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**NC Licensed Soil Scientist # 1241**  
**NC Registered Sanitarian # 1353**

Joe Sears  
5981 Cokesbury Road  
Fuquay-Varina, NC 27526

Re: Lot 10 Captain's Landing, Harnett County

Dear Mr. Sears,

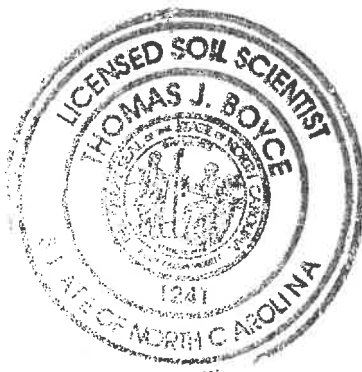
A preliminary soils evaluation was completed on the above referenced property on April 15, 2009. The purpose of the evaluation was to determine the ability of the soils to support a subsurface waste disposal system. All ratings and determinations were made in accordance with "Laws and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A .1900".

The tract was evaluated by auger borings and landscape position. The typical soils were a sandy loam over loam or clay loam to twenty-four or more inches. Unsuitable soils were due to shallow depths to soil wetness. Usable soils on this lot were soils with soil wetness greater than eighteen inches. Conditions such as these require the use of a fill system. The long term acceptance rate should be .6 gpd/sqft. A three bedroom house would require two hundred feet of drainline (accepted systems receive no reduction in fill). As you have stated to me the house would be elevated, so that the use of a pump would not be needed. The lot was recorded prior to 1977, so it is repair exempt and the setbacks to property lines is reduced to five feet. A sketch of the lot and estimates of fill material is included.

This report does not guarantee or represent approval or issuance of permits as needed by the local health department. This report only represents my opinion as a licensed soil scientist. I trust this is the information that you require at this time. If you have any questions or need assistance, please call.

Sincerely,

*Thomas J. Boyce*  
Thomas J. Boyce



# Guideline For Design and Installation of Fill Systems with Conventional Trenches

## I. Trench and Fill Specifications

<u>II</u>	- Soil Texture Group	<u>89</u>	ft.	- Length of Fill
<u>.6</u>	gpd/sq. ft.	<u>43</u>	ft.	- Width of Fill
<u>360</u>	gpd	<u>3827</u>	sq. ft.	- Total Fill Area
<u>600</u>	sq. ft.	<u>12</u>	in.	- Depth of Sand
<u>3</u>	ft.	<u>105</u>	cu. yd.	- Volume of Sand
<u>200</u>	ft.	<u>6</u>	in.	- Depth of Topsoil
<u>3</u>	- Number of Trenches	<u>65</u>	cu. yd.	- Volume of Topsoil
<u>67</u>	ft.			- Length of each Trench

## II. Site Preparation

1. Place flags at the 4 corners of the area to be filled designated on the improvement permit. Failure to place fill in the permitted area may result in the fill having to be moved or the permit revoked.
2. Do not work when the site is wet. Working on soil when wet can destroy soil structure making the site unsuitable for a Construction Authorization.
3. 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.
4. Disk the area to be filled to a depth of 6 inches to break up root mat.

## III. Placement Of Fill

1. 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.
2. Add more sand fill to achieve a uniform height of SD (see diagram) in the middle of the fill area.
3. 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.

4. Six (6) inches of finer textured fill shall be placed over the sand fill and extend to the boundary of the fill area. Finer texture is necessary to establish a vegetative cover which will prevent erosion of the fill. Fill used for cover shall be a sandy loam, loam, silt loam or sand clay loam texture. See CD dimension of diagram. Side slope shall be 1 to 4 except for site with Soil Texture Group 1 which can have a side slope of 1 to 3.
5. Contact Health Department for inspection of fill before constructing trenches. A Construction Authorization must be obtained before proceeding.

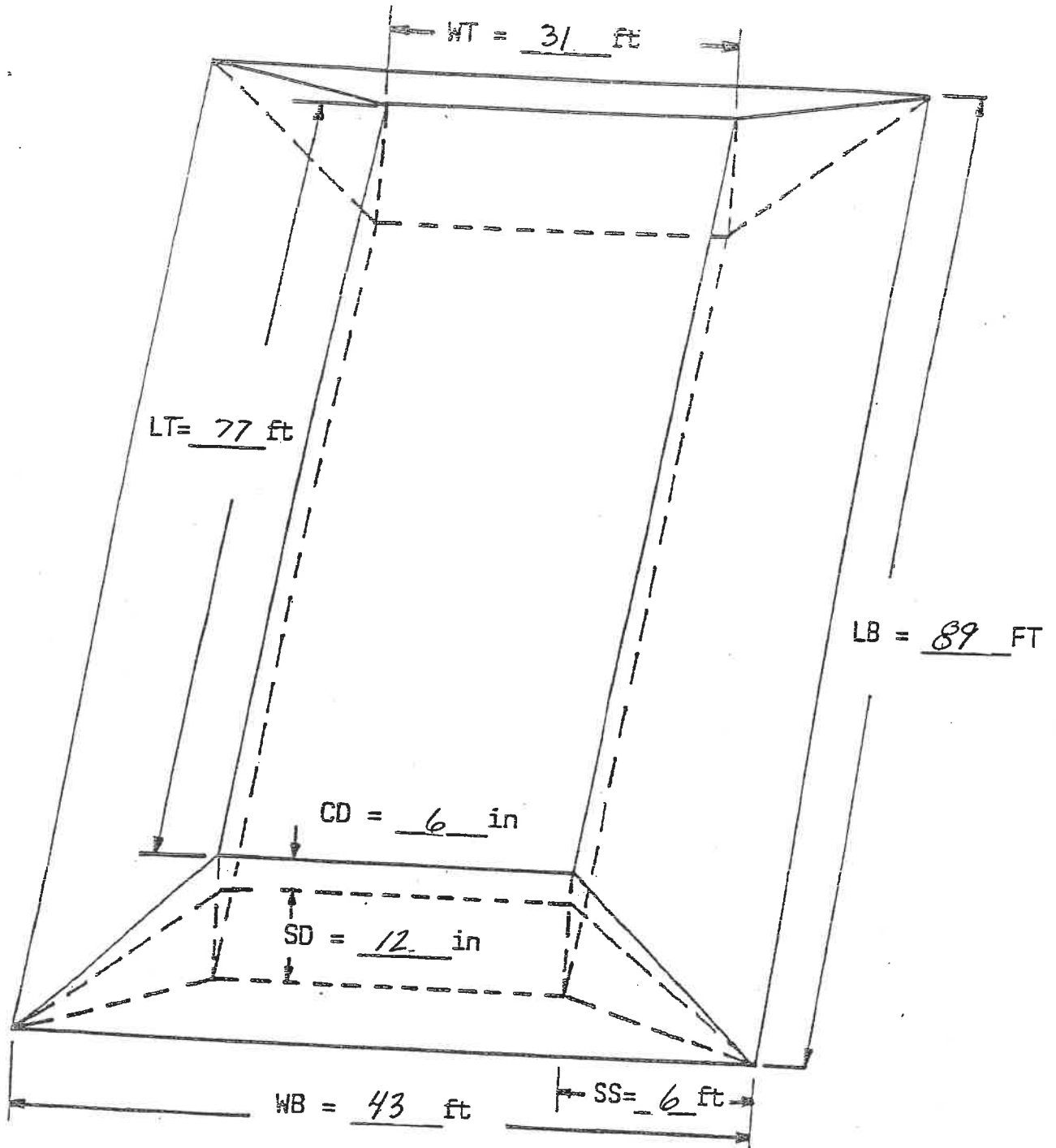
#### IV. Trench Construction

1. The outside edge of any trench shall be 5 feet from the top of the side slope of the fill.
2. This system is designed with 3 trenches which are 67 ft. long and 3 ft. wide. Trenches must have a spacing of 9 ft. on centers.
3. Trench bottoms shall be no deeper than 18 inches below finished grade of the fill.
4. Trench bottoms shall be constructed level.
5. Distribution boxes shall be located 5 feet from the top edge of the fill.
6. Call the Health Department for inspection after the trenches are finished.

#### V. Landscaping

1. The fill must be shaped to shed surface water and shall be stabilized with grass or other suitable cover to prevent erosion.
2. Vegetation must be maintained after established. Grass must be mowed.
3. Additional fill beyond what has already been specified may be necessary to cover and landscape around the septic tank.
4. Call the Health Department for inspection after landscaping is complete. The Operation Permit allowing use of the system is issued at this time.

DIMENSIONS OF FI SYSTEM

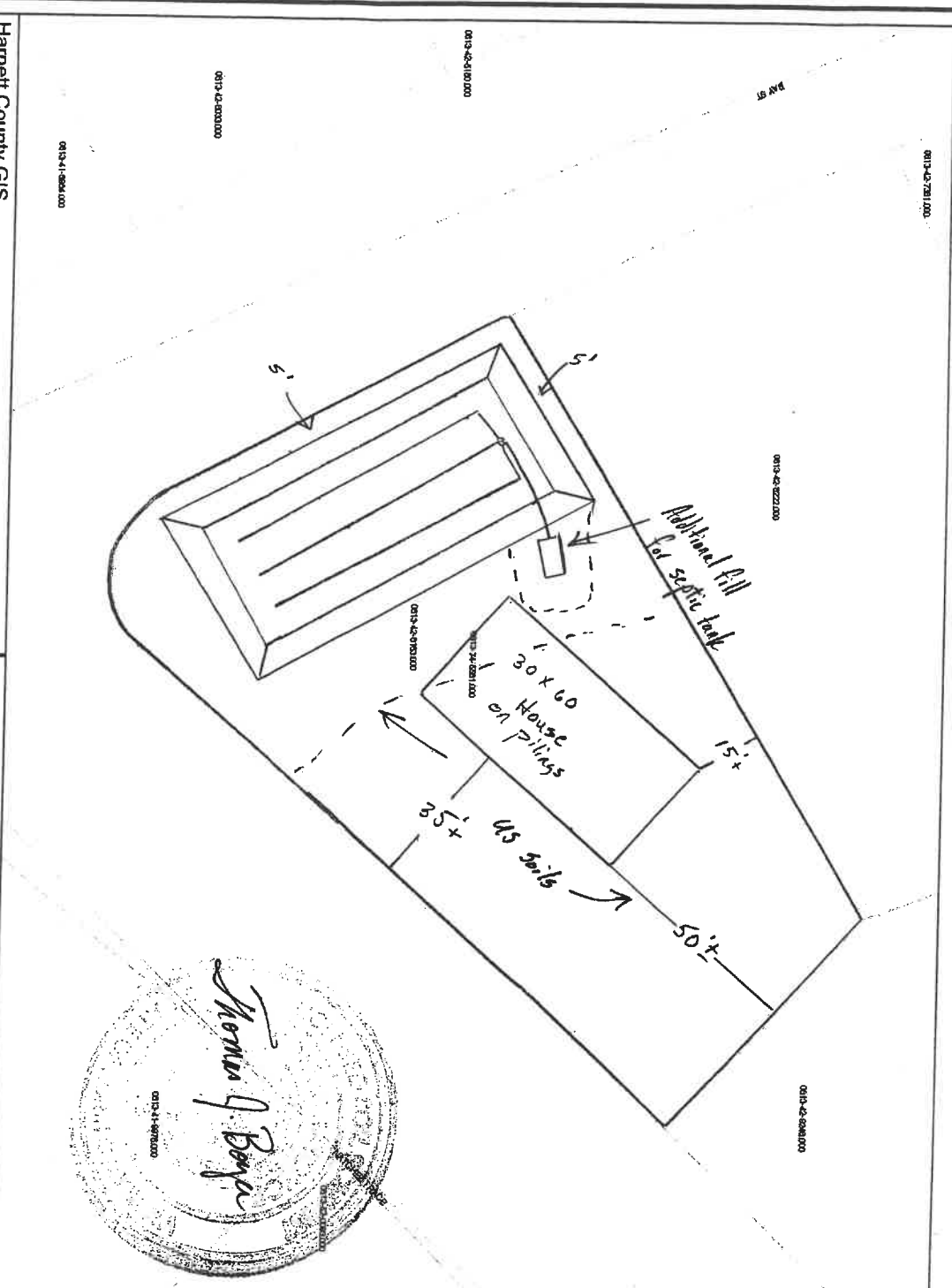


DEFINITIONS

WT - width of top  
LT - length of top  
WB - width of bottom  
LB - length of bottom

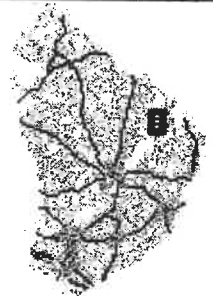
SS - side slope  
SD - sand depth  
CD - cover depth

# HARNETT COUNTY, NORTH CAROLINA GISLAND RECORDS



Harnett County GIS  
 305 W Cornelius Harnett Blvd, Suite 100  
 Lillington, NC 27546  
 Phone: 910-893-7523  
 WWW.HARNETT.ORG

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- city limits in
- roads
- Centerline
- Parcels
- Major Roads

Captain's  
 Landing Lot ID

