

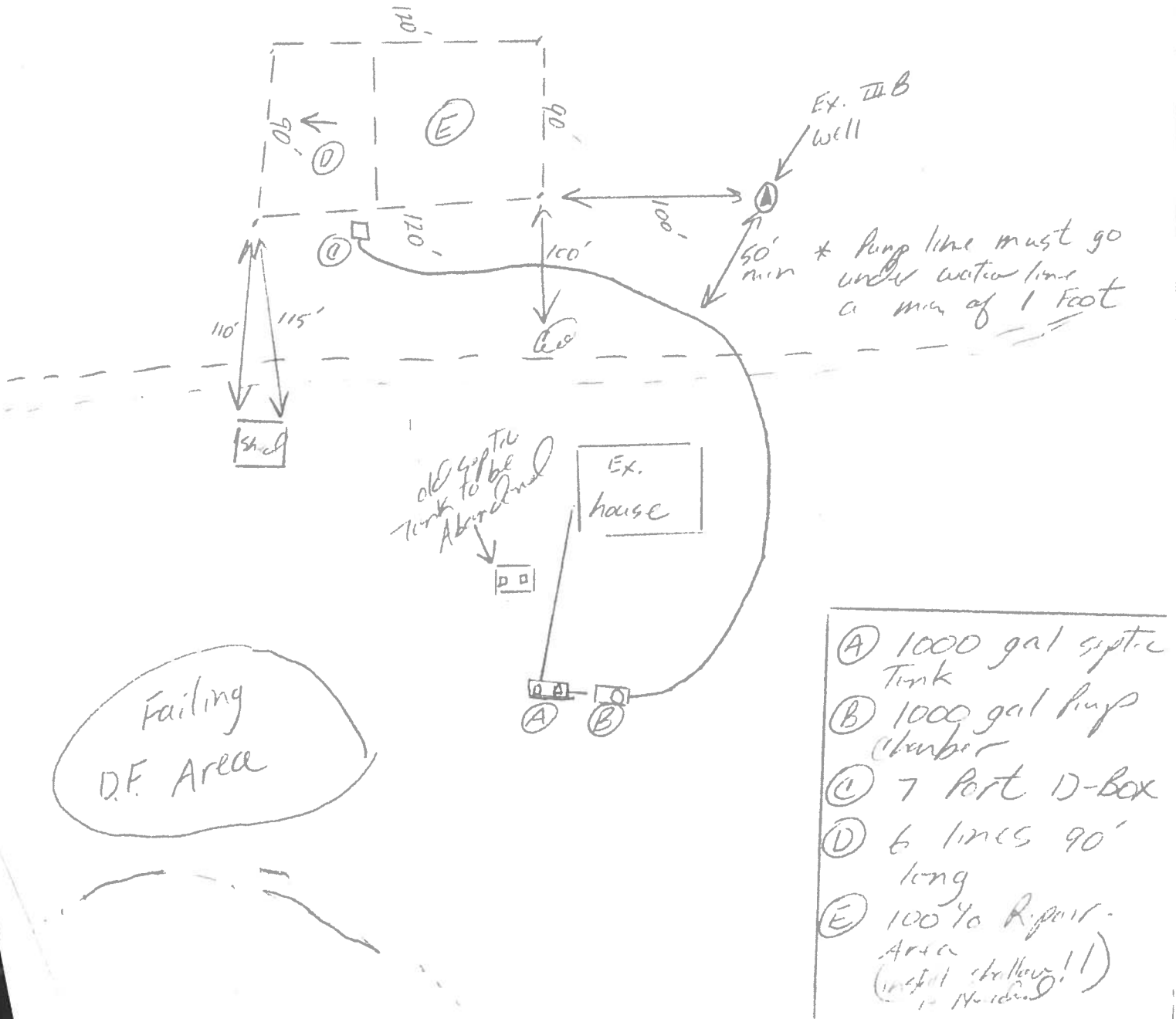
Schematic drawing of sewage disposal system and topographic features.

Show the lot lines of the building lot and building site, sketch of property showing any topographic features which may impact on the design of the system, all existing and or proposed structures including sewage disposal systems and wells within 100 feet of sewage disposal system and reserve area. The schematic drawing of the sewage disposal system shall show sewer lines, pretreatment unit, pump station, conveyance system, and subsurface soil absorption system, reserve area, etc. When a nonpublic drinking water supply is to be located on the same lot show all sources of pollution within 100 feet.

The information required above has been drawn on the attached copy of the sketch submitted with the application. Attach additional sheets as necessary to illustrate the design.

Not to scale

Not to scale



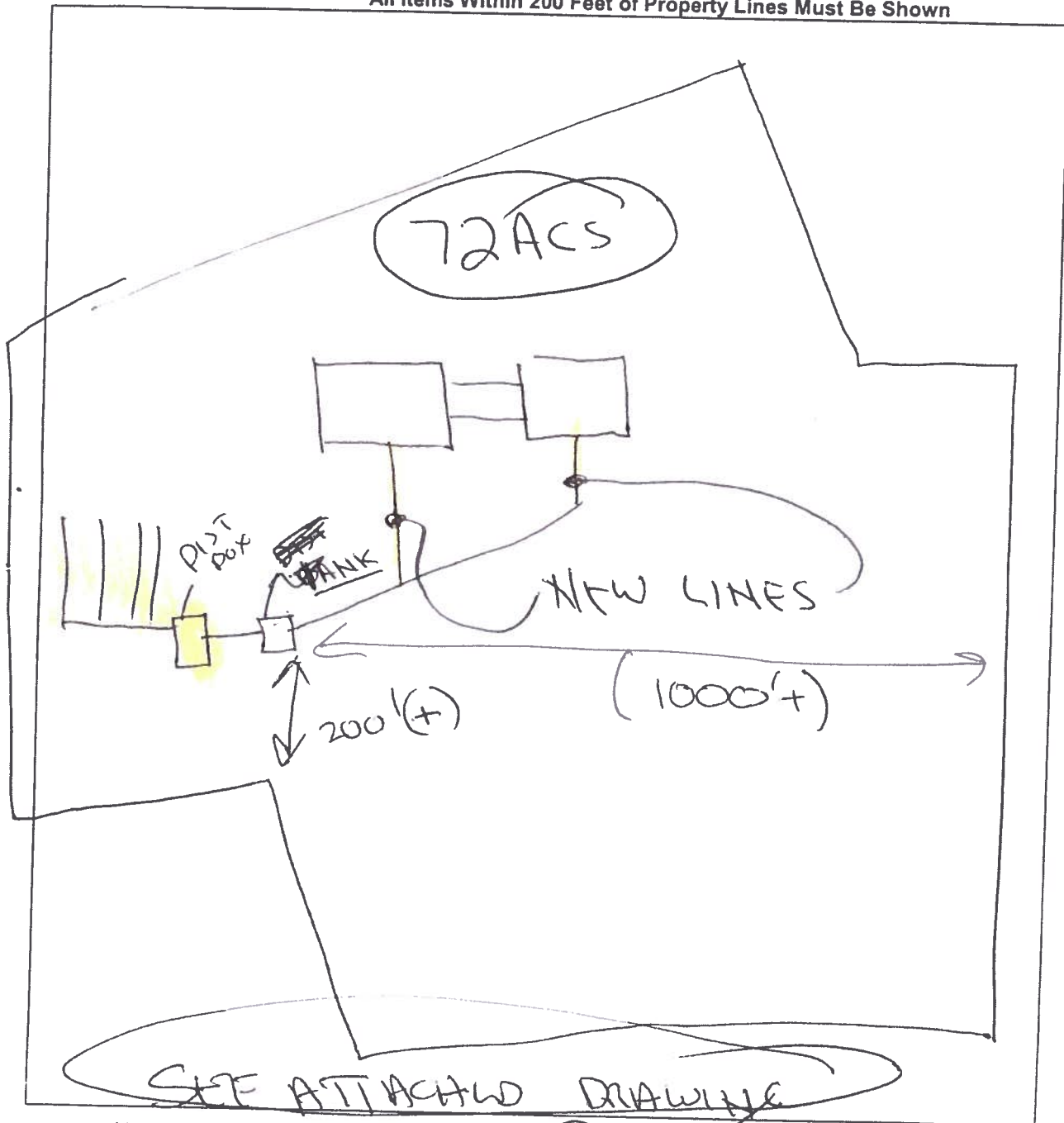
- (A) 1000 gal sptic Tank
- (B) 1000 gal Pump Chamber
- (C) 7 Port D-Box
- (D) 6 lines 90' long
- (E) 100' x 100' Repair Area (not shallow!!)

All Items Below Are Required To be Shown On the Site Plan

- Property Lines (proposed and existing)
- House & Structures (proposed and existing)
- Sewage System (DF, privy, P & H, discharge, cesspool, etc.) proposed and existing
- Site features, topographical (drainage ways, Swampy areas, rock outcrops, sinkholes, disturbed soil areas, dump sites, fuel tanks, etc.)
- Underground utilities (must be field marked) proposed and existing
- Water supply (wells, springs, cisterns, etc.) proposed and existing

SEE APPLICATION PAMPHLET FOR MORE DETAILS

All Items Within 200 Feet of Property Lines Must Be Shown



I have accurately and clearly shown all required items on this Site Plan.

Owner/Agent

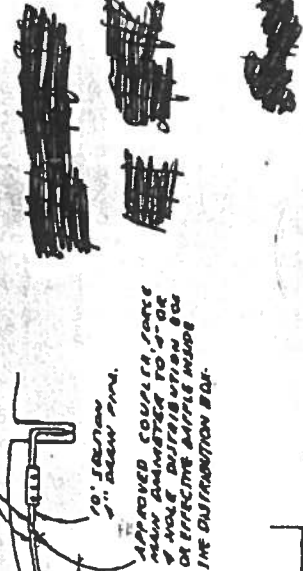
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TOWNS

Date

10/26/65

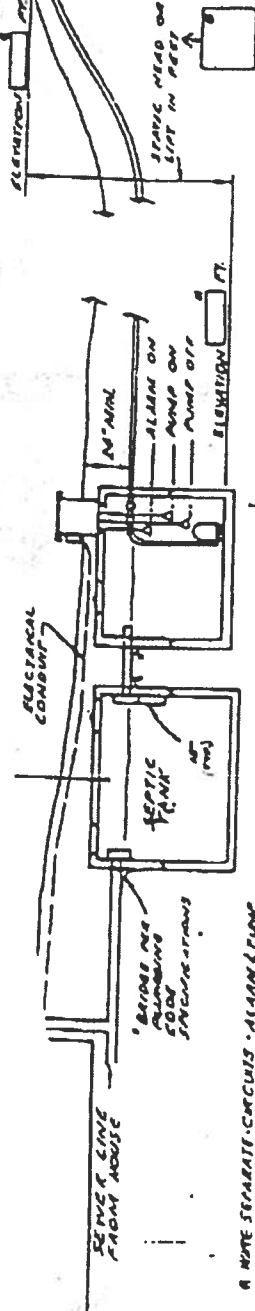
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NOTE: * 3/4" SERVICE MAIN



PUMP SPECIFICATIONS

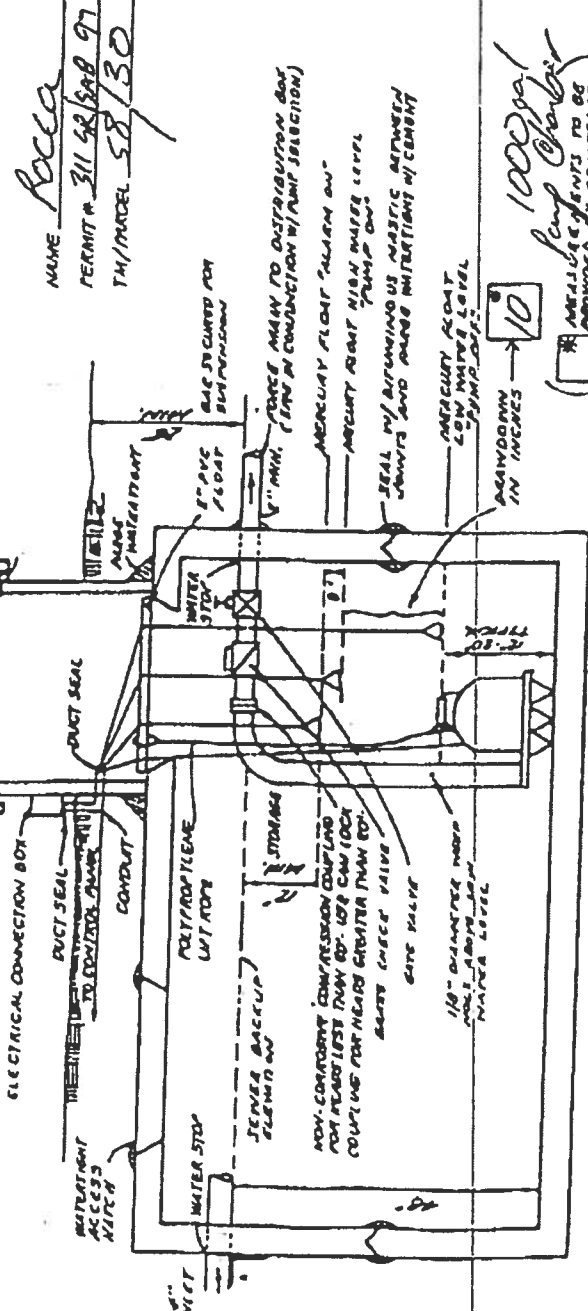
- 1 GALLONS TO BE PUMPED EACH CYCLE. 214
 - 2 DISCHARGE RATE IN GPM. 36 GPM
 - 3 DISCHARGE VELOCITY IN FPS. 2-8 FPS
 - 4 STATIC HEAD IN FEET. 111
 - 5 FORCE MAIN LENGTH IN FEET. 1780
 - 6 EQUIVALENT LENGTHS
- | | NUMBER | MULTIPLIER | EQUIV. FT |
|--------------------|--------|------------|-----------|
| A. GATE VALVES | 1 | 1.2 | 1.2 |
| B. CHECK VALVES | 2 | 1.3 | 2.6 |
| C. 90° BENDS | 0 | 5.5 | 0 |
| D. 45° BENDS | | | |
| E. OTHER / SPECIFY | | | |
- 7 TOTAL EQUIVALENT LENGTH (5-7) = 45.2
 - 8 TOTAL LENGTH = 305.2
 - 9 FRICTION HEAD 306 * 9.576
 - 10 TOTAL DYNAMIC HEAD (5-9) = 93.576
 - 11 PUMP SELECTED
 - 12 MAKE Goulds
 - 13 MODEL N50511A
 - 14 SUPPLIER NOLANDS (LEES BURE)
- (ATTACH COPY OF PUMP CURVE)
 COMPLETED. DRAWING MUST BE SUBMITTED BY CONTRACTOR AT TIME OF INSTALLATION.



FORCE MAIN LENGTH IN FEET

NAME Poca
 PERMIT # 311 GR 508 97
 TM/MODEL 58/30

ELECTRICAL INSPECTION REQUIRED 777-0220

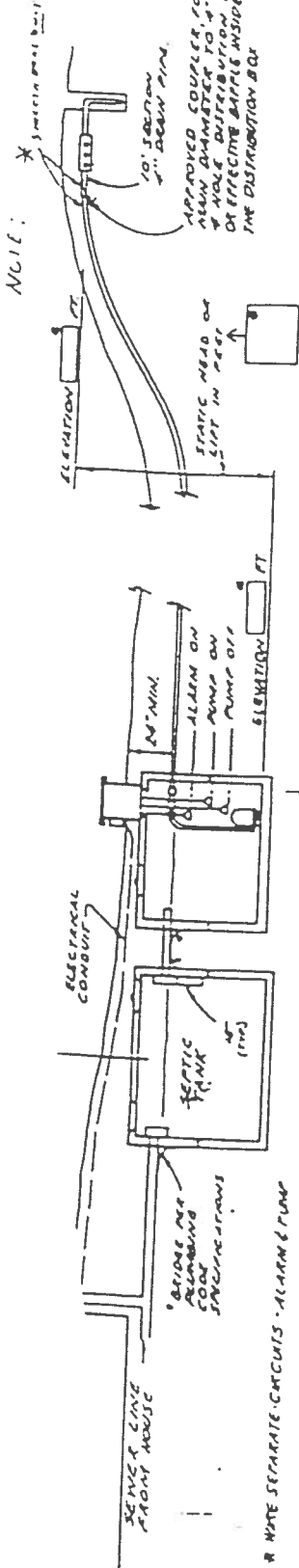


LOUDOUN COUNTY HEALTH DEPARTMENT
 ENVIRONMENTAL HEALTH DIVISION
 PHONE 777-0234

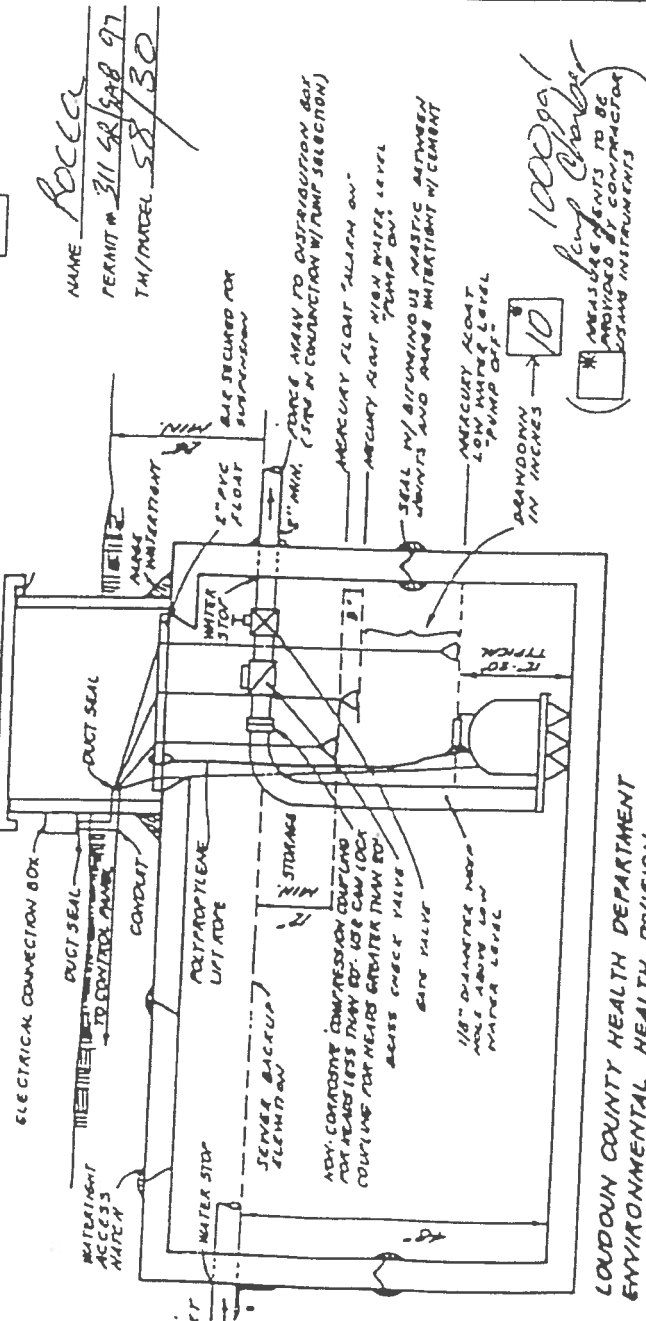
LC.H.D. 8-86

REC'D MAY 15 1997

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ELECTRICAL INSPECTION
REQUIRED 777-0220



PUMP SPECIFICATIONS

1 GALLONS TO BE PUMPED 214

2 DISCHARGE RATE IN GPM 36 GPM

3 DISCHARGE VELOCITY IN FPS 2-8 FPS

4 STATIC HEAD IN FEET

5 FORCE MAIN LENGTH IN FEET

6 EQUIVALENT LENGTHS

NUMBER MULTIPLIER EQUIVALENT

A. GATE VALVES _____ X _____ = _____

B. CHECK VALVES _____ X _____ = _____

C. 90° BENDS _____ X _____ = _____

D. 45° BENDS _____ X _____ = _____

E. OTHER/SPECIFY _____ X _____ = _____

7 TOTAL EQUIVALENT LENGTH _____

8 TOTAL LENGTH (5-7) _____

9 FRACTION HEAD _____ X _____ = _____

10 TOTAL DYNAMIC HEAD (8+9) _____

11 PUMP SELECTED

MAKE _____

MODEL _____

SUPPLIER _____

(ATTACH COPY OF PUMP CURVE)

COMPLETED _____ MUST BE SUBMITTED BY CONTRACTOR AT TIME OF INSPECTION.

NAME POCCA

PERMIT # 211 SR 648 97

TM/MODEL 58/30

1000 gals

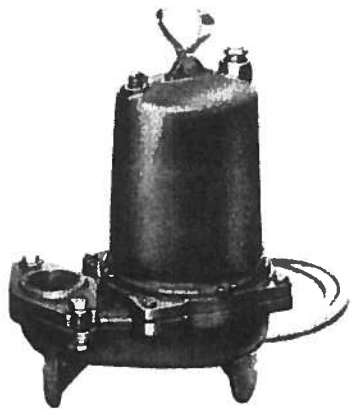
Pump Chamber

(*) MEASUREMENTS TO BE PROVIDED BY CONTRACTOR USING INSTRUMENTS

P18 NOTE

LOUDOUN COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
PHONE 777-0234

L.C.H.D. 8-84



Goulds Submersible Sewage Pump

MODEL

3887

CANADIAN STANDARD ASSOCIATION



APPLICATIONS

Specifically designed for the following uses:

- Homes
- Sewage systems
- Dewatering
- Water transfer

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

SPECIFICATIONS

Pump:

- Solids handling capabilities: 2" maximum.
- Capacities: up to 180 GPM.
- Total heads: up to 49 feet TDH.
- Discharge size: flanged – BF or BHF units have 2" NPT threaded companion flange as standard. Optional 3" NPT threaded companion flange available and must be ordered separately. (Order No. A1-3).
- Mechanical seal: silicon carbide rotary/silicon carbide stationary, 300 series stainless steel metal parts, BUNA-N elastomers.
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- Fasteners: 300 series stainless steel.
- Capable of running dry without damage to components.

Motor:

- Single phase: 1/3 – 1/2 HP, 115 V or 230 V, 60 Hz, 1750 RPM; 3/4 – 1 HP, 230 V, 60 Hz, 1750 RPM; 1 HP, 230 V, 60 Hz, 3500 RPM. Built-in overload with automatic reset.

- Three phase: 1/2 – 1 HP, 200/230/460 V, 60 Hz, 1750 RPM; 1 HP 200/230/460 V, 60 Hz, 3500 RPM. Overload protection must be provided in starter unit.
- Shaft: threaded 400 series stainless steel.
- Bearings: ball bearings – upper and lower.
- Power cord: 20 foot standard (optional lengths available). Single phase: 1/3 – 1/2 HP, 16/3 SJTO with three prong plug; 3/4 and 1 HP, 14/3 STO with bare leads. Three phase: 1/2 – 1 HP 14/4 STO with bare leads. On CSA listed models: 20 foot length SJTW or STW are standard. Class B insulation

FEATURES

Impeller: Cast iron, semi-open, non-clog with pump out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

Casing: Cast iron volute type for maximum efficiency. Adaptable for slide rail systems.

Mechanical Seal: Silicon carbide vs. silicon carbide sealing faces, stainless steel metal parts, BUNA-N elastomers.

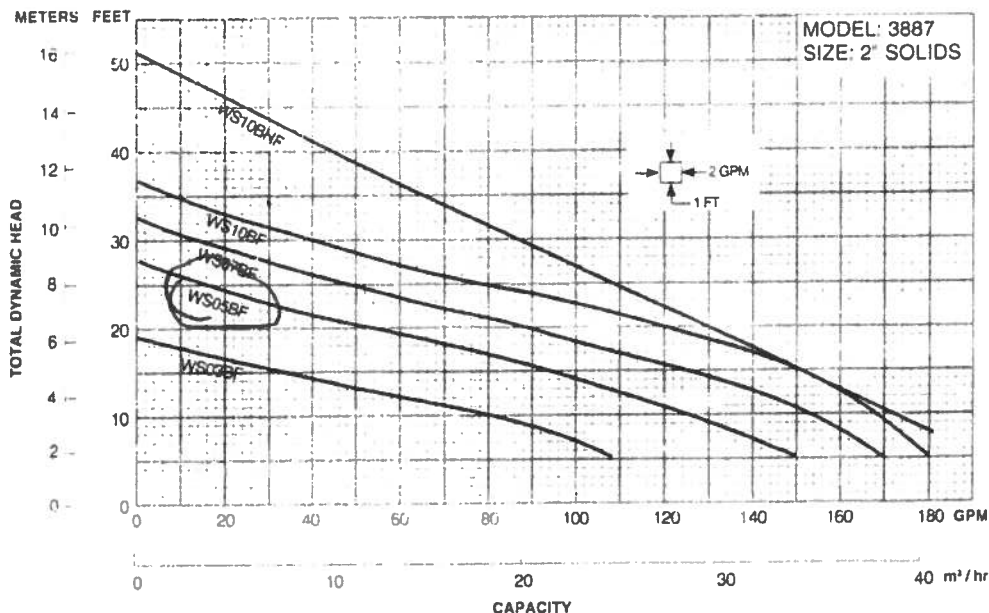
Shaft: Corrosion resistant stainless steel. Threaded design. Locknut on three phase models to guard against component damage on accidental reverse rotation.

Motor: Fully submerged in high grade turbine oil for lubrication and efficient heat transfer. Designed for continuous operation. All ratings are within the working limits of the motor.

Bearings: Upper and lower heavy duty ball bearings construction.

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.

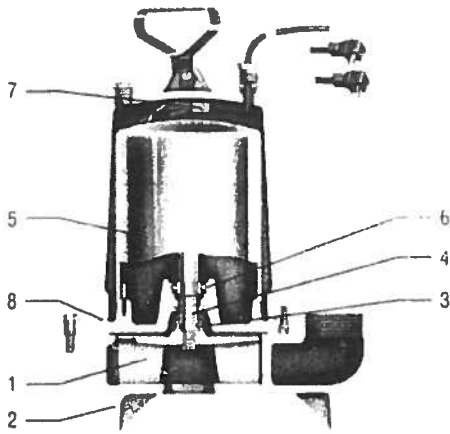
O-ring: Assures positive sealing against contaminants and oil leakage.



Goulds Submersible Sewage Pump

MODEL

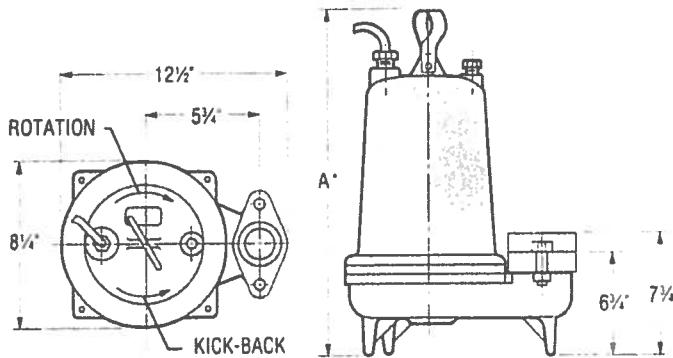
3887



DIMENSIONS

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

A* - All models are 17 3/4" except 1/4 HP single phase and 1 HP single phase = 20 1/4".



PARTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical seal
4	Shaft
5	Motor
6	Bearings - upper and lower
7	Power cable
8	O-ring

PERFORMANCE RATINGS (gallons per minute)

Order No. ▶	Model				
	WS0311BF	WS0312BF	WS032BF	WS034BF	WS1034BHF
HP ▶	1/4	1/2	3/4	1	1
RPM ▶	1750			3500	
5	108	150	170		
10	76	124	150	168	172
15	30	90	122	150	150
20		50	90	120	128
25		14	46	76	107
30			12	36	86
35				8	64
40					43
45					24

MODELS

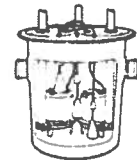
Order No.	HP	Volts	Phase	Max. Amps.	RPM	Solids	Wt. (lbs.)
WS0311BF	1/4	115	1	9.8			63
WS0312BF		230		4.9			
WS0511BF		115	1	13.0			65
WS0512BF		230		6.5			
WS0538BF	1/2	200		3.8			85
WS0532BF		230	3	3.3			
WS0534BF		460		1.65			85
WS0712BF		230	1	9.4	1750		
WS0738BF	3/4	200		4.1			85
WS0732BF		230	3	3.6		2	
WS0734BF		460		1.8			85
WS1012BF		230	1	12.3			
WS1038BF		200		6.7			85
WS1032BF		230	3	5.8			
WS1034BF		460		2.9			85
WS1012BHF	1	230	1	12.5			
WS1038BHF		200		8.1			3500
WS1032BHF		230	3	7.0			
WS1034BHF		460		3.5			3500

SIMPLEX AND DUPLEX SYSTEMS

Simplex Ejector Systems: are used where drain facilities are below existing sewer lines. Also can be used for septic tank applications where effluent must be pumped away from tank for disposal.



Duplex Ejector Systems: offer the necessary safety required by institutions which cannot afford an interruption in their sewage disposal systems.



WATER TECHNOLOGIES GROUP
SENECA FALLS, NEW YORK 13148

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

PRINTED IN U.S.A.

4 oz.	Nonflammable gas
4 oz.	Nonflammable gas
4 oz.	Nonflammable gas
All	Flammable gas
All	Nonflammable gas
All	Nonflammable gas Oxidizer
All	Flammable gas
1/2 L.	Flammable liquid
1/2 L.	Flammable liquid
1 L.	Flammable liquid
1 L.	Flammable liquid

CALGER ALPHA WHITE COIL CLEANER Hydrofluoric acid solution Corrosive, poison Cleaning compound NOI NMFC 48580 SUB 3 NUCOIL-007 AND ACID BRITE COIL CLEANER	UN 1779 UN 1779 UN 1779 UN 1779	All	Corrosive, Poison
Potassium hydroxide, liquid or solution Corrosive Cleaning compound NOI NMFC 48580 SUB 3 CONDENSER CLEANER	UN 1814 UN 1814 UN 1814 UN 1814	1 L.	Corrosive
Sulphuric acid Corrosive Cleaning compound NOI NMFC 48580 SUB 3 BLASTOUT, CLOPPER, DRAINSNAKE, HAYMAKER	UN 1830 UN 1830 UN 1830 UN 1830	1 L.	Corrosive
Hydrochloric acid mixture Corrosive Cleaning compound NOI NMFC 48580 SUB 3 CLOROBEN DE, MURIATIC ACID, SIZZLE, VANISOL	UN 1789 UN 1789 UN 1789 UN 1789	1 L.	Corrosive
Sodium hydroxide, dry, solid, bead Corrosive Cleaning compound NOI NMFC 48481 CLOROBEN OPEN WIDE, DRAIN PIPE CLEANER	UN 1823 UN 1823 UN 1823 UN 1823	2.2 lbs	Corrosive
Compound, cleaning liquid Flammable liquid Cleaning compound NOI NMFC 48580 SUB 3 CLOROBEN PT 2	NA 1993 NA 1993 NA 1993 NA 1993	1/2 l.	Flammable liquid
Corrosive liquids NOS (Phosphoric & hydroxyacetic acids) Cling. compound liquid NOI NMFC 48580 S3 ICE MACHINE CLEANER	UN 1760 UN 1760 UN 1760 UN 1760	All	Corrosive
Paint and/or related material Flammable liquid Paint & related matl NMFC 149980 SUB 2 PAINT THINNER	UN 1263 UN 1263 UN 1263 UN 1263	1 L.	Flammable liquid
Flammable liquid NOS (contains acetone methylethylketone) Paint & related matl NMFC 149980 SUB 2 FAMWOOD & FAMOSOLVENT	UN 1993 UN 1993 UN 1993 UN 1993	1/2 L.	Flammable liquid
Fire extinguisher, nonflammable gas FIRE EXTINGUISHER, chemical, hand portable NMFC 69185	UN 1044 UN 1044 UN 1044 UN 1044	All	Nonflammable gas
Flammable liquid (Isopropyl alcohol ethanol) Mud or compounds NMFC 138640 DRILLFOAM	UN 1993 UN 1993 UN 1993 UN 1993	1 l.	Flammable liquid

PUMP SYSTEM REQUIREMENTS

Pump Chamber

Pumping station wet wells must be sized to allow one quarter day storage above the high level alarm point. An access manhole terminating above the ground surface must be provided.

Pumps

All pumps must be of the open face centrifugal type designed to pump sewage. Pumps must have a minimum capacity of 36 gallons per minute at system head per 1200 linear feet of percolation piping. Suitable shutoff valves must be provided on the discharge line. A check valve must be placed on the discharge line between the pump and shutoff valve. When the pump discharge is at a lower elevation than the high liquid level in the pump station, an antisiphon device must be provided. Pumps must be installed so they can be removed for servicing without having to de-water the pump chamber.

Controls

Pumps must be provided with controls for starting and stopping the pump based on water level. It is preferred that float type controls with separate on and off floats be used. Float controls must be placed so as to be unaffected by flow entering the wet wells. The electrical motor control center must be placed in a secure location above grade and must be remote from the pump station. Normally this is in the house or building being served by the sewage disposal system. The motor control center must be equipped with a master disconnect switch and a manual override switch. All electrical connections at the pump station must be hardwired, above grade, in a water tight NEMA 4X electrical box mounted on the outside of the pump chamber access.

Pump Alarms

Each pump chamber must be provided with a high water level alarm. **THE ALARM CIRCUITRY MUST BE ENTIRELY SEPARATE FROM THE MOTOR CONTROL CIRCUITRY** (wired on a separate breaker.) Alarms must be audio/visual and must be mounted in an area where they can be easily monitored. All alarms must be hardwired so they cannot be accidentally unplugged.

It is the responsibility of the system installer to ensure that the appropriate system components and adequately sized pump be installed. The pump specification sheet included with this permit must be completed by the contractor or pump dealer, and must be submitted along with an appropriate pump curve at the time of the system inspection.

GENERAL SEWAGE DISPOSAL SYSTEM INSTALLATION REQUIREMENTS

- * This permit is null and void if the site conditions are changed from those shown on the application or this permit.
- * It is the owner's and builder's responsibility to ensure the house and/or structures are located such that setback requirements to existing or proposed wells and/or drainfields are met by this lot and all neighboring properties. (If a water supply is within 200' from the proposed house site, please contact this Department for setback verification).
- * Sewage disposal system installation and repair area must not be physically altered (vehicular traffic, cutting, filling, compaction, etc.) prior to the system installation.
- * Contractor must be licensed by the Loudoun County Health Department to install sewage disposal systems; however, the property owner may install his/her own system if the following requirements are met:
 - The property owner is actively involved with the sewage disposal system installation (hands-on work).
 - A document stating owner is actively involved and responsible for sewage disposal installation must be signed and notarized.
 - Owner must be interviewed by Health Department staff member prior to start of sewage disposal system installation.
- * A satisfactory Health Department inspection is required for all system components prior to backfilling.
- * A reinspection fee is required prior to scheduling reinspections (exception: reinspection necessary for incomplete electrical pump components).
- * All roof drainage must be diverted away from drainfield.
- * The Health Department reserves the right to conduct future inspections of the complete sewage disposal system for the purpose of determining if the system is being operated and maintained in a sanitary manner.
- * Drainfield must be installed on contour of original grade.
- * All drainfield components must be 20 feet (minimum) from a house with a basement and 10 feet from a crawl space.
- * All unused ports on concrete septic tanks and distribution boxes must be parged flush with original exterior surface.
- * Contact the Health Department if there are any questions regarding system location and design.
- * If wells, springs, cisterns, pit privies, septic tanks, cesspools, drainfields, underground storage tanks or other pollution sources or pertinent features are discovered within 200' of the proposed installation, but are not shown on the permit sketch, please contact the Health Department immediately. DO NOT proceed with construction until, or unless, clearance is granted by the Department.