

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
NOTICE OF INTENT
INDIVIDUAL TREATMENT FACILITIES
NPDES GENERAL PERMIT ARG550000

Application Type: New Renewal (Permit # ARG55 _____)

I. PERMITTEE/OPERATOR INFORMATION

Permittee (Legal Name): Andy Kimbrell Operator Type:
Permittee Mailing Address: 26815 Kanis State Partnership
Permittee City: Little Rock Federal Corporation*
Permittee State: Ar Zip: 72223 Sole Proprietorship/Private
Permittee Telephone Number: 501-831-1817 *State of Incorporation: _____
Permittee Fax Number: NA The legal name of the Permittee must be
Permittee E-mail Address: andy_kimbrell@yahoo.com identical to the name listed with the
Arkansas Secretary of State.

II. INVOICE MAILING INFORMATION (Home owners are exempt.)

Invoice Contact Person: N/A City: _____
Invoice Mailing Company: _____ State: _____ Zip: _____
Invoice Mailing Address: _____ Telephone: _____

III. FACILITY INFORMATION

Facility Name: Kimbrell Residence Facility Contact Person: Andy Kimbrell
Facility Address: 9026 Pinnacles Cove Telephone Number: 501-831-1917
Facility County: Pulaski Facility City, State & Zip: Roland
Facility Latitude: 34 Deg 50 Min 36.78 Sec Facility Longitude: 92 Deg 32 Min 42.54 Sec
Datum
Accuracy: _____ Method: _____ : _____ Scale: _____ Description: _____

IV. DISCHARGE INFORMATION

Outfall Number: 001 *John Doe* Flow: 450 gpd (Gallons per
Stream Segment: 3C Day) Hydrologic Basin Code: 111 102 07
Outfall Latitude: 34 Deg 50 Min 37.30 Sec Outfall Longitude: 92 Deg 32 Min 45.74 Sec
Datum
Accuracy: _____ Method: _____ : _____ Scale: _____ Description: _____
Type of Treatment: Singulair 960 with UV Disinfection
Receiving Stream: Arkansas River

V. FACILITY PERMIT INFORMATION

NPDES Individual Permit Number (If Applicable): AR00
NPDES General Permit Number (If Applicable): ARG
State Construction Permit Number: _____
NPDES General Construction Stormwater Permit Number (If Applicable): ARR15

WATER DIVISION
5301 NORTHSHORE DRIVE / NORTH LITTLE ROCK, ARKANSAS 72118
PHONE 501-682-0623 / FAX 501-682-0880
www.adeq.state.ar.us

VI. OTHER INFORMATION:

Operator Name: David Meints
 Operator License Number: 009055 License Class: III
 Consultant Contact Name: David Meints
 Consultant Email Address: david@meincowastewater.com
 Consultant Address: PO Box 1001 City: Bryant State: AR Zip: 72089
 Consultant Phone Number: 501-804-0837 Consultant Fax Number: 501-821-4048

Has this treatment system been approved by AHD? Yes No

Disclosure Statements:

Arkansas Code Annotated Section 8-1-106 requires that all applicants for the issuance or transfer of any permit, license, certification or operational authority issued by the Arkansas Department of Environmental Quality (ADEQ) file a disclosure statement with their applications. The filing of a disclosure statement is mandatory. No application can be considered complete without one. You must submit a new disclosure statement even if you have one on file with the Department. The form may be obtained from ADEQ web site at: http://www.adeg.state.ar.us/disclosure_stmt.pdf.

VII. CERTIFICATION OF OPERATOR

DM (Initial) "I certify that, if this facility is a corporation, it is registered with the Secretary of the State of Arkansas."
DM (Initial) "I certify that the cognizant official designated in this Application is qualified to act as a duly authorized representative under the provisions of 40 CFR 122.22(b). If no cognizant official has been designated, I understand that the Department will accept reports signed only by the Applicant."
DM (Initial) "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Responsible Official Printed Name: Andy Kinbrell Title: Owner
 Responsible Official Signature: [Signature] Date: 5/10/23
 Responsible Official Email: andy-kinbrell@yachco.com
 Cognizant Official Printed Name: David Meints Title: Class III Operator
 Cognizant Official Signature: [Signature] Telephone: 501-804-0837
 Cognizant Official Email: david@meincowastewater.com

X. PERMIT REQUIREMENT VERIFICATION

Please check the following to verify completion of permit requirements.

	Yes	No	* If No is answered for any of the questions, then a permit can not be issued!
Submittal of Complete NOI?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Submittal of Required Permit Fee?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Check Number: _____
Submittal of AHD Form EHP-102	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Submittal of Site Map?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

WATER DIVISION
 5301 NORTHSHORE DRIVE / NORTH LITTLE ROCK, ARKANSAS 72118
 PHONE 501-682-0623 / FAX 501-682-0880
www.adeg.state.ar.us



Arkansas Department of Health
Environmental Health Protection

Receipt Number
24989516

Individual Onsite Wastewater System Permit Application

Permit Type New Installation
 Alteration / Repair

DR Environmental ID #

7 6 0 1 0 5 5 4 7

Fee Schedule for Structures		√
Structures 1500 sq ft or less	\$ 30.00	<input type="checkbox"/>
Structures more than 1500 sq ft and up to 2000 sq ft	\$ 45.00	<input type="checkbox"/>
Structures more than 2000 sq ft and up to 3000 sq ft	\$ 60.00	<input type="checkbox"/>
Structures more than 3000 sq ft and up to 4000 sq ft	\$120.00	<input type="checkbox"/>
Structures more than 4000 sq ft	\$150.00	<input type="checkbox"/>
Alteration and Repair	\$ 30.00	<input checked="" type="checkbox"/>

Part 1 Application Treatment Type (check one) Disposal Method (check one)

STD = Standard Septic Tank ATU = Aerobic Treatment Unit STD = Standard Absorption Field LPD = Low Pressure Distribution
 ISF = Intermittent Sand Filter RSF = Re-circulating Sand Filter SUR = Surface Discharge HLD = Holding Tank
 PMF = Proprietary Media Filter RGF = Re-circulating Gravel Filter CPF = Capping Fill SRL = Serial Distribution
 OTH = Other (Describe) HLD = Holding Tank OTH = Other DRP = Drip Irrigation

1. Owner's/Applicant's Name: **Andy & Neely Kimbrell** c/o RQM Homes 2. Phone Number: **(501) 831-1471**

3. Mailing Address: **P.O. Box 232916, Little Rock 72223** 4. County: **Pulaski**

5. Address of Proposed System (if a 911 address is not available, attach detailed directions or map): **Lot 4, Pinnacles Cove, Roland, AR 72135 (Gate Code: 0200)**

6. Subdivision Name: **The Pinnacles** 7. Approval Date: **n/a** 8. Date Recorded: **n/a** 9. Lot Number: **4**

10. Lot Dimensions: **702' x 200' x 652' x 459'** 11. Total Area (Acres): **5.01** 12. # Bedrooms # People: **4** 13. Daily Flow (GPD): **450**

14. Brief Legal Description of Property (Attach a separate sheet of paper, if necessary): **Section 6, Township 2 North, Range 14 West, Pulaski County**

15. Water Supply (Specify supplier, if Public Water): **Central Arkansas Water** 16. GPS Coordinates: **34.84335, -92.54657 (Home) 34.84370, -92.54604 (POD)**

17. Loading Rates	(gpd/ft ²)	18. System Specifications					
Primary Area	n/a	a. Size of Septic Tank	500/ATU	gal	f. Trench Depth	n/a	Inches
Secondary Area	n/a	b. Size of Dose Tank	250	gal	g. Trench Spacing	n/a	feet
Percolation Test	(min/in)	c. Absorption Area	n/a	ft ²	h. Trench Media (List Below)		i. Trench Width
Primary Area Avg	n/a	d. Number of Field Lines	n/a		n/a		n/a in
Secondary Area	n/a	e. Length of Field Lines	n/a	ft	n/a		n/a in

TO THE OWNER
The permit for construction may be deemed invalid by the local Environmental Health Specialist before the start of construction, if the site and/or soil conditions have changed after approval of this permit, or if the information within this permit is inaccurate or has been found to be misrepresented. Approval for operation does not constitute a guarantee that the system will function properly. The approval states that the system was designed and installed according to the Arkansas Department of Health, Rules and Regulations Pertaining to Onsite Wastewater Systems, unless there are exceptions or deviations noted in the comments. A Permit for Construction is valid for one (1) year from the date of approval. The authorized agent must revalidate a permit more than one (1) year old prior to the start of any construction.

19. Utilization Verification
I hereby attest that item 12, the number of bedrooms (number of persons for commercial) and square footage of the structure that will utilize the designed individual onsite wastewater system in this permit application, is accurate. I have reviewed the permit application and understand the layout, installation, maintenance, operation and expense(s) that may be associated with this system.

Owner/Applicant Signature: **See Opt. A** Date: **02/17/2022**

20. I certify that I have conducted the above tests and that the above listed information is in accordance with the latest requirements of the Arkansas Department of Health Rules and Regulations Pertaining to Onsite Wastewater Systems.

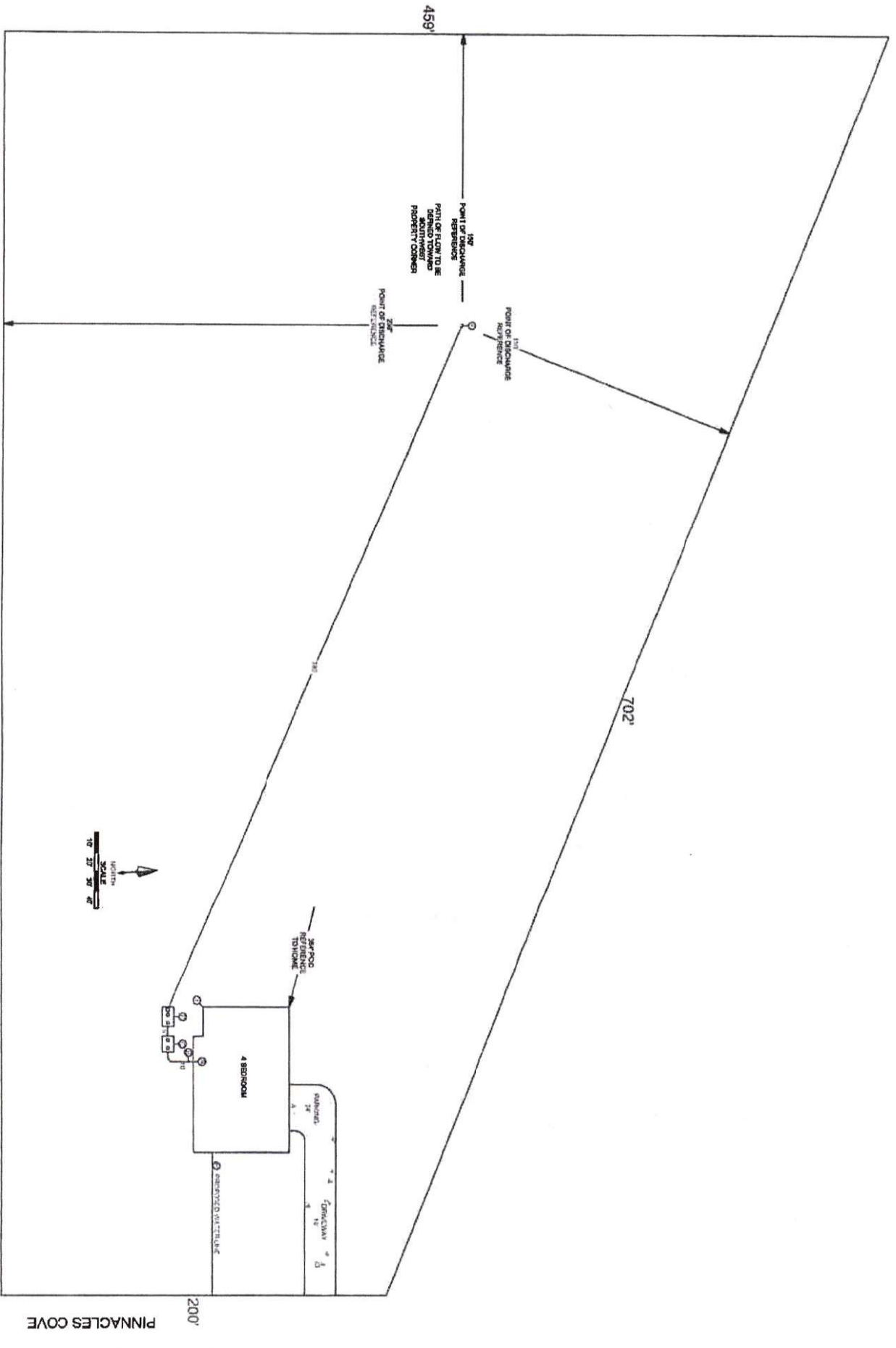
Designated Rep. (Kyle Gaston, DR In Training) Soil Certified Yes No

Designated Representative Signature: **David A. Meints** Title: _____

Print Name: **David A. Meints** Date: **03/08/2022** Phone Number: **501-821-3837/501-804-0837**

21. Approval of Health Authority
The information and specifications in the application has been reviewed and found to meet the requirements of the Arkansas Department of Health Rules and Regulations Pertaining to Onsite Wastewater Systems. A PERMIT FOR CONSTRUCTION is hereby issued.

Environmental Specialist Signature: _____ EHP Number: **864** Date: **3-21-22**



* Optional System Utilization Verification Form



Arkansas Department of Health
Environmental Health Protection

Receipt Number

Individual Onsite Wastewater System Permit Application

Permit Type New Installation
 Alteration / Repair

DR Environmental ID #

7 6 0 1 0 5 5 5 4 7

Homeowner
 Builder/Developer

Fee Schedule for Structures	v
Structures 1500 sq ft or less \$ 30.00	<input type="checkbox"/>
Structures more than 1500 sq ft and up to 2000 sq ft \$ 45.00	<input type="checkbox"/>
Structures more than 2000 sq ft and up to 3000 sq ft \$ 90.00	<input type="checkbox"/>
Structures more than 3000 sq ft and up to 4000 sq ft \$120.00	<input type="checkbox"/>
Structures more than 4000 sq ft \$150.00	<input type="checkbox"/>
Alteration and Repair \$ 30.00	<input checked="" type="checkbox"/>

TO THE PROPERTY OWNER

Onsite Wastewater System Utilization Verification

Property location: Lot 4, Pinnacles Cove, Roland, AR 72135
(Address of Proposed System, City, State, Zip)

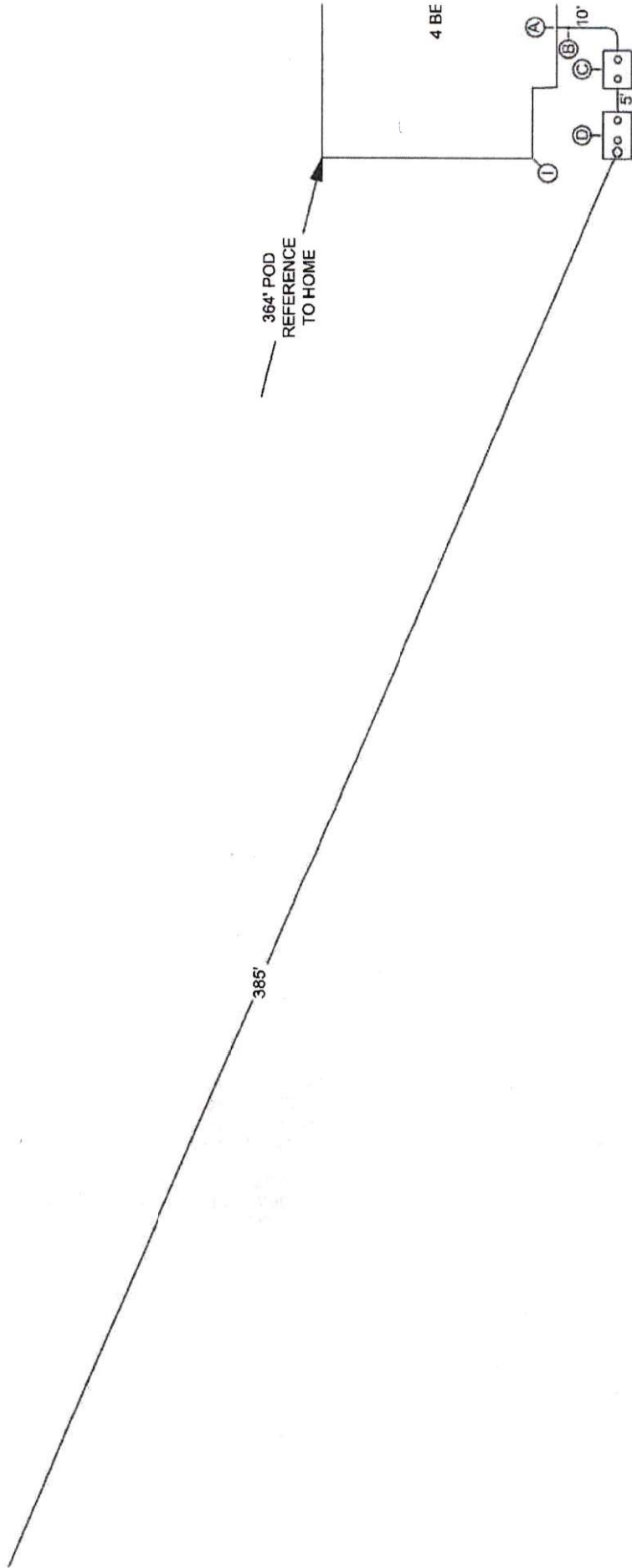
I hereby attest there are 4 bedrooms (___ number of persons for commercial) and the square footage of the structure that will utilize the designed onsite wastewater system in this permit application is accurate. I have reviewed the permit application and understand the layout, installation, maintenance, operation and expense(s) that may be associated with this system.

As Developer/Builder, I hereby attest that the above information is correct and prior to the sale of the property, I will convey, to the buyer, all information associated with this system.

Owner/Applicant Signature *R.M.*

Date 02/17/2022

This document must be submitted with the permit application, if the Owner/Applicant Signature Section (number 19 on the EHP-19) is not signed.



NORTH
SCALE

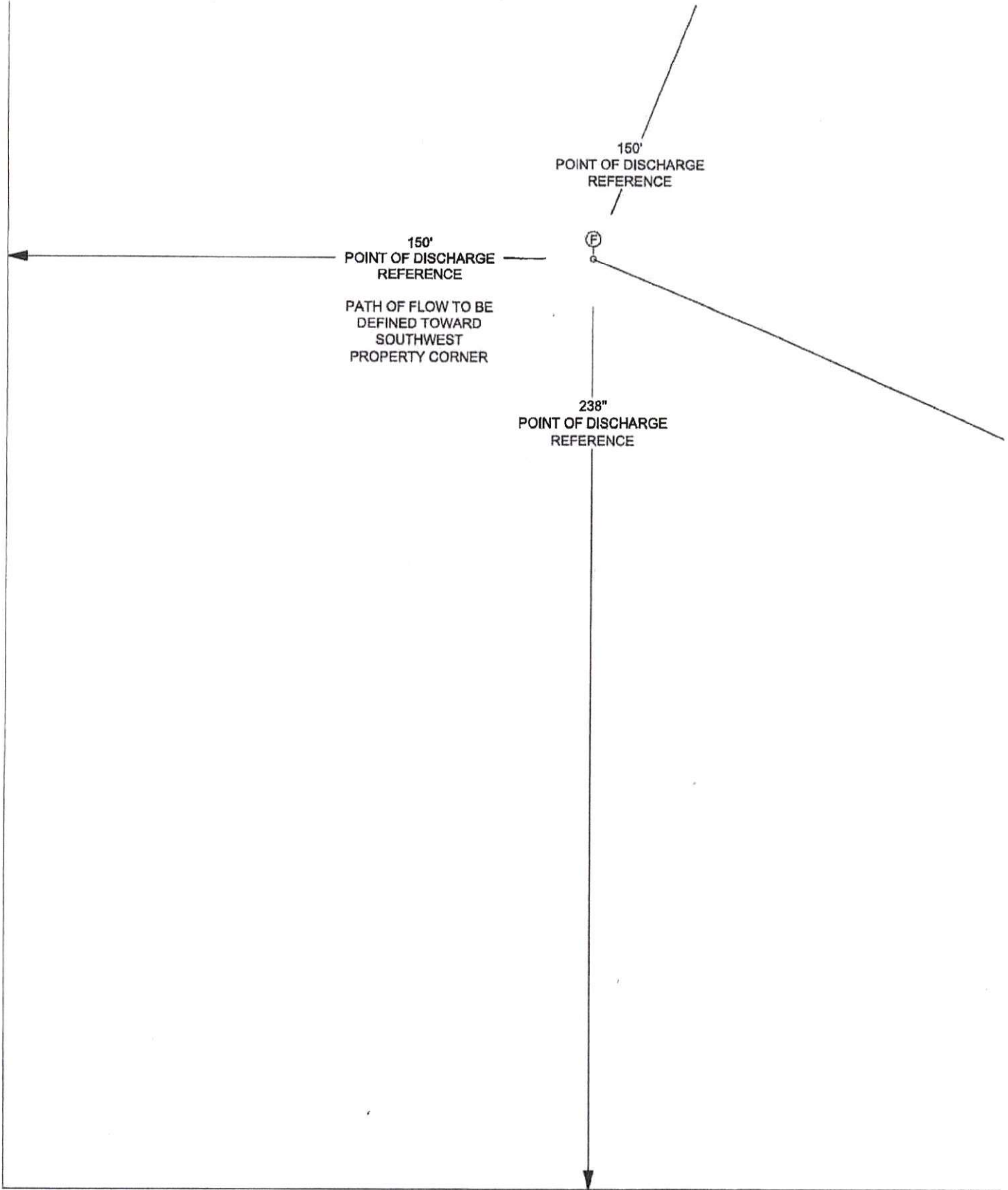


150'
POINT OF DISCHARGE
REFERENCE

150'
POINT OF DISCHARGE
REFERENCE

PATH OF FLOW TO BE
DEFINED TOWARD
SOUTHWEST
PROPERTY CORNER

238"
POINT OF DISCHARGE
REFERENCE





References are found in the Arkansas State Board of Health Rules and Regulations Pertaining to Onsite Wastewater Systems Effective 12/1/2014.

Zone A : LEGEND TO AutoCAD DRAWING

- A Sewer stub out location. Maximum depth of flow line from existing grade is **24"** (Reference Appendix F). Show this drawing to your plumber.
- B 2-way clean out location. Sewer popper required. Install clean out and sewer popper at or above grade (Reference 8.13). Fall to inlet of septic tank can be no less than 1/8" per foot, and no more than 1/4" per foot (Reference 4.1).
- C Trash tank location. Risers to grade over inlet and outlet, minimum 18" diameter (Reference 10.7.8). Effluent filter required - Orenco Filter FTS0436-28 (Reference 10.7.6). Bed and backfill septic tank with 3/4" or smaller gravel (Reference 10.4). Septic tank must meet or exceed manufacturer requirements, 5000 psi, aged 28 days minimum (Reference 10.7.3 – 10.7.5.1)
- D Aerobic Treatment Unit location. Disinfection required. Refer to included spec sheet for precise model.
- E Dose tank. *If applicable.*
- F Point of Discharge (POD). POD meets all setbacks required. (Reference 9.8)
- G Soil pit location, if applicable. Not used due to shallow seasonal water tables or contour issues.
- H Proposed water line. Water line must be installed 10' from any part of wastewater system (Reference 6.2.8).
- I Benchmark location.

PIPE SPECIFICAITONS

House stub out to trash tank inlet: 4" Schedule 40 Pipe
Trash tank to Aerobic Treatment Unit: 4" Schedule 40 Pipe
Aerobic Treatment Unit to dose tank: 4" Schedule 40 Pipe
Dose tank to Point of Discharge: 1 1/4" Schedule 40 Pipe

PUMP SPECIFICATION

Zoeller BN53

TANK SPECIFICATION

Manufacturer: Whitten Concrete 500 Gallon Trash Tank and 1000/250 Gallon Combo Tank

TREATMENT UNIT SPECIFICATION

BioMicrobics Fast 0.5

EFFLUENT STRENGTH

Biochemical oxygen demand < 300 mg/L
Total suspended solids < 300 mg/L
Fats, oil, and grease < 25 mg/L
(Reference 9.41 and Appendix B, Footnotes)

Any changes or substitutions to the notes and specifications in this permit must be approved by the Designated Representative.



GROUND AND INSTALLED ELEVATIONS (feet & inches)

Component	Ground	Flow Line	Fall
Stub Out	08-00"	10-00"	24"
Trash Tank Inlet	09-07"	11-06"	18"
Trash Tank Outlet	09-10"	11-09"	3"
ATU Inlet	09-10"	11-10"	1"
ATU Dose Outlet		10-10"	-12" (Out of Riser)
Point of Discharge	03-11"	03-11"	-85" *
Benchmark	07-07"	Southwest Corner of Home (See Drawing)	

NOTES

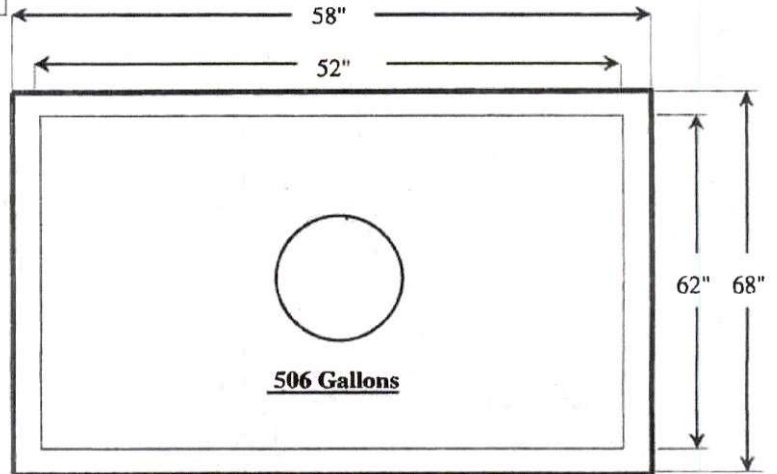
*Add 6' to pump curve elevation to accommodate for pump depth in tank.

NPDES permit required on all surface discharging wastewater systems. (Reference 9.6 and 11.1)
 Aerobic Treatment Units must comply with the AR Department of Health's Onsite Wastewater Systems Monitoring Program. (Reference 12)

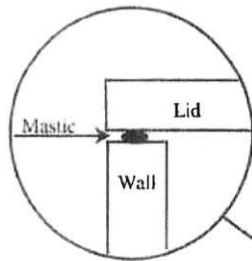
Any changes or substitutions to the notes and specifications in this permit must be approved by the Designated Representative.

500 - Gallon Pump Tank

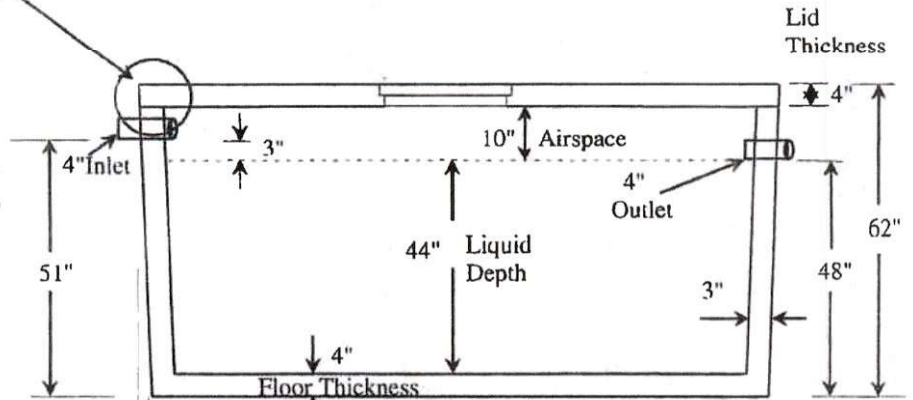
TOP VIEW Drawings Not To Scale



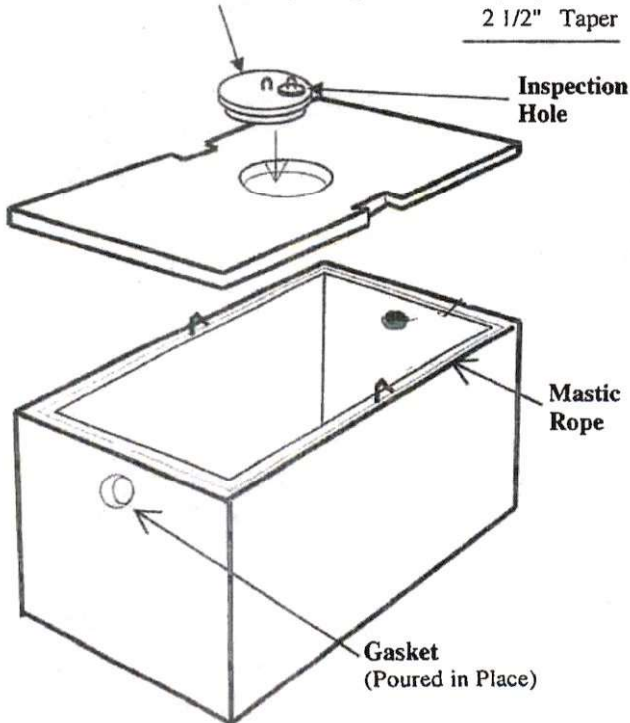
Enlarged Detail



SIDE VIEW



Manhole Lid Opening



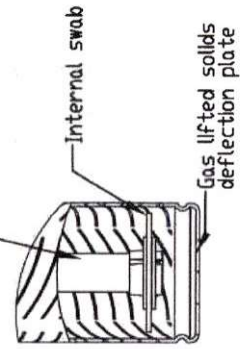
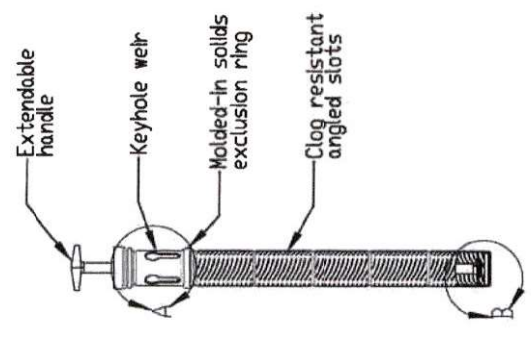
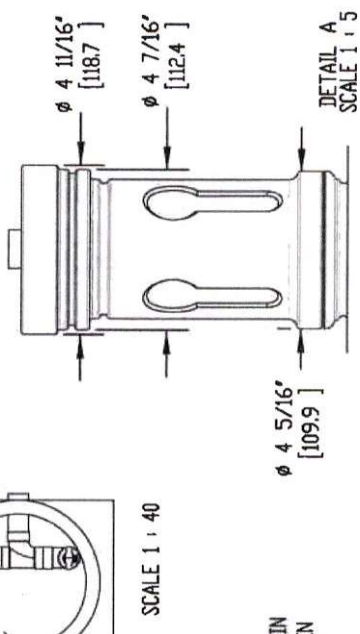
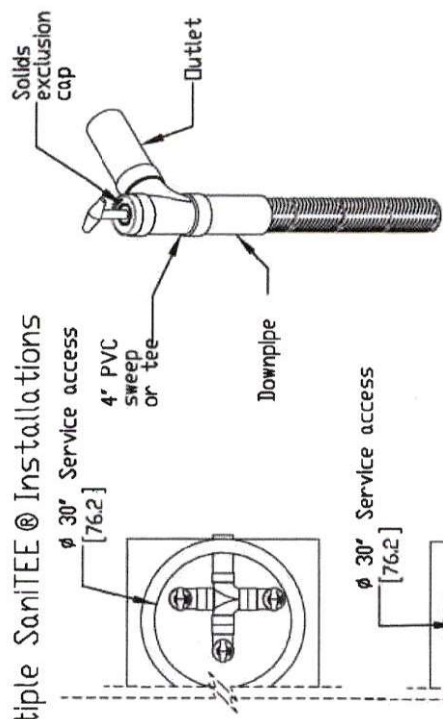
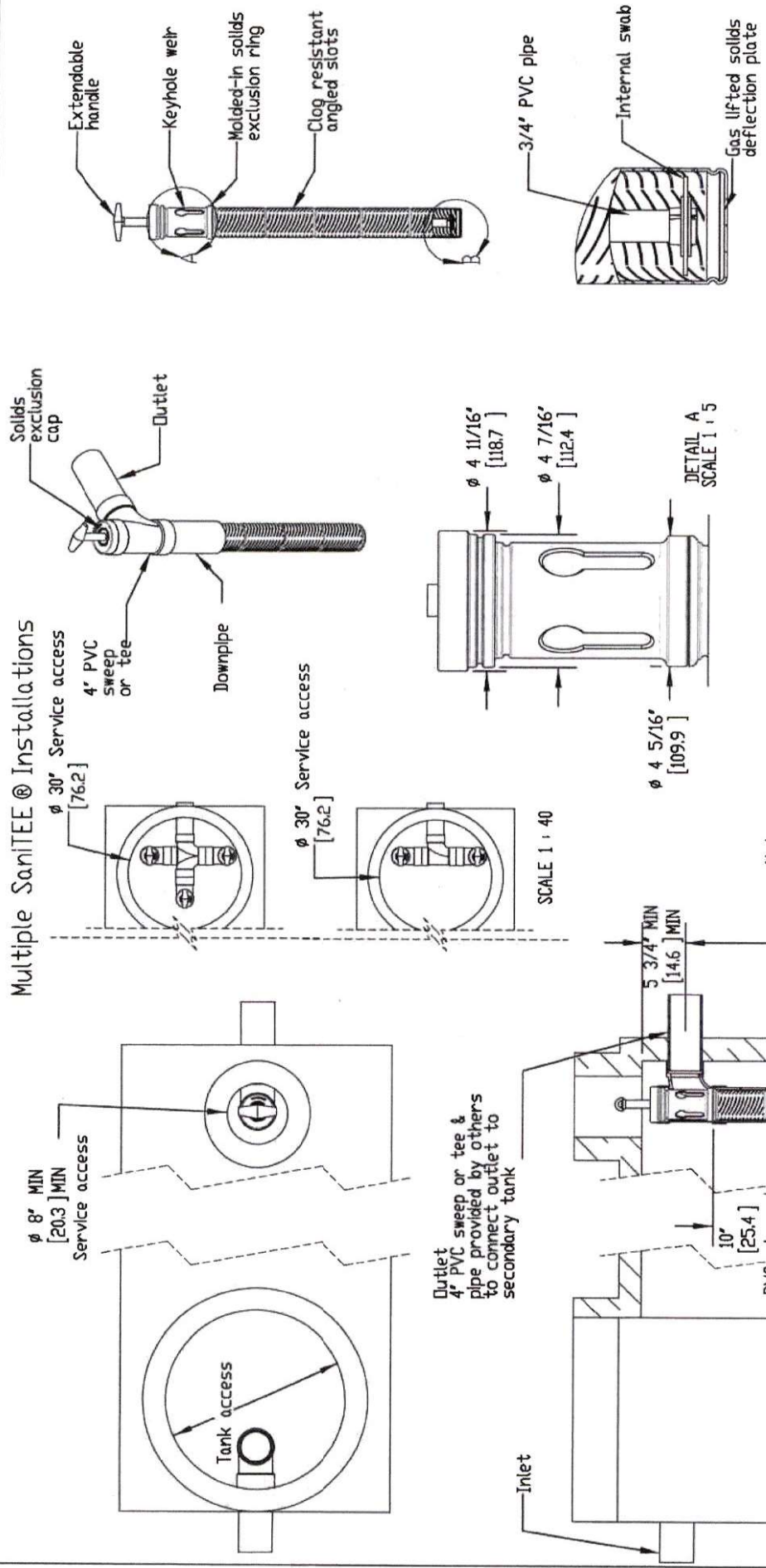
WHITTEN CONCRETE CO.
2703 W. 2nd AVE.
PINE BLUFF, AR. 71601
PHONE: 870-534-6901
FAX: 870-534-6902

500 - Gallon Pump Tank

Drawing #: DZ-2

Drawing by: SMR Date: 1/19/2011

Multiple SanITEE® Installations



Notes:

- SNT 416 is a 1/16" [1.6mm] Effluent Screen capable of screening up to 1,000 GPD [3.8 cubic meters per day].
- SNT 418 is a 1/8" [3.2 mm] effluent screen capable of screening up to 2,000 GPD [7.6 cubic meters per day].
- Down pipe, outlet pipe, and tee or sweep not included.
- All appliances to SanITEE® (eg. septic tank, access risers, etc) must conform to all applicable codes.

DETAIL B
SCALE 1 : 5

DETAIL A
SCALE 1 : 5

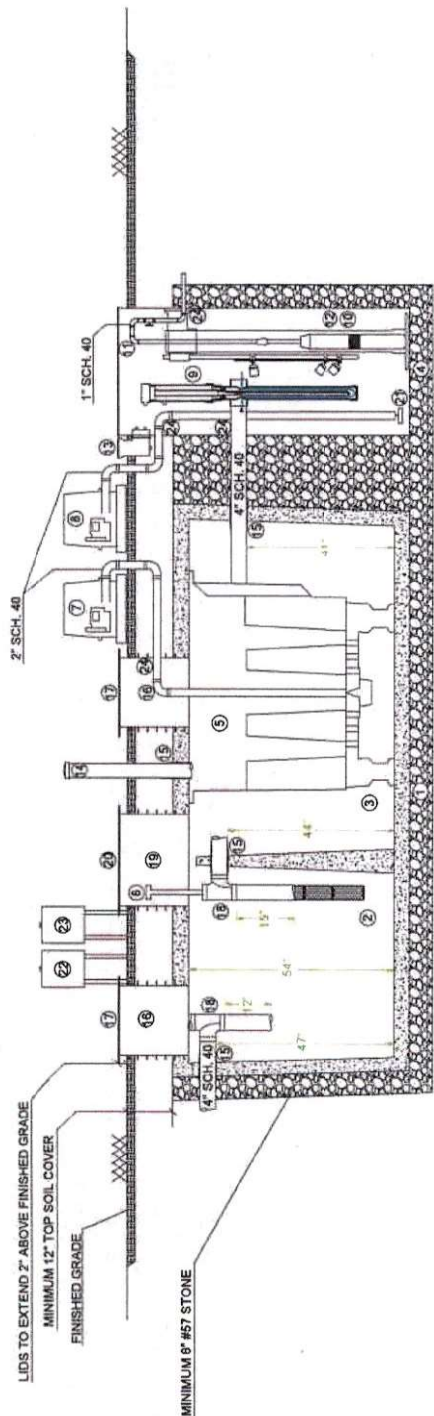
SCALE 1 : 40

DO NOT SCALE
UNLESS NOTED
DIMENSIONS
ARE IN INCHES
(CENTIMETERS)
TOLERANCES
± 0.02 IN/IN
[± 0.05 CM/CM]

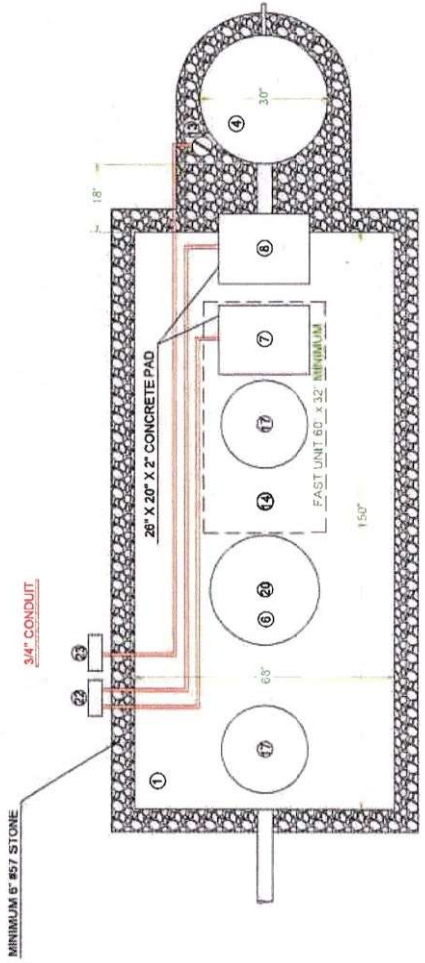


4 Inch SanITEE

SHEET 1 OF 1		DRAWING NUMBER SanITEE@416 & 418	
REVISED 10/11/2013		REV. INT-01-V	
DATE 12/31/2015	SIZE A	WEIGHT	IB
DRAWN ETC	CHECKED PF	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF BIO-MICROBICS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF BIO-MICROBICS INC. IS PROHIBITED. DESIGN AND INVENTION RIGHTS ARE RESERVED. IN THE INTEREST OF TECHNOLOGICAL ADVANCEMENT, ALL PRODUCTS ARE SUBJECT TO DESIGN AND OR MATERIAL CHANGE WITHOUT NOTICE.	



SECTION VIEW



PLAN VIEW

EQUIPMENT AND PARTS LIST

1. WHITTEN CONCRETE TANK OR EQUIVALENT, VOLUME 1500 GALLONS
2. SETTLING TANK, 500 GALLONS
3. TREATMENT TANK VOLUME, 1000 GALLONS
4. STEEL PLASTICS PUMP BASIN, 30" X 72" (STEELE PLASTICS BA30X072TA & CVF30SLDRT) OR EQUIVALENT
5. MICROFAST TREATMENT UNIT, (BIOMICROBICS MFC 0.5)
6. EFFLUENT FILTER, (BIOMICROBICS SANITEE-418)
7. BLOWER, (BIOMICROBICS FUJII HP 1PH VCF30) & HOUSING, (BIOMICROBICS 250-BBHSFL)
8. BLOWER, (BIOMICROBICS FUJII HP 1 PH VCF20) & HOUSING, (BIOMICROBICS 250-BBHSFL)
9. UV DISINFECTION UNIT, (SALCOR 3G)
10. DISCHARGE PUMP, (ORENCO PF100511) OR EQUIVALENT
11. UNIVERSAL FLOW INDUCER, (ORENCO FIT D 60) OR EQUIVALENT
12. INTERNAL SPLICE BOX, (ORENCO SB4EX) OR EQUIVALENT
13. VENT CAP, 4", (GIZMO ENGINEERING) OR EQUIVALENT
14. BOOT SEAL, (POLYLOK 3005-CE)
15. RISER, ULTRA-RIB, 18"
16. FIBERGLASS LID, 18", (ORENCO FLD18G) OR EQUIVALENT
17. RISER, ULTRA-RIB, 24"
18. FIBERGLASS LID, 24", (ORENCO FLD24G) OR EQUIVALENT
20. DIFFUSER, (FINE BUBBLE, 10 SCFM, 304 SS) OR EQUIVALENT
21. CONTROL PANEL, (BIOMICROBICS 110V AMI)
22. CONTROL PANEL, POST AIR
23. GROMMET, MATCH DIAMETER OF PIPE

Specifications for MicroFAST 0.50 Wastewater Treatment System

1. GENERAL

The contractor shall furnish and install (1) MicroFAST@0.50 treatment system as manufactured by Bio-Microbics, Inc. The treatment system shall be complete with all needed equipment as shown on the drawings and specified herein.

The principal items of equipment shall include the FAST@ system insert, blower assembly, blower controls and leg extensions or lid. All other items will be provided by others. The MicroFAST 0.50 unit shall be situated within a 450 Gallon (1700L) minimum compartment as shown on the drawings. Suggested maximum settling zone is (1) X the daily flow. Tank must provide adequate pump out access and conform to local, state, and all other applicable codes. The contractor shall coordinate the proper fabrication of the tank between the FAST system and tank supplier with regard to fabrication of the tank, installation of the FAST unit, and delivery to the job site.

2. OPERATING CONDITIONS

The MicroFAST 0.50 treatment system shall be capable of treating the wastewater produced by typical family activities (bath, laundry, kitchen, etc.) ranging from (1) one to (8) eight people and not to exceed 500 US Gallons per day (1800 L/PD) provided the waste contains nothing that will interfere with biological treatment. The FAST system is a biological treatment system not meant for non-biodegradable or industrial wastewater.

3. MEDIA

The FAST@ media shall be manufactured of rigid PVC, polyethylene, or polypropylene and it shall be supported by the polyethylene insert. The media shall be fixed in position and contain no moving or wearing parts and shall not corrode. The media shall be designed and installed to ensure that souged solids descend through the media to the bottom of the septic tank.

4. BLOWER

The MicroFAST 0.50 unit shall come equipped with a regenerative type blower capable of delivering 17-25 CFM [31-46 m3/hr]. The blower assembly shall include an inlet filter with metal filter element. The blower shall be mounted outside the tank on a contractor supplied concrete base. Blower piping to the tank shall use non-corrosive material (PVC, Galvanized, or stainless Steel). Do not run galvanized pipe inside the treatment tank. Refer to Installation Manual for further details.

5. REMOTE MOUNTED BLOWER

The blower shall be placed on a contractor supplied concrete base. The blower must not sit in standing water and its elevation must be higher than the tank and normal flood level. A two-piece, rectangular housing shall be provided. The discharge air line from the blower to the MicroFAST@ System shall be provided and installed by the contractor.

6. ELECTRICAL

The electrical source should be within 150 feet [45 meters] of the blower consult local codes for longer wiring distances. All wiring must conform to all applicable codes (IEC, NEC, etc.). Wiring distances must prevent significant voltage loss. Input power on 60Hz electrical systems 110/220VAC, 1Ø, 3.5/1.7 FLA, on 50 Hz electrical systems 220VAC, 1Ø, 1.9 FLA. Other voltages and phase are also available. Actual power consumption varies with site conditions. All conduit and wiring shall be supplied by contractor.

7. CONTROLS

The control panel provides power to the blower and contains an alarm system consisting of a visual and audible alarm capable of signaling blower circuit failure and high water conditions. The control panel is equipped with SFR@ (Sequencing Fixed Reactor) timed control feature. A manual alarm silence button is included.

8. INSTALLATION AND OPERATING INSTRUCTIONS

All work must be done in accordance with local codes and regulations. Installation of the FAST 0.50 shall be done in accordance with the written instructions provided by the manufacturer. Manuals shall be furnished, which will include a description of system installation, operation, and maintenance procedures.

9. FLOW AND DOSING

FAST@ systems have been successfully designed, tested and certified receiving gravity, demand-based influent flow. When influent flow is controlled by pump or other means to help with highly variable flow conditions, then multiple dosing events should be used to maximize performance. The flow rate shall not exceed 5 gpm (19 Lpm) with a maximum hourly flow not to exceed 10% of the design daily flow (50 gph [190 LPH]).

10. WARRANTY

Bio-Microbics, Inc. warrants all new residential FAST@ models (MicroFAST@ 0.50, 0.625, 0.75, 0.90, and 1.5) against defects in materials and workmanship for a period of two years after installation or three years from date of shipment whichever ever occurs first. All other FAST@ system models are warranted for a period of one year after installation or eighteen months from date of shipment, whichever occurs first. All are subject to the following terms and conditions below:

During the warranty period, if any part is defective or fails to perform as specified when operating at design conditions, and if the equipment has been installed and is being operated in accordance with the instructions provided by Bio-Microbics, Inc., Bio-Microbics, Inc. will repair or replace at its discretion such defective parts free of charge. Defective parts will be returned to Bio-Microbics, Inc. under this warranty period, if so requested. The cost of labor and all other expenses resulting from replacement of the defective parts and from installation of parts furnished under this warranty shall be borne by the owner. This warranty does not cover general system misuse, operator components which have been damaged by flooding, or filters or bulbs shall be borne by the owner. This warranty applies only to the treatment plant and does not include any of the structure wiring, plumbing, drainage, septic tank or disposal system. This warranty applies only to the treatment plant and does not include any of the structure wiring, plumbing, drainage, septic tank or disposal system. Bio-Microbics, Inc. reserves the right to revise, change or modify the construction and/or design of the FAST system, or any component part or parts thereof, without incurring any obligation to make such changes or modifications in present equipment. Bio-Microbics, Inc. is not responsible for consequential or incidental damages of any nature resulting from such things as, but not limited to, defect in design, material, or workmanship, or delays in delivery, replacements or repairs.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. BIO-MICROBICS SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO REPRESENTATIVE OR PERSON IS AUTHORIZED TO GIVE ANY OTHER WARRANTY OR TO ASSUME FOR BIO-MICROBICS, INC., ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF ITS PRODUCTS. Contact your local distributor for parts and service.

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DO NOT SCALE		ID	SIZE	DRAWING NUMBER
UNLESS NOTED DIMENSIONS ARE IN INCHES (CENTIMETERS) TOLERANCES ± 0.02 IN/IN ± 0.05 CM/CM		NAME	A	MicroFAST@ 0.50 Specifications
		DATE		
		DRAWN	CTC	12/18/2006
		CHECKED	PF	1/19/2013
				REV. INQ-S-V



MicroFAST 0.50 FAST Unit

MODEL AT 1500

UV DISINFECTION SYSTEM

INSTALLATION AND OPERATION MANUAL

The Model AT 1500 UV disinfection system is listed with Underwriters Laboratories (UL) under Standard 979 as a residential treatment device. The installer should provide a power disconnect switch mounted to the exterior of the facility being served to de-energize power to the unit during maintenance. Electrical work must be performed in accordance with the latest edition of the National Electrical Code, as well as all applicable local codes. The Model AT 1500 UV disinfection system conforms to the applicable provisions of the Code of Federal Regulations (CFR) requirements including Title 21, Chapter 1, Subchapter J, Radiological Health. **CAUTION: DO NOT LOOK DIRECTLY AT THE UV LAMP OR EXPOSE SKIN DURING OPERATION. PERMANENT EYE DAMAGE AND SKIN BURNS WILL OCCUR FROM UV RADIATION EXPOSURE. UV BLOCKING SAFETY GLASSES MUST BE WORN DURING INSTALLATION, SERVICE OR ANY TIME THE LAMP MAY BE ILLUMINATED. UV BLOCKING SAFETY GLASSES ARE AVAILABLE FROM NORWECO.**

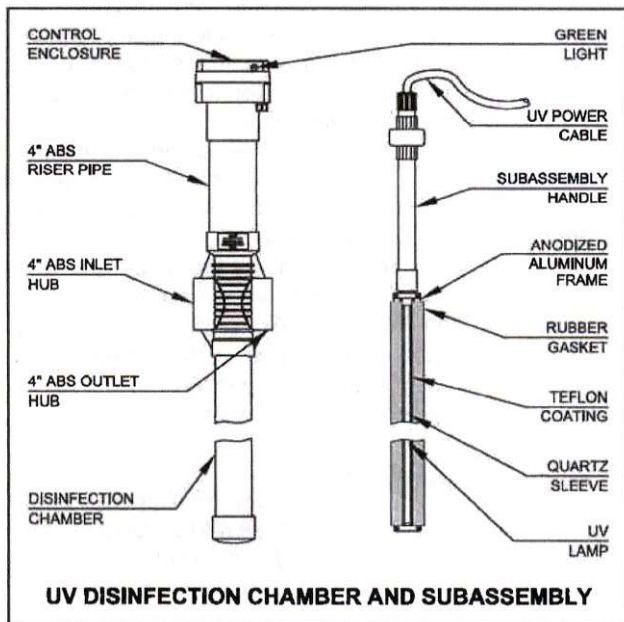
COMPONENTS

The Model AT 1500 UV disinfection system consists of the following components:

- | | |
|---|---|
| 1) Control enclosure | 5) Power cable with female twist lock connector |
| 2) 4" ABS riser pipe | 6) UV subassembly with turbulence inducer |
| 3) Disinfection chamber with UV lamp (bulb) with male connector | 7) Subassembly handle |

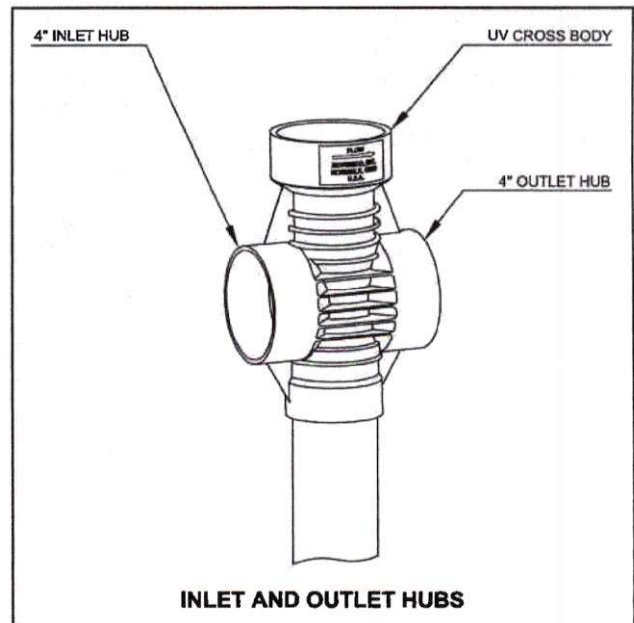
The components should be supplied by the installer:

- | | |
|------------------------|-------------------------------|
| 1) Disconnect switch | 6) Isopropyl alcohol |
| 2) Solvent cement | 7) #14/2 AWG cable |
| 3) Hacksaw | 8) Conduit and fittings |
| 4) Glycerin (optional) | 9) Flat head screwdriver |
| 5) Clean, soft cloth | 10) Phillips head screwdriver |



INSTALLATION INSTRUCTIONS

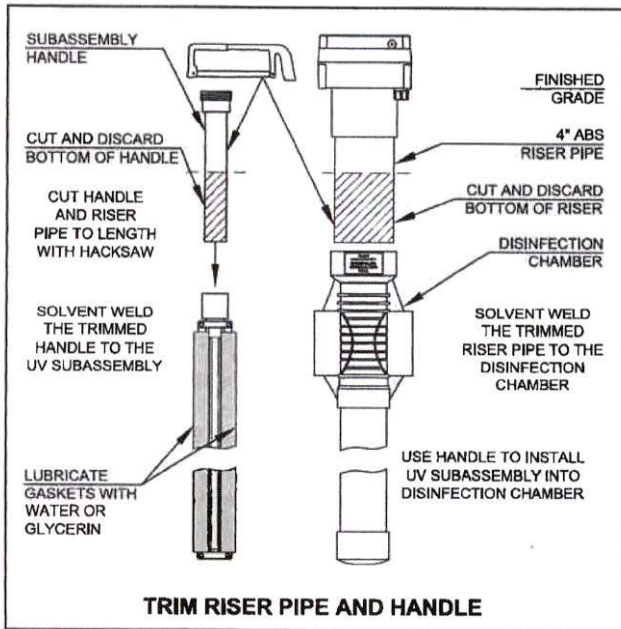
1. The excavation for the upstream wastewater treatment system should include an additional 3 feet of length to allow for installation of the Model AT 1500.
2. Carefully unpack the Model AT 1500 system. Remove and properly discard all packaging materials from the system components. The UV lamp should remain in the protective shipping sleeve until it is installed.
3. Flow direction indicator arrows are molded into the disinfection chamber. When installing the disinfection chamber, be sure to orient the chamber correctly with the flow arrows pointing towards the effluent plumbing.



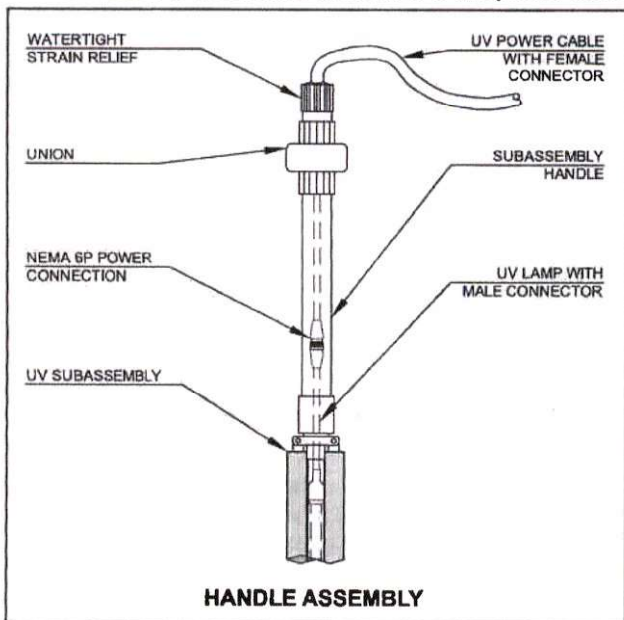
4. Solvent weld the effluent line of the upstream treatment system to the 4" inlet hub of the Model AT 1500. Next, solvent weld the 4" outlet hub to the final effluent line. Cover the open top of the disinfection chamber and backfill up to the bottom of the plumbing.

AT 1500 UV DISINFECTION INSTALLATION AND OPERATION (Cont.)

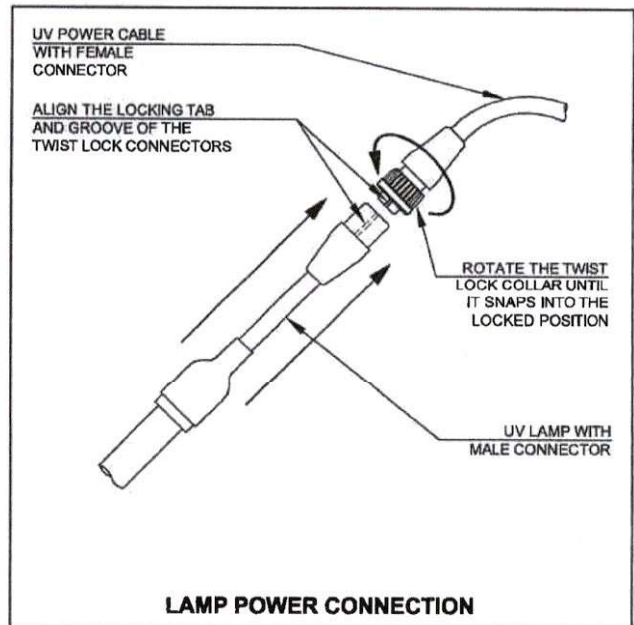
5. The control enclosure should be completely above grade in the finished installation. The riser pipe and subassembly handle are purposely manufactured longer than necessary and must be trimmed. Fit the riser pipe into the top of the disinfection chamber and mark a trim line on the bottom. Mark the subassembly handle on the bottom to trim the same amount.



6. Disassemble the union on subassembly handle and set aside the top portion with UV power cable.
 7. Use a hacksaw to cut along the trim line on both the riser pipe and handle to make them the proper length.
 8. Solvent weld the riser pipe to the disinfection chamber and solvent weld the handle to the UV subassembly.
 9. The Model AT 1500 is shipped with the UV power cable connected to the control enclosure. If this power cable



has become disconnected, it must be reconnected at this time. To do so, remove the gasketed cover from the control enclosure. Connect the lead labeled "ONE" on the UV power cable to the terminal block marked "1". Connect the lead labeled "TWO" to the terminal block marked "2". Connect the lead labeled "THREE" to the terminal block marked "3". Connect the yellow/green lead to the terminal marked "Y/G".



10. Remove the threaded access plug from the riser pipe.
 11. Match the alignment tab on the male connector from the UV lamp to the alignment groove in the female twist lock connector on the UV power cable. Push the two connectors together until the male connector is fully seated in the female connector. Rotate the twist lock collar until it snaps into the locked position.
 12. Insert the UV lamp and power cable into the handle assembly until the base of the lamp is seated in the bottom of the quartz sleeve. Rotate the power cable if the lamp becomes misaligned.
 13. Lower the union onto the handle assembly, making sure to pull any slack cable through the strain relief connector. Assemble and tighten the union and strain relief to insure a watertight seal.
 14. Use water or glycerin to lubricate the rubber gaskets located on both sides of the UV subassembly.
 15. Do not touch the Teflon coating or allow excess glycerin to contact it. Use a clean, soft cloth and isopropyl alcohol to thoroughly clean the coating.
 16. Fill the disinfection chamber with clean water.

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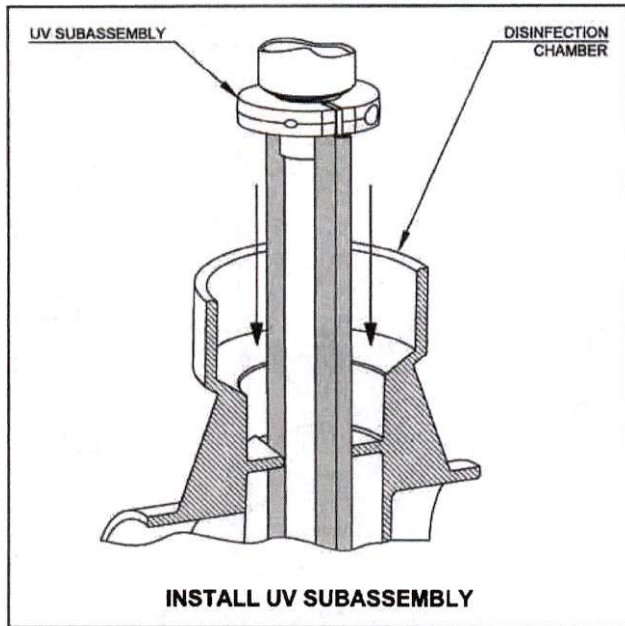
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Engineering the future of water
and wastewater treatment.

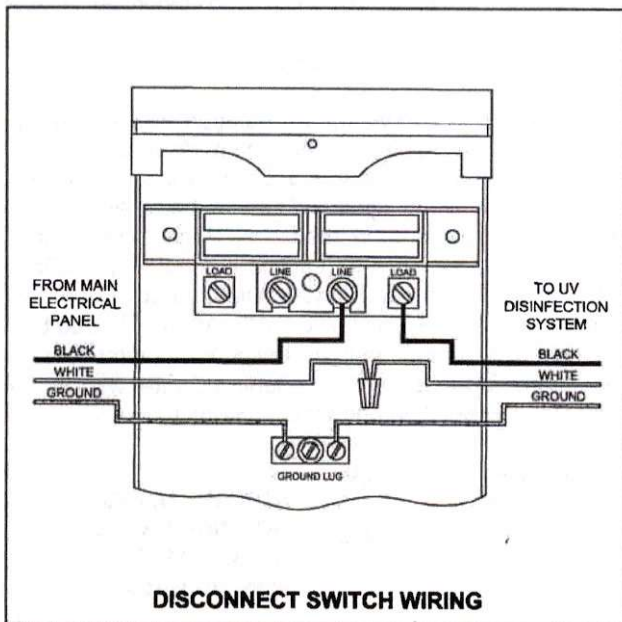
NORWECO, INC.
NORWALK, OHIO
U.S.A. 44857

www.norweco.com

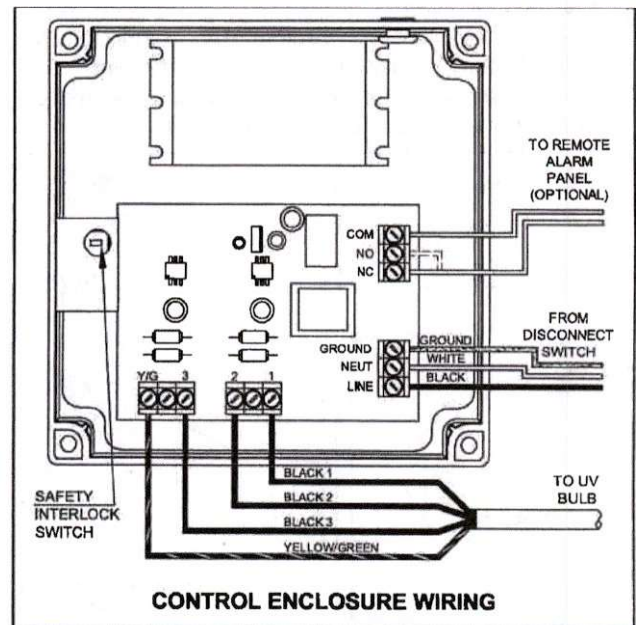
AT 1500 UV DISINFECTION INSTALLATION AND OPERATION (Cont.)



17. Align the rubber gaskets with the rectangular opening and lower the UV subassembly into the disinfection chamber.
18. Tuck the excess power cable into the riser pipe.
19. Use a dedicated 115 volt AC single phase 15 amp circuit in the main electrical panel for the AT 1500. **NOTE:** Make sure the breaker is off before proceeding.
20. Use a disconnect switch to de-energize power during service. Mount directly to the facility being served.
21. Install a #14/2 AWG cable from the dedicated breaker in the main electrical panel to the disconnect switch.
22. In the disconnect switch enclosure, connect the hot (black) lead from the main electrical panel to the "LINE" terminal. Connect the black lead from the UV system to the "LOAD" terminal. Wire nut both white leads together. Connect ground leads to the ground lug.



23. Remove the control enclosure cover and black electrical insulator. Install a #14/2 AWG cable from the disconnect switch to the control enclosure. Insure the connection to the UV system is made in conduit, solvent welded to the conduit fitting provided. A watertight connection is critical for proper operation and safety.
24. Attach the incoming hot (black) lead to the terminal block marked "LINE". Attach the common (white) lead to the terminal block marked "NEUT". Attach the incoming ground lead to the terminal block marked "GROUND".
25. If a remote alarm panel is required, the alarm leads should be installed in a separate conduit, solvent welded to the second conduit fitting provided. Connect one alarm lead to either the normally open (NO) terminal or the normally closed (NC) terminal. Choose the correct terminal for the type of signal required by the remote alarm panel. Connect the other lead to the common (COM) terminal.
26. Solvent weld a conduit plug into any unused fittings.
27. Apply thread sealant to the access plug and install plug in the riser opening. Tighten to insure a watertight seal.



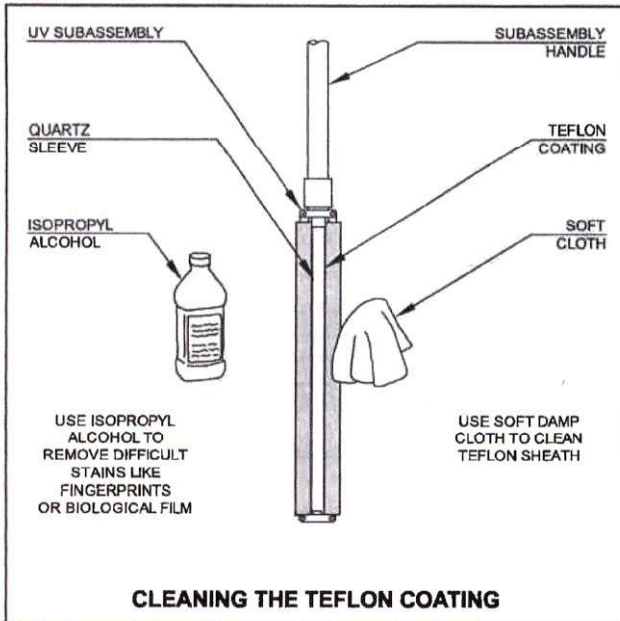
28. Reinstall the electrical insulator and four thumb screws. Make sure that the cutout for the safety interlock switch is positioned correctly over the switch.
29. Reinstall the control enclosure cover, insuring that the safety interlock post is aligned with the safety interlock switch. Tighten the four screws on the cover to insure a watertight seal. **NOTE:** If the switch is not aligned with the post, the UV lamp will not operate and the green light on the side of the enclosure will not illuminate.
30. Backfill around the disinfection chamber and riser pipe. Finished grade should be below the control enclosure to prevent the entry of surface water.
31. Turn on power at the disconnect switch and main service panel. Confirm the green light on the enclosure is illuminated indicating proper operation.

AT 1500 UV DISINFECTION INSTALLATION AND OPERATION (Cont.)

MAINTENANCE AND SERVICE

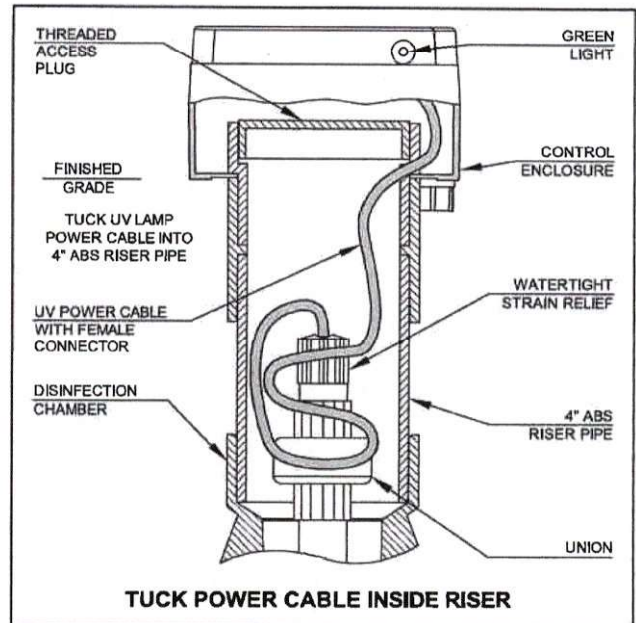
UV protective eyewear must be worn during service or any time the lamp may be illuminated. It is recommended that the subassembly be removed and serviced every six months to insure proper disinfection. To inspect and clean the Teflon coating:

1. Turn off power to the UV system at the disconnect switch and/or main service panel. Confirm that the green light on the side of the enclosure is off.
2. Remove the control enclosure cover and access plug.
3. Carefully remove the UV subassembly from the disinfection chamber
4. Inspect the quartz sleeve and Teflon coating for signs of damage or an accumulation of biological film. If the quartz sleeve has been damaged, the UV subassembly must be replaced. If biological film is present on the surface of the Teflon coating, the coating must be cleaned to insure proper disinfection.
5. Use a soft damp cloth to carefully and thoroughly clean the Teflon coating.
6. Use isopropyl alcohol on a soft cloth to carefully remove difficult stains like fingerprints or biological film.
7. Remove all accumulated solids from the disinfection chamber using a vacuum or service pump.



It is recommended that the UV lamp be replaced every two years to insure proper disinfection of the treatment system effluent. The green light on the side of the control enclosure will no longer illuminate when the lamp needs replaced. To replace the lamp:

1. Repeat steps 1, 2 and 3 above.
2. Disassemble the union on the subassembly handle and remove the UV lamp using the power cable.
3. Disconnect the UV lamp from the UV power cord by rotating the twist lock collar ¼ turn.



4. Connect new lamp and carefully lower into the UV subassembly. Make sure the lamp is fully seated in the quartz sleeve.
5. Reassemble union and tighten strain relief.
6. Lower the subassembly into the disinfection chamber.
7. Reinstall the threaded access plug into the riser.
8. Reinstall the enclosure cover, insuring that the safety interlock post is aligned with the safety interlock switch. Tighten the four screws to insure a watertight seal.
9. Turn on power at the disconnect switch or main service panel. Verify that the green light on the side of the control enclosure is illuminated.

NOTE: UV lamps contain mercury which is harmful to the environment. Recycle old UV lamps at an authorized center.

ALARM CIRCUIT

The Model AT 1500 system is equipped with a current sensing circuit to monitor the UV lamp performance. If the UV lamp output drops below an acceptable level for proper disinfection, the alarm circuit will turn off the green light on the enclosure. When connected to the Service Pro control center, the service provider can be immediately notified that maintenance to the UV system is required. For more information regarding connection of the Model AT 1500 UV disinfection system alarm to a Service Pro control center, please refer to the Service Pro Control Center with MCD Technology Installation and Operation Instructions.

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U.S.A. 44857
www.norweco.com

SERVICE AND MAINTENANCE CONTRACT

1. **Parties.** This contract ("Agreement" or "Contract") is between Meinco Septic Systems, Inc., ("Meinco") and Andy & Neely Kimbrell, ("Client"), referred to individually as a "Party" and collectively as the "Parties."
2. **Service Location.** This is a Contract for septic system service and maintenance services provided by Meinco for Client located at Lot 4, Pinnacles Cove, Roland, AR 72135, hereinafter referred to as the "Service Site."
3. **Service Fees.** Client agrees to pay Meinco One Hundred Thirty Dollars (\$ 130.00) for septic system service and maintenance specifically work performed every Three Months (Quarterly) and described more specifically below (hereinafter referred to as "Service Work"). Meinco and Client agree that the invoiced amount is good consideration for this Contract and the services set forth below and reflects the bargained for terms of this agreement.
4. **Materials Charges.** During regular maintenance Meinco will replace materials necessary to keep the septic system operating efficiently (chlorine tablets, UV light bulbs, floats, filters, etc.). Meinco and Client agree that Meinco shall submit to client the costs of maintenance parts and materials and Client will promptly pay the same.
5. **Laboratory Fees.**
 - A) This paragraph is inapplicable.
 - B) Client agrees that Meinco will use a third party laboratory, Environmental Services, Inc., for any sampling that is required under this Contract. In such event, Meinco shall submit to Client a laboratory fee of \$ 150.00 and Client will promptly pay the same.
6. **Services Provided.** Meinco agrees to provide the following Service Work to the Client and the Service Site:
 - A) Maintenance requirements, including review of system components and their working condition, monitoring of solid levels to determine system efficiency, and periodic cleaning of system filters or media.
 - B) I. This paragraph is inapplicable.
II. Necessary sampling and submission of paperwork every month(s) or as required to comply with the Arkansas Department of Health Onsite Maintenance Program.
 - C) Necessary paperwork every 6 month(s) as required to comply with the Arkansas Department of Health and/or the Arkansas Department of Environmental Quality.
 - D) I. This paragraph is inapplicable.
II. Sampling of discharge every 6 month(s) in coordination with a 3rd party laboratory for required laboratory tests.
7. **Contract Duration.** This contract shall be for a period of 24 month(s) from the date this Contract is executed by the parties on page 2
8. **Flow Requirements.** This contract shall be null and void if septic system flow exceeds 450 gallons per day.
9. **Modification to System.** If the septic system is modified, abused, mis-used, or altered, then Meinco's responsibility to service or maintain the septic system is terminated. Meinco may remedy such conditions by replacing parts or correcting defects. If Meinco makes such changes to the septic system, then it may charge to client the costs of repairs, modifications, parts, and labor. Meinco may, at its discretion, seek payment in advance of making any repairs or modifications to the septic system. In such event, Meinco shall not be responsible for any damage or adverse effects for its delay in making repairs or modifications to the septic system.
10. **Access to System.** Client agrees to provide Meinco access to the septic system as well as its parts and components.
11. **Termination by Client.** Client may terminate this contract by providing thirty (30) days written notice to Meinco.
12. **Termination by Meinco.** Notwithstanding, and in addition to, any other provision or term in this Contract, **MEINCO MAY TERMINATE THIS CONTRACT AT ANY TIME AND WITHOUT PREVIOUS NOTICE TO CLIENT.**
13. **Solid Removal.** Solid removal is not a covered service and shall incur an additional fee. If Meinco removes solids from the septic system, then it may charge to client the costs of solid removal. In any event, Meinco shall not be responsible for any damage or adverse effects for any delay in removing solids.
14. **Indemnity.** To the fullest extent permitted by law, Client shall indemnify, hold harmless, and defend Meinco and any agent or employees of Meinco from and against all injuries, claims, damages, losses, and expenses, including, but not limited to, attorneys' fees, arising directly or indirectly out of the obligations herein undertaken or resulting out of operations related to the Service Work or Service Site conducted by Meinco, Meinco's agents, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such injury, claim damage, losses, or expenses is caused in part by a party indemnified. Such obligation shall not negate, abridge, or otherwise reduce the rights or obligations of indemnity which would otherwise exist to a party or person described in this paragraph.

15. **Assignment.** Client agrees that even though this is a contract for services, Meinco may assign this Contract to any third party without written notice to Client.
16. **Bilateral Contract.** Meinco and client specifically agree that Client is seeking Meinco's promise to perform and not its performance.
17. **Claims Against Meinco.** Client shall give Meinco written notice of all claims within five (5) days of Client's knowledge of facts giving rise to the event for which claim is made. Otherwise, such claims shall be deemed waived by Client. All unresolved claims, disputes, and other matters in question between Meinco and Client shall be resolved in the manner provided for in this Agreement.
18. **Rights Upon Breach.** If Client breaches this Agreement with Meinco, Meinco may stop all work, including all Service Work. Additionally, Client will be liable to Meinco for consequential, incidental, and reliance damages as well as attorneys' fees and court costs. Such liability upon Client shall extend to petitions for and orders of contempt as well as any attempts by Meinco to collect upon any debt or damages owed to it by Client, including those entered by court of law or other dispute resolution proceeding.
19. **Direct Discussion.** If a dispute arises out of or relates to this Agreement, the Parties shall endeavor to settle the dispute through direct discussion before advancing to any dispute resolution proceeding.
20. **Joint Drafting.** The Parties expressly agree that this Agreement was jointly drafted and that this Agreement shall be construed neither against nor in favor of either Party. Instead, this Agreement shall be construed in a neutral manner.
21. **Choice of Law.** The Parties expressly agree that any dispute or claim filed or heard in any jurisdiction concerning or relating to this Agreement or worked performed as a result of this Agreement shall be governed by the laws of the State of Arkansas.
22. **Forum Selection and Choice of Venue.** The Parties expressly agree that any dispute or claim arising from, filed, or heard concerning or relating to this Agreement or work performed as a result of this Agreement shall be heard in Saline County, Arkansas, and no other forum. If this clause is penetrated and the hearing concerning the dispute removed to the United States federal court system, then the Parties expressly agree that the dispute shall be heard in the United States District Court for the Eastern District of Arkansas, Western Division, at the Richard Sheppard Arnold United States Courthouse in Little Rock, Arkansas.
23. **Waiver of Agreement Terms.** Meinco, at its sole discretion and leisure, may waive any term in this Agreement. Such waiver shall not, under any conditions or circumstances, constitute a modification of this Agreement. Additionally, such waiver shall not, under any conditions or circumstances, constitute a course of performance, course of dealings, or trade usage between Meinco and Client. Any waiver by Meinco shall be limited to a single incident or event. No waiver of any term of this Agreement is valid unless it is in writing, signed by Meinco, and attached to this Agreement as an addendum. It is the responsibility and duty of Client to draft any written waiver and to present it to Meinco for Meinco's approval and signature.
24. **Force Majeure.** Neither Party shall be in breach of its obligations under this Agreement (other than payment obligations) or incur any liability to the other Party for any losses or damages of any nature whatsoever incurred or suffered if and to the extent that the other party it is prevented from carrying out its obligations by, or such losses or damages are caused by, a *force majeure* event. For purposes of this paragraph, the failure of the state of Arkansas or the United States of America to act according to current practices, procedure, or law at the time of the making of this Contract shall be considered a *force majeure* event. Such event by the government shall be in addition to any current or commonly accepted definition of *force majeure* event.
25. **Merger and Integration.** Meinco and Client agree that this Agreement represents a full, final, and complete memorial of their Agreement for the Service Work and that this Agreement does not rely upon any term or promise not otherwise specified within the four corners of this Agreement.
26. **No Oral Modification.** Meinco and Client agree that this Agreement shall not be subject to oral modification. The Parties agree that any modification made or agreed to by the Parties shall be in writing, signed by both Parties, and attached to this Agreement as an Addendum.

By signing this Agreement below, I indicate that I have read this Agreement and its terms, consisting of two (2) pages, excluding any Addendum or Addenda, and that these express terms are both acceptable and agreeable to me. I further declare that these terms do not represent an undue hardship, are not illusory, and are not unconscionable as I have expressly bargained for these terms in consideration of entering into this Contract for the value specified in paragraph three (3).

Dana Smith
 Meinco Septic Systems, Inc.

02/17/2022
 Date

Nelly Kimbren
 Client

3/8/22
 Date



Arkansas Department of Health
4815 West Markham, Slot 46
Little Rock, Arkansas 72205-3867

MEMORANDUM OF AGREEMENT

SUBJECT: ONSITE WASTEWATER SYSTEM APPLICATION

This is an agreement that the onsite wastewater system installed on this property has been permitted under authority of Act 402 of 1977 and by the Arkansas Department of Health with the understanding that the following provisions are met:

1. Onsite Wastewater Systems requiring a Monitoring Contract with a Certified Monitoring Personnel are Holding Tanks, Experimental Systems (i.e. Reduced Absorption Areas, *ABGs), and Drip Dispersal Systems. *Aerobic Biological Generators – Commercial applications only, residential applications must follow manufacturers' service contract requirements.
2. The property owner assumes all responsibility for the proper operation of the onsite wastewater system.
3. The property owner must maintain a monitoring contract with a licensed Certified Monitoring Personnel for the life of the system and retain Onsite Wastewater System Assessments (EHP-71), on file, for at least five (5) years.
4. The Arkansas Department of Health has no responsibility in the operation and maintenance of such systems.
5. That the Arkansas Department of Health may monitor the system as to its operation capabilities.
6. That the Arkansas Department of Health is granted permission to make such inspections as deemed necessary.
7. Subsurface systems with flows ≥ 3000 gpd and all surface discharging systems require the owner to file an additional permit application with the Arkansas Department of Environmental Quality (ADEQ).
8. **That, on the sale of the property, the owner of the property must disclose to the perspective buyer notice of this agreement and any permit requirements. The buyer is to sign memoranda, contracts or permit name change forms and submit these documents to the appropriate regulatory agency.**

SIGNED: Neely Kimbrell SIGNED: _____
(Property Owner) (Health Department)

DATE: 3/8/22 DATE: _____



ENVIRONMENTAL

Zoeller Family of Water Solutions



PUMP COMPANY

Zoeller Family of Water Solutions

Zoeller Company

System Head Curve and Pump Selection Tool

Static Head Information
 Static Head - elevation difference from low water to outfall
 System high point above outfall?

14.0 feet
No

Friction Head Information
 Pipe
 How many different pipes in the system (not counting laterals)?

1
150 feet
2 inches
SCH 40

Pressurized Laterals?

No

Fittings & Discharge Assemblies

Type	Size	Quantity
Discharge Assembly	2 inches	

Special Friction Considerations
 Weep Hole
 Add-In Friction
 Automatic Multizone Valve?
 Pressure Filter?

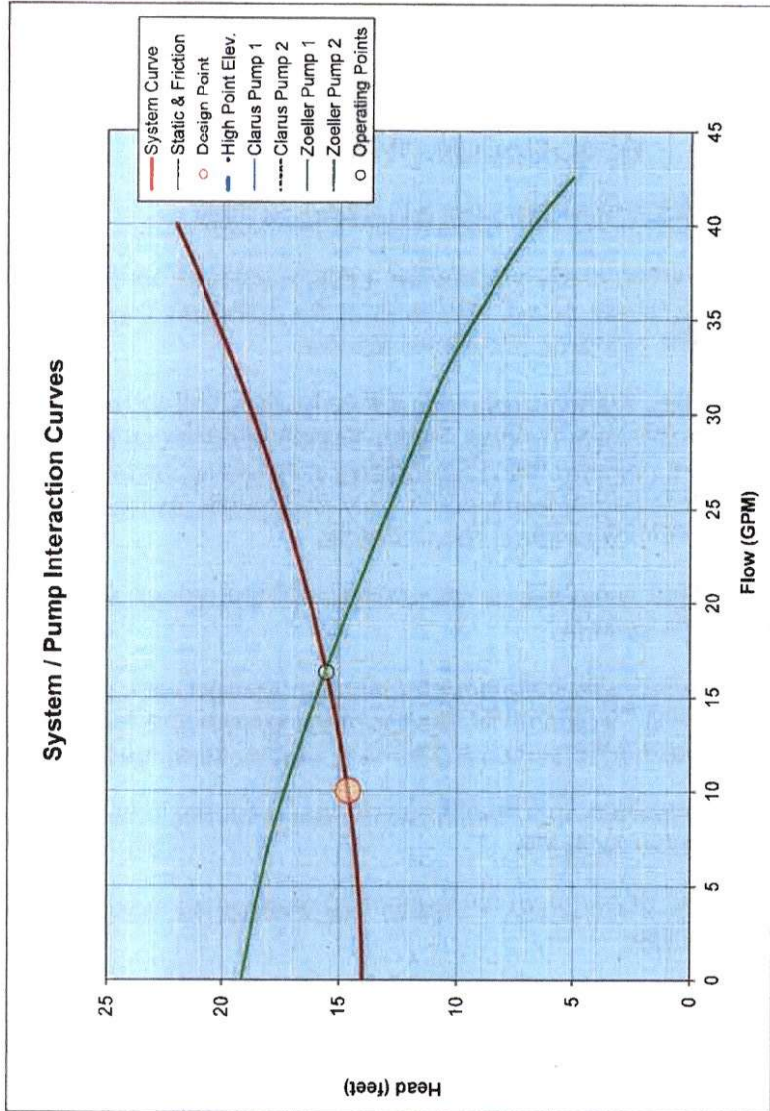
Yes
15% of Pipe Loss
No
No

Operating Head Information
 System Type
 Specify Flow Requirement?

Non-Pressurized
Yes

Factors and Coefficients
 Hazen-Williams C Factor
 Discharge Coefficient (Cd)
 Lateral Design Mode

130
0.61
Off



NOTE: THE DISPLAYED PUMP CURVES HAVE BEEN ADJUSTED TO ACCOUNT FOR THE EFFECT OF THE WEEP HOLE

Flow Requirement: 10.0 GPM

Design Point: 10.0 GPM @ 14.6' TDH

Curve Zoom Range: 40 GPM

Pump Selection	60 Hz Frequency
Clarus Environmental Pumps	
Clarus Pump 1	
Clarus Pump 2	
Zoeller Pump Company Pumps	
Zoeller Pump 1	53.55/57.55, 0.3hp, 60Hz
Zoeller Pump 2	16.3 GPM @ 15.5'

Operating Points

Flow (GPM)	10.0
Head (feet)	14.6

Project Data

Project Name:	Andy & Neely Kimbrell
Project Address:	Lot 4, Pinnacles Cove Roland, AR 72135
Contact Info:	Melnco, Inc. 501-821-2837

Notes:

- 2" Discharge Assembly
- 2" Transport Line

Your Peace of Mind is Our Top Priority®

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



PUMP COMPANY

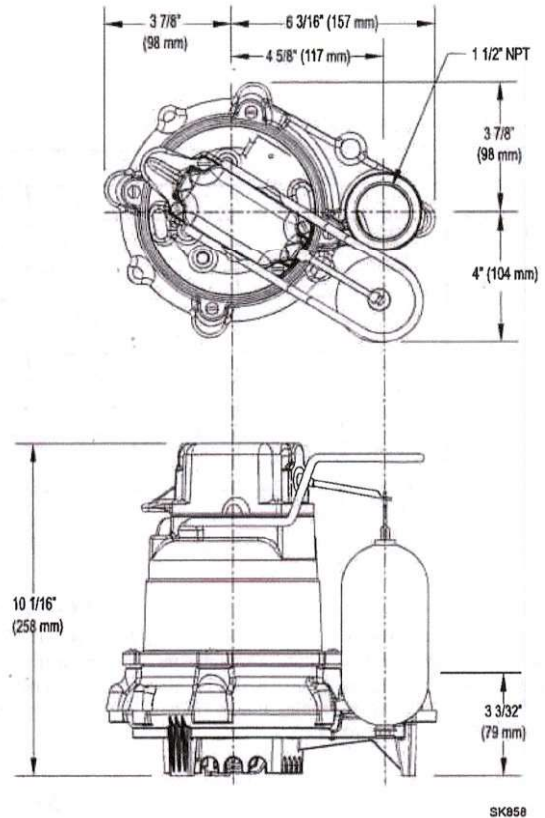
Zoeller Family of Water Solutions

SECTION: 2.15.020
FM2778
0515
Supersedes
0315

TECHNICAL DATA SHEET
MIGHTY-MATE SERIES
Cast Iron Models 53, 57 and Bronze Models 55, 59
Submersible Effluent / Dewatering Pumps

PRODUCT SPECIFICATIONS

MOTOR	Horse Power	3/10
	Voltage	115 or 230
	Phase	1 Ph
	Hertz	60 Hz
	RPM	1550
	Type	Shaded pole
	Insulation	Class B
	Amps	4.8 - 9.7
PUMP	Operation	Automatic or nonautomatic
	Auto On/Off Points	7-1/4" (18.4 cm) / 3" (7.6 cm)
	Discharge Size	1-1/2" NPT
	Solids Handling	1/2" (12 mm) spherical solids
	Cord Length	9' (3 m) automatic, 15' (5 m) nonautomatic
	Cord Type	UL listed, 3-wire, grounded plug
	Max. Head	19.25' (5.9 m)
	Max. Flow Rate	43 GPM (163 LPM)
	Max. Operating Temp.	130° F (54° C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload
MATERIALS	Cap	Cast iron or bronze
	Motor Housing	Cast iron or bronze
	Pump Housing	Cast iron or bronze
	Base	Cast iron, bronze or engineered thermoplastic
	Upper Bearing	Sleeve bearing
	Lower Bearing	Sleeve bearing
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Non-clogging vortex
	Impeller	Plastic, cast iron or bronze
	Hardware	Stainless steel
	Motor Shaft	AISI 1215 cold rolled steel
Gasket	Neoprene	



NOTE: See model comparison chart for specific details.

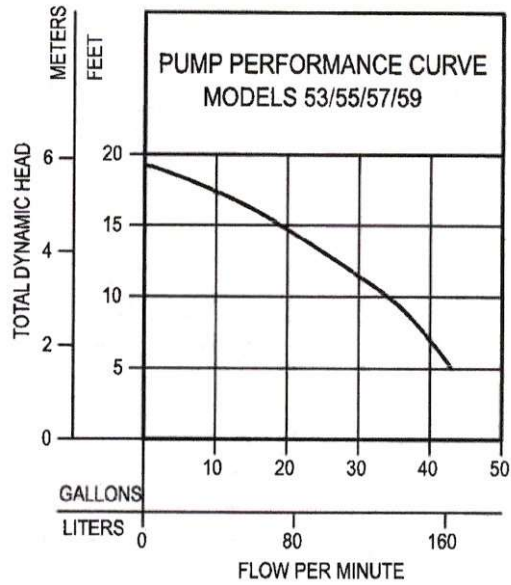


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502-778-2731 | 800-928-7867 | 3649 Cane Run Road | Louisville, KY 40211-1961 | www.zoeller.com

**TOTAL DYNAMIC HEAD
FLOW PER MINUTE**

MODEL		53/55/57/59	
Feet	Meters	Gal.	Liters
5	1.5	43	163
10	3.0	34	129
15	4.6	19	72
Shut-off Head:		19.25 ft.(5.9m)	



009897

Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex
M53/M55	Single	Auto	115	1	9.7	3/10	60	23	10	1	---
N53/N55	Single	Non	115	1	9.7	3/10	60	23	10	2	3 & 4
* BN53	Single	Auto	115	1	9.7	3/10	60	25	11	*	---
* BE53/BE57	Single	Auto	230	1	4.8	3/10	60	24 / 30	11 / 13	*	---
D53	Single	Auto	230	1	4.8	3/10	60	23	10	1	---
E53/E55	Single	Non	230	1	4.8	3/10	60	22	10	2	3 & 4
M57/M59	Single	Auto	115	1	9.7	3/10	60	29 / 33	13 / 15	1	---
N57/N59	Single	Non	115	1	9.7	3/10	60	28 / 29	12 / 13	2	3 & 4
* BN57	Single	Auto	115	1	9.7	3/10	60	30	13	*	---
D57/D59	Single	Auto	230	1	4.8	3/10	60	30 / 33	13 / 15	1	---
E57/E59	Single	Non	230	1	4.8	3/10	60	28 / 29	12 / 13	2	3 & 4
E59	Single	Non	230	1	4.8	3/10	60	29	13	2	3 & 4

* Single piggyback switch included.

SPECIAL MODEL FEATURES

Additional cord lengths are available in 15' (5 m), 25' (8 m) and 35' (11 m). 50' (15 m) cord lengths available for 230 V units only.

BE and BN models include a piggyback variable level pump switch.

Model 53: cast iron switch case, motor and pump housing, a plastic impeller and base. Model 57: all cast iron construction with a cast iron impeller. Model 55: bronze switch case, motor and pump housing, a plastic impeller and base. Model 59: bronze construction with a bronze impeller.

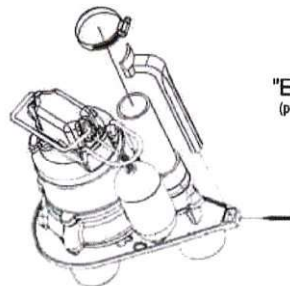
Optional pump stand (P/N 10-2421).

SELECTION GUIDE

1. Integral float-operated mechanical switch, no external control required.
2. Single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. See FM0712 for correct model of Electrical Alternator.
4. Variable level control switch 10-0743 used as a control activator with electrical alternator (3) or (4) float system.

OPTIONAL PUMP STAND P/N 10-2421

- Reduces potential clogging by debris
 - Replaces rocks or bricks under the pump
 - Made of durable, noncorrosive ABS
 - Raises pump 2" (5 cm) off bottom of basin
 - Provides the ability to raise intake by adding sections of 1½" or 2" (DN40 or DN50) PVC piping
 - Attaches securely to pump
 - Accommodates sump, dewatering and effluent applications
- NOTE: Make sure float is free from obstruction.



"Easy assembly"
(pump & discharge pipe
not included.)

CAUTION All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

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A North Little Rock Health Department, 2800 Willow St, North Little Rock, AR 72114

29 min , 19.7 miles
 Light traffic (Leave at 10:16 AM)
 Via I-40 W, AR-10

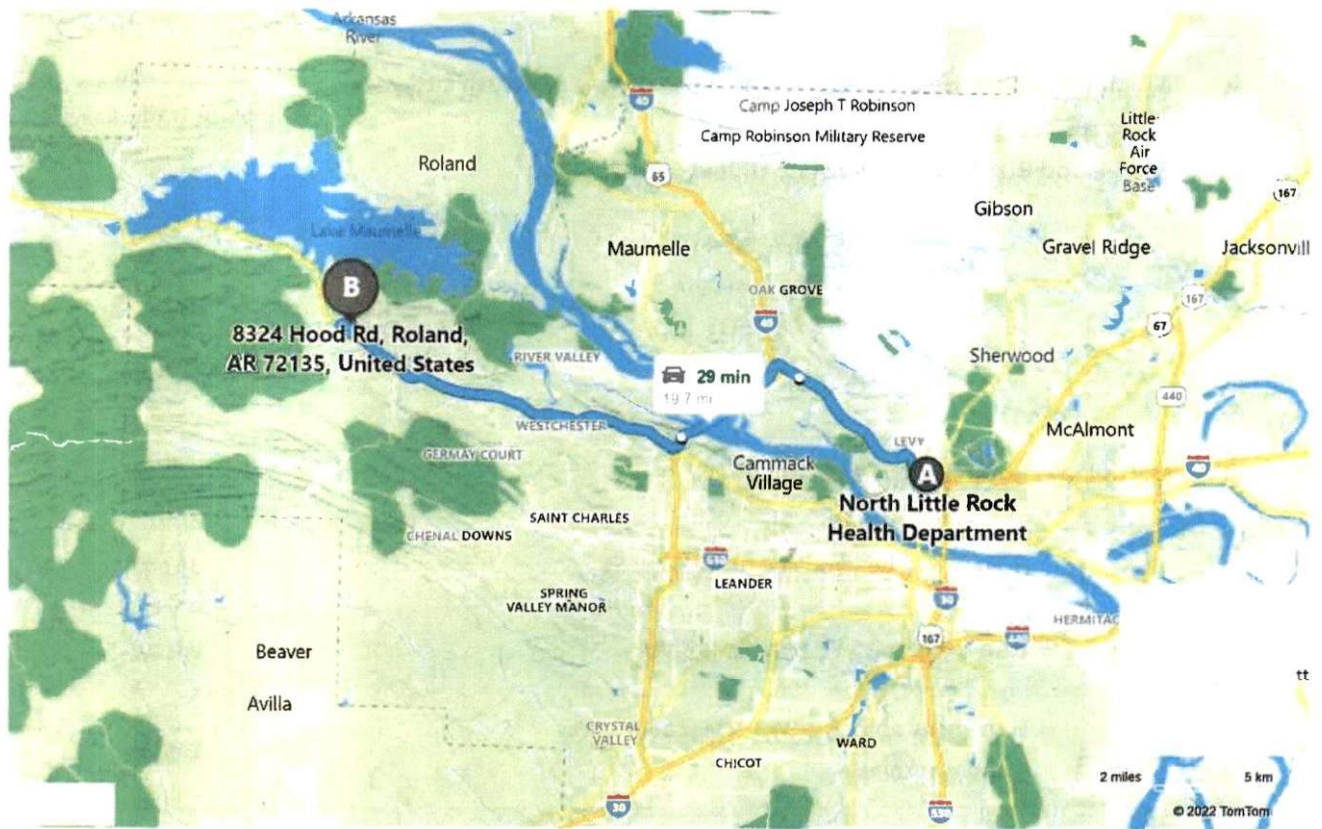
B 8324 Hood Rd, Roland, AR 72135, United States

GATE CODE: 0200 OPEN
 Lot 4, Pinnacles Cove
 Roland, AR 72135

A North Little Rock Health Department

	1. Depart and head south on Willow St	453 ft
	2. Turn right onto W Pershing Blvd	0.4 mi
	3. Turn right onto AR-365 / Macarthur Dr Shell on the corner	0.6 mi
	4. Take the ramp on the left for I-40 West and head toward Fort Smith	3.8 mi
	5. At Exit 147 , head right on the ramp for I-430 South toward Texarkana	4.1 mi
	6. At Exit 9 , head on the ramp right and follow signs for AR-10 Pass Pizza Hut on the right in 3.1 mi  <i>Minor Congestion</i>	10.4 mi, 15 min
	7. Turn right onto Hood Rd	0.3 mi
	8. Arrive at Hood Rd The last intersection before your destination is AR-10 / Highway 10 If you reach Twin Mountain Ln, you've gone too far	

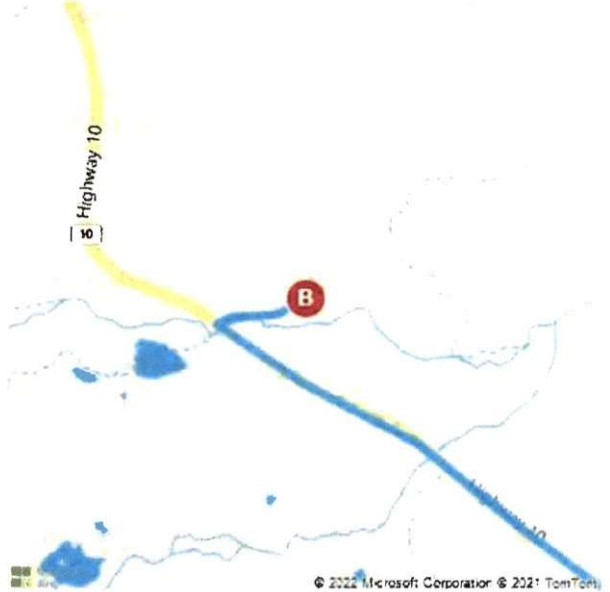
B 8324 Hood Rd, Roland, AR 72135, United States



A North Little Rock Health Department, 280...



B 8324 Hood Rd, Roland, AR 72135, United ...



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POE

POD

9026 Pinnacles Cv