ALTUS ENGINEERING

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

MEMORANDUM

To: Town of Rye Sewer Commission

From: Cory D, Belden, PE - Altus Engineering

Copy: Jim Connick, Owner – Adam's Mobile Home Park, Inc.

Date: February 6, 2023

Subject: **Adam's Park - Order to Remedy Nuisance**
Lafayette Road
Town of Rye, NH

Rye Sewer Commission,

This Memorandum is in response to the ***Order to Remedy Nuisance*** issued by the Town of Rye Building Inspector and Deputy Health Officer, dated October 7, 2021. After three separate site visits from the building inspection department on September 24, 27 & 28, 2021 five violations were noted. As a result, the town of Rye has required four (4) corrective actions to be completed by the owner. This Memorandum outlines the actions completed to date and the proposed plan for compliance with Corrective Action #4 to avoid future discharges of sewer to the adjacent wetlands.

Required Corrective Actions:

1) *Continue the clean-up of the brook, wetlands and any other ground surfaces contaminated by the raw sewage to the satisfaction of NH DES and the undersigned town officials and, if required, the EPA.*
2) *Pump out Tank #1 frequently enough to avoid overflows back into the manhole. Establish a schedule for monitoring Tank #1 and pumping it out. Provide the Building Department with copies of your contract with a pumping company; your monitoring schedule; and pumping receipts, which shall include the date and time of pump out and the number of gallons pumped.*
3) *Within 5 days of service of this notice dig up and expose all pipes discharging to the wetlands and brook all the way back to their source. When this has been done, notify the Building Department so it may document the location of the pipes before they are removed. After the location of the pipes has been documented by the Building Department, remove the ones which convey sewage.*
4) *Within 14 days of service of this notice retain an Engineer to prepare a plan for holding and pumping sewage to the Portsmouth system which will avoid a reoccurrence of sewage overflows into wetlands, brooks, and ground surfaces. Provide the Building Department and Rye Sewer Commission with documentation that you have retained an engineer for this purpose. Submit plans for correcting this situation to NH DES, the Rye Sewer Commission, and the City of Portsmouth for their approvals within 90 days of service of this notice.*

As noted in the findings from the Town of Rye Building Inspector, the owner pumped out the sewage from the wetlands immediately after the incident occurred. The owner also conducted video inspections of the four lines discharging to the wetlands. Lines #1 and #3 were both blocked by obstructions. Line #2 was identified as a 10" storm drain line, which is separate from the sewer system. Line #4 was identified as a sewer overflow discharge from a wye connection upstream from the Sewer Manhole (SMH).

Altus Engineering was not involved in the cleanup of the wetlands or removal of the sewer connection but understands owner has coordinated with the Town of Rye to complete these items. Therefore, this Memorandum is specific to Corrective Action #4 to provide a plan to avoid a re-occurrence of sewer discharge to the wetlands.

The Proposed Plan for Corrective Action #4 is as follows:

Project Understanding:

- The owner pumped the sewage from the wetlands on September 28, 2021. Pump out records were provided to the Town of Rye Building Department.
- The owner completed TV inspections of the four pipes entering the wetlands.
  - One was determined to be a storm drain line
    - Altus confirmed that the 10" line is conveying storm drain flows.
  - One was confirmed as a sewer overflow, and
  - Two lines were obstructed.
- There are two existing septic tanks on site. Tank #1 is approximately 15,000 gallons and Tank #2 is approximately 3,000 gallons. Effluent from the mobile home park enters Tank #1 and conveys to Tank #2 through a baffle, allowing solids to settle out in Tank #1. Tank # 2 contains the two pumps which discharge to the force main line to the City of Portsmouth sewer system. The two pumps are monitored through a pump meter located in the pump house building.
- There are 63 units (62 mobile homes and one house) that are connected to the sewer system. Water bills from 2018 through 2021 indicate an average of approximately 7,360 gal per day of water usage, or approximately 117 gallons/unit/day. Water meter bills are included in the attachments.
- Based on the pump tank storage volume, float elevations, and average daily flows of approximately 7,360 gpd, it is estimated that the pumps cycle approximately 9.9 times per day, pumping out approximately 740 gallons per dose. Each cycle is approximately 10 minutes.
- The owner utilizes Greg Septic Service (Stratham, NH) to pump the tank twice a year, per Corrective Action #2.
- Altus visually inspected the pump tanks on 12/9/22 to confirm they are operating correctly. During the site visit the pump tank was pumped down to expose the pumps. The baffle was checked to confirm it is operating correctly and the pumps were verified to be in working order. The pump meter in the pump house is also in working condition. Site Photos are included in the attachments.
- Drain lines to the wetlands were TV inspected and the 4" unlicensed discharge connection to wetlands was removed.

As discussed at the January 13, 2023 Rye Sewer Commission Meeting, the following is a brief summary of the understood history of the sewer systems at the Adam's Mobile Home Park.

- 1960's – Adams Mobile Home Park was developed. The sewer flowed to a lagoon that is currently the site of the existing wetlands where the 2021 overflow discharged to.
- 1972 – Record of discussions requesting connection to the City of Portsmouth sewer system.
- 1978 – Septic approval from NHDES to construct new leach fields, holding tank, and pump tank. The lagoon was abandoned, but an overflow discharge was maintained as backup release.
- 1990's – One of the leach fields failed. Discussions begin again with Rye and Portsmouth to connect to the Portsmouth System.
- 1996 – Underwood Engineers prepared plans to replace the septic leach fields with a sewer pump station to convey flows to the City of Portsmouth. The existing 15,000 gallon tank was converted to the main pump tank the 3,000 gallon tank as a holding tank. A municipal agreement was executed between the owner, the Town of Rye, and eth City of Portsmouth.
- 1997 – The Sewer Pump Station and connection to the Portsmouth Rye Line Wastewater Pumping Station sewer was completed. The leach fields were abandoned.
- 1997-2016 – the pump station at Adam's Mobile Home Park experienced continuous problems with the submersible pumps getting clogged due to rags, towels, and other solids being flushed into the system. Pumps were continuously failing and needed to be replaced.
- 2009 – The City of Portsmouth completed the "Rye Line Wastewater Pumping Station Improvements" project to improve and increase capacity of the pumping station.
- 2016 - The pumps were moved to the smaller tank and a baffle was installed between the tanks to allow solids and floatable sludge to remain in the holding tank and only "gray" water to enter the pump tank. The pumps have operated without any major issues since this conversion.
- 2021 – Sewer backup created "overflow" discharge to wetlands via the overflow pipe to the original lagoon. "Order to Remedy Nuisance" was issued by the Town of Rye.
- 2021 – Owner removed overflow connection to wetlands (former lagoon).

Proposed Plan:

1) The owner shall remove the upstream (wye) pipe connection from the inlet to the large holding tank that is an overflow and the source of the discharge to the wetlands. COMPLETE

2) The owner shall pump out Tank #1 every six months to prevent solids from obstructing the system flows. Pump records shall be provided to the town of Rye Sewer Commission. The owner utilizes Greg Septic Service located in Stratham, NH to pump the tanks. ONGOING

3) The owner shall monitor the pumps regularly to verify that both pumps are working and properly alternating cycles for pumping. Any deviations in pumping cycles and durations shall warrant an inspection. The owner shall provide verification to the Town of Rye Sewer Commission annually to:
    i. Verify the pumps are working properly,
    ii. Confirm floats are operating correctly, and
    iii. Check baffle to verify it is working and not clogged.

4) The owner shall maintain a backup pump on site at all times.

5) The owner shall install a backup generator for the septic pumps in case of an emergency due to power failure. The generator shall provide backup power to the pumps and pump house and be sized by electrician to provide 72 hours of backup power. It is anticipated that the generator will be propane powered.

The following Attachments are included with this Memorandum:

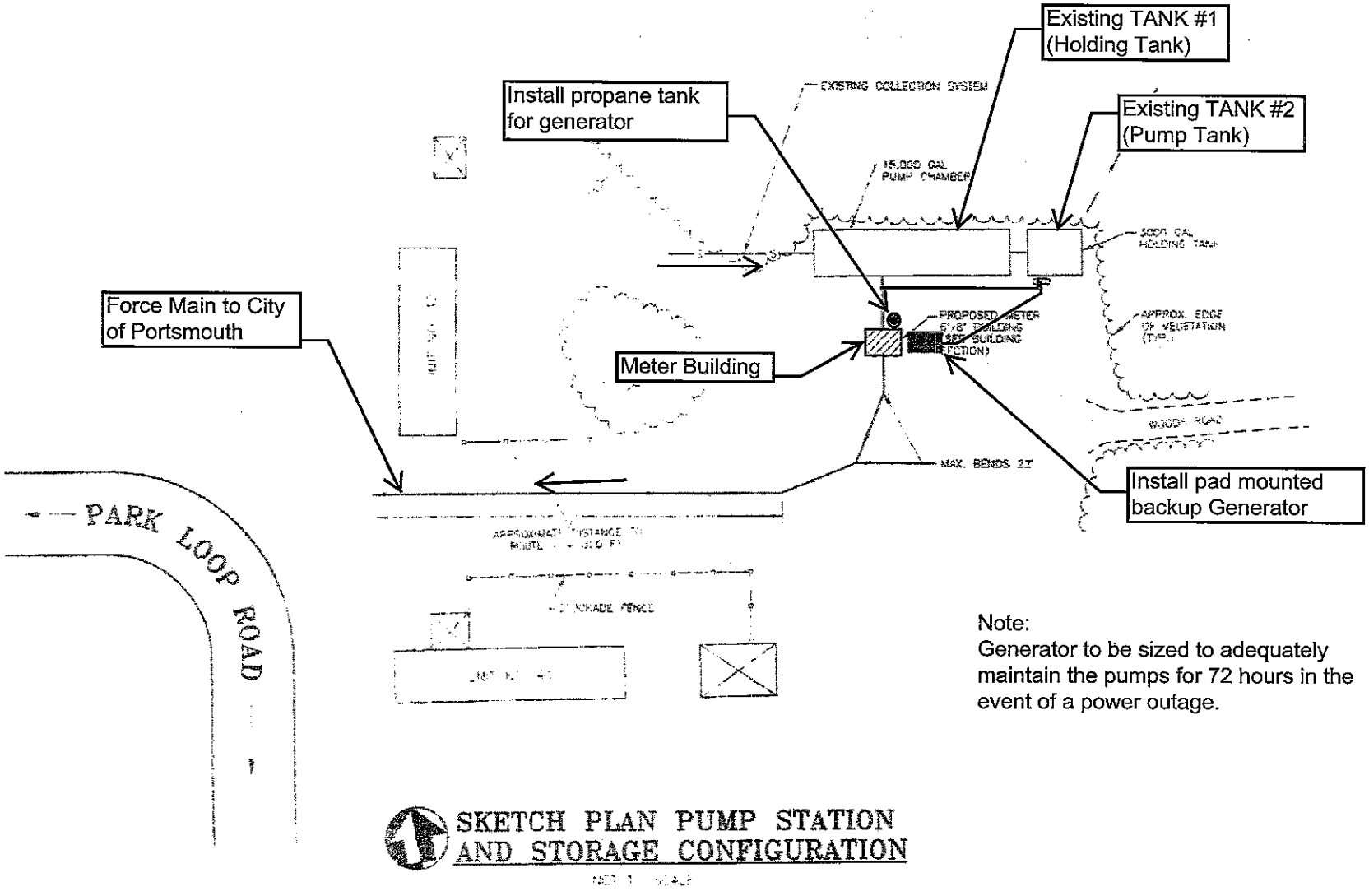
A. Proposed Site Plan for New Generator
B. Site Photos
C. Water bills for the Adam's Mobile Home Park (63 units)
D. 1978 NH-WSPCC (now DES) Septic Approval
E. Generator Specifications and Load Calculations
F. Existing Pump Station Detail – January 30, 2023

Please contact me if you have any questions or require any additional information.

Sincerely,
ALTUS ENGINEERING

Cory D. Belden, PE, LEED AP

Incl/
cdb/5274_Memo-Jan-2023.docx



Note:
Generator to be sized to adequately maintain the pumps for 72 hours in the event of a power outage.

SKETCH PLAN PUMP STATION
AND STORAGE CONFIGURATION

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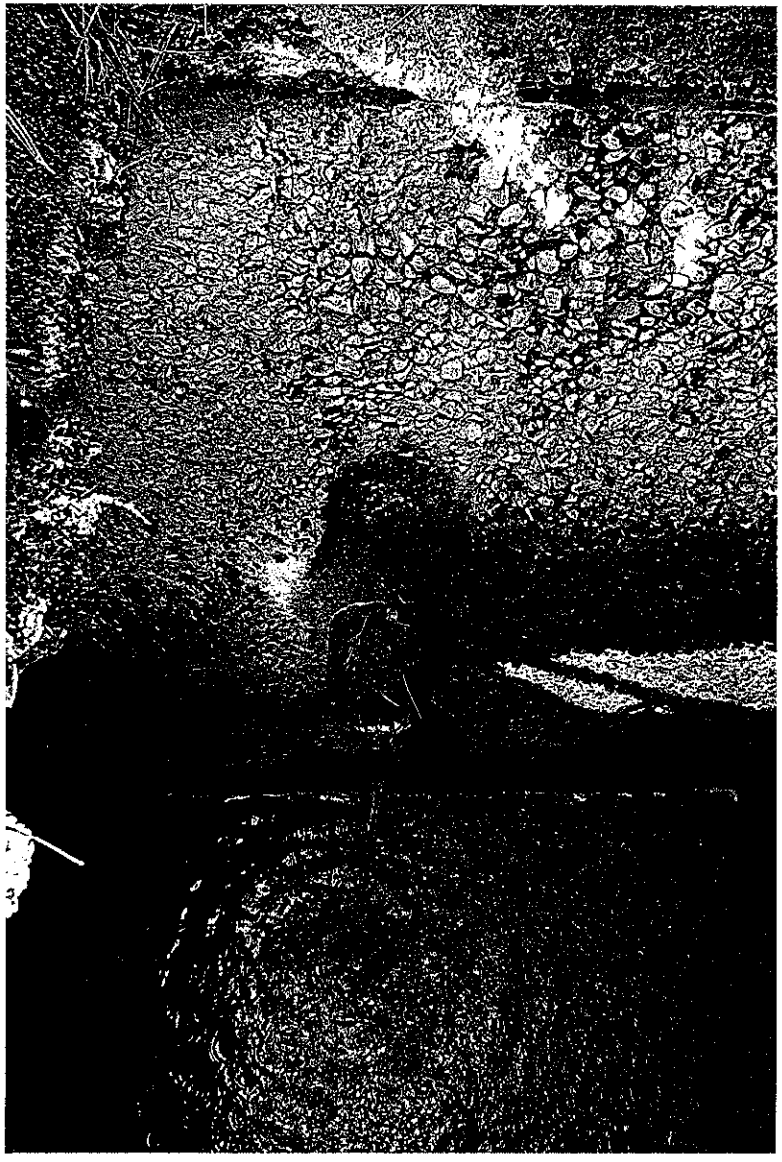
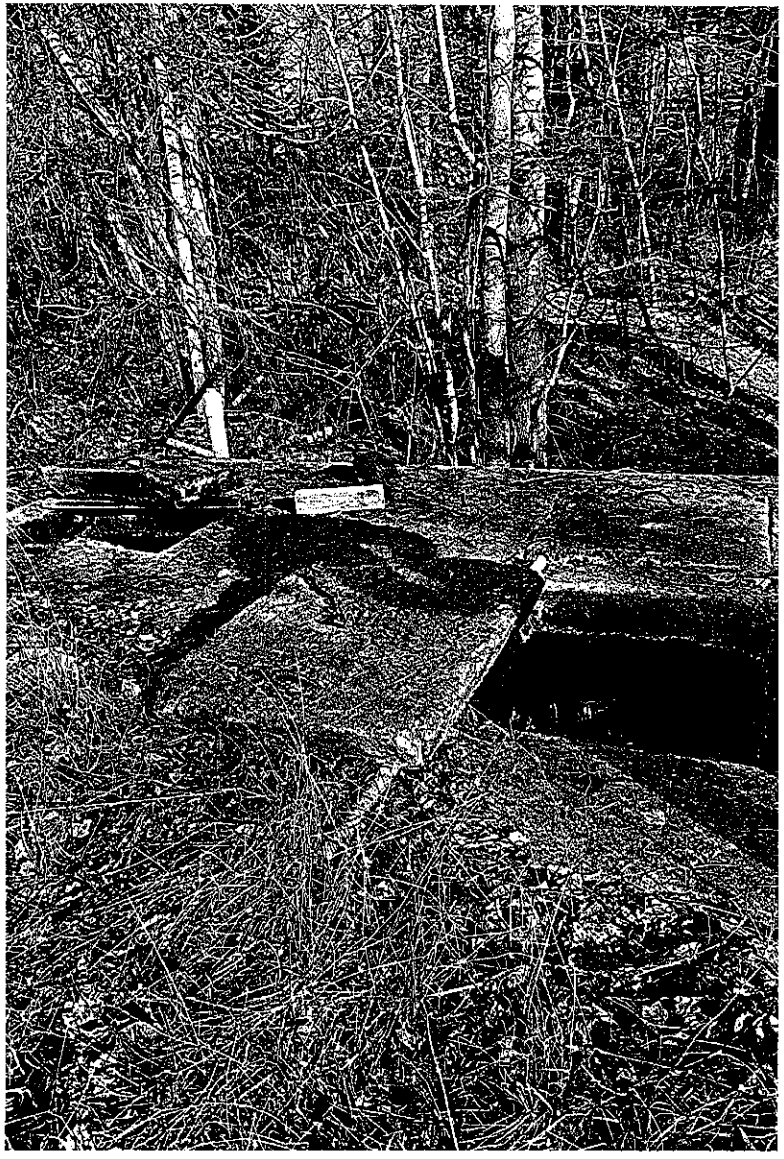
133 Court Street
Portsmouth, NH
03801-4413

1. Baffle on Tank #1

2. Inlet pipe to Tank #1

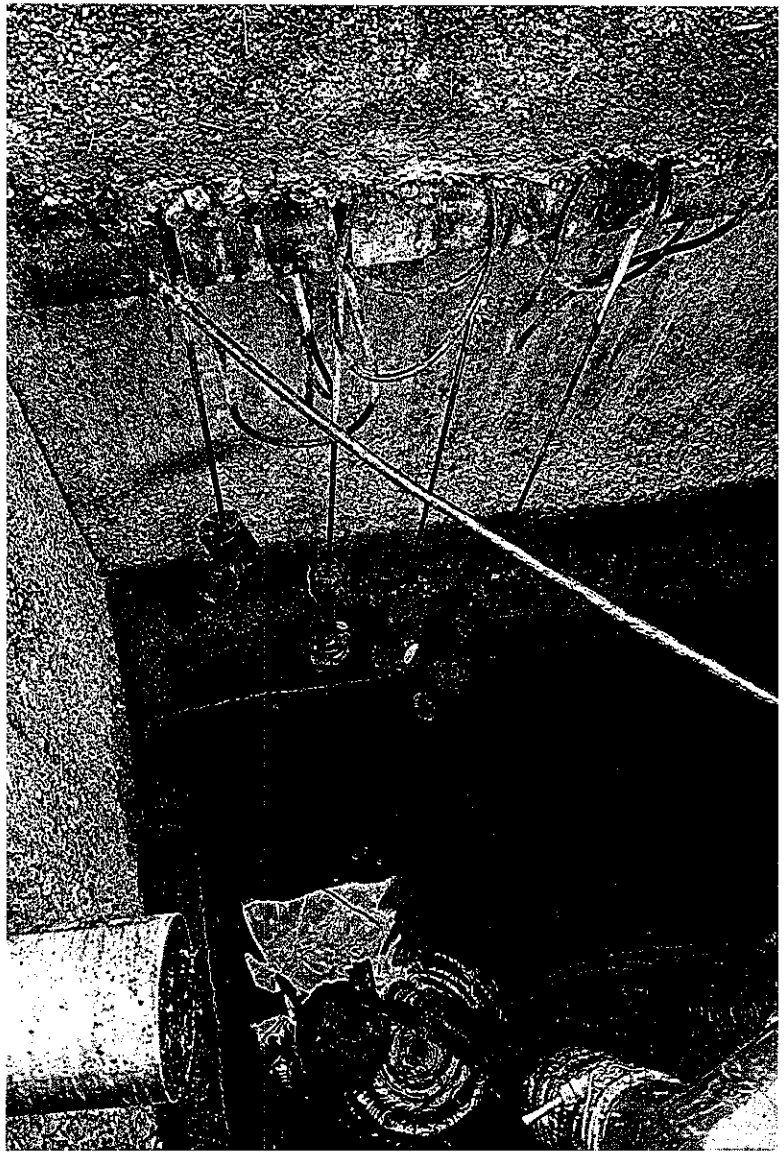


3. Tank #2 - Inlet Pipe



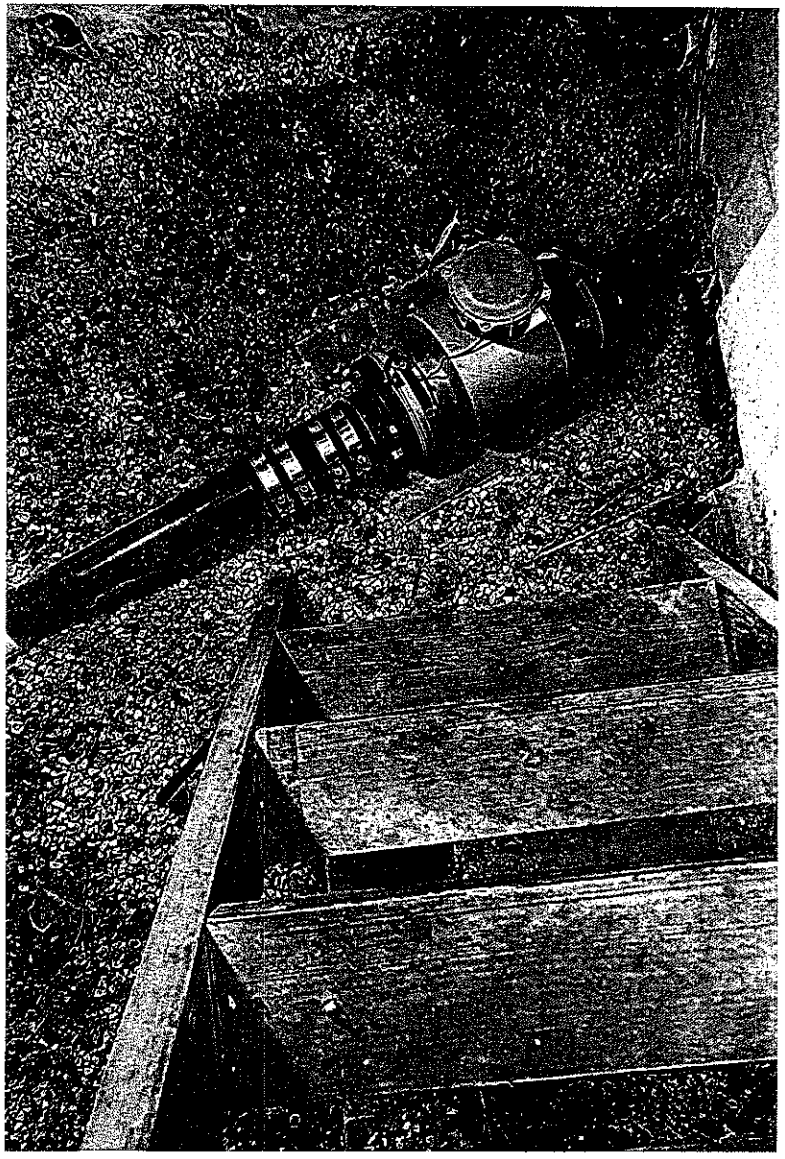
4. Tank #2 - Covers

5. Tank #2 - Pumps



6. Tank #2 - Floats

7. Outlet Pipes at wetland



8. Pump meter in Meter Building

RYE WATER
60 SAGAMORE ROAD
RYE, NH 03870
(603) 436-2596

PLEASE REMIT THIS STUB WITH PAYMENT

Remember - You can now view and pay your bills online at www.ub-pay.com the municipal code is RyeWaterDistrict

ADAM'S MOBILE HOME PARK

DUE DATE	ACCT NUMBER
05/15/2020	
BY DUE DATE	AFTER DUE DATE
$8,379.00	$8,404.00

AMOUNT DUE >

SERVICE ADDRESS > 120 LAFAYETTE RD

KEEP THIS PORTION FOR YOUR RECORDS

RYE WATER
(603) 436-2596

60 SAGAMORE ROAD
RYE, NH 03870

ACCOUNT NUMBER		BILLING DATE
		04/01/2020
CURRENT	PREVIOUS	USAGE
3677000	2942000	735000 gal
FROM	TO	DAYS
12/17/2019	03/26/2020	100

SERVICE ADDRESS	DUE DATE
120 LAFAYETTE RD	05/15/2020
DESCRIPTION	AMOUNT DUE
Prior Balance	0.00
Payment(s)	-0.00
Water	8,379.00
	Total: 8,379.00

Pd - JH 2017 4-18-20

2020 Annual Billing
Please stay healthy and safe

RYE WATER
60 SAGAMORE ROAD
RYE, NH 03870
(603) 436-2596

PLEASE REMIT THIS STUB WITH PAYMENT

Remember - You can now view and pay your bills online at www.ub-pay.com the municipal code is RyeWaterDistrict

ADAM'S MOBILE HOME PARK

DUE DATE	ACCT NUMBER
05/07/2021	
BY DUE DATE	AFTER DUE DATE
$8,379.00	$8,404.00

SERVICE ADDRESS > 120 LAFAYETTE RD

KEEP THIS PORTION FOR YOUR RECORDS

RYE WATER 60 SAGAMORE ROAD
(603) 436-2596 RYE, NH 03870

ACCOUNT NUMBER		BILLING DATE
		03/31/2021
CURRENT	PREVIOUS	USAGE
6103000	5460000	643000 gal
FROM	TO	DAYS
12/18/2020	03/18/2021	90

SERVICE ADDRESS	DUE DATE
120 LAFAYETTE RD	05/07/2021

DESCRIPTION	AMOUNT DUE
Prior Balance	0.00
Payment(s)	-0.00
Water	8,379.00
	Total: 8,379.00

2021 Annual Billing
Welcome Spring!

RYE WATER
60 SAGAMORE ROAD
RYE, NH 03870
(603) 436-2596

PLEASE REMIT THIS STUB WITH PAYMENT

Remember - You can now view and pay your bills online at www.ub-pay.com

ADAM'S MOBILE HOME PARK

DUE DATE	ACCT NUMBER
05/31/2019	
BY DUE DATE	AFTER DUE DATE
$8,190.00	$8,215.00

AMOUNT DUE

SERVICE ADDRESS> **120 LAFAYETTE RD**

KEEP THIS PORTION FOR YOUR RECORDS

RYE WATER
(603) 436-2596

60 SAGAMORE ROAD
RYE, NH 03870

ACCOUNT NUMBER		BILLING DATE
		04/01/2019
CURRENT	PREVIOUS	USAGE
1209000	475000	734000 gal
FROM	TO	DAYS
12/18/2018	03/25/2019	97

SERVICE ADDRESS	DUE DATE
120 LAFAYETTE RD	05/31/2019
DESCRIPTION	AMOUNT DUE
Prior Balance	0.00
Payment(s)	-25.00
Water	8,190.00
Bad Debt	~~25.00~~
	Total: 8,190.00

Pd. ck 1922
5-1-19

2019 Annual Bill

NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION
P.O. Box 95 - 105 Loudon Road
Concord, N. H. 03301

4)

APPROVAL FOR OPERATION

APPROVAL NO 46570

The individual sewage or waste disposal system constructed for Septum for Adams Mobile Mobile Home Park Inc. Rye, N. H. (name and address) for Septum For 62 Existing 2 Bedroom Trailer Route #1 Rye, N.H. (describe property and location) was inspected on October 10, 1978 (date) before covering and is hereby approved for use.

Copy sent to:

Date approved: October 10, 1978

By: James V. McBride
Authorized Agent of the New Hampshire Water Supply and Pollution Control Commission

THIS APPROVAL DOES NOT SUPERCEDE LOCAL ORDINANCES OR REGULATIONS.

(OVER)

NO LIABILITY IS INCURRED BY THE STATE by reason of any approval of subdivision plans or any approval to construct or use a sewage or waste disposal system. Approval by the New Hampshire Water Supply and Pollution Control Commission of sewage and waste disposal systems and subdivisions is based on plans and specifications supplied by the applicant.
NO GUARANTEE IS INTENDED OR IMPLIED BY REASON OF ANY ADVICE GIVEN BY THE COMMISSION OR ITS STAFF.

GENERATOR SUPERCENTER OF NH
28 PORTSMOUTH AVE
STRATHAM, NH, 03885
(603) 731-4003

Sizing Report

Rated Nominal Voltage	120 / 240 Single Phase
Generator Fuel Choice	Liquid Propane
Sizing Method (NEC 220)	Part IV

General Lighting & Receptacles		Load (kW)
Square Footage Being Covered (ft^2)	400	1.2
Small Appliance Circuits (20 amps)		
Kitchen Circuits	0.0	0.0
Laundry Circuits	0.0	0.0

Fixed-In-Place Appliances & Motors	Managed Loads	Estimated (kW)	Nameplate (amps)	240 V	Load (kW)
Sewer Pump		2.64	11.0	X	2.64
Sewer Pump		2.64	11.0	X	2.64

Air Conditioning & Cooling	Managed Loads	Estimated (kW)	Nameplate (amps)	240 V	Load (kW)

Heating & Heat Pumps	Managed Loads	Estimated (kW)	Nameplate (amps)	240 V	Load (kW)
Electric Heat (<4 sepa...		2.0	8.33	X	2.0
Electric Heat (<4 sepa...		2.0	8.33	X	2.0

Transient Requirement	Estimated (LRA)	Actual (LRA)	Utilized (LRA)
Largest Motor's Starting Amps (LRA)	75.9	0.0	75.9

Summary NEC Load	Load (kW)	NEC Required
General Lighting & Receptacles	1.2	
Fixed-in-Place Appliances & Motors	5.28	
Sum of all General Loads	6.48	6.48
Cooling	0	0
Heating (w/demand factors)	4.0	2.600
Larger of Heating & Cooling	4.0	2.600
Sizing based on requirements of NEC Article 220: Part IV		9.080
Elevation		0
Minimum size generator for motor starting requirements		14
BTU load required		280000

14 kW Generac Model Generator Recommended

[redacted]

10/14/18 kW

[redacted]

GENERAC®

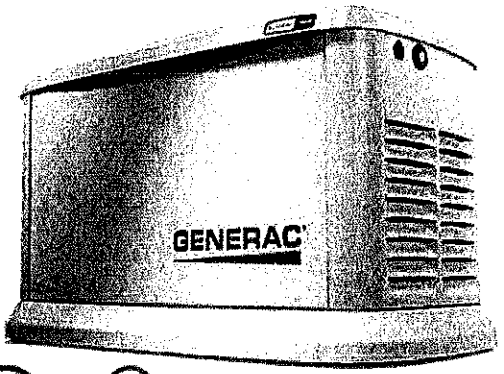
GUARDIAN® SERIES
Residential Standby Generators
Air-Cooled Gas Engine

INCLUDES:

- True Power™ Electrical Technology
- Two-line multilingual digital LCD Evolution™ controller (English/Spanish/French/Portuguese)
- Two transfer switch options available:
  100 amp 16 circuit switch or
  200 amp service rated smart switch
- Electronic governor
- Standard Wi-Fi® connectivity
- System status & maintenance interval LED indicators
- Sound attenuated enclosure
- Flexible fuel line connector
- Natural gas or LP gas operation
- 5 Year limited warranty
- Listed and labeled by the Southwest Research Institute allowing installation as close as 18 in (457 mm) to a structure.*
  **Must be located away from doors, windows, and fresh air intakes and in accordance with local codes.*
  https://assets.swri.org/library/DirectoryOfListedProducts/ConstructionIndustry/973_DoC_204_13204-01-01_Rev9.pdf

Standby Power Rating

G007171-0, G007172-0 (Aluminum - Bisque) – 10 kW 60 Hz
G007223-0, G007224-0, G007225-0 (Aluminum - Bisque) – 14 kW 60 Hz
G007226-0, G007228-0 (Aluminum - Bisque) – 18 kW 60 Hz



c ETL us or c UL us LISTED QUIET TEST™

Note: CETL or CUL certification only applies to unbundled units and units packaged with limited circuit switches. Units packaged with the Smart Switch are ETL or UL certified in the USA only.

FEATURES

- **INNOVATIVE ENGINE DESIGN & RIGOROUS TESTING** are at the heart of Generac's success in providing the most reliable generators possible. Generac's G-Force engine lineup offers added peace of mind and reliability for when you need it the most. The G-Force series engines are purpose built and designed to handle the rigors of extended run times in high temperatures and extreme operating conditions.
- **TRUE POWER™ ELECTRICAL TECHNOLOGY:** Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.
- **TEST CRITERIA:**
  - ✓ **PROTOTYPE TESTED**
  - ✓ **SYSTEM TORSIONAL TESTED**
  - ✓ **NEMA MG1-22 EVALUATION**
  - ✓ **MOTOR STARTING ABILITY**
- **MOBILE LINK® WI-FI CONNECTIVITY:** FREE with select Guardian Series home standby generators, Mobile Link Wi-Fi allows users to monitor the status of the generator from anywhere in the world using a smartphone, tablet, or PC. Easily access information such as the current operating status and maintenance alerts. Users can connect an account to an authorized service dealer for fast, friendly, and proactive service. With Mobile Link, users are taken care of before the next power outage.
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION:** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at ±1%.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- **GENERAC TRANSFER SWITCHES:** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is the GENERAC product line is offered with its own transfer systems and controls for total system compatibility.

THE GENERAC PROMISE

GENERAC

10/14/18 kW

Features and Benefits

Engine

● Generac G-Force design	Maximizes engine "breathing" for increased fuel efficiency. Plateau honed cylinder walls and plasma moly rings help the engine run cooler, reducing oil consumption and resulting in longer engine life.
● "Spiny-lok" cast iron cylinder walls	Rigid construction and added durability provide long engine life.
● Electronic ignition/spark advance	These features combine to assure smooth, quick starting every time.
● Full pressure lubrication system	Pressurized lubrication to all vital bearings means better performance, less maintenance, and longer engine life. Now featuring up to a 2 year/200 hour oil change interval.
● Low oil pressure shutdown system	Shutdown protection prevents catastrophic engine damage due to low oil.
● High temperature shutdown	Prevents damage due to overheating.

Generator

● Revolving field	Allows for a smaller, light weight unit that operates 25% more efficiently than a revolving armature generator.
● Skewed stator	Produces a smooth output waveform for compatibility with electronic equipment.
● Displaced phase excitation	Maximizes motor starting capability.
● Automatic voltage regulation	Regulating output voltage to ±1% prevents damaging voltage spikes.
● UL 2200 listed	For your safety.

Transfer Switch (if applicable)

● Fully automatic	Transfers vital electrical loads to the energized source of power.
● NEMA 3R	Can be installed inside or outside for maximum flexibility.
● Remote mounting	Mounts near an existing distribution panel for simple, low-cost installation.

Evolution™ Controls

● AUTO/MANUAL/OFF illuminated buttons	Select the operating mode and provide easy, at-a-glance status indication in any condition.
● Two-line multilingual LCD	Provides homeowners easily visible logs of history, maintenance, and events up to 50 occurrences.
● Sealed, raised buttons	Smooth, weather-resistant user interface for programming and operations.
● Utility voltage sensing	Constantly monitors utility voltage, setpoints 65% dropout, 80% pick-up, of standard voltage.
● Generator voltage sensing	Constantly monitors generator voltage to verify the cleanest power is delivered to the home.
● Utility interrupt delay	Prevents nuisance startups of the engine, adjustable 2–1500 seconds from the factory default setting of 5 seconds by a qualified dealer.
● Engine warm-up	Verifies engine is ready to assume the load. Setpoint approximately 5 seconds.
● Engine cool-down	Allows engine to cool prior to shutdown. Setpoint approximately 1 minute.
● Programmable exercise	Operates engine to prevent oil seal drying and damage between power outages by running the generator for 5 minutes every other week. Offers a selectable setting for weekly or monthly operation, providing flexibility and potentially lower fuel costs to the owner.
● Smart battery charger	Delivers charge to the battery only when needed at varying rates depending on outdoor air temperature. Compatible with lead acid and AGM-style batteries.
● Main line circuit breaker	Protects generator from overload.
● Electronic governor	Maintains constant 60 Hz frequency.

Unit

● SAE weather protective enclosure	Sound attenuated enclosures ensure quiet operation and protection against mother nature, withstanding winds up to 150 mph (241 km/h). Hinged key locking roof panel for security. Lift-out front for easy access to all routine maintenance items. Electrostatically applied textured epoxy paint for added durability.
● Enclosed critical grade muffler	Quiet, critical grade muffler is mounted inside the unit to prevent injuries.
● Small, compact, attractive	Makes for an easy, eye appealing installation, as close as 18 in (457 mm) away from a structure.

GENERAC

10/14/18 kW

Features and Benefits

Installation System

● 14 in (35.6 cm) flexible fuel line connector	Listed ANSI Z21.75/CSA 6.27 outdoor appliance connector for the required connection to the gas supply piping.
● Integral sediment trap	Meets IFGC and NFPA 54 installation requirements.

Connectivity

● Ability to view generator status	Monitor your generator with a smartphone, tablet, or computer at any time via the Mobile Link application for complete peace of mind.
● Ability to view generator Exercise/Run and Total Hours	Review the generator's complete protection profile for exercise hours and total hours.
● Ability to view generator maintenance information	Provides maintenance information for your specific model generator when scheduled maintenance is due.
● Monthly report with previous month's activity	Detailed monthly reports provide historical generator information.
● Ability to view generator battery information	Built in battery diagnostics displaying current state of the battery.
● Weather information	Provides detailed local ambient weather conditions for generator location.

GENERAC

10/14/18 kW

Specifications

Generator

Model	G007171-0, G007172-0 (10 kW)	G007223-0, G007224-0, G007225-0 (14 kW)	G007226-0, G007228-0 (18 kW)
Rated maximum continuous power capacity (LP)	10,000 Watts*	14,000 Watts*	18,000 Watts*
Rated maximum continuous power capacity (NG)	9,000 Watts*	14,000 Watts*	17,000 Watts*
Rated voltage		240	
Rated maximum continuous load current – 240 volts (LP/NG)	41.7 / 37.5	58.3 / 58.3	75.0 / 70.8
Total Harmonic Distortion		Less than 5%	
Main line circuit breaker	45 Amp	60 Amp	80 Amp
Phase		1	
Number of rotor poles		2	
Rated AC frequency		60 Hz	
Power factor		1.0	
Battery requirement (not included)		12 Volts, Group 26R 540 CCA Minimum or Group 35AGM 650 CCA Minimum	
Unit weight (lb/kg)	338/153	385/175	420/191
Dimensions (L x W x H) in / cm		48 x 25 x 29 / 121.9 x 63.5 x 73.7	
Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load**	61	65	65
Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test™ low-speed exercise mode**	57	55	55
Exercise duration		5 min	

Engine

Engine type	GENERAC G-Force 400 Series	GENERAC G-Force 800 Series	
Number of cylinders	1	2	
Displacement	460 cc	816 cc	
Cylinder block		Aluminum w/ cast iron sleeve	
Valve arrangement		Overhead valve	
Lifter type	Solid	Hydraulic	
Ignition system		Solid-state w/ magneto	
Governor system		Electronic	
Compression ratio		9.5:1	
Starter		12 VDC	
Oil capacity including filter	Approx. 1.1 qt / 1.0 L	Approx. 2.2 qt / 2.1 L	
Operating rpm		3,600	
Fuel consumption			
Natural Gas ft³/hr (m³/hr)			
1/2 Load	101 (2.86)	195 (5.52)	169 (4.79)
Full Load	127 (3.60)	256 (7.25)	247 (6.99)
Liquid Propane ft³/hr (gal/hr) [L/hr]			
1/2 Load	36 (0.97) [3.66]	65 (1.81) [6.87]	62 (1.70) [6.45]
Full Load	54 (1.46) [5.62]	112 (3.07) [11.61]	110 (3.02) [11.44]

Note: **Fuel pipe must be sized for full load.** Required fuel pressure to generator fuel inlet at all load ranges - 3.5–7.0 in water column (0.87–1.74 kPa) for NG, 10–12 in water column (2.49–2.99 kPa) for LP gas. For BTU content, multiply ft³/hr x 2,500 (LP) or ft³/hr x 1,000 (NG). For Megajoule content, multiply m³/hr x 93.15 (LP) or m³/hr x 37.26 (NG).

Controls

Two-line plain text multilingual LCD	Simple user interface for ease of operation.
Mode buttons: AUTO	Automatic start on utility failure. Weekly, Bi-Weekly, or Monthly selectable exerciser.
MANUAL	Start with starter control, unit stays on. If utility fails, transfer to load takes place.
OFF	Stops unit. Power is removed. Control and charger still operate.
Ready to Run/Maintenance messages	Standard
Engine run hours indication	Standard
Programmable start delay between 2–1500 seconds	Standard (programmable by dealer only)
Utility voltage loss/Return to utility adjustable (brownout setting)	From 140-171 V / 190-216 V
Future set capable exerciser/Exercise set error warning	Standard
Run/Alarm/Maintenance logs	50 events each
Engine start sequence	Cyclic cranking: 16 sec on, 7 sec rest (90 sec maximum duration).
Starter lock-out	Starter cannot re-engage until 5 sec after engine has stopped.
Smart Battery Charger	Standard
Charger Fault/Missing AC Warning	Standard
Low Battery/Battery Problem Protection and Battery Condition Indication	Standard
Automatic Voltage Regulation with Over and Under Voltage Protection	Standard
Under-Frequency/Overload/Stepper Overcurrent Protection	Standard
Safety Fused/Fuse Problem Protection	Standard
Automatic Low Oil Pressure/High Oil Temperature Shutdown	Standard
Overcrank/Overspeed (@ 72 Hz)/rpm Sense Loss Shutdown	Standard
High Engine Temperature Shutdown	Standard
Internal Fault/Incorrect Wiring Protection	Standard
Common External Fault Capability	Standard
Field Upgradable Firmware	Standard

Rating definitions – Optional Standby: Applicable for supplying backup power for the duration of the utility power outage with correct maintenance performed. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046, UL2200, and DIN6271).

* Maximum kilovolt amps and current are subject to and limited by such factors as fuel BTU/Megajoule content, ambient temperature, altitude, engine power and condition, etc. Maximum power decreases approximately 3.5% for each 1,000 ft (304.8 m) above sea level and approximately 1% for each 10 °F (6 °C) above 60 °F (16 °C). **Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters.

GENERAC

10/14/18 kW

Switch Options

Limited Circuits Switch Features

- 16 space, 24 circuit. Breakers not included.
- Electrically operated, mechanically-held contacts for fast, positive connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2-pole, 250 VAC contactors.
- 30 millisecond transfer time.
- Dual coil design.
- Rated for both copper and aluminum conductors.
- Main contacts are silver plated or silver alloy to resist welding and sticking.
- NEMA/UL 3R aluminum outdoor enclosure allows for indoor or outdoor mounting flexibility.
- Multi listed for use with 1 in standard, tandem, GFCI, and AFCI breakers from Siemens, Murray, Eaton, and Square D for the most flexible and cost effective install.

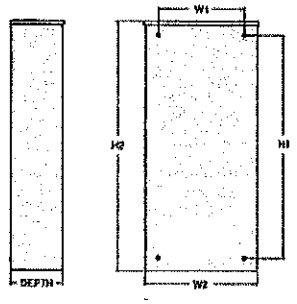
Model	G007172-0 (10 kW)	G007224-0 (14 kW)
No. of poles	2	
Current rating (amps)	100	
Voltage rating (VAC)	120/240, 1Ø	
Utility voltage monitor (fixed)*		
-Pick-up	80%	
-Dropout	65%	
Return to utility*	Approx. 15 sec	
Exercises bi-weekly for 5 minutes*	Standard	
ETL or UL Listed	Standard	
Total circuits available	24	
Tandem breaker capabilities	8 tandems	
Circuit breaker protected Available RMS Symmetrical Fault Current @ 250 Volts	10,000	

*Function of Evolution controller
Exercise can be set to weekly or monthly

Dimensions

	Height		Width		Depth
	H1	H2	W1	W2	
in	26.75	30.1	10.5	13.5	6.91
cm	67.94	76.43	26.67	34.18	17.54

Wire Ranges		
Conductor Lug	Neutral Lug	Ground Lug
2/0 - #14	2/0 - #14	2/0 - #14



Service Rated Smart Switch Features

- Includes Smart A/C Management (SACM) module standard.
- Intelligently manages up to four air conditioner loads with no additional hardware.
- Up to eight large (240 VAC) loads can be managed with Smart Management Modules (SMMs).
- Electrically operated, mechanically-held contacts for fast, clean connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2-pole, 250 VAC contactors.
- Service equipment rated, dual coil design.
- Rated for both aluminum and copper conductors.
- Main contacts are silver plated or silver alloy to resist welding and sticking.
- NEMA/UL 3R aluminum outdoor enclosure allows for indoor or outdoor mounting flexibility.

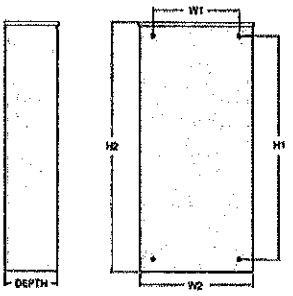
Model	G007225-0 (14 kw)	G007228-0 (18 kW)
No. of poles	2	
Current rating (amps)	200	
Voltage rating (VAC)	120/240, 1Ø	
Utility voltage monitor (fixed)*		
-Pick-up	80%	
-Dropout	65%	
Return to utility*	15 sec	
Exercises bi-weekly for 5 minutes*	Standard	
ETL or UL Listed	Standard	
Enclosure type	NEMA/UL 3R	
Circuit breaker protected	22,000	
Lug range	250 MCM - #6	

*Function of Evolution Controller
Exercise can be set to weekly or monthly

Dimensions

	200 Amps 120/240, 1ø Open Transition Service Rated				
	Height		Width		Depth
	H1	H2	W1	W2	
in	26.75	30.1	10.5	13.5	6.3
cm	67.94	76.45	26.67	34.3	16.01

Wire Ranges		
Conductor Lug	Neutral Lug	Ground Lug
400 MCM - #4	350 MCM - #6	2/0 - #14



GENERAC

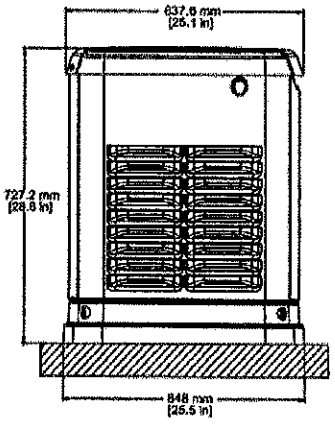
10/14/18 kW

Available Accessories

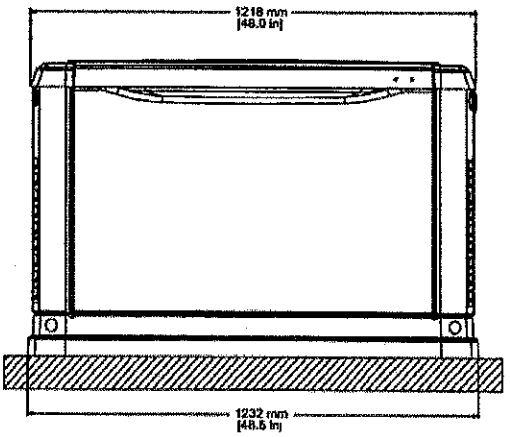
Model #	Product	Description
G005819-0	26R Wet Cell Battery	Every standby generator requires a battery to start the system. Generac offers the recommended 26R wet cell battery for use with all air-cooled standby product (excluding PowerPact®).
G007101-0	Battery Pad Warmer	The pad warmer rests under the battery. Recommended for use if the temperature regularly falls below 0 °F (-18 °C). (Not necessary for use with AGM-style batteries).
G007102-0	Oil Warmer	Oil warmer slips directly over the oil filter. Recommended for use if the temperature regularly falls below 0 °F (-18 °C).
G007103-1	Breather Warmer	The breather warmer is for use in extreme cold weather applications. For use with Evolution controllers only in climates where heavy icing occurs.
G005621-0	Auxiliary Transfer Switch Contact Kit	The auxiliary transfer switch contact kit allows the transfer switch to lock out a single large electrical load you may not need. Not compatible with 50 amp pre-wired switches.
G007027-0 - Bisque	Fascia Base Wrap Kit	The fascia base wrap snaps together around the bottom of the new air cooled generators. This offers a sleek, contoured appearance as well as offering protection from rodents and insects by covering the lifting holes located in the base.
G005703-0 - Bisque	Touch-Up Paint Kit	If the generator enclosure is scratched or damaged, it is important to touch up the paint to protect from future corrosion. The touch-up paint kit includes the necessary paint to correctly maintain or touch up a generator enclosure.
G006482-0 – 10 kW G007216-0 – 14 / 18 kW	Scheduled Maintenance Kit	Generac's scheduled maintenance kits provide all the items necessary to perform complete routine maintenance on a Generac automatic standby generator (oil not included).
G007005-0	Wi-Fi LP Fuel Level Monitor	The Wi-Fi enabled LP fuel level monitor provides constant monitoring of the connected LP fuel tank. Monitoring the LP tank's fuel level is an important step in verifying the generator is ready to run during an unexpected power failure. Status alerts are available through a free application to notify users when the LP tank is in need of a refill.
G007000-0 (50 amps) G007006-0 (100 amps)	Smart Management Module	Smart Management Modules (SMM) are used to optimize the performance of a standby generator. It manages large electrical loads upon startup and sheds them to aid in recovery when overloaded. In many cases, using SMM's can reduce the overall size and cost of the system.
G007169-0 (4G LTE) G007170-0 (Wi-Fi/Ethernet)	Mobile Link® Cellular Accessories	The Mobile Link family of Cellular Accessories allow users to monitor the status of the generator from anywhere in the world, using a smartphone, tablet, or PC. Easily access information such as the current operating status and maintenance alerts. Users can connect an account with an authorized service dealer for fast, friendly, and proactive service. With Mobile Link, users are taken care of before the next power outage.

Dimensions & UPCs

Model	UPC
G007171-0	696471074680
G007172-0	696471074673
G007223-0	696471082548
G007224-0	696471082555
G007225-0	696471082562
G007226-0	696471082579
G007228-0	696471082586



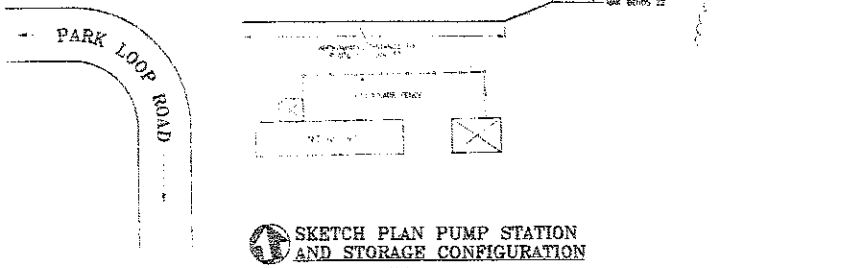
LEFT SIDE VIEW



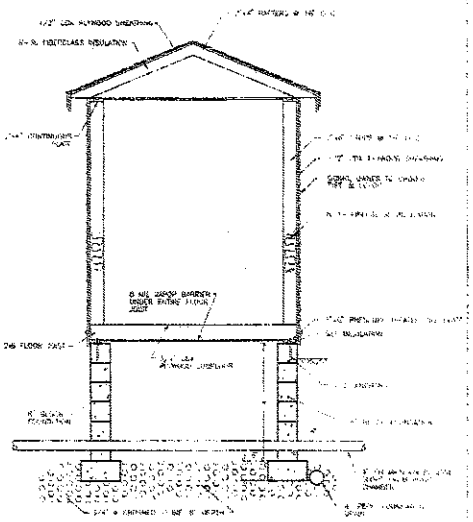
FRONT VIEW

Dimensions shown are approximate. See installation manual for exact dimensions. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.

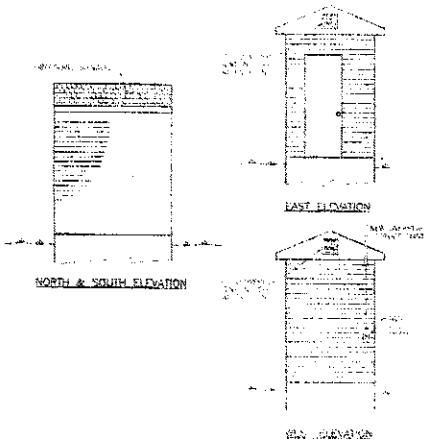
 Part No. A0000973374 Rev. A 10/22/2020



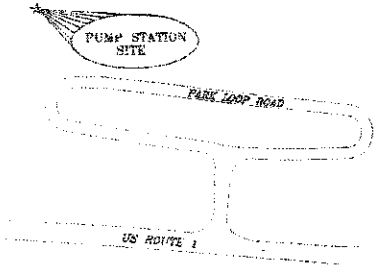
SKETCH PLAN PUMP STATION
AND STORAGE CONFIGURATION



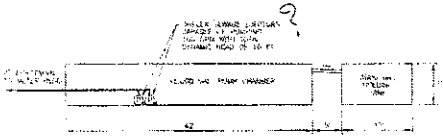
BUILDING SECTION



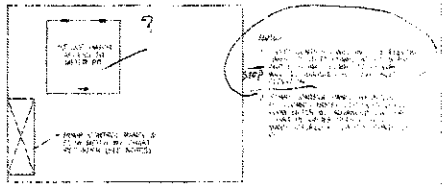
PUMPING STATION ELEVATIONS



SITE PLAN



SECTION WETWELL
AND STORAGE TANKS

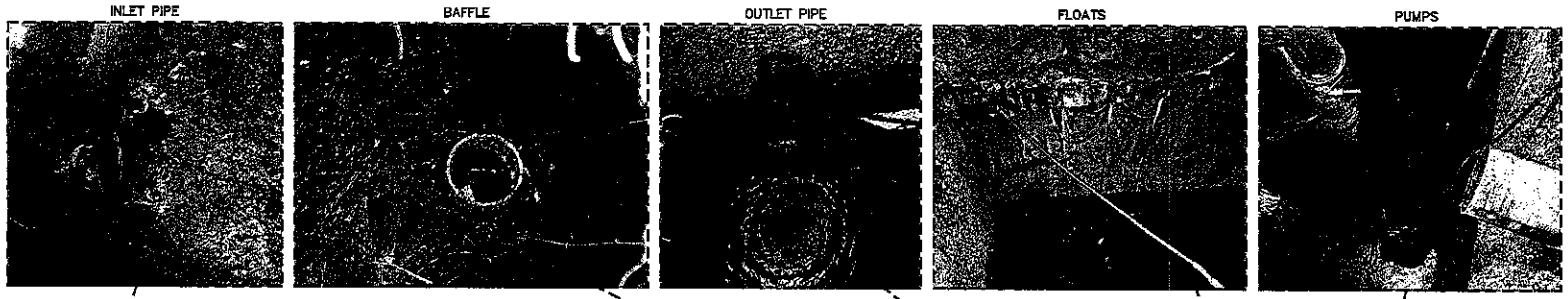


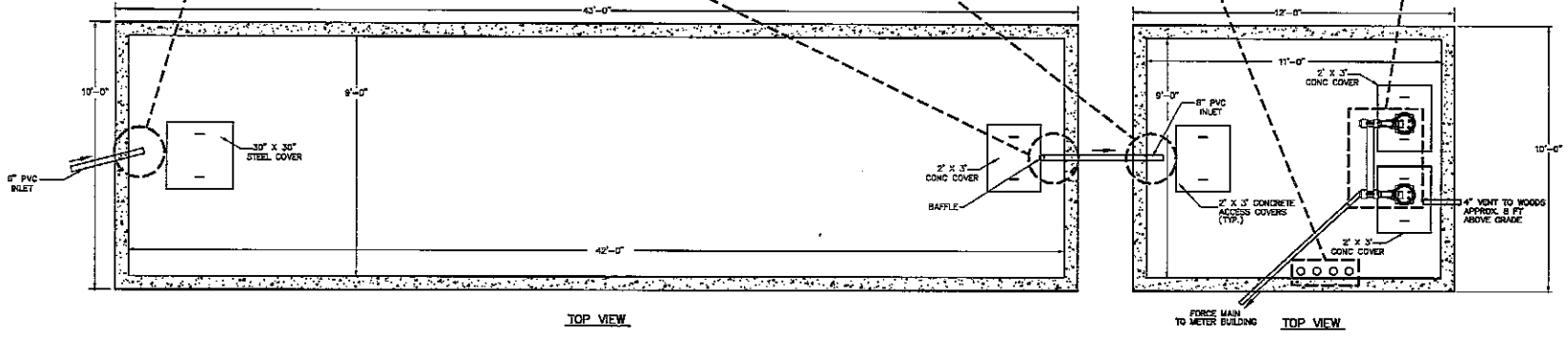
FLOOR PLAN METER BUILDING

Underwood Engineers, Inc.

ON-SITE SEWAGE IMPROVEMENTS

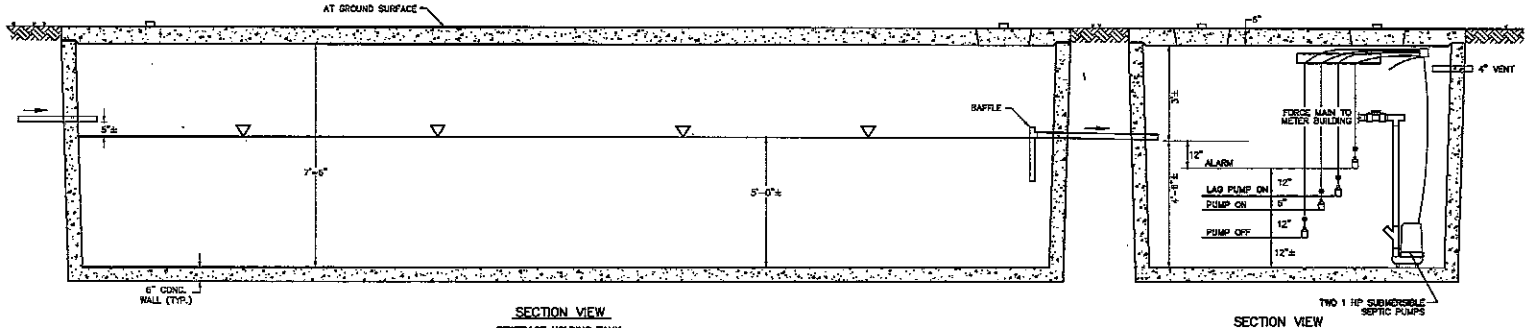
TEMPORARY SANITARY FORCE MAIN





TOP VIEW

TOP VIEW



SECTION VIEW

SEWERAGE HOLDING TANK
INSIDE DIMENSIONS = 9' x 42' x 7.5'
2,835 CUBIC FEET / 21,200 GAL

SECTION VIEW

PUMP TANK
INSIDE DIMENSIONS = 9' x 11' x 7.5'
DOSE: 740 GAL/VF x 1 FT = 740 GALLONS

NOTES:
1. THIS PLAN IS INTENDED TO DEPICT THE EXISTING CONDITIONS OF THE SEWER PUMP STATION AND THE MODIFICATIONS THAT WERE TO THE SYSTEM SINCE THE ORIGINAL INSTALLATION IN 1997 AND IS NOT A DESIGN PLAN.
2. DIMENSIONS SHOWN ARE APPROXIMATE AND ARE BASED ON FIELD MEASUREMENTS AND INFORMATION PROVIDED BY OWNER. DIMENSIONS AND ELEVATIONS ARE NOT BASED ON SURVEY FROM A LICENSED LAND SURVEYOR.

SANITARY FLOW DATA:

ADAMS MOBILE HOME PARK (62 MOBILE HOME UNITS AND 1 SFR)

AVERAGE WATER USE BASED ON WATER METER READINGS FROM (2019–2021) = 7,360 GPD

7,360 GPD / 740 GAL/DOSE = AVERAGE 9.9 DOSES / DAY

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ISSUED FOR: RECORD

ISSUE DATE: JANUARY 30, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	01/30/23

DRAWN BY: MBS
APPROVED BY: CDB
DRAWING FILE: 5274-DETAILS

SCALE: NOT TO SCALE

OWNER OF RECORD:

ADAMS MOBILE HOME PARK, INC.
C/O JAMES CONNICK
324 DEN QUARRY RD
LYNN, MA 01904

PROJECT:

ADAMS MOBILE PARK SANITARY FORCE MAIN
ADAMS PARK
RYE, NEW HAMPSHIRE
TAX MAP 10, LOT 13

TITLE:

EXISTING PUMP STATION DETAIL

SHEET NUMBER:

PS - 1

5274