

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

Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE: 3-29-21 **ONSITE SEWAGE DISPOSAL SYSTEM** P 28818

APPROVAL DATE: 6/27/21 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 5632 DOSA COURT, CLARKSVILLE, MD 21029

SUBDIVISION: THE WOODLANDS LOT: 4 TAX ID: 05-601709

CONTRACTOR: Hartfield's EMAIL: _____

CONTRACTOR ADDRESS: _____ PHONE: _____

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER: Norweco

MarinaMorris@WilliamsburgLLC.co

PROPERTY OWNER: WBG ESM LLC EMAIL: m

OWNER ADDRESS: 5485 HARPERS FARM ROAD, COLUMBIA, MD 21044 PHONE: (410)997-3800

BAT UNIT MODEL: NORWECO TNT 500 PUMP SIZE: 1.5 Hp PUMP TANK CAPACITY: 1500

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: _____ DATE RECORDED: _____

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>174</u>	INLET DEPTH: <u>2.0</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6.5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4.0</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	The recommended pump is a GOULDS WS15BHF, or equivalent Install Cleanout on SHC. The system must PASS a Pump and Alarm test for Final Approval of this permit prior to release of Use and Occupancy.	

ISSUED BY: R BRICKER ISSUE DATE: _____ EXPIRATION DATE: _____

- 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 2001290
- 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

TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
<u>3'</u>	<u>2'</u>	<u>6.5'</u>
NUMBER OF TRENCHES		<u>3</u>
TOTAL LENGTH		<u>180 F</u>
ABSORPTION AREA		<u>540 SF + SIDE WALL</u>
DISTRIBUTION BOX LEVEL		<u>LPD</u>
DISTRIBUTION BOX BAFFLE		<u>—</u>
DISTRIBUTION BOX PORT		<u>—</u>

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL	<u>yes</u>
MANUFACTURER	<u>Back River</u>
CAPACITY	<u>1500</u> GAL
SEAM LOC	<u>top</u>
TANK LID DEPTH	<u>2'-3'</u>
BAFFLES	<u>—</u>
BAFFLE FILTER	<u>yes (back)</u>
MANHOLE LOC	<u>front/middle/back</u>
6" PORT LOC	<u>—</u>
WATERTIGHT TEST	<u>—</u>
SLOTTED	<u>—</u>
DATE ON LID	<u>2/22/21</u>
PUMP/SEPTIC TANK LEVEL	<u>yes</u>
MANUFACTURER	<u>Babylon</u>
CAPACITY	<u>600</u> GAL
SEAM LOC	<u>top</u>
TANK LID DEPTH	<u>2'-3'</u>
BAFFLES	<u>—</u>
BAFFLE FILTER	<u>—</u>
MANHOLE LOC	<u>front/back</u>
6" PORT LOC	<u>—</u>
WATERTIGHT TEST	<u>—</u>
SLOTTED	<u>—</u>
DATE ON LID	<u>3/29/21</u>

NORWELCO TMS00

see attached for As built

ROAD NAME

PRE-CONSTRUCTION:

4/21/21 - laid out system according to plan, tanks staked, SPA & trenches staked; reviewed OSDS red line notes w/ Contractor, shot trenches w/ transit. looks good ok to continue. (RP)

INSTALLATION: 04/30/2021 INSTALLED LOWER AND MID TRENCH. CHECKED ORIFICE SPACING ON ALL LATERALS. (RP)

5/6/21 - BAT unit & pump tank installed FM connection made already & backfilled (RP) 05/07/2021 JHC AND SEWER LINE TO TANK INSTALLED (RP) 6/29/21 Alarm obs. to function, head obs. on all laterals. BAT, septic pump and alarm obs on diff circuit breakers. Alarm located next to tank. Needs BAT certificate. (RP) Start-up unit received (RP)

FINAL INSPECTOR *[Signature]* DATE OF APPROVAL 6/22/21



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

NORWECO CERTIFICATION

PROPERTY OWNER: WILLIAMSBURG GROUP, LLC	INSTALLATION COMPANY: HATFIELD
ADDRESS: 5632 DOSA CT.	CERTIFIED INSTALLER: TODD TRACEY
CITY, ZIPCODE & COUNTY: CLARKSVILLE, 21029, HOWARD	PERMIT#
SIZE OF SYSTEM INSTALLED:	DATE INSTALLED: 05-04-21
6000 GPD CONCRETE	START-UP DATE: 06-27-21
NUMBER OF BEDROOMS:	DATE OF FINAL INSPECTION:
TYPE OF INSTALLATION: NEW CONSTRUCTION	DATE OF ELECTRICAL INSPECTION:
ELECTRICAL WIRING PER ELECTRICAL INSTRUCTIONS: YES	TANK LEVEL: YES
HT. OF CONTROL PANEL ABOVE FINAL GRADE: 36"	BURIAL DEPTH OF TANK: 30"
SYSTEM WIRED ON A 15-AMP DEDICATED CIRCUIT WITH STD. BREAKER: YES	RISERS 4" - 6" ABOVE GRADE: YES
LENGTH(S) OF UF WIRE PAST LAST AERATION RTISER(S): 30"	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 2ND 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 5TH HOUSE OF THE LEFT.

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

Matthew Geckle

June 27, 2021

*Signature of BRP Representative

Vice-President

Date



HOWARD COUNTY HEALTH DEPARTMENT

6881^c

DATE 3/29/21

P5

Received From

Hatfields Equip.

PHONE #

CASH
 CHECK
 NO. 4421

For

Septic Permit /

5632 Dosa ch

Three hundred ninety six Dollars

\$ 396.00

Received By

A King



HOWARD COUNTY HEALTH DEPARTMENT

68818

DATE 3/27/21

P5

Received From

Hatfield's Equip.

PHONE #

For Septic Permit /

5632 Dosa ct

CASH

CHECK

NO.

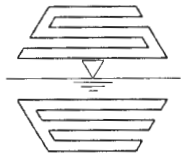
4421

~~Three hundred ninety six~~ Dollars

\$ 396 00

Received By

ALIMP



16005 Frederick Road, 2nd Floor
Woodbine, MD 21797
Website: www.sillengineering.com

Office: 443-325-5076
Fax: 410-696-2022
Email: info@sillengineering.com

Civil Engineering for Land Development

SILL ENGINEERING GROUP, LLC

The Woodlands

Lot 4

5632 Dosa Court

Low Pressure Dosing System Report

September 22, 2020

*OK
RB
10/21/2020*

Prepared For:

Williamsburg Group
5485 Harpers Farm Road
Columbia, Md 21044



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. 32025,
Expiration Date: June 20, 2021

Project #20-003

The Woodlands, Lot 4
5624 Dosa Court
August 03, 2020
Revised September 03, 2020

Pressure Network Design

- Design Flow: 750 gpd
- Diameter of force main = 3.0"
- Diameter of manifold = 3.0"
- Diameter of lateral = 1.5"
- Material: Schedule 40 PVC

Septic System Trench Design Specifications

Initial System:

- Design Flow:
 - 5 Bedrooms at 150 gpd
 - $5 \times 150 \text{ gpd} = 750 \text{ gpd}$
- Application Rate: 0.8
 - Effective Area Beginning Depth: 4.0'
 - Bottom Maximum Depth: 6.5'
- Square Footage of Drain Field Required:
 - Design Flow (750 gpd) / Application Rate (0.8) = 937.5 sf
- Sidewall Reduction Credit:
 - Trench Width (W) = 3'
 - Trench Effective Depth (D) = 2.5'
 - $(W+2) / (W+1+2D) \times 100 = 55\%$
- Linear Length of Trench Required:
 - $$\frac{\text{Drain Field Square Footage (937.5)} \times \text{Sidewall Reduction Credit (0.55)}}{\text{Trench Width (3')}}$$
 - Liner Length of Trench Required = 171.87'
- Linear Length of Trench Provided = 174.0'
 - Three trenches at 58.0 lf each

Pumping System Design

- Dose Calculations:
 - Design Flow: 750 gpd
 - Volume of 3.0" pipe: 38.4 gallons per 100'
 - Volume of 1.5" pipe: 10.6 gallons per 100'
 - Dose to be the larger of:
 - $1/6^{\text{th}}$ the design flow: $1/6 \times 750 \text{ gallons} = 125.0 \text{ gallons}$
 - OR
 - Volume of Force Main + Volume of Manifold + 5x Volume of the Laterals:
 - $71.12 \text{ gallons} + 5.95 \text{ gallons} + 18.44 \text{ gallons} \times 5 = 169.27 \text{ gallons}$
 - Minimum Dose = 170 gallons

The Woodlands, Lot 4
 5624 Dosa Court
 August 03, 2020
 Revised September 03, 2020

- Pump Design:
 - Pump flow required: 77.61 gpm: Use 78 gpm (see Pressure Distribution table for initial system)
 - Dose amount: 170 gallons
 - Pump run time: 2.18 minutes
 - Static head (see profile for detail): 34.76'
- Pipe Lengths:
 - 3.0" Force Main: 185.2'
 - 3.0" Manifold: 15.5'
 - 1.5" Lateral: 58.0' trench
- Friction head calculation (Table 4.3):

Pipe	3.0" Force Main	3.0" Manifold	1.5" Lateral
1/4 Bend (90°)	3 @ 10.0' = 30.0	2 @ 10.0' = 20.0'	-
1/8 Bend (45°)	3 @ 6.0' = 18.0'	-	-
1/16 Bend (22.5°)	3 @ 3.0' = 9.0'	-	1 @ 1.5' = 1.5'
1/32 Bend (11.25°)	-	-	-
Gate Valve	-	-	-
Standard Tee	-	-	-
Run Tee	-	-	-
Cross	-	1 @ 15.' = 15.0'	-
Reducer	-	3 - 1.5"x3.0" @ 1.0' = 3.0'	-
Couplings	15 @ 3.0' = 45.0'	-	5 @ 1.5' = 7.5'
Quick Connect/Disconnect	1 @ 4.5' = 4.5'	-	-
Total Equivalent Length of pipe	106.5'	38.0'	9.0'

- Flow at 3.0" pipe (force main) = 78 gpm
 - Friction loss per 100' (Table 4.4) of 3.0" schedule 40 plastic pipe: 1.32
 - Total equivalent length of 3.0" FM and appurtenances =
 $185.2' + 106.5' = 291.7/100 = 2.92 \times 1.32 = 3.85'$
- Flow at 3.0" pipe (manifold) = 26 gpm
 - Friction loss per 100' (Table 4.4) of 3.0" schedule 40 plastic pipe: 0.17
 - Total equivalent length of 3.0" FM and appurtenances =
 $15.5' + 38.0' = 53.5/100 = 0.535 \times 0.17 = 0.09'$
- Flow at 1.5" pipe (lateral) = 26 gpm
 - Friction loss per 100' (Table 4.4) of 1.5" schedule 40 plastic pipe: 4.04
 - Total equivalent length of 1.5" FM and appurtenances =
 $60.5' + 9.0' = 69.5/100 = 0.695 \times 4.04 = 2.81'$

The Woodlands, Lot 4
5624 Dosa Court
August 03, 2020
Revised September 03, 2020

- Total Friction Head = $3.85' + 0.09' + 2.81' = 6.75'$

- Total Dynamic Head = Static head + Distal Head + Friction head + Lateral friction head safety factor =

$$34.76' + 2.5' + 6.75' + 1.5' = 45.51'$$

Use 46'

- Pump Chamber Design:

- For pump tank dimensions and detail, see plans.

- Cross sectional area of tank: 50.8056 cf per one vertical foot

- Pump chamber elevations:

 - Proposed grade at top of tank (at inlet): 465.5

 - Top of pump tank (interior): 462.39

 - Pump chamber invert in: 461.64

 - High Water Alarm: 460.50

 - Pump On: 460.00

 - Pump Off: 459.55

 - Bottom inside slab of tank: 457.47

- Pump Chamber volumes:

 - Invert In to High Water Alarm: 57.9184 cf or 433.2597 gallons

 - Pump On to Pump Off: 22.8625 cf or 171.0234 gallons

 - Excess volume above Pump On: 121.4254 cf or 908.3251 gallons

- Design based on:

 - Goulds WS15BHF series pump or equivalent

 - Babylon Vaults 1,500-gallon septic tank or equivalent

PRESSURE DISTRIBUTION ON SLOPING SITES

The Woodlands, LOT 4 - Pressure System

Lateral No.	Prop. Grd Elev. (ft)	Invert Elev. (ft)	Trench Bottom Elev. (ft)	Lateral Length (ft)	Head (ft)	Orifice Diameter (in)	Orifice Flow Rate (gpm)	Orifice Spacing (ft)	Number of Orifices	Trench Flow Rate (gpm)	
I1	494.40	492.4	487.90	58	2.0	5/16	1.63	3.9	15	24.45	ZONE 1
I2	493.20	491.2	486.70	58	3.2	5/16	2.05	4.5	13	26.65	
I3	492.00	490.0	484.00	58	4.4	5/16	2.41	5.3	11	26.51	

174

77.61
Use 78 gpm

TOTALS

Trench I1

Effective area beginning depth = 4

Trench depth = 6.5

Trench I2

Effective area beginning depth = 2.5

Trench depth = 6.5

Trench I2

Effective area beginning depth = 2

Trench depth = 8



WS_BHF Series

Model 3887BHF

SUBMERSIBLE SEWAGE PUMP



FEATURES

Impeller: Cast iron, enclosed, non-clog, dynamically balanced with pump out vanes for mechanical seal protection.

Casing: Cast iron flanged volute type for maximum efficiency. Designed for easy installation on A10-20 slide rail or base elbow rail systems.

Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE sealing faces for superior abrasive resistance, stainless steel metal parts, BUNA-N elastomers.

Shaft: Corrosion-resistant, 300 series stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

Fasteners: 300 series stainless steel.

Capable of running dry without damage to components.

Designed for continuous operation when fully submerged.

EXTENDED WARRANTY AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:

- Homes
- Sewage systems
- Dewatering/Effluent
- Water transfer
- Light industrial
- Commercial applications

Anywhere waste or drainage must be disposed of quickly, quietly and efficiently.

SPECIFICATIONS

Pump

- Solids handling capabilities: 2" maximum
- Capacities: up to 220 GPM
- Total heads: up to 81 feet TDH
- Discharge size: 2" NPT threaded companion flange as standard. 3" option available but must be ordered separately. (Order no. A1-3)
- Temperature: 104°F (40°C) continuous
140°F (60°C) intermittent.

MOTORS

- Fully submerged in high grade turbine oil for lubrication and efficient heat transfer. All ratings are within the working limits of the motor.

Class B insulation on 1/3-1 1/2 HP models.

Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- 1/3 - 1 HP models have NEMA three prong ground-ing plugs.
- 1 1/2 HP and larger units have bare lead cord ends.

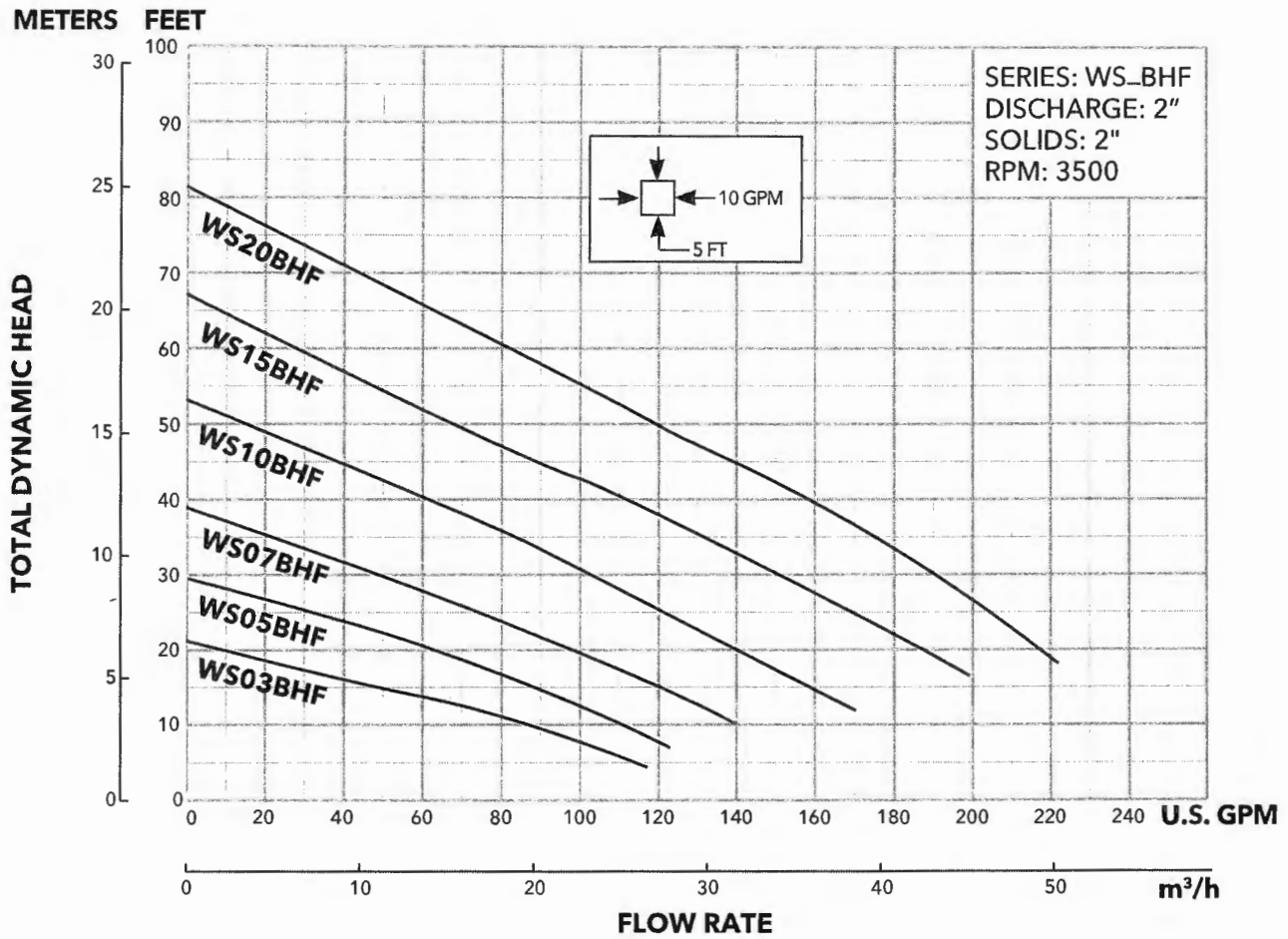
Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.
- Bearings: Upper and lower heavy duty ball bearing construction.
- Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
- Motor Cover O-ring: Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

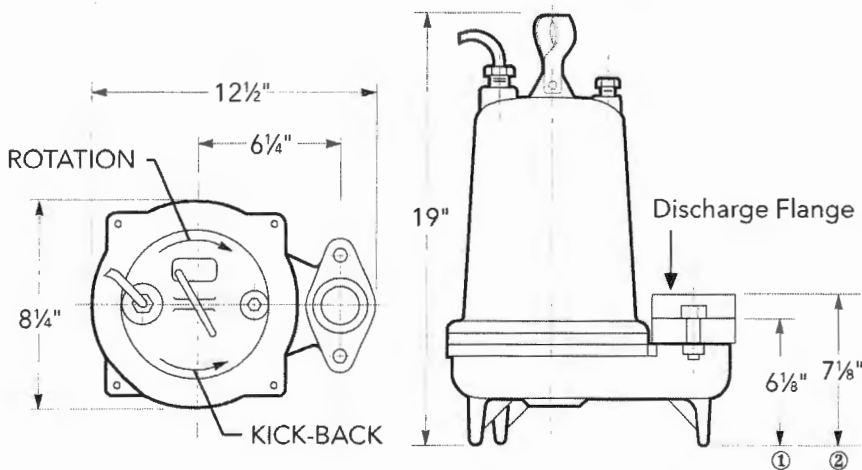


Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association
File #LR38549



DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



MOTOR AND MODEL INFORMATION

Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Motor Efficiency %	Resistance	
										Start	Line-Line
WS0311BHF	0.33	1	115	3500	2.94	12.4	46.0	M	54	7.5	1.0
WS0318BHF			208			6.8	31.0	K	68	9.7	2.4
WS0312BHF			230			6.2	34.5	M	53	9.6	4.0
WS0511BHF	0.5	1	115		3.19	14.5	46.0	M	54	7.5	1.0
WS0518BHF			208			8.4	31.0	K	68	9.7	2.4
WS0512BHF			230			7.6	34.5	M	53	9.6	4.0
WS0538BHF		3	200			4.9	22.6	R	68	-	3.8
WS0532BHF			230			3.6	18.8	R	70	-	5.8
WS0534BHF			460			1.8	9.4	R	70	-	23.2
WS0537BHF	575	1.5	7.5		R	62	-	35.3			
WS0718BHF	0.75	1	208		3.44	11.0	31.0	K	68	9.7	2.4
WS0712BHF			230			10.0	27.5	J	65	12.2	2.7
WS0738BHF		3	200			6.2	20.6	L	64	-	5.7
WS0732BHF			230			5.4	15.7	K	68	-	8.6
WS0734BHF			460			2.7	7.9	K	68	-	11
WS0737BHF			575			2.2	9.9	L	78	-	26.5
WS1018BHF	1	1	208		3.75	14.5	59.0	K	68	9.3	1.1
WS1012BHF			230			13.0	36.2	J	69	10.3	2.1
WS1038BHF		3	200	8.6		27.6	M	77	-	2.7	
WS1032BHF			230	7.5		24.1	L	79	-	4.1	
WS1034BHF			460	3.8		12.1	L	79	-	16.2	
WS1037BHF			575	3.1		9.9	L	78	-	26.5	
WS1512BHF	1.5	1	230	4.00	18.0	52.0	J	67	2.76	0.53	
WS1538BHF		3	200		10.0	42.4	K	78	-	1.7	
WS1532BHF			230		9.6	42.4	K	78	-	1.7	
WS1534BHF			460		4.8	21.2	K	78	-	6.6	
WS1537BHF			575		3.9	16.3	L	78	-	10.5	
WS2012BHF	2	1	230	4.44	18.0	49.6	F	78	3.2	1.1	
WS2038BHF		3	200		12.0	42.4	K	78	-	1.7	
WS2032BHF			230		11.6	42.4	K	78	-	1.7	
WS2034BHF			460		5.8	21.2	K	78	-	6.6	
WS2037BHF			575		4.7	16.3	L	78	-	10.5	

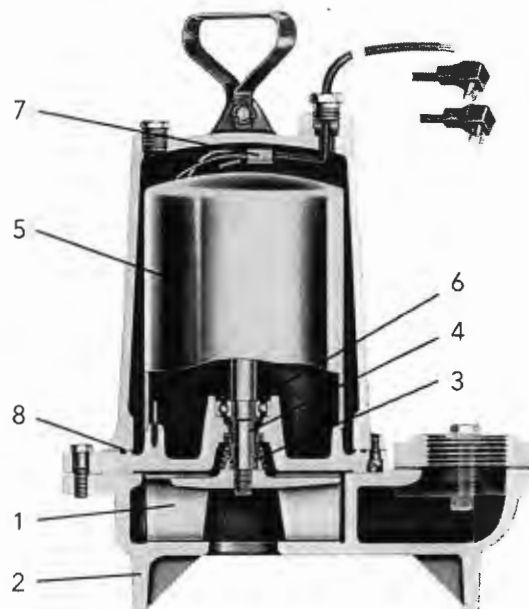
PERFORMANCE RATINGS (gallons per minute)

Order No.	WS03-BHF	WS05-BHF	WS07-BHF	WS10-BHF	WS15-BHF	WS20-BHF	
Total Head Feet of Water	HP	½	½	¾	1	1½	2
	RPM	3500	3500	3500	3500	3500	3500
	10	86	110	140	-	-	-
	15	48	88	120	158	-	-
	20	-	62	98	139	186	217
	25	-	32	74	120	170	204
	30	-	-	49	101	150	190
	35	-	-	21	82	130	175
	40	-	-	-	60	110	159
	45	-	-	-	38	88	140
	50	-	-	-	-	67	120
	55	-	-	-	-	47	100
	60	-	-	-	-	29	80
	65	-	-	-	-	-	62
	70	-	-	-	-	-	43
	75	-	-	-	-	-	23

COMPONENTS (for reference only)

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring

* For repair parts, reference repair parts book.



STANDARD PANEL OPTIONS

Pump Order Number	K Series		Boulay Series	
	Simplex	Duplex	Simplex	Duplex
WS0311BHF	KS19020WF	KD19020WF	S10020	D10020
WS0318BHF	KS19020WF	KD19020WF	S10020	D10020
WS0312BHF	KS19020WF	KD19020WF	S10020	D10020
WS0511BHF	KS19020WF	KD19020WF	S10020	D10020
WS0518BHF	KS19020WF	KD19020WF	S10020	D10020
WS0512BHF	KS19020WF	KD19020WF	S10020	D10020
WS0538BHF	KS34518WF	KD34518WF	S34063	D34063
WS0532BHF	KS31255WF	KD31255WF	S32540	D32540
WS0534BHF	KS31255WF	KD31255WF	S31625	D31625
WS0537BHF	N/A	N/A	S31625	D31625
WS0718BHF	KS19020WF	KD19020WF	S10020	D10020
WS0712BHF	KS19020WF	KD19020WF	S10020	D10020
WS0738BHF	KS34518WF	KD34518WF	S34063	D34063
WS0732BHF	KS34518WF	KD34518WF	S34063	D34063
WS0734BHF	KS31255WF	KD31255WF	S32540	D32540
WS0734BHF	KS31255WF	KD31255WF	S31625	D31625
WS1018BHF	KS19020WF	KD19020WF	S10020	D10020
WS1012BHF	KS19020WF	KD19020WF	S10020	D10020
WS1038BHF	KS34518WF	KD34518WF	S36310	D36310
WS1032BHF	KS34518WF	KD34518WF	S36310	D36310
WS1034BHF	KS31255WF	KD31255WF	S32540	D32540
WS1037BHF	N/A	N/A	S32540	D32540
WS1512BHF	KS19020WF	KD19020WF	S10020	D10020
WS1538BHF	KS34518WF	KD34518WF	S31016	D31016
WS1532BHF	KS34518WF	KD34518WF	S36310	D36310
WS1534BHF	KS31255WF	KD31255WF	S34063	D34063
WS1537BHF	N/A	N/A	S32540	D32540
WS2012BHF	KS19020WF	KD19020WF	S10020	D10020
WS2038BHF	KS34518WF	KD34518WF	S31016	D31016
WS2032BHF	KS34518WF	KD34518WF	S31016	D31016
WS2034BHF	KS34518WF	KD34518WF	S34063	D34063
WS2037BHF	N/A	N/A	S34063	D34063

Note: Boulay Series part numbers have additional available features, see page 7 for more information.

Note: K Series panel part numbers include floats, to order without float switches, remove the 'WF' suffix. Boulay Series panels do not include float switches.

Wastewater



K-SERIES

- NEMA 4X dead front outdoor rated enclosure
- Red LED alarm beacon
- HOA selector switch
- Field wiring terminal block
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230 and 460V service
- Requires separate control/alarm power feed
- See brochure "BCPKSDPANELS" for additional information

BOULAY SERIES

- NEMA 4X outdoor rated enclosure
- Red alarm beacon
- HOA selector switch
- Through door pump run light(s)
- Through door alarm test and horn silence button
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230, 460 and 575V service
- Accepts single or dual power feed
- See brochure "BCP3 R11" for additional information on simplex models
- See brochure "BCP4 R14" for additional information on duplex models

Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

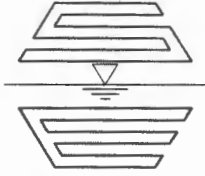
For more information on how Xylem can help you, go to www.xylem.com



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Seneca Falls, NY 13148
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www.xylem.com/goulds

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Letter of Transmittal



16005 Frederick Road, 2nd Floor
 Woodbine, MD 21797
 Website: www.sillengineering.com

Office: 443-325-5076
 Fax: 410-696-2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

SILL ENGINEERING GROUP, LLC

To: Mr. Jeff Williams
 Howard County Health Department
 Bureau of Environmental Health
 8930 Stanford Boulevard
 Columbia, MD 21045

Date:	September 23, 2020
Attention:	Robert Bricker
Re:	The Woodlands, Lot 4 Site Plan for BAT Installation
Project #:	20-003

We are sending you

<input checked="" type="checkbox"/> Attached	Under Separate Cover Via Mail the following:	
Letter	Originals	Other:
<input checked="" type="checkbox"/> Plans	Computations	

Quantity	Description	Quantity	Description
3	Site Plan For BAT Installation		
3	Low Pressure Dosing System Report		

These are transmitted as checked below

<input checked="" type="checkbox"/> For Approval	As Requested	Please Return After Using
<input checked="" type="checkbox"/> For Review	For Your Use	As Approved

Comments:

Dropped off due to Covid-19

Copy To:

Signed:

Beam

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Received by:

Date Received:

Merfish Pipe & Supply

Since 1920

Master Distributor of Carbon Steel Pipe, Fittings & Flanges

1211 Kress Street · Houston, TX 77220

(713) 869-5731

DOCUMENT SUMMARY PAGE

Total Pages: 1	Queued By: Patrick Rhodes
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NO.	Customer PO#	SO#	Item Description	Heat #
1	P1046155	200618907	6 BLK PE 0.188W SRL IMP 6.625 OD 12.94# A53 GR B ERW	B1706420



Jazeera Steel الشركة الجزائرية

AL JAZEERA STEEL PRODUCTS COMPANY SAOG

PO BOX 40, PC 327, Suhar Industrial Estate

SULTANATE OF OMAN

Phone : 968 26751763/4/5 Fax 968 26751766

PAGE : 1/1

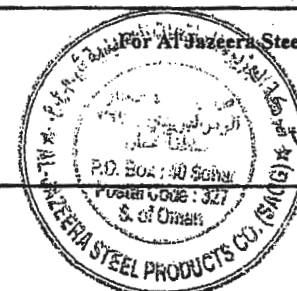
MILL TEST CERTIFICATE

MTC NO. : 311/07/2017 DATED 24/07/2017
 INVOICE NO. : AJSPC/EXP/162 DATED 24/07/2017
 CUSTOMER'S NAME : QT TRADING
 ADDRESS : 2207 CONCORD PIKE BOX 405,
 WILMINGTON, DELAWARE, 19803-2908,
 UNITED STATES OF AMERICA.

P.O. NO. : R1686/LOT NE 1122- IND -1

SR NO.	NPS (Inch)	NPS (MM)	WT (Inch)	LENGTH (Feet)	TYPE	Lb / Ft	HEAT NO.	BUNDLES	PCS	TOTAL (FEET)	NET WT. (MT)	MECHANICAL TESTING				HYDR AULIC TEST (psi)	CHEMICAL ANALYSIS (%)					Zinc Coating (Oz/Ft ²)	
												UTS (psi)	YS (psi)	% EL IN GL 2"	FLATT ENING / BEND TEST		C	Mn	P	S	Si		
																							Cu
ERW STEEL PIPE CONFORMING TO THE SPECIFICATION ASTM A53-12 GRA/ASTM A 53 - 12 GR. B/ASME SA 53-12 GRB SCH 40 & 0.188"																							
1	3/4" (UL)	1.050	0.113	10.0	BTBE	1.13	A1706217	4	336	3360	1.722	62780/64240	46720/47450	35/37	OK	700	0.114	0.760	0.023	0.006	0.005	0.023	-
2	1" (UL+FM)	1.315	0.133	10.0	BTBE	1.68	A1706218	23	1380	13800	10.517	63072/63948	46866/47742	36/38	OK	700	0.149	0.354	0.013	0.008	0.005	0.032	-
3	1" (UL+FM)	1.315	0.133	10.0	BTBE	1.68	A1705213	2	120	1200	0.914	62780/63656	44676/45406	36/38	OK	700	0.019	0.008	0.031	0.008	0.005	0.005	-
4	2" (UL+FM)	2.375	0.154	10.0	BTBE	3.66	A1707125	42	1092	10920	18.129	62926/63656	41610/42340	40/42	OK	2300	0.008	0.022	0.011	0.008	0.004	0.003	-
5	3" (GRB- ASME- UL+FM)	3.500	0.216	21.0	BPEB	7.58	B1707424	39	546	11466	39.423	64532/65262	49640/50370	36/38	OK	2500	0.130	0.810	0.007	0.006	0.005	0.004	-
6	6" (GRB- ASME- UL+FM)	6.625	0.280	21.0	BPEB	18.99	B1706420	2	14	294	2.532	64240/65116	47742/48472	35/37	OK	1780	0.006	0.040	0.008	0.010	0.006	0.004	-
7	6" (GRB- ASME- UL+FM)	6.625	0.280	21.0	BPEB	18.99	B1705416	1	7	147	1.266	64240/64970	43946/44822	35/37	OK	1780	0.151	1.000	0.022	0.007	0.005	0.005	-
8	8" (GRB- ASME- UL+FM)	8.625	0.322	21.0	BPEB	28.58	B1706422	24	120	2520	32.669	64824/65554	48910/49640	42/44	OK	1570	0.007	0.014	0.009	0.006	0.005	0.005	-
9	6" (GRB)	6.625	0.188	21.0	BPEB	12.94	B1706420	7	49	1029	6.040	63510/64240	46720/47450	35/37	OK	1190	0.160	0.515	0.010	0.008	0.007	0.006	-
10	8" (GRB)	8.625	0.188	21.0	BPEB	16.96	B1706422	12	60	1260	9.693	63364/64094	48180/48910	35/37	OK	920	0.006	0.008	0.011	0.008	0.005	0.004	-
11	2" (GRB- ASME- UL+FM)	2.375	0.154	21.0	BGE	3.66	B1706423	23	598	12558	20.848	63656/64532	47450/48180	35/37	OK	2500	0.153	0.536	0.006	0.008	0.006	0.017	-
GRAND TOTAL								179	4322	58554	143.754												

THIS IS TO CERTIFY THAT THE MATERIAL CONFORMS TO THE SPECIFICATION ASTM A53-12 GRA/ASTM A53-12 GRB/ASME SA -12 GRB
 ALL THE PIPES ARE TESTED NON DESTRUCTIVELY BY EDDY CURRENT METHOD AND HYDROSTATICALLY TESTED
 AT THE PRESSURE MENTIONED ABOVE.



Authorized Signatory
 Quality Control