



HAMILTON COUNTY PUBLIC HEALTH

PREVENT. PROMOTE. PROTECT.

July 19, 2018

Timothy Ingram, Health Commissioner
250 William Howard Taft Road
Cincinnati, OH 45219
Phone: 513.946.7800 Fax: 513.946.7890
hcph.org

Dear Property Owner,

Hamilton County Public Health (HCPH) recently pre-approved you at 50% grant funding through the Water Pollution Control Loan Fund (WPCLF) to help in the sewage treatment system (STS) replacement project at your primary residence. The WPCLF requires at least three bids or quotes be submitted to Hamilton County Public Health for each eligible project. HCPH recently reviewed and approved the STS replacement plan for your property at 5021 Zion Road. Attached you will find a copy of the approved plan which you will need to use in order to solicit bids/quotes on behalf of HCPH.

Using the attached forms, sample contract, approved STS design plan for your property and the guidance provided in this letter, you will need to contact registered STS installers individually for quotes/bids. Attached is a list of registered STS installers you may contact. Any contractors interested in your project will need to submit a bid/quote for the total cost for all work needed to install the approved STS using the form provided. This will include all items specified on the approved STS design plan, any needed connection of plumbing into the building sewer, disconnection and re-routing of any clear water from the plumbing system or STS, any needed electrical service upgrade if required to accommodate the replacement STS components, any other eligible and justified items, finished grading, seed and straw, and proper abandonment of the existing STS components.

To keep the process moving forward, by September 7, 2018, at least three bids/quotes must be obtained by you on behalf of HCPH. Keep in mind that returning bids/quotes sooner will better help your chances of receiving the WPCLF funding. Bids/quotes will be reviewed by a team of individuals at HCPH. The contract will be awarded to the qualified applicant based on the lowest and best bid and will be dependent upon bidder's availability to complete the requested work in a timely fashion. Awarded contracts are strictly between HCPH and the selected contractor. Any attempt to enter into separate contract, addendum, modification, invoice or other contractual agreement, except for the property owner's matching percentage to be paid directly by the owner to the contractor, without prior approval by HCPH may disqualify the bidder.

If selected to complete the STS installation, the contractor will be contacted directly by HCPH. At that time, they will be required to sign a site specific version of the attached contract and submit all required contract paperwork to HCPH. Once verified, a Notice to Proceed will be issued to the contractor by HCPH allowing the selected contractor to begin the installation. All work required must be completed (including final inspection) by December 21, 2018 and following receipt of the Notice to Proceed.

It should be noted that any unexpected changes and/or alterations needed during the performance of work, requires a Contract Change Order (see Contract - Attachment B). Payment for any changed or extra services will not occur without pre-approval using this method. Also note that the contract has special insurance and bid bonding/financial guarantee requirements that must be followed.



Healthy choices. Healthy lives. Healthy communities.



PREVENT. PROMOTE. PROTECT.

For the WPCLF portion of the payment to occur, HCPH must approve the final STS installation. After which, the contractor must submit to HCPH an invoice, by December 27, 2018, to document the incurred costs for the repair/replacement along with an approval certificate issued by HCPH. Upon verification of this information, HCPH will send a request to Ohio EPA for reimbursement of the eligible system repair/replacement costs. After confirmation by Ohio EPA, the Ohio Water Development Authority will distribute the funding to HCPH, who will then pay the contractor the approved amount. Any portion of the approved bid amount not covered by the WPCLF must be paid directly by the property owner to the contractor.

At this time, if you would like to remain eligible for the WPCLF, you must solicit quotes/bids, on behalf of HCPH, for your STS replacement project. When submitting each bid/quote, the contractor must include a completed, signed and dated copy of the following attachments:

- i Hamilton County Bid Proposal Form
- i Contractor Equal Employment Opportunity (EEO) Certification Form
- i Certification Regarding Debarment, Suspension, and Other Responsibility Matters Form
- i American Iron and Steel (AIS) Form

At least three bids/quotes should be collected by you and be submitted together to HCPH with the items listed above and below, on or before September 7, 2018, to:

Hamilton County Public Health
Attn: Chris Griffith
250 William Howard Taft
Cincinnati, OH 45219

With the required quotes, please include documentation of payments made for any eligible costs which you have already paid toward the STS design. Those eligible costs can be counted as part of the matching percentage which you may owe toward the total STS replacement cost.

If you have any questions concerning this program, please feel free to contact me directly at 946-7866.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Griffith RS".

Christopher M. Griffith, RS
Director of Water Quality

Hamilton County Bid Proposal Form

Contractor Name: _____

Contractor Address: _____

Contractor Phone(s): _____

Project Address: _____

Bid Due Date: _____

Total Amount of Bid: _____

Total Amount in Written Words: _____

Signature, Printed Name, Contractor

Date

I will begin the work within upon receipt of the written Design Contract and Notice to Proceed Order, and will complete the work within 45 days, unless otherwise agreed to by Hamilton County Public Health.

The above total price includes all materials, labor and other costs such as overhead, permits, sales tax and profit. This bid is valid for a period of 30 days after the date this proposal is received by Hamilton County Public Health.

Mail Bid Packet to: Hamilton County Public Health

Attn: Chris Griffith
250 William Howard Taft
Cincinnati, OH 45219

Contractor Equal Employment Opportunity Certification

During the performance of this contract, the undersigned agrees as follows:

1. The undersigned will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The undersigned will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The undersigned agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this equal opportunity (federally assisted construction) clause.
2. The undersigned will, in all solicitations or advertisements for employees placed by or on behalf of the undersigned, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
3. The undersigned will send to each labor union or representative of workers, with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the undersigned's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The undersigned will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The undersigned will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and relevant orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency of the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the undersigned's non compliance with the equal opportunity (federally assisted construction) clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part, and the undersigned may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No 11246 of September 24, 1965, or by rules, regulations, or order of the Secretary of Labor, or as provided by law.
7. The undersigned will include this equal opportunity (federally assisted construction) clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No 11246 of September 24, 1965, so that such provision will be binding upon each subcontract or vendor. The undersigned will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor, as a result of such direction by the administering agency the undersigned may request the United States to enter into such litigation to protect the interest of the United States.

(Signature)

(Date)

(Name and Title of Signer, Please type)

(Firm Name)

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) of this certification;
- (d) Have not within a three year period preceding this application / proposal had one or more public transactions (Federal, State, or local) terminated for cause or default; and
- (e) Will not utilize a subcontractor or supplier who is unable to certify (a) through (d) above.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Type Name & Title of Authorized Representative

Signature of Authorized Representative

Date

I am unable to certify to the above statements. My explanation is attached.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters
INSTRUCTIONS

Under Executive Order 12549 an individual or organization debarred or excluded from participation in Federal assistance or benefit programs may not receive any assistance award under a Federal program or a subagreement thereunder for \$25,000 or more.

Accordingly, each prospective recipient of an EPA grant, loan, or cooperative agreement and any contract or subagreement participant thereunder must complete the attached certification provide an explanation why they cannot. For further details, see 40 CFR 32.510, Participants' responsibilities, in the attached regulation.

Go to <https://www.sam.gov/portal/SAM/##11> to access the Excluded Parties List System (EPLS). The EPLS includes information regarding entities debarred, suspended, proposed for debarment, excluded or disqualified under the nonprocurement common rule, or otherwise declared ineligible from receiving Federal contracts, certain subcontracts, and certain Federal assistance and benefits. This information may include names, addresses, DUNS numbers, Social Security Numbers, Employer Identification Numbers or other Taxpayer Identification Numbers, if available and deemed appropriate and permissible to publish by the agency taking the action.

Where To Submit

The prospective EPA grant, loan, or cooperative agreement recipient must return the signed certification or explanation with its application to the appropriate EPA Headquarters, Regional office, or Ohio EPA, as required in the applications.

A prospective prime contractor must submit a complete certification or explanation to the individual or organization awarding the contract.

Each prospective subcontractor must submit a complete certification or explanation to the prime contractor for the project.

Applicants may reproduce these materials as needed and provide them to their prospective prime contractor, who, in turn, may reproduce and provide them to prospective subcontractors.

Additional copies / assistance may be requested from:

Ohio EPA
Division of Environmental and Financial Assistance
P.O. Box 1049
Columbus, Ohio
43216 1049 (614)
644 2798

<http://epa.ohio.gov/defa/EnvironmentalandFinancialAssistance.aspx>

American Iron and Steel Acknowledgement

The Contractor acknowledges to and for the benefit of _____ (“Purchaser”) and the State of Ohio (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking 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 Requirement”) 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 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. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State 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.

Signature _____ Date _____

Name and Title of Authorized Signatory, Please Print or Type _____

Bidder’s Firm _____

Check here if the WPCLF or WSRLA applicant will be requesting an individual waiver for non-American made iron and steel products. Please note that the waiver box does not need to be marked for nationwide waivers.

CONSTRUCTION CONTRACT
HAMILTON COUNTY PUBLIC HEALTH
With xxxxxxxxxxxxxxxx
xxxx xxxxxxxxxxxxxxxx Road
Dated xxxx, xx 2018

PROJECT: HOUSEHOLD SEWAGE TREATMENT SYSTEM REPAIR/REPLACEMENT PROJECT

This CONTRACT, made and entered into at HAMILTON COUNTY, Ohio, on xxxx xx, 2018 by the HAMILTON COUNTY PUBLIC HEALTH, hereinafter referred to as "HCPH"); and xxxxxxxxxxxxxxxx (hereinafter referred to as "CONTRACTOR").

WITNESSETH, the HCPH and the CONTRACTOR hereby agree as follows:

1. CONTRACT DOCUMENTS

The Contract consists of this document, the Contractor's Bond, the Contractor's Bid, the Design Drawings, the Design Specifications, all Addenda issued prior to execution of this Contract, the Notice To Proceed (Attachment A), all Change Orders (Attachment B) issued subsequent thereto and Federal, State, and/or Local Regulations; and when specified: Labor and Material Bond, Affirmative Action and Equal Opportunity Requirements, Contractor Equal Employment Opportunity Certification Form (Attachment C), Certification Regarding Debarment, Suspension and Other Responsibility Matters Form (Attachment D), and American Iron and Steel Acknowledgement Form (Attachment E).

2. CONTRACT REGULATIONS

Terms and conditions of this Contract shall be governed by the provisions of Chapters 153 and 4115 and Section 149.53 of the Ohio Revised Code, and all applicable local, State and Federal Ordinances, Statutes and Regulations.

The CONTRACTOR agrees not to discriminate against any employee or applicant for employment because of race, creed, sex, handicap, or color, including, but not limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship. All records, manuals, forms, drawings, schedules, lists, surveys, specifications, designs, and other data pertaining to the work specified in this contract are and shall remain the sole property of the HCPH. The use of any Subcontractor must be reported to the HCPH and they shall be bound by the same requirements as the CONTRACTOR.

3. BONDING

A bond or other form of financial guarantee shall be submitted by the CONTRACTOR in accordance with Sections 153.54/307.89 of the Ohio Revised Code and Section 3.4 of the Water Pollution Control Loan Agreement for the full amount of the Contractor's Bid.

4. THE WORK

The CONTRACTOR shall perform and complete all work of the Project required by the Contract Documents for xxxx xxxxxxxx Road, supplying all the labor, materials, supervision, tools and equipment required by the Installation Permit, Design, Project and Contract Documents; shall proceed in a prompt and diligent manner, and shall do the several parts thereof at such times and in such order as the HCPH may direct, and shall execute, construct, finish, and test when required, the Project in an expeditious, substantial and workmanlike manner to the satisfaction of HCPH, and to the final acceptance of the Project by HCPH

5. TIME OF COMMENCEMENT AND COMPLETION

The CONTRACTOR shall commence work upon receipt of the written Notice To Proceed (Attachment A) issued by HCPH. The CONTRACTOR shall complete the Project work by xxxxxx xxxx, 201x and following the Notice To Proceed.

6. RIGHTS OF ACCESS

The signatories agree to ensure that the Director or its duly authorized agents shall have the right at all reasonable times to enter upon the Project Site(s) and Project Facilities, and to examine and inspect the same and to exercise the Director's rights pursuant to the WPCLF Assistance Agreement.

7. CONTRACT CONFLICTS

In the event of a conflict between the contract and the WPCLF Assistance Agreement, the provisions of the WPCLF Agreement shall prevail.

8. CONTRACT SUM

Hamilton County Public Health, utilizing OHIO EPA funding, shall pay the CONTRACTOR for the performance of the Work, up to the sum of \$xx,xxx.xx (xx% of eligible costs paid by HCPH with xx% covered by the property owner) subject to additions and deductions by Change Orders (Attachment B) properly approved and executed. All properly approved and executed Change Orders for increases will be paid by HCPH, utilizing

OHIO EPA funding, and/or homeowner contribution. Neither HCPH nor OHIO EPA will responsible for additional reinspection fees.

9. PAYMENTS

Based upon Applications for Payment submitted to the HCPH by the CONTRACTOR, and after installation approval by HCPH, the contractor shall submit an invoice that documents costs all incurred to HCPH. The invoice shall detail the services rendered, including charge rates, number of hours, materials or supplies consumed, and other information needed to support the invoice to HCPH. Upon verification of this information, HCPH will send a request to Ohio EPA for reimbursement of the eligible costs. After confirmation by Ohio EPA, the Ohio Water Development Authority will distribute the funding to HCPH, who will then pay the Contract Sum to the CONTRACTOR as provided in Chapter 153 of the Ohio Revised Code and after payment is received from the Ohio EPA.

10. NEGLECT, DEFAULT, DELAY, ETC.

Hamilton County Public Health or Hamilton County Board of Health shall not be liable to the CONTRACTOR for any neglect, default, delay, or interference of or by another contractor, nor shall any such neglect, default, delay, or interference of or by another contractor, or alteration which may be required in said Work within the time aforesaid, or from the damage to be paid in default thereof. The CONTRACTOR shall pay HCPH \$200.00 for each and every calendar day of completion the Project is delayed beyond the date fixed for completion in Section 3 herein.

11. INSURANCE

The Insurance Specifications for Contractors and their subcontractors are as follows:

- A. All insurance required herein shall be issued by companies licensed to do business in Ohio, and which are rated not less than A: VII by A. M. Best.
- B. Commercial General Liability insurance with commercial general liability form GC 00 01 or its equivalent, with limits of at least \$1,000,000 per occurrence and \$1,000,000 in the aggregate covering death, bodily injury, and property damage. Coverage must include premise and operations, contractual liability, third party property damage, severability of interest, completed operations coverage, maintained for at least three years beyond the date of the contractor's

completion of the work, waiver of subrogation, and waiver of "cross claim exclusion between insured's".

- C. Business auto liability insurance of at least \$1,000,000 combined single limit, on all owned and non-owned leased and hired automobiles.
- D. Umbrella and excess liability policies of at least \$1,000,000, per occurrence and in the aggregate, above the underlying General Liability and business auto policies. Coverage must include drop down features, concurrency of effective dates; aggregates in the primary apply in the Umbrella, waiver of subrogation.
- E. The Commercial General Liability and business auto policies must endorse the Board of Health of Hamilton County, Ohio, their employees, officials, agents and volunteers as additional insureds. Further these policies must waive subrogation claims against the aforesaid individuals.
- F. Owner shall require its contractors and subcontractors to provide Workers' Compensation Insurance coverage at the statutory limits required by the Ohio Revised Code. The Contractor shall provide Workers Compensation Insurance for all employees engaged in Work who may come within the protection of the workers compensation law, and, where applicable, employer's General Liability Insurances for employees not so protected and shall require all Subcontractors to provide corresponding insurance. The Contractor shall indemnify the Owner, Hamilton County Board of Health, their employees, officials, agents and volunteers and the Consulting Engineer against any and all liabilities, cost and expenses due to accidents or other occurrences covered by the workers compensation law.
- G. Each policy required herein may not be canceled or materially changed except upon thirty days prior written notice given to: Hamilton County Public Health, 250 William Howard Taft, Cincinnati, Ohio 45219.
- H. Maintenance of the insurance required hereunder is a material element of this Agreement. Material changes of the required coverage or cancellation of the coverage in violation of subsection G, above, is a material breach of this Agreement.
- I. Builders Risk: In addition to such fire and other physical damage insurances as the Contractors

elects to carry for his own protection, he shall also secure and maintain in the name of the Owner, the government agency sponsoring the Project, Subcontractors, the Consulting Engineer and any other parties having an interest in the Project, as named insured as their interest may appear; a builders' risk policy for fire, extended coverage, vandalism and malicious mischief in the amount of one hundred (100) percent of the value of the complete parts of the Project and Materials in storage, except that such coverage shall not be required in connection with sewer, water main or paving construction. Pump or lift station construction shall not be considered sewer or water main construction for purposes of this paragraph.

J. Contractor's Public Liability and Property Damage Liability Insurance:

Contractor's Public Liability Insurance providing a limit of not less than \$500,000 for all damages arising out of bodily injuries, including accidental death to one person, and a total limit of 1,000,000 for all damages arising out of bodily injuries, including accidental death, to two or more persons in any one occurrence. Contractor's Property Damage Liability Insurance providing for a limit on not less than \$500,000 for all damages to or destruction of property.

Coverage under this policy shall include, to the limits indicated above, the collapse or damage to any structure, building or its contents, public or private utility, or pavement during construction and for two (2) years thereafter.

Whenever Work under the Contract is to be done in the vicinity of existing underground utilities or structures, coverage under the policy shall also include, to the limits indicated, all damages to said underground utilities or structures during construction and for a period of two (2) years thereafter. Whenever Work under the Contract is to be done by blasting, coverage under the policy shall also include, to the limits indicated above, all damages of any kind whatsoever caused by blasting.

K. Contractor's Protective Public Liability and Property Damage Liability

Insurance: Contractor's Protective Public Liability and Property Damage Liability Insurance for operations performed by Subcontractors providing for coverage and limits corresponding to those described in subparagraph J.

- L. Owner's (HCPH) Protective Public Liability and Property Damage Liability
Insurance: Regular Owner's Protective Public Liability and Property Damage Liability Insurance for operations performed by the Contractor or any Sub-contractor providing for coverage and limits corresponding to those specified elsewhere herein.
- M. Railroad Protective Liability Insurance: In any of the Work under this Contract is on railroad R/W, the Contractor shall at its sole cost and expense, procure and provide, for and in behalf of each railroad company. Protective Liability Insurance (AARAASHO form) with minimum limits per occurrence of not less than \$2,000,000 for bodily injury, death and/or property damage, subject to an aggregate limit of \$6,000,000 per annum. The policy shall name each railroad company as the insured and be issued to the Contractor. Each railroad company shall be provided with a copy of each policy of insurance prior to commencement of any work.

Certificates of Insurance

The Contractor shall file a Certificate of Insurance for all coverage required in these Insurance Specifications on the ACORD 25 Form (preferred), and a copy of his current Worker's Compensation Certificate, with the Hamilton County Public Health before starting work on the project, and shall keep such Certificates current and on file with the County for the life of this Contract.

Indemnification Clause

The Contractor agrees to indemnify and save The Board of County Commissioners, Hamilton County Ohio, Hamilton County Board of Health, HCPH, their officials, officers, agents, and employees harmless from any and all losses, claims, actions, costs, expenses, judgments, subrogation's, or other damages resulting from injury to any person (including injury resulting in death), or damage (including loss or destruction) to property of whatsoever nature of any person, firm, or corporation arising out of the errors, omissions or negligent acts of the Contractor in the performance of the terms of this Contract by the Contractor, including but not limited to the Contractor's employees, agents, subcontractors, sub-subcontractors, and others designated by the Contractor to perform work or services in, about, or attendant to, the work and services under the terms of this contract.

Notice To Proceed

The Contractor shall not commence work under this contract until he has obtained all the insurance required herein, has submitted appropriate Certificates of Insurance to and received approval of the County as evidenced by a Notice to Proceed (Attachment A).

Subcontractors

The Insurance Specifications apply equally to all subcontractors and sub-subcontractors at any tier during the period of their work on the project. The Prime Contractor shall be solely responsible for his subcontractor's liability if he permits the Sub to work on the project without the Sub having been issued a Notice to Proceed by the County.

12. FAILURE TO COMPLY

If the CONTRACTOR shall fail to comply with any of the terms, conditions, provisions or stipulations of this Contract, HCPH may avail itself of any and all remedies provided in their behalf in the Contract, and shall have the right and power to proceed in accordance with the provisions thereof.

13. RESOLUTION OF DISPUTES

In the event of a dispute covering additional costs, claims and any other matter arising out of or relating to this Contract, or the breach thereof, such disputes shall be decided by submission to a court of competent jurisdiction within one (1) year of the date upon which HCPH accepts and approves the project for use. The CONTRACTOR hereby waives any right to rely upon the statute of limitations for actions on contracts.

Failure to bring an action within one year of the above date shall constitute a bar to such action. If, however, within ten (10) days of the specific event giving rise to the disputed matter, the CONTRACTOR gives HCPH, by written notice, a request to submit the matter to arbitration, HCPH and the CONTRACTOR may agree, within sixty (60) Days of receipt of the above notice, to submit the matter to arbitration as set forth below.

If the parties agree, by written change order signed by HCPH, the Ohio EPA, and the CONTRACTOR, to submit such dispute to arbitration, all proceedings shall be according to Ohio Revised Code Chapter 2711, and, unless waived, the Ohio Rules of Civil Procedure and the Ohio Rules of Evidence. HCPH and the CONTRACTOR shall each choose one arbitrator. The two arbitrators shall agree upon and choose a third arbitrator, who shall preside over the proceedings.

Compensation of the arbitrators shall be as agreed upon by HCPH, the CONTRACTOR and the arbitrators. Payment for the arbitrators shall be shared equally by HCPH and the CONTRACTOR. The CONTRACTOR shall deposit, as a precondition to commencement of the hearing, its equal share of the compensation of the arbitrators with HCPH to be placed in an account for that purpose, or with an escrow agent suitable to both parties. The hearing or the arbitration shall commence within sixty (60) days of the agreement to arbitrate. If the hearing is not commenced within sixty (60) days of the agreement to arbitrate, said agreement shall be void and the dispute shall be resolved by submission to a court of competent jurisdiction as herein before specified. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof. All questions with regard to the rights and authority of the arbitration panel shall be resolved pursuant to Chapter 2711, of the Ohio Revised Code.

14. IN FORCE AND EFFECT

Subject to the applicable provisions of law, this contract shall be in full force and effect from and after the date when a fully executed and approved counterpart hereof is forwarded to the CONTRACTOR, but the CONTRACTOR shall not start work on the Project until written notification to proceed is received from HCPH.

15. Executive Order 11246 Sec.202

Except in contracts exempted in accordance with Section 204 of this Order, all Government contracting agencies shall include in every Government contract hereafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- A. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment, or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the nondiscrimination clause.

- B. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- C. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of this notice in conspicuous places available to employees and applicants for employment.
- D. The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- E. The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- F. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, or by rule regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- G. The contractor will include the provisions of Paragraphs (A) through (G) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as

a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

16. Violating Facilities Clause

The Contractor agrees to comply with all applicable standards, orders or requirements under Section 306 of the Clean Air Act, 42 USC 1857 (h), Section 508 of the Clean Water Act, 33 USC 1368, Executive Order 11738, and EPA regulations, 40 CFR Part 32, which prohibits the use under non-exempt Federal contracts, grants, or loans of facilities included on the EPA List of Violating Facilities.

17. Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The Contractor certifies to the best of its knowledge and belief that it and its principles:

- A. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or Agency;
- B. Have not within a year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
- C. Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph (B) of this certification;
- D. Have not within a three year period preceding this application / proposal had one or more public transactions (Federal, State, or Local) terminated for cause or default' and
- E. Will not utilize a subcontractor or supplier who is unable to certify (A) through (D) above.

IN WITNESS WHEREOF, the County and the Contractor affix their signatures:

WITNESS: HAMILTON COUNTY PUBLIC HEALTH

Health Commissioner

Date

WITNESS: CONTRACTOR: _____

By: _____

Title

Contractor to complete applicable paragraph below:

_____ A Corporation organized under the Laws of _____ and qualified to do business in the State of Ohio.

_____ Co-partners trading and doing business under the firm name and style of

_____ List names of all Partners _____

Or Joint Venture Participants _____

_____ An individual doing business under the firm name and style of

ATTACHMENT A
HAMILTON COUNTY PUBLIC HEALTH
NOTICE TO PROCEED

Date _____
Contractor Name
Street Address
City, State, Zip Code

Notice To Proceed With: _____

Enclosed is your copy of the completely executed contract in the amount of \$_____ to be paid from the _____ fund.

You are hereby authorized and notified to PROCEED with the repair or replacement of the household sewage treatment system located at _____ in accordance with all terms and conditions of your contract with HCPH. This includes by reference the specifications upon which you bid.

Sincerely,

Tim Ingram
Health Commissioner, Hamilton County Public Health

ATTACHMENT B
State of Ohio
 WATER POLLUTION CONTROL LOAN FUND (WPCLF/SRF) HSTS

CONTRACT CHANGE ORDER

RECIPIENT _____ CHANGE ORDER NBR _____
 LOAN NUMBER _____ CONTRACT _____
 OWDA PROJECT No. _____ DATE _____
 Description of Change
 (include address):

APPROVED BY: _____ DATE: _____
 (Health Department Representative)
 ACCEPTED BY: _____ DATE: _____
 (Contractor)

 (Company)

Original Contract Amt		
Previous Changes (+ / --)		
This Change (+ / --)		
Adjusted Contract Amt		
Ohio EPA Acceptance	Date	

ATTACHMENT B

CHANGE ORDER INSTRUCTIONS:

All Change Orders for this work, regardless of costs, must be submitted to Ohio EPA for review.

Changes Requiring Prior Approval

Any change which substantially modifies the Project Facilities as specified in the Ohio EPA approved Facilities Plan and Final Permit to Install or Final Plan Approval (when applicable) or alters the direct or indirect impact of the Project Facilities upon the environment must be incorporated into a Change Order. One copy of the Change Order prior to execution is to be submitted to Ohio EPA for review and prior approval of the acceptability of the change. "Prior to execution" means before the Change Order is signed by the Owner.

Ohio EPA will review the Change Order and inform the Owner of the technical, environmental and operational acceptability of the change, and give the Owner permission to proceed with the proposed work.

All Other Changes

Change Orders not requiring prior approval as described above must be submitted to Ohio EPA within one (1) month of the time at which they are approved by the Owner. Change Orders for WPCLF projects should be submitted to the Division of Environmental and Financial Assistance (DEFA).

Change Order Approval Process

After the Change Order is executed, one (1) copy of the Change Order, including the supporting documentation, is to be sent to Ohio EPA for final review. The HSTS Change Order form must have original signatures.

Health Departments should submit change orders electronically to the DEFA Engineer who reviewed and approved their project.

After the Change Order is accepted and eligible costs determined, Ohio EPA will return a signed copy of the HSTS Change Order form.

Payments for Change Order Work

The Owner is precluded from submitting to the OWDA payment requests for Eligible Project Costs associated with the Change Orders until the Ohio EPA's approval of the Change Orders has been obtained.

ATTACHMENT C
Contractor Equal Employment Opportunity Certification

During the performance of this contract, the undersigned agrees as follows:

8. The undersigned will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The undersigned will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The undersigned agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this equal opportunity (federally assisted construction) clause.
9. The undersigned will, in all solicitations or advertisements for employees placed by or on behalf of the undersigned, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
10. The undersigned will send to each labor union or representative of workers, with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the undersigned's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
11. The undersigned will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
12. The undersigned will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and relevant orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency of the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
13. In the event of the undersigned's non compliance with the equal opportunity (federally assisted construction) clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part, and the undersigned may be declared ineligible for further Government contracts of federally assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rules, regulations, or order of the Secretary of Labor, or as provided by law.
14. The undersigned will include this equal opportunity (federally assisted construction) clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provision will be binding upon each subcontract or vendor. The undersigned will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non compliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor, as a result of such direction by the administering agency the undersigned may request the United States to enter into such litigation to protect the interest of the United States.

(Signature)

(Date)

(Name and Title of Signer, Please type)

(Firm Name)

ATTACHMENT D

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- (f) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (g) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (h) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) of this certification;
- (i) Have not within a three year period preceding this application / proposal had one or more public transactions (Federal, State, or local) terminated for cause or default; and
- (j) Will not utilize a subcontractor or supplier who is unable to certify (a) through (d) above.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Type Name & Title of Authorized Representative

Signature of Authorized Representative

Date

I am unable to certify to the above statements. My explanation is attached.

ATTACHMENT D

Certification Regarding Debarment, Suspension, and Other Responsibility Matters INSTRUCTIONS

Under Executive Order 12549 an individual or organization debarred or excluded from participation in Federal assistance or benefit programs may not receive any assistance award under a Federal program or a subagreement thereunder for \$25,000 or more.

Accordingly, each prospective recipient of an EPA grant, loan, or cooperative agreement and any contract or subagreement participant thereunder must complete the attached certification provide an explanation why they cannot. For further details, see 40 CFR 32.510, Participants' responsibilities, in the attached regulation.

Go to <https://www.sam.gov/portal/SAM/##11> to access the Excluded Parties List System (EPLS). The EPLS includes information regarding entities debarred, suspended, proposed for debarment, excluded or disqualified under the nonprocurement common rule, or otherwise declared ineligible from receiving Federal contracts, certain subcontracts, and certain Federal assistance and benefits. This information may include names, addresses, DUNS numbers, Social Security Numbers, Employer Identification Numbers or other Taxpayer Identification Numbers, if available and deemed appropriate and permissible to publish by the agency taking the action.

Where To Submit

The prospective EPA grant, loan, or cooperative agreement recipient must return the signed certification or explanation with its application to the appropriate EPA Headquarters, Regional office, or Ohio EPA, as required in the applications.

A prospective prime contractor must submit a complete certification or explanation to the individual or organization awarding the contract.

Each prospective subcontractor must submit a complete certification or explanation to the prime contractor for the project.

Applicants may reproduce these materials as needed and provide them to their prospective prime contractor, who, in turn, may reproduce and provide them to prospective subcontractors.

Additional copies / assistance may be requested from: Ohio EPA
Division of Environmental and Financial Assistance
P.P. Box 1049
Columbus, Ohio
43216 1049 (614)
644 2798

<http://epa.ohio.gov/defa/EnvironmentalandFinancialAssistance.aspx>

ATTACHMENT E

American Iron and Steel Acknowledgement

The Contractor acknowledges to and for the benefit of _____ (“Purchaser”) and the State of Ohio (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking 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 Requirement”) including iron and steel products provided by the Contactor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State 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. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State 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.

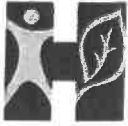
Signature

Date

Name and Title of Authorized Signatory, Please Print or Type

Bidder’s Firm

Check here if the WPCLF or WSRLA applicant will be requesting an individual waiver for non- American made iron and steel products. Please note that the waiver box does not need to be marked for nationwide waivers.



250 William Howard Taft, 2nd Floor
 Cincinnati, Ohio 45219
 Phone: (513) 946-7800
 Fax: (513) 946-7890
 Web: www.hamiltoncountyhealth.org

Sub./Lot Review: _____ Fee Paid: \$390.00
 Complaint: _____ Receipt #: 2105
 Other: _____ Received By: DB

HAMILTON COUNTY GENERAL HEALTH DISTRICT

APPLICATION TO CONSTRUCT OR REPLACE A SEWAGE TREATMENT SYSTEM

APPLICANT TO FILL OUT SHADED SECTIONS ONLY.

NEW REPLACEMENT (Plumbing Permit Required If All Wastewater Is Not Directed To Septic System)

Address of Construction Site: 5021 Zion Road Political Subdivision: Miami Twp
 Owner(s) Name: Robert Muirheid Tax Parcel #: 570-0120-0071-00 Lot Size: 0.857 acre(s)
 Phone Number: 513-364-1554
 Mailing Address: 5021 Zion Road
Cincinnati, Ohio 45002
 Plumbing Under Basement Ejector Pit Hung Sewer
 Number of Bedrooms: 2 Number of People in Structure: 2 Monthly Water Usage: _____
 Watersoftener Garbage Disposal Whirlpool Style Tub High Capacity Shower
 Other Large Water Usage Fixtures: _____

Soil Type / Characteristics: See Soils Report
 STS Daily Design Flow: 240 STS Average Design Flow: 144 Soil Absorption Rate: NA Linear Loading Rate: NA

Sewage Treatment System Type: Sybc-Aer FT Series ATU

Primary Treatment Tank:
 Building Sewer Replace with 4" SCH40 PVC
 Controls IBC 4000 LV
 Trash Trap _____ Gallons _____ Compartment(s) _____
 Septic Tank _____ Gallons _____ Compartment(s) _____
 Dosing Tank _____ Gallons _____ Compartment(s) _____
 Dosing Septic Tank _____ Gallons _____ Compartment(s) _____
 Dosing Basin _____ Depth _____ Diameter or _____ x _____
 Effluent Filter _____ Pump _____
 Screen Vault Filter _____ Siphon _____
 Other _____ Gravity _____

Comments: Tank must be watertight.
Properly Abandon the existing septic tank + sample well.

Secondary Treatment Unit:
 Intermittent Sand Filter _____ ft x _____ ft = _____ ft²
 Recirculating Gravel Filter _____ ft x _____ ft = _____ ft²
 Recirculating Sand Filter _____ ft x _____ ft = _____ ft²
 Recirculating Textile Filter _____ Manufacturer _____ Unit(s) _____
 Peat Biofilter _____ Manufacturer _____ Unit(s) _____
 Aerobic Treatment Unit Sybc-Aer FT Series Manufacturer ROD GPD
 Other RECREATION
 Filter Following Treatment Unit _____ Pump _____
 Dosing Basin _____ Depth _____ Diameter or _____ x _____ Siphon _____
 Soil Absorption (See Below) _____ Gravity _____

Comments: Install on contour to design + manufacturer's specs.
Anti-buoyancy measures required
Follow inspection protocol found in HCPH HSTS Installers Manual.

Soil Absorption Component:
 Gravel Pad _____ ft x _____ ft = _____ ft² _____ Depth _____
 Leaching Trenches _____ ft x _____ ft = _____ ft² _____ Depth _____ Total Ln. Ft. _____
 Leach Bed _____ ft x _____ ft = _____ ft² _____ Depth _____
 At-Grade _____ ft x _____ ft = _____ ft² _____
 Modified Mound _____ ft x _____ ft = _____ ft² _____ Sand Thickness _____
 Wisconsin Mound _____ ft x _____ ft = _____ ft² _____ Sand Thickness _____
 Other _____
 Gravity Distribution _____
 Drip Distribution _____
 LPP Distribution _____

Comments: _____

Drainage Enhancement:
 Gradient Drain _____ Depth _____
 Interceptor Drain _____ Depth _____
 Diversion Swale _____
 Other _____
 Pump _____

Disinfection Device:
 Chlorinator _____
 Chlorine Contact Chamber _____
 De-Chlorinator _____
 UV Flow 2
 Other Sample Well

Comments: _____

Remarks: A pre-construction meeting is required at the site. Installer must have system laid out prior to meeting. Electrical approval from IBI required.

ODH System Type: Pretreat SDC Pretreat SDC & Drip
 Below Grade At or Above Grade Drip Only
 NPDES Discharge Spray/Surface App.
 None of the Above

Refer to Site Plan 5021-A For Additional Details And Install System Per HCGHD Manual.

By my signature below I certify that I have read, I understand, and I agree to comply with the conditions set forth on the reverse hereof.

Owner's/Owner's Agent Signature: F. Daniel Brennan Date: 5/25/18

Field Inspection By: Robert Gallun P.S. Date: 6-14-18 Approved By: Greg Cassero P.S. Date: 7-16-18

This Application Expires One Year From The Approved By Date. Replacement Systems Must Be Installed Within 120 Days of Approval Date.

Address of Construction Site: 5021 Zion Rd Political Subdivision: Miami Twp. File #: OT12018069



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

REVISED

RECEIVED JUL 02 2018

April 7, 2017

ROBERT MUIRHEID
5021 ZION RD
CLEVES, OH 45002

RE: Approval of coverage under Ohio EPA NPDES General Permit for Household Sewage Treatment Systems (NPDES Permit No. 0HK000002)

Dear Permittee:

The Ohio Environmental Protection Agency has received the Notice of Intent (NOI) for coverage under the general permit for:

Property Location: 5021 ZION RD
County: HAMILTON
City(ies) and Township(s): CLEVES MIAMI
Facility Permit Number: 1GK00651*BG

This property is approved for coverage under the Ohio EPA general permit. Please use your Ohio EPA Facility permit number in all future correspondence. Enclosed is a copy of the homeowner factsheet outlining homeowner responsibilities under the general permit.

You may obtain a copy of the General NPDES Permit No. 0HK000003 , current Notice of Intent (NOI), Notice of Termination (NOT) and permit transfer forms at:

http://epa.ohio.gov/dsw/permits/GP_HouseholdSewageTreatmentPlants.aspx

Please read and review the permit carefully. The permit contains requirements and prohibitions with which you must comply. Coverage remains in effect until after a renewal general permit is issued. We will contact you on how and when to reapply for continuing coverage.

If you need to speak to someone directly, you should call a representative of your local general health district or Household Sewage Treatment System staff of the Ohio EPA Division of Surface Water at (614) 644-2001.

Sincerely,

Craig W. Butler,
Director

Hamilton

Health Department



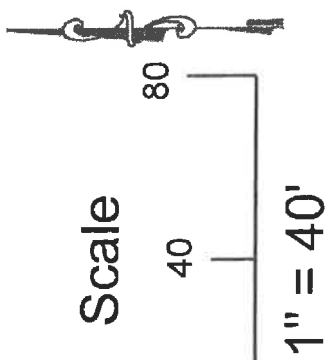
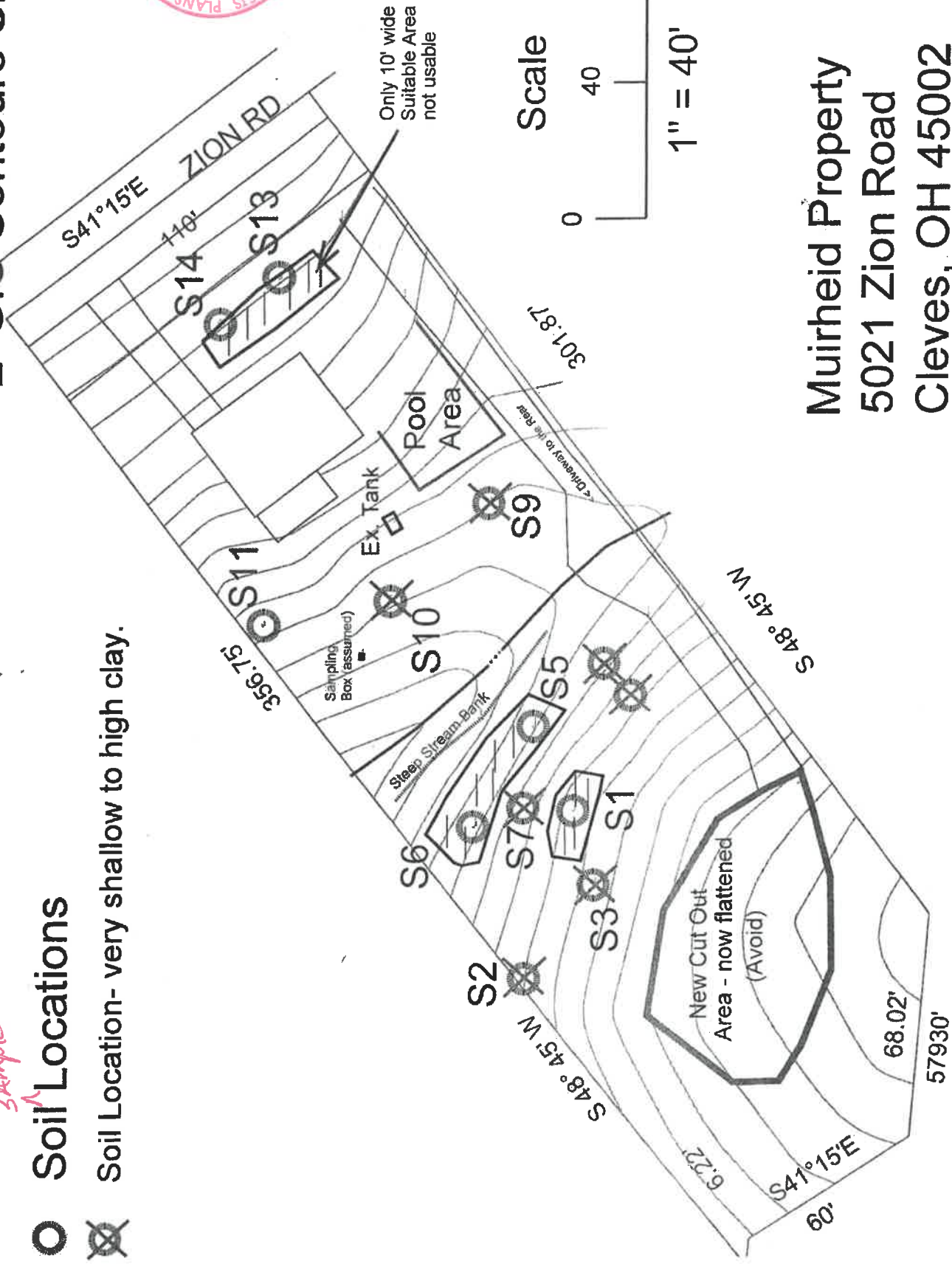
2' GIS Contours Shown



○ Soil Locations

⊗ Soil Location - very shallow to high clay.

sample



Muirheid Property
5021 Zion Road
Clevess, OH 45002
0.857 Acres

5021-A

Soil and Site Evaluation for Sewage Treatment and Dispersal



County: Hamilton
 Township/Sec.: Miami
 Property Address/Location: 5021 Zion Road
Cleves, OH 45002
 Parcel # / Subdiv. Lot #: #570-0120-0071-00
 Applicant Name: Muirheid
 Address: c/o SCS 2060 Reading Road Suite 200
Cincinnati, OH 45202
 Phone #: 513-375-0586
 Lot #: _____
 Test Hole #: 5,6
 Latitude/Longitude: _____
 Method: _____ Pit _____ Auger _____ X _____ Probe _____

Land Use/Vegetation: woodland
 Landform: upland
 Position on Landform: footslope
 Percent Slope: 33%
 Shape of Slope: linear
 Coord. Method/Accuracy: GPS - 3 ft.

Date: 8/8/2017
 Evaluator: Dan Michael
903 North Broadway
Lebanon, OH 45036
 Signature: Dan Michael CPSS
 Phone #: 513-934-1040
 Certification Stamp or Certification# #30586

Soil Profile		Estimating Soil Saturation				Estimating Soil Permeability					Remarks/Risk Factors:	
		Munsell Color (hue, value, chroma)		Redoximorphic Features		Class	Texture Approx. % clay	Approx. % Fragments	Grade	Structure		Other Soil Features
Horizon	Depth (inches)	Matrix color	Concentrations	Depletions	Size					Type (shape)	Consistence	
A _p	0 - 6	10YR 4/2 dark grayish brown			silt loam	20%	2%	3 - strong	f	gr	friable	
B _t	6 - 18	10YR 4/4 dark yellowish brown			silty clay loam	35%	5%	2 - moderate	m	SBK	firm	
2B _t	18 - +	2.5Y 4/4 olive brown			silty clay	55%	10%	1 - weak	co	SBK	very firm	very high in clay
Limiting Conditions												Remarks/Risk Factors: This represents the foot slope in the rear part of the property. Other areas upslope are too shallow to high clay at about 2 to 6 inches to very high clay. The front yard was also sampled. It has some acceptable soil area. However, when considering offsets, that area is not wide enough to be of any use. Also, utilities have not been considered.
Perched Seasonal Water Table		Depth to (in.)										
Ground Water/Aquifer		> 30 in.										
Highly Permeable Material (range)		> 30 in.										
Bedrock		26 in.		Fractured - Karst (circle one)								
Flow Restrictive Layer		18 in.		>45% Clay								
Highly Weathered Soil		> 50 in.										
Fractured Glacial Till		> 50 in.										
Other High Risk Limiting Conditions		> 50 in.										



5021-A



5021-A

Table 3. Soil Infiltration Loading Rates.

Texture	Soil Characteristics		Soil Infiltration Loading RRate (gpd/ft2)		Row
	Shape	Grade	>25mg/L (septic tank effluent)	CBOD5 <=25mg/L (pretreated effluent)	
COS, S, LCOS, LS FS, VFS, LFS, LVFS	--	0SG	0.8	1.6	1
	--	0SG	0.4	1	2
CSL, SL	--	0M	0.2	0.6	3
	PL	1	0.2	0.5	4
		2,3	0	0	5
	PR/BK/GR	1	0.4	0.7	6
		2,3	0.6	1	7
FSL, VFSL	--	0M	0.2	0.5	8
	PL	1,2,3	0	0	9
	PR/BK/GR	1	0.2	0.6	10
		2,3	0.4	0.8	11
	--	0M	0.2	0.5	12
L	PL	1,2,3	0	0	13
	PR/BK/GR	1	0.4	0.6	14
		2,3	0.6	0.8	15
SIL	--	0M	0	0	16
	PL	1,2,3	0	0	17
	PR/BK/GR	1	0.4	0.6	18
		2,3	0.6	0.8	19
	--	0M	0	0	20
SCL, CL, SICL	PL	1,2,3	0	0	21
	PR/BK/GR	1	0.2	0.3	22
		2,3	0.4	0.6	23
SC, C, SIC	--	0M	0	0	24
	PL	1,2,3	0	0	25
	PR/BK/G	1	0	0	26
	2,3	0.2	0.3	27	

Soil Characteristics			Hydraulic Linear Loading Rate (gpd/ft)											
			Slope 0-4%				Slope 5-9%				Slope >10%			
			Texture	Structure		Infiltrative Distance, (Inches)			Infiltrative Distance, (Inches)			Infiltrative Distance, (Inches)		
Shape	Grade	8 - 12		12 - 24	24 - 48	8 - 12	12 - 24	24 - 48	8 - 12	12 - 24	24 - 48			
COS, S, LCOS, LS FS, VFS, LFS, LVFS	--	OSG	4.0	5.0	6.0	5.0	6.0	7.0	6.0	7.0	8.0	1		
	--	OSG	3.5	4.5	5.5	4.0	5.0	6.0	5.0	6.0	7.0	2		
	--	OM	3.0	3.5	4.0	3.6	4.1	4.6	5.0	6.0	7.0	3		
CSL, SL	PL	1	3.0	3.5	4.0	3.6	4.1	4.6	4.0	5.0	6.0	4		
		2, 3										5		
FSL, VFSL	PR/BK/	1	3.5	4.5	5.5	4.0	5.0	6.0	5.0	6.0	7.0	6		
	GR	2, 3	3.5	4.5	5.5	4.0	5.0	6.0	5.0	6.0	7.0	7		
	--	OM	2.0	2.3	2.6	2.4	2.7	3.0	2.7	3.2	3.7	8		
	PL	1,2,3										9		
L	PR/BK/	1	3.0	3.5	4.0	3.3	3.8	4.3	3.6	4.1	4.6	10		
	GR	2,3	3.3	3.8	4.3	3.6	4.1	4.6	3.9	4.4	4.9	11		
	--	OM	2.0	2.3	2.6	2.4	2.7	3.0	3.2	3.7	4.2	12		
	PL	1,2,3										13		
SIL	PR/BK/	1	3.0	3.5	4.0	3.3	3.8	4.3	3.6	4.1	4.6	14		
	GR	2,3	3.3	3.8	4.3	3.6	4.1	4.6	3.9	4.4	4.9	15		
	--	OM	2.0	2.5	3.0	2.2	2.7	3.2	2.4	2.9	3.4	16		
	PL	1,2,3										17		
SCL, CL, SICL	PR/BK/	1	2.4	2.7	3.0	2.7	3.0	3.3	3.0	3.5	4.0	18		
	GR	2,3	2.7	3.0	3.3	3.0	3.5	4.0	3.3	3.8	4.3	19		
	--	OM										20		
	PL	1,2,3										21		
SC, C, SIC	PR/BK/	1	2.0	2.5	3.0	2.2	2.7	3.2	2.4	2.9	3.4	22		
	GR	2,3	2.4	2.9	3.2	2.7	3.0	3.3	3.0	3.5	4.0	23		
	--	OM										24		
	PL	1,2,3										25		
SC, C, SIC	PR/BK/	1										26		
	GR	2,3	2.0	2.5	3.0	2.2	2.7	3.2	2.4	2.9	3.4	27		



50217A



PROCEDURES FOR ASSEMBLY AND INSTALLATION

(500-600 GPD SYBR-AER FT SERIES)

SBR WASTEWATER TECHNOLOGIES INC.

1501 COMMERCE CENTER DRIVE

FRANKLIN, OHIO

TEL: 937-790-4149

FAX: 937-790-4150

WWW.SBRWW.COM

5021-A

Thank you for purchasing the Sybr-Aer advanced wastewater treatment system. The following will provide step-by-step installation instructions.

The SYBR-AER FT series comes with all components factory installed for ease of installation. The Unit is also pre-wired and comes with 100' of direct burial 12 conductor wire (If your application requires a longer run of wire please let us know at time of order).

The SYBR-AER FT series comes with or without disinfection depending on your application. The following instructions address both versions.

The SYBR-AER FT Series contains:

- Vented fiberglass blower enclosure with electrical junction box, cord grips, gel coated cover and exterior tamper proof latches
- (2) 24" diameter risers with pre-installed air manifolds, (2) covers
- (1) float tree
- (1) blower with galvanized fittings, air filter, and mission couplings
- (1) discharge pump with quick disconnect fittings, floats and pedestal
- Engineered diffusers
- 1 1/2" air drops with quick disconnect fittings
- Outdoor alarm with logic control module, individual circuit breakers for service disconnect, and a battery back-up incase of power outage
- 100' twelve-conductor direct burial wire
- conduit with a sweep for control panel
- Fiberglass tank with lifting eyelits
- (F2-UV disinfection system if you are using disinfection)



SYBR-AER FT SERIES INSTRUCTIONS

The installation must comply with all state and local regulations.

SITE PREPARATION

LOCATION

The site plan should show the desired location of the waste treatment plant and the location of the effluent disposal system. **CAUTION:** Check to make sure the site plan accurately reflects the conditions actually existing at the site and that all required setbacks (i.e., to wells, property lines, etc.) are being met.

GRADE AND GROUND COUNTOUR

Position the waste treatment plant so that surface water and effluent will drain to a lower grade under all known conditions.

COVER EXPOSURE

The access covers must be exposed at all times to permit the system to function properly and to allow for routine maintenance. There should be a minimum of (2) two inches between the bottom of the lid and the finished grade.

BUILDING SEWER LINE

Carefully check all elevations to insure that the building sewer will have the proper fall (slope) to meet the inlet of the **SYBR-AER** and maintain the grade requirements to insure proper exposure of the cover. The elevation of the outlet should also be checked to insure proper elevation of the effluent disposal system.

EXCAVATION PREPARATION

Clear an area at least two (2) feet larger than the dimensions of the tank, which is to be installed.

Determine the required depth of the excavation based upon the elevation of the invert of the inlet sewer line or the elevation of the finished grade.

NOTE: Riser needs are built into the tank. There is 13 inches of adjustment built into the tank. Locate the proper elevation and drill a 5" inlet hole on the flat section of the tank and install the supplied 4" gasket seal



Excavate a hole approximately two (2) feet wider than the perimeter of the plant.

NOTE:

If the final elevations will not allow for the proper installation of the SYBR-AER, a lift station can be installed upstream.

Care should be taken to not dig too large (or too deep) of a hole. If the hole is dug too deep, fill in the bottom of the excavation with a minimum of 6" of sand, pea gravel or crushed stone to the required bottom depth. This material should be well compacted to prevent settling of the tank when it is filled with water.

OFF-LOADING AND UNPACKING

The SYBR-AER FT Series comes with four lifting eyelits to lift the tank.

NOTE: Be sure to use all four lifting eyelits for safety when moving the tank and that your lifting harness is long enough not to pinch the blower housing.

Caution: Unit is top heavy move with care.

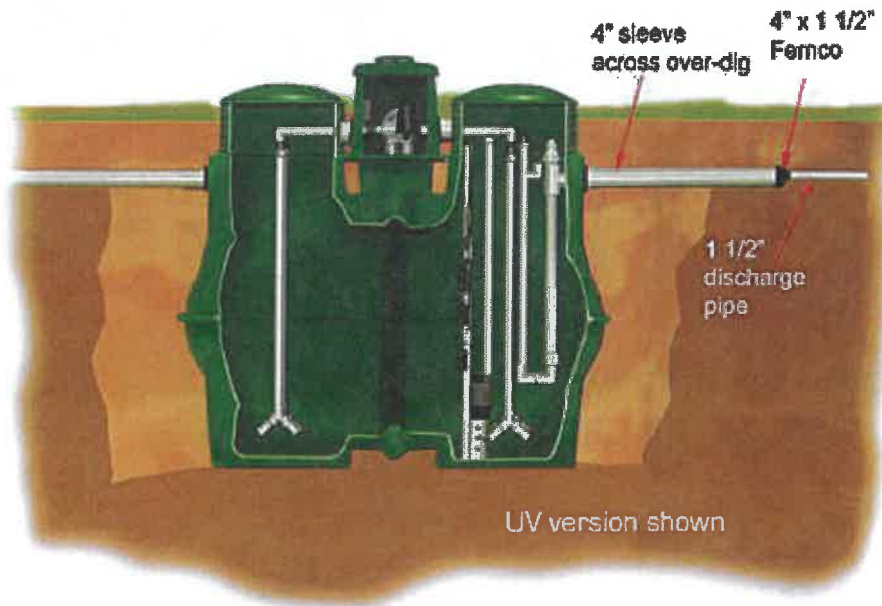


BACKFILLING

Once the tank is set and leveled start filling the tank with water and begin backfilling with friable material up to the inlet. Firmly insert the inlet pipe into the tank. (pipe lube recommended)

CAUTION: To prevent any damage to the inlet or outlet pipes due to settling or backfilling, make sure that both inlet and outlet pipes are set on undisturbed or firmly-packed fill material prior to final backfilling procedures.





Once you have slid the discharge pipe through the protective sleeve (4" piece of pipe long enough to span across the overdig) and connected it to the pump line, install the supplied 4"x 1 1/2" Fernco on the end of the 4" pipe in the trench to prevent ground water from entering the pipe. The protective sleeve provides protection during backfilling and eliminates the chance of sheering off the pipe if the tank settles.



ELECTRICAL

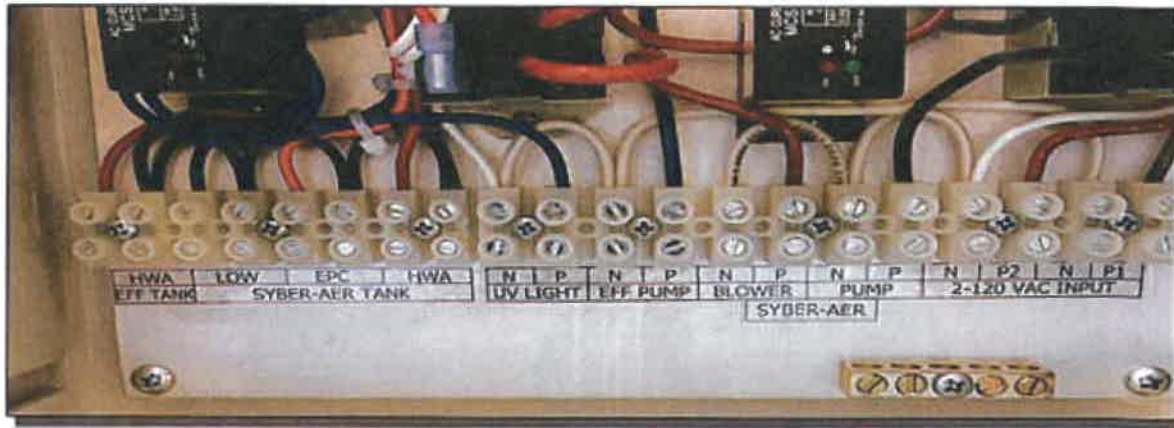
**NOTE: SBC4080UV Control Panel requires 2 dedicated circuits to power the panel (with UV)
SBC4060 Control Panel requires 1 dedicated circuit to power the panel (without UV)**

All the components for the SYBR-AER are pre-installed and pre-wired so no need to make any electrical connections at the tank. Run the 100' of direct burial cable supplied to the location you want to mount the control panel.

Use care and drill control panel box for 1" conduit. (Make sure you do not drill into the terminal strip in the bottom of the panel.) Mount the control panel with the supplied hardware and install the conduit and sweep.

Feed the 12 wire through the conduit and into the panel.





The control panel is clearly labeled and utilizes terminal blocks so no need for wirenuts.

Wiring instructions are listed on backside of control panel access door.

SBC 4060 (NON UV)

SOLID RED TO BLOWER POWER
 RED W/STRIPE TO BLOWER NUETRAL
 SOLID BLACK TO PUMP POWER
 BLACK W/STRIPE TO PUMP NUETRAL
 SOLID YELLOW TO E.P.C. FLOAT POWER
 YELLOW W/STRIPE TO E.P.C. FLOAT NUETRAL
 SOLID ORANGE TO HIGH WATER FLOAT POWER
 ORANGE W/STRIPE TO HIGH WATER NUETRAL
 SOLID BROWN TO GROUND BAR
 BROWN W/STRIPE TO GROUND BAR

* 2-BLUE WIRES NOT USED

SBC 4080UV (WITH UV)

SOLID BLUE TO UV POWER
 BLUE W/STRIPE TO UV NUETRAL
 SOLID RED TO BLOWER POWER
 RED W/STRIPE TO BLOWER NUETRAL
 SOLID BLACK TO PUMP POWER
 BLACK W/STRIPE TO PUMP NUETRAL
 SOLID YELLOW TO E.P.C. FLOAT POWER
 YELLOW W/STRIPE TO E.P.C. FLOAT NUETRAL
 SOLID ORANGE TO HIGH WATER FLOAT POWER
 ORANGE W/STRIPE TO HIGH WATER NUETRAL
 SOLID BROWN TO GROUND BAR
 BROWN W/STRIPE TO GROUND BAR



Once all connections are made power can be supplied to the panel. Turn on all the Breakers. Press and hold the test button to activate the alarm.



Remove the discharge side lid and unhook and raise the float tree up out of the tank and cut the shipping tape off of the floats. (Floats are taped to float tree for shipping purposes and failure to remove tape will prevent system from operating properly)

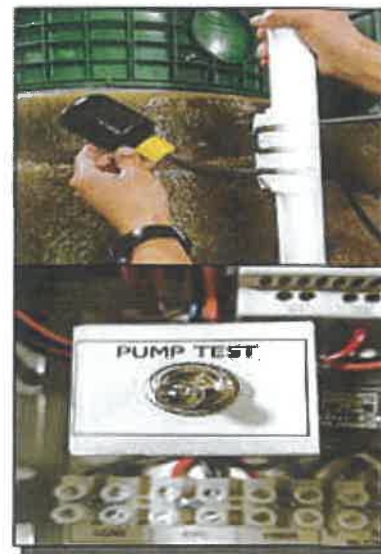


Top Float is the E.P.C. Float
Middle Float is the Highwater Float
Bottom Float is the Redundant ON/OFF Float

[Low alarm is an optional alarm it is designed for a float to be set low so that when the tank pumps out if it is still up it will go into a latching alarm to alert you it didn't pump out enough]

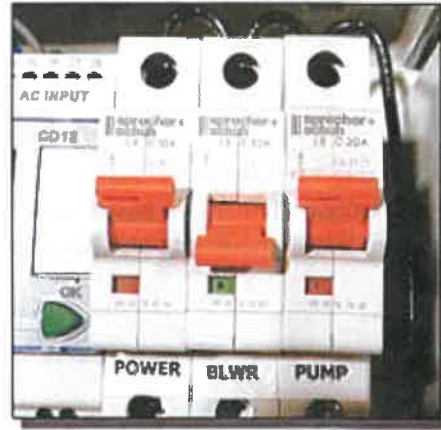
Raise the highwater float and make sure alarm sounds. With the blower running raise the E.P.C. float and make sure the blower shuts off. Raise the Redundant ON/OFF float and flip the manual pump run switch in the panel and make sure the pump runs.

NOTE: The E.P.C. will shut the blower off and start a 1 hour settling cycle then run the pump. To clear this alarm once you activated the float shut the power breaker off to clear the alarm condition then turn back on



Turn the Blower Breaker off and make sure the alarm activates then turn breaker back on. If the system has enough water in it you can let it run or turn it off until you are finished with the installation.

Once everything has been tested and operational install lids and continue backfilling. Finish backfilling to a level approximately 2" below the access lid. Finish Grade should be contoured so that surface water drains away from the unit.



The following instructions are for units with Ultraviolet Light.

The quartz tube is shipped inside the UV housing. Loosen the large union and remove quartz tube to remove protective packaging.

Note: Failure to remove packaging from the quartz tube will prevent proper operation and will not allow the system to discharge properly.



The UV Bulb is transported in a tube taped to the float tree. Carefully cut the tube free from the float tree and open to remove bulb.

NOTE: Care should be taken to not touch the glass of the bulb if you are not wearing gloves. Oil from your skin can create hot spots on the bulb and shorten the life of the bulb.



Once the packaging has been removed re-install the quartz tube and tighten down the Large union



Plug the UV Whip (chord) onto the uv bulb and lower into the quartz tube



Tighten down the small union



The UV is designed to treat up to 14 gallons a minute. In the SYBR-AER FT Series we set the ball-valve to 10 gallons a minute to simplify adjusting the flow (adjusted flow should fill a 5 gallon bucket in 30 seconds).



Once the UV light is hooked up turn the UV breaker on. Flip the sample mode switch this shuts the blower off and turns the UV on you should see the current switch on the left in the panel light up red when the UV comes on as well as listed on the operating screen of the logic module. Shut the UV Light breaker off and the alarm should sound turn the breaker back on and clear the alarm .Once this is verified turn the sample mode switch off this puts it back into normal operation



NOTE: Blower will not operate if sample switch is left in the ON position.

The control panel is programmed to turn the UV light on when the Blower turns off and goes into settle mode at midnight. In normal operation the UV light is only on 4 hours a day. If the system goes into a highwater situation and the homeowner continues to use water and triggers the E.P.C. float the blower will turn off and turn the UV light on for a 1 hour settle mode and then pump the excess water out.

The control panel is failsafed in the event of a blower or UV light failure the pump is locked out and will not discharge until the alarm condition has been cleared.

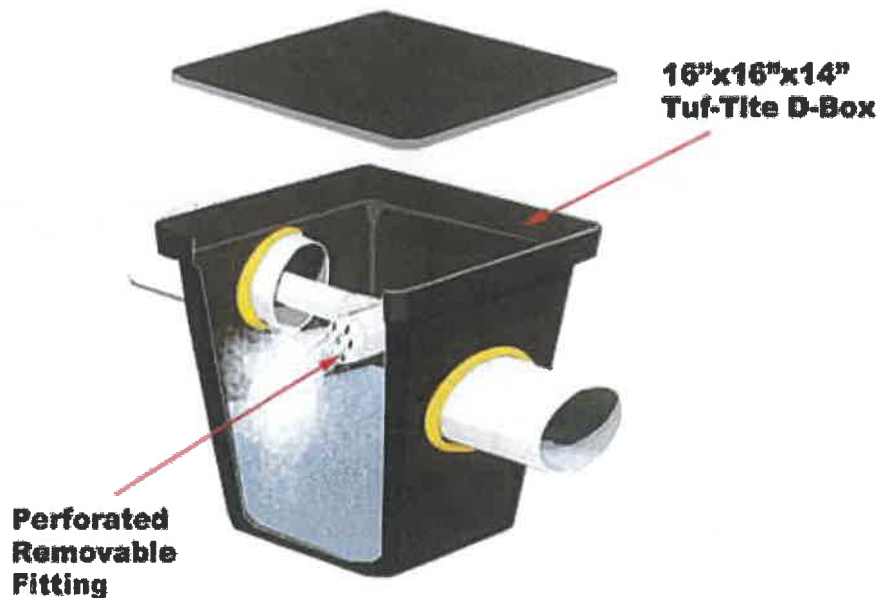
CAUTION: Do not look at UV Light when it is on can damage eyes.



POST AERATION (IF REQUIRED)

Re-aeration is achieved by spraying effluent against a surface when pumped effluent is drawn from the tank. The effluent pump discharges through a perforated fitting into a standard 16"x16"x14" Tuf-Tite polyethylene distribution box prior to discharge. The vigorous spraying provides sufficient agitation to raise the dissolved oxygen level to almost saturated concentrations

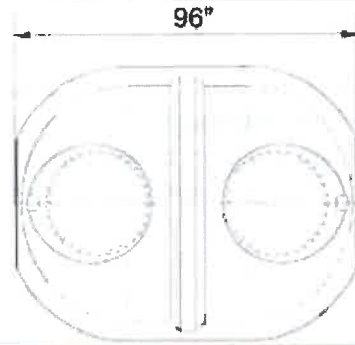
*** NOTE:** Mark the ball-valve in the discharge line then adjust in order to slow the flow enough to take a freeflowing sample once sample is taken return the ball valve to it's original position



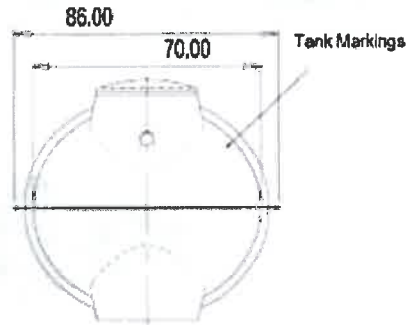
Once the installation is complete be sure to give the property owner the owners manual, explain the Do's and Dont's, and fill out and send in the installation report

TANK INFORMATION

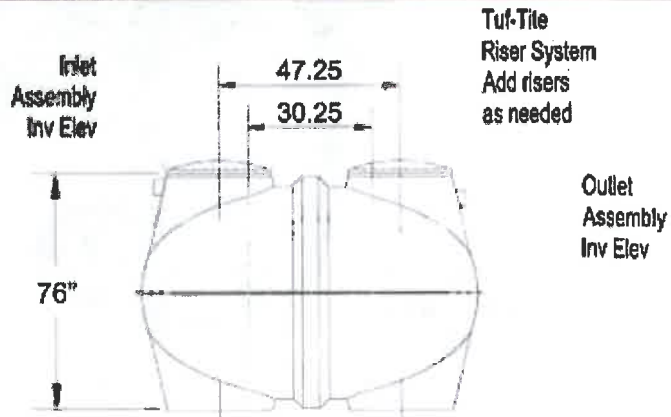
S-A 1250 FIBERGLASS TANK	
MATERIALS	Glass-Reinforced Polyester
TOTAL CAPACITY	1,499 GAL
LENGTH	96 INCHES
WIDTH	86 INCHES
HEIGHT	69 INCHES
MANWAYS	24"
INLET INVERT	57"-70"
OUTLET INVERT	67.5 INCHES
COMPARTMENTS	ONE
MAXIMUM BURIAL DEPTH	24 INCHES
MAXIMUM PIPE DIAMETER	4"
JOINT SEALANT	Consol CS-102 or equal
WEIGHT	590 LBS
DISPLACED WEIGHT (assuming saturated conditions)	12506.7 LBS.
BUOYANCY FORCE	11916.7 LBS.



TOP VIEW



END VIEW



SIDE VIEW



S-A 1250 FIBERGLASS TANK

TITLE: **1250 SA**

CONSOLIDATED

TREATMENT SYSTEMS
1501 Commerce Center Drive
Franklin, Ohio 45005
937-746-2727



TANK INFORMATION

BOYANCY DESIGN		1250 SA Tank
Materials		
Soil (dry)	(lbs/cf)	90.0
Void Ratio	%	28.00%
Water	(lbs/cf)	62.4
Saturated Soil	(lbs/cf)	107.5
Soil (net)	(lbs/cf)	72.5
Concrete	(lbs/cf)	150.0
Tank Data		
Tank Weight	(lbs)	590
Volume	(gal)	1499.2
Volume	(cf)	200.4
Displaced Weight (assuming saturated conditions)	(lbs)	12506.7
Boyant Force (less manways)	(lbs)	12022.7
Tank Projected Area	(sf)	53.0
Cover required w/o Deadman	(in)	37.5
Deadman Data		
Deadman Weight	(lbs)	300
Deadman Area	(sf)	4.0
Deadman Burial Depth	(in)	75.0
Deadman Hold Down Force / each	(lbs)	2112.5
Number of Deadman	(ea)	4
Minimum Required Tank Covering	(in)	11.2



Recommended SYBR-AER Installation Check List

Date:	Installer:
Permit:	Site Address:
Property ID:	Site City and State:

Item			Item		
Administrative Issues			Excavation and Installation		
Permit On Site	Yes	No	Level Excavation	Yes	No
Site Protected from Traffic	Yes	No	Bedding Stone Used if rocks present	Yes	No
Benchmark and Baseline	Yes	No	Correct Excavation Elevation	Yes	No
			Level Installation	Yes	No
			Backfill is clean and friable and compacted	Yes	No
Electrical Installation			Internal Components		
Power Cords Run Through Fittings	Yes	No	Grade runs away from access lids	Yes	No
Watertight Wire Nuts Used	Yes	No	Inlet and Outlet Pipes Connected	Yes	No
Alarm Installed Per Code	Yes	No	Treatment Tank Filled	Yes	No
Alarm Tested and Functioning	Yes	No	Lid 2" Min. Above Grade	Yes	No
			Blower Installed and Operating	Yes	No
Final			Airline drop legs Installed	Yes	No
Installation Conforms to Approved Plans	Yes	No	Pump and pump pipe Installed	Yes	No
			UV Light installed and operating (if present)	Yes	No
			Alarm Installed and Operating	Yes	No
			Lids Installed and Secured	Yes	No
			Service contact info provided	Yes	No
			Owner's manual left with property owner	Yes	No

Note: On the backside, make a sketch of the installation noting differences between the plan and actual installation.

Comments and Notes:



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Service Policy

During your initial two-year warranty, an authorized service representative will inspect your unit at six-month intervals and make necessary adjustments to the system. The only exception is for the replacement of "out of warranty" and "physically abused" parts or abuse to the treatment and dispersal components and devices, such as pre-tanks, drain fields, pump station, and the like.

In the event a problem arises or service is required, refer to the unit's data plate (located on the alarm and access lid) or the service label for instructions on contacting your closest service provider. Occasional pumping is required, due to the accumulation of solids. The pumping cost may not be covered under your maintenance and service program. If you need parts or service, please contact the factory for the name of the service provider nearest you. The owner shall be notified in writing by the service provider about improper system operations that cannot be remedied at the time of the inspection.

Before the initial two-year warranty expires, your service provider will notify you in writing, that an extended service agreement may be purchased. This extended service agreement will have terms, conditions, and limitations comparable to the initial agreement. If the service provider does not provide extended service agreements, the service provider will refer you to an authorized service provider who provides extended service agreements. You may also contact the factory for assistance in locating an authorized service provider.

Items not covered under warranty that will generate service charges for your residential SYBR-AER wastewater treatment equipment.

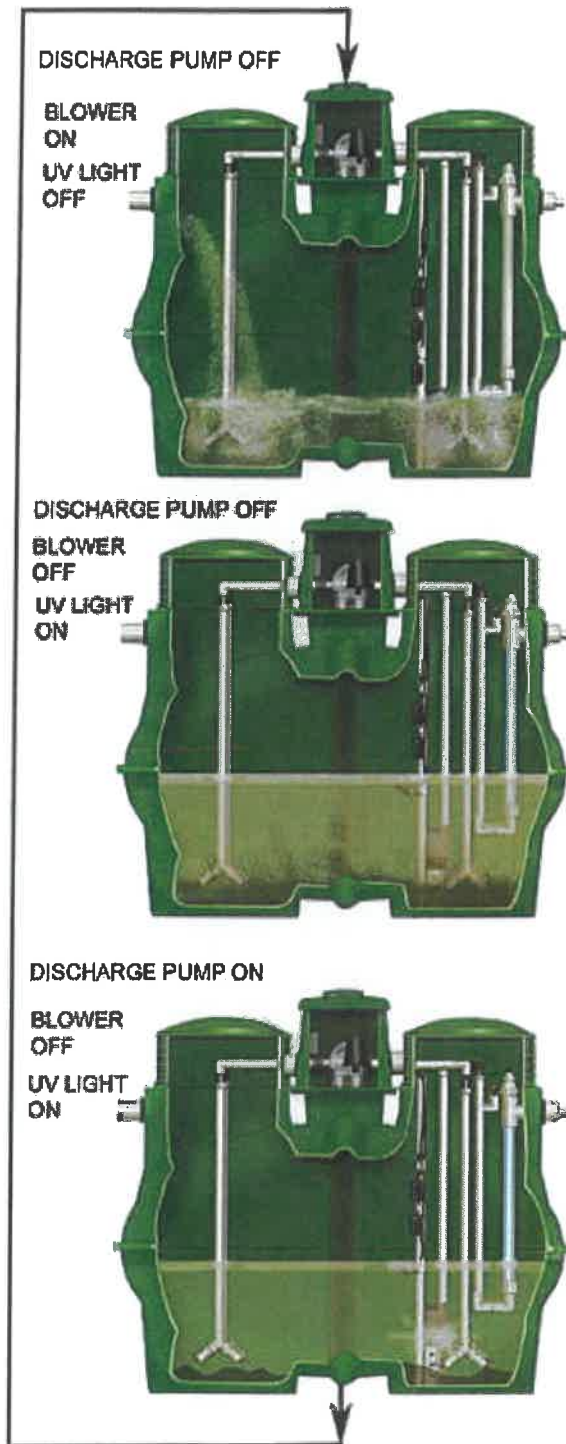
1. Use of unauthorized component parts in your SYBR-AER unit.
2. Repairs made by other than factory trained and authorized personnel.
3. Failure to maintain proper electric power to the SYBR-AER unit.
4. High water alarms due to clear water discharges including, but not limited to, backwash from water treatment systems, water softeners, swimming pools, footing drain sump pumps, down spouts, hot tubs, dehumidifiers, air conditioners, and leaking plumbing fixtures.
5. Discharge into the SYBR-AER unit of non-biodegradable materials such as paints, greases, or any other materials that are toxic.
6. Emergency service calls for alarms due to items 1 thru 5 above in addition to the following:
 - a. Water usage that exceeds the total daily flow for which your aerobic plant is rated
 - b. The septic system becoming flooded during periods of heavy rainfall.

Listed above are some of the most common items that are not covered by warranty. Specific items not herein listed. Also, please note that the warranty covers parts only. Labor will be billed at the rate in effect at time of service.



NORMAL OPERATING CYCLE WITH UV

(Non UV same operation minus the UV)



AERATION CYCLE:

DURATION: 20 HOURS

NORMAL HOURS: 4:00 a.m.-12:00 p.m.

BLOWER: ON DISCHARGE PUMP OFF
UV: OFF

Description: Aerobic waste treatment occurs during the aeration cycle. Air from the diffusers keeps solids in suspension. This cycle is programmed to occur at normal times of highest water usage.

SETTLING CYCLE:

DURATION: 3 HOURS

NORMAL HOURS: 12:00 p.m.-3:00 a.m..

BLOWER: OFF DISCHARGE PUMP OFF
UV: ON

Description: Sludge settles to the bottom of the tank during this cycle. The settling cycle starts when the aeration cycle ends. The settling cycle is programmed to occur during normal times of lowest water usage. When the blower shuts off the UV light turns on.

PUMP OUT CYCLE:

MAXIMUM DURATION 1 HOUR

NORMAL START TIME: 3:00 a.m.,

BLOWER: OFF DISCHARGE PUMP ON
UV: ON

Description: treated wastewater is pumped through the UV and out of the tank during the pump out cycle. The pump comes on at the end of the settling cycle and runs until the water level in the tank drops to a depth of 18 inches from the bottom of the tank. At this depth a level switch stops the pump.

One hour after the start of the pump cycle, a new aeration cycle begins. The UV light turns off and the blower starts up again.. The entire process is repeated every 24 hours.



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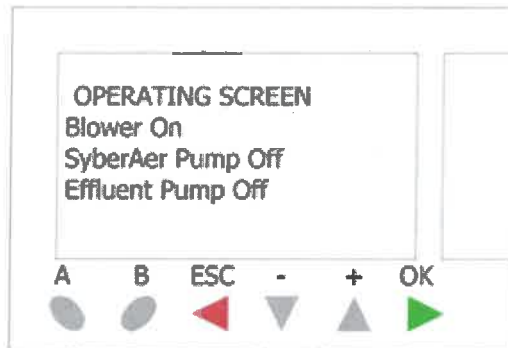


SBC 4080 UV Logic Operating Instructions

Screens 1 and 2

Press the A button to change screens.

Screen 1 – Operating Screen



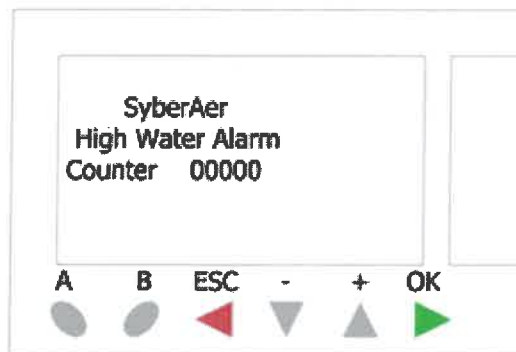
This screen will show the status of the motors in the system.

Blower On/Off

SyberAer Pump On/Off

Effluent Pump On/Off

Screen 2 – SyberAer High Water Alarm Count



5021-A

This Screen will show you the number of High Water Alarms that have occurred in the SyberAer tank. This value can be reset by pressing the – button for 3 seconds.

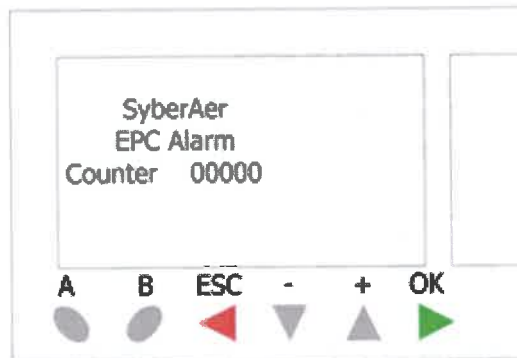


SBC 4080 UV Logic Operating Instructions

Screens 3 and 4

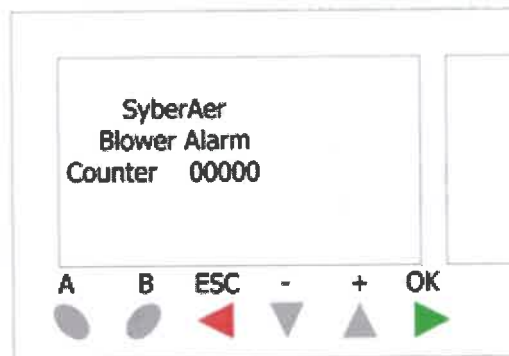
Press the A button to change screens.

Screen 3 – SyberAer EPC Alarm Count



This Screen will show you the number of EPC alarms that have occurred in the SyberAer tank. This value can be reset by pressing the – button for 3 seconds.

Screen 4 – SyberAer Blower Alarm Count



This Screen will show you the number of Blower alarms that have occurred in the SyberAer tank. This value can be reset by pressing the – button for 3 seconds.



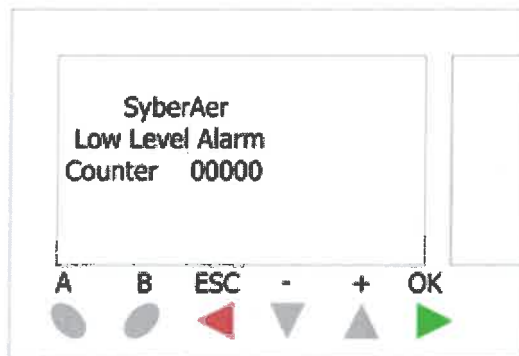


SBC 4080 UV Logic Operating Instructions

Screens 5 and 6

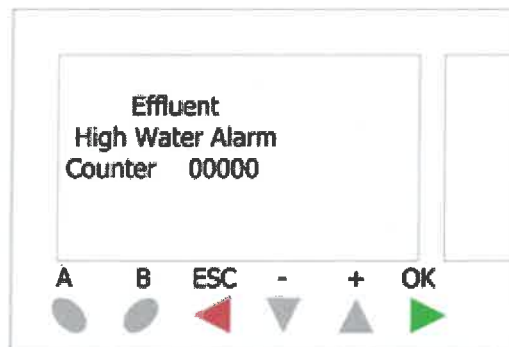
Press the A button to change screens.

Screen 5 – SyberAer Low Level Alarm Count



This Screen will show you the number of Low Level alarms that have occurred in the SyberAer tank. This value can be reset by pressing the – button for 3 seconds.

Screen 6 – Effluent High Water Alarm Count



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This Screen will show you the number of High Water alarms that have occurred in the Effluent tank. This value can be reset by pressing the – button for 3 seconds.

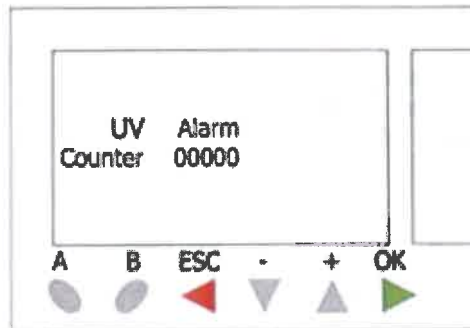


SBC 4080 UV Logic Operating Instructions

Screens 7 and 8

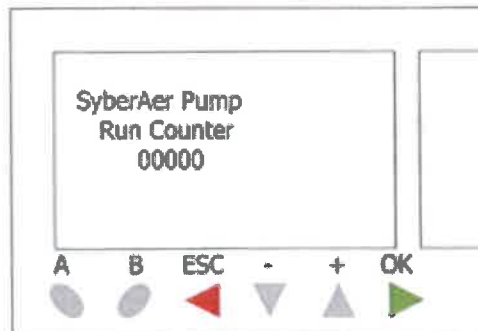
Press the A button to change screens.

Screen 7 – UV Alarm Count



This Screen will show you the number of UV alarms that have occurred
This value can be reset by pressing the – button for 3 seconds.

Screen 8 – SyberAer Pump Run Counter



This Screen will show you the number of times the SyberAer Pump has been turned on by the logic. The Pump Test Switch will not count. This value can be reset by pressing the – button for 3 seconds.



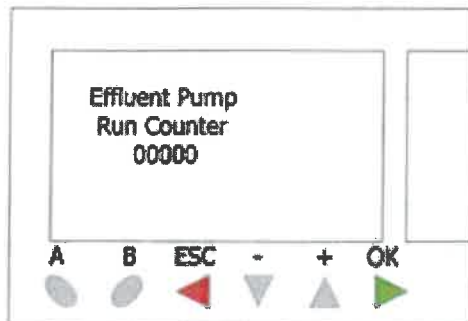


SBC 4080 UV Logic Operating Instructions

Screens 9 and 10

Press the A button to change screens.

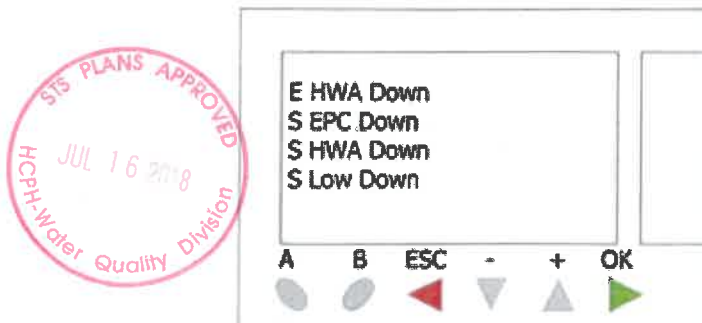
Screen 9 – Effluent Pump Run Counter



This Screen will show you the number of times the Effluent Pump has been turned on by the logic. The Pump Test Switch will not count. This value can be reset by pressing the – button for 3 seconds.

Screen 8 – Service Screen

Press the B Button for 5 seconds to access this screen.
Press the B Button again to exit.



E HWA – Effluent HWA Float Up/Down
S EPC – SyberAer EPC Float Up/Down
S HWA – SyberAer HWA Float Up/Down
S Low – SyberAer Low Float Up/Down

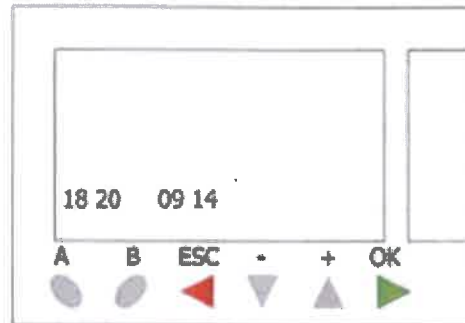
5021-A

This screen will override the alarm screen to check float operation.

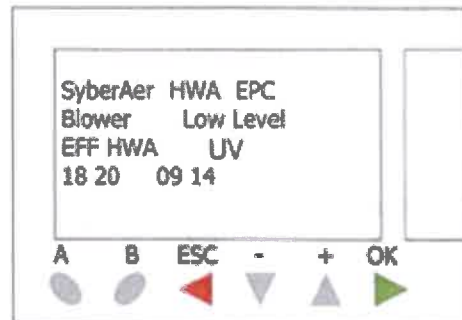


SBC 4080 UV Logic Operating Instructions

Alarm Screen



The information shown in the bottom of the screen when an alarm comes on is the time and Date. 18 20 = 6:20PM and 09 14 = Sept 09. This is at the time the alarm starts. If there are multiple alarms (HWA and EPC in the SyberAer) the date and time captured will be when the first alarm came on.



The alarms will be displayed on the screen in the position they are displayed above. The first line will show the SyberAer HWA and EPC, the second line will show the SyberAer Blower and Low Level. The third line will show the Effluent Tank HWA and the UV.

The SyberAer Low Level, UV, and Blower alarms are latching alarms. This means that the light and buzzer (unless silenced) will remain on even if the alarm clears. Press the OK Button to reset these alarms.

The SyberAer HWA, EPC, Effluent HWA alarms will turn the light and buzzer off if the alarm clears, but the alarm screen will remain active until the OK Button is pressed so the Date and time are visible.





SBC 4080 UV Logic Operating Instructions

Panel Operation

- 04:00 – SyberAer Blower starts.
- 23:00 – Effluent Pump starts.
- 00:00 – Effluent Pump stops. SyberAer Blower stops. Settling begins.
- 03:00 – SyberAer Pump starts.
- 04:00 – Process starts over.



SyberAer

SyberAer Blower – Turns the alarm light and buzzer on if the Blower stops between 04:00 and 00:00. This is a latching alarm, press the OK button to clear.

SyberAer HWA – Turns the alarm light and buzzer on, and starts the Effluent Pump. The Effluent Pump will stay on 5 minutes below the SyberAer HWA. (if using a secondary pump station)

SyberAer EPC – Keeps the alarm light and buzzer on. Stops the Blower and begins a 1 hour settling period in the ATU. After 1 hour the SyberAer Pump will turn on and run 4 minutes below the EPC Float.

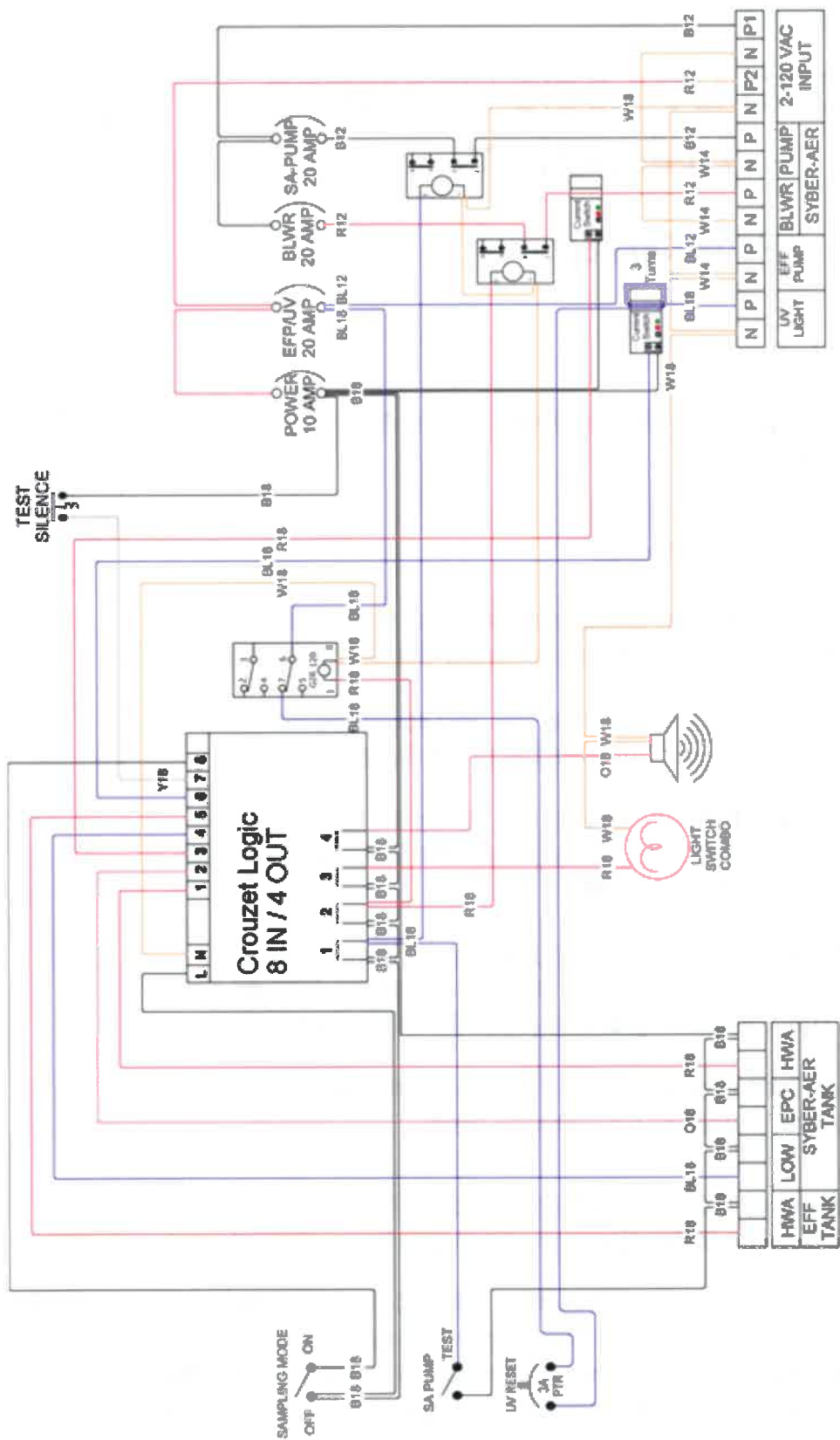
SyberAer Low Level – Will turn the alarm light and buzzer on if the low alarm float is up between 04:00 and 04:05. This is to notify you that the ATU did not completely pump down. This is a latching alarm, press the OK button to clear.

UV Alarm- Turns the alarm light and buzzer on if the UV light does not turn on. This a latching alarm, press the ok button to clear.

Fail-safe - If the Blower alarm or UV alarm are activated the SYBR-AER pump will not be allowed to run until the alarm condition has been cleared.

Sample Mode- When it is time to sample the system instruct the homeowner to flip the sample mode switch to ON before they leave for work. This will shut the blower off without sounding the alarm and turn the UV on. This will start the settling mode. When it is time to collect the sample flip the pump run switch ON and collect a free flowing sample. Once the sample has been collected turn the pump run switch OFF, and turn the sample mode switch to OFF. This will start the blower back up and resume original programming.

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GRD 000000

SYBER-AER PUMP TANK FLOATS

Low Float - Should be set at a level to give an alarm if the pump tank is not at that level at 4:00 am. This is a LATCHING ALARM, you must press the minus key on the logic to clear.

HWA Float - Should be set at a level to turn on the light and buzzer.

EPC Float - Should be set at a level above the HWA to turn the blower off for one hour then run the pump until the EPC Float drops.

	SyberAer Ohio with UV Light
<small>MODEL</small> 4080SAOH-UV	<small>REV</small> 2
<small>TITLE</small> 021117RW	



Sampling Instructions for the SYBR-AER with UV Disinfection

With the SYBR-AER being an SBR (Sequential Batch Reactor) the question arises as to the proper protocol for sampling the SYBR-AER system, particularly those that incorporate disinfection and/or re-aeration. These instructions address these questions by providing an approach that, if followed, should yield data that accurately reflect the performance of the treatment system.

Sampling is part of a process for documenting successful system operation. Sampling is a team effort that includes the homeowner, manufacturer's local representative, regulators and laboratory staff.

The SYBR-AER is programmed to discharge between 3 - 4 a.m. which is not practical for taking a sample. So the control panel has a built in sample mode.

When it is time to take a sample notify the homeowner and schedule a date and time to collect the sample.

Have the homeowner on the selected date and time go out to the control panel and turn the sample mode switch ON in the panel. This will shut the blower off without sounding the alarm, and it will turn the UV light on.

After a minimum of 3 hours (maximum 5 hours) settling time from the scheduled activation time you can collect the sample.

Collect the sample by opening the sample port and unscrewing the spray head in the sample port.

Since the system is utilizing UV disinfection the pump flow has already been adjusted down slow enough to collect a free-flowing sample. Go to the control panel and turn on the manual pump run switch which will turn the pump on. Allow piping to flush for at least 30 seconds before collecting a sample.

Collect CBOD, TSS, and ammonia first then sterilize the piping before collecting fecal coliform or E. Coli samples. Sterilize piping by wiping the pipe down with bleach.



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Once the sample has been collected turn off the manual pump run switch. Screw the spray head back on the pipe in the sample port. Turn pump back on let any trapped air bleed out of the line, once it is spraying consistently back in the box take your Dissolved Oxygen reading.

Once you have taken a reading put the lid back on the sample port. Turn the manual pump run switch off then turn the sample mode switch off. This will put the SYBR-AER back into it's normal operating program.

Sampling Tips

- Understand and follow all applicable OSHA and safety standards. Wear protective gear, including gloves and eye protection. Keep hands below shoulders. Disinfect after sampling.
- Calibrate instruments. Different approaches can be used to take measurements. Be sure that electronic instruments are properly calibrated. Chemicals should be "fresh" and appropriate for the measurements to be undertaken.
- Collect samples from cleared, piping or appurtenances. Remove items that may have been deposited and do not reflect effluent as it is discharged from the system.
- Collect only free-flowing samples.
- Sterilize piping and appurtenances before collecting fecal coliform or E. Coli samples. Bacterial samples are the most sensitive of all samples. Extreme care must be excercised in collecting bacterial samples as contamination can easily occur.
- Keep notes related to sampling events and note items that may have a bearing on the results. Record the time the unit was put into settling mode and what time the sample was collected.





BOYANCY DESIGN

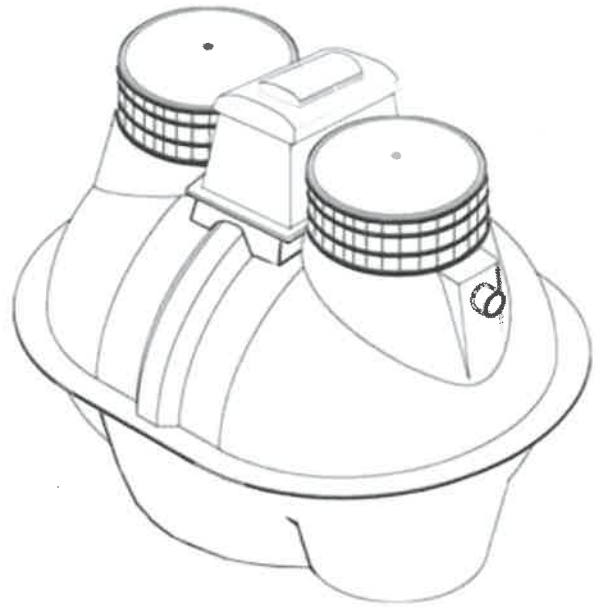
Sybr-Aer FT Series 1400 (500-600 GPD)

Materials

Soil (dry)	(lbs/cf)	90.0
Void Ratio	%	28.00%
Water	(.lbs/cf)	62.4
Saturated Soil	(lbs/cf)	107.5
Soil (net)	(lbs/cf)	72.5
Concrete	(lbs/cf)	150.0

Tank Data

Tank Weight	(lbs)	600.0
Volume - Flooded	(gal)	1410.32
Volume - Redundant On/Off Water Level @ 19"	(gal)	(366.5)
Volume - Design	(gal)	1,043.82
Volume - Design	(cf)	139.6
Displaced Weight	(lbs)	8,708.47
Boyant Force	(lbs)	8,108.47
Tank Projected Area	(sf)	53.5
Cover Required Soil (dry)	(in)	5.0



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A Subsidiary of Consolidated Treatment Systems, Inc.

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500-600 FT SERIES TANK

Liquid depth in inches

Table with columns for liquid depth in inches and corresponding volume in gallons. The table is organized in 10-column groups, with each group representing a 10-inch depth interval from 0 to 98.75 inches. Each row contains 16 data points: (in), (gal) for that depth, (in), (gal) for the next 10-inch interval, and so on. The values increase as the liquid depth increases.



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SEWAGE TREATMENT SYSTEM (STS) DESIGN FOR:

ROBERT & ANNA MUIRHEID
5021 Zion Road
Cleves, Ohio 45002
Par# 570-0120-0071-00
0.857 Acres

Designed By:
SCS ENGINEERS
2060 Reading Road, #200
Cincinnati OH 45202
513-421-5353
Design Date: November 13, 2017
Site Visited on August 8, 2017

Design Details:

New building sewer to new 600 GPD Sybr-Aer FT Series aerobic treatment unit (ATU) containing F2-UV disinfection device to a new discharge pipe. The Sybr-Aer FT Series ATU contains a pump, so the unit will have pump lockout for failsafe due to equipment failure.

Design Rationale:

This design is for a 2 bedroom home with a Daily Design Peak Flow of 240 GPD. The peak flow should not be reached on a routine basis. Average flows of 144 GPD can be accommodated routinely with typical residential wastewater strength as specified in Ohio Administrative Code (OAC) 3701-29 for households.

Poor soil quality and space are the main limiting factors on site. There is an area of good soil in the front yard, but after considering setbacks from the house driveway, and property line, the area is only 10 feet wide and thereby unusable by any kind of soil absorption system. There is no area in the the side yards due to a pool area, property line offsets, and a driveway which runs along the entirety of the southeast property line. The back yard is divided by a stream. The area northeast of the stream has poor soils with high clay at 2"-6" below ground surface. There is a longer area of usable soil just southwest of the stream, but it is within 5 feet of the steep stream bank thus there is not sufficient width in this area for a soil absorption system. The remainder of the backyard consists of poor soils similar to the northern area with high clay at 2"-6" below ground surface and a large, disturbed cut-out area at the end of the driveway that runs along the southeast property line. The owner chose a Sybr-Aer FT Series ATU for this project.

Owner will obtain an NPDES discharge permit through OEPA (owner currently does not have a permit).

System Installation, Operation And Maintenance (O&M)

All system devices and components must be operated and maintained in accordance with the Ohio Department of Health (ODH) product approval, Hamilton County Public Health Operation Permit Terms and Conditions. System devices and components must be installed per ODH product approval, Hamilton County Installation Manual and this design. Where conflicts exist, consult HCPH and designer for guidance before proceeding.

Flow 2 UV Installation Manual: <http://ow.ly/I6Py30baK1V>

Flow 2 UV O&M Manual: <http://ow.ly/sve930baK99>

Sybr-Aer O&M Guide: <http://ow.ly/DMU330di197>

Hamilton County Installation Manual: <http://ow.ly/YUIW30dOkV6>

This installation will require an electrical inspection(s) and approval by IBI (513) 381-6080, <http://www.inspectionbureau.com/>

Means for O&M is provided by the driveway which is within standard distances and elevations for a service truck.

Changes and Use of This Design

This plan is the sole ownership of the designer and may not be altered, changed, used or manipulated without approval of SCS Engineers. SCS Engineers is available to make adjustments and address questions about the system design.

It is the responsibility of the contractor to verify that the system can be installed as designed, based on their preliminary lay-out of the job. It is the responsibility the installer and property owner to inform the designer of any field or other conditions that may affect the installation, operation or maintenance of the STS, including site disturbances that may affect the performance of a soil absorption component. If design changes are needed, redesign fees may apply.

System Protection

It is the owner and installation contractors responsibility to locate underground utilities. If utilities interfere with the designed system, construction shall not proceed without approval from HCPH and designer. No clearwater connections (downspouts, pool/spa water, footer tiles, cisterns, etc) shall be connected to this STS.

All system components must meet the horizontal isolation distances specified in OAC 3701-29-06(G)(3).

System Cost Information

The property owner has been informed of system options and briefed on cost factors. According to OAC 3701-29-10(B)(5), designers of STS systems must include approximate installation costs and operational costs of STS options to assist the homeowner in the selection of the STS options.

SCS Engineers estimates costs as follows :

\$17,500 - 24,400 Installation cost*

\$1,000 annual operational cost*

*This is a general estimate of costs for this system. It is not a bid to install or service the STS. Contact a licensed installer and service provider or distributor for actual bids.

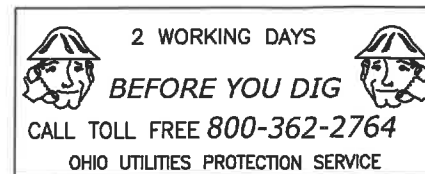
Disclaimer

This plan set is not a site plan to be used for constructing anything other than the Sewage Treatment System. If an accurate legal site plan is required, contact a professional surveyor. This plan offers no guarantee as to the accuracy of information provided. This plan offers no guarantees for site stability. If site stability may be an issue, a geotechnical engineer should be consulted. Plan is only as accurate as the information provided by the property owner to the designer. Easements, right-of-ways, hidden objects or information not communicated to the designer invalidates the design. It is the property owner's responsibility to review this plan and information provided to verify all site conditions and design assumptions are correct. If conflicts are found or additional information must be supplied, the owner shall contact the designer and installation shall not proceed until the approval is granted. This design shall in no way be taken as guarantee that the system will function in a satisfactory manner for any given period of time, or that SCS Engineers or any of its agents or employees assume any liability for damages, consequential or direct, which are caused, or which may be caused by a malfunction of the STS.



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REV.	DATE	DESCRIPTION	CK. BY
△			
△			
△			



SCS ENGINEERS
CONSULTING ENGINEERS, INC.
2060 READING ROAD SUITE 200 CINCINNATI, OHIO 45202
PH. (513) 421-5353

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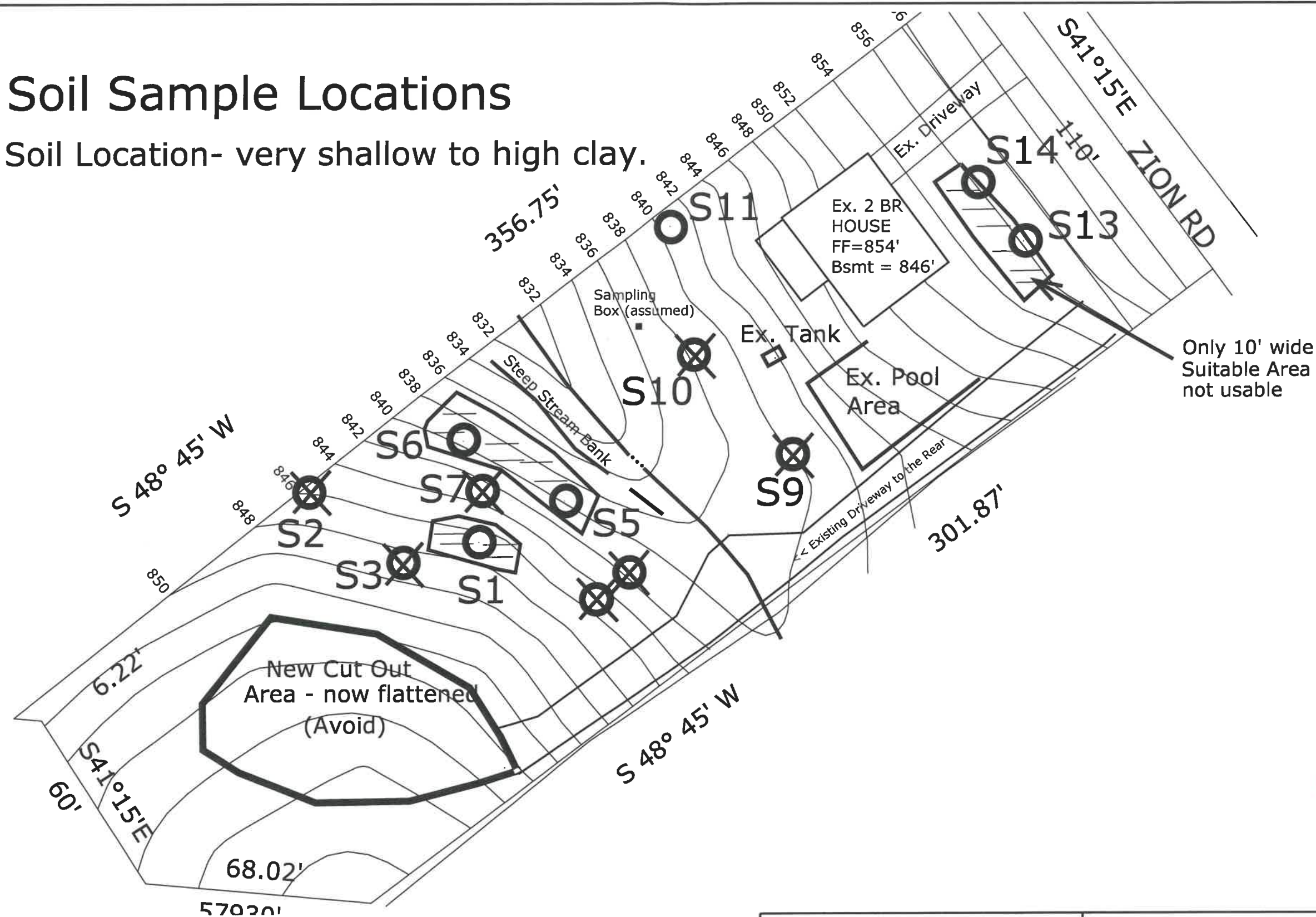
SHEET 1

GENERAL NOTES AND DESIGN BASIS

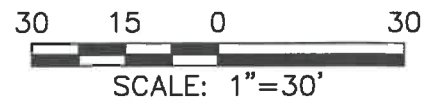
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PARCEL NUMBER: 570-0120-0071-00
HAMILTON COUNTY OHIO - 0.857 ACRES

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- Soil Sample Locations
- ⊗ Soil Location- very shallow to high clay.



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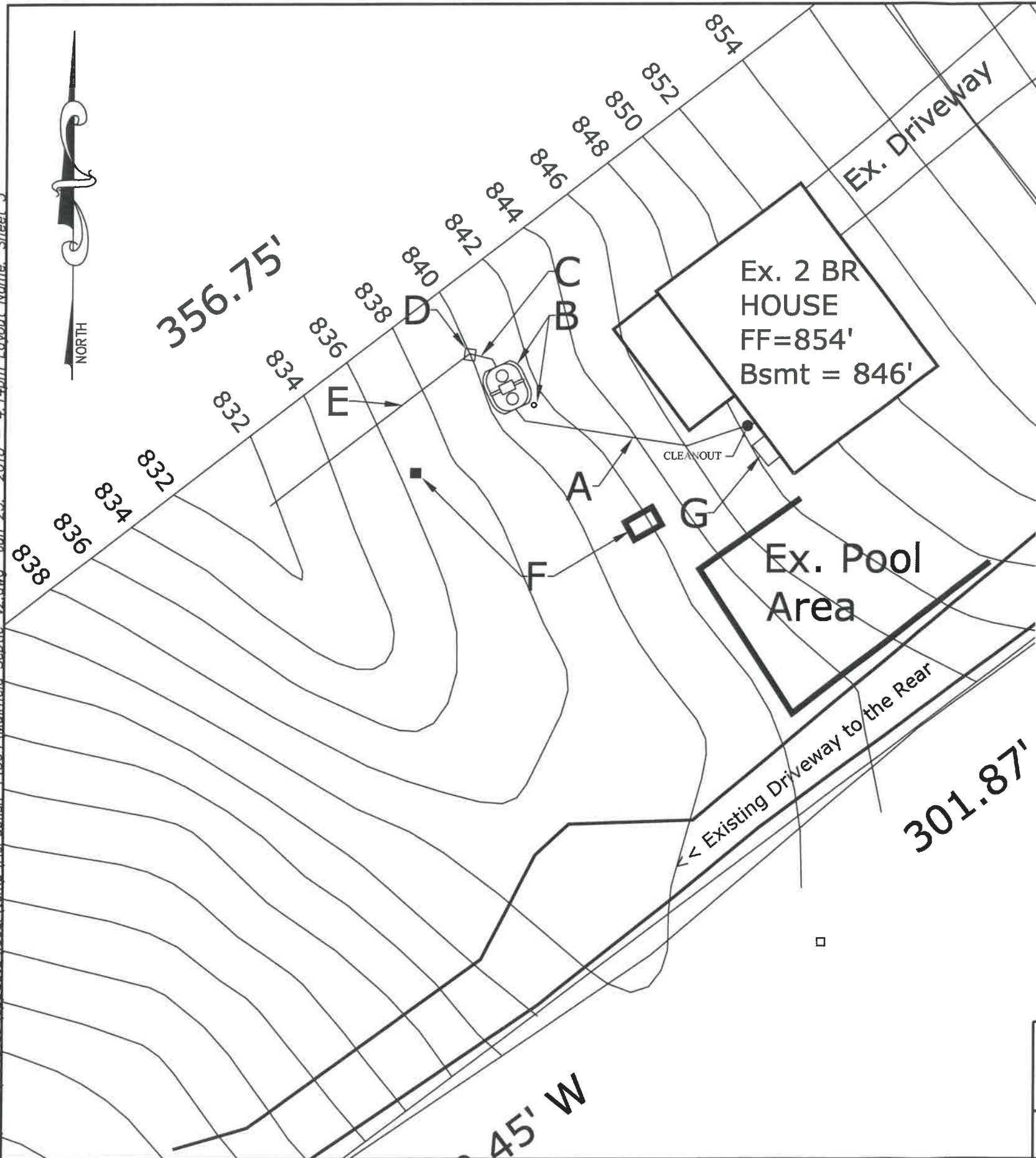
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SHEET 2

SOIL SAMPLING LOCATIONS

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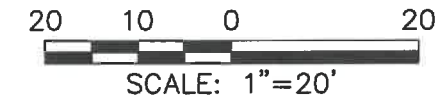
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- A - 4 inch Schedule 40 PVC Building Sewer pipe with minimum 1% grade. A cleanout will be installed at the point that new sewer pipe exists the foundation wall. No pipe elbows greater than 45° will be used.
- B - Sybr-Aer FT Series 600 GPD ATU with UV disinfection device and water table inspection tube (See Sheet 4 for detail). System has pump with pump lockout for failsafe.
- C - Syber-Aer 1.5" discharge pipe assembly
- D - Re-aeration and sampling chamber - Tuf-Tite D-Box Model 7HD2 (16"x16"x14"). See detail Sheet 4
- E - 4 inch Schedule 40 PVC gravity discharge piping extending from Re-aeration and sampling chamber (D) to outlet. Sloped minimum 1/8" per foot (i.e., nominally 1%) to outlet, with animal guard at outlet, and must have 6" minimum freeboard at outlet.
- F - Existing tank and sample well to be properly abandoned according to OAC 3701-29-21, and in conformance with HCPH permitting and reporting requirements.
- G - Sybr-Aer control panel model SBC 4080UV



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NOTE: ALL PIPE SHALL BE SCHEDULE 40 PVC MEETING ASTM 1785 UNLESS OTHERWISE SPECIFIED.

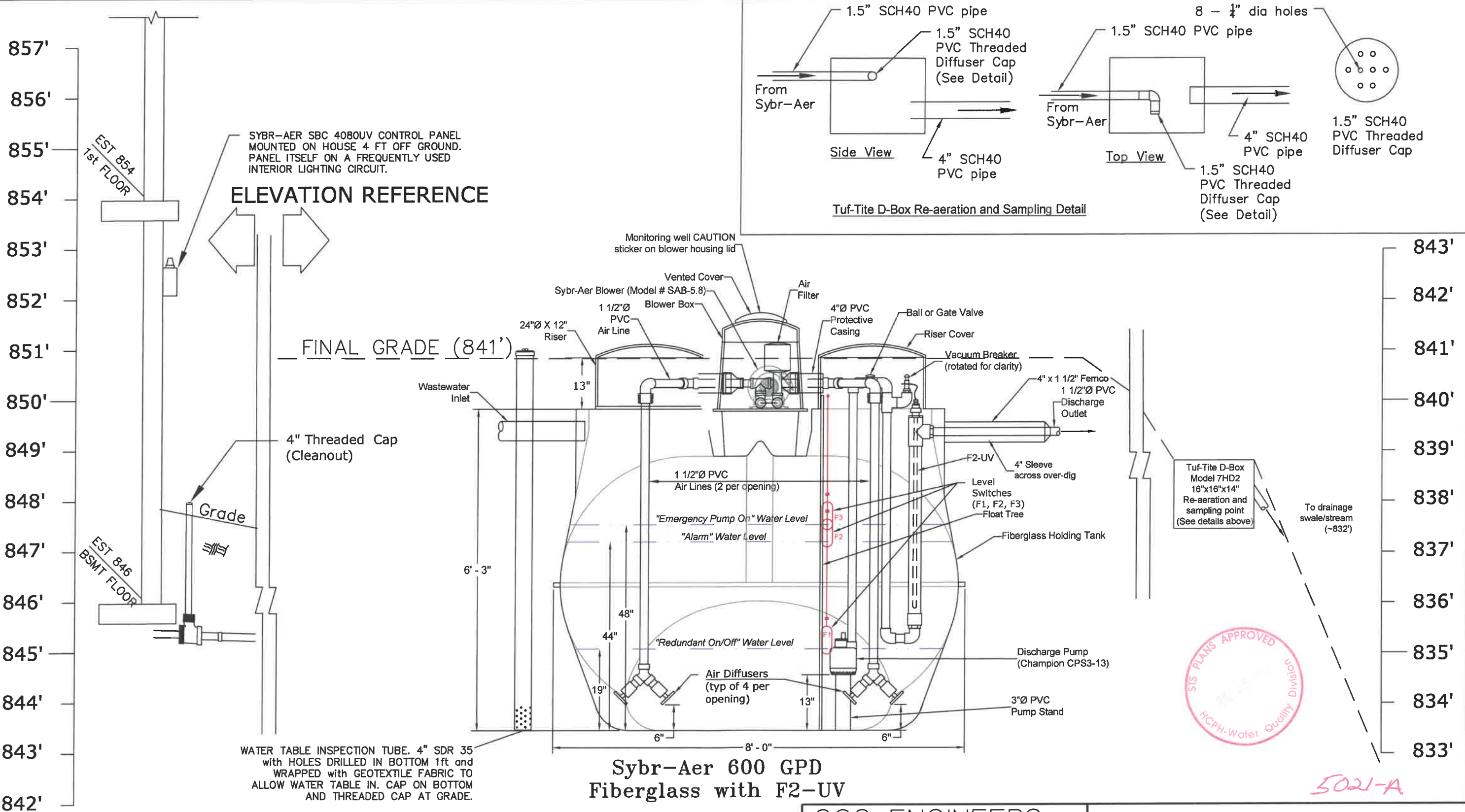
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SHEET 3

SEPTIC SYSTEM LAYOUT

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THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE TANKS IN ACCORDANCE WITH MANUFACTURER GUIDELINES FOR BACKFILL AND BUOYANCY REQUIREMENTS. BACKFILL SHALL BE ANGULAR GRAVEL (NOT WASHED RIVER ROCK) - 1"Ø OR LESS (LIMESTONE, C-33 CONCRETE SAND OR GRITS IS ALSO ACCEPTABLE).

ALL SECTION NOTATIONS REFERENCE THE HAMILTON COUNTY INSTALLER'S MANUAL

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SHEET 4

SYSTEM HYDRAULIC PROFILE

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