

LAYOUT _____ INSP 4 _____

INSP 2 2/3/11 INSP 5 _____

INSP 3 2/28/11 INSP 6 _____

ISSUE DATE: 1-5-11

PERMIT-MICROFAST 0.75

P 532584

APPROVAL DATE: 3/9/11

SEPTIC SYSTEM

0.50

A 531992

TAX ID # 04-372999

ON-SITE SEWAGE DISPOSAL SYSTEM

HOWARD COUNTY HEALTH DEPARTMENT

BUREAU OF ENVIRONMENTAL HEALTH

1st fields Equipment IS PERMITTED TO INSTALL ☒ ALTER ☐ 508

ADDRESS: P.O. Box 519 Ann Jet MD 20701 PHONE NUMBER: 410-984-0047

SUBDIVISION Neshawat Property LOT (4)

ADDRESS: 3322 Secretariat Way PROPERTY OWNER: Ryan Homes

MICROFAST 0.75 CAPACITY (GALLONS): *see mfr **Top Seamed Two Compartment Tank**

PUMP CHAMBER CAPACITY (GALLONS): specs
N/A

LOCATION:	Install trench as per layout. Original grade below fill must be determined in order to install trench on contour. Trench inlet is 4.5 feet below fill. Trench bottom depth is 8 feet below fill. Trench to be 5 feet wide and 90 feet long. Trench to be installed on shelf. Contractor responsible for following MOSHA regulations during system installation.
NOTES:	A test of the blower, alarm and microfast unit is required. Install microfast unit per manufacturer's instructions. <u>Shored Septe</u>

Note: A start-up inspection of the grinder pump must be performed with the Howard County Bureau of Utilities.

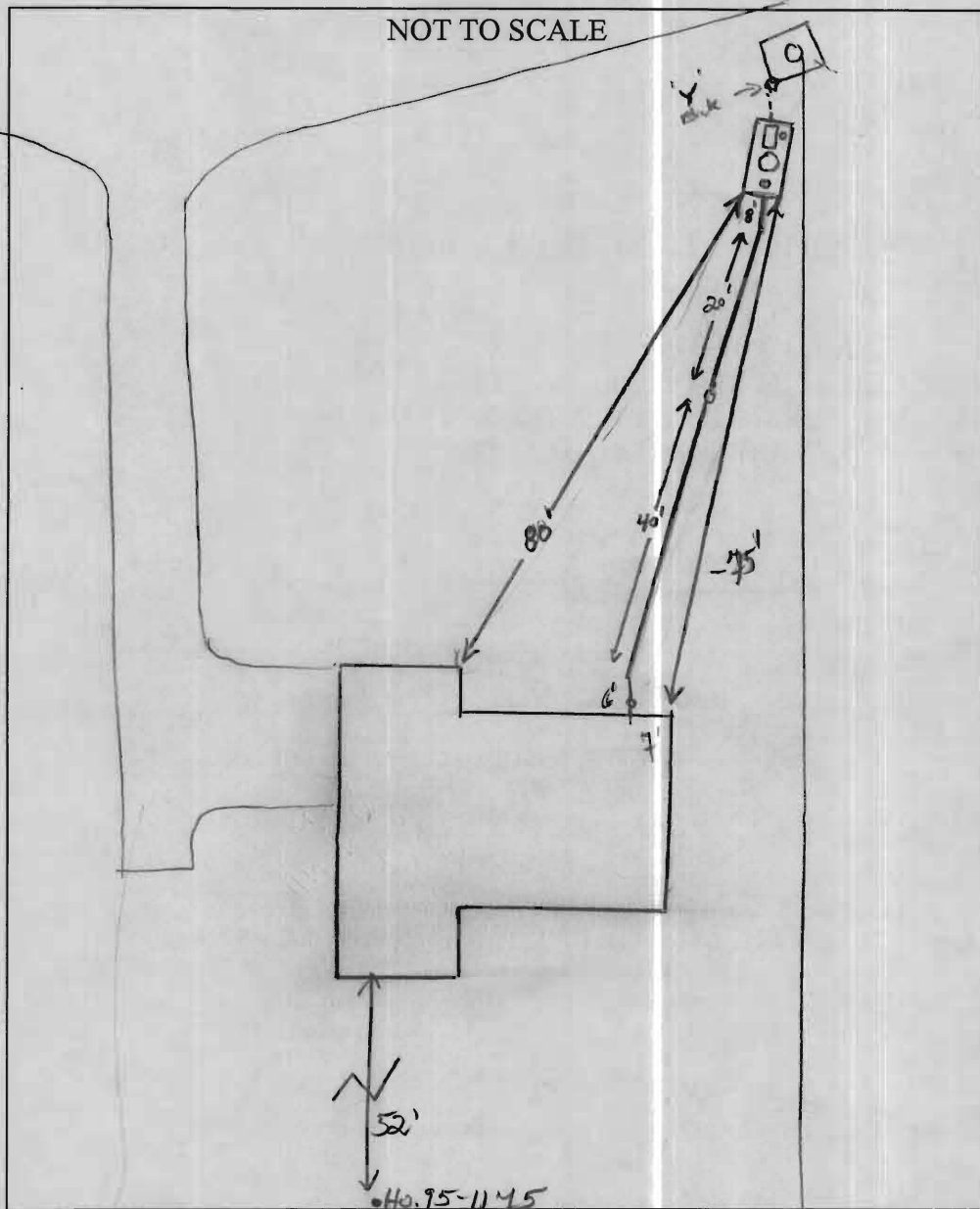
PLANS APPROVED: Kevin Wolf DATE: 11/15/10

NOTES: PERMIT VOID AFTER 2 YEARS

CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION INSPECTION FOR ALL INSTALLATIONS
WATERTIGHT SEPTIC TANKS REQUIRED
ALL PARTS OF SEPTIC SYSTEM SHALL BE 100 FEET FROM ANY WATER WELL UNLESS SPECIFICALLY AUTHORIZED
MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS UNLESS SPECIFICALLY AUTHORIZED
CONTRACTOR RESPONSIBLE FOR COMPLIANCE WITH APPLICABLE REGULATIONS, GUIDELINES AND THE TERMS OF THIS PERMIT

**NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS
RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM
PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT
ALL 410-313-1771 FOR INSPECTION OF SEPTIC SYSTEM**

NOT TO SCALE



TRENCH/DRAINFIELD DATA

WIDTH _____ INLET _____ BOTTOM _____

NUMBER OF TRENCHES _____

TOTAL LENGTH _____

ABSORPTION AREA _____

DISTRIBUTION BOX LEVEL _____

DISTRIBUTION BOX BAFFLE _____

DISTRIBUTION BOX PORT _____

NORWECO SINGULAR TNT

CAPACITY 1500 GAL

SEAM LOC Top

TANK LID DEPTH 2'

BAFFLES 6" Front

BAFFLE FILTER N/A

MANHOLE LOC center

6" PORT LOC side

WATERTIGHT TEST —

2/28/11 BLOWER TEST OK

BLOWER ALARM TEST OK

PUMP TANK LEVEL _____

CAPACITY _____ GAL

SEAM LOC _____

TANK LID DEPTH _____

BAFFLES _____

MANHOLE LOC _____

6" PORT LOC _____

WATERTIGHT TEST _____

PUMP TEST _____

PUMP ALARM TEST _____

PRE-CONSTRUCTION:

System was inspected (ATU) along w/ Freeman Hse. on 2/28/11. Confirmation of this condition (PW)

INSTALLATION:

2/3/11 SHC made plumbing installed up to pretreatment unit. .50 Fast unit installed per Mike Davis (H.D.). OK to backfill all work. Blower and electrical work not installed yet. Will inspect @ time of unit start-up. Also need Bureau with H2S verification of grinder start-up. (PW) 2/28/11 Start-up test for ATU successful. Need verification from utilities for p/A on grinder (PW)

3/3/2011 Aerator functioning. Not enough flow down trough.

FINAL INSPECTOR _____

DATE OF APPROVAL 3/1/11

Aerator alarm working. Cannot test alarm for pump. (PB)

EXISTING 25' PUBLIC
SEWER & UTILITY
EASEMENT
PLAT NO. 19381

EXISTING 24' PRIVATE USE-IN
COMMON ACCESS EASEMENT
FOR LOTS 2-5 AND FOR 1
LOT FROM THE RESUBDIVISION
OF BULK PARCEL 'D'
PLAT NO. 19380

EXISTING 30'
PUBLIC STORM
DRAIN & UTILITY
EASEMENT
PLAT NO. 19381

GRID NORTH

LOT 5

Wall check
OK 1-5-11
HB

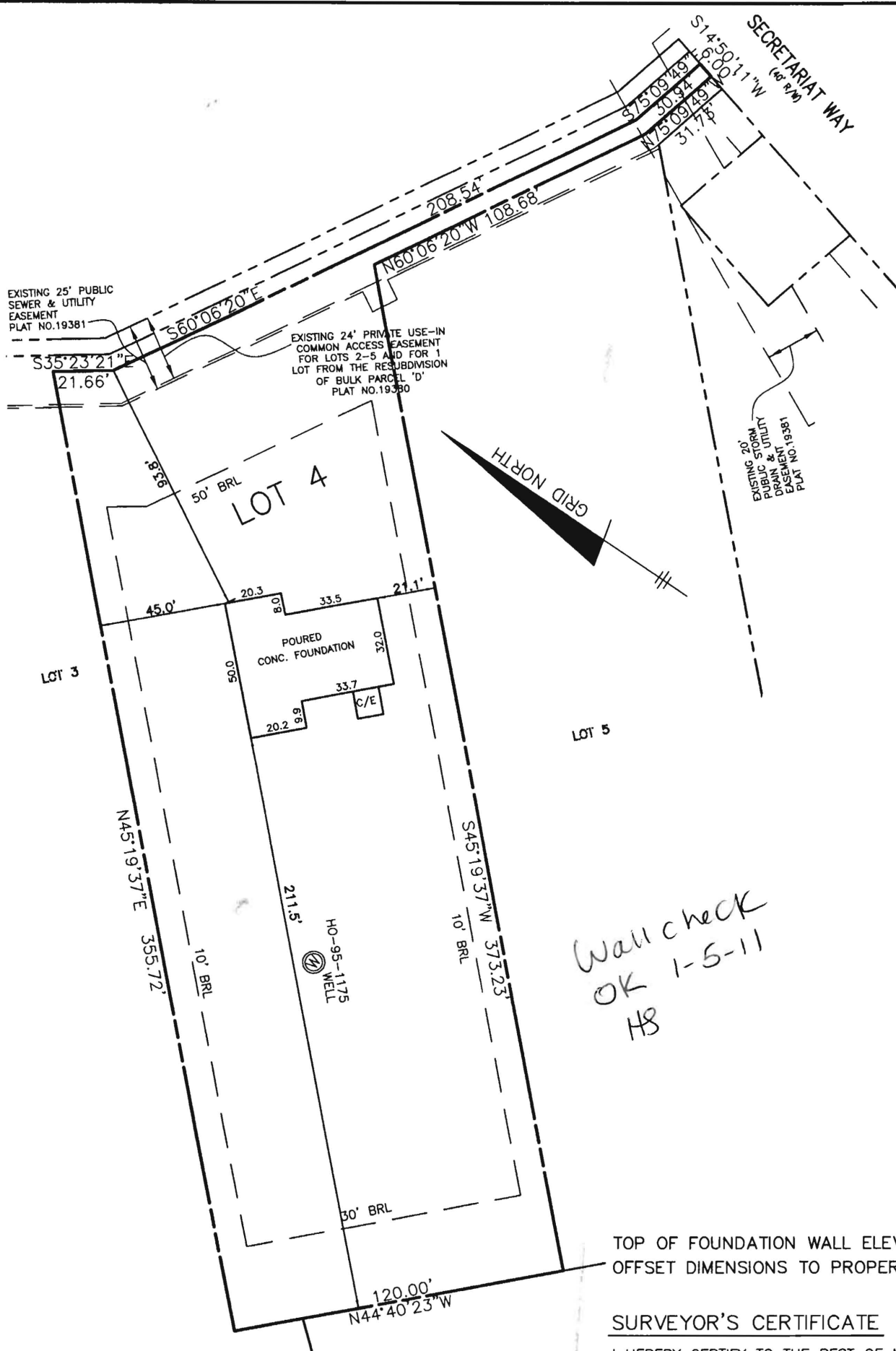
TOP OF FOUNDATION WALL ELEVATION = 579.0
OFFSET DIMENSIONS TO PROPERTY LINES ARE $\pm 0.1'$

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY TO THE BEST OF MY PROFESSIONAL
KNOWLEDGE, INFORMATION AND BELIEF, THAT THE
DIMENSIONS OF THE BUILDING WALLS SHOWN HEREON
ARE CORRECT; THAT THEY ARE BASED ON A FIELD RUN
SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC.
ON 12/15/10

FOUNDATION DETAIL

SCALE: 1" = 30'





Freemire & Associates, Inc.

Manufacturers' Representative

Bio-Microbics Start-Up & Product Registration

Owner		Installer	<i>But</i> <i>Feld</i> <i>HARTFIELD'S</i>	Consult Engineer	
Owner's Name		Name (Person)	Jeff	Phone #	
Lot #	4	Phone #	410 984 0047	Fax #	
Address (City, State & Zip)	3322 Secretariat Way Glenwood MD 21388	Address (City, State & Zip)		Original Purchaser from Freemire	
County	Harford	Fax #		Order #	

The Unit is installed per Manufacturers Instruction? ☒ Yes ☐ No

Date of Inspection: 2/28/11 Date Shipped to User: 1/12/11 Serial #: 202703

In addition to proper installation, I have specifically verified that the following tasks are complete:

ELECTRICAL PANEL(S)

- ☒ Proper voltage to electrical panel(s), mounted correct & secure
- ☒ Visual alarm operating
- ☒ Audio alarm operating (if present)

BLOWERS

- ☒ Wired for correct voltage
- ☒ Inlet/Outlet piped correctly
- ☒ Filter element installed
- ☒ Blower hood secure
- ☒ Blower works correctly
- ☒ Blower located within 100 feet of treatment unit
- ☒ Air line clean
- ☒ Air inlet screen clear
- ☒ Blower hood vents clear

TREATMENT UNIT(S)

- ☒ Clean outs to grade and accessible
- ☒ Air vent clear
- ☒ Septic tank is level & will drain properly
- ☒ Septic tank meets minimum size
- ☒ Septic tank filled to operating level with water
- ☒ Air lift operation
- ☒ Recirculation tube in place
- ☒ Fasteners tight

Comments:

Start-Up Scheduled for:

Restart Date:

Restart Paid: ☐ Yes ☐ No

Your Signature:

Title:

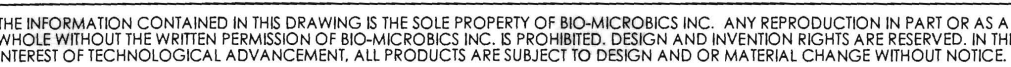
Print Name:

Date:

SEND TO: ☐ MDE ☐ DNREC ☐ BIOMICROBICS

1215 Old Dorsey Road • Harmans MD 21077 • (410) 768-8500 • Fax: (410) 768-3400

REF: 1111



1. Blower piping to FAST® may not exceed 100 FT [30.5m] total length and use a maximum of 4 elbows. For distances greater than 100 FT [30.5m] - consult factory. Blower must be located above flood/standing water levels on a solid surface or concrete base 24" X 18" X 2" [61X45.7X5cm] minimum.
2. Vent to be located above finish grade or higher to avoid infiltration. Cap with vent grate w/at least 7.1 sq. in. [45.8 sq. cm] open surface area. Secure with stainless steel screws (see sheet 4 of 4 *MicroFAST® 0.75 Details*).
or
Run vent to desired location and cover opening with vent grate w/at least 7.1 sq. in. [45.8 sq. cm] of open surface area. Secure with stainless steel screws. Vent piping must not allow excess moisture build up or back pressure.
3. All appurtenances to FAST® (e.g. tank pump outs, etc.) must conform to all country, state, province, and local plumbing and electrical codes. The blower control system is provided by Bio-Microbics, Inc.
4. Tank volume must be increased by 20% if the minimum of 10 inches [25.5cm] is used between the unit and the base of tank. Consult factory for approval.
5. The primary compartment may be a separate tank.
6. Either the influent pipe tee shall be fitted with a pipe cap or the baffle separating the two zones shall be extended to the top of the tank. If choosing to use the pipe cap, then the baffle shall be at least 3" [8cm] higher than the water level as shown on the drawing.
7. All inspection, viewing and pump out ports must be secured to prevent accidental or unauthorized access.
8. Tank, anchors, piping, conduit, blower housing pad and vents are provided by others.
9. All piping and ancillary equipment installed after FAST® must not impede or restrict free flow of effluent.
10. No more than 4 FT [1.2 m] of fill may be placed over unit lid. Unit may stand inside tank. See sheet 2 of 4 *MicroFAST® 0.75 with feet*. Refer to installation manual for more details.

BIO-MICROBICS © 2010

OK approved for up to 5 BR.
450g pol.

Specifications for MicroFAST 0.75 Wastewater Treatment System

1. GENERAL
The contractor shall furnish and install (1) MicroFAST® 0.75 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 FAST® system insert, leg extensions, or lid, blower assembly, blower controls and alarms. All other items will be provided by others. The MicroFAST 0.75 unit shall be situated within a 625 Gallon [2400L] minimum compartment or tank as shown on the plans, or in a 1000 gallon [3700L] one compartment tank. Suggested maximum settling zone is (1X) the daily flow. Tank(s) must provide adequate pump out access and conform to local, state, and all other applicable codes. The contractor shall provide coordination 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 0.75 treatment system shall be capable of treating the wastewater produced by typical family activities (bath, laundry, kitchen, etc.) ranging from (1) one to (11) eleven persons and not to exceed 750 US Gallons per day (2800LPD).
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 sloughed solids descend through the media to the bottom of the septic tank.
4. BLOWER
The MicroFAST 0.75 unit shall come equipped with a regenerative type blower capable of delivering 17-25 CFM [31-46m3/hr]. The blower assembly shall include an inlet filter with metal filter element.
5. REMOTE MOUNTED BLOWER
The blower shall be mounted up to 100 feet [30.5 meters] away and a maximum of 4 elbows from the MicroFAST unit on a contractor supplied concrete base. The blower must not set in standing water and its elevation must be higher than the 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 [45.7 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 system is 110/220 VAC, single phase, 2.8/1.4 Amps. Input power on 50Hz electrical systems 127/230 VAC, single phase 0.352 kw/hr. All conduit and wiring shall be supplied by contractor.
7. CONTROLS
The control panel provides power to the blower with 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 silence button is included.
8. INSTALLATION AND OPERATING INSTRUCTIONS
All work must be done in accordance with local codes and regulations. Installation of the MicroFAST 0.75 shall be done in accordance with the written instructions provided by the manufacturer. An operation and maintenance manual 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 help ensure even flow.
10. WARRANTY
Bio-Microbics, Inc. warrants all new residential FAST® models (MicroFAST® 0.50, 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, subject to the following terms and conditions, (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, subject to the following terms and conditions):
- 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 and maintained in accordance with the written instructions provided by Bio-Microbics, Inc., Bio-Microbics, Inc. will repair or replace at its discretion such defective parts free of charge. Defective parts must be returned by owner to Bio-Microbics, Inc.'s factory postage paid, 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 and regular maintenance items such as filters or bulbs shall be borne by the owner. This warranty does not cover general system misuse, aerator components which have been damaged by flooding or any components that have been disassembled by unauthorized persons, improperly installed or damaged due to altered or improper wiring or overload protection. 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.

DO NOT SCALE

UNLESS NOTED
DIMENSIONS
ARE IN INCHES
[CENTIMETERS]
TOLERANCES
± 0.02 IN/IN
[± 0.05 CM/CM]



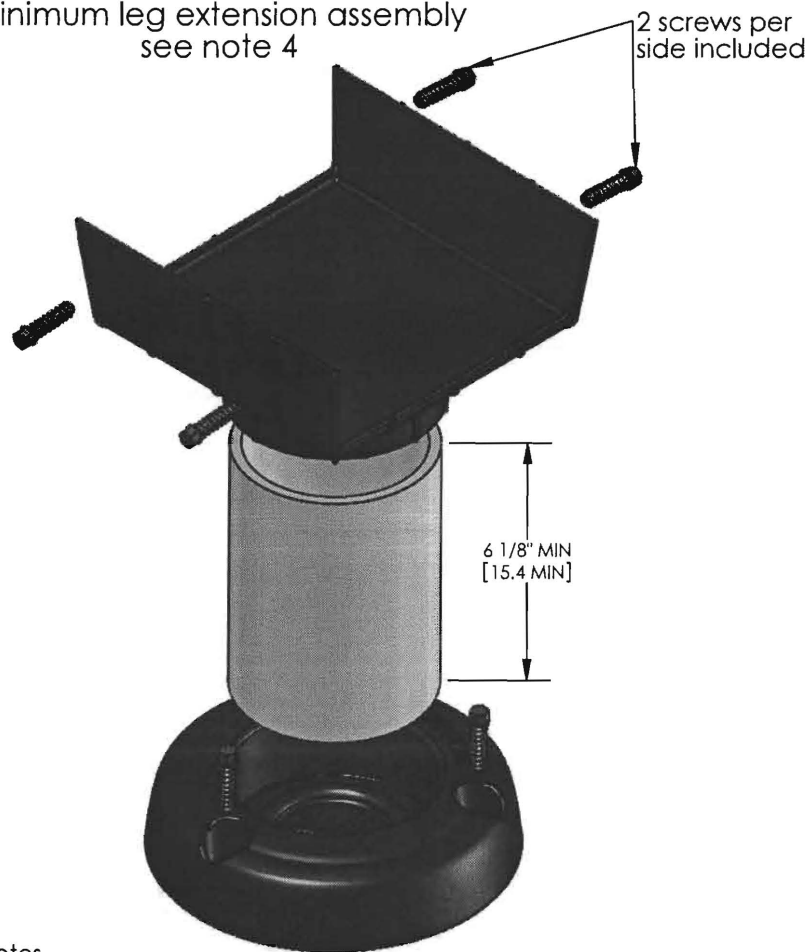
MicroFAST 0.75 FAST Unit

WEIGHT lb		SIZE A	DRAWING NUMBER MicroFAST® 0.75 Specifications		SHEET 3 OF 4
NAME	DATE				
DRAWN CTC	12/18/2006				
CHECKED PF	1/15/2010				
		REVISED 1/15/2010			
		REV. INF-04-G			

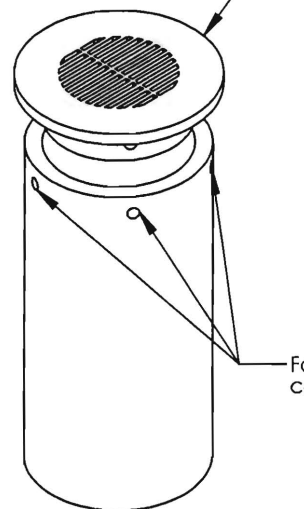
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Minimum leg extension assembly
see note 4



NDS 6" Grate MIN
7.1 SQ in open
surface area



FAST@ Lid
Vent Option

Non-corrosive clamp
every 2 feet

Riser

Ø12" MIN
[30.5 MIN]

2" Air
Supply
Line

FAST@ Air Lift

Non-corrosive clamp
every 2 feet [0.6m]

Gasket

2" Air
Supply
Line

FAST@ Air Lift

2" Coupling

Alternate Air Supply Option

Notes

1. Secure leg extension to the FAST@ unit by placing two screws on each side of the leg extension (4 screws per foot are included).
2. Cut 4" schd. 40 PVC pipe (not included) to obtain the desired height. Minimum pipe length of 6 1/8" [15.56cm]; Original leg extension height requires a pipe length of 11 1/8" [28.26cm]. For heights greater than 18" [45.7cm] use schd. 80 PVC pipe (not included). Consult factory for extending leg beyond 36" [91cm].
3. Anchor the leg extensions to the tank with non-corrosive hardware (not included) at the provided mounting points.
4. Increase minimum tank volume by 20% if the minimum leg extension is used.
5. The air supply line into the FAST@ unit must be secured so as to prevent damage from pipe vibration. See all notes on *MicroFAST@ 0.75 with lid* drawing.
6. The air supply line into the FAST@ unit must be secured to prevent vibration induced damage. The air supply line should be secured with a non-corrosive clamp every 2 ft [0.6m] minimum.
7. Tank, anchors, piping conduit, blower, housing pad and vents are provided by others.

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DO NOT SCALE

UNLESS NOTED
DIMENSIONS
ARE IN INCHES
[CENTIMETERS]
TOLERANCES
± 0.02 IN/IN
[± 0.05 CM/CM]

BIO-MICROBICS
INCORPORATED

MicroFAST 0.75 FAST Unit

WEIGHT	lb	SIZE	DRAWING NUMBER	SHEET 4 OF 4
NAME	DATE	A	MicroFAST@ 0.75 Details	
DRAWN	CTC 12/18/2006			
CHECKED	PF 1/15/2010		REVISED 1/15/2010 REV. INI-04-G	