

NitROE[®] 2KM Waste-Water Treatment System

Summary Update

2024

NitROE[®] 2KM WWTS Concept

KleanTu





2,000-Gallon Aeration Tank for Nitrification

(13'L x 7'W x 6'D)





OUTSIDE WALL TO OUTSIDE WAL DISTANCE VARIES 1. ALL MEASUREMENTS FROM OUTSIDE EDGE OF TANK TOP. 2. CONFIRM ALL HOLE LOCATIONS PRIOR TO INSTALLATION. TANK 3. NITROE DC TANK TOP TO HAVE TANK WALL INFLUENT THREE-24" AND MULTIPLE 4" DIAMETER THICKNESS OUTSIDE OF T WALL TO C/L I ACCESS HOLES WITH RISERS AND AT TOP COVERS FOR MAINTENANCE AND SAMPLING. ₿ŝ (3" TYP) FOR THE 24" HOLES; PROVIDE 24" DIA TOTAL TANK WIDTH = 81 1 OUTSIDE WALL TO OUTSIDE TANK WIDTH = 75 1/2 NSIDE DIMENSION AT TAN ADS PIPE (CORRUGATED) WITH POLYLOK (OR EQUIVALENT) COVER (OR INFLUENT EFFLUENT NitROE EQUIVALENT CONCRETE RISER AND DENITRIFICATION COVER) TO 6" BELOW GROUND CHAMBER SAC TANK - FII C 3 SURFACE AND SECURED TO TANK TOP (DC) INSTALL 4" TELESCOPIC MONITORING PIPE (3" BELOW GROUND SURFACE) TO NITROE FLOW FLOW WITH FERNCO RUBBER CAP. INSTALL WASTE-WATER DISTRIBUTION DISTRIBUTION WITH A 6" ROUND VALVE BOX AND TREATMENT SYSTEM 2,000-Gallon WALL WALL COVER TO BE FLUSH WITH THE TANK WALL GROUND SURFACE. THICKNESS 6. HOLE H4 IS A 4" DIAMETER HOLE FOR AT BOTTOM AERATION TUBING AND PULL CORDS. (4" TYP) INSTALL 4" DIA. PIPE (6" BELOW Denitrification GROUND SURFACE) WITH PVC CAP. TOP VIEW SEE NOTES 3 AND 4 NOT TO SCALE Tank GROUND SURFACE (TYP) SEE NOTE 4 (TYP) SEE NOTE 4 (TYP) SEE NOTE 4 (TYP) SEE NOTE 4 (TYP) 5" TANK TOP TO NITROE (TYP) WASTE-WATER INFLUENT TREATMENT SYSTEM EFFLUENT EFFLUENT $(13'L \times 7'W \times 6'D)$ 48" STATIC 30" TOTAL OUTSIDE DEPTH WATER DEPTH DENITRIFICATION Р TANK NitROE CHAMBER ÖW INVERT ((DC) SAC TANK FLOW-FLOW 52" TO INVER 5 10 TOP OF ' DISTRIBUTION DISTRIBUTION 20 WALL WALL 2 H 窝 KleanTu 5 N ELEV. - 0 23 TANK BOTTOM THICKNESS 4" CRUSHED AGGREGATE OR APPROVED KleanTU[®]LLC 4" TANK BOTTOM (TYP) MATERIAL (DEPTH TBD-6" MIN); ON LEVEL, RAPHIC SCALE COMPACTED AND STABLE BASE 3" TANK WALL AT TOP (TYP) PLAN AND CROSS-SECTION SEPT. 21, 2021 SIDE VIEW DENITRIFICATION CHAMBER (DC) NOT TO SCALE NitROE[®] 2KM DC CHECKED BY

ADDITIONAL DRAWINGS, DETALS,

AND SPECFICATIONS CAN BE PROMDED BY KleanTu

TOTAL TANK LENGTH = 153"

(FOR ENGINEERING DESIGN)

GENERAL NOTES:

SCALE SEE

0.4

DRAWN BY

BJA

JKE

DC-ASST20M-H10

McCARTY.

LANDSCAPE ANOHITEUTS AND ENGINEERS

FAHRINGER.

GREY.

INC.

NONROEVILLE. PA.









NitROE[®] 2KM WWTSs - 2,000 gpd MV Island Housing Trust (12/2019)



		Average	<u>Median</u>
•	Total Nitrogen	8 mg/l	4.7 mg/l
•	BOD5	22 mg/l	9.25 mg/l
•	TSS	21 mg/l	16.0 mg/l
•	Alkalinity	233 mg/l	260.0 mg/l (as CaCO3)
•	рН	6.7	. 6.7



Our Design Focus is Simplicity of

Fabrication

- Installation
- > Operation

TO DELIVER

A Highly Treated Wastewater

AT

LOW COST

Same Performance and Dependability as Centralized Treatment Systems



The DOs & DON'Ts of Your NitROE® WWTS

Avoid flushing the following items down your drain:

- Cooking Grease
- Baby Wipes/Cleaning Pads
- Q-Tips/Cotton Balls
- Pills
- Paints and/or Solvents
- Food
- Drain Cleaning Products

- Dental Floss
- Diapers
- Paper Towels
- Personal Hygiene Products
- Strong Chemicals (Acids/Bases)
- Highly Concentrated Chlorine

- Flushing these items down the drain will clog pipes & could result in costly repairs for any septic system, including conventional systems
- With a NitROE[®] added to the septic system, these repairs could be more complex, more expensive & disrupt the biological treatment process



Installation #; Location (MV/Cape); Total Days in Operation



Installation #; Location (MV/Cape); Total Days in Operation





Installs from 2017-2023 110 NitROE[®]

Installs

Currently



Background Links of Cape Cod Nitrogen Issue and NitROE® WWTS Technology

- 1. White Paper on Cape Cod Nitrogen Issue Due to Septic Systems: <u>https://www.newea.org/2020/10/09/distributed-nitrogen-removing-i-a-septic-systems-a-2020-primer-for-cape-cod/</u>.
- 2. Video on Town of Barnstable Septic Wastewater Plan of NitROE[®] WWTS Technology: <u>https://vimeo.com/480777210</u>
- 3. Link to Overview Video of a Conventional Title 5 Septic System <u>https://www.youtube.com/watch?v=zDggET_UGOg&feature=youtu.be</u>
- Link to Overview Video of KleanTu's NitROE[®] 2KS Waste-Water Treatment System (WWTS) as a Supplement to a Conventional Title 5 Septic System for Enhanced Total Nitrogen Reduction <u>https://youtu.be/wgOP-WDXxww</u>



FOR INFORMATION

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