

HTE# 08-5-19474 R

Harnell County Department of Public Health

24906

Improvement Permit

A building permit cannot be issued with only an Improvement Permit

ISSUED TO: PAUL FLAHERTY PROPERTY LOCATION: Vic KEITH RD
 SUBDIVISION: BUFFALO LAKES LOT # 421
 NEW REPAIR EXPANSION
 Type of Structure: SFD (60'x80') 57'x76
 Proposed Wastewater System Type: PUMP TO 25% REDUCTION
 Projected Daily Flow: 480 GPD
 Number of bedrooms: 4 Number of Occupants: 8 max
 Basement Yes No
 Pump Required: Yes No May be required based on final location and elevations of facilities
 Type of Water Supply: Community Public Well Distance from well 100 feet Permit valid for: Five years
 Permit conditions: PERMIT BASED ON PROPOSAL FROM APPLICANTS SOIL CONSULTANT No expiration

Authorized State Agent: [Signature] Date: 6/18/08 SEE ATTACHED SITE SKETCH

The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This site is subject to revocation if the site plan, plat, or the intended use changes. The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to conditions of this permit.

Construction Authorization

(Required for Building Permit)

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by references into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

ISSUED TO: PAUL FLAHERTY PROPERTY LOCATION: Vic KEITH RD
 SUBDIVISION: BUFFALO LAKES LOT # 421
 Facility Type: SFD (60'x80') 57'x76 New Expansion Repair
 Basement? Yes No Basement Fixtures? Yes No
 Type of Wastewater System** PUMP TO 25% REDUCTION (Initial) Wastewater Flow: 480 GPD
 (See note below, if applicable)
EXEMPT (15A NCAC 18A .1945(c)) (Repair)

Installation Requirements/Conditions

| | | |
|--------------------------------------|--|---|
| Septic Tank Size <u>1200</u> gallons | Number of trenches <u>5</u> | Trench Spacing: <u>9</u> Feet on Center |
| Pump Tank Size <u>1200</u> gallons | Exact length of each trench <u>SEE CHART</u> feet | Soil Cover: <u>6</u> inches |
| | Trenches shall be installed on contour at a | (Maximum soil cover shall not exceed |
| | Maximum Trench Depth of: <u>12</u> inches | 36" above the trench bottom) |
| | (Trench bottoms shall be level to +/-1/4" in all directions) | |

Pump Requirements: 15.12 ft. TDH vs. 30.66 GPM _____ inches below pipe
 Aggregate Depth: _____ inches above pipe
 Conditions: FOLLOW ALL CONDITIONS AND PARAMETERS ON ATTACHED PROPOSAL _____ inches total

PERMIT REVISED 12/5/08 BASED ON NEW SITE PLAN!

**If applicable: I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.
 Owner/Legal Representative Signature: _____ Date: _____

This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be transferred when there is a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit. SEE ATTACHED SITE SKETCH

Authorized State Agent: [Signature] Date: 6/18/08
 Construction Authorization Expiration Date: 6/18/13

REVISED 12/5/08

421 Lot , Buffalo Lakes Subdivision

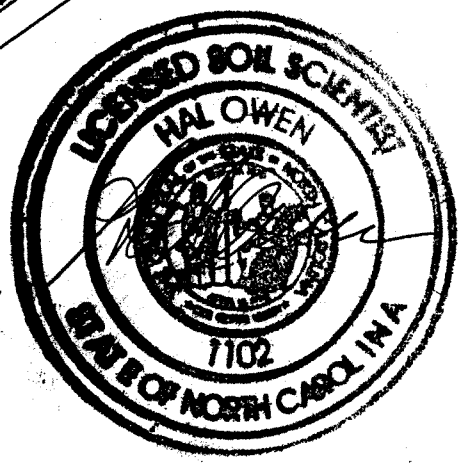
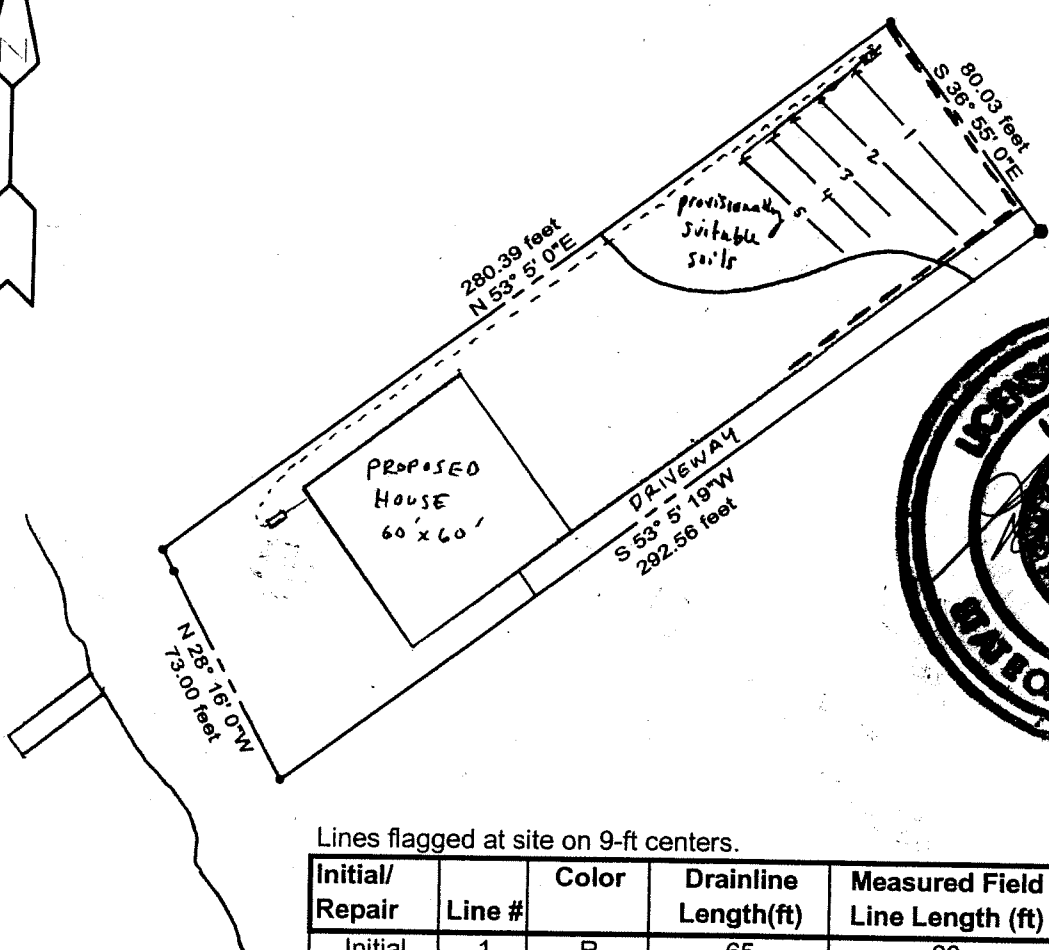
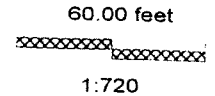
On-Site Wastewater Design Specifications

House Footprint: 60' x 60'
 Foundation Drain Possible
 Bedrooms: 4 (Daily Flow 480 gallons)

Initial System: Pressure Manifold L1-L5
 249' of accepted status drainline installed on contour at 12 inches
 Soil LTAR 0.5 gpd/sf

curtain drain: - - -

| LEGEND | | | |
|--------|---------------|---|-------------------|
| ☆ | EIP | □ | Septic Tank |
| — | Supply Line | ■ | Pump Tank |
| ⊙ | Proposed Well | ⊙ | D-Box |
| ⊙ | Existing Well | ⊗ | Pressure Manifold |



Lines flagged at site on 9-ft centers.

| Initial/Repair | Line # | Color | Drainline Length(ft) | Measured Field Line Length (ft) | Relative Elevation (ft) |
|-------------------|--------|---------------|----------------------|---------------------------------|-------------------------|
| Initial | 1 | R | 65 | 60 | 5.82 |
| Initial | 2 | W | 65 | 60 | 7.04 |
| Initial | 3 | B | 45 | 43 | 8.13 |
| Initial | 4 | Y | 45 | 43 | 9.12 |
| Initial | 5 | R | 45 | 43 | 9.94 |
| Pump Tank: | | | | | |
| | | Total: | 265 | 249 | EIP = 100 |

Pressure Manifold Design Criteria

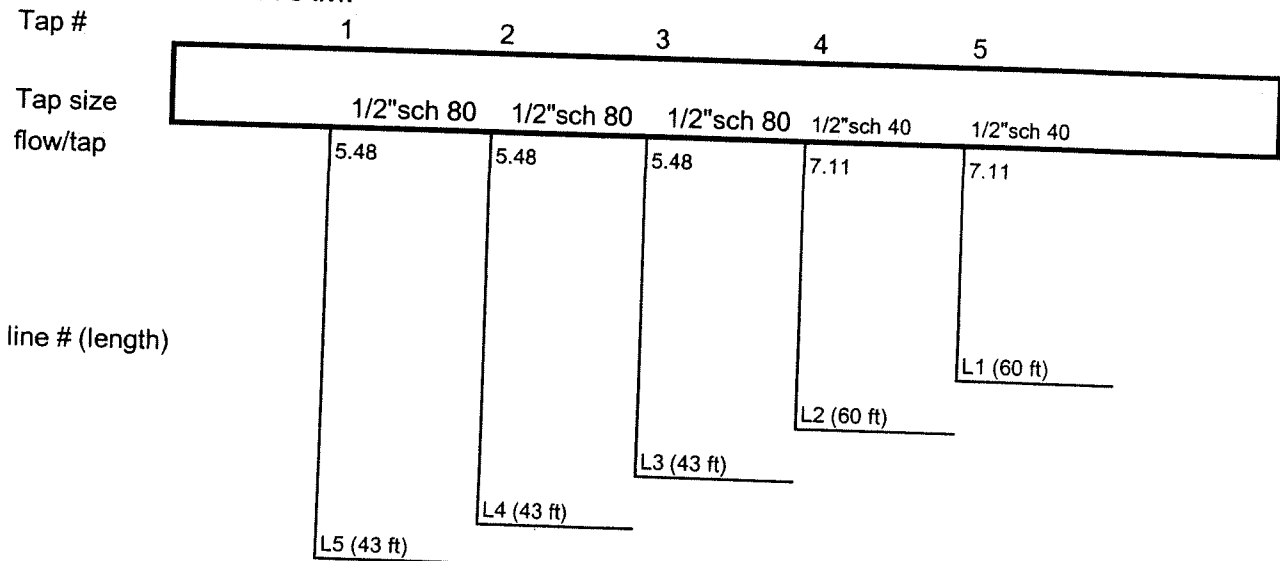
Initial System

| Line Number | Line Color | Elevation | Drainline Length(ft) | Tap Size/Schedule | Flow/tap (gpm) | gpd/ft | LTAR (gpd/sqft) |
|-------------|------------|-----------|----------------------|-------------------|----------------|--------|-----------------|
| 1 | R | 5.82 | 60 | 1/2"sch 40 | 7.11 | 1.855 | 0.618 |
| 2 | W | 7.04 | 60 | 1/2"sch 40 | 7.11 | 1.855 | 0.618 |
| 3 | B | 8.13 | 43 | 1/2"sch 80 | 5.48 | 1.995 | 0.665 |
| 4 | Y | 9.12 | 43 | 1/2"sch 80 | 5.48 | 1.995 | 0.665 |
| 5 | R | 9.94 | 43 | 1/2"sch 80 | 5.48 | 1.995 | 0.665 |
| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |

Total Drainline= 249 Total Flow= 30.66

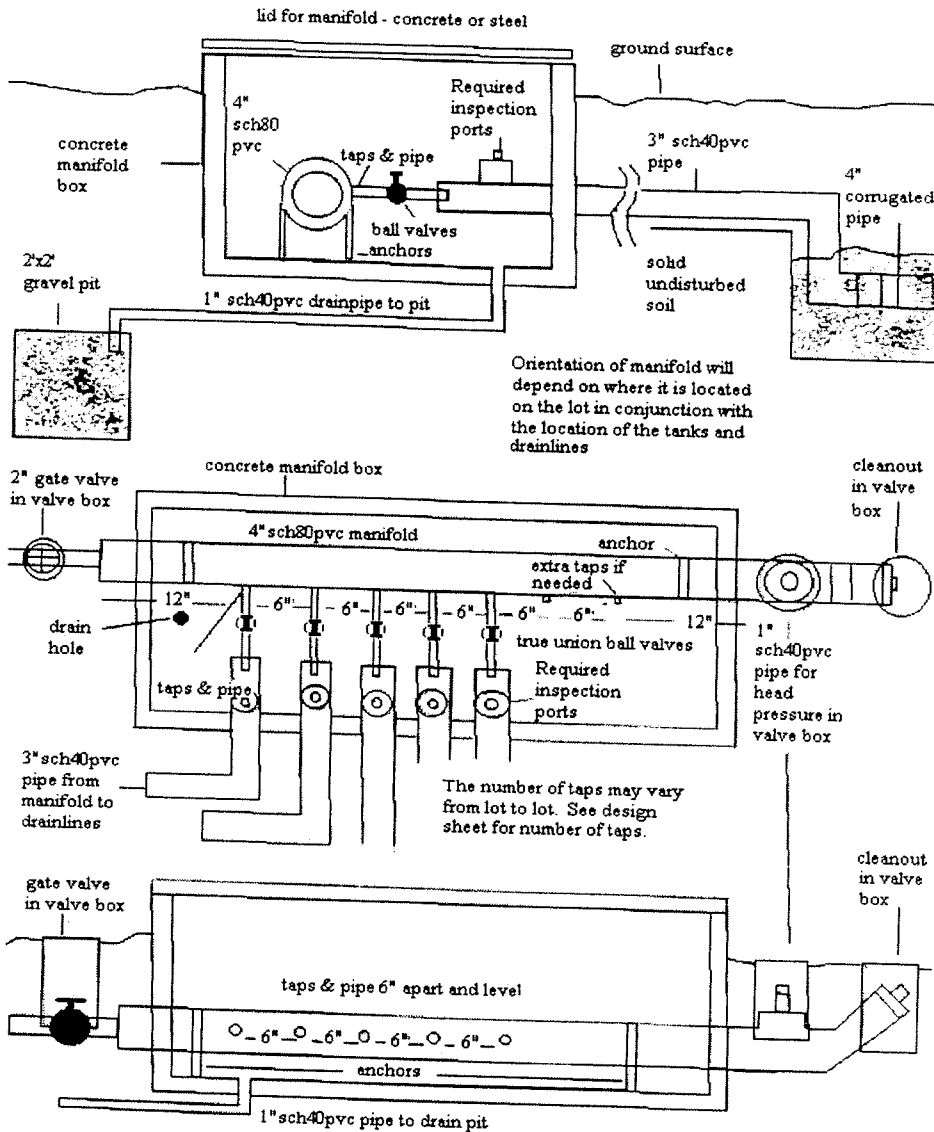
Pressure Head (ft)= 2 Target LTAR= 0.67 gpd/sqft LTAR + 5% 0.70
 Daily Flow= 480 Total Flow (gpm)= 30.66 Daily PRT(min)= 15.66
 Dose Vol= 121.95 gallons w/ Pipe Vol @% 75 Dose PRT (min)= 3.98

MANIFOLD DIAGRAM:



* Soil LTAR 0.5 gpd/sf; convert for accepted system drainlines 0.5 / .75=0.667 gpd/sf

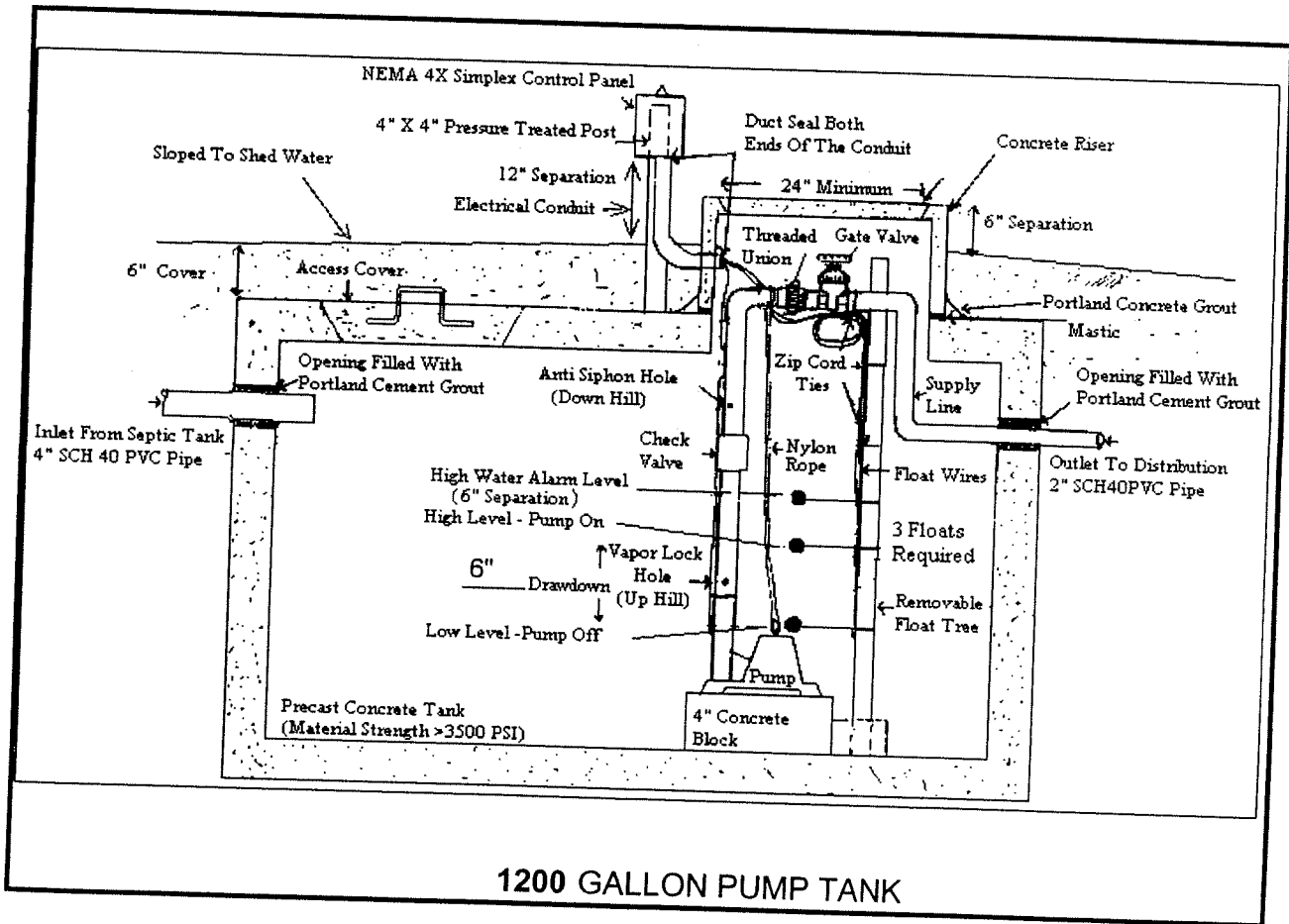
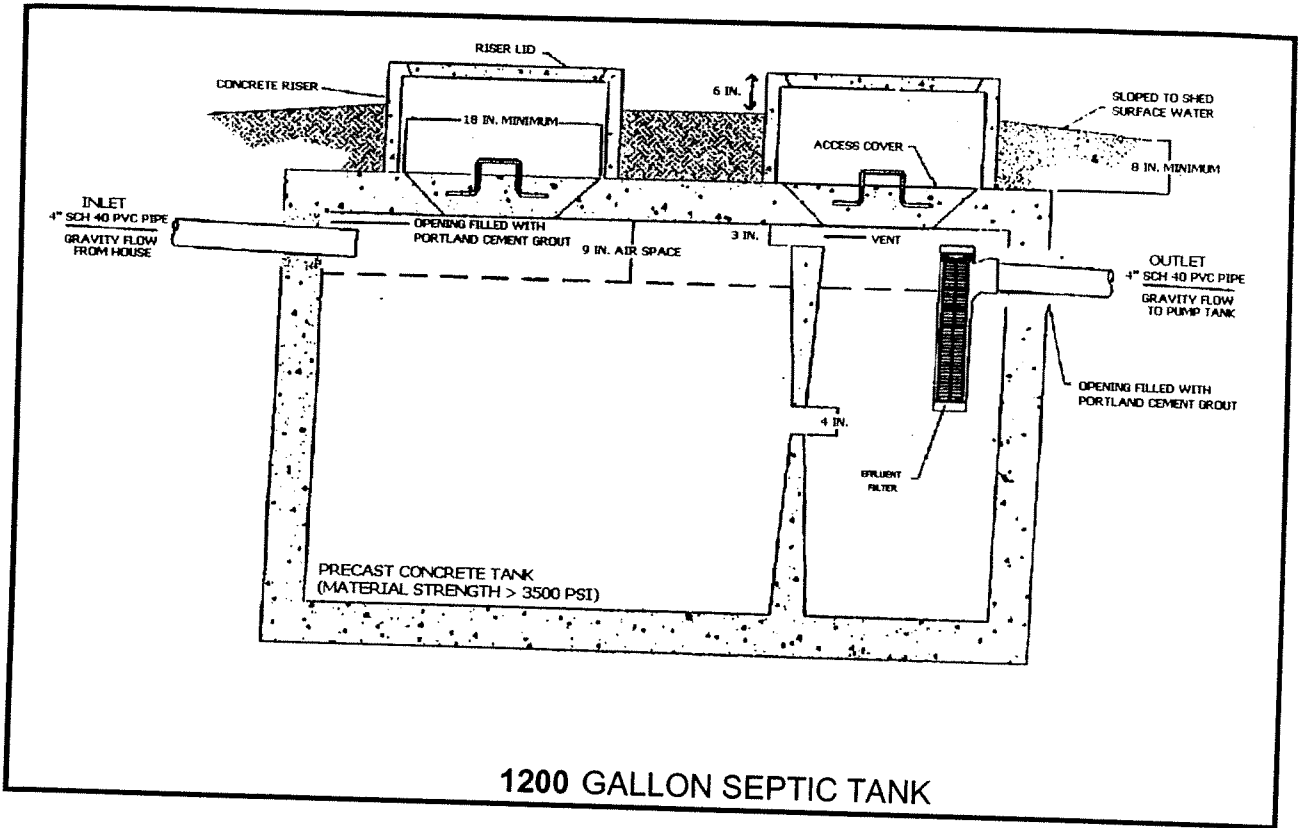
Pressure Manifold Requirements



l to 80%

MANIFOLD DIAGRAM (Initial System):

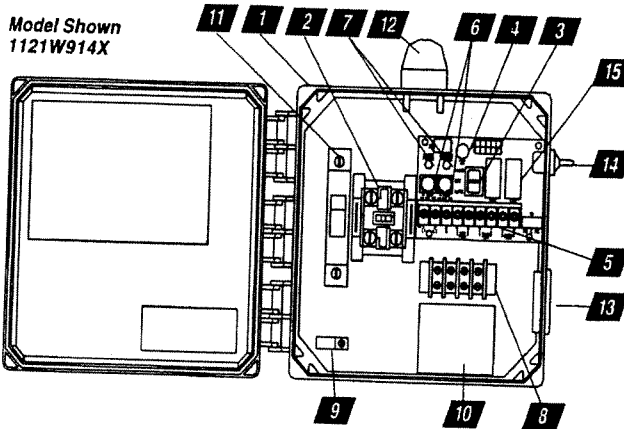
| Tap# | 1 | 2 | 3 | 4 | 5 |
|--------------|------------|------------|------------|------------|------------|
| Tap size | 1/2"sch 80 | 1/2"sch 80 | 1/2"sch 80 | 1/2"sch 40 | 1/2"sch 40 |
| flow per tap | 5.48 | 5.48 | 5.48 | 7.11 | 7.11 |
| line(length) | L5 (43 ft) | L4 (43 ft) | L3 (43 ft) | L2 (60 ft) | L1 (60 ft) |



MODEL 112 Control Panel

Single phase, simplex motor contactor control.

The Model 112 control panel provides a reliable means of controlling one 120, 208, or 240 VAC single-phase pump in pump chambers, sump pump basins, irrigation systems and lift stations. Two control switches activate a magnetic motor contactor to turn the pump on and off. If an alarm condition occurs, an additional alarm switch activates the audio/visual alarm system.



- Model Shown
1121W914X
1. Enclosure measures 8 x 8 x 4 inches (20.32 X 20.32 X 10.16 cm). Choice of NEMA 1 (steel for indoor use), or NEMA 4X (ultraviolet stabilized thermoplastic with removable flanges for outdoor or indoor use).
* Options selected may increase enclosure size and change component layout.
 2. Magnetic Motor Contactor controls pump by switching hot electrical lines.
 3. HOA Switch for manual pump control (mounted on circuit board).
 4. Green Pump Run Indicator Light (mounted on circuit board).
 5. Float Switch Terminal Block (mounted on circuit board).
 6. Alarm and Control Fuses (mounted on circuit board).
 7. Alarm and Control Power Indicators (mounted on circuit board).
 8. Pump Input Power and Pump Connection Terminal Block
 9. Ground Lug
 10. Terminal Block Installation Label
 - ★ 11. Circuit Breaker (Optional) provides pump disconnect and branch circuit protection. **required**

STANDARD ALARM PACKAGE (other options available)

12. Red Alarm Beacon provides 360° visual check of alarm condition.
Note: NEMA 1 style utilizes a door mounted indicator in lieu of a beacon.
13. Alarm Horn provides audio warning of alarm condition (83 to 85 decibel rating).
Note: NEMA 1 style utilizes an internally mounted buzzer (83 to 85 decibel) in lieu of horn.
14. Exterior Horn Test/Normal/Silence Switch allows alarm horn to be silenced and testing of horn and light to ensure proper operation of alarm system.
15. Horn Silence Relay automatically resets alarm after alarm condition has been resolved (mounted on circuit board).

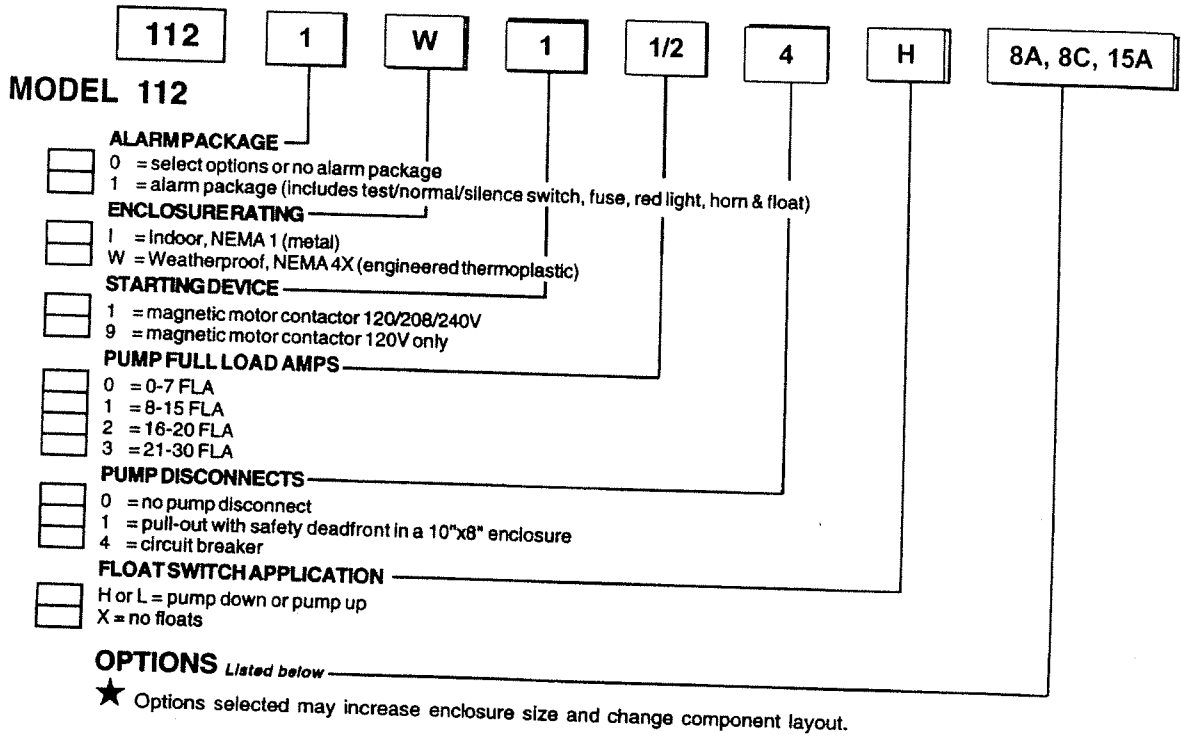
FEATURES

- Entire control system (panel and switches) is UL Listed to meet and/or exceed industry safety standards
- Dual safety certification for the United States and Canada
- Standard package includes three 20' Sensor Float® control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty



SJE Rhombus
SJ ELECTRO SYSTEMS, INC.

PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com



If additional features are required, call the factory for a quote on either a Pro-Line or Engineered Custom control panel system.

- | | |
|--|---|
| <p>CODE DESCRIPTION</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1A Red beacon only / no audio <i>must select 1E if floats included</i> <input type="checkbox"/> 1C Horn only / no visual <i>must select 1E if floats included</i> <input type="checkbox"/> 1E Alarm float <input type="checkbox"/> 3A Alarm flasher <input checked="" type="checkbox"/> ★ 4A Low level cutout <i>select option 4D if floats included</i> <input checked="" type="checkbox"/> ★ 4B Red low-level indicator & alarm <i>must select 4A also</i> <input type="checkbox"/> 4D Low-level float <input type="checkbox"/> 6A Auxiliary alarm contact, form C type <input checked="" type="checkbox"/> ★ 8A Elapsed time meter <input checked="" type="checkbox"/> ★ 8C Event (cycle) counter <input type="checkbox"/> 10E Lockable latch - NEMA 4X <input type="checkbox"/> 10E Lockable latch - NEMA 1 <input checked="" type="checkbox"/> ★ 10F Lightning arrester <input checked="" type="checkbox"/> ★ 10K Anti-condensation heater | <p>CODE DESCRIPTION</p> <ul style="list-style-type: none"> <input type="checkbox"/> 11C NEMA 1 alarm panel <i>must select option 6A</i> <input type="checkbox"/> 11D NEMA 4X alarm panel <i>must select option 6A</i> <input type="checkbox"/> 15A Control / alarm circuit breaker <i>Does not include the circuit board as in standard.</i> <input type="checkbox"/> 16A 10' cord in lieu of 20' <input type="checkbox"/> 16B 15' cord in lieu of 20' <input type="checkbox"/> 16C 30' cord in lieu of 20' <input type="checkbox"/> 16D 40' cord in lieu of 20' <input type="checkbox"/> 17A SJE SignalMaster® / mounting strap ● <input type="checkbox"/> 17B SJE SignalMaster® / externally weighted ● <input type="checkbox"/> 17C Sensor Float® / internally weighted ▲ <input type="checkbox"/> 17D Sensor Float® / externally weighted ▲ <input type="checkbox"/> 17E Sensor Float® Mini / pipe clamp ▲ <input type="checkbox"/> 17F Sensor Float® Mini / externally weighted ▲ <input type="checkbox"/> 19X Door mounted pump run indicator <input type="checkbox"/> 21A Pumpmaster® in lieu of on/off switches ● <input type="checkbox"/> 21B PumpMaster® Plus in lieu of on/off switches ● <input type="checkbox"/> 21C Super Single® in lieu of on/off switches ▲ <input type="checkbox"/> 21D Double Float™ in lieu of on/off switches ▲ <p style="text-align: center;">● Mechanically-activated ▲ Mercury-activated</p> |
|--|---|

