



Onslow County Health Department  
 234 Northwest Corridor Blvd  
 Jacksonville, North Carolina 28540  
 Phone: (910) 938-5851 Fax: (910) 989-5819

**OPERATIONS PERMIT**  
 (GS 130A-337)

Permit No: **EOP2015-00089**

Category: Operations Permit New

Owner: BEAVER CREEK INVESTORS INC

Address 306 BASIL CT HUBERT, NC

Parcel: 1308L-144 SR #:

Subdivision: SAGEWOOD

Lot: 69 Section: 2A Phase:

Block: Part: System:

Unit: Division: Tract:

Location:

**FINAL PLOT / REMARKS**

**System Type: III**

**System Classification:** b. Septic system with single effluent pump or siphon

**Manufacturer:** System in Fill

**Model #:** IQ4PLP

**System Info:** pumping to 41'X72' - 12" fill system - 3(52') low profile chamber lines / repair: 18' X 50' Anaerobic Drip.

*Note: Type V and VI systems expire in 5 years. (In accordance with Table Va of .1961). Owner must contact the Onslow County Health Department 6 months prior to expiration for permit renewal. Onslow County Health Department is required to inspect the following system types: IIIb, every 5 years; IV, every 3 years; V, once per year and VI, every six months.*

Facility/Daily design flow: 3 Bedrooms / <360 gpd

Water Supply: Public

Installed By: BILLY MARSHBURN

Business Name: LANDWORKS BACKHOE & SEPTIC

Signed By: Erin Moyer

Date:

04/01/2015

*This system has been installed in compliance with applicable NC General Statutes, Rules for Sewage Treatment and Disposal, and all conditions of the I.P. and C.A. This system shall perform in accordance with 15A NCAC 18A Rule .1961. Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank periodically removed from all compartments. The contents shall be pumped, by approved means, whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.*

**THE ISSUANCE OF THIS O.P. DOES NOT CONSTITUTE AN ONSLOW COUNTY WARRANTY OR GUARANTEE OF THE FUNCTIONALITY OF THE WASTEWATER SYSTEM.**



Onslow County Health Department  
 612 College Street  
 Jacksonville, North Carolina 28540  
 Phone: (910) 938-5851 Fax: (910) 989-2341

# CONSTRUCTION AUTHORIZATION

(GS 130A-336)

Permit No: **ECA2014-00312**

**Category: New**

**(Required for Building Permit)**

THIS AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION SHALL BE VALID FOR A PERIOD EQUAL TO THE PERIOD OF VALIDITY OF THE IMPROVEMENT PERMIT. NOT TO EXCEED 5 YEARS.

**Owner:** BEAVER CREEK INVESTORS INC

**Address:** SAND RIDGE RD HUBERT, NC 28539

**SR #:**

**Subdivision:** SAGEWOOD

**Lot:** 69

**Section:** 2A

**Phase:**

**Block:**

**Part:**

**System:**

**Unit:**

**Division:**

**Tract:**

**Location:**

**System Type/Description:** III System in Fill

**System Classification:** b. Septic system with single effluent pump or siphon

**Facility/Daily design flow:** 3 Bedrooms - 360 gpd

**System Info:** Install 3-52' Low Profile Drainlines in 12" fill 41' X 72'.  
 Repair: 18' X 50' Anaerobic Drip.

**LTAR:** .8 gpd/sq. ft.

**Water Supply:** Public

**Septic Tank Size:** 1000 gallons

**Grease Trap Size:** gallons

**Pump Tank Size:** 1000 gallons

**Nitrification Area:** 468 sq. ft.

**Nitrification Area:** 156' lin. ft.

**No of Lines:** 3

**Line Length:** 52'

**Line Width:** 3'

**Trench Bottom Depth:** 6" Below Ground Surface

(SEE ATTACHED PAGES 1 - 8 of 8 FOR ADDITIONAL PERMIT CONDITIONS)

Signed By: Erin Moye, Erin M. Moye Date: 10/31/2014

*This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. This 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. The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958 and .1959 are incorporated by reference into this permit and shall be met.*

**THE ISSUANCE OF THIS C.A. DOES NOT CONSTITUTE AN ONSLOW COUNTY WARRANTY OR GUARANTEE OF THE FUNCTIONALITY OF THE WASTEWATER SYSTEM**



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**IMPROVEMENT PERMIT**  
 (GS 130A-336)

Permit No: **EIP2012-00685**  
**Category: Individual Dwelling**

**A building permit cannot be issued with only an Improvement Permit.**

**Expiration:** Valid for 5 years from date of issuance

**Owner:** BEAVER CREEK INVESTORS INC

**Address:** SAND RIDGE RD HUBERT, NC 28539

**SR #:**

**Subdivision:** SAGEWOOD

**Lot:** 69

**Section:** 2

**Phase:**

**Block:**

**Part:**

**System:**

**Unit:**

**Division:**

**Tract:**

**Location:**

**System Type/Description:** III System in Fill

**System Classification:** b. Septic system with single effluent pump or siphon

**System Info:** Install 3-52' Low Profile Drainlines in 12" fill 41' X 72'.  
 Repair: 18' X 50' Anaerobic Drip.

**Facility/Daily design flow:** 3 Bedrooms - 360 gpd

**LTAR:** .8 gpd/sq. ft.

**Water Supply:** Public

(SEE ATTACHED PAGES 1 - 8 of 8 FOR ADDITIONAL PERMIT CONDITIONS)

Signed By: Robert McCabe

Date:

04/30/2014

*The issuance of this permit by the Onslow County 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 permit is subject to revocation if the site plan, plat, or the intended use changes. This 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.*

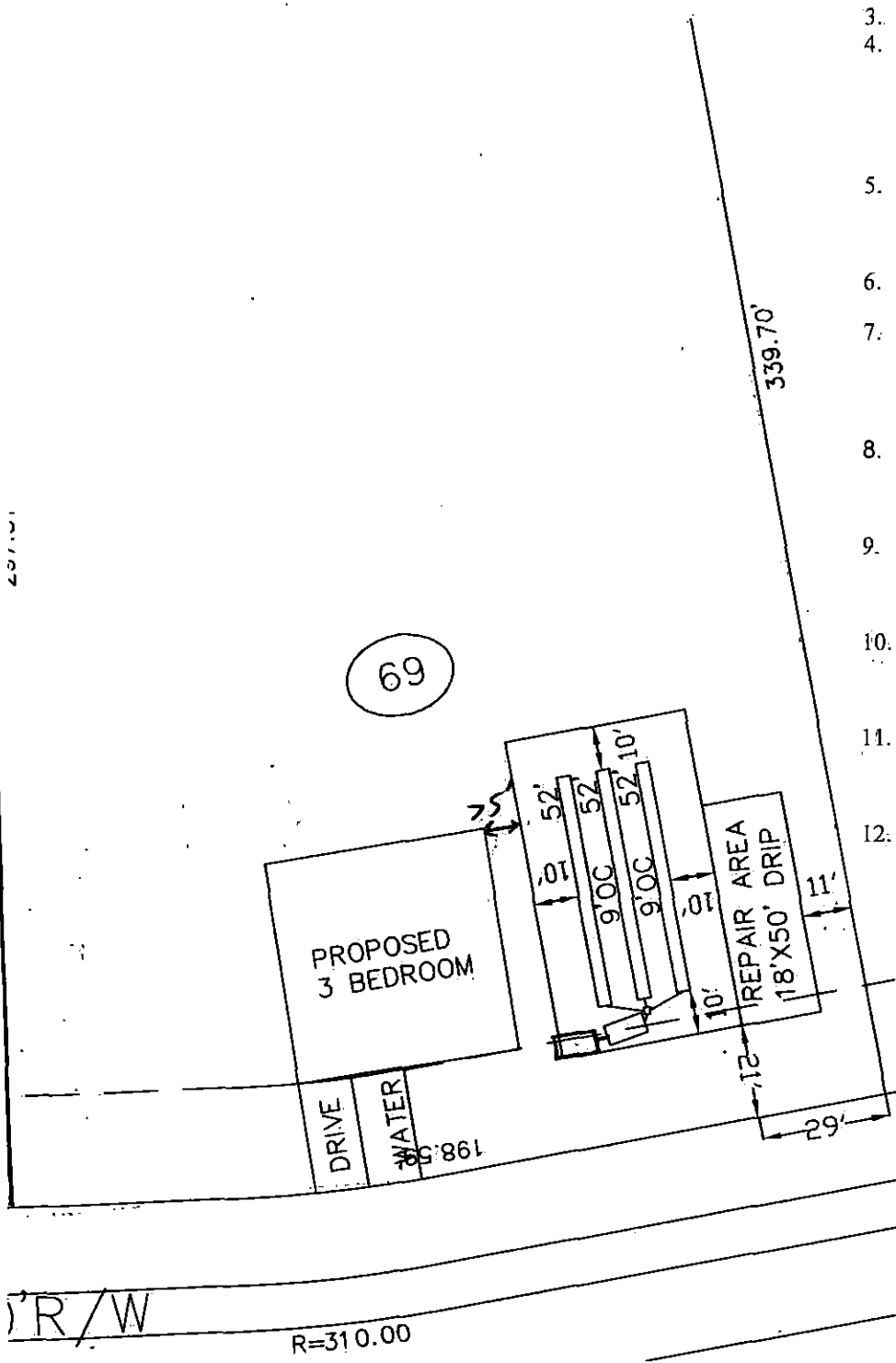


OWNER: Sagewood  
 ADDRESS: Lot 69  
 LOCATION: Basil Court

**ADDITIONAL PERMIT CONDITIONS:**

**PLOT PLAN**

SCALE: 1 inch = 40 feet



1. Do not park or drive on any part of the septic system or repair area.
2. Nitrification trench aggregate shall be covered with straw, untreated paper or other approved materials prior to final cover / backfilling.
3. Do not install system under wet conditions.
4. Rock used in soil absorption systems shall be clean, washed gravel or crushed stone and graded or size in accordance with size numbers 3, 4, 5, 57, or 6 of ASTM D-448 (standard sizes of coarse aggregate) which is hereby adopted by reference in accordance with G.S. 150 B-14 (c). Documentation of aggregate size shall be available upon request.
5. Adhere to minimum setback requirements as stated in Rule .1950 and .1951 of NC Laws and Rules for Sewage Treatment and Disposal Systems (Article 11, G.S. Chapter 130A), unless otherwise indicated in this permit.
6. All pump tanks shall be tested for water tightness. In addition, septic tanks may be subject to a water tightness test.
7. The septic tank is designed to receive sewage or wastewater under gravity flow. However, if a system subject to the N.C. Plumbing Code is used to pump raw sewage to the septic tank, the sewage shall be reduced to gravity/non-turbulent flow by approved means at the inlet of the septic tank.
8. An accepted wastewater system may also be installed in accordance with the Accepted Wastewater System Approval (AWWS-05-01 or AWWS-05-02). Maximum LTAR of 1.0 gpd / ft<sup>2</sup>.
9. Run lines parallel to contour. System components represent approximate contours only. The contractor must flag the system prior to beginning the installation to insure that proper grade is maintained.
10. A dedeed and recorded map shall be submitted to the Environmental Health Section of the Onslow County Health Department **PRIOR TO** the issuance of the Construction Authorization.
11. An **APPROVED** stormwater plan shall be submitted to the Environmental Health Section of the Onslow County Health Department **PRIOR** to issuance of a Construction Authorization.
12. **FOR DWELLING UNIT WASTEWATER SYSTEMS ONLY** - This wastewater system is designed only for the number of bedrooms shown as bedrooms or sleeping rooms on the building/floor plan approved by Onslow County Code Enforcement. No other room or space may be relabeled as a bedroom, used as a bedroom, or converted into a bedroom without prior approval from Onslow County Environmental Health.

**SYSTEM DESIGN**

# BEDROOMS/ GPD: 3 Bedrooms - 360 gpd  
 SYSTEM TYPE: III b 12" Fill System 41' X 72'  
 % REDUCTION: None  
 LTAR: .8 # OF LINES: 3  
 LENGTH EACH LINE: 52'  
 LINEAR FEET: 156' SQ. FT.: 468  
 TRENCH BOTTOM: 6" Below Ground Surface  
 TRENCH WIDTH: 3 FEET W/ LINES 9 FEET ON CENTER  
 REPAIR: 18' X 50' Anaerobic Drip.  
 LTAR: .4  
 TRENCH BOTTOM: 6" Below Ground Surface

Owner: Sagewood  
 Address: Lot 69  
 Location: Basil Court

### FILL SYSTEM DETAIL SHEET

#### I. Specifications

##### A. Site

- 1) Wastewater flow 360 gpd
- 2) Soil texture group I
- 3) LTAR 0.8 gpd/sq. ft.

##### B. Trenches

- 1) Trench Bottom 468 sq. ft.
- 2) Trench Width 3 ft.
- 3) Trench Length 156 ft.
- 4) Number of Trenches 3
- 5) Length of Each Trench 52 ft.

##### C. Fill

- 1) Length of Fill 72 ft.
- 2) Width of Fill 41 ft.
- 3) Total Fill Area 2,952 sq. ft.
- 4) Depth of Sand 6 in.
- 5) Depth of Cover 6 in.

\*[The outside edge of any trench shall be at least  
5 feet from the top of the side slope of the fill.]

#### II. Site Preparation

- A. Place flags at the 4 corners of the fill area as designated on page 1 of 1 of the Construction Authorization. Failure to place fill in the permitted area may result in the fill having to be moved or the permit revoked.
- B. Do not work when the site is wet. Working on soil when wet can destroy soil structure.
- C. Remove all above ground vegetation and root mat from area to be filled without removing topsoil. Removal of soil can result in revocation of the permit.
- D. Disk the area to be filled to a depth of 6 inches to break up root mat.

#### III. Placement of Fill

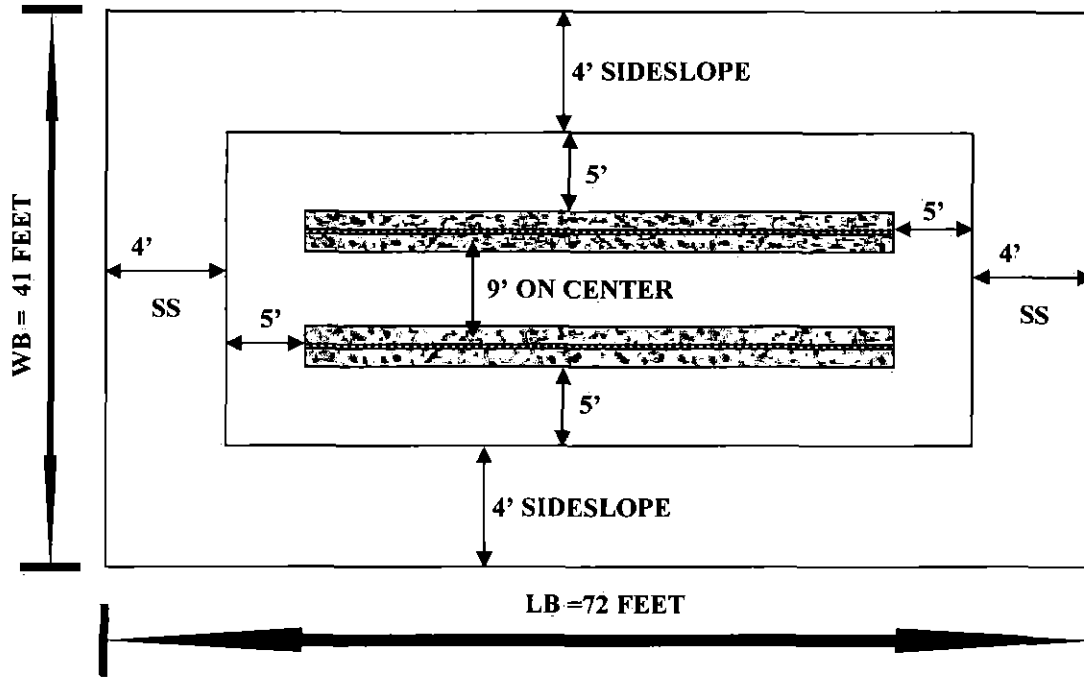
- A. Add 3 to 4 inches of approved sand fill to area and disk again to thoroughly mix the original soil and the fill. Approved sand fill is a sand or loamy sand.
- B. Add more sand fill to achieve a uniform height of 6" (see ID on diagram) in the middle of the fill area.
- C. The fill shall be tapered from the top edge of the fill to the ground surface 2 feet from the boundary of the fill area. The top edge of fill is located 5 feet from the proposed trenches.
- D.  Contact Health Department for inspection of fill after owner or owner's legal representative has submitted an application for a Construction Authorization.  
 Contact Health Department for inspection of fill prior to installing nitrification trenches if Construction Authorization has already been issued.

#### IV. Final Landscaping of Fill System:

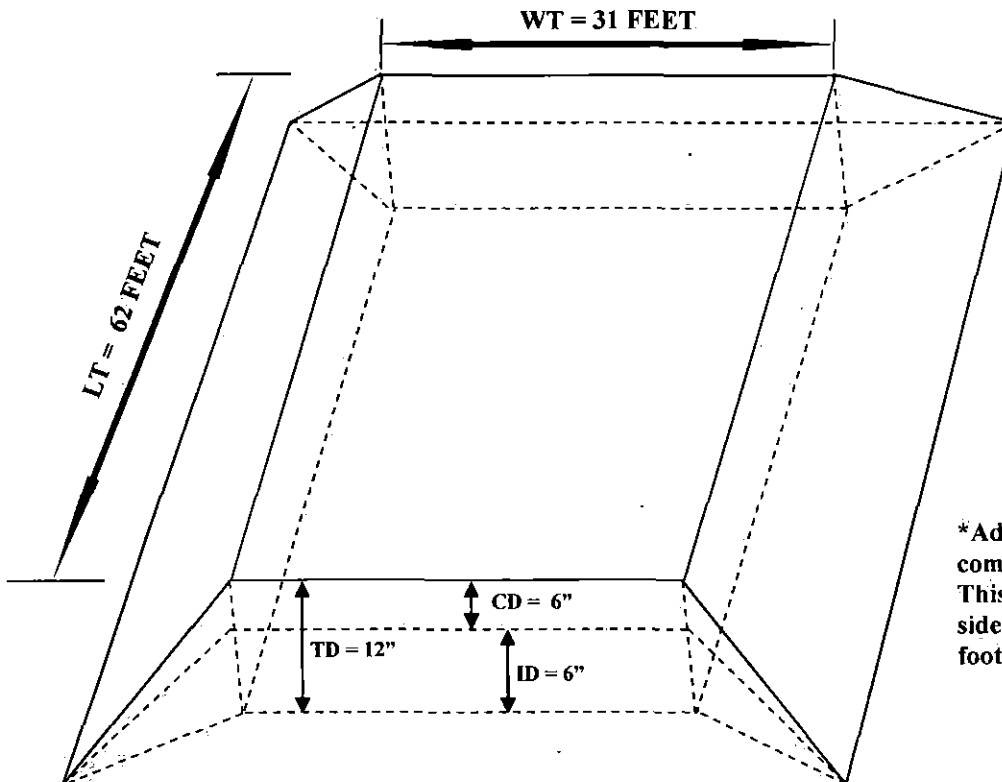
- A. The fill must be shaped to shed surface water and shall be stabilized with grass or other suitable cover to prevent erosion.
- B. Vegetation must be maintained once established. Grass must be mowed.
- C. Additional fill beyond what has already been specified may be necessary to cover and landscape around the septic tank.
- D. Call the Health Department for inspection after landscaping has been completed. The Operation Permit allowing use of the system will be issued at that time.

# FILL SYSTEM DETAIL

## PLAN VIEW



## CROSS SECTION VIEW



WB = WIDTH OF BOTTOM  
LB = LENGTH OF BOTTOM  
SS = SIDESLOPE  
WT = WIDTH OF TOP  
LT = LENGTH OF TOP  
ID = INITIAL DEPTH  
CD = COVER DEPTH  
TD = TOTAL DEPTH

\*Additional fill may be needed to compensate for changes in elevation. This additional fill will require larger side slopes and, therefore, a larger footprint.

I. Leak Testing Procedures:

1. The tank shall be set and leveled. The tank hole may be backfilled to a point below the midseam of a two piece tank or to the midpoint of a one-piece tank. If site conditions do not allow the tank hole to be left open or if you choose not to leave the tank hole open, the tank shall be leak tested onsite prior to placement in tank hole.
2. The manhole riser(s) (if applicable) shall be attached to the tank according to state approved plans.
3. The tank shall be filled with water 2" above the seam where the manhole riser is connected to the tank top, or to a point level with the top of the tank in both manholes if riser(s) are not required. It is strongly recommended to perform the leak test prior to removing any tank block out (placing any pipes into/out of the tank). If tank block outs have been removed and pipe has been installed it will be necessary to block or plug the inlet and outlet pipe to prevent flow from these pipes. It may also be necessary to place mastic around the bevel of the inlet manhole and weight the lid down to prevent leakage.
4. After filling and allowing for the concrete to absorb water (about 24 hours) add any additional water needed to get water level back to the starting level.
5. Contact the Onslow County Health Department to conduct the test. The test will take a minimum of 24 hours and will not be conducted Friday or the day prior to a Holiday.
6. Only after the completion of a satisfactory leak test will the tank be approved for use.

II. Vacuum Testing Procedures:

1. The tank shall be set and leveled. The tank hole may be back filled to a point below the midseam of a two piece tank or to the midpoint of a one piece tank. If site conditions do not allow the tank hole to be left open or if you choose not to leave the tank hole open, the tank shall be leak tested on site prior to placement in tank hole.
2. The manhole riser(s) (if applicable) shall be attached to the tank according to state approved plans.
3. The pump tank shall be vacuum tested as per one of the following:

<u>Inches of Mercury</u>	<u>Duration</u>
3"	1 Hr.
5"	10 Min.
10"	1 Min.

( $\leq$  10% pressure drop shall constitute an acceptable test)

4. Onslow County Health Department representative shall be present during vacuum testing procedure.
5. Only after the completion of a satisfactory vacuum test will the tank be approved for use.

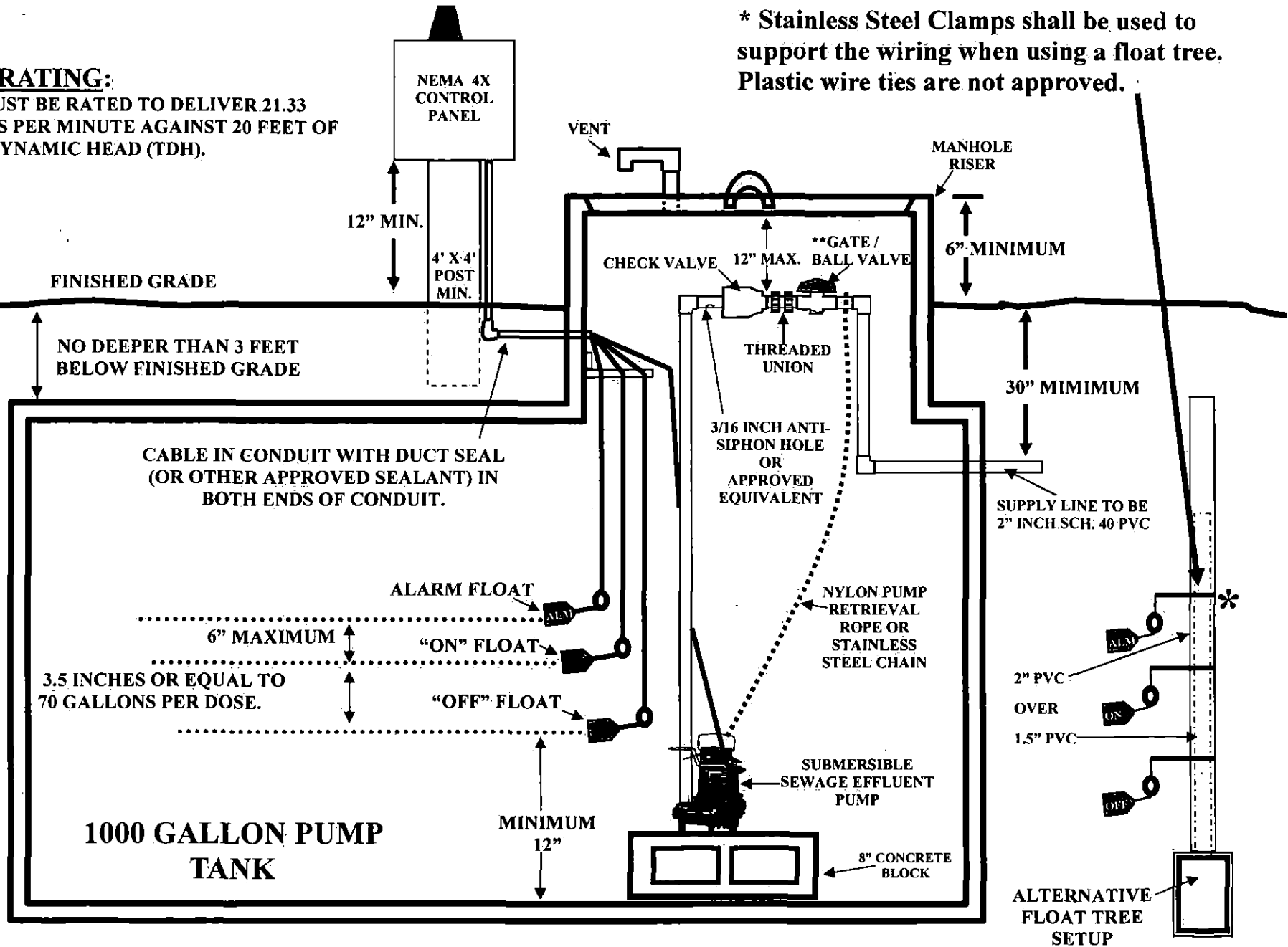
# PUMP SYSTEM DETAIL SHEET

**PUMP RATING:**

PUMP MUST BE RATED TO DELIVER 21.33 GALLONS PER MINUTE AGAINST 20 FEET OF TOTAL DYNAMIC HEAD (TDH).

\* Stainless Steel Clamps shall be used to support the wiring when using a float tree. Plastic wire ties are not approved.

\*\* GATE VALVE IS REQUIRED IF VALVE IS USED FOR PRESSURE ADJUSTMENT.



**1000 GALLON PUMP TANK**

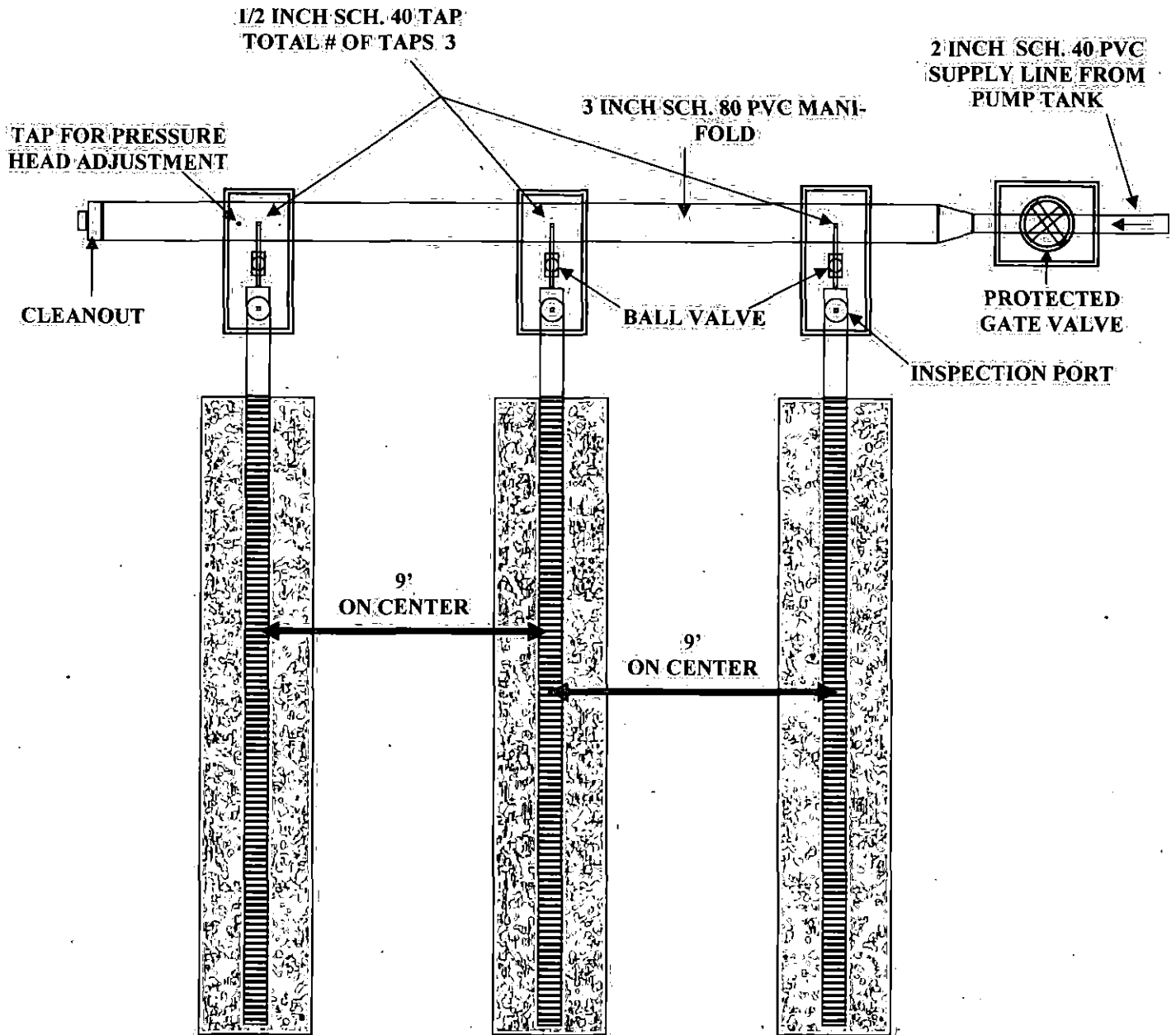
MINIMUM 12"

SUBMERSIBLE SEWAGE EFFLUENT PUMP

8" CONCRETE BLOCK

ALTERNATIVE FLOAT TREE SETUP

### MANIFOLD FOR LEVEL SITES



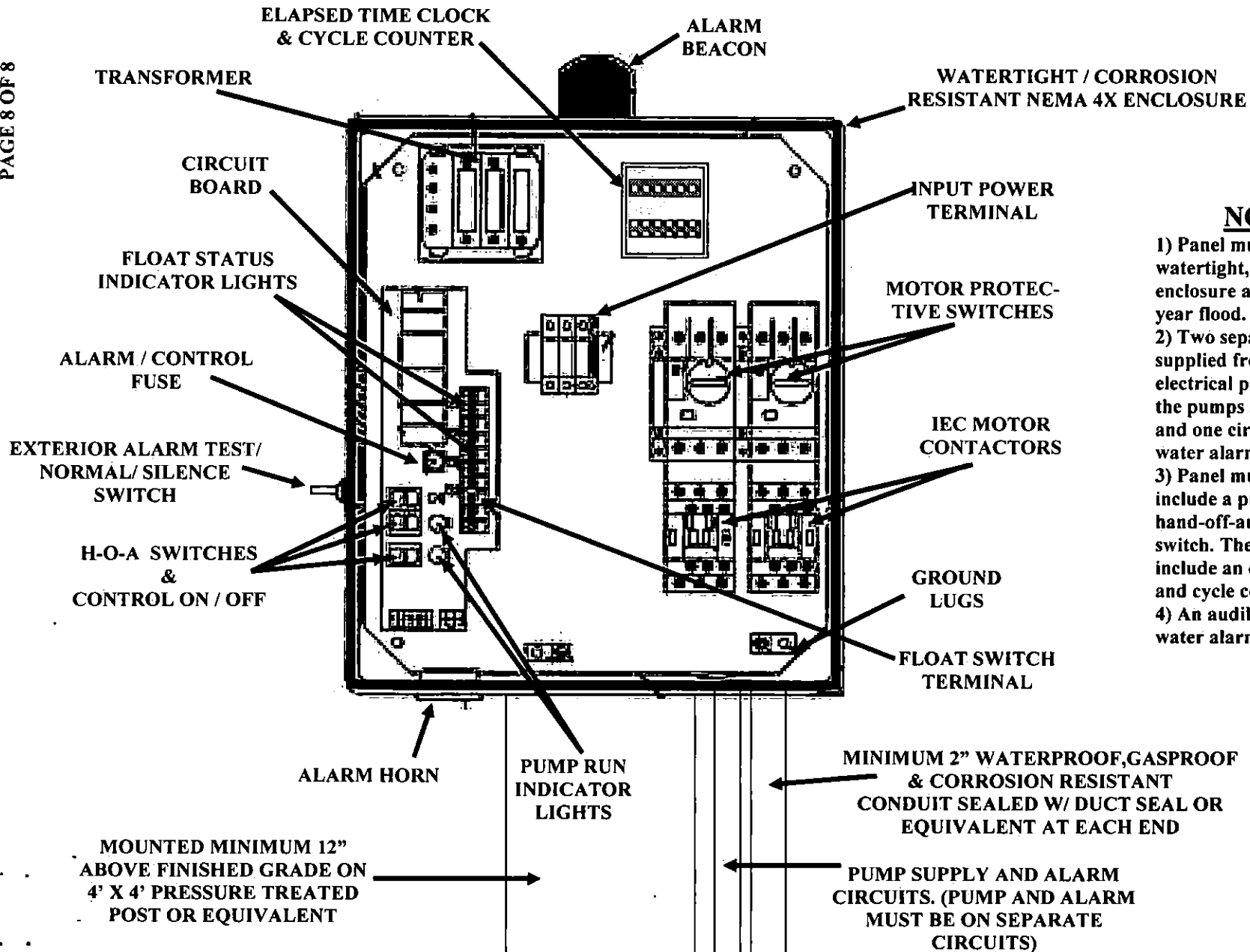
- PRESSURE HEAD TO BE SET AT 2 FEET.
- MANIFOLD SHALL BE INSTALLED LEVEL.
- CLEANOUT PLUG MAY BE ADAPTED TO ACCOMMODATE A STAND PIPE FOR PRESSURE HEAD ADJUSTMENT.

**Pump Tank Additional Specifications**

1. There shall be no splices in any electrical cable within the pump chamber.
2. Pump and alarm must be on two separate live electrical circuits which operate independently of each other.
3. If the pump manufacturer specifies that the "pump off" level be below the top of the pump, then follow the manufacturer's specifications and adjust other floats accordingly.
4. Contact the Onslow County Electrical Inspector for release of Temporary Full-Service and be sure service is available **prior** to contacting the Onslow County Health Department for inspection.
5. Check valves shall be mounted horizontally and such that a siphon breaker hole can be drilled on the pump side of the valve.
6. Only those tanks specifically approved by the state of North Carolina and appropriately stamped shall be used for pump tanks. Modified septic tanks shall not be approved.
7. This permit is valid only for that shown on the attached plot plan, these specifications, and related paraphernalia approved by the Onslow County Health Department.
8. A complete and approved installation is required for this permit to continue to be valid beyond five years elapsed time from the date of issuance.
9. This permit is valid subject to all conditions so noted on this permit, the operations permit, the approved plans and specifications, and any written correspondence that may specify a condition or requirement.
10. This permit is valid only for as long as it meets all requirements of G.S. Chapter 130A Article 11 and related portions of NC Administrative Code.
11. No driving or parking shall be allowed over any portion of the system or repair area unless specifically approved elsewhere in this permit.
12. System operation, maintenance and repairs shall be the responsibility of the land owner as named on this permit.
13. This permit shall not be transferred, nor shall any changes of use occur, without prior approval by the Onslow County Health Department.
14. The pump curve for the effluent pump installed shall be available during the system inspection.
15. Paperwork confirming that the electrical enclosure used is NEMA 4X rated shall be available during system inspection. (Paperwork is not necessary if NEMA 4X rated is clearly marked on the enclosure.)

# CONTROL PANEL DETAIL

(NOT A WIRING DIAGRAM! CONSULT AN ELECTRICIAN)



## NOTES:

- 1) Panel must be in a NEMA 4X, watertight, corrosion resistant enclosure and located above 100-year flood.
- 2) Two separate circuits must be supplied from the main house electrical panel--one circuit for the pumps and pump controls and one circuit for the high-water alarm.
- 3) Panel must be U.L. listed and include a pump run light and hand-off-automatic (H-O-A) switch. The panel should also include an elapsed time clock and cycle counter.
- 4) An audible and visible high-water alarm shall be provided.