents are of the essence of the Contract. If the CONTRACTOR is delayed at any time in the progress of the work by changes ordered in the work, by labor disputes, fire, unusual delays in transportation, adverse weather conditions that could not have been reasonably anticipated, unavoidable casualties, or any causes beyond the CONTRACTOR'S control, or by any other cause which the ENGINEER determines may justify the delay, then the Contract may be extended by change order for such reasonable time as the OWNER, in its sole discretion, may determine; PROVIDED, HOWEVER, nothing contained herein shall be construed as a requirement that OWNER extend any time limits set forth herein.

20. Neither this contract nor any interests therein shall be assigned or transferred by CONTRACTOR, nor shall any part of the work be sublet without OWNER'S written consent. If such written consent is granted by OWNER, CONTRACTOR agrees that it is responsible for ensuring that all subcontractors maintain those insurance specified in Instructions to Contractors and Insurers as attached hereto in the Contract Documents (or as amended in writing by OWNER). CONTRACTOR hereby agrees that it will indemnify and hold harmless the OWNER and ENGINEER should CONTRACTOR fail to ensure that subcontractor(s) maintains the required insurance.

21. Project Representative in the field (observer) shall not be authorized to approve any changes additions, deletions, or otherwise alterations in the contract documents, including plans and specifications. Where such alterations are required or requested, the CONTRACTOR shall notify the ENGINEER in writing of such at the address of the ENGINEER. If the contractor executes any changes, alterations, or any work as directed by the project representative, the contractor shall be responsible for the work and indemnify and hold harmless the ENGINEER or his agents.

IN WITNESS WHEREOF the parties have executed this agreement on the day and date first written in three (3) counterparts, each of which shall without proof or accounting for the other counterpart, be deemed an original contract.

CONTRACTOR: _____

Date: _____

By: _____

Its: _____

ATTEST: _____

Date: _____

By: _____

Its: _____

OWNER: Monroe County Board of Education, Alabama

Date: _____

By: _____

Its: _____

ATTEST: _____

Date: _____

By: _____

Its: _____

VIII. Performance Bond

KNOW ALL MEN BY THESE PRESENTS: That we _____ of (hereinafter called the "PRINCIPAL") and _____ (hereinafter called the "SURETY") are held and firmly bound unto **Monroe County Board of Education** in Monroe County, Alabama, (hereinafter called the "OWNER") in the penal sum of _____ (\$_____) DOLLARS payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns for the faithful performance of a certain written contract dated the ____ day of _____, 2024, entered into between the PRINCIPAL and the OWNER for the construction of:

**Wastewater Treatment System Upgrade at J.F. Shields High School
Monroe County Board of Education
Monroe County, Alabama**

a copy of which said contract is incorporated herein by reference and is made a part hereof as if fully copied herein.

NOW, THEREFORE, the condition of this obligation is such that if the PRINCIPAL shall faithfully perform the terms and conditions of the contract in all respect on its part, and shall fully pay all obligations incurred in connection with the performance of such contract on account of labor and materials used in connection therewith, and all such other obligations of every form, nature, and character, and shall save harmless the OWNER and ENGINEER from all and any liability of every nature, kind, and character which may be incurred in connection with the performance or fulfillment of such contract or other such liability resulting from negligence or otherwise on the part of such PRINCIPAL and further shall save harmless the OWNER and ENGINEER from all cost and damage, including attorney fees, which may be suffered by reason of the failure to fully and completely perform said contract and shall fully reimburse and repay the OWNER and ENGINEER for all expenditures of every kind, character, and description which may be incurred by the OWNER or ENGINEER in making good any and every default which may exist on the part of the PRINCIPAL in connection with the performance of said contract; and further that the PRINCIPAL shall pay all lawful claims of all persons, firms, partnerships, or corporations for all labor performed and material furnished in connection with the performance of the contract, and that the failure so to do with such persons, firms, partnerships, or corporations shall give them a direct right of action against the PRINCIPAL and SURETY under this obligation; provided, however, that no direct suit, action, or proceeding by such persons, firms, partnerships, or corporations shall be brought on this bond after one year from the date of final settlement of said contract, such direct suit, action, or proceeding being expressly subject to **Code of Alabama 1975**, Section 39-1-1(b), and provided, further, that if any alterations or additions which may be made under the contract, or in the work to be done under it, or the giving by the OWNER of any extensions of time for the performance of the contract or any other forbearance on the part of either the OWNER or the PRINCIPAL shall not, in any way, release the PRINCIPAL and SURETY, or either of them, their heirs, executors, administrators, successors, or assigns for their liability hereunder, notice to the SURETY of any such alterations extensions or forbearance being expressly waived. This obligation shall remain in full

force and effect until the performance of all covenants, terms and conditions herein stipulated and after such performance, it shall become null and void.

IN TESTIMONY WHEREOF witness the hand and seal of the parties hereto on this day of _____, 20__.

Executed in three (3) counterparts.

Witness: _____ Principal: _____

By: _____

Its: _____

Witness: _____ Surety: _____

By: _____

Its: _____

Countersigned: _____

By: _____

IX. Labor and Material Bond

KNOW ALL MEN BY THESE PRESENTS: That _____ we _____, as PRINCIPAL, and _____, as SURETY, are held and firmly bound unto **Monroe County Board of Education**, in Monroe County, Alabama, (hereinafter called the "OBLIGEE") in the penal sum of _____ (\$_____) DOLLARS lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally, firmly by the presents.

WHEREAS, said PRINCIPAL has entered into a certain contract with said OBLIGEE, dated the _____ day of _____, 2024, (hereinafter called the "CONTRACT") for the construction of:

**Wastewater Treatment System Upgrade at J.F. Shields High School
Monroe County Board of Education
Monroe County, Alabama**

which contract and the specifications for said work shall be deemed a part hereof as fully as if set out herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that if said PRINCIPAL and all subcontractors to whom any portion of work provided for in said CONTRACT is sublet and all assignees of said PRINCIPAL and of such subcontractors, shall promptly make payments to all persons supplying him or them with labor, materials, or supplies for or in the prosecution of the work provided for in such CONTRACT, or in any amendment or extension of or additions to said CONTRACT, and for the payment of reasonable attorney's fees, incurred by successful claimant or claimants in civil suits therefore, then the above obligation shall be void; otherwise to remain in full force and effect. PROVIDED, HOWEVER, that this bond is subject to the following conditions and limitations:

(a) A person, firm or corporation that has furnished labor, materials, or supplies for or in the prosecution of the work provided for in said contract shall have a direct right of civil action against the PRINCIPAL and SURETY on this bond, pursuant to **Code of Alabama 1975**, Section 39-1-1(b), as amended. Such right of civil action shall be asserted in his or their name or names and such persons shall have their rights and claims adjudicated in such civil action and judgment entered thereon; provided, that no civil action shall be instituted under this bond until after forty-five (45) days' written notice to the SURETY hereon of the amount claimed to be due and the nature of the claim. The giving of said notice by registered or certified mail, postage prepaid, addressed to the SURETY at any of its places of business or offices shall be deemed sufficient under this section. In the event the SURETY or PRINCIPAL fails to pay such claim in full within forty-five (45) days from the mailing of such notice, then such person or persons shall be entitled to recover of the PRINCIPAL and SURETY, in addition to the amount of said claim, a reasonable attorney's fee, together with interest on such claim from the date of such notice.

(b) Every person or persons having a right of action under this bond as provided in Paragraph (a) shall, upon written application to OBLIGEE, setting out that labor, material, foodstuffs, or supplies for such work have been supplied by him or them and that payment therefor has not been made, be promptly furnished a certified copy of said bond and contract.

(c) Such claimant or claimants under Paragraph (a) above shall be authorized to bring civil action on said bond in the County in which the work provided for in said contract is to be performed or in any county where the PRINCIPAL or SURETY does business, for his or their use and benefit against said PRINCIPAL and SURETY or either of them; provided, however, such civil action shall be commenced not later than one (1) year from the date of final settlement of said contract.

(d) In addition to any other legal mode of service, service of summons and other process in civil actions brought by claimant or claimants as described in Paragraph (a) above may be had on the PRINCIPAL or SURETY by leaving a copy of the summons and complaint or other pleading or process with the executive officer of the OBLIGEE hereunder. PRINCIPAL and SURETY hereby consent that such service shall be the same as personal service on said PRINCIPAL or SURETY.

(e) If service is had on the executive officer of OBLIGEE hereunder, it shall be the duty of such executive officer of OBLIGEE to immediately mail a copy of such process to the PRINCIPAL and SURETY at the addresses given herein.

(f) In no event shall the SURETY be liable for a greater sum than the penalty of this bond.

(g) This bond is given pursuant to the terms of **Code of Alabama 1975**, Section 39-1-1, as amended, and is subject to terms and conditions contained therein. Any provision hereof in conflict with said statute shall be null and void.

Executed in three (3) counterparts.

SIGNED, SEALED AND DELIVERED THIS _____ DAY OF _____, 20____

Witness: _____

Principal: _____

By: _____

Its: _____

Witness: _____

Surety: _____

By: _____

Its: _____

Countersigned: _____

Resident Agent: _____

Principal's Address: _____

Surety's Address: _____

X. Notice of Award

To: [Insert Contractor Name & Address]

Project Description:

**Wastewater Treatment System Upgrade at J.F. Shields High School
Monroe County Board of Education
Monroe County, Alabama**

(the OWNER) has considered the BID AND PROPOSAL submitted by you for the above described WORK in response to its Advertisement for Bids, Instructions to Bidders, and other contract documents.

You are hereby notified that your total BID for Wastewater Treatment System Upgrade at J.F. Shields High School has been accepted for items in the amount of:

(\$ _____).

You are required by the INSTRUCTIONS TO BIDDERS to execute the Contract and furnish the required PERFORMANCE BOND, LABOR AND MATERIALS BOND and CERTIFICATES OF INSURANCE within ten (10) calendar days from the date of this Notice to you. If you fail to execute said Agreement and to furnish said BONDS and CERTIFICATES OF INSURANCE, together with policies, if required, within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the ENGINEER. An acknowledged digital copy is acceptable dated this __ day of _____, 2024.

OWNER: _____

By: _____

Its: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by this the ___ day of _____, 20____.

By: _____

Title: _____

XI. Notice to Proceed

TO: [Contractor Name and Address] DATE: _____, 2024

Project:

**Wastewater Treatment System Upgrade at J.F. Shields High School
Monroe County Board of Education
Monroe County, Alabama**

You are hereby notified to commence WORK in accordance with the Contract dated _____, on or before _____ and you are to complete all work on or before _____.

Owner: Monroe County Board of Education

By: Brad Newton, P.E.

(for McFadden Engineering, Inc.)

Its: Consulting Engineer

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by _____, this the ____ Day of _____, 2024.

By: _____

Title: _____

XII. General Conditions

1. Definitions

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

Acceptance: By the OWNER of the Work as being fully complete in accordance with the Contract Documents.

Agreement: The written agreement between the OWNER and the CONTRACTOR covering the Work to be performed; the Contract Documents are attached to and made a part of the Agreement. Also designated as the Contract.

Addenda: Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings and Specifications, by addition, deletions, clarifications or corrections.

Application for Payment: The form furnished by the ENGINEER which is to be used by the CONTRACTOR in requesting progress payments and an affidavit of the CONTRACTOR that progress payments theretofore received from the OWNER on account of the Work have been applied by the CONTRACTOR to discharge in full all of the CONTRACTOR's obligations stated in prior Applications for Payment.

Approval: Accept as satisfactory.

Bid: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bidder: Any person, firm or corporation submitting a Bid for the Work.

Bonds: Bid, performance and payment bonds and other instruments of security furnished by the CONTRACTOR and his surety in accordance with the Contract Documents and in accordance with the law of the place of the project.

Change Order: A written order to the CONTRACTOR signed by the OWNER authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement.

Contract Documents: The Agreement, Addenda, Instructions to Bidders, CONTRACTOR's Bid, the Bonds, the Notice of Award, these General Conditions, the Supplementary Conditions, Special Conditions, Technical Conditions, the Specifications, Drawings and Modifications, and Notice to Proceed.

Contract Price: The total money payable to the CONTRACTOR under the Contract Documents.

Contract Time: The number of calendar days stated in the Agreement for the completion of the Work.

CONTRACTING OFFICER: The owner - The individual who is authorized to sign the contract documents on behalf of the owner's governing body.

CONTRACTOR: The person, firm or corporation with whom the OWNER has executed the Agreement.

Day: A calendar day of twenty-four hours measured from midnight to the next midnight.

Drawings: The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by the ENGINEER and are referred to in the Contract Documents.

ENGINEER: The person, firm or corporation named as such in the Contract Documents.

Field Order: A written order issued by the ENGINEER which clarifies or interprets the Contract Documents in accordance with paragraph 9.3 or orders minor changes in the Work in accordance with paragraph 10.2.

Modification: (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order, (c) a written clarification or interpretation issued by the ENGINEER in accordance with paragraph 9.3 or (d) a written order for a minor change or alteration in the Work issued by the ENGINEER pursuant to paragraph 10.2. A Modification may only be issued after execution of the Agreement.

Notice of Award: The written notice by OWNER to the apparent successful Bidder stating that upon compliance with the conditions precedent to be fulfilled by him within the time specified, OWNER will execute and deliver the Agreement to him.

Notice to Proceed: A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform his obligations under the Contract Documents.

OWNER: A public body or authority, corporation, association, partnership, or individual for whom the Work is to be performed.

Project: The entire construction to be performed as provided in the Contract Documents.

(Construction Observer)

(Resident Inspector)

(Construction Inspector)

(Project Representative): An authorized representative of the ENGINEER assigned to observe the Work performed and materials furnished by the CONTRACTOR or such other person as may be appointed by the OWNER as his representative. The CONTRACTOR shall be notified in writing of the identity of this representative.

Shop Drawings: All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work and as required by the Contract Documents.

Samples: Physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

Specifications: Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work.

Subcontractor: An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

Substantial Completion: The stage in construction when a project can be utilized for the purposes for which it was intended. At substantial completion, minor items and items that are seasonally restricted need not be completed, but the items that affect operational integrity and function of the facility must be capable of continuous use.

Supplier: Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

Special Conditions: When included as a part of the Contract Documents, Special Conditions refer only to the Work under this Contract.

Surety: The corporate body which is bound with the CONTRACTOR and which engages to be responsible for the CONTRACTOR and his acceptable performance of the Work.

Work: Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by CONTRACTOR under the Contract Documents, including all labor, materials, equipment and other incidentals, and the furnishing thereof.

Written Notice: The term "Notice" as used herein shall mean and include all written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with Contract requirements. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or to an authorized representative of such individual, firm or corporation, or if delivered at or sent by registered mail to the last business address known to him who gives the notice. Unless otherwise stated in writing, any notice to or

demand upon the OWNER under this Contract shall be delivered to the OWNER through the ENGINEER.

2. Preliminary Matters

2.1 Contract Award

The award of the Contract, if it is awarded, will be to the lowest responsible Bidder. No Notice of Award will be given until the OWNER has concluded such investigations as he deems necessary to establish the responsibility, qualifications and financial ability of the Bidders to do the Work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the Bid of any Bidder who does not pass such investigation to the OWNER's satisfaction. In analyzing Bids, the OWNER may take into consideration alternates and unit prices, if requested by the Bid forms. If the Contract is awarded, the OWNER will issue the Notice of Award and give the successful Bidder a contract for execution within sixty days after the opening of Bids.

2.2 Execution of Agreement

At least three counterparts of the Agreement and such other Contract Documents will be executed and delivered by CONTRACTOR to the OWNER within 10 calendar days of receipt from the owner.

2.3 Forfeiture of Bid Security

Failure of the successful Bidder to execute and deliver the Agreement and deliver the required Bonds as stipulated in paragraph 2.2 shall be just cause for the OWNER to annul the Notice of Award and declare the Bid and any security therefore forfeited.

2.4 Contractor's Pre-Start Representations

CONTRACTOR represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with, the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work and represents that he has correlated his study and observations with the requirements of the Contract Documents. CONTRACTOR also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the Specifications and made such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents.

2.5 Starting the Project

CONTRACTOR shall start to perform his obligations under the Contract Documents on the date when the Contract Time commences to run. No Work shall be done at the site prior to

the date on which the Contract Time commences to run, except with the written consent of the OWNER.

2.6 Before Starting Construction

Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. He shall at once report in writing to ENGINEER any conflict, error or discrepancy which he may discover; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Drawings or Specifications.

2.7 Schedule of Completion

Within ten days after delivery of the Notice to Proceed by OWNER to CONTRACTOR, CONTRACTOR shall submit to ENGINEER an estimated progress schedule with earnings indicating the starting and completion dates of the various stages of the Work. A preliminary schedule of Shop Drawing submissions should also be included if applicable. See paragraphs 6.22 through 6.26. The ENGINEER shall review and return this schedule or required revisions thereto within 14 days of its submittal. If there is more than one CONTRACTOR involved in a Project the responsibility for coordinating the Work of all CONTRACTORS shall be as provided in the Special Conditions.

Within twenty days after delivery of the executed Agreement by OWNER to CONTRACTOR, but before starting the Work at the site, a preconstruction conference will be held to review the above schedules, to establish procedures for handling Shop Drawings and other submissions and for processing Applications for Payment, and to establish a working understanding between the parties as to the Project. Present at the conference will be the OWNER or his representative, ENGINEER, Resident Project Representatives, CONTRACTOR and his Superintendent.

2.8 Qualification of Subcontractors, Materialmen, and Suppliers

Within ten working days after bid opening, the CONTRACTOR will (if required) submit to the OWNER and the ENGINEER for acceptance a list of the names of Subcontractors and such other persons and organizations (including those who are to furnish principal items of materials or equipment) proposed for those portions of the Work as to which the identity of the Subcontractors and other persons and organizations must be submitted as specified in the Contract Documents. Within thirty working days after receiving the list, the ENGINEER will notify the CONTRACTOR in writing if either the OWNER or the ENGINEER, after due investigation, has reasonable objection to any Subcontractor, person or organization on such list. The failure of the OWNER or the ENGINEER to make objection to any Subcontractor, person or organization on the list within thirty days of receipt shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the OWNER or the ENGINEER to reject defective Work, material or equipment, or Work, material or equipment not in

conformance with the requirements of the Contract Documents. All materials, equipment, supplies and appurtenances used in this project shall have been manufacturer, supplied or used on wastewater treatment projects for a minimum period of five years with no occurrence of faulty manufacturing or otherwise poor workmanship.

3. Correlation, Interpretation, and Intent of Contract Documents

3.1 Intent of Specifications

It is the intent of the Specifications to describe a complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR. They may be altered only by a Modification.

3.2 Precedent of Documents

The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall call it to ENGINEER's attention in writing at once and before proceeding with the Work affected thereby; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Specifications. The various Contract Documents shall be given precedence, in case of conflict, error or discrepancy, as follows: Supplemental General Conditions, Agreement Modifications, Addenda Special Conditions, Instructions To Bidders, General Conditions, Technical Specifications and Drawings. If the requirements of other Contract Documents are more stringent than of the Supplemental General Conditions, the more stringent requirements shall apply.

3.3 Furnishing Equipment

The words "furnish", "furnish and install", "install", and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install complete in place and ready for service".

3.3 Miscellaneous Items and Accessories

Miscellaneous items and accessories which are not specifically mentioned, but which are essential to produce a complete and properly operating installation, or usable structure or plant, providing the indicated function, shall be furnished and installed without change in the Contract Price. Such miscellaneous items and accessories shall be of the same quality standards, including material, style, finish, strength, class, weight, and other applicable characteristics, as specified for the major component of which the miscellaneous item or accessory is an essential part, and shall be approved by the ENGINEER before installation. The above requirement is not intended to include major components not covered by or inferable from the Drawings and Specifications.

3.4 Work of Trades

The Work of all trades under this Contract shall be coordinated by the CONTRACTOR in such a manner as to obtain the best workmanship possible for the entire Project, and all components of the Work shall be installed or erected in accordance with the best practices of the particular trade.

3.5 Manufacturer's Literature

Manufacturer's literature, when referenced, shall be dated and numbered and is intended to establish the minimum requirements acceptable. Whenever reference is given to codes, or standard specifications or other data published by regulating agencies or accepted organizations, including but not limited to National Electrical Code, applicable State Building Code, Federal Specifications, ASTM Specifications, various institute specifications, and the like, it shall be understood that such reference is to the latest edition including addenda in effect on the date of Bid.

3.6 Brand Names

Brand names where used in the technical specifications, are intended to denote the standard of quality required for the particular material or product. The term "equal" or "equivalent", when used in connection with brand names, shall be interpreted to mean a material or product that is similar and equal in type, quality, size, capacity, composition, finish, color and other applicable characteristics to the material or product specified by trade name, and that is suitable for the same use and capable of performing the same function, in the opinion of the ENGINEER, as the material or product so specified. Proposed equivalent items must be approved by ENGINEER before they are purchased or incorporated in the Work. (When a brand name, catalog number, model number, or other identification, is used without the phrase "or equal", the CONTRACTOR shall use the brand specified.)

4. Availability of Land, Subsurface Conditions, and Reference Points

4.1 Availability of Lands

The OWNER will furnish, as indicated in Contract Documents, the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for the use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise specified in the Contract Documents. Other access to such lands or rights-of-way for the CONTRACTOR's convenience shall be the responsibility of the CONTRACTOR. The CONTRACTOR will provide all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment. In addition, The OWNER will, upon request and where applicable, furnish to the BIDDERS copies of all available boundary surveys and subsurface tests at no cost.

4.2 Subsurface Conditions

The CONTRACTOR acknowledges that he has investigated prior to bidding and satisfied himself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides, water tables or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The CONTRACTOR further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonable ascertainable from an inspection of the site, including all exploratory work done on behalf of the OWNER on the site or any contiguous site, as well as from information presented by the and Specifications made a part of this Contract, or any other information made available to him prior to receipt of Bids. Any failure by the CONTRACTOR to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the Work. The OWNER assumes no responsibility for any conclusions or interpretations made by the CONTRACTOR on the basis of the information made available by the OWNER.

4.3 Differing Site Conditions

The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the OWNER in writing of:

- subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or
- unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The OWNER shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the CONTRACTOR'S cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required above; provided, however, the time prescribed therefore may be extended by the OWNER.

No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

5. Bonds and Insurance

5.1 Performance and Payment Bonds

Performance and payment bonds shall be completed on the standard forms of the Monroe County Board of Education in Monroe County, Alabama.

5.2 Contractor's Liability Insurance

The CONTRACTOR shall provide the OWNER with insurance certificates certifying that all required insurance is in force; and such insurance certificates shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

The CONTRACTOR agrees that if any part of the Work under the Contract is sublet, he will require the Subcontractor(s) to carry insurance as required, and that he will require the Subcontractor(s) to furnish to him insurance certificates similar to those required by the OWNER in 5.1 above.

CONTRACTORS and all SUBCONTRACTORS shall name the Owner and Engineer as co-insured on all insurance certificates required to be furnished by said Contractors and Subcontractors herein.

5.3 Owner's Liability Insurance

The OWNER will be responsible for purchasing and maintaining his own liability insurance and, at his option, may purchase and maintain such insurance as will protect him against claims which may arise from operations under the Contract Documents.

5.4 Fire and Extended Coverage Insurance (Builders' Risk)

The CONTRACTOR shall maintain, as applicable, in an Insurance Company or Insurance Companies acceptable to the OWNER, Fire, Extended Coverage and Vandalism & Malicious Mischief Insurance on buildings and structures, while in the course of construction, including foundations, additions, attachments and all permanent fixtures belonging to and constituting a part of said buildings or structures. The policy or policies shall also cover machinery, if the cost of machinery is included in the Contract. The amount of insurance must at all times be at least equal to the actual cash value of the insured property. The policy shall be in the name of the OWNER and the CONTRACTOR, as their interests may appear, and shall also cover the interests of all Subcontractors performing work.

The CONTRACTOR shall provide the OWNER with satisfactory evidence certifying that the foregoing insurance is in force; and such evidence shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

5.5 Cancellation and Re-Insurance

If any insurance should be canceled or changed by the insurance company or should any insurance expire during the period of this Contract, the CONTRACTOR shall be responsible for securing other acceptable insurance to provide the coverage specified in this section to maintain continuous coverage during the life of this Contract.

6. Contractor's Responsibilities

6.1 Supervision

The CONTRACTOR will supervise and direct the Work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR's representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work. (Copies of written communications given to the Superintendent shall be mailed to the Contractor's home office.)

6.2 Labor, Materials and Equipment

The CONTRACTOR will provide competent, suitably qualified personnel to perform the labor required by the Contract Documents. He will at all times maintain good discipline and order at the site. The CONTRACTOR will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, local telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

All materials and equipment will be new, except as otherwise provided in the Contract Documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the site in their original packages or container with seals unbroken and labels intact.

All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.

6.3 Materials, Equipment, Products, and Substitutions:

Materials, equipment and products incorporated in the Work must be approved for use before being purchased by the CONTRACTOR. The CONTRACTOR shall submit to the ENGINEER a list of proposed materials, equipment or products, together with such samples as may be necessary for him to determine their acceptability and obtain his approval, within ninety (90) calendar days after award of Contract unless otherwise stipulated in the Special

Conditions. No request for payment for "or equal" equipment will be approved until this list has been received and approved by the ENGINEER.

Proposals for alternate equipment/supplies requested by the CONTRACTOR shall adhere to the following requirements for such alternates as stated in Section V - Proposal.

- Whenever a material, article or piece of equipment is identified on the Drawings or Specifications by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements, and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand name or catalogue number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the Contract Price or Contract Time.
- No substitute shall be ordered or installed without the written approval of the ENGINEER who shall be the judge of equality.
- Delays caused by obtaining approvals for substitute materials will not be considered justifiable grounds for an extension of construction time.
- Should any work or materials, equipment or products not conform with requirements of the Specifications or become damaged during the progress of the Work, such Work or materials shall be removed and replaced, together with any work disarranged by such alterations, at any time before completion and acceptance of the Project. All such work shall be done at the expense of the CONTRACTOR.
- No materials or supplies for the Work shall be purchased by the CONTRACTOR or by any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the Seller. The CONTRACTOR warrants that he has good title to all materials and supplies used by him in the Work.

6.4 Subcontractors:

The CONTRACTOR will not employ any Subcontractor, other person or organization of the types referred to in paragraph 2.10 (whether initially or as a substitute) against whom the OWNER or the ENGINEER may have objection, nor will the CONTRACTOR be required to employ any Subcontractor against whom he has objection. The CONTRACTOR will not make any substitution for any Subcontractor who has been accepted by the OWNER and the ENGINEER, unless the ENGINEER determines that there is good cause for doing so.

The CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any Subcontractor or other person or organization having a direct contract

with CONTRACTOR, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any Subcontractor or other person or organization, except as may otherwise be required by law. OWNER or ENGINEER may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR on account of specific Work done in accordance with the schedule of values.

The divisions and sections of the Specifications shall not control the CONTRACTOR in dividing the Work among Subcontractors or delineating the Work to be performed by any specific trade.

The CONTRACTOR agrees to bind specifically every Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the OWNER.

All Work performed for the CONTRACTOR by a Subcontractor shall be pursuant to an appropriate agreement between the CONTRACTOR and the Subcontractor.

The CONTRACTOR shall be responsible for the coordination of the trades, Subcontractors and materialmen engaged upon his Work.

The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the CONTRACTOR by the terms of these General Conditions and other Contract Documents insofar as applicable to the Work of Subcontractors, and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provisions of the Contract Documents.

The OWNER or ENGINEER will not undertake to settle any differences between the CONTRACTOR and his Subcontractors or between Subcontractors.

If in the opinion of the ENGINEER, any Subcontractor on the Project proves to be incompetent or otherwise unsatisfactory, he shall be replaced if and when directed in writing.

6.5 Patent Fees and Royalties

The CONTRACTOR will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. He will indemnify and hold harmless the OWNER and the ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees) arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

The CONTRACTOR shall be responsible for determining the application of patent rights and royalties on materials, appliances, articles or systems prior to bidding. However, he shall not be responsible for such determination on systems which do not involve purchase by him of materials, appliances and articles.

6.6 Permits:

The CONTRACTOR will secure and pay for all construction permits and licenses and will pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of his Bid. When such charges are normally made by the OWNER and when so stated in the SPECIAL CONDITIONS, there will be no charges to the CONTRACTOR. The OWNER shall assist the CONTRACTOR, when necessary, in obtaining such permits and licenses. The CONTRACTOR will also pay all public utility charges.

6.7 Laws and Regulations

The CONTRACTOR will give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the CONTRACTOR observes that the Specifications or are at variance therewith, he will give the ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Modification. If the CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the ENGINEER, he will bear all costs arising therefrom; however, it shall not be his primary responsibility to make certain that the Drawings and Specifications are in accordance with such laws, ordinances, rules and regulations.

6.8 Taxes

Cost of all sales and other taxes for which the CONTRACTOR is liable under the Contract shall be included in the Contract Price stated by the CONTRACTOR.

6.9 Record

The CONTRACTOR will keep three record copies of all Specifications, Addenda, Modifications, and Shop at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Engineer and shall be delivered to him for the OWNER upon completion of the Project. It shall be used for this purpose only.

6.10 Safety and Protection

The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The CONTRACTOR will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:

- All employees participating in the Work and other persons who may be affected thereby,
- All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and

- Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The CONTRACTOR will designate a responsible member of their organization at the site whose duty shall be the prevention of accidents. This person shall be the CONTRACTOR's superintendent unless otherwise designated in writing by the CONTRACTOR to the OWNER.

6.11 Emergencies

In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. They will give the ENGINEER prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved. If the CONTRACTOR believes that additional work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the Contract Price or an extension of the Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

6.12 Shop Drawings and Samples

After checking and verifying all field measurements, the CONTRACTOR will submit to the ENGINEER for review, in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.8) copies (or at the ENGINEER's option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the CONTRACTOR. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the ENGINEER to review the information as required.

The CONTRACTOR will also submit to the ENGINEER for review, with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the CONTRACTOR, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

At the time of each submission, the CONTRACTOR will in writing call the ENGINEER's attention to any deviations that the Shop Drawings or sample may have from the requirements of the Contract Documents.

The ENGINEER will review with reasonable promptness Shop Drawings and samples, but his review shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The review of a separate item as such will not indicate review of the assembly in which the item functions. The CONTRACTOR will make any corrections required by the ENGINEER and will return the required number of corrected copies of Shop Drawings and resubmit new samples until the

review is satisfactory to the ENGINEER. The CONTRACTOR shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the ENGINEER on previous submissions. The CONTRACTOR's stamp of approval on any Shop Drawing or sample shall constitute a representation to the OWNER and the ENGINEER that the CONTRACTOR has either determined and verified all quantities, dimensions, field construction criteria, materials, catalogue numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawing or sample with the requirements of the Work and the Contract Documents.

No work requiring a Shop Drawing or sample submission shall be commenced until the submission has been reviewed by the ENGINEER. A copy of each Shop Drawing and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

The ENGINEER's review of Shop Drawings or samples shall not relieve the CONTRACTOR from his responsibility for any deviations from the requirements of the Contract Documents unless the CONTRACTOR has in writing called the ENGINEER's attention to such deviation at the time of submission and the ENGINEER has given written approval to the specific deviation, nor shall any review by the ENGINEER relieve the CONTRACTOR from responsibility for errors or omissions in the Shop Drawings.

Cleaning Up:

6.13 Cleaning the Site

The CONTRACTOR shall clean up behind the Work as much as is reasonably possible as the workday ends. Upon completion of the Work, and before acceptance of and final payment for the Project by the OWNER, the CONTRACTOR shall remove all his surplus and discarded materials, excavated material and rubbish from the roadways, sidewalks, parking areas, lawns and all adjacent property; shall clean his portion of Work involved in any building under this Contract, so that no further cleaning by the OWNER is necessary prior to his occupancy; shall restore all property, both public and private, which has been disturbed or damaged during the prosecution of the Work; and shall leave the whole in a neat and presentable condition. At the end of the project, the site must be left in a condition of equal to or better than existing at time of award of Contract.

In case of dispute, the OWNER may remove the rubbish and charge the cost to the several contractors as the ENGINEER shall determine to be just.

6.14 Public Convenience and Safety

The CONTRACTOR shall, at all times, conduct the Work in such a manner as to insure the least practicable obstruction to public travel. The convenience of the general public and of the residents along and adjacent to the area of the Work shall be provided for in a satisfactory manner, consistent with the operation and local conditions. "Street Closed" signs shall be placed immediately adjacent to the Work, in a conspicuous position, at such locations as traffic demands. At any time that streets are required to be closed, the CONTRACTOR shall

notify law enforcement agencies, fire departments, and parties operating emergency vehicles before the street is closed and again as soon as it is opened. Access to fire hydrants and other fire extinguishing equipment shall be provided and maintained at all times.

6.15 Sanitary Provisions

The General CONTRACTOR shall furnish necessary toilet conveniences, secluded from public observation, for use of all personnel on the Work, whether or not in his employ. They shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the Public Authorities having jurisdiction. He shall commit no public nuisance. Temporary sanitary facilities shall be removed upon completion of the Work and the premises shall be left clean.

6.16 Indemnification

The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

In any and all claims against the OWNER or the ENGINEER or any of their agents or employees, by any employee of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.33 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.

The obligations of the CONTRACTOR shall not extend to the liability of the Engineer's negligent acts, errors or omissions or those of his employees or agents.

6.17 Responsibility for Connecting to Existing Work:

It shall be the express responsibility of the CONTRACTOR to connect his Work to each part of the existing work or work previously installed as required by the Contract Documents and Specifications to provide a complete installation.

6.18 Work in Street, Highway and Other Rights-of-Way

Excavation, grading, fill, storm drainage, paving and any other construction or installations in rights-of-way of streets, highways, public carrier lines, utility lines (either aerial, surface or subsurface), etc., shall be done in accordance with requirements of the special conditions. The

OWNER will be responsible for obtaining all permits necessary for the work. Upon completion of the Work, CONTRACTOR shall present ENGINEER certificates, in triplicate, from the proper authorities stating that the Work has been done in accordance with their requirements.

The OWNER will cooperate with the CONTRACTOR in obtaining action from any utilities or public authorities involved in the above requirements.

The ENGINEER shall be responsible for obtaining elevations of curbs and gutters, pavement, storm drainage structures, and other such items which must be established by governmental departments as soon as grading operations are begun on the site and, in any case; sufficiently early in the construction period to prevent any adverse effect on the Project. Any variation from the requirements of paragraph 6.37.2 above shall be stated in the SPECIAL CONDITIONS.

6.19 Cooperation with Governmental Departments, Public Utilities, and Other Agencies

The OWNER shall be responsible for making all necessary arrangements with governmental departments, public utilities, public carriers, service companies and corporations owning or controlling roadways, railways, water, sewer, gas, electrical, telephone, and telegraph facilities such as pavements, tracks, piping, wires, cables, conduits, poles, guys, etc., including incidental structures connected therewith, that are encountered in the Work in order that such items may be properly shored, supported and protected, or the CONTRACTOR may relocate them if he so desires. The CONTRACTOR shall give all proper notices, shall comply with requirements of such parties in the performance of his Work, shall permit entrance of such parties on the Project in order that they may perform their necessary work, and shall pay all charges and fees made by such parties for this work.

The CONTRACTOR's attention is called to the fact that there may be delays on the Project due to work to be done by governmental departments, public utilities, and others in repairing or moving poles, conduits, etc. The CONTRACTOR shall cooperate with the above parties, in every way possible, so that the construction can be completed in the least possible time.

The CONTRACTOR shall have made himself familiar with all codes, laws, ordinances and regulations which in any manner affect those engaged or employed in the Work, or materials and equipment used in or upon the Work, or in any way affect the conduct of the Work, and no plea of misunderstanding will be considered on account of his ignorance thereof.

6.20 Use of Premises

CONTRACTOR shall confine his apparatus, storage of materials, and operations of his workmen to limits indicated by law, ordinances, permits, and directions of ENGINEER and OWNER, and shall not unnecessarily encumber any part of site.

CONTRACTOR shall not overload or permit any part of any structure to be loaded with such weight as will endanger its safety, nor shall he subject any part of the Work to stresses or pressures that will endanger it.

CONTRACTOR shall enforce OWNER's instructions in connection with signs, advertisements, fires and smoking.

CONTRACTOR shall arrange and cooperate with OWNER in routing and parking of automobiles of his employees, Subcontractors and other personnel, and in routing material delivery trucks and other vehicles to the Project site.

6.21 Protection of Existing Property Improvements

Any existing surface or subsurface improvements, such as pavements, curbs, sidewalks, pipes or utilities, footings, or structures (including portions thereof), trees and shrubbery, not indicated on the drawings or noted in the Specifications as being removed or altered shall be protected from damage during construction of the Project. Any such improvements damaged during construction of the Project shall be restored to a condition equal to or better than existing at time of award of Contract.

6.22 Temporary Heat and Fuel

The General CONTRACTOR shall provide heat, fuel and services as necessary to protect all work and materials, within all habitable areas of permanent building construction, for all contracts against injury from dampness and cold until final acceptance of all work and materials for the Project, unless building is fully occupied by the OWNER prior to such acceptance, in which case the OWNER shall assume all expenses of heating from date of full occupancy. In areas outside those covered above, each prime contractor shall be responsible for providing such temporary heat, fuel and services as required to protect his work or shall make all necessary arrangements with the General CONTRACTOR for providing such temporary heat, fuel and services. Unless otherwise specifically permitted by Special Conditions, the permanent heating system shall not be used to provide temporary heat. CONTRACTOR's proposed methods of heating shall be submitted for approval.

7. Work By Others

7.1 Additional Work

The OWNER may perform additional work related to the Project by himself, or he may let other direct contracts therefor which shall contain General Conditions similar to these. The CONTRACTOR will afford the other contractors who are parties to such direct contracts (or the OWNER, if he is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

7.2 Work Defects

If any part of the CONTRACTOR's work depends for proper execution or results upon the work of any such other CONTRACTOR (or the OWNER), the CONTRACTOR will promptly report to the ENGINEER in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results.

The CONTRACTOR will do all cutting, fitting, and patching of his Work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The CONTRACTOR will not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER and of the other contractors whose work will be affected.

7.4 Additional Work

If the performance of additional work by other contractors or the OWNER is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional work. If the CONTRACTOR believes that the performance of such additional work by the OWNER or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefor as provided in Sections 11 and 12 of these General Conditions.

Where practicable, the General CONTRACTOR shall build around the work of other separate contractors or shall leave chases, slots and holes as required to receive and to conceal within the general construction work the work of such other separate contractors as directed by them. Where such chases, slots, etc., are impracticable, the work shall require specific approval of the ENGINEER.

Necessary chases, slots and holes not built or left by the General CONTRACTOR shall be cut by the separate contractor requiring such alterations after approval of the General CONTRACTOR. The General CONTRACTOR shall do all patching and finishing of his Work where cut by other contractors at the expense of such other contractors.

7.7 Cooperation with Others

Cooperation is required in the use of site facilities and in the detailed execution of the Work. Each CONTRACTOR shall coordinate his operations with those of the other contractors for the best interest of the Work in order to prevent delay in the execution thereof.

Each CONTRACTOR shall keep himself informed of the progress of the work of other contractors. Should lack of progress or defective workmanship on the part of other contractors interfere with his operations, the CONTRACTOR shall notify the ENGINEER immediately. Lack of such notice to the ENGINEER will be construed as acceptance by the CONTRACTOR of the status of the work of other contractors as being satisfactory for proper coordination of his own Work.

Each CONTRACTOR shall give notices of the progress of his work so as to allow other contractors adequate opportunity to properly direct and coordinate their work. The General CONTRACTOR shall give notices of the progress of his Work so that work of other contractors, when required to be concealed, may be placed before the general construction Work. All such notices shall be submitted to the ENGINEER with copies to other prime contractors on the Project sufficiently ahead of job progress to permit adequate time for the other prime contractors to coordinate their work.

7.10 Cost of Extra Work

The cost of extra work resulting from lack of notices, untimely notices, failure to respond to notices, defective work or lack of coordination shall be borne by the CONTRACTOR responsible for such lack of notices, etc.

8. Owner's Responsibilities

8.1 Communication

The OWNER will issue all communications to the CONTRACTOR through the ENGINEER.

8.2 Termination of Engineer

In case of termination of the employment of the ENGINEER, the OWNER will appoint an engineer against whom the CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER. Any dispute in connection with such an appointment shall be subject to arbitration, if mutually agreeable.

The OWNER will furnish the data required of him under the Contract Documents promptly and shall make payments to the CONTRACTOR promptly after they are due.

8.4 Owner's Specific Duties

OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Section 4 and the Special Conditions.

Section 4 refers to OWNER's identifying and making available to CONTRACTOR copies of surveys and investigation reports of subsurface and latent physical conditions at the site or otherwise affecting performance of the Work which have been relied upon by ENGINEER in preparing the Drawings and Specifications.

The OWNER's responsibilities in respect of liability and property insurance are set forth in Section 5.

In addition to his right to request changes in the Work in accordance with Section 10, the OWNER (especially in certain instances as provided in Section 10) will be obligated to execute Change Orders.

In connection with the OWNER's right to stop Work or suspend Work, see Section 15 with the OWNER's right to terminate the services of the CONTRACTOR under certain circumstances.

The OWNER shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding the fact that the time for completing the entire Work or any portion thereof may not have expired; but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays the Work, the CONTRACTOR shall be entitled to such extra compensation or extension of time or both, except by prior agreement, as the ENGINEER may determine. See paragraph Section 14.

OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in Section 9.

9. Engineer's Status During Construction

9.1 Owner's Representative

The ENGINEER shall be the OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of the ENGINEER as the OWNER's representative during construction are set forth in Section 1 through 17 of these General Conditions and shall not be extended without written consent of the OWNER and the ENGINEER.

The ENGINEER's decision, in matters relating to aesthetics, shall be final, if within the terms of the Contract Documents.

Except as may be otherwise provided in this contract, all claims, counter-claims, disputes and other matters in question between the OWNER and the CONTRACTOR arising out of or relating to this agreement or the breach thereof will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the State in which the OWNER is located.

9.2 Site Visits

The ENGINEER will make periodic visits to the site to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. He will not be required to make continuous on-site observations to check the quality or quantity of the work. His efforts will be directed toward ascertaining on behalf of the OWNER that the compiled Project will conform to the requirements of the Contract Documents. On the basis of his on-site observations as an experienced and qualified design professional, he will keep the OWNER informed of the progress of the Work and will endeavor to guard the OWNER against defects and deficiencies in the Work of contractors.

9.3 Clarifications and Interpretations

The ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the Contract Documents as may be determined necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If the CONTRACTOR believes that a written clarification and interpretation entitles him to an increase in the Contract Price or extension of Contract time, he may make a claim therefor as provided in Sections 11 and 12.

9.4 Measurement of Quantities

All Work completed under the Contract will be measured by the ENGINEER according to the United States Standard Measures. All linear surface measurements will be made horizontally or vertically as required by the item measured.

9.5 Rejecting Defective Work

The ENGINEER will have authority to disapprove or reject Work which is "defective" (which term is hereinafter used to describe Work that is unsatisfactory, faulty or defective, or does not conform to the requirements of the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Special Condition, or has been damaged prior to final acceptance). He will also have authority to require special inspection or testing of the Work as provided in the Special Condition, whether or not the Work is fabricated, installed or completed.

9.6 Shop Drawings, Change Orders and Payments

In connection with the ENGINEER's responsibility as to Shop Drawings and samples, see Section 6.

In connection with the ENGINEER's responsibility for Change Orders, see Sections 10, 11, and 12.

In connection with the ENGINEER's responsibilities in respect of Application for Payment, etc., see Section 14.

9.7 Resident Project Representative

The OWNER or the ENGINEER will provide on-site representation sufficient to guarantee that construction is in general compliance with the construction and the contract specifications.

9.8 Decisions of Disagreements

The ENGINEER will be the initial interpreter of the terms and conditions of the Contract Documents and the judge of the performance thereunder. In his capacity as interpreter and judge he will exercise his best efforts to insure faithful performance by both the OWNER and the CONTRACTOR. He will not show partiality to either and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes and other matters relating to the execution and progress of the Work or the interpretation of or performance under the Contract Documents shall be referred initially to the ENGINEER for decision; which he shall render in writing within a reasonable time.

Either the OWNER or the CONTRACTOR, if the other agrees, may request arbitration with respect to any such claim, dispute or other matter that has been referred to the ENGINEER, except any which have been waived by the making or acceptance of final payment as provided in Section 14, such arbitration to be in accordance with Section 16. However, no request for arbitration of any such claim, dispute or other matter shall be made until the earlier of (a) the date on which the ENGINEER has rendered his decision or (b) the tenth day after the parties have presented their evidence to the ENGINEER if he has not rendered his written decision before that date. No request for arbitration shall be made later than thirty days after the date on which the ENGINEER rendered his written decision in respect of the claim, dispute or other matter as to which arbitration is sought; and the failure to request arbitration within said thirty days' period shall result in the ENGINEER's decision being final and binding upon the OWNER and the CONTRACTOR. If the ENGINEER renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence but shall not supersede the arbitration proceedings, except where the decision is acceptable to the parties concerned.

9.9 Limitations on Engineer's Responsibilities

Neither the ENGINEER's authority to act under this Section 9 nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any of their agents or employees or any other person performing any of the Work.

The ENGINEER will not be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions and programs incident thereto, and he will not be responsible for the CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR, or any Subcontractors, or any of his or their agents or employees, or any other persons performing any of the Work.

10. Changes in the Work

Without invalidating the Agreement, the OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work. These requests will be authorized by Change Orders. Upon receipt of a Change Order, the CONTRACTOR will proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 11 or Article 12. A Change Order signed by the CONTRACTOR indicates his agreement therewith.

The ENGINEER may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If the CONTRACTOR believes that any minor change or alteration authorized by the ENGINEER entitles him to an increase in the Contract Price or extension of Contract Time, a claim may be made therefore as provided in Sections 11 and 12.

Additional Work performed by the CONTRACTOR without authorization of a Change Order will not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in Section 6 and except as provided in Section 10.

The OWNER will execute appropriate Change Orders prepared by the ENGINEER covering changes in the Work to be performed as provided in Section 4, and Work performed in an emergency as provided in Section 6 and any other claim of the CONTRACTOR for a change in the Contract Time or the Contract Price which is approved by the ENGINEER.

It is the CONTRACTOR's responsibility to notify his surety of any changes affecting the general scope of the Work or change in the Contract Price and the amount of the applicable bonds shall be adjusted accordingly. The CONTRACTOR will furnish proof of such adjustment to the OWNER.

11. Change of the Contract Price

11.1 Contract Price

The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without changing the Contract Price.

11.2 Changes by Owner

The OWNER may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the Work within the general scope of the contract, including but not limited to the following:

- (1) changes in the specifications (including Drawings and designs);
- (2) changes in the method or manner of performance of the work;
- (3) changes in the Owner-furnished facilities, equipment, materials, services, or site
- (4) changes in directing acceleration in the performance of the work.

Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation or determination) from the OWNER, which causes any such change, shall be treated as a change order under this clause, provided that the CONTRACTOR gives the OWNER written notice stating the date, circumstances, and source of the order and that the CONTRACTOR regards the order as a change order.

Except as herein provided, no order, statement, or conduct of the OWNER shall be treated as a change order under this clause or entitle the Contractor to an equitable adjustment hereunder.

If any change under this clause causes an increase or decrease in the CONTRACTOR's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: Provided, however, that except for claims based on defective specifications, no claim for any change shall be allowed for any costs incurred more than 20 days before the CONTRACTOR gives written notice as therein required: And provided further, that in the case of defective specifications for which the OWNER is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the CONTRACTOR in attempting to comply with such defective specifications.

If the CONTRACTOR intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order as those noted, submit to the OWNER a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the OWNER. The statement of claim hereunder may be included in the notice.

No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

11.3 Value of Work in a Change Order

The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

- Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved. Should the Work (by quantity) be increased or decreased by 25 percent from that stipulated in the Contract Documents, the OWNER and the CONTRACTOR may request adjustment of the unit prices by negotiation. If negotiation fails to reach agreement, then either party may request arbitration for the volume in excess of the 15 percent differential.
- By negotiated lump sum.
- The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus a fixed amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

11.4 Cost of Work

The term Cost of the Work means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in this section:

- Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday or legal holidays shall be included in the above to the extent authorized by OWNER.
- Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and manufacturers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.
- Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive

bids from Subcontractors acceptable to him and shall deliver such Bids to OWNER who will then determine with the advice of ENGINEER, which Bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of Work Plus a Fee, the Cost of the Work shall be determined in accordance with the terms set forth in Section 11. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

- Costs of special consultants (including, but not limited to, engineers, architects, testing laboratories, surveyors, lawyers and accountants) employed for services specifically related to the Work.
- Supplemental costs including the following:
 - The proportion of necessary transportation, traveling and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.
 - Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workmen, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.
 - Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.
 - Sales, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by any governmental authority.
 - Deposits lost for causes other than CONTRACTOR's negligence, royalty payments and fees for permits and licenses. Costs for permits and licenses must be shown as a separate item.
 - Losses, damages and expenses, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the execution of, and to, the Work, provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's Fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, he shall be paid for his services a fee proportionate to that stated in paragraph 11.6.2.
 - The cost of utilities, fuel and sanitary facilities at the site.

- Minor expenses such as long-distance telephone calls, telephone service at the site, cellular phone service, data charges, expressage and similar petty cash items in connection with the Work.
- Cost of premiums for additional Bonds and Insurance be required because of changes in the Work.

The term Cost of the Work shall not include any of the following:

- Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in his principal or a branch office for general administration of the Work and not specifically included in the schedule referred to in Section 11 - all of which are to be considered administrative costs covered by the CONTRACTOR's Fee.
- Expenses of CONTRACTOR's principal and branch offices other than his office at the site.
- Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.
- Cost of premiums for all bonds and for all insurance policies whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except as otherwise provided in Section 11).
- Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.
- Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Section 11.

11.5 Contractor Fee

The CONTRACTOR's Fee which shall be allowed to CONTRACTOR for his overhead and profit shall be determined as follows:

- A mutually acceptable firm fixed price; or if none can be agreed upon,
- A mutually acceptable fixed fee based on the estimate of the various portions of the Cost of the Work.

11.6 Credit

The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost, will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the net shall be computed to include overhead and profit, identified separately, for both additions and credits.

11.7 Determination of Cost of Work

Whenever the cost of any Work is to be determined pursuant to Section 11, the CONTRACTOR will submit in form prescribed by ENGINEER an itemized cost breakdown together with supporting data.

11.8 Allowances

It is understood that the CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such materialmen, suppliers or Subcontractors and for such sums within the limit of the allowances as the ENGINEER may approve. Upon final payment, the Contract Price shall be adjusted as required and an appropriate Change Order issued. The CONTRACTOR agrees that the original Contract Price includes such sums as he deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

These allowances shall cover the cost to the CONTRACTOR, less any applicable trade discount, of the materials and equipment required by the allowance delivered at the site, and all applicable taxes.

The CONTRACTOR's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Price and not in the allowance.

Whenever the cost of an activity is more than or less than the allowance, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses, except that whenever unit price allowances are stipulated for brick, the Change Order will not include any cost as described in Section 11.

12. Change of the Contract Time

The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to OWNER and ENGINEER within ten days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the Contract Time shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if he makes a claim therefore as provided in Section 12. Such delays shall include, but not be restricted to, acts or neglect by any separate contractor employed by OWNER, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Section 12 shall not exclude recovery for damages (including compensation for additional professional services) for delay by either party.

No claim for delay shall be allowed because of failure to furnish until two weeks after demand for such and not then unless such claim be reasonable.

This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

13. Guaranty

The CONTRACTOR shall guarantee all materials and equipment furnished and Work performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or the Work that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance BOND shall remain in full force and effect through the guarantee period. Express warranties are set forth in the Special Conditions.

14. Payment and Completion

14.1 Payments to Contractor

At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis on materials and equipment not incorporated in the Work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within ten (10) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER may retain a portion of the amount otherwise due the CONTRACTOR.

14.2 Payment Structure

Except as State law otherwise provides, the amount the OWNER retains shall be limited to the following:

- Withholding of not more than 10 percent of the payment claimed until work is 50 percent complete.
- When Work is 50 percent complete, reduction of the withholding to 5 percent of the dollar value of all Work satisfactorily completed to date, provided that the CONTRACTOR is making satisfactory progress and there is no specific cause for greater withholding.
- When the Work is substantially complete (operational or beneficial occupancy), the withheld amount shall be further reduced below 5 percent to only that amount necessary to assure completion.
- The OWNER may reinstate up to 10 percent withholding if the OWNER determines, at its discretion, that the CONTRACTOR is not making satisfactory progress or there is other specific cause for such withholding.

14.3 Contractor's Warranty of Title

The CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will have passed to the OWNER prior to the making of the Application for Payment, free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens"); and that no work, materials or equipment covered by an Application for Payment will have been acquired by the CONTRACTOR or by any other person performing the Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the CONTRACTOR or such other person.

14.4 Approval of Payments

The ENGINEER's approval of any payment requested in an Application for Payment shall constitute a representation by him to the OWNER, based on the ENGINEER's on-site observations of the Work in progress as an experienced and qualified design professional and on his review of the Application for Payment and the supporting data, that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval); and that the CONTRACTOR is entitled to payment of the amount approved. However, by approving any such payment the ENGINEER shall not thereby be deemed to have represented that he made exhaustive or continuous on-site observations to check the quality or the quantity of the Work, or that he has reviewed the means, methods, techniques, sequences, and procedures of construction or that he has made any examination to ascertain how or for what purpose the CONTRACTOR has used the moneys paid or to be paid to him

on account of the Contract Price, or that title to any Work, materials, or equipment has passed to the OWNER free and clear of any Liens.

14.5 Pay Requests from Contractor to Owner

The CONTRACTOR shall make the following certification on each request for payments:

"I hereby certify that the labor and materials listed on this request for payment have been used in the construction of this work or that all materials included in this request for payment and not yet incorporated into the construction are now on the site or stored at an approved location; and payment received from the last request for payment has been used to make payments to all first tier subcontractors and suppliers except as listed below."

The ENGINEER's approval of final payment shall constitute an additional representation by him to the OWNER that the conditions precedent to the CONTRACTOR's being entitled to final payment as set forth in paragraph 14.11 have been fulfilled.

The ENGINEER may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations to the OWNER. He may also refuse to approve any such payment, or, because of subsequently discovered evidence or the results of subsequent inspection or tests, nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the OWNER from loss because:

- The Work is defective, or completed Work has been damaged requiring correction or replacement.
- The Work for which payment is requested cannot be verified.
- Claims or liens have been filed or there is reasonable evidence indicating the probable filing thereof.
- The Contract Price has been reduced because of Modifications.
- The OWNER has been required to correct defective Work or complete the Work in accordance with Section 13.
- The unsatisfactory prosecution of the Work, including failure to clean up as required by Section 6.
- The persistent failure to cooperate with other parties on the Project and persistent failure to carry out the Work in accordance with the Contract Documents.
- The liquidated damages payable by the CONTRACTOR.
- The violation of, or failure to comply with, the provisions of the Contract Documents.

Prior to Substantial Completion, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the Work. Such use shall not constitute an acceptance of such portions of the Work.

14.8 Access to Site by Owner

The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the Work, or the restoration of any damaged Work except such as may be caused by agents or employees of the OWNER.

14.9 Acceptance of Work

Upon completion and acceptance of the Work the ENGINEER shall issue a certificate attached to the final payment request that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within thirty (30) days of completion and acceptance of the Work.

14.10 Indemnity

The CONTRACTOR will indemnify and save the OWNER or the OWNER's agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the Work. The CONTRACTOR shall, at the OWNER's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR's pay from the CONTRACTOR's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, his Surety, or any third party. In paying any unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the Contract Documents by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

14.11 Acceptance of Final Payment as Release

The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this Work and for every act and neglect of the OWNER and others relating to or arising out of this Work. Any payment, however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bonds.

15. Suspension of Work and Termination

15.1 Suspension of Work by Owner

The OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to the CONTRACTOR and the ENGINEER which shall fix the date on which Work shall be resumed. The CONTRACTOR will resume the Work on the date so fixed. The CONTRACTOR will be allowed an increase in the Contract Price on an extension of the Contract Time, or both, directly attributable to any suspension if he makes a claim therefor as provided in Sections 11 and 12.

15.2 Work During Inclement Weather

No work shall be done under these Specifications except by permission of the OWNER when the weather is unfit for good and careful work to be performed. Should the severity of the weather continue, the CONTRACTOR, upon the direction of the OWNER, shall suspend all work until instructed to resume operations by the OWNER and the Contract Time shall be extended to cover the duration of the order. Work damaged during periods of suspension due to inclement weather shall be repaired and/or replaced by the CONTRACTOR.

15.3 Termination by Owner

If the CONTRACTOR is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment or he disregards laws, ordinances, rules regulations or orders of any public body having jurisdiction, or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the Contract Documents, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety seven days' written notice, terminate the services of the CONTRACTOR and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the Work by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR or the Surety will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a Change Order.

Where the CONTRACTOR's services have been so terminated by the OWNER, said terminations shall not affect any rights of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys by the OWNER due the CONTRACTOR will not release the CONTRACTOR from liability.

Upon seven days' written notice to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the CONTRACTOR shall be paid for all Work executed and any expense sustained plus a reasonable profit.

15.6 Removal of Equipment by Contractor

In the case of termination of this Contract before completion, for any cause whatever, the CONTRACTOR, if notified to do so by the OWNER, shall promptly remove any part or all of his equipment and supplies from the property of the OWNER. Should the CONTRACTOR not remove such equipment and supplies, the OWNER shall have the right to remove them at the expense of the CONTRACTOR. Equipment and supplies shall not be construed to include such items for which the CONTRACTOR has been paid in whole or in part.

15.7 Termination by Contractor May or Stop Work

If, through no act or fault of the CONTRACTOR, the Work is suspended for a period of more than ninety days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any Application for Payment within thirty days after it is submitted, or the OWNER fails to pay the CONTRACTOR any sum approved by the ENGINEER or awarded by arbitrators within thirty days of its approval and presentation, then the CONTRACTOR may, upon seven days' written notice to the OWNER and the ENGINEER, terminate the Agreement and recover from the OWNER payment for all Work executed and any expense sustained plus a reasonable profit. In addition and in lieu of terminating the Agreement, if the ENGINEER has failed to act on an Application for Payment or the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon seven days' notice to the OWNER and the ENGINEER stop the Work until he has been paid all amounts then due.

15.8 Owner Furnished Equipment

In case the OWNER furnishes equipment to the CONTRACTOR to install, but fails to deliver it to the CONTRACTOR as required by SUPPLEMENTARY CONDITIONS or SPECIAL CONDITIONS, and in case such failure causes the CONTRACTOR additional expense or need for extension of time, the CONTRACTOR may make such claims upon the OWNER and obtain adjustments as provided herein.

If the CONTRACTOR shall fail to complete the work within the contract time, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for **liquidated damages of \$300/day** for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the Contract Documents.

16. Arbitration

All claims, disputes and other matters in question arising out of, or relating to, this Agreement or the breach thereof except for claims which have been waived by the making or acceptance of final payment as provided by paragraph 14.11, shall be decided by arbitration, if all parties mutually agree, in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then obtaining, or in a court of competent jurisdiction. This agreement so to arbitrate shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof.

Notice of the request for arbitration shall be filed in writing with the other party to the Agreement and with the American Arbitration Association, if both parties mutually agree to arbitration, and a copy shall be filed with the ENGINEER. The request for arbitration shall be made within the 30-day period specified in paragraph 9.11 where applicable, and in all other cases within a reasonable time after the claim, dispute or other matter in question has arisen, and in no event shall it be made after institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations.

The CONTRACTOR will carry on the Work and maintain the progress schedule during any arbitration proceedings, unless otherwise agreed by him and the OWNER in writing.

17. Miscellaneous

17.1 Written Notice

Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to him who gives the notice.

17.2 Failure of Payment

If the OWNER fails to make payment thirty days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such progress payment, interest at 1% per month commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

17.3 Project Specifications

All Specifications, and copies thereof furnished by the ENGINEER shall remain his property. They shall not be used on another Project, and, with the exception of those sets which have been signed in connection with the execution of the Agreement, shall be returned to him on request upon completion of the Project.

17.4 Duties and Obligations

The duties and obligations imposed by these General Conditions, Special Conditions and Supplemental Conditions and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by Section 6 and Section 14 and those in the Special Conditions and the rights and remedies available to OWNER and ENGINEER thereunder, shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available to them which are otherwise imposed or available by law, by special guarantee or by other provisions of the Contract Documents.

17.5 Injury or Damage

Should the OWNER or the CONTRACTOR suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employees or agents or others for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

17.6 Governance of Contract Documents

The Contract Documents shall be governed by the laws of Monroe County, Alabama.

XIII. Supplemental General Conditions

1.0 ADEM Special Conditions

1. Construction within State rights-of-way shall be in accordance with the Alabama Department of Transportation policies and procedures.
2. Construction is to be carried out in compliance with applicable NPDES permits and in a manner that prevents bypassing of raw wastewater flows during construction. If bypassing is anticipated, the ADEM NPDES Enforcement Branch (334-271-7975) shall be advised in advance and the contractor shall take all necessary steps to minimize the impacts of bypassing.
3. Siltation and soil erosion shall be minimized during construction. The contractor shall obtain an NPDES storm water permit for construction if required.
4. The owner shall provide and maintain competent and adequate supervision and inspection.
5. ADEM and EPA shall have access to the site and the project work at all times.
6. These Special Conditions shall supersede any conflicting provisions of this contract.
7. A project sign is required. See Parts XVII and XVIII, pages SGC-36 – SGC-37, for more information.

2.0 Bonds and Insurance

Bonding requirements shall comply with Alabama Act No. 97-225. Provisions of the Act are summarized below:

1. Bid Bond – Not less than 5% of either the owner’s estimated cost or of the proposed prime contractor’s bid up to a maximum of \$10,000. The bid guarantee shall consist of a cashier’s check drawn on an Alabama bank or a bid bond executed by a surety company duly authorized and qualified to make bonds in the State of Alabama.
2. Performance Bond – In an amount not less than 100% of the contract price.
3. Payment Bond – Payable to the awarding authority, shall be executed in an amount not less than 50% of the contract price.

In addition to the insurance requirements elsewhere in the specifications, the owner or the contractor, as appropriate, must acquire any flood insurance made available by the Federal Emergency Management Agency as required by 40 CFR 30.600 (b), if construction will take place in a flood hazard area identified by the Federal Emergency Management Agency.

3.0 Utilization of Disadvantaged Business Enterprises (DBEs)

It is the policy of the State Revolving Loan Fund (SRF) to promote a “fair share” of sub-agreement awards to small, minority, and/or women-owned businesses for equipment, supplies, construction, and services. Compliance with these contract provisions is required in order for project costs to be eligible for SRF funding. The “fair share” objective is a goal, not a quota. DBE (Disadvantaged Business Enterprise) is an all-inclusive business

classification, which includes MBE (minority business enterprises and/or WBE (women business enterprises) and is used synonymously when these entities are referenced individually or collectively.

Failure on the part of the apparent successful bidder to submit required information to the Loan Recipient (Owner) may be considered (by the Loan Recipient (Owner)) in evaluating whether the bidder is responsive to the bid requirements. The project objectives for utilization of Minority Business Enterprises (MBEs) and Women's Business Enterprises (WBEs) are as follows:

Commodity (Supplies)	MBE 4%	WBE 11%
Contractual (Services)	MBE 8%	WBE 30%
Equipment	MBE 5%	WBE 20%
Construction	MBE 2.5%	WBE 3%

For purposes of clarification:

- This objective applies to any Federally assisted procurement agreement in excess of \$10,000.
- This objective necessitates three responsibilities; separate solicitations must be made of small and minority and women's business enterprises.
- A minority business is a business, at least 51 percent of which is owned and controlled by minority group members (Black; Hispanic; Asian American; American Indian; and, any other designations approved by the Office of Management and Budget).
- A women's business is a business, at least 51 percent of which is owned and controlled by one or more women.
- The control determination will revolve around the minority or woman owner's involvement in the day-to-day management of the business enterprise.
- Solicitation should allow adequate time for price analysis. ADEM recommends that contact be made no later than 15 days before bid opening.
- Efforts taken to comply with this objective must be documented in detail; maintain records of firms contacted, including any negotiation efforts to reach competitive price levels, and awards to the designated firms.
- ADEM recommends that the Loan Recipient (Owner) or proposed Prime Contractor utilizes the services of the Minority Business Development Service Centers. These Centers are funded by the U.S. Department of Commerce to provide technical, financial and contracting assistance to minority and women's business enterprises. These Centers are located in a number of regional cities.
- Use of the services provided by these Centers does not absolve the Loan Recipient (Owner) or proposed Prime Contractor from pursuing additional efforts to meet this objective.

4.0 Six Affirmative Steps for Good Faith DBE (MBE-WBE) Solicitation

The Loan Recipient (Owner) shall follow the six affirmative steps found in the SRF application when using loan funds to procure sources of supplies, construction and services.

If the successful bidder plans to subcontract a portion of the project, the bidder must submit to the owner within 10 days after bid opening, evidence of the affirmative steps taken to utilize small, minority and women's businesses. These six affirmative steps or 'good faith efforts' are required methods to ensure that DBEs have the opportunity to compete for procurements funded by EPA financial assistance dollars. Such affirmative steps are described as follows:

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. This will include placing DBEs on solicitation lists and soliciting them whenever there are potential sources.
2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. This will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
5. Use the resources, services, and assistance of the AL Department of Transportation
6. (ALDOT), Small Business Administration (SBA), and the Minority Business Development Agency of the Department of Commerce (MBDA).
7. If the Contractor awards subcontracts, it must take the steps described in items (1) through (5) listed above.

5.0 Documentation Required From Loan Recipient and Contractor

The lowest, responsive, responsible bidder must forward the following items, in duplicate, to the loan recipient (owner) no later than 10 days after bid opening. The Loan Recipient (Owner) shall transmit one (1) copy of its DBE documentation of the prime contractor solicitation and one (1) copy of the prime contractor's/bidder's DBE documentation of all subcontractor solicitation to the SRF Section within 14 days after bid opening.

1. SRF project number and project name/loan name*. (*not contract name)
2. List of all subcontractors (DBE and non-DBE) with name, address, telephone number, estimated contract dollar amount and duration. If there are to be no subcontractors, please indicate such in a letter on company letterhead.
3. List of any subcontract work yet to be committed with estimate of dollar amount and duration of contract.

4. MBE-WBE (DBE) Documents - See Part V, page SGC-6.
5. Debarred Firms Certification – See Part XIV, page SGC-25.
6. Certification Regarding Equal Employment Opportunity – See Part XIII, page SGC-24.

The Loan Recipient (Owner) shall submit annual MBE/WBE Utilization Reports (EPA Form 5700-52A, pages SGC-16 - SGC-17) within 30 days of the end of the annual reporting period (October 30th, i.e. by November 30th). Submit reports directly to:

Laketa Ross, Accountant
Administrative Section
Fiscal Branch
Alabama Department of Environmental Management Post Office Box 301463
Montgomery, Alabama 36130-1463

The proposed Prime Contractor must submit the following items to the Loan Recipient (Owner):

- 1) DBE Compliance Form. The Loan Recipient (Owner) must submit this information to the SRF Section to demonstrate compliance with the DBE requirements. ADEM's approval is required prior to award of the construction contract and commencement of any SRF-funded construction. (Page SGC-8)
- 2) Certification Regarding Equal Employment Opportunity. This form is required of the proposed prime contractor (re: all subcontracts executed) and should be submitted with the prime proposed contractor's MBE-WBE solicitation submittal to the Loan Recipient (Owner). (Page SGC-24)
- 3) Debarred Firms Certification. This form is required of the proposed prime contractor (re: all subcontracts executed) and should be submitted with the prime proposed contractor's MBE-WBE solicitation submittal to the Loan Recipient (Owner). (Page SGC-25)
- 4) EPA Form 6100-2 DBE Subcontractor Participation Form. This form gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from the proposed prime contractor, how much the DBE subcontractor was paid, and any other concerns the DBE subcontractor might have. The proposed prime contractor must provide this form to each DBE subcontractor for the DBE subcontractor's submittal to the SRF Section's MBE-WBE Compliance Staff (to be forwarded to EPA's DBE Coordinator). (Page SGC-10)
- 5) EPA Form 6100-3 DBE Subcontractor Performance Form. This form captures an intended DBE subcontractor's description of work to be performed for the proposed prime contractor and the price of the work. The proposed prime contractor must provide this form to each DBE subcontractor for the DBE subcontractor's submittal to the SRF Section's MBE-WBE Compliance Staff (to be forwarded to EPA's DBE Coordinator). (Page SGC-12)
- 6) EPA Form 6100-4 DBE Subcontractor Utilization Form. This form captures the proposed prime contractor's intended use of all identified DBE subcontractors and the estimated dollar amount of the work. The proposed prime contractor must provide this form to each DBE subcontractor for the DBE subcontractor's submittal

- to the SRF Section's MBE-WBE Compliance Staff (to be forwarded to EPA's DBE Coordinator). (Page SGC-14)
- 7) EPA Form 5700-52 A MBE/WBE Utilization Reports (DBE Annual Report), if applicable. The Loan Recipient (Owner) must submit this information to the SRF Section within 30 days of the end of the annual reporting period (October 30th), i.e., by November 30th). (Pages SGC-16 - SGC-17)
 - 8) Changes to Approved DBE Compliance Form, if applicable. If any changes, substitutions, or additions are proposed to the subcontractors included in previous Department approvals, the Owner must submit this information to the Department for prior approval in order for the affected subcontract work to be eligible for SRF funding. (Page SGC-23)
 - 9) Certified Payrolls. These should be submitted to the Loan Recipient (Owner), at least, monthly for the prime contractor and all subcontractors. The Loan Recipient (Owner) must maintain payroll records and make these available for inspection.

Please note that DBEs, MBEs, and WBEs must be certified in writing by EPA, SBA, or DOT (or by state, local, Tribal, or private entities whose certification criteria match EPA's). Depending upon the certifying agency, a DBE may be classified as a Disadvantaged Business Enterprise (DBE), a Minority Business Enterprise (MBE), or a Women's Business Enterprise (WBE). Written certification as a DBE (MBE or WBE) is required in order to be counted toward the Loan Recipient/Owner's MBE-WBE accomplishments.

The documentation of these good faith solicitation efforts must be detailed in order to allow for satisfactory review. Such documentation might include fax confirmation sheets, copies of solicitation letters/emails, printouts of the online solicitations, printouts of online search results, affidavits of publication in newspapers, etc. The proposed prime contractor is strongly encouraged to follow up each written, fax, or email solicitation with, at least, 1 logged phone call.

The proposed prime contractor must employ the six affirmative steps to subcontract with DBEs, even if the proposed prime contractor has achieved its fair share objectives.

The prime contractor must employ the six affirmative steps to subcontract with DBEs, even if the proposed prime contractor has achieved its fair share objectives. If a DBE subcontractor fails to complete work under the subcontract for any reason, the proposed prime contractor must notify the Loan Recipient (Owner) in writing prior to any termination and must employ the six 'good faith efforts' described above if using a replacement subcontractor. Any proposed changes from an approved DBE subcontractor must be reported to the Loan Recipient (Owner) and to the SRF Section on the Changes to Approved Subcontractors Form prior to initiation of the action. EPA Forms Nos. 6100-3 and 6100-4 must also be submitted to the SRF Section for new DBE subcontracts.

6.0 Resources for Identifying MBE-WBE (DBE) Contractors/Subcontractors

The following organizations may provide assistance in soliciting DBE participation:

City of Birmingham
Office of Economic
Development
ATTN: **Monique Shorts**,
Economic Specialist
710 20th Street North
Birmingham, Alabama
35203
Ph: (205) 254-2799
Fax: (205) 254-7741
Monique.shorts@birminghamal.gov

U.S. Small Business
Administration
<http://www.pro-net.sba.gov>

National Association
of Minority
Contractors (NAMC)
<https://namcatlanta.org/>

Alabama Department
of Transportation
ATTN: **John Huffman**
1409 Coliseum Boulevard
Montgomery, Alabama
36130
Ph: (334) 244-6261
<http://www.dot.state.al.us>

U.S. Department of
Commerce
Minority Business
Development Agency
ATTN: **Donna Ennis**
75 5th Street NW,
Suite 300
Atlanta, Georgia 30308
Ph: (404) 894-2096
<http://www.mbd.gov/>

Governor's Office of
Minority and Women's
Business Enterprises
Hilda Lockhart,
STEP Project Director
401 Adams Avenue
Suite 360
Montgomery, Alabama
36130
Ph: (334) 242-2220

Birmingham Construction
Industrial Authority ATTN:
Ashley Orl or **Kimberly
Bivins**
601 37th Street South
Birmingham, Alabama
35222
Ph: (205) 324-6202
aorl@bcia1.org
kbaylorbivins@bcia1.org

NOTE:

- (1) The Loan Recipient (Owner) and the proposed Prime Contractor shall use the necessary resources to identify and directly solicit no less than three (3) certified DBE/MBE/WBE companies to bid in each expected contract/subcontract area. If a diligent and documented search of ALDOT, SBA, and MBDA directories does not identify three (3) potential certified DBE/MBE/WBE firms, then the proposed Prime Contractor shall post an advertisement in, at least, one (1) of the other online or print resources. Whenever possible, post solicitation for bids or proposals should be posted/advertised for a minimum of 30 calendar days before the bid or proposal closing date.
- (2) Expenditures to a DBE that acts merely as a broker or passive conduit of funds, without performing, managing, or supervising the work of its subcontract in a manner consistent with normal business practices may not be counted.
- (3) The proposed Prime Contractor should attempt to identify and first solicit DBEs in the geographic proximity of the project before soliciting those located farther away.
- (4) In addition, our SRF DBE Compliance Staff is readily available for assistance, as follows: Laketa Ross at (334) 271-7727 or laketa.ross@adem.alabama.gov OR Diane Lockwood (DBE Coordinator) at (334) 271-7815 or dpl@adem.alabama.gov.

7.0 DBE Compliance Form

NOTE: FOR DBE COMPLIANCE, ONE (1) COPY OF THIS FORM (WITH ALL INFORMATION OUTLINED) IS REQUIRED (WITH THE LOAN RECIPIENT (OWNER)'S DBE SUBMITTAL) FOR EACH PR&CS REVIEW. THE LOAN RECIPIENT (OWNER) AND PROPOSED PRIME CONTRACTOR SHOULD ENSURE THAT THIS INFORMATION IS COMPLETE PRIOR TO THE PR&CS SUBMITTAL TO THE SRF SECTION.

Loan Recipient: _____
SRF Loan (Project) Number: _____

CERTIFICATIONS:

I certify that the information submitted on and with this form is true and accurate and that this company has met and will continue to meet the conditions of this construction contract regarding DBE solicitation and utilization. I further certify that criteria used in selecting subcontractors and suppliers were applied equally to all potential participants and that EPA Forms 6100-2 and 6100-3 were distributed to all DBE subcontractors.

(Proposed Prime Contractor Signature)
(Printed Name and Title)

Date _____

I certify that I have reviewed the information submitted on and with this form and that it meets the requirements of the Loan Recipient's/Owner's State Revolving Fund loan contract.

Signature of Loan Recipient (Owner) _____ Date

OR

(Loan Recipient's (Owner's) Representative's Signature, (P.E.)) _____ Date

(Printed Name and Title) _____ Date

GENERAL INFORMATION:

Loan Recipient (Owner) Contact:

Loan Recipient (Owner) Phone Number/Email:

Consulting Engineer Contact:

Consulting Engineer Phone Number/Email:

Proposed Prime Contractor:

Proposed Prime Contractor Contact: _

Proposed Prime Contractor Phone Number/Email:

Proposed Prime Contract Amount: \$ _____

Proposed Total DBE/MBE Participation: \$ _____ Percentage: ____% Goal: 2.5%

Proposed Total WBE Participation: \$ _____ Percentage: ____% Goal: 3.0%

Please ensure the following is submitted in the full DBE submittal (with the DBE COMPLIANCE FORM (page SGC-8)):

- 1) List of all committed and uncommitted subcontractors by trade, including company name, address, telephone number, contact person, dollar amount of subcontract, and DBE/MBE/WBE status. Indicate in writing if no solicitations were made because the contractor intends to use only its own forces to accomplish the work.
- (2) Proof of certification (certificate or letter) by EPA, SBA, DOT (or by state, local, Tribal, or private entities whose certification criteria match EPA's) for each subcontractor listed as a DBE, MBE, or WBE.
- (3) Documentation of solicitation effort for prospective DBE firms, such as fax confirmation sheets, copies of solicitation letters/emails, printout of the online solicitations, printouts of online search results, affidavits of publication in newspapers, etc. The prime contractor is strongly encouraged to follow up each written, fax, or email solicitation with at least 1 logged phone call. Whenever possible, post solicitation for bids or proposals should be for a minimum of 30 calendar days before the bid or proposal closing date.

- (4) Justification for not selecting a certified DBE subcontractor that submitted a low bid for any subcontract area.
- (5) Certification By Proposed Prime Contractor or Subcontractor Regarding Equal Opportunity Employment. (Page SGC-24)
- (6) Debarred Firms Certification. (Page SGC-25)
- (7) EPA Form 6100-2 DBE Subcontractor Participation Form for each proposed certified DBE subcontractor.* (Page SGC-10) (*This form is completed by the proposed prime contractor. It is signed by each proposed subcontractor only.)
- (8) EPA Form 6100-3 DBE Subcontractor Performance Form for each DBE subcontractor.** (Page SGC-12) (**This form is completed by the proposed prime contractor and signed by each proposed certified subcontractor and the proposed prime contractor per subcontract.)
- (9) EPA Form 6100-4 DBE Subcontractor Utilization Form to summarize all DBE subcontracts/subcontractors.*** (Page SGC-14) (***)This form is completed and signed by the proposed prime contractor only.)

NOTE:

ALL DBE contractors selected must have a current DBE certificate or letter of certification by an approved certifying agency.

Loan Recipient (Owner) DBE Submittal

At minimum, the Loan Recipient (Owner)'s DBE submittal should always consist of a cover letter (preferred, but optional) and a VII - DBE Compliance Form (page SGC-8) and DBE solicitation documentation (i.e., DBE solicitation list(s) with source(s) of list(s) clearly identified, contractor contact information and results/outcomes of each solicitation (or of the overall solicitation effort, if all results/outcomes were the same), documentation of solicitation method (i.e., copies of emails, phone logs, faxes, etc.).

Prime Contractor DBE Submittal

At minimum, the Prime Contractor's DBE submittal should always consist of a cover letter (preferred, but optional) and DBE solicitation documentation (i.e., DBE solicitation list(s) with source(s) of list(s) clearly identified, subcontractor contact information and results/outcomes of each solicitation (or of the overall solicitation effort, if all results/outcomes were the same), documentation of solicitation method (i.e., copies of emails, phone logs, faxes, etc.) OR a "No Subcontractors" Letter (if none will be utilized) and a List of ALL (DBE/non-DBE) subcontractors contracted/yet to be contracted and ALL EPA 6100 Forms described above (DBE subcontractors selected or not) and Certification Regarding Equal Employment Opportunity and Debarred Firms Certification.

7.0 EPA Form 6100-2 DBE Subcontractor Participation Form

EPA Form 6100-2 DBE Subcontractor Participation Form is attached to Appendix A of this document.

8.0 EPA Form 6100-3 DBE Subcontractor Performance Form

EPA Form 6100-3 DBE Subcontractor Performance Form is attached to Appendix B of this document.

9.0 EPA Form 6100-4 DBE Subcontractor Utilization Form

EPA Form 6100-4 DBE Subcontractor Utilization Form is attached to Appendix C of this document.

10.0 EPA Form 5700-52 A MBE/WBE Utilization Reports

EPA Form 5700-52 A MBE/WBE Utilization Reports is attached to Appendix D of this document.

11.0 Changes to Approved DBE Compliance Form

NOTE: THIS FORM IS REQUIRED OF THE LOAN RECIPIENT (OWNER) (WITH THE PRIME CONTRACTOR’S INPUT) FOR DBE COMPLIANCE ONLY IF A SUBCONTRACTOR/SUPPLIER/VENDOR IS SOUGHT AND/OR PROCURED AFTER THE CONTRACT ATA (APPROVAL-TO-AWARD) HAS BEEN ISSUED. IT IS SIMILAR TO THE DBE COMPLIANCE FORM (PAGE SGC-8) IN THAT IT IS THE COVER/SUMMARY FORM USED TO DOCUMENT THE ADDITIONAL DBE SOLICITATION AND/OR REVISE THE ORIGINAL DBE APPROVAL STATUS.

Loan Recipient: _____ Loan (Project)
Number: _____

CERTIFICATIONS:

I certify that the information submitted on and with this form is true and accurate and that this company has met and will continue to meet the conditions of this construction contract regarding DBE solicitation and utilization. I further certify that criteria used in selecting subcontractors and suppliers were applied equally to all potential participants and that EPA Forms 6100-2 and 6100-3 were distributed to all DBE subcontractors.

(Prime Contractor Signature) Date _____

(Printed Name and Title)

I certify that I have reviewed the information submitted on and with this form and that it meets the requirements of the Loan Recipient’s/Owner’s State Revolving Fund loan contract. (*Only ONE (1) signature required below.)

(Signature of Loan Recipient (Owner)) Date _____

OR*

Recipient’s (Owner’s) Representative’s Signature, (P.E.) Date _____ (Loan

(Printed Name and Title)

GENERAL INFORMATION: (Please attach additional [pages to address 1 through 5, as needed.]

(1) If an approved subcontractor is terminated or replaced, please identify this company, and briefly state the reason.

(2) For new or additional subcontractors, list name, trade, address, telephone number, contact person, dollar amount of subcontract and DBE status.

(3) Attach proof of certification by EPA, SBA, DOT (or by state, local, Tribal or private entities whose certification criteria match EPA's) for each subcontractor listed as a DBE, MBE or WBE.

(4) Attach documentation of solicitation effort for prospective DBE firms, such as fax confirmation sheets, copies of solicitation letters/emails, printouts of the online solicitations, printouts of online search results, affidavits of publication in newspapers, etc. The prime contractor is strongly encouraged to follow up each solicitation with, at least, one (1) logged phone call. Whenever possible, post solicitation for bids or proposals should be for a minimum of 30 calendar days before the bid or proposal closing date.

(5) Provide justification for not selecting a certified DBE subcontractor that submitted a low bid for any subcontract area.

12.0 Certification Regarding Equal Employment Opportunity

The prime contractor is required to comply with Executive Order 112-46 of September 24, 1965 entitled "Equal Employment Opportunity" as amended by Executive Order 11375 of October 13, 1967.

The contract for the work under this proposal will obligate the prime contractor and its subcontractors not to discriminate in employment practices.

The prime contractor shall not maintain or provide for his/her employees the facilities, which are segregated on a basis of race, creed, color or national origin, whether such facilities are segregated by directive or on a de facto basis.

The prime contractor must, if requested, submit a compliance report concerning their employment practices and policies in order to maintain his/her eligibility to receive the award of the contract.

The prime contractor must be prepared to comply in all respects with any contract provisions regarding non-discrimination stipulated in conjunction with labor standards.

PRIME CONTRACTOR'S CERTIFICATION:

Prime Contractor's Name: _____

Address: _____

- 1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause. Yes ___ No ___
- 2. Compliance Reports were required to be filed in connection with such contract or subcontract. Yes ___ No ___
- 3. Bidder has filed all compliance reports due under applicable contract requirements. Yes ___ No ___

If answer to item 3 is "No", please explain in detail on reverse side of this certification.

Certification - The information above is true and complete to the best of my knowledge and belief.

Signature of Prime Contractor: _____

Title: _____

Date: _____

13.0 Debarred Firms Certification

All prime construction contractors shall certify that Subcontracts have not and will not be awarded to any firm that is currently on the General Service Administration's Master List of Debarred, Suspended and Voluntarily Excluded Persons, in accordance with the provisions of ADEM Administrative Code 335-6-14-.35. Debarment action is taken against a firm for noncompliance with Federal Law.

All bidders shall complete this certification in duplicate and submit both copies to the Loan Recipient (Owner) with the bid proposal. The Loan Recipient (Owner) shall transmit one copy to the SRF Section within 14 days after the bid opening.

Project Name/Loan Name*:
(*not Contract Name)

SRF Project No.:

The undersigned hereby certifies that the firm of _____ has not and will not award a subcontract, in connection with any contract awarded to it as the result of this bid, to any firm that is currently on the General Service Administration's Master List of Debarred, Suspended, and Voluntarily Excluded Persons.

Signature of Prime Contractor: _____
Title: _____
Date: _____

14.0 Davis Bacon and Related Acts

The wage rate for July 1, 2023, through June 30, 2024, is \$16.60 per hour.

Under the Davis-Bacon and Related Acts and Reorganization Plan No. 14 of 1950, the U.S. Department of Labor is responsible for determining prevailing wages, issuing regulations and standards to be observed by federal agencies that award or fund projects subject to Davis-Bacon labor standards, and overseeing consistent enforcement of the Davis-Bacon labor standards.

The Davis-Bacon and Related Acts apply to contractors and subcontractors performing on federally funded or assisted contracts in excess of \$2,000 for the construction, alteration, or repair (including painting and decorating) of public buildings or public works. Davis-Bacon Act and Related Act contractors and subcontractors must pay their laborers and mechanics employed under the contract no less than the locally prevailing wages and fringe benefits for corresponding work on similar projects in the area.

The Davis-Bacon Act directs the Department of Labor to determine such locally prevailing wage rates. The Davis-Bacon Act applies to contractors and subcontractors performing work on federal or District of Columbia contracts. The Davis-Bacon Act prevailing wage

provisions apply to the “Related Acts,” under which federal agencies assist construction projects through grants, loans, loan guarantees, and insurance. For prime contracts in excess of \$100,000, contractors and subcontractors must also, under the provisions of the Contract Work Hours and Safety Standards Act, as amended, pay laborers and mechanics, including guards and watchmen, at least one and one-half times their regular rate of pay for all hours worked over 40 in a workweek. The overtime provisions of the Fair Labor Standards Act may also apply to DBA-covered contracts. The standard rates are found in Appendix G.

Labor Standards Provisions for Federally Assisted Contracts
Wage Rate Requirements Under FY 2013 Continuing Appropriation

- I. Requirements under the Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6) For Subrecipients That Are Governmental Entities: The following terms and conditions specify how recipients will assist EPA in meeting its Davis-Bacon (DB) responsibilities when DB applies to EPA awards of financial assistance under the FY 2013 Continuing Resolution with respect to State recipients and subrecipients that are governmental entities. If a subrecipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient. If a State recipient needs guidance, the recipient may contact Cynthia Y. Edwards at Edwards.Cynthiay@epa.gov or at 404-562-9340 of EPA, Region 4 Grants and SRF Management Section, for guidance. The recipient or subrecipient may also obtain additional guidance from DOL's web site at <http://www.dol.gov/whd/>
 1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.
Under the FY 2013 Continuing Resolution, DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the recipient State before authorizing work on that site.
 2. Obtaining Wage Determinations.
 - (a) Subrecipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.
 - (i) While the solicitation remains open, the subrecipient shall monitor www.wdol.gov weekly to ensure that the wage determination contained in the solicitation remains current. The subrecipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or

supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the subrecipient.

- (ii) If the subrecipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State recipient, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient shall monitor www.wdol.gov on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.
- (b) If the subrecipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the subrecipient shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.
- (c) Subrecipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.
- (d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the subrecipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The subrecipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract Subcontract Provisions.

(a) The Recipient shall insure that the subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the FY 2010 appropriation , the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without

subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, www.dol.gov.

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - (2) The classification is utilized in the area by the construction industry; and
 - (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated

for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient (s) to the State award official. The State award official will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

- (C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- (iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding.

The subrecipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-

Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

- (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
- (ii) (A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually

identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/agencies/whd/forms/wh347> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
- (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under

section 1001 of title 18 and section 231 of title 31 of the United States Code.

- (iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees.

- (i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits

in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program.

If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements.

The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment.

A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

- (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

- (a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used

in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages.

In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages.

The subrecipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient

shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

- (a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.
- (b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, the subrecipient should conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.
- (c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks

prior to the completion date the contract or subcontract . Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments there under by contractors and subcontractors who claim credit for fringe benefit contributions.

- (d) The subrecipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.
- (e) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <https://www.dol.gov/agencies/whd/contact/local-offices>.

15.0 American Iron and Steel

Compliance with 2014 Appropriations Act

- a) The Loan Recipient agrees to comply with all federal requirements applicable to the Authority Loan (including those imposed by P.L. 113-76, Consolidated Appropriations Act (the "2014 Appropriations Act") and related SRF Policy Guidelines) which the Loan Recipient understands includes, among other things, requirements that all of the iron and steel products used in the Project are to be produced in the United States ("American Iron and Steel") unless (i) the Loan Recipient has requested and obtained a waiver from the U.S. Environmental Protection Agency pertaining to the Project or (ii) the Authority has otherwise advised the Loan Recipient in writing that the Buy American Requirement is not applicable to the Project.
- b) The Loan Recipient also agrees to comply with all recordkeeping and reporting requirements under the Clean Water Act (codified generally under 33 U.S.C. §1251 et seq.) (the "Clean Water Act"), including any reports required by a federal agency or the Authority such as performance indicators of program deliverables, information on costs and Project progress. The Loan Recipient understands that (i) each contract and subcontract related to the Project is subject to audit by appropriate federal and state entities, and (ii) failure to comply with the Clean Water Act and this Agreement may be an Event of Default hereunder that results in a repayment of the Authority Loan in advance of the maturity of the Evidence of Indebtedness and/or other remedial actions.

The Loan Recipient agrees to cause all contractors and subcontractors to comply with (through the inclusion of appropriate terms and conditions in all contracts, subcontracts and lower tiered transactions, such terms and conditions to be in

substantially the form set forth in connection with the development and construction of the project

The Contractor acknowledges to and for the benefit of the _____, Alabama ("Purchaser"), and the Alabama Water Pollution Control Authority or the Drinking Water Finance Authority (the "State Authority") that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund that have statutory requirements commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel") including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State Authority that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State Authority. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State Authority to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State Authority resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State Authority or any damages owed to the State Authority by the Purchaser). While the Contractor has no direct contractual privity with the State Authority, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State Authority is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State Authority.

16.0 Project Sign Detail – CWSRF

Details of the required project sign are included below:

1. Sign is to be constructed of ½" MDO plywood, 4' x 8'. Alternate materials may be used if approved by ADEM prior to use.
2. Paint with two (2) coats oil-base enamel before lettering.
3. Background color white; lettering black.
4. Lettering may be painted or vinyl. All lettering sizes to be proportionate to sign layout.
5. Sign shall be attached to 4" x 4" x 8' treated posts. Alternatives may be used if approved by ADEM prior to use.
6. Sign shall be placed in prominent location, easily readable from existing street or roadway.
7. Sign shall be maintained in good condition until completion of project.

17.0 Construction Contract Requirements

This checklist is to be completed by the Loan Recipient (Owner)/Engineer when submitting plans and specifications to the SRF Section for review. It affirms to the SRF reviewer that the Loan Recipient (Owner)/Engineer has addressed these items (in boilerplate form) within the specifications manual.

Contract Page No.	Satisfied (Yes/No)	
_____	_____	Bid Advertisement (including date, time, and location of bid opening).
_____	_____	Bid Bond.
_____	_____	Performance Bond (100%).
_____	_____	Payment Bond (Not less than 50%).
_____	_____	Contract Length.
_____	_____	Liquidated Damages.
_____	_____	Liability Insurance (including workman's comp, public liability, and builder's risk, if applicable).
_____	_____	Method of Award (i.e. lowest, responsive, responsible bidder)
_____	_____	Air testing of gravity sewers (if applicable).

Within 14 days after the bid opening, the Loan Recipient (Owner)/Engineer is to prepare the Project Review and Cost Summary (per the PR&CS Checklist, page SGC-39) and submit it to the SRF Section of ADEM. Upon completion of review, a written ATA (Approval-to-Award) will be issued.

NOTE:

The Loan Recipient (Owner) assumes all financial risk, if the construction contract is awarded prior to the issuance of an ATA letter by the SRF Section.

18.0 Project Review and Cost Summary

The SRF Project Review and Cost Summary form is attached in Appendix F. This form is to be completed and submitted (with supporting documentation) to the SRF Section within 14 days after bid opening. Following satisfactory review, an ATA (Approval-to-Award) letter will be issued. After the ATA is issued/award of the contract, a pre-construction conference should be scheduled (with the SRF Project Manager in attendance).

XIV. Special Conditions

1.0 SCOPE OF PROJECT

The project includes the upgrading of the existing lagoon treatment system for J.F. Shields High School. The first cell of the existing lagoon system will be left “as is” to continue to treat the wastewater with a single Ares lagoon aerator placed at the end of the lagoon near the discharge to the second cell. Two Ares lagoon aerators will be installed in the second cell. A fourth Ares aerator will be purchased and will be employed in the third cell and can be used as a spare aerator in case one of the other aerators in cell #1 or cell #2 needs to be taken offline for maintenance or repair. Aeration will increase treatment efficiencies and reduce the algae through the mixing process. The Ares aerators combine efficient fine-bubble aeration as well as providing coarse bubble mixing within the same unit. The units are also portable and can be moved around providing flexibility in the treatment process should conditions change in the future. A blower will be centrally located to provide air to the aerators. Half of the third cell will be covered with a polyethylene floating cover (i.e. HexProtect Aqua Cover) to prevent algae from growing and baffled to allow settling to occur after the aeration and prior to discharge.

The second and third cells of the lagoons will have the existing sludge removed and transferred to the first cell. Estimates include that approximately 8-12 inches of sludge is present in these lagoons. During water and solid transfer, the Contractor is responsible for any noncompliant discharge, any fines associated from the spill and reporting the spill to the Project Engineer and Alabama Department of Environmental Management in accordance with ADEM Admin. Code r. 335-6-6-.02(hh)

Targeted areas of the lagoon berms will be rehabilitated to eliminate low spots in the berms that could lead to overflows during high flow events. Disinfection and flow monitoring will also be provided.

2.0 SAFETY

The CONTRACTOR shall provide, erect, paint and maintain all safety facilities and devices required by the Occupational Safety and Health Act (OSHA) necessary to protect the public. Traffic regulations on this project shall be in accordance with Section G of the Alabama Manual of Uniform Traffic Control Devices. In all cases the requirements of the permits issued by the State of Alabama Highway Department shall be complied with by the CONTRACTOR. The ENGINEER shall not be responsible for, nor direct safety operations of the CONTRACTOR.

3.0 EROSION AND PROPERTY CONTROL

3.1 Property Protection

Trees, grass, fences, signboards, poles, vehicles, houses, buildings and all other property shall be protected unless their removal is authorized; and any property damage shall be satisfactorily restored by the CONTRACTOR and at no additional cost to the OWNER.

3.2 Erosion

The CONTRACTOR shall at all times take necessary procedures to prevent erosion or transportation of soil due to natural or induced water flows. Spoil banks and soil stockpiles shall be contained to prevent transportation of soil by run-off waters. The CONTRACTOR shall institute and maintain all erosion control measures required by the NPDES Construction Permit. Any unpaid fines or cost of violations of the NPDES Permit incurred by the CONTRACTOR shall be withheld from the contract retainage upon completion of the project.

4.0 FURNISHING PLANS AND SPECIFICATIONS

The ENGINEER will furnish a maximum of two (2) sets of specifications to the CONTRACTOR. If additional specifications are required, the CONTRACTOR shall reimburse the actual cost of reproduction of the specifications so requested.

5.0 SPECIFICATIONS

5.1 Omissions

Omissions from the Specifications or the inadequate description of details of work which are apparently necessary to carry out the intent of the specifications, or which are customarily performed, shall not relieve the CONTRACTOR from performing such omitted or inadequately described details of the work but they shall be performed as if fully and correctly set forth and described in the Specifications.

5.2 Verification

The CONTRACTOR shall check the Specifications furnished him immediately upon their receipt and shall notify the ENGINEER within 48 hours of any discrepancies.

5.3 Latest Edition of Specifications

All references to specifications by others that are made a part of these specifications (e.g., AWWA, SSPC, NSF, etc.) are understood to be the latest edition. The alpha-numeric referencing of certain sections, paragraphs, or sentences from older editions is considered secondary to the revised or newer alpha-numeric system and the content of the referenced text.

6.0 EXAMINATION OF SITE, QUANTITY OF WORK, AND TIME OF COMPLETION

The CONTRACTOR shall examine the site of the work and satisfy himself that the work can be completed as set forth in these specifications. The CONTRACTOR shall notify the ENGINEER within 48 hours of receiving Specifications of any disagreements with the stated requirements.

7.0 PERMITS, CERTIFICATES, LAWS AND ORDINANCES

The CONTRACTOR shall, at his own expense, procure all permits, certificates and licenses required of him by law for the execution of his work including but not limited to the permits for work within the State of Alabama, Monroe County and City of Beatrice, Alabama, R.O.W. He/she shall comply with all federal, state, and local laws, ordinances, rules, regulations and the permits issued to the OWNER relating to the performance of the work.

8.0 BRANDS OF EQUIPMENT AND MATERIALS

The name of a certain brand, make or manufacturer is to denote the quality standard of the equipment or materials, and is to convey the general style, type, character and quality. Whenever a material or article required is specified or shown on the plans by using the product of a particular manufacturer or vendor, any material or article which will meet the design criteria and is equal in function and durability will be considered acceptable only if it is submitted to the ENGINEER for evaluation a minimum of seventy-two (72) hours before the bid opening date and is of equal substance and function in the ENGINEER's sole opinion. The ENGINEER shall be the sole judge of the equality of the product. Material not pre-approved by the ENGINEER shall not be accepted. It shall not be purchased or installed without the written approval of the ENGINEER.

9.0 SHOP DRAWINGS

Prior to the installation of any item of equipment or material, the CONTRACTOR shall submit to the ENGINEER, for approval, three (3) sets of shop drawings. The drawings shall consist of manufacturer's descriptive data, diagrams and specifications for all specialty items of equipment. For the OWNER'S records, the CONTRACTOR shall furnish one (1) complete set of the approved drawings including parts lists, operation and maintenance manuals, lubrication charts and descriptive literature for all equipment. No payment shall be made to the CONTRACTOR for any material, specialties or equipment unless shop drawings have been approved by the ENGINEER. Final payment under the contract will not be made until specified documents have been submitted for all equipment and material.

10.0 CONTRACTOR'S TITLE TO MATERIALS

No materials or supplies for the work shall be purchased by the CONTRACTOR or subcontractors subject to any chattel mortgage or order and conditional sale contract or other agreement by which an interest is retained by the seller. The CONTRACTOR warrants that he has good title to all materials and supplies used by him in the work, free from all liens, claims or encumbrances.

11.0 OBSERVERS

An OBSERVER may be provided by the OWNER or ENGINEER to observe different phases of the work. The observer shall neither be responsible for nor direct the

CONTRACTOR in the manner and/or methods of construction. If a question arises the CONTRACTOR shall consult the ENGINEER immediately. The observer does not have authority to make decisions relating to the work.

12.0 NOTICE AND SERVICE THEREOF

Any notice to CONTRACTOR from the OWNER or ENGINEER relative to any part of this contract shall be in writing to the said CONTRACTOR at his last given address, or delivered in person to said CONTRACTOR or his authorized representative at the job site.

13.0 WEATHER CONDITIONS

In the event of temporary suspension of work or during inclement weather or whenever the ENGINEER shall direct, the CONTRACTOR will, and will cause his subcontractors to protect carefully his and their work and materials against damage from weather. If any work or materials shall have been damaged by reason of failure on the part of the CONTRACTOR or any of his subcontractors so to protect his work, such materials shall be removed and replaced at the expense of the CONTRACTOR.

14.0 CLEAN-UP

The job shall be kept clean at all times. Loose dirt shall not be allowed to clog ditches or cover sidewalks. Soft clay or other undesirable material removed from the trenches shall be removed from the streets, sidewalks or ditches. The ENGINEER reserves the right to demand that the CONTRACTOR's forces be diverted to this clean-up at any time that condition of streets, driveways, sidewalks, or private property warrants such diversion. Such diversion of CONTRACTOR's forces will not entitle the contractor to any extension of time or additional compensation.

15.0 ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

The acceptance by the CONTRACTOR of final payment shall operate as a release to the OWNER and ENGINEER of all claims and all liability to the CONTRACTOR for all things done or furnished in connection with this work and for every act and neglect of the OWNER, ENGINEER and others relating to or arising out of this work. No payment, however, final or otherwise, shall operate to release the CONTRACTOR or his sureties from any obligations under this contract or the Performance and Payment Bond.

16.0 MAINTENANCE GUARANTEE AFTER ACCEPTANCE

Neither the final certificate of payment nor any provisions in the contract documents nor partial or entire use or occupancy of the premises by the OWNER shall constitute an acceptance of work not done in accordance with the contract documents or relieve the CONTRACTOR of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The CONTRACTOR shall remedy any defects in the work and pay for any damage to other work resulting therefrom which shall appear within a period of two years from the date of final acceptance of the work unless a longer period is

specified. The OWNER will give notice of observed defects with reasonable promptness and the CONTRACTOR shall repair the defects immediately.

17.0 COMPLAINTS

All complaints shall be addressed to the satisfaction of the OWNER and ENGINEER before final payment will be made.

18.0 AFFIDAVIT OF COMPLIANCE

CONTRACTOR shall furnish, in triplicate, to the OWNER and ENGINEER, an affidavit stating that all materials furnished under this contract conforms to the requirements as set forth in the Plans and Specifications.

19.0 LIQUIDATED DAMAGES

The amount of liquidated damages per calendar day shall be as shown in the Contract.

20.0 RULES AND REGULATIONS

The CONTRACTOR and subcontractors are responsible for complying with all rules and regulations of Federal, State and Local agencies.

21.0 MATERIAL SUPPLY AND USE

All material used in this project shall have been supplied by manufacturer for use in upgrading of the existing lagoon treatment system for J.F. Shields High School, similar to this project, for a period not less than 10 years, or as otherwise approved by the ENGINEER. Material supplied by manufacturer for a different application and modified for this project will not be acceptable.

22.0 WAGE RATES

The construction of said project shall in all respects conform to all applicable requirements of Federal, State and Local Laws and Ordinances.

23.0 ADDITIONAL OR SUBSTITUTE BOND

If, at any time the OWNER or ENGINEER for justifiable cause, shall be or become dissatisfied with any surety or sureties upon the Performance or Payment Bonds, the Contractor shall within five (5) days after notice from the OWNER or ENGINEER to do so, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER and ENGINEER. The premiums on such bond shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished such an acceptable bond to the OWNER.

24.0 SURETY BONDS

Prior to award of the contract, the Contractor shall submit to the OWNER and ENGINEER the name and address of the Bonding Company for the approval of the OWNER and ENGINEER.

25.0 MUTUAL RESPONSIBILITY OF CONTRACTORS

There may be other contractors working in the area concurrent with work under this contract and it shall be the responsibility of the Contractor to coordinate construction activities to cause as little interference as possible. If through acts of neglect on the part of the Contractor, any other Contractor or any Subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other Contractor or Subcontractor by agreement or arbitration if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against the OWNER or ENGINEER on account of any damage alleged to have been sustained, the OWNER or ENGINEER shall notify the Contractor, who shall indemnify and save harmless the OWNER and ENGINEER against any such claim.

26.0 COMPLETION OF WORK

Unless specifically waived by the OWNER, when an extension of contract time is granted by the OWNER to the Contractor to complete the work under this contract, the Contractor shall pay any additional engineering cost or other cost accrued to the OWNER or ENGINEER as a result of the extension of time granted.

27.0 TIME EXTENSIONS

Notwithstanding any other provisions of this contract, it is mutually understood that the time extensions for changes in the work will depend upon the extent, if any, by which the changes cause delay in the completion of various elements of construction. The change order granting the time extension may provide that the contract completion date will be extended only for those specific elements so delayed and that the remaining contract completion dates for all other portions of the work will not be altered and may further provide for an equitable readjustment of liquidated damages under the new completion schedule.

28.0 WARRANTY OF CONSTRUCTION

28.1 In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any time.

- 28.2** This warranty shall continue for a period of 2 years from the date of final acceptance of the work. If the OWNER takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 2 years from the date the OWNER takes possession.
- 28.3** The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to County-or State-owned or controlled real or personal property, when that damage is the result of:
- a. The Contractor's failure to conform to contract requirements; or
 - b. Any defect of equipment, material, workmanship, or design furnished.
- 28.4** The Contractor shall restore any work damaged in fulfilling the terms and conditions of this paragraph. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.
- 28.5** The ENGINEER shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.
- 28.6** If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the OWNER shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.
- 28.7** With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:
- a. Obtain all warranties that would be given in normal commercial practice:
 - b. Require all warranties to be executed, in writing, for the benefit of the OWNER, if directed by the ENGINEER; and
 - c. Enforce all warranties for the benefit of the OWNER, if directed by the ENGINEER.
- 28.8** In the event the Contractor's warranty has expired, the OWNER may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

29.0 ENFORCEMENT OF WARRANTIES

29.1 Performance Bond

29.1.1 It is understood that the Contractor's Performance Bond will remain effective throughout the life of all warranties and warranty extensions.

29.1.2 In the event the Contractor or his designated representative fails to commence and diligently pursue any work required under the Special Condition entitled "Warranty of Construction" within a reasonable time after receipt of written notification pursuant to the requirements thereof, the ENGINEER shall have a right to demand that said work be performed under the Performance Bond by making written notice on the surety. If the surety fails or refuses to perform the obligation it assumed under the Performance Bond, the ENGINEER shall have the work performed by others, and after completion of the work, shall make demand for reimbursement of any or all expenses incurred by the OWNER while performing the work, including, but not limited to administrative expenses.

29.1.3 Warranty repair work which arises to threaten the health or safety of personnel, the physical safety of property or equipment, or which impairs operations, habitability of living spaces, etc., will be handled by the Contractor on an immediate basis as directed verbally by the ENGINEER or his authorized representative. Written verification will follow verbal instructions. Failure of the Contractor to respond as verbally directed will be cause for the ENGINEER or his authorized representative to have the warranty repair work performed by others and to proceed against the Contractor as outlined above.

29.1.4 Pre-Warranty Conference. Prior to contract completion and at a time designated by the Contracting Officer or his authorized representative, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of the Special Condition entitled "Warranty of Construction: of this specification. Communication procedures for Contractor notification of warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the ENGINEER or his authorized representative for the execution of the construction warranty shall be established/reviewed at this meeting.

29.1.5 In connection with these requirements and at the time of the Contractor's quality control completion inspection, the Contractor will furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue warranty work action on behalf of the Contractor. This single point of contact will be located within the local service area of the warranted construction, will be continuously available, and will be responsive to OWNER inquiry on warranty work action and

status. This requirement does no relieve the Contractor of any of his responsibilities in connection with the Special Condition entitled "Warranty of Construction".

30.0 TESTING

30.1 Any re-testing of materials or structures due to faulty workmanship of the CONTRACTOR shall be the responsibility of the CONTRACTOR.

31.0 INSURANCE

All insurance requirements in this contract will be submitted by at least an "A" rated company according to A.M. Best.

XV. Technical Specifications

LAGOON AERATION SYSTEM

PART 1 - GENERAL

1.1 RELATED INFORMATION

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and technical specification sections, apply to this section.

1.2 SUMMARY

- A. The contractor shall furnish all labor, materials, tools, equipment and power perform all work and services necessary for and incidental to the furnishing and installation of a complete Lagoon Aeration System, complete and ready for operation in accordance with the provisions of the contract documents.
- B. This Section includes the following:
 - 1. Individual Static Tube Coarse Bubble + Fine Bubble Air Diffusers
 - 2. Feeder Tubing

1.3 DEFINITIONS AND REFERENCES

- A. Definitions:
 - 1. AOR: Actual oxygen requirements.
 - 2. SOR: Standard oxygen requirements.
 - 3. SCFM: Standard cubic feet per minute are understood to be air at 68°F, 14.7 PSIA and 36% relative humidity flowing at a rate of 1 cubic feet per minute.
 - 4. SWD: Side water depth is understood to be the overall dimension from the high point of the lagoon bottom or basin floor to the water surface.
- B. References: Following is a list of standards, which might be referenced in this Section:
 - 1. American Society of Civil Engineers (ASCE): Standard No. 002 “Measurement of Oxygen Transfer Efficiency in Clean Water”
 - 2. ASTM International (ASTM):

- i. D1784 – Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
- ii. D1785 – Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
- iii. D2666 – Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
- iv. D3350 – Specification for Polyethylene Plastic Pipe and Fittings Materials
- v. F714 - Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter

1.4 SYSTEM DESCRIPTION

- A. Static tube air diffuser system consists of a submerged aeration unit that combines mixing and aeration in one unit. Each unit shall consist of a coarse bubble static tube aerator surrounded by a series of fine bubble diffusers. Each unit shall be weighted with ballast and rest freely on the lagoon floor with all diffusers elevated above the floor.
- B. The static tube shall be designed to generate a flow through the base of the tube. This current shall draw sludge particles and other light organic solid particles from the bottom of the lagoon through the tube. Turbulence within the tube shall be created to maximize contact time and number of individual collisions between the air bubbles, wastewater, and particulates. As the water column emerges from the top of the static tube and continues to rise, continued interaction between the air bubbles, wastewater, and suspended particulate will continue to influence the breakdown of organic solids. After these solids have risen with and spread radially from the water column, they will circulate back to the bottom where they will meet the slower rising air bubbles from the fine bubble diffusers, inducing additional organic and biological breakdown.
- C. Each aeration unit shall be connected to the air supply system by a flexible weighted PVC tube of sufficient length to allow removal of the aeration unit from above for cleaning, maintenance, repair, or replacement.

1.5 PERFORMANCE REQUIREMENTS

- A. Design Parameters and Performance: Aeration system shall be installed in the lagoon or basin of the size and comply with the design performance as required by the OWNER.

- B. The aeration system should be designed to provide enough oxygen to meet the following flow conditions:

LAGOON INFLUENT		
ADF	0.010	MGD
	MG/L	LB/DAY
CBOD	150	12.51
NH3-N	20	1.67

LAGOON EFFLUENT		
ADF	0.010	MGD
	MG/L	LB/DAY
CBOD	14	1.17
NH3-N	2.0	0.17

- C. Structural Performance:

1. All equipment, air distribution system, supports, anchors and fasteners shall be of adequate size and strength to withstand loads associated with starting, turbulence, debris, thrusts from fluid movement, thermal expansion and contraction and other loads encountered under operating conditions.
2. System shall be designed for contraction/expansion over a temperature range of 120 degrees F without deforming any component.

1.6 SUBMITTALS

- A. Product Data: Provide construction details, material descriptions, dimensions of individual components and profiles, rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Shop Drawings: Provide plans, elevations, sections, details, and attachments to other work.
 1. Provide dimensional layouts, materials, details of appurtenances, anchoring, installation, and operation instructions. Fabrication and installation shall be in accordance with such approved drawings.
 2. Specification cut sheets for all proposed equipment, including diffuser units and flexible self-weighted aeration tubing.
 3. Certified diffuser performance test data shall be submitted. It shall include air flow versus head loss data, and Standard Oxygen Transfer Tests conducted in clean water in accordance with the standards set forth by the ASCE Subcommittee on Oxygen Transfer Standards. Any tests must be completed in a minimum of 10' diameter tank; no single column tests will be accepted.
 4. SOTE calculations to verify the clean water oxygen transfer efficiency of the diffuser at both design and maximum airflow.
 5. Head loss Calculations for the complete aeration system from the top of the drop leg. Calculations shall include the total head loss across the membrane, balancing orifice, piping system and static head at both design and maximum airflow.
 6. Computational Fluid Dynamic modeling study proving the aeration

system will provide the required mixing rate stated in the Performance Requirements Section.

C. Information Submittals:

1. Special shipping, storage and protection, and handling instructions.
2. Manufacturer's instructions for installation.
3. Qualification Data: For manufacturer and manufacturer's representative.
4. Equipment Warranty
5. Operation and Maintenance Instructions
6. Location of nearest stocking distributor of spare parts.
7. Suggested spare parts list to maintain the equipment in service for a period of two years. Include a list of special tools required for checking, testing, parts replacement, and maintenance with current pricing information.
8. Installation list demonstrating conformance to supplier qualifications as per 1.7 B.

1.7 QUALITY ASSURANCE

A. Aeration equipment shall be provided by the following approved supplier: Triplepoint Environmental LLC represented by Pump & Process Equipment, Inc. (205-987-3337) or pre-approved equal (see below for approval qualifications).

B. Supplier Qualifications:

1. All equipment should be the product of a supplier having at least five (5) North American installations with a lagoon aeration unit that combines static tube aeration with fine bubble diffusers in one portable unit (as per 1.4) each with a minimum of five (5) years satisfactory service.

C. Unnamed manufacturers: All unnamed manufacturers are considered alternates. Alternate manufacturer offerings must be pre-qualified prior to the bid date and listed as an "approved alternate" in an addendum in order to be considered. Any bids from manufacturers other than those listed in the pre-qualification addendum or named herein will be automatically disqualified and rejected.

1. Manufacturers that are unnamed and wish to be pre-qualified must be an established supplier of the system described in section 1.4, provide proof of meeting the manufacturers qualifications set out in section 1.7 (B) along with full technical submittals as per section 1.6 including aeration calculations, aeration system layout, independent oxygen transfer testing, aerator specifications and all other submittals required to the project engineer twenty-one days (21) days prior to the published bid date. If approved, the manufacturer will be named as an approved alternate by the

engineer in an addendum no later than fourteen (14) days prior to the bid date. Bids by manufacturers that are not pre-qualified will be rejected.

2. The ENGINEER reserves the right to select the manufacturer they decide is the best for the application, regardless of the cost of the equipment.
- D. Base Bid: should the CONTRACTOR seek to bid an unnamed manufacturer who is pre-qualified as per section 1.7 C, that is not a manufacturer named in this specification, he shall furnish a base bid for the named manufacturer and include an amount of monies as an addition or a deduct to be available to the Owner for the alternate equipment. Should any additional engineering (system modifications, etc.) be required as a result of the use of a pre-qualified alternate the cost shall be borne by the CONTRACTOR.
1. The ENGINEER reserves the right to select the manufacturer they decide is the best for the application, regardless of the cost of the equipment.
- E. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation supervision of units required for this Project.
- F. Source Limitations: Equipment units of each type specified in this section shall be supplied by a single manufacturer. This does not require that all equipment be manufactured by a single manufacturer but does require that the manufacturer of the system shall be responsible for the complete system.

PART 2 - PRODUCTS

2.1 MANUFACTURERS SCOPE OF SUPPLY

- A. The manufacturer shall supply all process equipment and design necessary to achieve the performance standards stated in section 1.5, this includes:
1. Aeration units
 2. Air distribution piping arrangement and sizing from air supply header including all material beginning at the edge of the basin (water level) including air supply manifolds, control valves, hose barb connection, hose clamps, flexible weighted tubing, and complete weighted aeration unit assemblies.
- B. Other non-process related equipment will NOT be provided by the manufacturer, items include but are not limited to:
1. Air supply piping
 2. Adequately sized header pipes
 3. Manifold riser pipes with appropriately sized MNPT connection for manifolds

2.2 AERATION SYSTEM

A. Design Responsibility:

1. Equipment manufacturer shall be responsible for determining the size and number of aeration units, air distribution piping arrangement and sizing from the air supply header, and other equipment required to provide the air flow rates required for the biological treatment and to assure proper mixing within the lagoon or basin.
2. Air Distribution System: Aeration System manufacturer shall provide an air distribution layout and the number of aeration assemblies required to:
 - i. Demonstrate uniform air delivery to all diffusers at design airflow in compliance with the air supply pressure requirement.
 - ii. Demonstrate the oxygen transfer efficiency at standard conditions for the aeration assembly.
 - iii. Demonstrate aeration assembly mixing capacity and the area of influence.
 - iv. Demonstrate compliance with the air supply pressure requirement and provide baseline data for the increase in aeration assembly back pressure requirement.

B. AERATION UNITS:

1. SUMMARY

- i. All Aeration Units shall be a combination of coarse bubble static tube diffusion and fine bubble diffusion on one portable platform.
- ii. All Aeration Units shall be self-weighted, containing their own ballast.
- iii. All Aeration Units shall rest unfastened, directly on the basin floor.
- iv. All Aeration Units shall be retrievable from the surface of the lagoon.

2. STATIC TUBE:

- i. The vertical static tube aerator shall be factory fabricated of polyethylene and/or PVC materials.
- ii. The static tube shall be mounted to rigid legs in such a way as to elevate the bottom of the tube 3" to 12" above lagoon floor, depending on lagoon depth.
- iii. A coarse bubble diffuser shall be mounted within the static tube at an elevation of 6" to 12" above the lagoon floor.
- iv. The static tube shall extend 12" to 30" above the coarse bubble diffuser, depending on lagoon depth.

3. BASE:

- i. Base shall be securely fastened to the static tube and provide a ground contact footprint of at least 300 square inches.
- ii. Ballast material shall have a minimum specific gravity of 2.0. Means shall be provided of easily adding additional ballast to unit without removing unit from the water.
- iii. Overall submerged unit weight shall have a minimum specific gravity of 1.8 under maximum airflow conditions.
- iv. Manufacturer shall be responsible for ensuring compliance with minimum design densities.

4. FINE BUBBLE DIFFUSER:

- i. A series of fine bubble diffusers shall be mounted on the outside of the static tube. Diffuser size and quantity shall be based on the performance requirements of the aeration system.
- ii. Fine bubble diffusers shall be of EPDM or Silicone membrane type in tube style. No other fine bubble diffuser will be accepted.
- iii. Fine bubble diffusers shall be securely attached to unit at an elevation of 6" to 12" above the lagoon floor.
- iv. PVC or equivalent piping shall be used to supply air to each diffuser.

5. GENERAL AERATOR REQUIREMENTS:

- i. With the exception of integrated check-valves, no mechanical, moving parts shall be used.
- ii. Each diffuser (including coarse bubble) shall have an integrated check-valve capable of preventing backflow of water into air distribution system.
- iii. All hardware shall contain locking features to minimize likelihood of inadvertent disassembly during shipping, handling, installation, and operation.
- iv. All screwed plumbing fittings that do not utilize a gasket shall use appropriate Teflon type joint sealant or equivalent to minimize leakage and loosening of parts over time.
- v. Airflow to fine bubble and coarse bubble diffusers shall be balanced by an integrated orifice plate system. Total ratio of fine bubble to coarse bubble airflow shall be maintained between 4 to 1 and 20 to 1, depending on the treatment system requirements.
- vi. A single 1" to 1-1/2" hose barb shall be integrated to aerator and used as an air inlet point. Flexible weighted tubing shall be attached to said hose barb by a stainless-steel hose clamp. This hose barb shall be integral with unit to reduce likelihood of breakage or failure should someone try to drag or lift unit by hose.

6. MATERIALS:

- i. All submerged hardware shall be of Type 304, 316 or better stainless steel.
- ii. All non-submerged hardware shall be of Type 304 or better stainless steel.
- iii. All removable fittings shall be of Type 304, 316 or better stainless steel.
- iv. All ballast shall be of non-corrosive and non-toxic material or shall be permanently sealed within or coated with such material.
- v. All other parts shall be of stainless steel, PVC, HDPE, GPP, EPDM or equivalent, non-corrosive, non-toxic, and non-degradable materials suitable for complete immersion in a typical wastewater environment.

7. REMOVAL:

- i. Means for easily removing and replacing aeration unit from above shall be provided including:
- ii. A floating marker buoy shall be permanently attached to each unit by a tether of proper length to float directly above the aeration unit.
- iii. Tether shall be a 3/8" MFP float line, capable of lifting at least ten times the weight (out of water) of the installed aeration unit.

C. FEEDER TUBING

1. Feeder tubing (flexible weighted tubing) used as the connection between the aeration unit and the header or lateral piping shall be low density, polyethylene or PVC tubing with self-contained ballast, color black, with 1 percent carbon black for ultra-violet stabilization. No tubing with external and/or intermittent ballast added will be accepted; the ballast must be integral to the tubing itself.
2. All polyethylene tubing shall conform to the requirements of ASTM D 1248.
3. Tubing length shall be of sufficient size to allow removal of the aeration unit from above for cleaning, maintenance, repair, or replacement.
4. Tubing inside diameter shall be 1.5" to minimize friction loss; smaller inside diameter tubing will not be accepted except for extremely low flow applications (≤ 10 scfm per unit).
5. Tubing shall be connected at both ends with Type 304 or 316 stainless steel hose clamps to stainless steel hose barbs.
 - i. In the case of systems designed with fixed, laterals that do not have the means for individually controlling airflow to each unit (such as a control valve mounted on the shore), a single, custom orifice plate shall be supplied by the

manufacturer for each aerator position. This orifice plate shall be installed when the aeration unit is set in place at each lateral take-off point. The orifice plate shall be installed upstream of the flexible weighted tubing, between the take-off saddle and the hose barb.

2.2 SOURCE QUALITY CONTROL

- C. Adequate testing and inspection of the factory assembled equipment shall be the responsibility of the manufacturer prior to shipment. Upon satisfactory completion of testing, the units will be disassembled into subcomponent assemblies for shipment and installation. At the manufacturer's option, the units may also be shipped to the site as complete units, providing said units can be installed as a complete assembly.
- D. Testing and Inspection Types
1. General Appearance – All units for all order sizes shall be 100% visually inspected after general assembly for missing or damaged parts and finish.
 2. Connections – Plumbing and hardware connections shall be tested for tightness.
 3. Levelness – Fine bubble diffusers and/or arms shall be tested to ensure all aerators are horizontal, level, and on the same plane.
 4. Base – Base and/or assembled unit shall be weighed for sufficient ballast.
- E. Defects
1. Major defects shall be considered any defect which would materially affect the intended life, use, or performance of the installed unit. These include, but are not limited to: missing parts, unglued PVC joints, severely damaged pipe fitting threads, fine bubble diffusers out of level by more than 3/16" between any 2 consecutive diffusers or 3/4" over any 2 diffusers, insufficiently weighted ballast, significant pressure loss (greater than 1 psi over 60 seconds).
 2. Minor defects shall be considered all other defects that would not materially affect the intended life, use, or performance of the installed unit. These include but are not limited to: scratches in the finish, bare patches in the paint, minor variation in fine bubble diffuser levelness, minor pressure loss (less than 1 psi over 60 seconds), etc.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine lagoon or basin areas and conditions, with Installer present, for compliance with requirements for the installation of the aeration system and other conditions affecting performance of the Work. Examine aeration system components before installation. Reject components that are damaged. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. CONTRACTOR shall install and adjust equipment in accordance with the Drawings, approved shop drawings, and the manufacturer's instructions. Do not operate the equipment until the installation is approved by the manufacturer's representative.
- B. Prior to connecting the aeration units to the feeder tubes, CONTRACTOR shall clean all piping, headers, and accessories through which air is delivered, so that all dust, dirt, oil, grease, or other foreign material will be effectively removed from contact with the air being blown through the diffusers. This cleaning shall be done with clean water at a velocity of 2 to 3 feet per second.
- C. CONTRACTOR shall check installation prior to start-up for conformance to manufacturer's instructions. Adjust or modify equipment to ensure proper operation.

3.3 FIELD QUALITY CONTROL

- A. TESTS AND INSPECTIONS:
 - 1. General: After the installation of aeration equipment in one basin is complete and the installation is certified by the equipment manufacturer, field acceptance tests shall be conducted. The test procedures shall be generally as specified herein; specific written test procedures shall be submitted by the CONTRACTOR for review and approval by the ENGINEER. The field acceptance tests shall be conducted by the CONTRACTOR under the direct supervision of the equipment manufacturer.
 - 2. After the air distribution system is flushed, it shall be pressure tested by the CONTRACTOR to 20psi for one minute to ensure no leakage is present.
 - 3. Level Test: The basins shall be flooded with clear water to the tops of the diffusers. The level of the diffusers shall then be checked to ensure that they are at the same elevation, within +/- 3 inches.

4. Air Leakage: the aeration system shall be turned on and the header pipe shall be observed for leakage. All leaking joints shall be repaired or replaced.

B. TEST RESULTS: If the equipment fails a field acceptance test, repairs, revisions or replacement of equipment shall be made as deemed necessary by the ENGINEER.

C. Prepare test and inspection reports.

3.4 MANUFACTURER'S SERVICES

A. Manufacturer's Representative: Present at Project site or classroom designated by OWNER, for minimum person-days listed below, in onetrip, travel time excluded:

No. Person Days	Effluent
1/4	Installation assistance and inspection.
1/4	Functional and performance testing.
1/4	Facility startup.
1/4	Post-startup training of OWNER'S personnel.

B. Services Provided:

1. Approve installation before operation.
2. Furnish start up services.
 - i. Furnish test forms, and procedures for field testing.
 - ii. Inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
3. Furnish training of OWNER'S personnel at such times requested by OWNER.
4. Revisit job site within 14 calendar days of startup, if necessary, to correct any additional manufacturing defects to satisfaction of ENGINEER.

3.5 FACILITY STARTUP

- A. After initial startup under the supervision of a qualified representative of the manufacturer, a preliminary “running-in” period will be provided for the MANUFACTURER, per the Contract Documents, to make field tests and necessary adjustments.
- B. Contractor shall place each piece of equipment in the system in operation until the entire system is functioning. All components shall continue to operate without alarms or shut downs, except as intended, for five (5) consecutive days to be considered started up.
- C. Operator shall operate the equipment through the design performance range consistent with available flows. Adjust, balance, and calibrate and verify that the equipment, safety devices, controls, and process system operate within the design conditions. Each safety device shall be tested for proper setting and signal. Response shall be checked for each equipment item and alarm. Simulation signals may be used to check equipment and alarm responses.
- A. Prepare manufacturer's installation report and submit within 30 days after completion of field testing. Including the following information:
 - 1. Field testing results.
 - 2. Descriptions of installation deficiencies not resolved to the manufacturer's satisfaction.
 - 3. Description of problems or potential problems.
 - 4. Names of the OWNER'S personnel who attended operations and maintenance training sessions.
 - 5. Record copy of materials used for training session including outlined summary of course.
 - 6. Manufacturer's Certificate of Installation and Certificate of Performance.
- B. At the end of the specified period of operation, the aeration system will be accepted if, in the opinion of the ENGINEER, the system has operated satisfactorily.

3.6 FIELD TESTING

- A. The Field Testing specified in this Section shall be conducted in addition to any testing procedures as required by the equipment Manufacturer and as specified in separate Sections herein.

- B. General: Contractor shall perform and furnish to Engineer and Owner a Certificate of Proper Installation (CPI), a Functional Acceptance Test (FAT), Performance Acceptance Test (PAT), and Reliability Acceptance Test (RAT), in the presence of the equipment manufacturer's qualified field service representative as specified.
- C. The following tests will be required:
1. Certificate of Proper Installation (CPI): Prior to system start-up, all equipment covered under this Specification shall be confirmed to have been installed in accordance with Manufacturer's instructions and ready for run testing. CPI shall be performed by Manufacturer's start-up representative/technician.
 2. Functional Acceptance Test (FAT): Prior to system startup, all equipment covered under this Specification will be inspected for proper alignment, proper connection, and proper function by means of a startup check. The FAT shall be performed in the presence of and with assistance from the equipment Manufacturer's start-up representative/technician.
 3. Performance Acceptance Test (PAT): After completing the Functional Acceptance Test, the equipment Manufacturer's start-up representative/technician shall conduct a Performance Acceptance Test, in the presence of the Contractor, in order to verify that the equipment item or system performs according to the requirements identified in Part 2 – MATERIALS of this Specification.
 4. Reliability Acceptance Test (RAT): Completion of the Reliability Acceptance Testing shall be required prior to placing the specified equipment into service and prior to the Owner assuming responsibility for said equipment. The RAT shall verify that the equipment item or system performs its intended function at the specified performance level for a period of four (4) consecutive 24-hour days without failure. "Failure" as used in this Paragraph shall be defined per the discretion of the Owner based upon the absence of equipment malfunctions and alarms/faults during the RAT testing period.

3.7 WARRANTY

- A. Aerator Warranty: All equipment and workmanship shall be

guaranteed to be free of defects in material and workmanship within the specified warranty period.

1. Warranty Period: One (1) year from date of Substantial Completion.
2. Any such defects found within the warranty period shall be result in a repaired, replaced, or refunded unit by the manufacturer.

3.8 OPERATION AND MAINTENANCE MANUAL

- A. Contractor shall provide Owner with three (3) copies of an Operation and Maintenance Manual for proper operation and maintenance of the wastewater treatment plant, IN ACCORDANCE WITH Division 1. The manual shall include description of treatment process and equipment operation; shop drawings, field reports, operation and maintenance procedures, process control guidelines, equipment specifications, schedules, and spare parts information. A recommended list of spare parts shall be provided.

END OF SECTION

POSITIVE DISPLACEMENT BLOWER ASSEMBLY SPECIFICATIONS AND BLOWER ACCESSORIES

Part 1 - General

1.1 Manufacturer & Quality Assurance

- A. The equipment specified herein is intended to be standard equipment for positive displacement air systems and be supplied by a single OEM to assure uniform quality and compatibility.
- B. The supplier shall have experience in providing similar equipment and shall show proof of satisfactorily operating installations in the marketplace.
- C. The blower packager must be an authorized distributor and packager of the blower being supplied and must be factory authorized to perform warranty service.

1.2 Manufacturer's Field Representation

- A. General: The field service representative must be a factory certified technician.
- B. Inspection & Start-Up: Upon notification of completion of the aeration system by the contractor, the blower technician will perform the following duties as applicable: installation inspection & certification, equipment lubrication, control panel parameter setup (if furnished by blower package OEM), initial start-up and corrective adjustments. Site start-up procedures must include equipment soft-foot checks, drivetrain alignment with a laser alignment tool and a minimum one hour run under standard operating conditions.
- C. Operator Training: Training to include but not limited to all lubrication locations, procedures, intervals, and allowable lubricants. Drivetrain maintenance, filter servicing, any applicable alarm condition management and special start-up & shut-down procedures.

Part 2 – Performance / Components

2.1 Design Criteria

Aeration Blowers		
Quantity		2
Discharge Pressure		3.0 PSIG
Motor HP - Minimum		3 HP
Max. Allowable BHP		2.1 BHP
Motor RPM		1800 RPM
Air Flow / SCFM		82 SCFM
Air Flow / ICFM		91 ICFM
Elevation		269' ASL
Inlet Air Temp. & RH		100°F / 36% RH
Blower RPM		2029 RPM
Max. Allowable RPM		2150 RPM
Blower Model		Sutorbilt 3M-DSL

Manufacturer: The blower shall be manufactured by the following.

1. Gardner Denver Sutorbilt 3M-DSL “Legend” Series or pre-approved equal by engineer.
2. The blower must be manufactured in the United States.
3. Blower must not operate over 80% of its maximum speed.

2.2 Rotary Positive Displacement Blower

- A. The blower shall be of the horizontal rotary twisted tri-lobe positive displacement type blower. And must provide oil-free air, suitable for heavy-duty continuous industrial service.
- B. The Impellers shall be solid 2 lobe design with integral shafting, produced from close grain ductile iron. Impellers shall be machined on all exterior surfaces to a precise contour for operating at close clearances and high efficiency operation. Impellers shall be dynamically balanced to minimize vibration. Blowers with impellers and shafts that are not of the one-piece integral design will not be accepted. Straight three lobe impellers are also acceptable.
- C. Impeller housing shall be strongly ribbed one-piece design to prevent case distortion when operating at rated pressures. The housing shall be of high strength cast iron and precision machined for close clearance operation.
- D. End plates shall be high strength cast iron with precision machined bearing fits to assure exact positioning of impellers in the main body housing.

- E. Timing gears shall be helical design and machined from high strength alloy steel for precision timing, quiet operation and long life.
- F. Bearings shall be heavy-duty spherical roller bearings for exact positioning of the impellers, to control thrust and to provide increased overhung load capacity. Bearings must be sized for a minimum B10 life of 50K hours.
- G. Lubrication of timing gears and bearings shall be a splash lubrication system. Steel splash plates shall be directly fastened to the impeller shafts to provide positive oil lubrication at all operating speeds. Grease lubrication is not allowed.
- H. Air seals of controlled flow design shall be piston ring type seals precision fitted to each impeller shaft to minimize air leakage and maximize efficiency. Oil seals of piston ring and oil flinger design shall be provided on each internal impeller shaft to prevent leakage from the oil reservoirs. The drive seal shall be a high temperature elastomer lip type seal to
- I. Oil drains must be plumbed to drain valves accessible from the drive side of the blower package.

2.3 Electric Motors

- A. Constant torque, TEFC (IP55), 1800 RPM, minimum 1.15 S.F., 208-230/3/60, class F insulation, certified for DOL starting and VFD service. Motors shall be manufactured by Marathon, Baldor, WEG Electric, Toshiba or equal.
- B. Motor must meet or exceed Energy Independence and Security Act (EISA 2007) standards for NEMA premium efficiency.
- C. The frame must be cast iron and equipped with cooling fins. The motor feet shall be solid for better mechanical strength and reduced vibration. Aluminum and steel framed motors are not allowed. Skeletonized mounting feet are not allowed.
- D. Conduit box must be rotatable in 90° increments.
- E. End shields shall be cast iron with fins for better thermal heat dissipation for lower bearing operating temperatures. They must be equipped with drain holes to expel water that may condense inside the frame in certain environments.
- F. VFD operated motors over 50 HP to be supplied with normally closed thermostats, insulated ND Bearing, and AEGIS Shaft Grounding Ring.

2.4 Blower Package Accessories

- A. General: The blower packages shall be fabricated and assembled with the following accessories and shipped complete to the extent feasible for safe shipping.

- B. Equipment Base: The base shall be comprised of carbon steel plate and structural steel shapes and be of sufficient design to support the blower, motor, drivetrain, and silencers without undue flexing. The base must be of a heavy-duty design to ensure operating vibration levels are within the blower manufacture's allowable tolerance. The blower and the motor are mounted in a horizontal configuration providing for vertical airflow and horizontally mounted silencers. The silencers may not be welded to the base in any way. All welding to be per AWS D1.1. All welders must have a current welder qualification test record for AWS D1.1 issued by an AES accredited test facility with a certification no. All welder continuity logs must be up to date.

MTRs must be furnished showing that all structural steel products are melted and manufactured in the United States.

- C. Drive: Provide a v-belt drive assembly consisting of sheaves, quick detachable bushings, v-belts, and slide-tensioning motor base. The sheaves must mount to the blower & motors shafts by use of QD type bushings, bored to size / direct-shaft-mount sheaves are not allowed. Design the drive assembly with a 1.4 service factor based on the motor nameplate horsepower.
- D. Automatic V-belt Drive Tensioning Device: Drive belt tensioning must be achieved by use of a hinging structure that automatically accounts for belt stretch. The hinged tensioning structure must be integral to the main support base and must be equipped with jacking provisions to facilitate convenient belt replacement.
- E. Drive Guard: All mechanical power transmission drive components must be equipped with a steel guard sufficiently designed to protect personnel from accidental contact with moving parts. Guard(s) shall be securely mounted and designed for removal without the use of special tools. All belt drive guards shall be constructed to allow visual inspection of the sheaves and belts without removal. Plastic guards are not allowed.
- F. Filter: Provide each blower with a suitably sized air filter based on the filter manufacture's published airflow capacity levels. The filter element must be cleanable and reusable. The media must have a minimum efficiency of 97% on 1 micron. Filters to be equipped with a weather hood for outdoor installations. Acceptable manufactures include Excelsior Blower Systems, Universal Silencer, Stoddard, Solberg or approved equal.
- G. Intake Silencer: Provide a heavy-duty steel noise attenuation unit of the chamber-absorptive (reactive-dissipative) type. The silencer must be multi-chambered for pulse control and low-frequency noise abatement. The silencer must also contain internal acoustical packing material for absorption noise control for high frequencies. Non-packed chamber only silencers are not allowed. The silencer must be independently supported but not welded to or integral with the base structure in any way. Acceptable manufactures include Excelsior Blower Systems or approved equal.

- H. Discharge Silencer: Provide a heavy-duty steel noise attenuation unit of the chamber-absorptive (reactive-dissipative) type. The silencer must be multi-chambered for pulse control and low-frequency noise abatement. The silencer must also contain internal acoustical packing material for absorption noise control for high frequencies. Non-packed chamber only silencers are not allowed. The silencer must be independently supported but not welded to or integral with the base structure in any way. Acceptable manufactures include Excelsior Blower Systems or approved equal.

The discharge silencer packing material must have a temperature rating equal to or greater than the blower's maximum discharge temperature.

- I. Flexible Connector / Expansion Joints: A flex-conn / expansion joint is required directly at the discharge of the blower to provide vibration isolation, accommodate thermal expansion, and eliminate loading of the blower cylinder. Three piece clamped sleeved type and one-piece arch type are both acceptable. Lateral, angular, elongation and compression tolerances must be suitable to accommodate thermal growth and component manufacturing tolerances. The elastomer's maximum pressure and temperature ratings must exceed the blower's discharge pressure and temperature at the relief valve set-point. Connector joints to be equivalent to Flex-Fab sleeve-type and General Rubber arch-type.

Direct mounting of the discharge silencers to the blower without the use of an expansion joint shall not be allowed.

- J. Pressure Relief Valve: Provide a weighted type relief valve properly sized to protect the blower from over pressurization. Spring-type valves will not be considered due to set-point unreliability associated with spring-tension life. The valve must be located downstream of the discharge silencer for pulsation protection. Provide valves equal to the Sutorbilt weight-type.
- K. Check Valves: Provide a full port dual plate 'butterfly style' check valve to be located downstream of the pressure relief valve. The body shall be Aluminum. The internals shall be corrosion resistant aluminum as a minimum. The hinge pin shall be stainless steel and the closure stop pin must be Teflon coated to provide for cushioned contact points. The valve shall be sized based on airflow as per the manufacture's recommendation to avoid chatter induced fatigue failures. Undersized and over-sized valves are not permitted. The valve must be suitable for low pressure air. Swing checks, pump valves and valves with external levers, external springs or other control mechanisms are not permitted. Provide a valve equivalent to Flexi-Hinge Model 502M, 518, 503 or equal.
- L. Discharge Pressure Gauge: Provide 0-15 or 0-30 psi scaled pressure gauge to be remote panel mounted on the noise enclosure and factory plumbed to the discharge side of the blower package. The case shall be liquid filled, weather tight and be of corrosion resistant material such as stainless steel, aluminum, polysulfone or

approved equal. Minimum size is 2-1/2" diameter and minimum accuracy to be +/- 2/1/2% of full scale per ASME B40.100 Grade A. Acceptable manufactures are Wika, Ashcroft or approved equal.

M. Inlet Restriction Gauge: Provide a low vacuum or differential pressure gage to be connected to the inlet side of the blower, downstream of the filter element. Acceptable ranges are 0-15 to 0-30 Inches H2O scale. The gauge shall be remote panel mounted on the noise enclosure and factory plumbed. The case shall be weather tight and be of corrosion resistant material such as stainless steel, aluminum, polysulfone or approved equal. Minimum size is 2-1/2" diameter and minimum accuracy to be +/- 2% of full scale. Acceptable manufactures are Dwyer, Ashcroft or approved equal.

2.5 Shop Painting

- A. Shop Prime Coating: Prime paint all components before assembly with an alkyd primer equivalent to Sherwin Williams Kem-Flash prime. Surface preparation, application and minimum DFT millage to be as per the paint manufacturer's published recommendation.
- B. Shop Finish Coating: Finish paint all components before assembly with an enamel paint equivalent to Sherwin Williams Sher-Kem paint. Application and minimum DFT millage to be as per the paint manufactures published recommendation. Color to be the OEM's standard color or owner requested color.

2.6 Spare Parts, Lubricants & Special Tools

- A. The blower package OEM shall deliver the following parts with the blower package(s). Coupons or certificates for the future delivery or purchase of parts is not acceptable. Coupons or certificates for parts to be included with a maintenance contract is not acceptable.
 - 1. One filter element per blower
 - 2. One v-belt set per blower
 - 3. Oil for Initial Fill

2.7 Sound Reduction Enclosure

- A. Each blower assembly shall be furnished with a sound attenuating enclosure suitable for locating outdoors. The enclosure shall be manufactured of 0.063" thick formed aluminum sheet metal panels. The acoustical packing and overall design shall be sufficient to meet a free-field noise requirement of 75 dBA at any horizontal distance of 3 Feet from the exterior surface. The enclosure design shall incorporate a perforated galvanized steel inner liner to mechanically secure the acoustical foam material and to protect the foam from damage. Painted and powder coated steel enclosures do not offer sufficient weather protection for outdoor installations.

- B. The enclosure shall be furnished with latching doors adequately positioned to view, access, and otherwise carry out all standard maintenance requirements without enclosure panel disassembly. These activities include but may not be limited to oil drain and fill, grease fitting and plug access, filter service, guard removal and drivetrain replacement & alignment. Lift-out type doors shall not exceed 50lbs.
- C. The enclosure must be equipped with a 120/1/60 forced air ventilation system. The air ventilation fan shall be pre-installed on the enclosure and sized as necessary to keep the assembly at a temperature needed to maintain proper operation as recommended by the blower package manufacturer and must be pre-wired to a thermostat. Blower shaft mounted fans are not acceptable due to hindering maintenance and troubleshooting access at the blower. Also, VFD operated turndown speeds result in reduced ventilation airflow.
- D. All exposed hardware, latches, hinges, door handles and similar must be highly weather resistant such as stainless steel, chrome, or aluminum.
- E. The enclosure must be free standing and ship fully factory assembled and attached to a steel sub-base. The sub-base structure must be designed to support the blower package assembly and assembled noise enclosure. Vibration isolation pads or mounts shall be installed between the blower package base and sub-base. The sub-base must contain forklift pockets for ease of truck loading, off-loading and site placement.
- F. All pipe penetration holes in the enclosure shall be sized to allow for passage of pipe fittings and/or flanges. Flashing rings shall be provided to seal all pipe penetration holes after final assembly.

END OF SECTION

DRY CHEMICAL TABLET FEEDER SPECIFICATION

The dry chemical tablet feed system shall be a Norweco BioDynamic LF 4800 Tablet Feeder or Pre-Approved Equal.

1.0 SCOPE OF WORK

- 1.1 General: This specification defines the minimum requirements for supplying one (1) chlorine tablet feeder, one (1) dichlorination tablet feeder, installation should be completed per the drawings.
- 1.2 Related Work: Once the effluent line is ready to accept the tablet feeder the contractor will perform the installation per the manufacturer's specifications.

2.0 PRODUCTS

2.1 Acceptable Manufacturers:

- A. NORWECO BIO_DYNAMIC dry chemical tablet feeder or pre-approved equal.

2.2 General:

- A. Furnish complete dry chemical tablet feeder as outlined in the acceptable manufacturers, see section 2.1.
- B. The manufacturer of the dry chemical tablet feeder shall demonstrate a continuous period of manufacturing and development of dry chemical tablet feeders for a minimum of 25 years. Dry chemical tablet feeders that are **not** brand-labeled are not acceptable.
- C. The dry chemical tablet feeder shall provide a tiered flow deck configuration that insure consistent chemical application even at sustained variable, and intermittent flow rates.
- D. Max flow rate of 70 GPM.
- E. The dry chemical feeder must meet the following requirements:
 - Fully serviceable from grade.
 - Adjustable inlet and outlet hubs.
 - Adjustable inlet baffle.
 - One piece feed tubes with twist-lock caps.
 - Two (2) tube configuration.
 - Interchangeable weir plates or adjustable outlet sluice that will allow precise chemical application.
 - Weir plates and sluice must be easily installed and replaced during tablet feeder operation.

3.0 DETAILS

- A. 25.5" Length, 10.5" Width, 24" Body Height.
- B. Two chemical feed tubes, 22.5" Height.
- C. Interchangeable 1", 2", and 3" outlet weir plates.
- D. Molded 4" inlet and outlet hubs.

- E. Adjustable inlet baffle.
- F. One safety/reinforcing strut.
- G. Adjustable sluice.

4.0 EXECUTION

4.1 Submittals:

- A. Submit manufacturer's performance data including dimensional drawings, installation and maintenance manuals, warranty description, catalog information, and catalog cut-sheets for all major components.
- B. Three copies of all submittals shall be provided.

4.2 Quality Assurance:

- A. The manufacturer shall be NORWECO or pre-approved equal.
- B. All optional features shall be functionally tested at the factory for proper operation.
- E. Factory test documentation shall be available upon request.

4.3 Housekeeping:

- A. Contractor will provide a safe working environment through the construction phase. It is required that at the end of each workday the contractor will pick up all trash and debris and dispose of offsite.

4.4 Warranty

A 10-year comprehensive warranty. The limited warranty protects system owners from defects in material and workmanship under normal use and service for a period of ten years.

END OF SECTION

FLOATING BAFFLE CURTAIN

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. SUPPLIER shall furnish all baffle curtain materials anchor forms, all hardware, and incidentals required for installing, completing, and readying for operation, the floating baffle curtain indicated on the attachments and as specified herein, including concrete anchors and anchor posts. McFadden Engineering Inc. (MEI) and approved supplier shall coordinate for the construction and installation of the baffle curtains.

1.2 QUALITY ASSURANCE

A. Manufacturer's Qualifications:

1. The manufacturer of the floating baffle curtain shall have at least ten years of experience in the construction of floating baffle curtains utilizing dielectric and / or hot wedge sealing fabrication methods. No sewn seams shall be permitted.
2. The manufacturer of the floating baffle curtain shall have manufactured no less than four-thousand linear feet of baffle curtains for tanks, ponds, and open water applications.
3. The manufacturer shall provide a reference list of previous installation sites and contact information for each site. MEI will determine how many sites will be required.

1.3 SUBMITTALS

- ##### A. Submittals must first be approved by the MEI and shall include the following:
1. Shop Drawings with construction details of each of the floating baffle curtains.
 2. Floating baffle curtain manufacturer including contact name, address, and telephone number.
 3. Product data and physical properties of the floating baffle curtain material along with fabric manufacturer name, contact, address, and telephone number.
 4. Product data with specifications covering all components used in the fabrication of the floating baffle curtain.
 5. Installation instructions.
 6. Operation and maintenance instructions.

1.4 DELIVERY, STORAGE AND HANDLING

A. Packing, shipping, Handling and Unloading:

1. Deliver materials to the Site to ensure uninterrupted progress of the Work. Packaging of the floating baffle curtain shall be the responsibility of the floating baffle curtain manufacturer and so that the floating baffle curtains shall not be damaged during shipment.

1.5 STORAGE AND PROTECTION:

2. Store materials to permit easy access for inspection and identification. Keep all material off the ground, using pallets, platforms, or other supports. Protect steel members and packaged materials from corrosion and deterioration.

PART 2 – PRODUCTS

2.1 EQUIPMENT PERFORMANCE

A. Description:

1. The baffle curtains shall consist of a fabric wall that is anchored at the bottom by a galvanized chain in a sealed pocket and is floated at the top by buoyant logs that are also in a sealed pocket. The floating baffle curtains shall be constructed in multiple sections resulting in the specified dimension of each curtain. Weight and ease of handling at the job site shall be taken into account when determining the lengths of the prefabricated floating baffle sections. The floating baffle curtains shall be delivered to the jobsite ready to install and the only fabrication required at the jobsite shall be the connection of the floating baffle sections. The floating baffle curtains shall be floated into position for installation.

B. Design Criteria:

1. A total of 1 floating baffle curtain is required:
 - a. One 5 ft deep by approximately 85 ft long floating baffle curtain with two tapered ends to fit a 3:1 slope. The curtain shall extend from top of berm to top of berm across the third cell (OWNER to verify pond dimensions). Ballast chain and / or cable connections to the shore anchor posts shall be constructed to a sufficient length to allow for installation.

2.2 DETAILS OF CONSTRUCTION

A. Flotation:

1. The flotation shall consist of 6-inch diameter (minimum) flotation logs made of closed cell polyfoam logs, having a buoyancy of at least 60 pounds per cubic foot.

2. The flotation shall be completely enclosed inside the floating baffle curtain by means of a thermal seal. Each flotation log shall be sealed in its own chamber along the top of the floating baffle curtain.

B. Anchoring:

1. Bottom Ballast:

- a. The floating baffle curtain shall be anchored in position by a stainless-steel chain thermally sealed into a pocket along the bottom of the curtain.
- b. The chain shall be continuous from berm through each floating baffle curtain section, connected to each other with a 1/2-inch stainless steel rapid link. The ballast shall be 1/2 inch (minimum) galvanized proof coil chain.

2. Concrete Anchors:

Concrete anchors shall be placed along the upstream side of the ballast chain at 18' intervals beginning at the toe of the levee (if required). The concrete anchors shall be attached to the ballast chain using a stainless-steel rapid link or marine grade rope. The connection shall be secured to the ballast chain through cutouts in the ballast chain pocket forming an opening exposing the ballast chain for attachment of the concrete anchors. The concrete anchors shall be made using a five-gallon bucket, filled with concrete with a 3/8" x 9-inch-long or greater galvanized eyebolt, flat washer and two nuts, inserted into the concrete at least 12" to form an attachment. The eyebolt shall be of a size to accept a 3/8" stainless steel rapid link thru the eye of the eyebolt.

3. Retrieval Rope:

The concrete anchors shall be made retrievable by securing one end of a 3/8" diameter marine grade rope through the ballast chain and the other end of the rope secured to a stainless-steel grommet paced in the flotation collar located at the top of the floating baffle curtain.

4. Shore Anchor Post:

The shore anchors shall consist of a 4" diameter by 8' long 304 stainless steel schedule 20 pipe buried a minimum of six feet in concrete. Concrete should encase the post at a minimum diameter of 4'. The shore anchor post shall also be filled with concrete. The shore anchor posts shall be located on the levee side slope approximately 1' off the top of the levee.

C. Cable

1. Tension Cable:

The cable shall be 1/2 inch diameter, stainless steel sealed in a pocket on the lower side of the flotation collar and shall be continuous from berm through each floating baffle curtain section, connected to each other with 3/8" stainless steel rapid links. The cable shall have the breaking strength of at least 12,000 lb.

D. Connections:

1. End Connection:

The end connections shall consist of 1/4" x 4" x 12" stainless steel predrilled plates that shall be attached to the floating baffle curtain with 3/8" diameter by 1-1/2" long stainless-steel bolts to "sandwich" the end of the floating baffle curtain between the end plates. The tension cable or connection chain shall connect the anchor posts to the stainless-steel predrilled plates at both top and bottom of the curtain. No grommets shall be used for the connections to the shore anchor posts.

2. Baffle Connection:

The floating baffle curtain sections shall be joined with the use of 3/16" x 1-1/2" x 10" long stainless-steel predrilled plates and 3/8" diameter by 1-1/2" long stainless-steel bolts. The plates shall be applied to the outside of each floating baffle curtain section, then bolted together to "sandwich" the joining sections together.

3. Miscellaneous Hardware:

All hardware provided for the floating baffle curtains shall be type 304 stainless- steel. There shall be no exception.

E. Baffle Curtain Material

1. The baffle material shall be a reinforced synthetic material. The material supplied under these specifications shall be a first quality product specifically designed and manufactured for this application and demonstrated to be suitable and durable for the construction of floating baffle curtains.

2. Physical Specifications:

- | | |
|-------------------|-----------|
| a. Color: | Black |
| b. Base Type: | Polyester |
| c. Fabric weight: | 7 oz/yd 2 |

- d. Finished Coated Weight: 30.0 +/- 2.0 oz/yd²
- e. Grab Tensile: 550/525 lbs./in
- f. Minimum Adhesion: 10 lbs./in
- g. Minimum Hydrostatic Resistance: 500 psi

- 3. The material shall be 6730 XR-5 as manufactured by the Seaman Corporation of Wooster, Ohio or [preapproved equal](#)

2.3 MANUFACTURERES

- A. Provide equipment from:

- 1. XR Geomembranes manufactured by Seaman Corporation or [pre-approved equal](#).

PART 3 – EXECUTION

3.1 INSTALLATION:

- A. Contractor to verify dimensions of the lagoon and to determine exact location of the shore anchor posts prior to ordering floating baffle curtains.
- B. The floating baffle curtains shall be installed into position as shown on the project plans. The floating baffle curtains shall be installed in accordance with the manufacturer's shop drawings, instructions, and recommendations.

3.2 MANUFACTURER'S SERVICES

- A. Provide to ENGINEER Certification that the floating baffle curtains were installed in accordance with the Contract Documents.

PART 4 – MANUFACTURER WARRANTY

4.1 TERMS AND CONDITIONS:

- A. 10-Year Manufacturer's Warranty.
- B. The warranty covers defects in workmanship or materials that appear under normal usage.

END OF SECTION

FLOATING COVERAGE OF THIRD CELL OF POND

PART 1 – GENERAL

1.0 MANUFACTURERS

The floating cover shall be Hexprotect® AQUA tiles or pre-approved equal.

2.0 DESCRIPTION

Tiles shall be made of recycled, high density polyethylene HDPE (FDA (3) and NSF approved HDPE resins available for special applications) with UV carbon black additives. The cover shall be ballasted, increasing its weight by up to 300% (custom ballast), making it suitable for high wind applications. The proprietary features and manufacturing process ensures the cover floats with slightly more than 50% of its shell above water.

Description	Ballasted hexagonal tile
Construction	100% homogenous HDPE shell (no plugs or seals)
Diameter	220 mm
Average total weight (dry)	166-190g
Average total weight (installed)	266-290g
Number per sq. ft	2.62
Number per square meter	28
Wind resistant (up to) (1)	210 km/h (130 MPH)
Operating temperature range (1)	-50°C / + 80°C
Projected Life Expectancy	25+ years

Resin and Ballast Properties

Shell Material	High Density injection Molding polyethylene
Melt Flow Index (190°C/2.16 kg)	0.35
Density	0.955
Melting Point, °F	264
Tensile Strength (PSI)	4000
Elongation at Break, %	600
Flexure Modulus (PSI)	200,000
Ballast filler	Drinking Water ballast
Additives / Color	Black, UV carbon Black

3.0 INSTALLATION

Installation consists of unloading the product directly onto the liquid.

END OF SECTION

**Appendix A – EPA Form 6100-2 DBE Subcontractor
Participation Form**

**Appendix B – EPA Form 6100-3 DBE Subcontractor
Performance Form**

**Appendix C – EPA Form 6100-4 DBE Subcontractor
Utilization Form**

**Appendix D – EPA Form 5700-52 A MBE/WBE Utilization
Reports**

Appendix E – Project Sign Details

Appendix F – SRF Project Review and Cost Summary Form

Appendix G – Monroe County Davis Bacon Rates