



Howard County  
Health Department

**Bureau of Environmental Health**

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

[www.hchealth.org](http://www.hchealth.org)

Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)

Maura J. Rossman, M.D., Health Officer

RECEIPT DATE: 11-15-21

**ONSITE SEWAGE DISPOSAL SYSTEM**

P 570249

APPROVAL DATE: 10/27/2022

**PERMIT: CONSTRUCTION**

A \_\_\_\_\_

PROPERTY ADDRESS: 11540 Chapel Rise

SUBDIVISION: Chapel Rise

LOT: 2

TAX ID: 05-594203

CONTRACTOR: Hutfield's

EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:

MDE

MANUFACTURER:

Norweco

PROPERTY OWNER: K-One Corporation

EMAIL: \_\_\_\_\_

OWNER ADDRESS: 209 River Bend Road, Great Falls, VA 22066

PHONE: 703-757-8757

BAT UNIT MODEL: Norweco TNTLP-1000<sup>750</sup>

PUMP SIZE: 0.4 Hp

PUMP TANK CAPACITY: 1500

OPERATION & MAINTENANCE AGREEMENT

DATE SIGNED: 11-28-17

DATE RECORDED: 11-28-17

DISTRIBUTION SYSTEM:  GRAVITY

PRESSURE DOSED

BEDROOMS: 8-6

APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>125</u>	INLET DEPTH: <u>2</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>2</u>
LOCATION:	<b>PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.</b>	
NOTES:	INSTALL AT LEAST 2 CLEANOUTS IN SHC NEAR FOUNDATION AND AT SECOND BEND. USE $\frac{1}{2}$ " PREFORATIONS IN LATERALS <u>5/16" PERF.</u> RECOMMENDED EFFLUENT PUMP (FOR LPD SYSTEM) IS WE-07H, OR EQUIVALENT. SYSTEM MUST PASS A PUMP AND ALARM TEST PRIOR TO ISSUE OF ICOP.	

ISSUED BY: Robert Freemon

ISSUE DATE: \_\_\_\_\_

EXPIRATION DATE: 11-15-22

NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION

NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING

NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.

NOTE: WATERTIGHT SEPTIC TANKS REQUIRED

NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL

NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM

ELECTRICAL PERMIT ISSUED E B20003165

NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.

NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

**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.**

**CALL 410-313-1771 TO SCHEDULE INSPECTIONS.**

NOT TO SCALE

SEE ATT

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	2'	5'
NUMBER OF TRENCHES		2
TOTAL LENGTH		126 F
ABSORPTION AREA		378 SF + 3' SIDE WALL
DISTRIBUTION BOX LEVEL		LPD
DISTRIBUTION BOX BAFFLE		MANIF
DISTRIBUTION BOX PORT		N/A

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL \_\_\_\_\_

MANUFACTURER Backriver

CAPACITY TMLP750 GAL

SEAM LOC top

TANK LID DEPTH 3'

BAFFLES \_\_\_\_\_

BAFFLE FILTER \_\_\_\_\_

MANHOLE LOC inlet, middle, outlet

6" PORT LOC \_\_\_\_\_

WATERTIGHT TEST \_\_\_\_\_

SLOTTED \_\_\_\_\_

DATE ON LID 11-20-21

PUMP/SEPTIC TANK LEVEL

T.B. MANUFACTURER Babylon

CAPACITY 1500 GAL

SEAM LOC top

TANK LID DEPTH 3.5'

BAFFLES \_\_\_\_\_

BAFFLE FILTER \_\_\_\_\_

MANHOLE LOC inlet & outlet

6" PORT LOC \_\_\_\_\_

WATERTIGHT TEST \_\_\_\_\_

SLOTTED no

DATE ON LID 10-15-21

PRE-CONSTRUCTION:

11/19/2021 CONFIRMED TRENCH CONTOUR. CHECK w/ HOME OWNER RE TANK SIZE. (P)

02/25/2022 VISUAL ON STAKED TANK LOC. WATER TIGHT TEST REQA (P)

INSTALLATION:

11/22/2021 INSTALLED 2x63' TR3. (DK) TO STRAIGHTEN OUT TANKS IF OK w/ BUILDER; PUMP TANKS MANUFACTURED TB STANDARD BABYLON, 3' MAX NORWELCO. (P) 11/23/21 SL constructed, tanks set, FM connected to trenches. (D) See newly approved OSDS plan dated 1/13/22 for tank relocation (HD) 02/28/2022 EXPOSED EX TANK TO MOVE (P) 03/01/2022 TANKS RELOCATED; BAT IS WATERTIGHT. REINSPECT P/A. (P) 10/06/2022 P/A OK. SEPTIC ON SUB PANEL IN GARAGE AND SUBS/RB ON POST. DHP > 2'. (P)

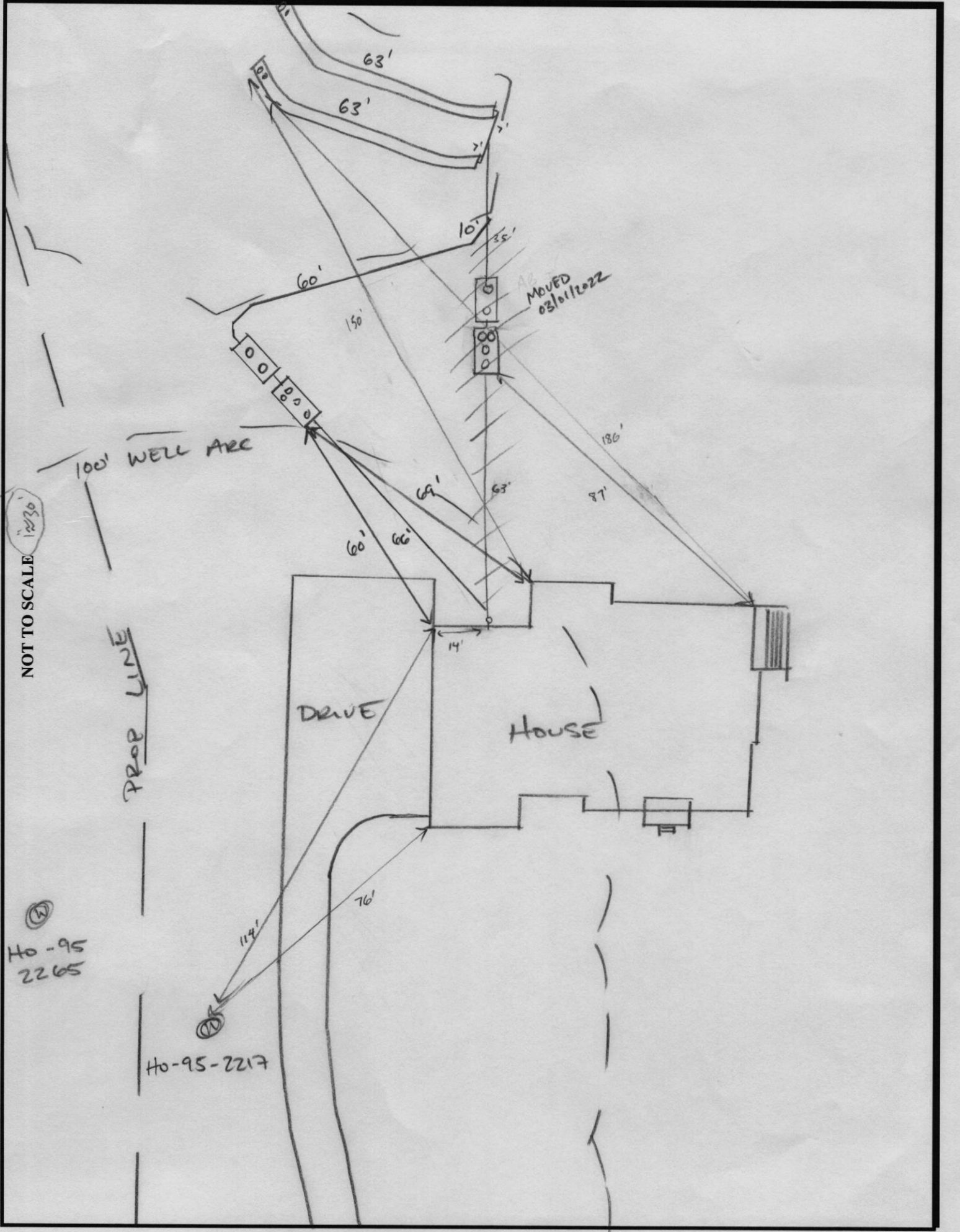
10/07/2022 (RECEIVED) BAT START UP LETTER. (P)

FINAL INSPECTOR

*[Handwritten Signature]*

DATE OF APPROVAL

10/07/2022



NOT TO SCALE

PROP LINE

DRIVE

HOUSE

MOVED  
03/01/2022

H0-95  
2265

H0-95-227

11540 CHAPEL RISE



BACK RIVER PRE-CAST, LLC  
 PO BOX 329  
 GLYNDON, MD 21071  
 PH# 410-833-3394

**NORWECO CERTIFICATION**

PROPERTY OWNER: KEYVAN RAFEI	INSTALLATION COMPANY: HATFIELD'S
ADDRESS: 11540 CHAPEL RISE	CERTIFIED INSTALLER: TODD TRACEY
CITY, ZIPCODE & COUNTY: CLARKSVILLE, 21029, HOWARD	PERMIT#
SIZE OF SYSTEM INSTALLED: 750 GPD CONCRETE	DATE INSTALLED: 11-23-21
NUMBER OF BEDROOMS:	START-UP DATE: 10-05-22
TYPE OF INSTALLATION: NEW	DATE OF FINAL INSPECTION:
ELECTRICAL WIRING PER ELECTRICAL INSTRUCTIONS: YES	DATE OF ELECTRICAL INSPECTION:
HT. OF CONTROL PANEL ABOVE FINAL GRADE: 48"	TANK LEVEL: YES
SYSTEM WIRED ON A 15-AMP DEDICATED CIRCUIT WITH STD. BREAKER: YES	BURIAL DEPTH OF TANK: 30"
	RISERS 4" - 6" ABOVE GRADE: YES
LENGTH(S) OF UF WIRE PAST LAST AERATION RISER(S): 36"	VENTED LID(S) ON AERATION CHAMBER(S): YES
FEMALE PLUG(S) WIRED TO UF WIRE: YES	ANY GROUND SETTLING AROUND TANK:
CONDUIT(S) ENTERING AERATION RISER MADE WITH A WATERTIGHT CONNECTION: YES	NO
ISTHE INSIDE OF THE CONDUIT ENTERING THE CONTROL PANEL(S) AND AERATION RISER(S) SEALED WITH DUCT SEAL: YES	

ON 2<sup>ND</sup> PAGE MAKE A ROUGH SKETCH OF THE HOUSE , WHERE THE SYSTEM IS LOCATED, WHERE THE CONTROL PANEL IS LOCATED , WHERE THE FRONT OF THE IS AND DIRECTIONS TO THE PROPERTY.

DIRECTIONS CAN START A FEW STREETS AWAY

EXAMPLE: RT. X LEFT ONTO XX STREET RIGHT ONTO PRIVATE DRIVEWAY 5<sup>TH</sup> HOUSE OF THE LEFT.

I certify that the Norweco Singlair TNT Wastewater Treatment System was installed according to the manufacture's specifications.

Matthew Geckle

Oct 05,2022

Signature of BRP Representative

Vice-President

Date



# HOWARD COUNTY HEALTH DEPARTMENT

70249

DATE 11/15/21

PS

Received From

*Anthelms Egeep*

PHONE #

For

*Septic Permit /  
11540 Chapel Rise*

- CASH
- CHECK

NO.

*4480*

*Three thousand ninety five*

Dollars

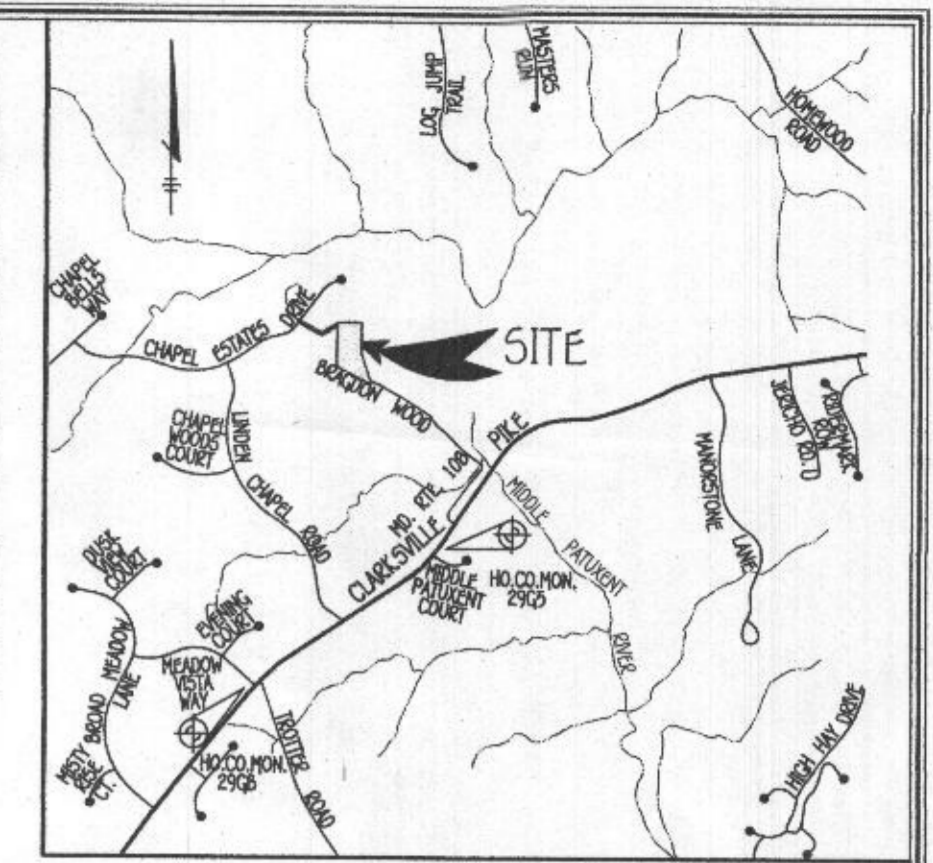
\$ *3910.00*

Received By

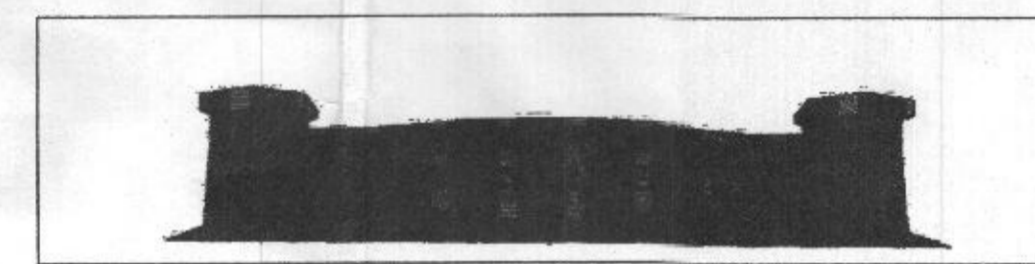
*Ken*

LOW PRESSURE DOSING SYSTEM - INITIAL INSTALLATION											
TRENCH	GROUND ELEV.	PIPE INVERT ELEV.	TRENCH LENGTH (FT)	LATERAL PIPE LENGTH (FT)	PERFORATION DIAMETER (IN)	HEAD (FT)	PERFORATION FLOW RATE (GPM)	PERFORATION SPACING (FT)	NUMBER OF ORIFICES	TRENCH FLOW RATE (GPM)	
1A	420.7	418.7	62.5	99.66	5/16	2	1.63	5.66	11	17.93	
1B	420.1	418.1	62.5	99.30	5/16	2.6	1.85	6.25	10	18.50	
										TOTAL TRENCH FLOW RATE	36.43

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - - -	PROPOSED CONTOUR 2' INTERVAL
X362.5	SPOT ELEVATION
-0'-0"	DIRECTION SIGN
-SS-SS-	SUPER SILT FENCE
-SF-SF-	SILT FENCE
---	EROSION CONTROL MATTING
LOD	LIMITS OF DISTURBANCE
○	SPECIMEN TREE
○	TEMPORARY STONE OUTLET STRUCTURES
1005	FAILED PERC HOLE
1001	PASSED PERC HOLE



TRENCH DESIGN										
TRENCH	GROUND ELEV.	TOP OF STONE ELEV.	PIPE INVERT ELEV.	DEPTH TO STONE FROM GROUND	DEPTH OF STONE (FT)	EFFECTIVE DEPTH STARTS AT	EFFECTIVE DEPTH (D)	TRENCH DEPTH	WIDTH OF TRENCHES (W)	TRENCH SPACING
1A	420.7	419.2	418.7	1.5'	3.5'	415.7	2'	3'	3.0'	10'
1B	420.1	419.6	418.1	1.5'	3.5'	415.1	2'	3'	3.0'	10'



November 05, 2020

Hartfield's Equipment & Dedication Services, Inc.  
Attn: Todd Tracey  
PO BOX 519  
Annapolis Junction, MD 20701

Dear Mr. Tracey,  
In response to your question about relocating an existing Norweco wastewater treatment system, it is acceptable to relocate an existing Norweco providing proper procedures are followed. Those procedures are as follows:  
1) Pump out all three chambers of the Norweco.  
2) Excavate all soil on top of and at least one foot all the way around the Norweco to the bottom of the Norweco.  
3) Cut the in let and outlet pipes.  
4) Remove the electrical conduit and electrical wire going to the Norweco.  
5) Remove all risers from the Norweco.  
6) Remove the aerator.  
7) Remove the aerator motor mount.  
8) Remove the Norweco from the ground using a Norweco lifting device and equipment capable lifting and transporting 15,000 lbs.  
9) Install Norweco in the new location on level clean undisturbed soil (no rocks) or a 6" level bed of # 7 or # 57 stone.  
10) Install inlet and outlet pipes.  
11) Install aerator motor mount.  
12) Install risers to 4 to 6 inches above final grade.  
13) Install electrical conduit and 1/2" electrical wire.  
14) Install new female aerator plug. DO NOT REUSE THE OLD FEMALE PLUG.  
15) Clean aerator and install.  
16) Clean inner & outer filter.  
17) Backfill the Norweco making sure the soil on top of the Norweco is higher than the surrounding grade and slopes away from the Norweco.  
18) Start the Norweco up and verify the Norweco is operating properly.  
If the county requires a manufacture start up certification let me know when the relocation has been completed and I will perform the start up certification.

Thank you.

FRICITION LOSSES IN 2" PIPE FITTINGS:  
6 1/8 HB x 4 FEET PER FITTING = 24 EQUIVALENT FEET OF PIPE  
1 TEE/CROSS x 11 FEET PER FITTING = 11 EQUIVALENT FEET OF PIPE  
1 UNION x 2 FEET PER FITTING = 2 EQUIVALENT FEET OF PIPE  
1 ELBOWS x 9 FEET PER FITTING = 9 EQUIVALENT FEET OF PIPE  
TOTAL EQUIVALENT FEET OF PIPE = 46 FT

TOTAL LINEAR FEET OF 2" SCH. 40 PVC = 98.20 LF + 46 LF = 144.2 LF

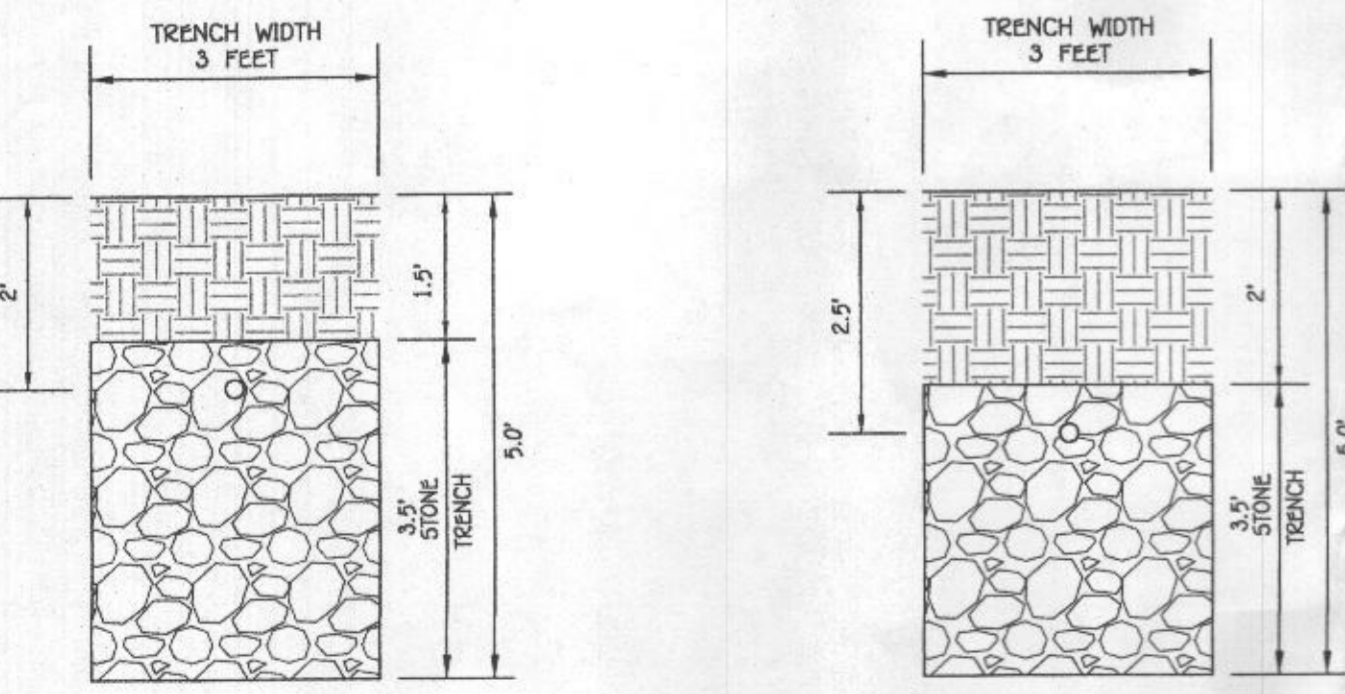
DYNAMIC HEAD  
144.2 LF x 1.5 FT PER 100 LF OF PIPE = 1.7 FT OF FRICTION HEAD  
DISTAL HEAD = 2.0 FT  
VERTICAL FROM PUMP OFF TO DISCHARGE = 5.6 FT OF STATIC HEAD  
VERTICAL FROM DISCHARGE TO HIGHEST ELEV OF MAIN = 7.19 FT  
TOTAL DYNAMIC HEAD = 16.49 FT

MANIFOLD AND LATERALS VOLUMES  
144.21 LF (2" SCH. 40 PIPE) x 17.4 GALLONS PER 100 LF = 25.0 GALLONS  
119 LF (1.5" SCH. 40 PIPE) x 10.8 GALLONS PER 100 LF = 12.6 GALLONS

MINIMUM DOSE = (5 X LATERAL PIPE VOLUME) + (FORCE MAIN + MANIFOLD)  
= (5 X 12.6) + (25)  
= 88 GALLONS

88 GALLONS IS LESS THAN 1/6 DESIGN FLOW (900/6=150)  
USE 177 GALLON DOSE (150 GALLON MINIMUM)  
(RUN TIME = 43.8 MIN (47 GPM X 3.8 = 179 GALLON DOSE))

PUMP NEEDS TO HANDLE 47 GPM AT 16.49 FT OF HEAD  
USE 0.4 HP (ZOELLER 152 PUMP)

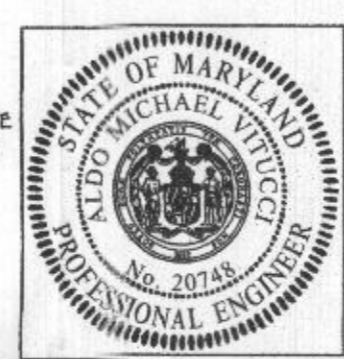


INITIAL TRENCH DETAIL SCALE: 1"=2'  
1ST REPLACEMENT TRENCH DETAIL SCALE: 1"=2'

PLAN VIEW  
SCALE: 1"=30'

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20748, EXPIRATION DATE: 02/22/2024.



Signature of Professional Engineer  
DATE: 1/6/21

OWNER

K-ONE CORPORATION  
209 RIVER BEND ROAD  
GREAT FALLS, VA 22066  
(703)-797-8757

BAT NOTES

- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED. ANY ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT HAS BEEN COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY, LIBSE, FOLD.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
- SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK.
- WHEN THE NEW TANK IS RELOCATED THE TANK MUST BE WATERTIGHT TESTED.

SEPTIC SYSTEM ELEVATIONS

- PFE = 418.2
- BSE = 409.2
- INV. OUT OF HOUSE = 413.6
- PROP GROUND AT C/O = 414
- INV. INTO C/O = 413.35
- INV. OUT OF C/O = 413.26
- PROP GROUND AT BAT TANK = 416.12
- TOP OF BAT TANK = 413.12
- COVER OVER BAT TANK = 3 FT
- INVERT INTO BAT TANK = 412.12
- INVERT OUT OF BAT TANK = 411.87
- PROP GROUND AT PUMP TANK = 415.27
- TOP OF PUMP TANK = 412.27
- COVER OVER PUMP TANK = 2.51 FEET
- INVERT INTO PUMP TANK = 411.76
- INVERT OUT OF PUMP TANK = 411.51

SEWAGE DISPOSAL SYSTEM DATA (INITIAL)

6 BEDROOMS  
LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 GPD  
APPLICATION RATE = 1.2  
EFFECTIVE SIDEWALL BEGINS AT 2 FEET  
TRENCH DEPTH = 5 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 3 FEET  
SF OF DRAINFIELD = 900 GPD / 1.2 = 750 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x3)) = 0.50  
TRENCH LENGTH = 750 SF x 0.50 / 3 = 125 FEET  
TRENCH SPACING = 20+W = (2x3) + 3 = 9 USE 10'

SEWAGE DISPOSAL SYSTEM DATA (FIRST REPLACEMENT)

6 BEDROOMS  
LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 GPD  
APPLICATION RATE = 1.2  
EFFECTIVE SIDEWALL BEGINS AT 2.5 FEET  
TRENCH DEPTH = 5 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 2.5 FEET  
SF OF DRAINFIELD = 900 GPD / 1.2 = 625 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x2.5)) = 0.556  
TRENCH LENGTH = 750 SF x 0.556 / 3 = 139 FEET  
TRENCH SPACING = 20+W = (2x2.5) + 3 = 8 USE 10'

SEWAGE DISPOSAL SYSTEM DATA (FIRST REPLACEMENT)

6 BEDROOMS  
LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 GPD  
APPLICATION RATE = 1.2  
EFFECTIVE SIDEWALL BEGINS AT 3 FEET  
TRENCH DEPTH = 5 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 2 FEET  
SF OF DRAINFIELD = 900 GPD / 1.2 = 625 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x2)) = 0.625  
TRENCH LENGTH = 750 SF x 0.625 / 3 = 156.25 FEET  
TRENCH SPACING = 20+W = (2x2) + 3 = 7 USE 10'

Approved Septic System Plan  
Howard County Health Department  
Hank Osmond 1/23/22  
Signature Date

BAT SITE PLAN  
CHAPEL RISE, LOT 2

11540 CHAPEL RISE  
ZONED RC-DEO PLAT NO. 22022  
TAX MAP NO.: 29 GRID NOS.: 8 & 14  
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JANUARY 6, 2022  
SHEET 1 OF 2

E:\2021\210609\Engineering\Drawings\210609-6010 Chapel Rise Lot 2\210609-6008 Septic-INSTALL REVISED 12-17-21.dwg, BAT S1, 16/20/22, 11:59 PM, 11