

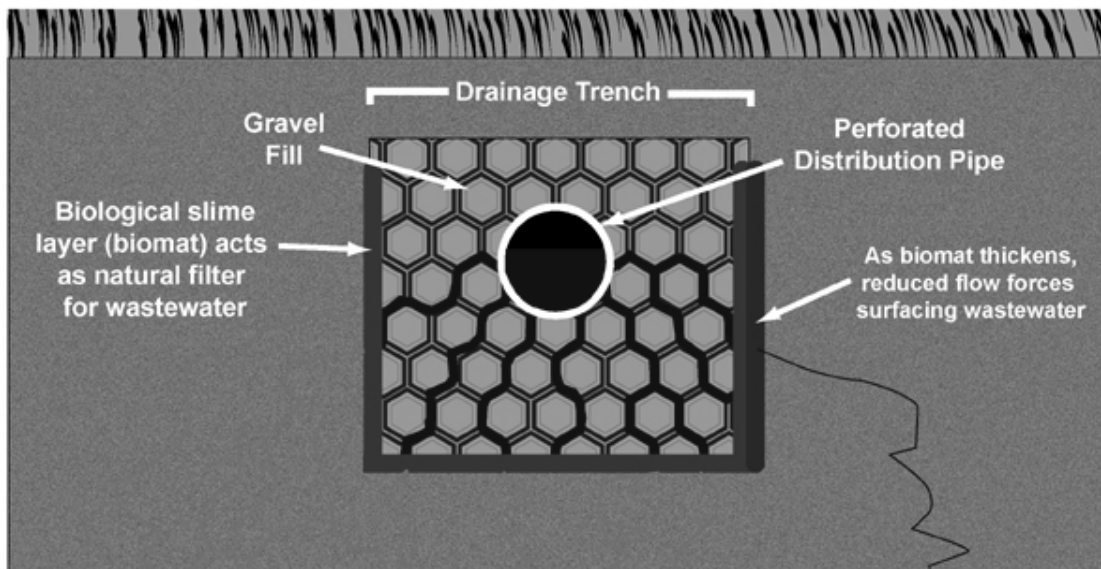
RetroFAST®

Failed & Aged Drain Field Rejuvenation

Conventional septic systems that are either greater than ten (10) years of age or are showing signs of biological failure, such as surfacing wastewater, may be suitable to have the septic tank converted to an advanced treatment system for the purpose of rejuvenating and recovering the drain field. Retrofitting a conventional system with RetroFAST® will extend the life of the drain field allowing homeowners to avoid costly drain field replacement and re-landscaping.

The RetroFAST® is a septic tank aerated effluent filter (STAEF™) a patented device designed for insertion into an existing septic tank, which quickly converts the anaerobic septic system into an advanced aerobic treatment plant. With this conversion, the organic matter in the wastewater is reduced by more than 80% and dissolved oxygen is sent into the drain field to promote the growth of aerobic bacteria.

Septic tank drain fields have, as normal operation, a layer of biological slime that grows on the walls and floors of the drainage trench. This bacterial matter is referred to as a "biomat". The biomat is important in controlling the infiltration of harmful waste and pathogens into the soil. These waste products harm the soil's naturally occurring organisms that further breakdown the septic tank effluent.



As conventional septic systems age, the biomat layer may become too thick, resulting in poor percolation. This situation may force the normal flow of wastewater to surface into the soil above or back-up into the distribution piping. Soggy lawns, foul odors and plumbing back-ups are often the normal signs of a failing septic system.

Using the RetroFAST® system helps this situation in two ways. First, RetroFAST™'s aerobic treatment process removes the organic matter that originally formed the clogging layer. Second, RetroFAST™'s oxygenated effluent, containing dissolved oxygen, fosters the development of aerobic bacteria in the soil that will naturally digest the existing clog.

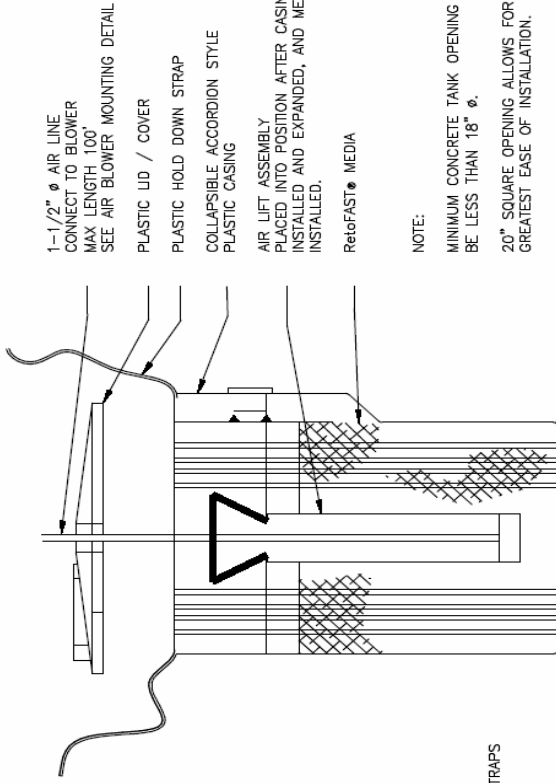
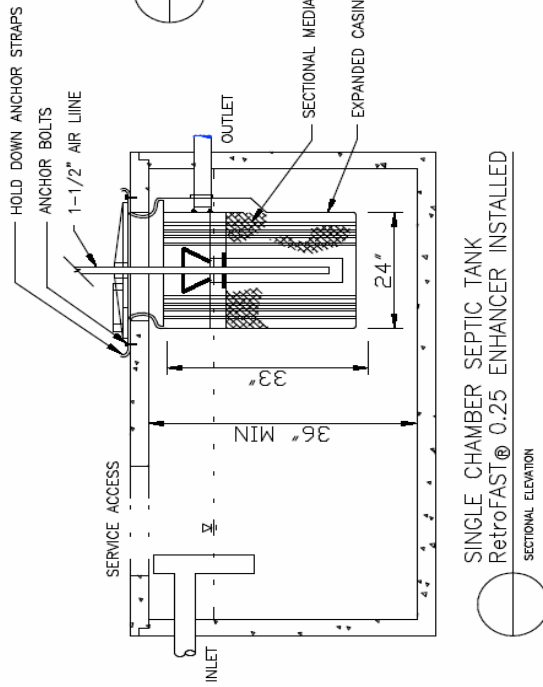
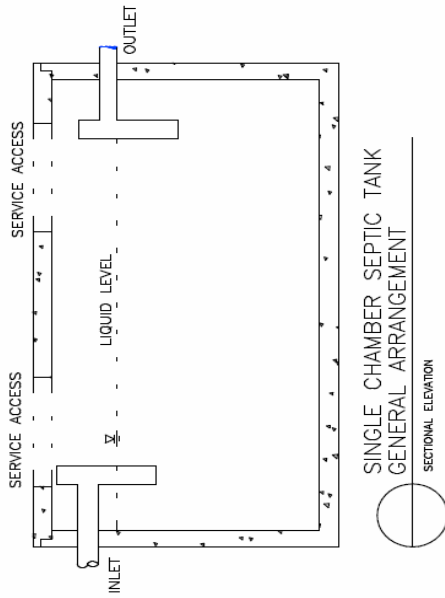
Each RetroFAST® system ships fully assembled with a collapsible module liner, mounting tabs, attached growth media blocks, airlift assembly, plastic cover for access lid, PVC vent/cleanout assembly and an air blower with a plastic blower housing. RetroFAST™ should be unpacked and disassembled prior to installation.

Installation of the RetroFAST® consists of the following steps: (1) Dig down to the septic tank's service lid. (2) Fold up and insert the exterior liner into the existing tank through the service access (minimum is 20" diameter). (3) Expand the liner back to normal size and anchor bolt mount the liner's straps to the outside top of the septic tank. (4) Insert a piece of 3" diameter PVC into the outlet hole of the RetroFAST™ and connect it to the existing outlet pipe inside the septic tank. (5) Place the system's internal components (media blocks and airlift) back inside the unit in their original position. (6) Connect 2" diameter PVC air line to airlift assembly and place plastic cover over the system and access port. (7) Find a location for the air blower and make all electrical connections from the blower to the appropriate power source. (8) Connect 2" diameter PVC air line from blower to RetroFAST™, and (9) insert vent/cleanout PVC assembly.

In the event that the existing septic tank is not suitable for installing the RetroFAST®, an additional FAST® tank can be installed after the septic tank and before the drain field to accomplish the same result.


Extending the life of your septic system or renovating a failed drain field with RetroFAST® will save you money, time and major disruption to your property.

For more information and details, please contact our Local Dealer or you may contact us directly for their name, location and contact numbers.



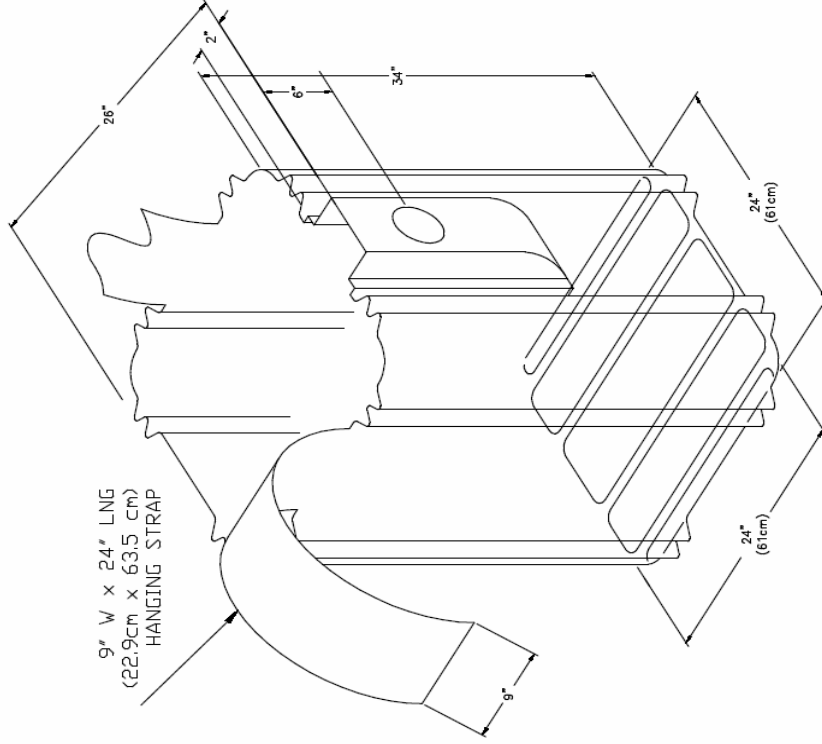
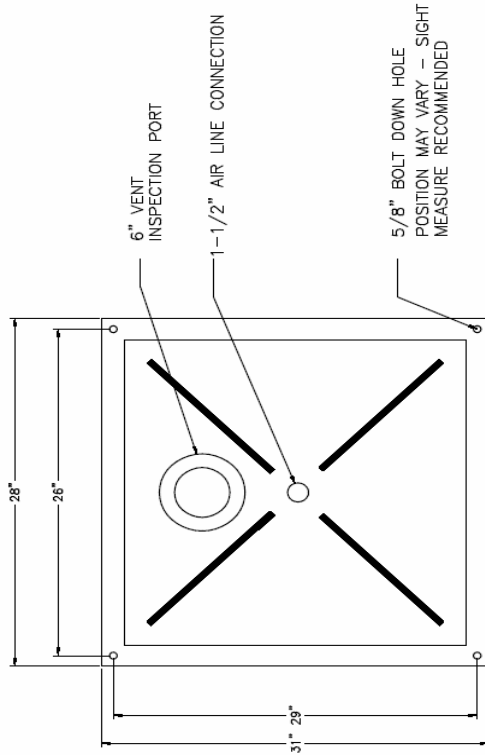
NOTE:
 MINIMUM CONCRETE TANK OPENING NOT TO BE LESS THAN 18" Ø.
 20" SQUARE OPENING, ALLOWS FOR THE GREATEST EASE OF INSTALLATION.

NOTES:
 VENTING OF SYSTEM MUST BE DETERMINED ON A SITE BY SITE BASIS. REFER TO VENTILATION DETAIL FOR FAST BIOFILTERS.
 THIS GENERAL ARRANGEMENT SHOP DRAWING MAY NOT APPLY TO EVERY SITE CONDITION, AND THEREFORE EACH SITE IS TO BE CONSIDERED INDEPENDENTLY.

	PROJECT FAST® ENGINEERS MANUAL PINNACLE ENVIRONMENTAL TECHNOLOGIES INC. PO BOX 3070, LANGLEY, BC, CANADA, V3A 4R3 TOLL FREE (877) 514-7555 FAX: (604) 514-7595 EMAIL: info@peti.ca WEB: www.peti.ca	DWG TITLE RetroFAST® 0.25 SEPTIC TANK ENHANCER	REV NA
	SCALE IN/16	DATE APRIL 23, 2005	SHEET 1/2

NOTES:

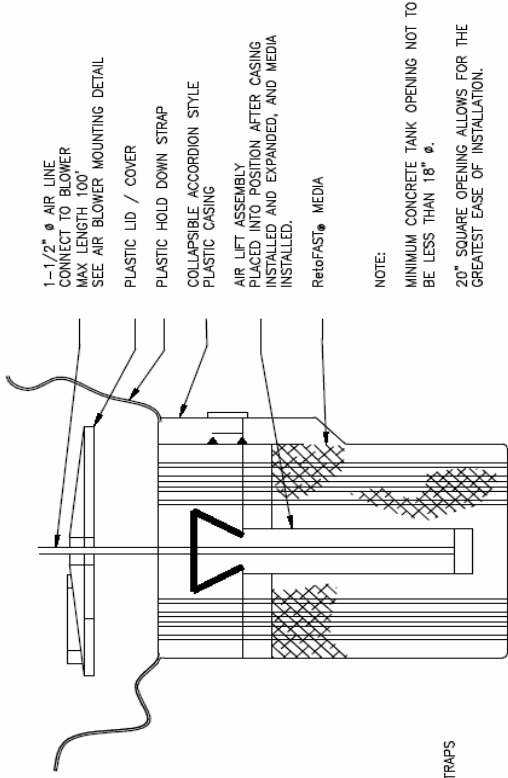
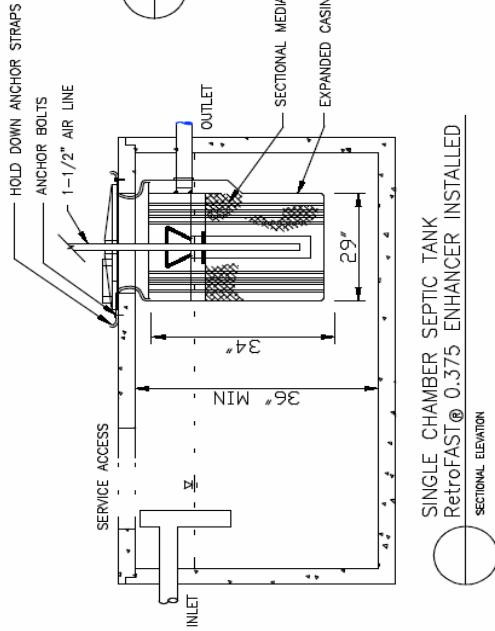
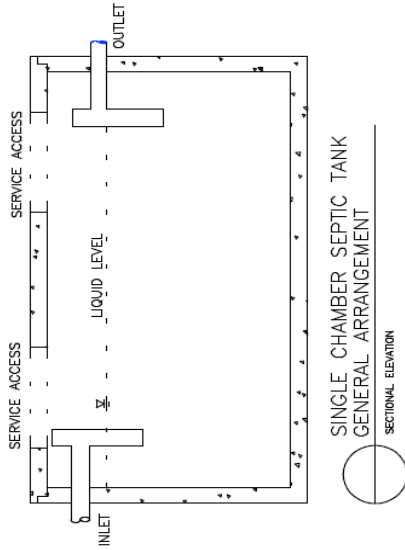
1. ENSURE RetroFAST® 3"Ø OUTLET LINES UP WITH CONCRETE TANK OUTLET
2. TO ASSIST IN THE CONNECTION BETWEEN THE RetroFAST® AND THE TANK'S OUTLET USE SEWER DRAIN PIPE AND FITTINGS, AND ENSURE A 1/4" PER 1' SLOPE OUTWARDS.
3. USE SEALANT BETWEEN SERVICE ACCESS RISER OR LID
4. OPENING IN TANK MUST NOT BE LESS THAN 18"Ø. 20" SQUARE IS A PREFERABLE OPENING.
5. AFTER CASING IS INSTALLED AND SECURE INSTALL THE MEDIA AND AIRLIFT ASSEMBLY.
6. AIR BLOWER TO BE LOCATED AS PER MANUFACTURER'S RECOMMENDATIONS.
7. SEPTIC MAY EITHER BE SINGLE OR DOUBLE CHAMBER. PLACE THE RetroFAST® IN THE SEPTIC COMPARTMENT OF THE SEPTIC TANK, OR IN THE SECOND TANK OF A TWO TANK SYSTEM.
8. ENSURE VENTING IS NOT RESTRICTED AND INSTALLED TO MANUFACTURER'S RECOMMENDATIONS.



PROJECT
FAST® ENGINEERS MANUAL
 PINNACLE ENVIRONMENTAL TECHNOLOGIES INC.
 PO BOX 3070, LANGLEY, BC, CANADA V3A 4R3
 TOLL FREE: (877) 514-7555
 FAX: (604) 514-7595
 EMAIL: info@peti.ca
 WEB: www.peti.ca

DWG TITLE RetroFAST® 0.25 SEPTIC TANK ENHANCER		REV NA
DWG NO. 1CH_RetroFAST25_ENHANCER		SHEET 2/2
SCALE NTS	DATE APRIL 23, 2005	

D: INVERT OF OUTLET MIN:
CONTACT PINNACLE FOR SHOP DRAWING



RetroFAST@ Septic Tank ENHANCER
GENERAL ARRANGEMENT
SECTIONAL ELEVATION

NOTES:

VENTING OF SYSTEM MUST BE DETERMINED ON A SITE BY SITE BASIS.
REFER TO VENTILATION DETAIL FOR FAST® BIOFILTERS.

THIS GENERAL ARRANGEMENT SHOP DRAWING MAY NOT APPLY TO EVERY
SITE CONDITION, AND THEREFORE EACH SITE IS TO BE CONSIDERED
INDEPENDENTLY.



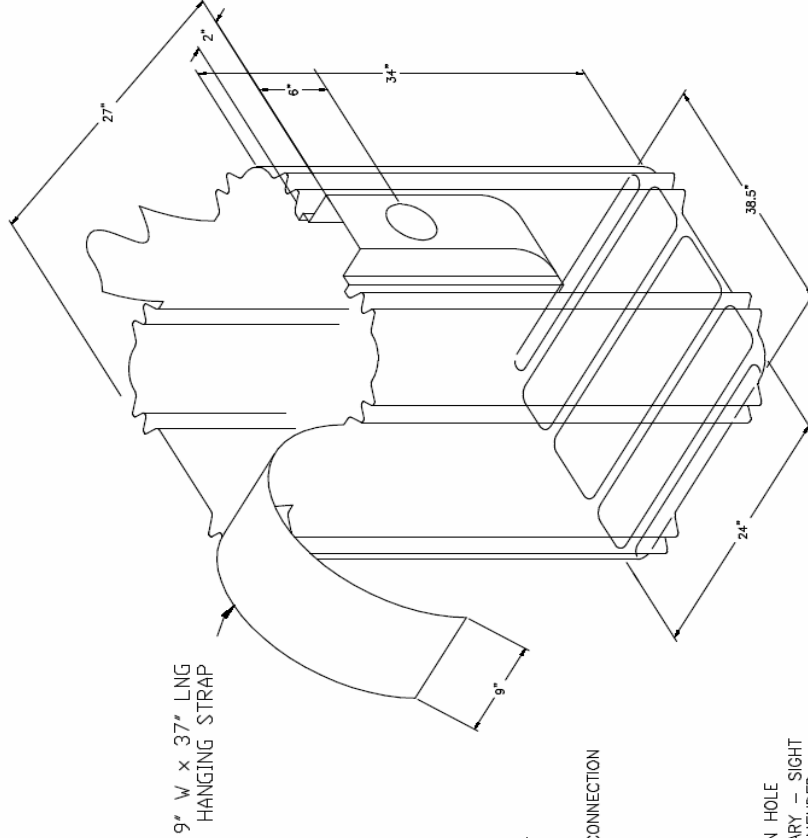
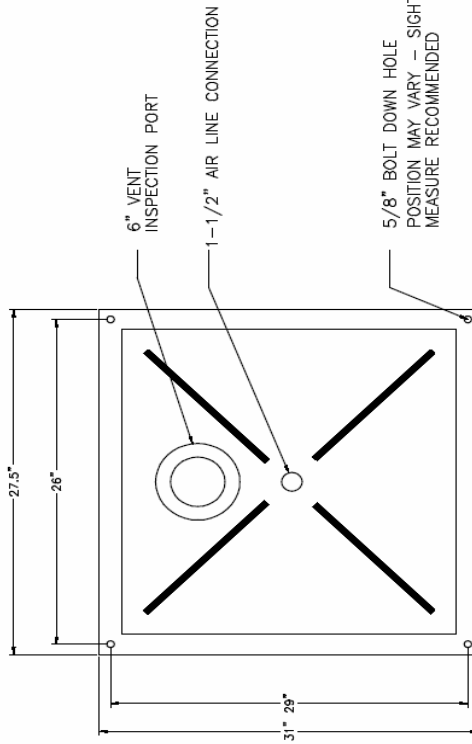
PROJECT
FAST@ ENGINEERS MANUAL

PINNACLE ENVIRONMENTAL TECHNOLOGIES INC.
PO BOX 3070, LANGLEY, BC, CANADA, V3A 4R3
TOLL FREE: (877) 514-7555
FAX: (604) 514-7595
EMAIL: info@petic.ca
WEB: www.petic.ca

DWG TITLE	RetroFAST@ 0.375 SEPTIC TANK ENHANCER
DWG NO.	10H-RetroFAST375_ENGMAN
SCALE	NTS
DATE	APRIL 23, 2005
REV	NA
SHEET	1/2

NOTES:

1. ENSURE RetroFAST® 3"Ø OUTLET LINES UP WITH CONCRETE TANK OUTLET.
2. TO ASSIST IN THE CONNECTION BETWEEN THE RetroFAST® AND THE TANK'S OUTLET USE SEWER DRAIN PIPE AND FITTINGS, AND ENSURE A 1/4" PER 1' SLOPE OUTWARDS.
3. USE SEALANT BETWEEN SERVICE ACCESS RISER OR LID.
4. OPENING IN TANK MUST NOT BE LESS THAN 18"Ø. 20" SQUARE IS A PREFERABLE OPENING.
5. AFTER CASING IS INSTALLED AND SECURE INSTALL THE MEDIA AND AIRLIFT ASSEMBLY.
6. AIR BLOWER TO BE LOCATED AS PER MANUFACTURER'S RECOMMENDATIONS.
7. SEPTIC MAY EITHER BE SINGLE OR DOUBLE CHAMBER. PLACE THE RetroFAST® IN THE SEPTIC COMPARTMENT OF THE SEPTIC TANK, OR IN THE SECOND TANK OF A TWO TANK SYSTEM.
8. ENSURE VENTING IS NOT RESTRICTED AND INSTALLED TO MANUFACTURER'S RECOMMENDATIONS.



9" W x 37" LING
HANGING STRAP

6" VENT
INSPECTION PORT

1-1/2" AIR LINE CONNECTION

5/8" BOLT DOWN HOLE
POSITION MAY VARY — SIGHT
MEASURE RECOMMENDED



PROJECT
FAST® ENGINEERS MANUAL
PINNACLE ENVIRONMENTAL TECHNOLOGIES INC.
PO BOX 3070, LANGLEY, BC, CANADA, V3A 4R3
TOLL FREE: (877) 514-7555
FAX: (604) 514-7595
EMAIL: info@peti.ca
WEB: www.peti.ca

DWG TITLE RetroFAST® 0.375 SEPTIC TANK ENHANCER	
DWG NO. 1CH-RetroFAST375-ENGMAN	REV NA
SCALE NTS	DATE APRIL 23, 2005
SHEET 2/2	