HTE# 14-5-34665R

Harnett County Department of Public Health

28189

Improvement Permit

A building permit cannot be issued with only an Improvement Permit

PROPERTY LOCATION: BALLARD ROAD

ISSUED TO: CUMBERLAND HOMES INC SUBDIVISION BALLARD WOODS LOT # 145

NEW ☒ REPAIR ☐ EXPANSION ☐

Site Improvements required prior to Construction Authorization Issuance:

Type of Structure: SFD (62'x64')

Proposed Wastewater System Type: 25% REDUCTION SYSTEM

Projected Daily Flow: 360 GPD

Number of bedrooms: 3 Number of Occupants: 6 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 ☐ No expiration

Permit conditions:

Authorized State Agent:: REHS Date: 3/10/15

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: CUMBERLAND HOMES INC PROPERTY LOCATION: BALLARD ROAD

SUBDIVISION BALLARD WOODS LOT # 145

Facility Type: SFD (62'x64') ☒ New ☐ Expansion ☐ Repair

Basement? ☐ Yes ☒ No Basement Fixtures? ☐ Yes ☒ No

Type of Wastewater System** 25% REDUCTION SYSTEM (Initial) Wastewater Flow: 360 GPD

(See note below, if applicable ☐)

DRIP IRRIGATION (PRETREATMENT) (Repair)

Installation Requirements/Conditions

Septic Tank Size 1000 gallons

Pump Tank Size _____ gallons

Number of trenches 1

Exact length of each trench 300 feet

Trenches shall be installed on contour at a

Maximum Trench Depth of: 12 inches

(Trench bottoms shall be level to +/-1/4" in all directions)

Trench Spacing: 9 Feet on Center

Soil Cover: 6 inches

(Maximum soil cover shall not exceed 36" above the trench bottom)

Pump Requirements: _____ ft. TDH vs. _____ GPM

_____ inches below pipe

Aggregate Depth: _____ inches above pipe

_____ inches total

Conditions: DIVERT ALL SURFACE WATER FROM DRAINFIELD

WATER LINES (INCLUDING IRRIGATION) MUST BE 10FT. FROM ANY PART OF SEPTIC SYSTEM OR REPAIR AREA.
NO UTILITIES ALLOWED IN INITIAL OR REPAIR DRAIN FIELD AREA.

**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: REHS Date: 3/10/15

Construction Authorization Expiration Date: 3/10/20

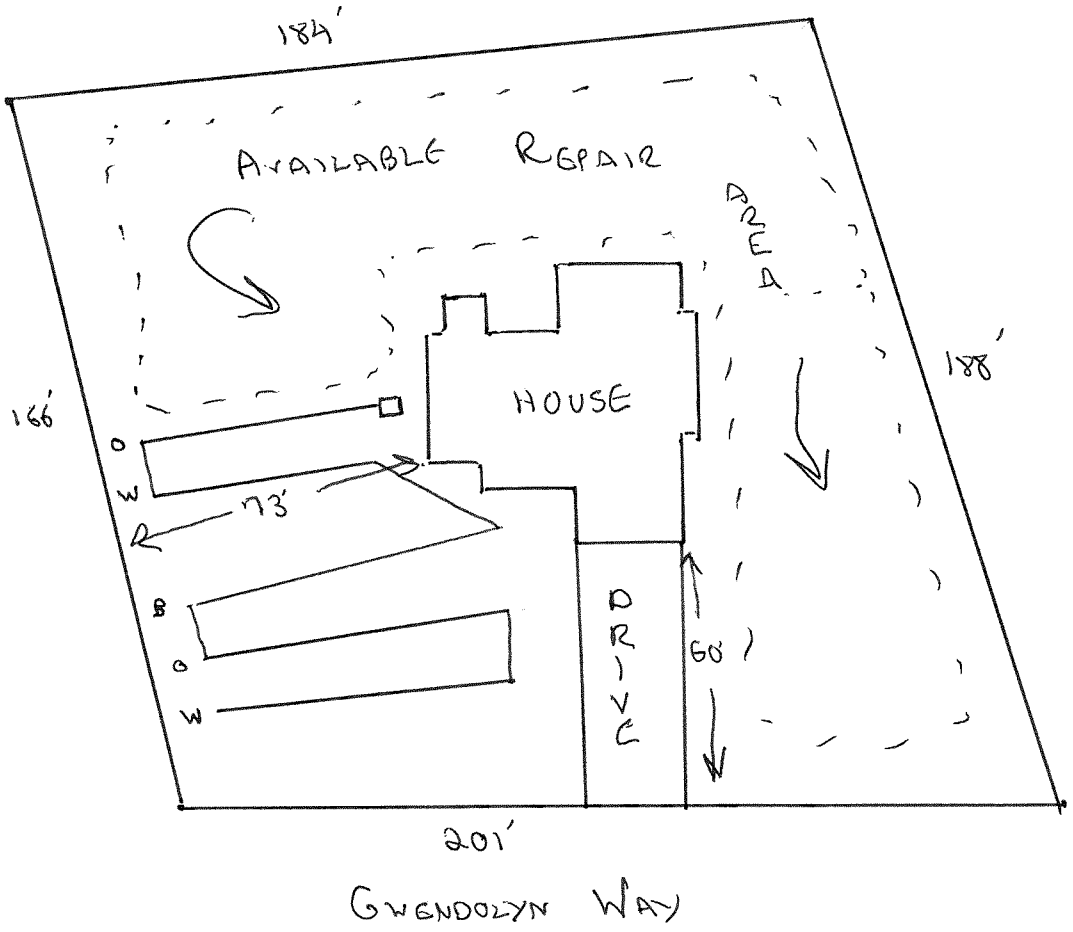
HTE# 14-5-34665 R Permit # 28189

Harnett County Department of Public Health
Site Sketch

PROPERTY LOCATON: BALLARD RD

ISSUED TO: CUMBERLAND HOMES INC SUBDIVISION BALLARD WOODS LOT # 135

Authorized State Agent: REHS (OLIVER TOLKSDORF) Date: 3/20/15



Southeastern Soil & Environmental Associates, Inc.

P.O. Box 9321
Fayetteville, NC 28311
Phone/Fax (910) 822-4540
Email mike@southeasternsoil.com

February 4, 2015

Harnett County Health Dept.
307 Cornelius Harnett Blvd.
Lillington, NC 27546

Re: Hydraulic conductivity (Ksat) analysis for pretreatment/drip irrigation subsurface waste disposal system (repair area), Ballard Woods Subdivision, Lot 145, Gwendolyn Way, Harnett County, North Carolina

To whom it may concern,

An evaluation of soil and hydraulic conductivity (Ksat) has been conducted on the aforementioned property. The purpose of the investigation was to determine soil absorption rates for a proposed pretreatment/drip irrigation repair septic system to serve a 3 bedroom single family residence. All ratings and determinations were made in accordance with "Laws and Rules for Sanitary Sewage Collection, Treatment, and Disposal, 15A NCAC 18A .1900".

Original soils in the proposed repair area were graded/cut (approximately 6 inches based on trees left in the area). The remaining soil profile consist of 0 to 6 inches of a friable loamy sand underlain by a firm sticky and plastic sandy clay loam extending to 18 to 22 inches. Below this is a firm sandy clay loam and/or sandy loam BC horizon with massive structure. This horizon extends to approximately 30 inches. Below 30 inches is a firm to very firm mixed mottled sandy clay loam to sandy clay C horizon that extends to at least 48 inches. This layer also contained lenses and pockets of sandy loam.

Two compact constant head permeameter (CCHP) measurements were made to determine a Ksat rate at depths of 26 and 36 inches (BC and C horizons). Measured Ksat rates were 0.169 and 0.133 cm/hr. The lowest measured rate equates to 0.78 gpd/sq. ft. Using 10% of the lowest Ksat measured (C horizon) equates to 0.078 gpd/sq. ft. (typical for domestic disposal without pretreatment). Using pretreatment typically allows application rates to be increased up to 100 percent (or 0.156 gpd/sq. ft.).

The proposed repair system (drip irrigation with pretreatment) is based on a 0.10 gpd/sq. ft. (drip rate; equates to 0.2 gpd/sq. ft. conventional rate) application rate which is considerably less than the measured rate. Based on our measurements, this rate and should allow for sufficient drainage from the proposed repair system.

The system sizing is as follows:

360 gpd @ 0.10 gpd/sq. ft. = 3600 sq.ft
3600 sq.ft / 2 = 1800 linear feet of drip line spaced on 2 foot centers.

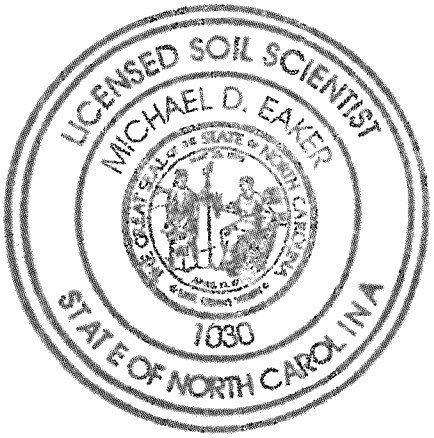
Area available for drip field = +/- 10,000 sq.ft.

It is imperative that no additional grading, rutting, etc. occur in the area of the proposed drip field (see map). I trust this is the information required at this time.

As with any evaluation/design, this report does not guarantee that a septic system will function for any specific length of time. Please call if you have any questions.

Sincerely,

Mike Eaker
President



SOUTHEASTERN SOIL & ENVIRONMENTAL ASSOC., INC.

PROPOSED SUBSURFACE WASTE DISPOSAL SYSTEM DETAIL SHEET

SUBDIVISION BALLARD WOODS

LOT 145

INITIAL SYSTEM APPROVED 25% REDUCTION

REPAIR DRIP IRRIGATION / PRETREATMENT

DISTRIBUTION SERIAL

DISTRIBUTION SERIAL

BENCHMARK 100.0

LOCATION Left rear RC 145

NO. BEDROOMS 3

PROPOSED LTAR 0.3 GPD/FT²

LINE	FLAG COLOR	ELEVATION	LENGTH (FT)
7	O	94.75	50'
8	W	94.50	50'
9	B	93.67	70'
10	O	93.08	70'
11	W	92.42	70'
			~~310'~~

Initial System

BY M EAKER

DATE 01/2015

TYPICAL PROFILE

0-6 LS (VFR, WGR)
6-24 SCLAY (FI, MFSBK)
< 2 /PA > 24"
INSTALL AT 12"
ADD 6" COVER MATERIAL NECESSARY

* NOTE LINES 9, 10, 11 HAVE DEEPER PROFILES TO PM/CR2

* REVISED DUE TO GRADING

* NO ADDITIONAL GRADING ALLOWED

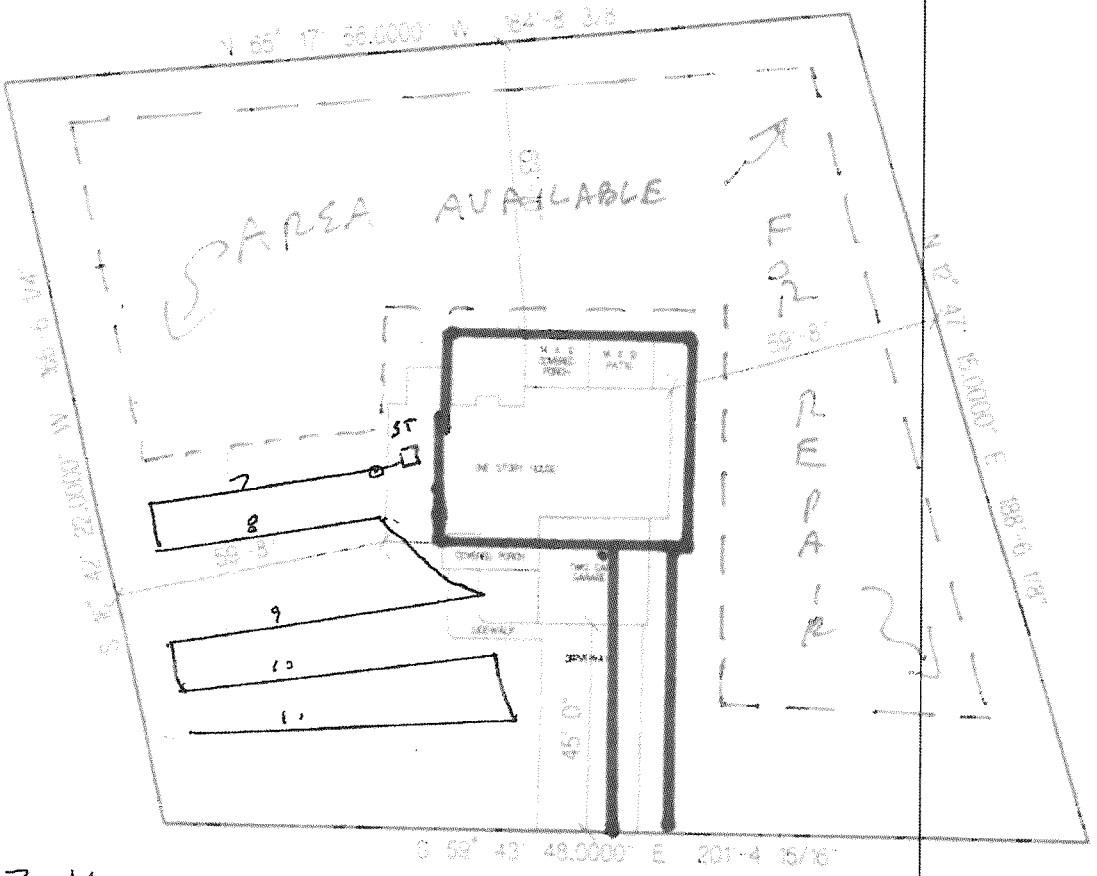
* AFTER INSTALLATION, ADD FILL AND LANDSCAPE DRIPFIELD AREA TO SHED WATER

* NOTE REVISED HOUSE LOCATION

SSEA

PROPOSED SEPTIC

LAYOUT



LINES 7-11

INITIAL SYSTEM

GWENDOLYN WAY

MILLENNIUM HOMES, LLC.
THE OAKLAND WITH SCREEN PORCH
LOT # 145 BALLARD WOODS
SCALE: 1"=40'

SHIFT HOUSE BACK 15 ft

AND RIGHT 10 ft