



Site Evaluation Requirements

Audra Burchfield
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Florida Department of Health
Division of Disease Control and Health Protection
Bureau of Environmental Health
Onsite Sewage Programs

What we will cover



- ✓ Net Usable Lot Area Validation
- ✓ Unobstructed Area Determination
- ✓ Establishing a Benchmark
- ✓ Sloping Lots
- ✓ System Setbacks Validation
- ✓ Excavation and Fill Determinations
- ✓ Frequent Flooding
- ✓ Soil Sizing Criteria
- ✓ Surface Water Boundaries (MAFL/MHWL)



Site Evaluations

Site Evaluation

Form DH 4015 (3 of 4)



- Estimated sewage flow, authorized sewage flow, unobstructed area
 - Benchmark/reference point
 - Setbacks to pertinent features
 - Flooding Determination
 - 2 Soil profiles, estimated wet season water table elevation (WSWT) and documentation and elevations
 - Loading rate, restrictive layers and excavation
 - Drainfield configuration (trench vs bed)
 - Good for life of permit and 180 days prior to application
- (Note: the separation from the bottom of the drainfield to the WSWT is 24 inches)**



Net Usable Lot Area

Net Usable Lot Area
64E-6.005 (7)



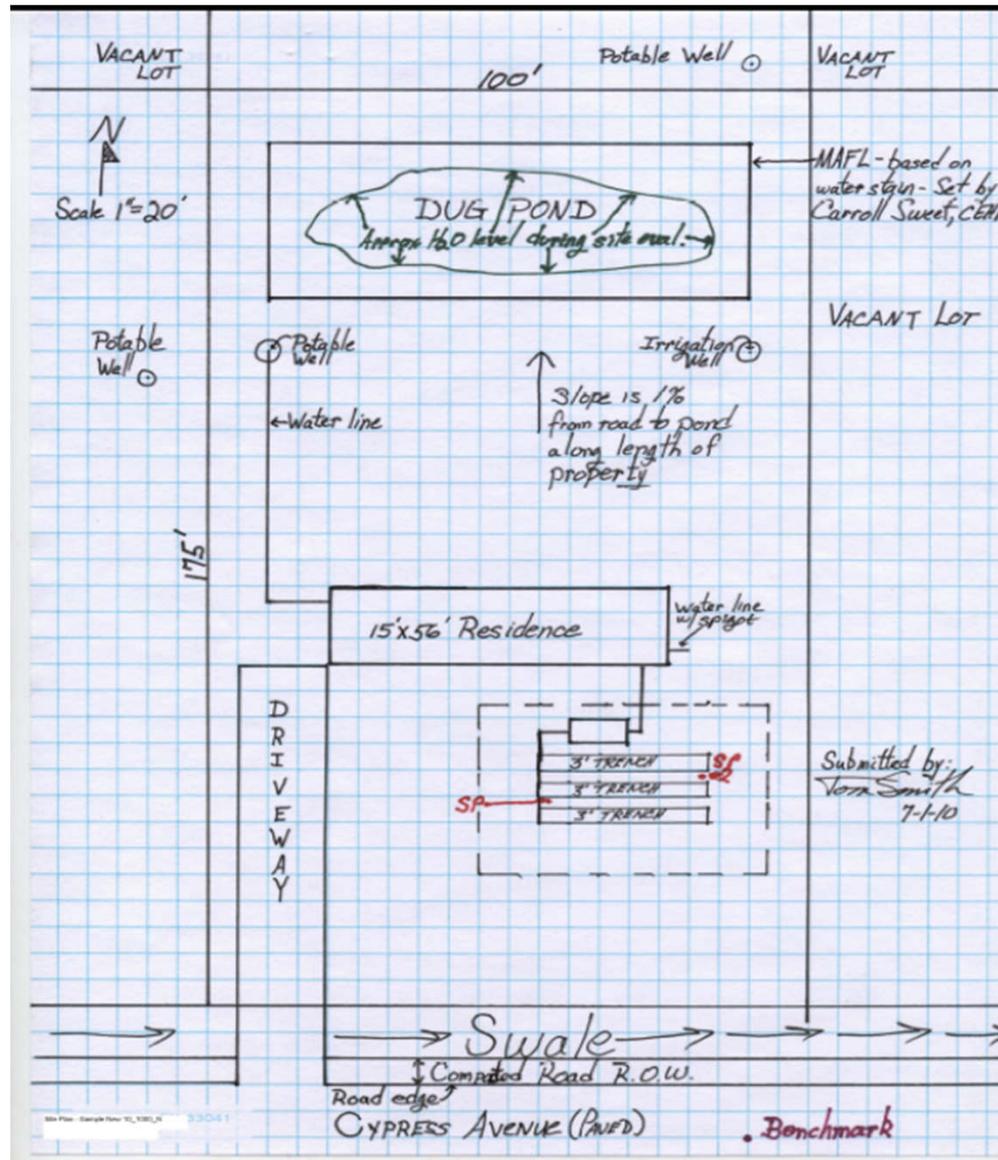
Net usable area is used to calculate the authorized sewage flow for the subject property.

Net Usable Lot Area 64E-6.005 (7)



“Contiguous unpaved and non-compacted road rights-of-way, and easements with no subsurface obstructions that would affect the operation of drainfield systems, shall be included in total lot size calculations. Where an unobstructed easement is contiguous to two or more lots, each lot shall receive its pro rata share of the area contained in the easement. Surface water bodies shall not be included in total lot size calculations. subsection 64E-6.008(1), F.A.C., Table I, shall be used for determining estimated average daily sewage flows.”

Net Usable Lot Area 64E-6.005 (7)





Unobstructed Area Determinations

Unobstructed Area Determinations

64E-6.005 (4)



- Minimum 1.5 X the drainfield area
- Be contiguous (gravity and lift dosed systems)
- Does not include any tanks nor 18 inches from tank
- 100% must meet the same setbacks as the drainfield

Note: Area between drain trenches shall be included in the unobstructed area calculation.

Unobstructed Area Examples

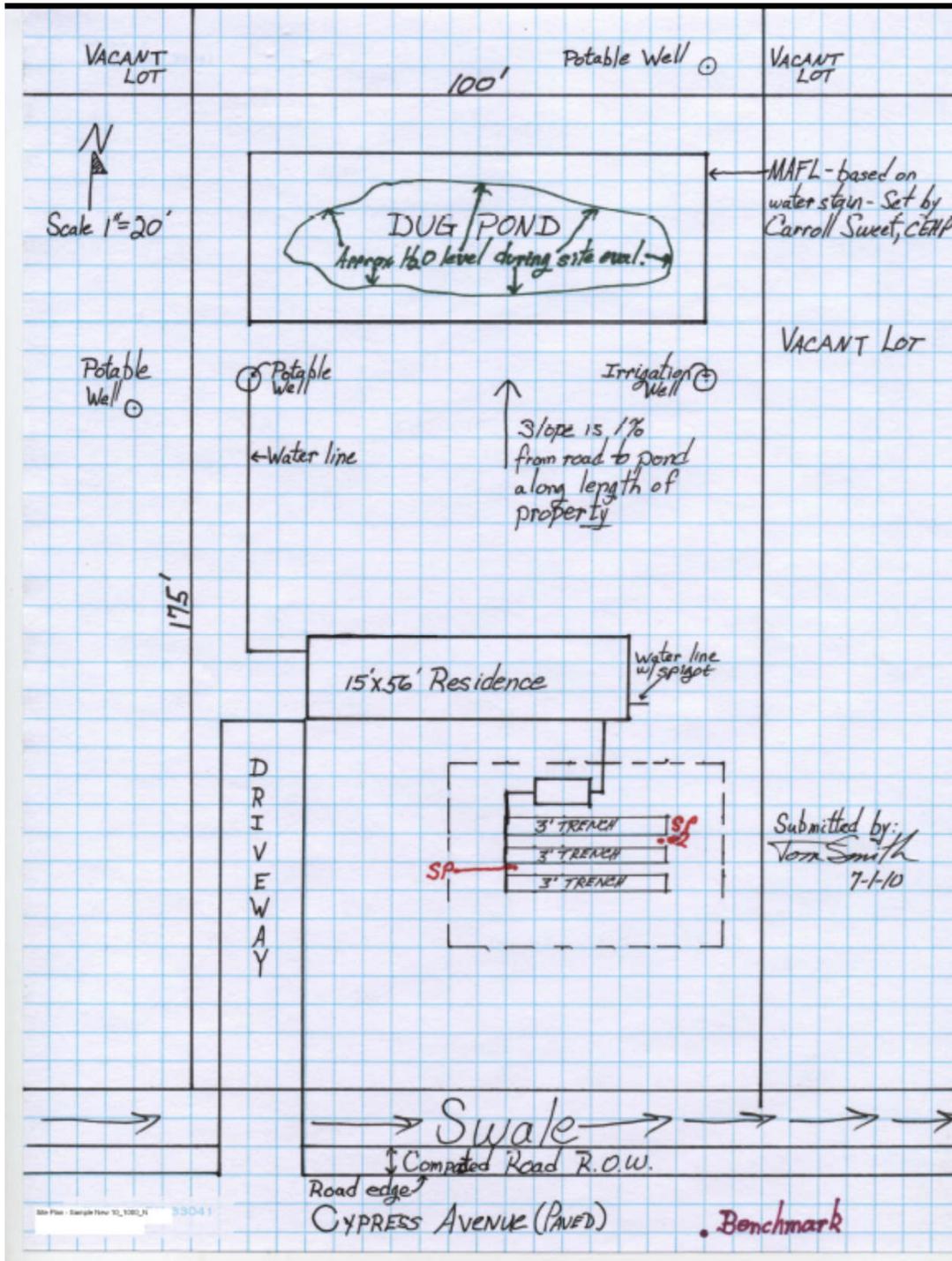


200 gpd / 0.60 gal. per sq.ft. per day for bed configuration =
334 sq.ft. drainfield

unobstructed area = (334 x 1.5) 500 sqft

or 200 gpd / 0.80 gal. per sq.ft. per day for trench
configuration = 250 sq.ft. drainfield

unobstructed area = (250 x 1.5) 375 sqft



$$200 \text{ gpd} \times 0.8 \text{ g/sf/day} = 250 \text{ sf}$$

$$250 \text{ sf} \times 1.5 = 375 \text{ sf}$$

This area must meet all the required setbacks.

Coastal Construction Control Line



Chapter 64E-6.004(3)(f), FAC and s. 381.0065(4),
Florida Statutes (FS)

Part of the application information required for
permitting.

Established per s. 161.053, FS

See Memos 06-004 and 07-007

Coastal Construction Control Line

Chapter 62B-33, FAC



- Provides the design and siting requirements that must be met to obtain a coastal construction control line permit.
- Approval or denial of a permit application is based upon a review of the potential impacts to the beach dune system, adjacent properties, native salt resistant vegetation, and marine turtles.

<https://floridadep.gov/water/coastal-construction-control-line>



The screenshot shows a web browser window with the URL <https://floridadep.gov/water/coastal-construction-control-line> in the address bar. The page header includes the Florida Department of Environmental Protection logo and navigation links for A-Z Index, Forms, News, Events, Contact Us, and social media icons. A secondary navigation bar lists 'About DEP', 'How Do I', 'Divisions', 'Air', 'Lands', 'Parks & Rec', 'Waste', and 'Water'. A search bar is visible on the right. The main content area features the title 'Coastal Construction Control Line Program' and a breadcrumb trail: Home > Divisions > Division of Water Resource Management > Coastal Construction Control Line Program. A 'Quick Links' sidebar on the left lists: Permit Managers, Field Inspectors, Locate the CCCL, Map Direct - CCCL, Download GIS Data, Ask us a question, Apply for CCCL Permits, Forms, Publications, Rules and Statutes, and Permit Files and Records. The main text describes the CCCL program's purpose in regulating structures to prevent beach erosion and protect sea turtles. A central call-to-action box titled 'Get More Information or Help with CCCL Issues' contains three links: 'LOCATE the CCCL and other geographic information' (highlighted with a red box), 'ASK and get answers to your coastal construction related questions', and 'APPLY and receive assistance with the CCCL application process'. Below these are links for 'CCCL Permit Managers' and 'CCCL Field Inspectors'. A final paragraph explains the program's role in Florida's coastal management.

Coastal Construction Control Line 64E-6.004(3)(f), FAC



- Permit or exemption notice required if any part of the system will be seaward of the CCCL.
- If you cannot definitively make a determination using the tools on DEP website, then the applicant must provide survey by certified professional surveyor or mapper showing the location of the CCCL on the property.

Coastal Construction Control Line s.381.0065(4), FS



The department may issue permits to carry out this section, but shall not make the issuance of such permits contingent upon prior approval by the Department of Environmental Protection, **except that the issuance of a permit for work seaward of the coastal construction control line established under s. 161.053 shall be contingent upon receipt of any required coastal construction control line permit from the Department of Environmental Protection.**

Coastal Construction Control Line



- Where the DEP permits construction seaward of the CCCL, the area landward of the construction setback line can be calculated as unobstructed area.
- Where DEP does not allow construction seaward of the CCCL, only that area landward of the CCCL can be calculated as unobstructed area.



Benchmarks

Benchmark/Fixed Point of Reference



Benchmark- “A mark on a permanent object of predetermined position and elevation used as a reference point.”

Reference Point- “A specific location (in plan elevation) to which measurements are referred.”

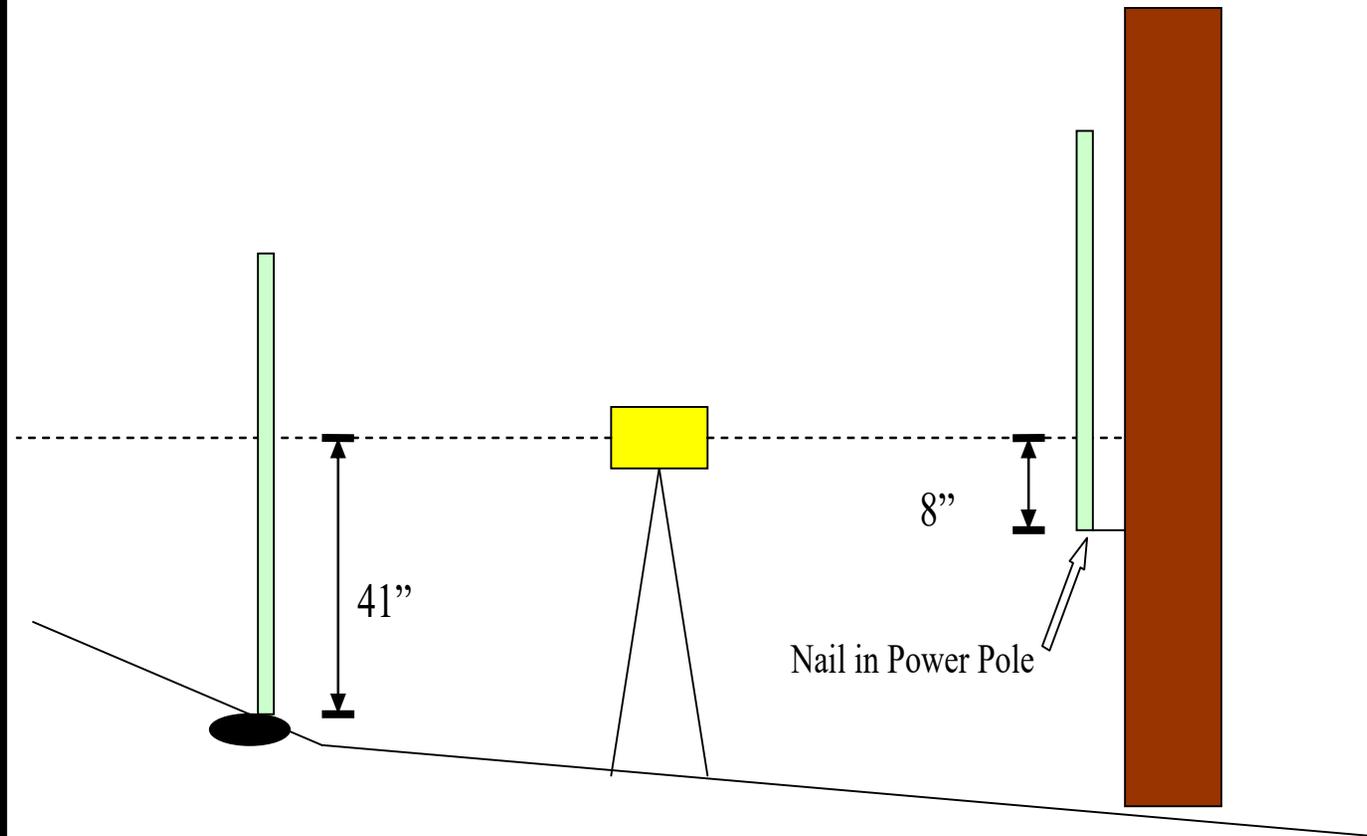
Establishing a Benchmark/Reference Point

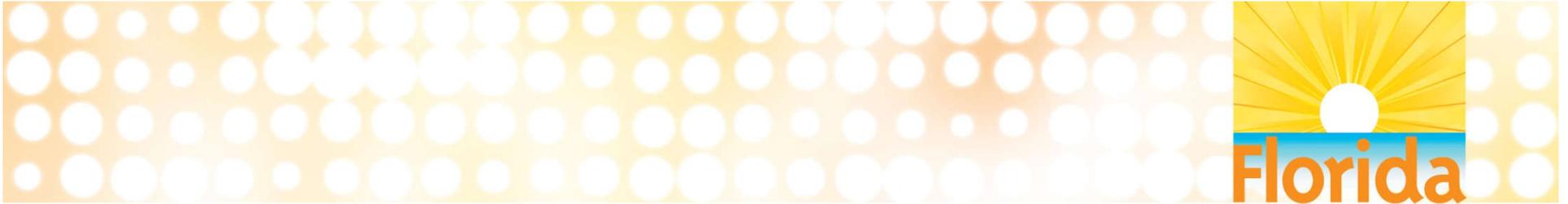


- Choose a fixed point/location.
- Put an identifying mark.
- Identify the specific location on the site plan and on the form DH 4015 (3 of 4).
- Establish water table and property (at the site of the soil profiles) elevations using the benchmark or reference point.

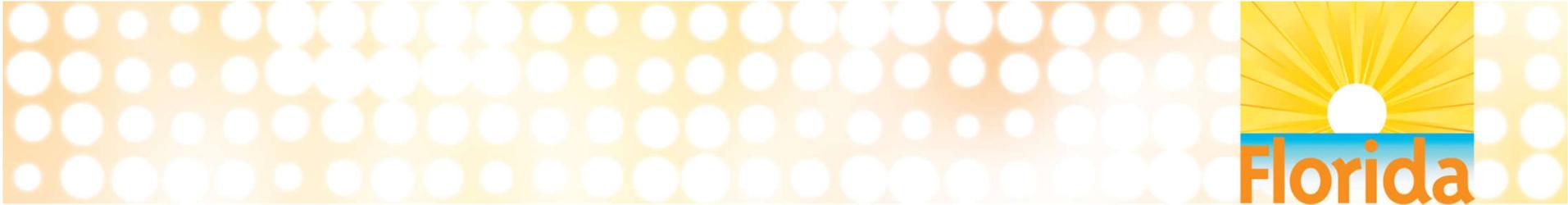
$$41'' - 8'' = 33''$$

Site is 33'' below the Benchmark/ Reference Point











Shooting a Benchmark/Reference Point



Shooting a Benchmark/Reference Point





Lot Slopes

Lot Slopes



Slope: An elevation change over a specified distance.

Calculation:

$\Delta E / \Delta D$ where Δ = change in; E= elevation;

D= distance

Also calculated as Rise/Run

Lot Slopes



Example: $\Delta E = 15''$ over $\Delta D = 75'$

- First make all units the same, convert to inches or feet (since we normally work in inches this would be best)

So: $75' = 75' \times 12''/1' = 900''$

Slope = $\Delta E / \Delta D = 15/900 = 0.0167$ or 1.67%

Lot Slopes



This equals: 0.84" per 50" (4'2")
 or 0.42" per 25" (2'1")
 or 0.167" per 10"
 or 0.40" per 24" (2')

(2' is the minimum distance between trenches)

Lot Slopes



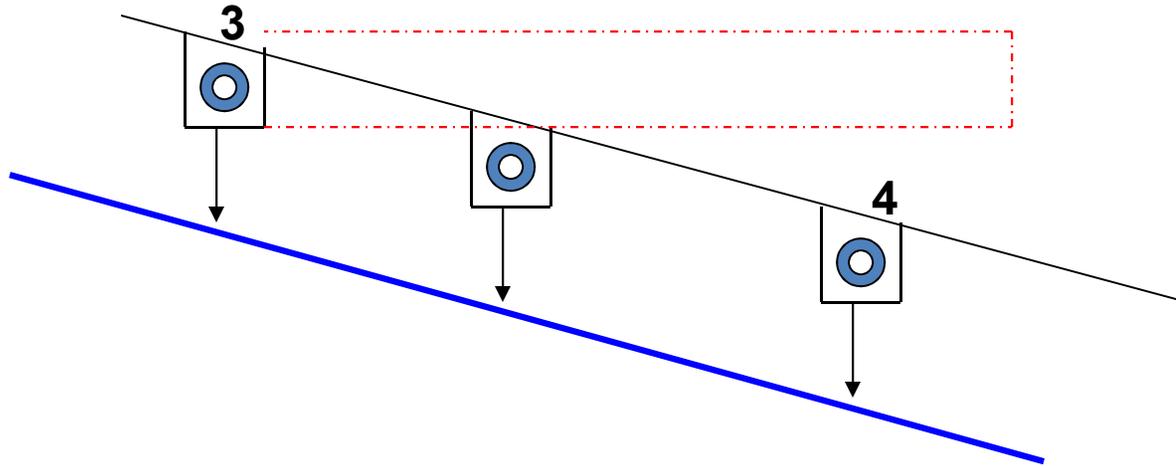
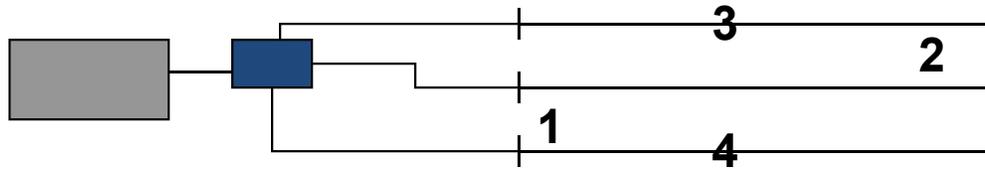
Calculate by comparison:

$$\Delta E / \Delta D = 1.67'' / 100'' = x'' / 24'' \quad \rightarrow$$

$$1.67 \times 24 / 100 = x'' = 40.08'' / 100 = x''$$

$$x'' = 0.4008'', \text{ or } 0.40''$$

Lot Slopes



**Need more profiles uphill and downhill
Use worst-case scenario from all sites.**

Write special instructions in remarks section of the site evaluation form.



System Setbacks

(64E-6.005 and 64E-6.009)

System Setbacks



- Setbacks must be verified at the time of the site evaluation.
- The actual measurements must be recorded on the form.
- The property lines should be located/marked prior to the site evaluation.
- For those features that are “proposed” and not on site at the time of the evaluation setbacks would be recorded based on the submitted site plan.

System Setbacks



64E-6.005 (1)(2) & (3)

- ➡ Private potable wells (75 ft), non potable (50 ft)
- ➡ Public drinking water wells (100 – 200 ft)
- ➡ Monitoring wells (5 ft)
- ➡ Storm sewer pipe (10 ft or max possible, not <5 ft)
- ➡ Dry - ponds/drainage features, retention areas (15 ft)
- ➡ Building foundations, pilings, mobile home walls, swimming pool walls, property lines (5 ft)
- ➡ Drainfields shall not be installed below, sidewalks, decks and patios. Mound drainfield, (4 ft) from these features (the shoulder shall not be covered).

System Setbacks



- ☞ Potable water lines (**10 ft**) or not less than (**2 ft**) if double sleeved or consist of schedule 40 PVC or stronger.
- ☞ Non-potable water lines (**2 ft**) and (**<2 ft**) if backflow devices.
- ☞ Groundwater interceptor drains (**15 ft**)
- ☞ Effluent transmission lines (schedule 40 PVC) – to **private potable wells, irrigation wells** and surface water bodies not less than (**25 ft**)
- ☞ Effluent transmission lines (schedule 40 PVC) – to property lines and building foundations not less than (**2 ft**)
- ☞ Effluent transmission lines (schedule 40 PVC or double sleeved) – potable water lines and storm sewer lines not less than (**5 ft**) see 64E-6.007(8)



Entering a Soil Profile into the Environmental Health Database (EHD)

(formerly called “Rehost”)



State of Florida
Department Of Health
Onsite Sewage
Treatment and Disposal
System
Site Evaluation and
Specifications

Document #: SE795991

Permit #: 01-SA-999823



Application Information:

Applicant's Name: Gainesville Church of God
Agent's Name: Lee, Johnie
Lot: _____ Block: A-21
Subdivision: _____
Property ID: 06187-002-000
Application Document Nbr: AP933509

Soil Profile Information

Profile 1

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 1:

USDA Soil Series:

Profile 2

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 2:

USDA Soil Series:

Click on "Add" button

Soil Profile Information

Profile 1

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 1:

USDA Soil Series:

Add New Item for Site One

Munsell #	Soil Texture	Depth From	Depth To
<input type="text" value="10B 2.5/1"/>	<input type="text" value="Bedrock"/>	<input type="text" value="0"/>	-

Profile 2

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 2:

USDA Soil Series:

This is what appears



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Soil Profile Information

Profile 1

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 1:

USDA Soil Series:

Add New Item for Site One

Munsell #	Soil Texture	Depth From	Depth To
10YR 5/1		0	-

10YR 5/1
10YR 5/2
10YR 5/3
10YR 5/4
10YR 5/6
10YR 5/8
10YR 6/1
10YR 6/2
10YR 6/3
10YR 6/4
10YR 6/6

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 2:

USDA Soil Series:

Click on Drop Down Menu For the Munsell Information



Application Information:

Applicant's Name: Gainesville Church of God
Agent's Name: Lee, Johnie
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Soil Profile Information

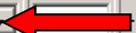
Profile 1

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 1:

USDA Soil Series:

Add New Item for Site One

Munsell #	Soil Texture	Depth From	Depth To
<input type="text" value="10YR 5/1"/>	<input type="text" value="Fine Sand"/> 	<input type="text"/>	<input type="text"/>

- Fine Sand
- Fine Sandy Loam
- Fractured Rock
- Gravel
- Gravelly & Larger Mineral
- Hard Rock
- Hardpan
- Legacy
- Loam
- Loamy Coarse Sand
- Loamy Fine Sand

Profile 2

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 2:

USDA Soil Series:

Click on Drop Down Menu For the Soil Texture



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Soil Profile Information

Profile 1

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 1:

USDA Soil Series:

Add New Item for Site One

Munsell #	Soil Texture	Depth From	Depth To
<input type="text" value="10YR 5/1"/>	<input type="text" value="Fine Sand"/>	<input type="text" value="0"/>	<input type="text" value="7"/>

Insert the Depths

Click on "Add New" Button

Profile 2

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 2:

USDA Soil Series:



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Soil Profile Information

Profile 1

Munsell #	Color	Texture	Depth	Edit
10YR 5/1	Gray	Fine Sand	0 TO 7	

Add additional horizons for profile 1:

USDA Soil Series:

Notice that this box reappears

Add New Horizon for Site One

Munsell #	Soil Texture	Depth From	Depth To
<input type="text" value="10YR 5/1"/>	<input type="text" value="Fine Sand"/>	<input type="text" value="7"/>	<input type="text" value="-"/>



Documenting a Redox Feature Within the Profile

Profile 1

Munsell #	Color	Texture	Depth	Edit
10YR 5/1	Gray	Fine Sand	0 TO 7	
10YR 7/4	Very Pale Brown	Fine Sand	7 TO 28	
10YR 6/3	Pale Brown	Fine Sand	28 TO 35	
10YR 7/3	Very Pale Brown	Fine Sand	35 TO 45	
10YR 7/4	Very Pale Brown	Sandy Loam	45 TO 54	

Add additional horizons for profile 1:

USDA Soil Series:

Add New Item for Site One

Munsell #	Soil Texture	Depth From	Depth To
10YR 5/1		45	54

Profile 2

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 2:

USDA Soil Series:





Profile 1

Munsell #	Color	Texture		Depth		Edit
10YR 5/1	Gray	Fine Sand	0	TO	7	
10YR 7/4	Very Pale Brown	Fine Sand	7	TO	28	
10YR 6/3	Pale Brown	Fine Sand	28	TO	35	
10YR 7/3	Very Pale Brown	Fine Sand	35	TO	45	
10YR 7/4	Very Pale Brown	Sandy Loam	45	TO	54	
10YR 5/1	Gray	CMN/DST RF	45	TO	54	

Add additional horizons for profile 1:

USDA Soil Series:

Add New Item for Site One			
Munsell #	Soil Texture	Depth From	Depth To
<input type="text" value="10YR 7/2"/>	<input type="text" value="Sandy Clay Loam"/>	<input type="text" value="54"/>	<input type="text" value="72"/>



Finish the Profile Information then Click Add and Close

Profile 2

Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 2:

USDA Soil Series:



Treatment and Disposal
System
Site Evaluation and
Specifications

Permit #: [01-SA-999823](#)



Application Information:

Applicant's Name: [Gainesville Church of God](#)
Agent's Name: [Lee, Johnie](#)
Lot: _____ **Block:** [A-21](#)
Subdivision: _____
Property ID: [06187-002-000](#)
Application Document Nbr: [AP933509](#)

Soil Profile Information

Profile 1

Munsell #	Color	Texture	Depth	Edit
10YR 5/1	Gray	Fine Sand	0 TO 7	
10YR 7/4	Very Pale Brown	Fine Sand	7 TO 28	
10YR 6/3	Pale Brown	Fine Sand	28 TO 35	
10YR 7/3	Very Pale Brown	Fine Sand	35 TO 45	
10YR 7/4	Very Pale Brown	Sandy Loam	45 TO 54	
10YR 5/1	Gray	CMN/DST RF	45 TO 54	
10YR 7/2	Light Gray	Sandy Clay Loam	54 TO 72	

Add additional horizons for profile 1:

USDA Soil Series:

Finished Profile



Treatment and Disposal
System
Site Evaluation and
Specifications

Permit #: [01-SA-999823](#)



Florida
HEALTH

Application Information:

Applicant's Name: [Gainesville Church of God](#)
Agent's Name: [Lee, Johnie](#)
Lot: _____ **Block:** [A-21](#)
Subdivision: _____
Property ID: [06187-002-000](#)
Application Document Nbr: [AP933509](#)

Soil Profile Information

Profile 1

Munsell #	Color	Texture	Depth		Edit
10YR 5/1	Gray	Fine Sand	0	TO 7	
10YR 7/4	Very Pale Brown	Fine Sand	7	TO 28	
10YR 6/3	Pale Brown	Fine Sand	28	TO 35	
10YR 7/3	Very Pale Brown	Fine Sand	35	TO 45	
10YR 7/4	Very Pale Brown	Sandy Loam	45	TO 54	
10YR 5/1	Gray	CMN/DST RF	45	TO 54	
10YR 7/2	Light Gray	Sandy Clay Loam	54	TO 72	

Add additional horizons for profile 1:

USDA Soil Series:

Soil Series



Subdivision: _____
Property ID: 06187-002-000
Application Document Nbr: AP933509

Soil Profile Information

Profile 1

Munsell #	Color	Texture	Depth	TO		Edit
10YR 5/1	Gray	Fine Sand	0	TO	7	
10YR 7/4	Very Pale Brown	Fine Sand	7	TO	28	
10YR 6/3	Pale Brown	Fine Sand	28	TO	35	
10YR 7/3	Very Pale Brown	Fine Sand	35	TO	45	
10YR 7/4	Very Pale Brown	Sandy Loam	45	TO	54	
10YR 5/1	Gray	CMN/DST RF	45	TO	54	
10YR 7/2	Light Gray	Sandy Clay Loam	54	TO	72	

Add additional horizons for profile 1:

USDA Soil Series:

- Zolfo fine sand, 0 to 2 percent slopes
- Zolfo fine sand, 2 to 5 percent slopes
- Micanopy
- Millhopper**
- Monteocha
- Mulat
- Newnan
- Norfolk
- Okeechobee
- Oleno
- Pedro

Click on Series Name

Profile 2

Munsell #

USDA Soil Series:

Go To Permit

Recalculate

Subdivision: _____
Property ID: 06187-002-000 _____
Application Document Nbr: AP933509 _____

Soil Profile Information

Profile 1

Munsell #	Color	Texture	Depth	Edit
10YR 5/1	Gray	Fine Sand	0 TO 7	
10YR 7/4	Very Pale Brown	Fine Sand	7 TO 28	
10YR 6/3	Pale Brown	Fine Sand	28 TO 35	
10YR 7/3	Very Pale Brown	Fine Sand	35 TO 45	
10YR 7/4	Very Pale Brown	Sandy Loam	45 TO 54	
10YR 5/1	Gray	CMN/DST RF	45 TO 54	
10YR 7/2	Light Gray	Sandy Clay Loam	54 TO 72	

Add additional horizons for profile 1:

USDA Soil Series:

Profile 2

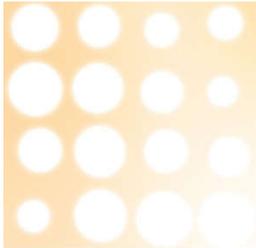
Munsell #	Color	Texture	Depth	Edit
-----------	-------	---------	-------	------

Add additional horizons for profile 2:

USDA Soil Series:



Click to Move to the Next Page



Application Information:

Applicant's Name: Gainesville Church of God
Agent's Name: Lee, Johnie
Lot: _____ **Block:** A-21
Subdivision: _____
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Application Document Nbr: AP933509

Additional Information

Blue fields are used in calculations.

Observed Water Table: _____ **Inches:** _____ **Existing Grade**
Type: _____

Estimated Wet Season Water Table Elevation*: 45 **Inches** Below

Existing Grade

High Water Table Vegetation: No
Motting: Yes **Depth:** 45 **Inches**

Soil Replacement Type: No Replacement

Once the soil replacement is finished or if there was no soil replacement what is the depth to the most shallow layer of severely limited soil?
 NA

Soil Texture for System Sizing: Fine Sand

Loading Rate for System Sizing: 0.80 **Depth of Excavation:** _____ **Inches**

Drainfield Configuration: Trench (If Other Specify)

Drainfield Type: SubSurface

Remarks/Additional Criteria:
 10YR 5/1 CMN/DIST/RF starting at 45"

Site Evaluated By: Bennett, Fred (Environmental Specialist I)
Date*: 9/3/2009
Application Completed Date: 9/4/2009

Go To Permit Deny

Recalculate |< < > >|



***#Of Occupants**
***#Of Bedrooms**
***Building Area(Sqft)**

Add Additional Residence

Residential Buildings

#Of Occupants	#Of BedRooms	Sq Feet	Total Flow GPD	Sel/Del
6	3	1056	300	

COMMERCIAL BUILDINGS:

Building Add Ons

Floor / Equipment Drains Others

Comments:

County Custom Fields:
CountyPermNum

Status:

***Application Date**
Application Complete Date
Ready to Issue Date

Save Complete Create New Application
Create New Application at the Same Site

Print Back To Search
New Site Evaluation
Collect Money

Migration Comments

Session Time Remaining: 12:59

Need More Help?

- [-] Application
 - AP933502, OSTDS Repair
 - Manage Bills
 - Manage PDFs
- Variance
- [-] Repair/Existing
 - RE237927
- [-] Site Evaluation
 - SE795155, 08/24/2009
 - SE822479, 01/01/1901
- [-] Permit
 - PR783041, 08/25/2009
 - [-] Repair Certification
 - RC - Inspections
- [-] Permit - Inspections
 - FI761461, 09/03/2009



Excavation and Fill Determinations

FOOTNOTES TO TABLE III



For the purposes of the Permit Form

- Excavation is from natural grade down.
- Fill is from natural grade up.



STATE OF FLORIDA
DEPARTMENT OF HEALTH
ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM
CONSTRUCTION PERMIT

PERMIT NO. 10-1000-N
DATE PAID: 7/1/2010
FEE PAID: _____
RECEIPT #: _____

CONSTRUCTION PERMIT FOR:

New System Existing System Holding Tank Innovative
 Repair Abandonment Temporary _____

APPLICANT: Tom Smith

PROPERTY ADDRESS: 312 Cypress Ave., Geneva, FL 32765

LOT: 5 BLOCK: NA SUBDIVISION: Oviedo Oaks
[SECTION, TOWNSHIP, RANGE, PARCEL NUMBER]
PROPERTY ID #: 293031000782 [OR TAX ID NUMBER]

SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATIONS AND STANDARDS OF SECTION 381.0065, F.S., AND CHAPTER 64E-6, F.A.C. DEPARTMENT APPROVAL OF SYSTEM DOES NOT GUARANTEE SATISFACTORY PERFORMANCE FOR ANY SPECIFIC PERIOD OF TIME. ANY CHANGE IN MATERIAL FACTS, WHICH SERVED AS A BASIS FOR ISSUANCE OF THIS PERMIT, REQUIRE THE APPLICANT TO MODIFY THE PERMIT APPLICATION. SUCH MODIFICATIONS MAY RESULT IN THIS PERMIT BEING MADE NULL AND VOID. ISSUANCE OF THIS PERMIT DOES NOT EXEMPT THE APPLICANT FROM COMPLIANCE WITH OTHER FEDERAL, STATE, OR LOCAL PERMITTING REQUIRED FOR DEVELOPMENT OF THIS PROPERTY.

SYSTEM DESIGN AND SPECIFICATIONS

T [900] GALLONS / GPD SEPTIC TANK/AEROBIC UNIT CAPACITY MULTI-CHAMBERED/IN-SERIES [X]
A [] GALLONS / GPD CAPACITY MULTI-CHAMBERED/IN-SERIES []
N [] GALLONS GREASE INTERCEPTOR CAPACITY [MAXIMUM CAPACITY SINGLE TANK: 1250 GALLONS]
K [] GALLONS DOSING TANK CAPACITY [] GALLONS @ [] DOSES PER 24 HRS # PUMPS []

D [250] SQUARE FEET PRIMARY DRAINFIELD SYSTEM
R [] SQUARE FEET SYSTEM
A TYPE SYSTEM: [] STANDARD [] FILLED [x] MOUND []
I CONFIGURATION: [x] TRENCH [] BED []

F LOCATION OF BENCHMARK: Disc in CL of Road near SE property corner
I ELEVATION OF PROPOSED SYSTEM SITE [12.00] [INCHES/FT] [ABOVE/BELOW] BENCHMARK/REFERENCE POINT
E BOTTOM OF DRAINFIELD TO BE [30.00] [INCHES/FT] [ABOVE/BELOW] BENCHMARK/REFERENCE POINT

I **FILL REQUIRED: [36.00] INCHES EXCAVATION REQUIRED: [48.00] INCHES**

O The licensed contractor installing the system is responsible for installing the minimum
T category of tank in accordance with s. 54E-6.013(3)(f), FAC.
H _____
E _____
R _____

SPECIFICATIONS BY: Carroll Sweet TITLE: Environmental Specialist I

APPROVED BY: John Forest, RS TITLE: Environmental Manager Sunshine CHD

DATE ISSUED: 7/6/2010 EXPIRATION DATE: 1/2/2012



Effective Soil Depth



64E-6.006(1) “ The effective soil depth throughout the drainfield installed extends 42 inches or more below the bottom surface of the drainfield.”

Excavation



64E-6.008 Table III, Footnotes to Table III

3. “When all other site conditions are favorable, horizons or strata of moderately or severely limited soil may be replaced with slightly limited soil or soil of the same texture as the satisfactory slightly limited permeable layer lying below the replaced layer. The slightly limited permeable layer below the replaced layer shall be identified within the soil profile which was submitted as part of the permit application.”

Excavation



- Must be complete removal of moderately or severely limited soil layer being replaced.
- Must be satisfactory to a minimum depth of 54 inches beneath the bottom surface of the proposed drainfield.

Excavation

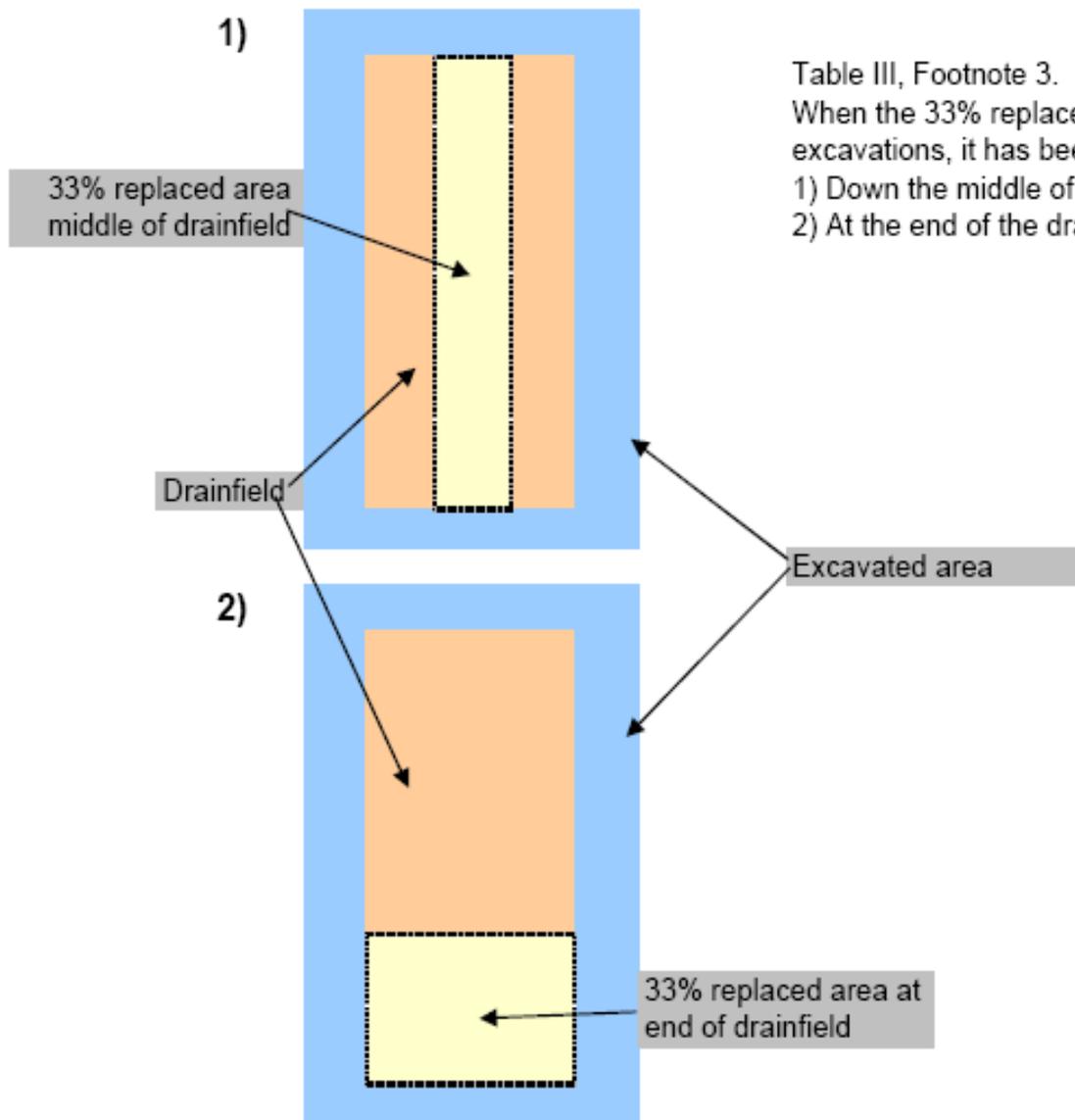


Table III, Footnote 3.
When the 33% replacement is conducted for excavations, it has been conducted it 2 ways:
1) Down the middle of the drainfield,
2) At the end of the drainfield

**When
replacing
moderately
limiting soils**

Excavation



- When removing severely limited soil textures, removal must be 100% down to slightly limiting soil textures.
- Slightly limited soil horizon below the moderately or severely limited soil horizons must be at least 6” in thickness.

Excavation



64E-6.008 Table III, Footnotes to Table III

4. Where coarse sand, gravel, or oolitic limestone directly underlies the drainfield area, the site shall be approved provided a minimum depth of 42 inches of the rapidly percolating soil beneath the bottom absorption surface of the drainfield and a minimum 12 inches of rapidly percolating soil contiguous to the drainfield sidewall absorption surfaces, is replaced with slightly limited soil material.

Excavation



What is not considered an excavation:

Removal of the “O” horizon. For the purposes of OSTDS regulations, this means the organic parts of original topsoil and vegetation, including leaf litter, roots, and grass.

Removing poor fill that is on the site above the original natural soil surface.



STATE OF FLORIDA
DEPARTMENT OF HEALTH
ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM
SITE EVALUATION AND SYSTEM SPECIFICATIONS

PERMIT #. 10-1000-N

APPLICANT: Tom Smith AGENT: Sunshine Septic Company

LOT: 5 BLOCK: NA SUBDIVISION: Oviedo Oaks

PROPERTY ID #: [Section/Township/Parcel No. or Tax ID Number]

TO BE COMPLETED BY ENGINEER, HEALTH DEPARTMENT EMPLOYEE, OR OTHER QUALIFIED PERSON. ENGINEERS MUST PROVIDE REGISTRATION NUMBER AND SIGN AND SEAL EACH PAGE OF SUBMITTAL. COMPLETE ALL ITEMS.

PROPERTY SIZE CONFORMS TO SITE PLAN: YES NO NET USABLE AREA AVAILABLE: 0.37 ACRES
TOTAL ESTIMATED SEWAGE FLOW: 200 GALLONS PER DAY [RESIDENCES-TABLE 1/OTHER-TABLE2]
AUTHORIZED SEWAGE FLOW: 554.41 GALLONS PER DAY [1500 GPD/ACRE OR 2500 GPD/ACRE]
UNOBSTRUCTED AREA AVAILABLE: 3375.00 SQFT UNOBSTRUCTED AREA REQUIRED: 375.00 SQFT

BENCHMARK/REFERENCE POINT LOCATION: disc on CL of RD near SE corner of property
ELEVATION OF PROPOSED SYSTEM SITE IS 12 [INCHES/FT] [ABOVE/BELOW] BENCHMARK/REFERENCE POINT

THE MINIMUM SETBACK WHICH CAN BE MAINTAINED FROM THE PROPOSED SYSTEM TO THE FOLLOWING FEATURES
SURFACE WATER: 80 FT DITCHES/SWALES: 35 FT NORMALLY WET? YES NO
WELLS: PUBLIC: NA FT LIMITED USE: NA FT PRIVATE: 85 FT NON-POTABLE: 73 FT
BUILDING FOUNDATIONS: 10 FT PROPERTY LINES: 17 FT POTABLE WATER LINES: 14 FT

SITE SUBJECT TO FREQUENT FLOODING: YES NO 10 YEAR FLOODING? YES NO
10 YEAR FLOOD ELEVATION FOR SITE: NA FT MSL/NGVD SITE ELEVATION: NA FT MSL/NGVD

SOIL PROFILE INFORMATION SITE 1

MUNSELL #/COLOR	TEXTURE	DEPTH
10YR 2/1 Blk	FS	0 TO 6
10YR 5/1, 7/1	FS	6 TO 12
10YR 7/2	FS	12 TO 32
10YR 3/1 Dk Br	FS spodic	32 TO 39
10YR 4/3 Br	FS spodic	39 TO 45
10YR 5/3 Br	FS	45 TO 72
		TO
		TO
		TO

USDA SOIL SERIES: similar to Myakka

SOIL PROFILE INFORMATION SITE 2

MUNSELL #/COLOR	TEXTURE	DEPTH
10YR 2/1 Blk	FS	0 TO 7
10YR 5/1, 7/1	FS	7 TO 12
10YR 7/2	FS	12 TO 18
10YR 2/1 Blk	FS spodic	18 TO 40
10YR 3/3 Dk Br	FS spodic	40 TO 48
10YR 5/4 YB	FS	48 TO 72
		TO
		TO
		TO

USDA SOIL SERIES: similar to Myakka

OBSERVED WATER TABLE: 16 INCHES [ABOVE / BELOW] EXISTING GRADE. TYPE: [PERCHED / APPARENT]
ESTIMATED WET SEASON WATER TABLE ELEVATION: 6 INCHES [ABOVE / BELOW] EXISTING GRADE
HIGH WATER TABLE VEGETATION: YES NO MOTTLING: YES NO DEPTH: 6 INCHES

SOIL TEXTURE/LOADING RATE FOR SYSTEM SIZING: FS/0.80 DEPTH OF EXCAVATION: 48 INCHES
DRAINFIELD CONFIGURATION: TRENCH BED OTHER (SPECIFY)

REMARKS/ADDITIONAL CRITERIA:
Soil profile #1 is 12" above RP, Soil profile #2 is 13" above RP.
Stripping at 6" below grade "10YR 7/1 in 5/1 matrix".

SITE EVALUATED BY: Carrall Sweet, ESI DATE: 7/2/2010

Site Evaluation Form 4015 (3 of 4)

Effective Soil Depth Criteria



In order to meet the effective soil depth criteria for our example the two alternatives are:

1-Excavation and Removal of the spodic horizon using Footnote 3, Table III, Chapter 64E-6,FAC

or

2-Elevation of the system to provide 42 inches of effective soil above the spodic horizon (or severely limited soil).

What would be the minimum depth of excavation required for our example?



Complete removal of the spodic horizon which extends to **48 inches below existing grade**, based on the soil profiles (worst case).

Remember the width of the replacement area shall be at least **two feet wider and longer than** the proposed **drain trench or absorption bed**.



STATE OF FLORIDA
DEPARTMENT OF HEALTH
ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM
SITE EVALUATION AND SYSTEM SPECIFICATIONS

PERMIT #. 10-1000-N

APPLICANT: Tom Smith AGENT: Sunshine Septic Company

LOT: 5 BLOCK: NA SUBDIVISION: Oviedo Oaks

PROPERTY ID #:[Section/Township/Parcel No. or Tax ID Number]

TO BE COMPLETED BY ENGINEER, HEALTH DEPARTMENT EMPLOYEE, OR OTHER QUALIFIED PERSON. ENGINEERS MUST PROVIDE REGISTRATION NUMBER AND SIGN AND SEAL EACH PAGE OF SUBMITTAL. COMPLETE ALL ITEMS.

PROPERTY SIZE CONFORMS TO SITE PLAN: YES NO NET USABLE AREA AVAILABLE: 0.37 ACRES
TOTAL ESTIMATED SEWAGE FLOW: 200 GALLONS PER DAY [RESIDENCES-TABLE 1/OTHER-TABLE2]
AUTHORIZED SEWAGE FLOW: 554.41 GALLONS PER DAY [1500 GPD/ACRE OR 2500 GPD/ACRE]
UNOBSTRUCTED AREA AVAILABLE: 3375.00 SQFT UNOBSTRUCTED AREA REQUIRED: 375.00 SQFT

BENCHMARK/REFERENCE POINT LOCATION: disc on CL of RD near SE corner of property
ELEVATION OF PROPOSED SYSTEM SITE IS 12 [INCHES/FT] [ABOVE/BELOW] BENCHMARK/REFERENCE POINT

THE MINIMUM SETBACK WHICH CAN BE MAINTAINED FROM THE PROPOSED SYSTEM TO THE FOLLOWING FEATURES
SURFACE WATER: 80 FT DITCHES/SWALES: 35 FT NORMALLY WET? YES NO
WELLS: PUBLIC: NA FT LIMITED USE: NA FT PRIVATE: 85 FT NON-POTABLE: 73 FT
BUILDING FOUNDATIONS: 10 FT PROPERTY LINES: 17 FT POTABLE WATER LINES: 14 FT

SITE SUBJECT TO FREQUENT FLOODING: YES NO 10 YEAR FLOODING? YES NO
10 YEAR FLOOD ELEVATION FOR SITE: NA FT MSL/NGVD SITE ELEVATION: NA FT MSL/NGVD

SOIL PROFILE INFORMATION SITE 1

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10YR 7/2	FS	12 TO 32
10YR 3/1 Dk Br	FS spodic	32 TO 39
10YR 4/3 Br	FS spodic	39 TO 45
10YR 5/3 Br	FS	45 TO 72
		TO
		TO
		TO
USDA SOIL SERIES: <u>similar to Myakka</u>		

SOIL PROFILE INFORMATION SITE 2

MUNSELL #/COLOR	TEXTURE	DEPTH
10YR 2/1 Blk	FS	0 TO 7
10YR 5/1, 7/1	FS	7 TO 12
10YR 7/2	FS	12 TO 18
10YR 2/1 Blk	FS spodic	18 TO 40
10YR 3/3 Dk Br	FS spodic	40 TO 48
10YR 5/4 YB	FS	48 TO 72
		TO
		TO
		TO
USDA SOIL SERIES: <u>similar to Myakka</u>		

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ESTIMATED WET SEASON WATER TABLE ELEVATION: 6 INCHES [ABOVE / BELOW] EXISTING GRADE
HIGH WATER TABLE VEGETATION: YES NO MOTTLING: YES NO DEPTH: 6 INCHES

SOIL TEXTURE/LOADING RATE FOR SYSTEM SIZING: FS/0.80 DEPTH OF EXCAVATION: 48 INCHES
DRAINFIELD CONFIGURATION: TRENCH BED OTHER (SPECIFY) _____
REMARKS/ADDITIONAL CRITERIA:

Soil profile #1 is 12" above RP, Soil profile #2 is 13" above RP.
Stripping at 6" below grade "10YR 7/1 in 5/1 matrix".

SITE EVALUATED BY: Carrall Sweet, ESI DATE: 7/2/2010



If Spodic Layer Is Not Removed



To meet the 42 inch effective soil depth, elevate the bottom of drainfield to **24 inches above grade** which equates to **36 inches above the benchmark/reference point.**

Fill



There are two things we call “fill”.

**Fill as the replacement material after an excavation
(must always be of slightly limited textures)**

**Fill used to construct the mound/filled systems
(can also be some specific moderately limited
textures)**

Fill



- How do we determine how much fill is required for our example?
- How much if we excavate?
- How much if we do not excavate?

6" ESHWT = 36" of fill

Same 6" ESHWT = 42" of fill



Soil Sizing Criteria

Soil Sizing Criteria



TABLE III
For Sizing of Drainfields Other Than Mounds

U.S. DEPARTMENT OF AGRICULTURE SOIL TEXTURE CLASSIFICATION	SOIL TEXTURE LIMITATION (PERCOLATION RATE)	MAXIMUM SEWAGE LOADING RATE TO TRENCH & BED ABSORPTION SURFACE IN GALLONS PER SQUARE FOOT PER DAY	
		TRENCH	BED
Sand; Coarse Sand not associated with a seasonal water table of less than 48 inches; and Loamy Coarse Sand	Slightly limited (Less than 2 Min/inch)	0.80	0.60
Loamy Sand; Sandy Loam; Coarse Sandy Loam; and Fine Sand	Slightly limited (2-4 min/inch)	0.80	0.60
Loam; Fine Sandy Loam; Silt Loam; Very Fine Sand; Very Fine Sandy Loam; Loamy Fine Sand; Loamy Very Fine Sand; and Sandy Clay Loam	Moderately limited (5-10 min/inch)	0.65	0.35
Clay Loam; Silty Clay Loam; Sandy Clay;	Moderately limited (Greater than 15	0.35	0.20

Soil Sizing Criteria



Silty Clay; and Silt

Min/inch but not exceeding 30 min/inch)

Clay;
Organic Soils;
Hardpan; and Bedrock

Severely limited
(Greater than 30
Min/inch)

Unsatisfactory for
standard subsurface
System

Coarse Sand with
an estimated wet season
High water table within
48 inches of the bottom
of the proposed
drainfield; Gravel or
Fractured Rock or
Oolitic Limestone

Severely limited
(Less than 1
Min/inch and a
Water table less
than 4 feet below
The drainfield)

Unsatisfactory for
standard subsurface
System

Soil Sizing Criteria

64E-6.009(3) Mounds



Fill Material	Maximum Sewage Loading Rate to <u>Mound</u> Drain Trench Bottom Surface in gallons per square foot per day	Maximum Sewage Loading Rate to <u>Mound</u> Absorption Bed Bottom Surface in gallons per square foot per day
Sand; Coarse Sand; and Loamy Coarse Sand	0.80	0.60
Fine Sand	0.80	0.60
Sandy Loam; Coarse Sandy Loam; and Loamy Sand	0.65	0.40
Fine Sandy Loam; Very Fine Sand; Loamy Fine Sand; and Loamy Very Fine Sand	0.35	0.25

**How do you size a system if there was an excavation and replacement material?
(64E-6.008 Footnotes to Table III, 3)**



Maximum sewage loading rates for standard subsurface systems installed in replacement areas shall be **0.80** gallons per square foot per day for trench systems and **0.60** gallons per square foot per day for absorption beds in slightly limited soil textures.

64E-6.008, Footnote to Table III and 64E-6.009(3)



- Where more than one soil texture classification is encountered within a soil profile and it is not removed as part of a replacement, drainfield sizing for standard subsurface drainfield systems and fill drainfield systems shall be based on the most restrictive soil texture encountered within 24 inches of the bottom of the drainfield absorption surface.
- Where moderately limited soils underlie the mound within 36 inches of the bottom of the drainfield, drainfield sizing shall be based on the most restrictive soil texture existing in the profile to a depth of 36 inches below the bottom of the drainfield, using Table III for soil loading rates.

NOTE: If you cannot perform a soil boring to the required 72” depth, you can only size the system based on the information you know within the profile.



Frequent Flooding Determination

Frequent Flooding Determination



64E-6.002(25) Flooding -- a covering of soil surface by water from any source, such as streams overflowing their banks, runoff from adjacent or surrounding slopes, elevation of the ground water table exceeding that of the soil surface, or combinations of these. Terms also associated with flooding and used elsewhere in this chapter are:

- (a) Frequent – flooding which occurs more than once every two years on the average;
- (b) Ten year flood elevation – that flood elevation which has a 10 in 100 probability of being equaled or exceeded in any calendar year.

Frequent Flooding Determinations



64E-6.002(46) Regulatory floodway – means the channel of a river or other water course and adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

(Suwannee and Aucilla)

Frequent Flooding Determination



How do you know if the lot is subject to frequent flooding?

(FEMA FLOOD MAPS)

Flood Zone Designations



FEMA website to look up flood information
(www.FloodSmart.Gov)

Flood Zone Designations



B and **X** (shaded)-Area of moderate flood hazard.

C and **X** (unshaded)- Area of minimal flood hazard.

A- High Risk Area

AE-High Risk Area

Frequent Flooding Determination



64E-6.006(6) The existing lot elevation at the site of the proposed system installation and any contiguous land referred to in subsection 64E-6.005(4), F.A.C., shall not be subject to frequent flooding. Except for areas affected by Section 381.0065(4)(t), F.S., fill material, if permitted, shall be placed in the area for the system and contiguous unobstructed area to raise the lot elevation above the 2 year flood.



Surface Water Boundaries

Surface Water Boundaries Mean Annual Flood Line (MAFL) and Mean High Water Line (MHWL)



In **1999** the Legislation amended s. 381.0065, F.S.; defining

"mean annual flood line" (MAFL)

"permanent nontidal surface water body"

"tidally influenced surface water body"

DOH shall not make the issuance of permits contingent on DEP approval

The reason was because of consistency between the CHDs

MEAN ANNUAL FLOOD LINE (MAFL)
s. 381.0065(2)(i), FS



**Boundary of Permanent Non Tidal
Surface Water Bodies**

Permanent nontidal surface water body (PNSWB) s. 381.0065(2)(k), FS



- PERENNIAL / INTERMITTENT STREAM
- PERENNIAL RIVER
- PERENNIAL LAKE
- SUBMERGED MARSH OR SWAMP
- SUBMERGED WOODED MARSH OR SWAMP
- SPRINGS
- SEEPS

PNSWB



Must be identified on the most recent quadrangle map, **7.5 minute series** (topographic), produced by the United States Geological Survey.

NOTE that the quad sheets cannot be used to determine the mean annual flood line. The MAFL may encompass areas that are actually distant from the PNSWB identified on the quad sheet.

QUAD SHEETS



All CHD's should have the most recent quad sheets at this time. Additionally they should have the pamphlet on "Topographic Map Symbols" which is the legend for identification of features on the quad sheet.



Datasets

[Advanced Search Options](#) [Find Products](#)

Map

US Topo

Show Availability

Product Search Filter

All Subcategories

US Topo Current

US Topo Non-Current

Data Extent
7.5 x 7.5 minute

File Format
GeoPDF/Geospatial PDF

[Availability Legend](#)

Historical Topographic Maps

Product Search Filter

Data Extent

- 7.5 x 7.5 minute (1:24,000/1:25,000/1:31,680)
- 7.5 x 15 minute
- 30 x 60 minute (1:100,000)
- 30 x 30 minute (1:125,000)
- 3.75 x 3.75 minute
- 2 x 1 degree
- 15 x 15 minute (1:48,000/1:62,500/1:63,360)
- 1 x 4 degree
- 1 x 3 degree
- 1 x 2 degree (1:250,000)
- 1 x 1 degree

File Format

- GeoPDF
- GeoTIFF

Use Map Box/Point Current Extent Coordinates Located Point Polygon

Map Indices 1 Degree 15 Minute 7.5 Minute All **Zoom in to make 7.5 min indices visible**

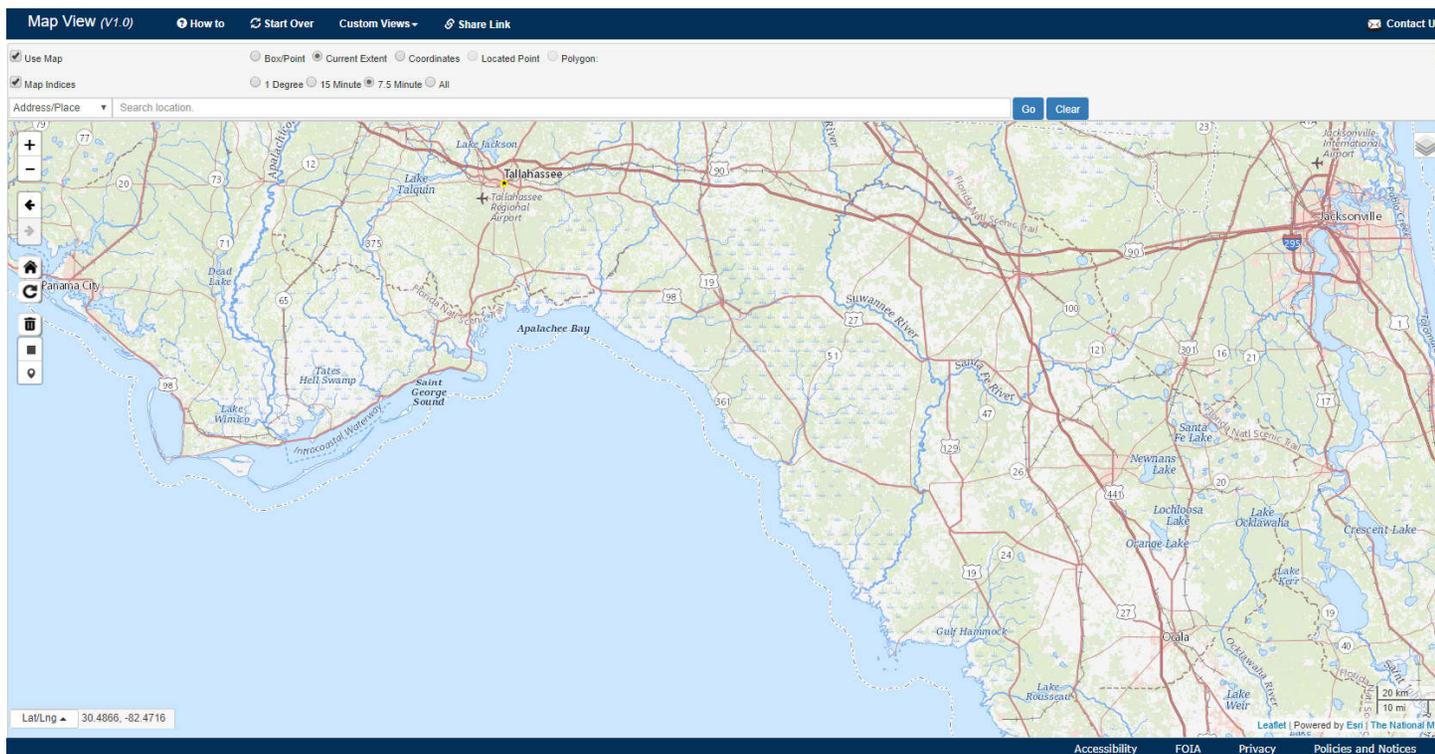
Address/Place Search location: [Go](#) [Clear](#)

Lat/Lng 30.8173, -82.8918

Leaflet | Powered by Esri | The National Map



<https://viewer.nationalmap.gov/basic/?basemap=b1&category=histtopo,ustopo&title=Map%20View>



7.5 minute Topographic Quad Sheet

The legend for the Quad Sheets



USGS
science for a changing world

Topographic Map Symbols

What is a Topographic Map?

A map is a representation of the Earth, or part of it. The distinctive characteristic of a topographic map is that the shape of the Earth's surface is shown by contour lines. Contours are imaginary lines that join points of equal elevation on the surface of the land above or below a reference surface, such as mean sea level. Contours make it possible to measure the height of mountains, depths of the ocean bottom, and steepness of slopes.

A topographic map shows more than contours. The map includes symbols that represent such features as streets, buildings, streams, and vegetation. These symbols are constantly refined to better relate to the features they represent, improve the appearance or readability of the map, or reduce production cost.

Consequently, within the same series, maps may have slightly different symbols for the same feature. Examples of symbols that have changed include built-up areas, roads, intermittent drainage, and some lettering styles. On one type of large-scale topographic map, called provisional, some symbols and lettering are hand-drawn.

U.S. Department of the Interior
U.S. Geological Survey

Topographic Map Symbols

Reading Topographic Maps

Interpreting the colored lines, areas, and other symbols is the first step in using topographic maps. Features are shown as points, lines, or areas, depending on their size and extent. For example, individual houses may be shown as small black squares. For larger buildings, the actual shapes are mapped. In densely built-up areas, most individual buildings are omitted and an area tint is shown. On some maps, post offices, churches, city halls, and other landmark buildings are shown within the tinted area.

The first features usually noticed on a topographic map are the area features, such as vegetation (green), water (blue), and densely built-up areas (gray or red).

Many features are shown by lines that may be straight, curved, solid, dashed, dotted, or in any combination. The colors of the lines usually indicate similar classes of information: topographic contours (brown); lakes, streams, irrigation ditches, and other hydrographic features (blue); land grids and important roads (red); and other roads and trails, railroads, boundaries, and other cultural features (black). At one time, purple was used as a revision color to show all feature changes. Currently, purple is still used in our revision program, but purple features are still present on many existing maps.

Various point symbols are used to depict features such as buildings, campgrounds, springs, water tanks, mines, survey control points, and wells. Names of places and features are shown in a color corresponding to the type of feature. Many features are identified by labels, such as "Substation" or "Golf Course."

Topographic contours are shown in brown by lines of different widths. Each contour is a line of equal elevation; therefore, contours never cross. They show the general shape of the terrain. To help the user determine elevations, index contours are wider. Elevation values are printed in several places along these lines. The narrower intermediate and supplementary contours found between the index contours help to show more details of the land surface shape. Contours that are very close together represent steep slopes. Widely spaced contours or an absence of contours means that the ground slope is relatively level. The elevation difference between adjacent contour lines, called the contour interval, is selected to best show the general shape of the terrain. A map of a relatively flat area may have a contour interval of 10 feet or less. Maps in mountainous areas may have contour intervals of 100 feet or more. The contour interval is printed in the margin of each U.S. Geological Survey (USGS) map.

Bathymetric contours are shown in blue or black, depending on their location. They show the shape and slope of the ocean bottom surface. The bathymetric contour interval may vary on each map and is explained in the map margin.

COASTAL FEATURES	
Foreshore flat	
Rock or coral reef	
Rock bare or awash	
Group of rocks bare or awash	
Exposed wreck	
Depth curve; sounding	
Breakwater, pier, jetty, or wharf	
Seawall	
BATHYMETRIC FEATURES	
Area exposed at mean low tide; sounding datum	
Channel	
Offshore oil or gas well; platform	
Sunken rock	
RIVERS, LAKES, AND CANALS	
Intermittent stream	
Intermittent river	
Disappearing stream	
Perennial stream	
Perennial river	
Small falls; small rapids	
Large falls; large rapids	
Masonry dam	
Dam with lock	
Dam carrying road	
Perennial lake; Intermittent lake or pond	
Dry lake	
Narrow wash	
Wide wash	
Canal, flume, or aqueduct with lock	
Elevated aqueduct, flume, or conduit	
Aqueduct tunnel	
Well or spring; spring or seep	
SUBMERGED AREAS AND BOGS	
Marsh or swamp	
Submerged marsh or swamp	
Wooded marsh or swamp	
Submerged wooded marsh or swamp	
Rice field	
Land subject to inundation	

BUILDINGS AND RELATED FEATURES	
Building	
School; church	
Built-up Area	
Racetrack	
Airport	
Landing strip	
Well (other than water); windmill	
Tanks	
Covered reservoir	
Gaging station	
Landmark object (feature as labeled)	
Campground; picnic area	
Cemetery; small; large	
ROADS AND RELATED FEATURES	
Roads on Provisional edition maps are not classified as primary, secondary, or light duty. They are all symbolized as light duty roads.	
Primary highway	
Secondary highway	
Light duty road	
Unimproved road	
Trail	
Dual highway	
Dual highway with median strip	
Road under construction	
Underpass; overpass	
Bridge	
Drawbridge	
Tunnel	
RAILROADS AND RELATED FEATURES	
Standard gauge single track; station	
Standard gauge multiple track	
Abandoned	
Under construction	
Narrow gauge single track	
Narrow gauge multiple track	
Railroad in street	
Juxtaposition	
Roundhouse and turntable	
TRANSMISSION LINES AND PIPELINES	
Power transmission line: pole; tower	
Telephone line	
Aboveground oil or gas pipeline	
Underground oil or gas pipeline	

[https://prd-wret.s3-us-west-](https://prd-wret.s3-us-west-2.amazonaws.com/assets/palladium/production/atoms/files/Topographic%20Map%20Symbols_96.pdf)

[2.amazonaws.com/assets/palladium/production/atoms/files/Topographic%20Map%20Symbols_96](https://prd-wret.s3-us-west-2.amazonaws.com/assets/palladium/production/atoms/files/Topographic%20Map%20Symbols_96.pdf)

pdf

QUAD MAPS



Web soil survey now allows you to look at the area of interest with an overlay of the topographic maps.

PNSWB
s. 381.0065(2)(k), FS



It also means:

an artificial surface water body that does not have an impermeable bottom and side and that is designed to hold, or does hold, visible standing water for at least 180 days of the year.

Impermeable - a condition where the maximum hydraulic conductivity is less than or equal to 1×10^{-7} cm/s

This Means:



Creeks, pond, gully, etc. could fit where the 180 day criteria is met on an annual basis, based on the artificial surface water body definition.

MEAN ANNUAL FLOOD LINE (MAFL) s. 381.0065(2)(i), FS



- 10 years of recorded data
- Field verify using one or more of the 7 indicators
- Combination of both

The 7 Indicators

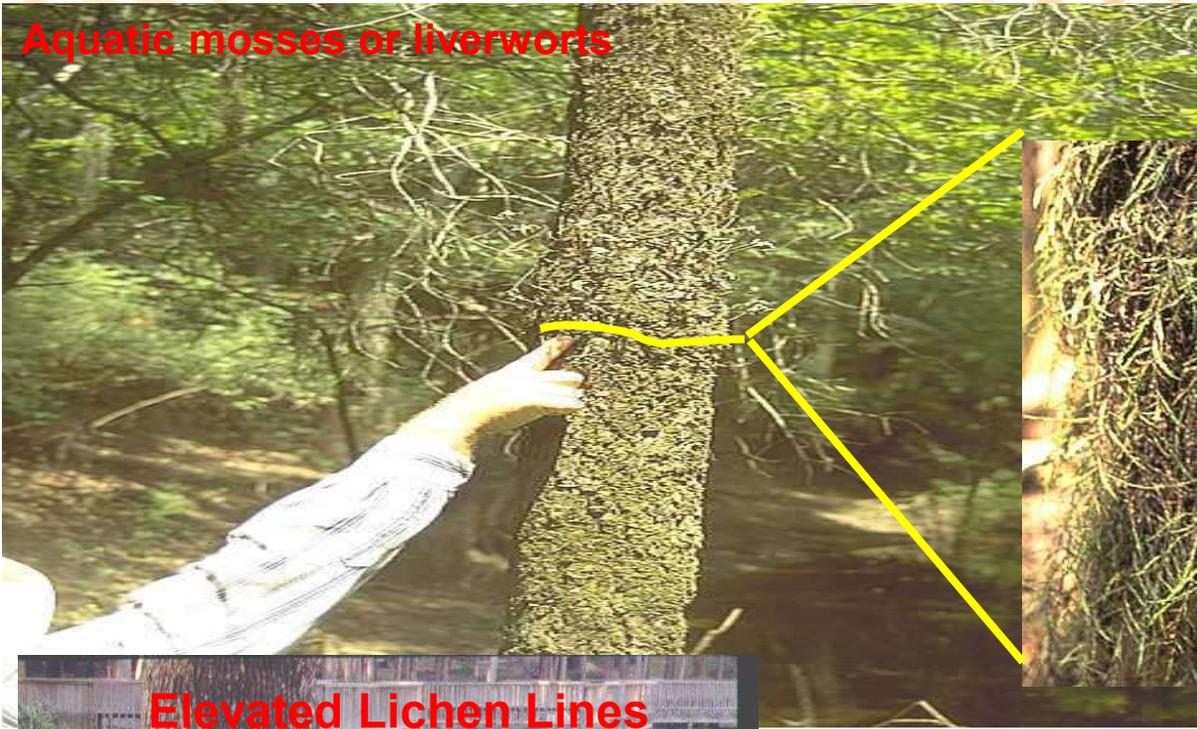


1. Water stains
2. Hydric adventitious roots
3. Drift lines
4. Rafted debris
5. Aquatic mosses and liverworts
6. Moss collars
7. Lichen lines



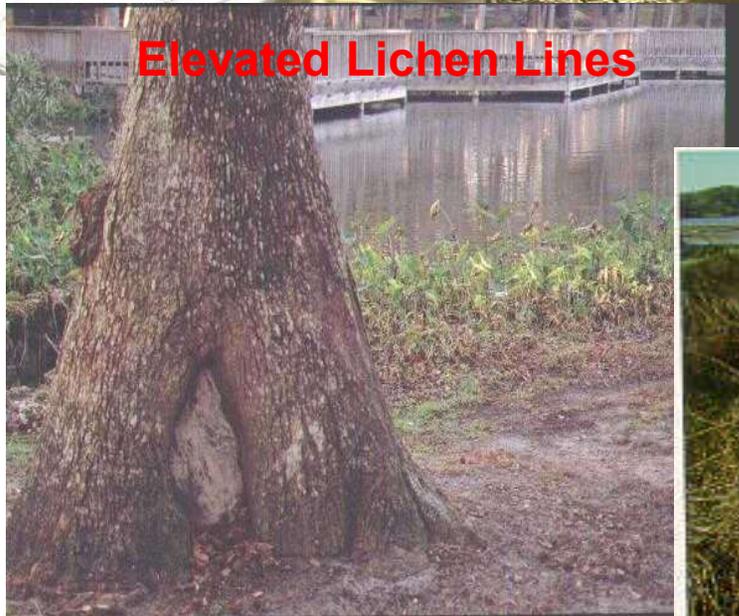
Aquatic mosses or liverworts

enlargement



Aquatic moss
Fontinalis sp.

Elevated Lichen Lines



Drift Lines



Drift line in a salt marsh, Choctawhatchee Bay



Rafted Debris



Moss Collars



Water Stains



Hydric adventitious roots

MEAN ANNUAL FLOOD LINE

s. 381.0065(2)(i), FS



Who can determine the MAFL?

- A certified professional surveyor and mapper with experience in the determination of flood water elevation lines

OR

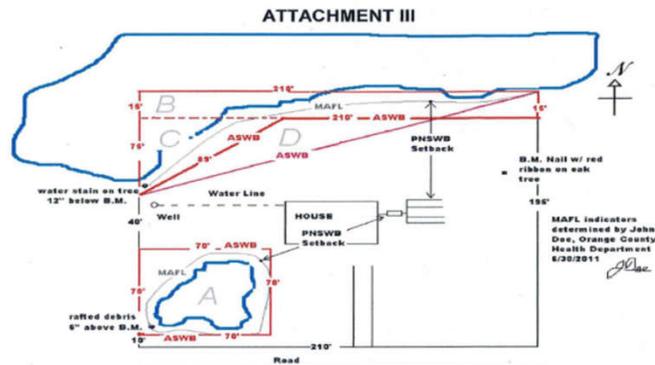
- Department personnel (this is at the option of the applicant)

MAFL Alternate Surface Water Boundary Delineation Procedure (ASWB)



- Applicant makes request for CHD determination in writing (see attachment in Memorandum HSES 11-006)
- If done in conjunction with CHD site evaluation, no additional fees charged.
- Applicant must mark property lines
- CHD will field verify the MAFL and clearly mark the indicator and document their determination.
- The highest indicator will be used to set the ASWB line by using basic geometric shapes whose areas can easily be calculated.
- This area will be subtracted from the total lot size to determine the net usable area and authorized sewage flow.
- If this determination means that the authorized sewage flow will be exceeded the CHD would inform the applicant that they must obtain the services of a certified professional surveyor or mapper to determine the area.
- If the applicant declines obtaining the services of a certified professional surveyor or mapper, the CHD would deny the permit based on the CHD determination.

Note that setbacks will be from the actual MAFL indicator that creates the shortest distance and not from the ASWB.

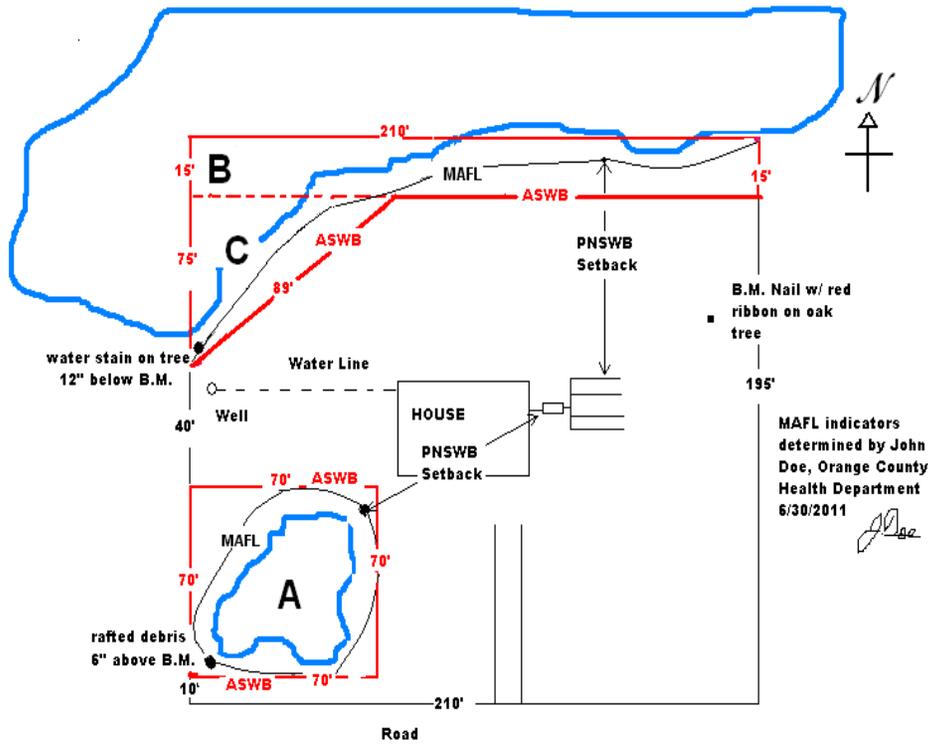


Current regulations require a 75 foot setback from the surface water body boundary. Rule 64E-6.015, Table V, provides repair system setback requirements. Lots platted prior to 1972 are subject to a minimum 50 foot setback.

	ASWB	ASWB
Total Area of The Lot	210' x 210' = 44100 sq ft	210' x 210' = 44100 sq ft
Area "A": Small pond in SW corner of lot	70' x 70' = 4900 sq ft	70' x 70' = 4900 sq ft
Area "B": Rear 15' of the northern boundary of the lot	210' x 15' = 3150 sq ft	
Area "C": Triangular area at the western boundary of the lot that begins at the water stain indicator and runs 75' north to within 15' of the northern property line and 89' northeast of the indicator.	$75^2 + b^2 = 89^2$ $5625 + b^2 = 7921$ $b^2 = 2296$ $b = 48$ $1/2(75)(48) = 1800$ sq ft	
Area "D": Large triangular area which begins at the water stain indicator and extends north to the northwest property corner and northeast to the northeast corner of the property.		$1/2(210')(90') = 9450$ sq ft (delineated in pink)
Total ASWB Area	3150 sq ft 4900 sq ft + 1800 sq ft <hr/> 9850 sq ft	9450 sq ft + 4900 sq ft <hr/> 14350 sq ft
Net Usable Area	44100 sq ft - 9850 sq ft <hr/> 34250 sq ft .786 Acre	44100 sq ft - 14350 sq ft <hr/> 29750 sq ft .683 Acre
Authorized Sewage Flow	1500 gpd/Acre x .786 Acre <hr/> 1179 gpd	1500 gpd/Acre x .683 Acre <hr/> 1024 gpd

Memo HSES 11-006 ASWB

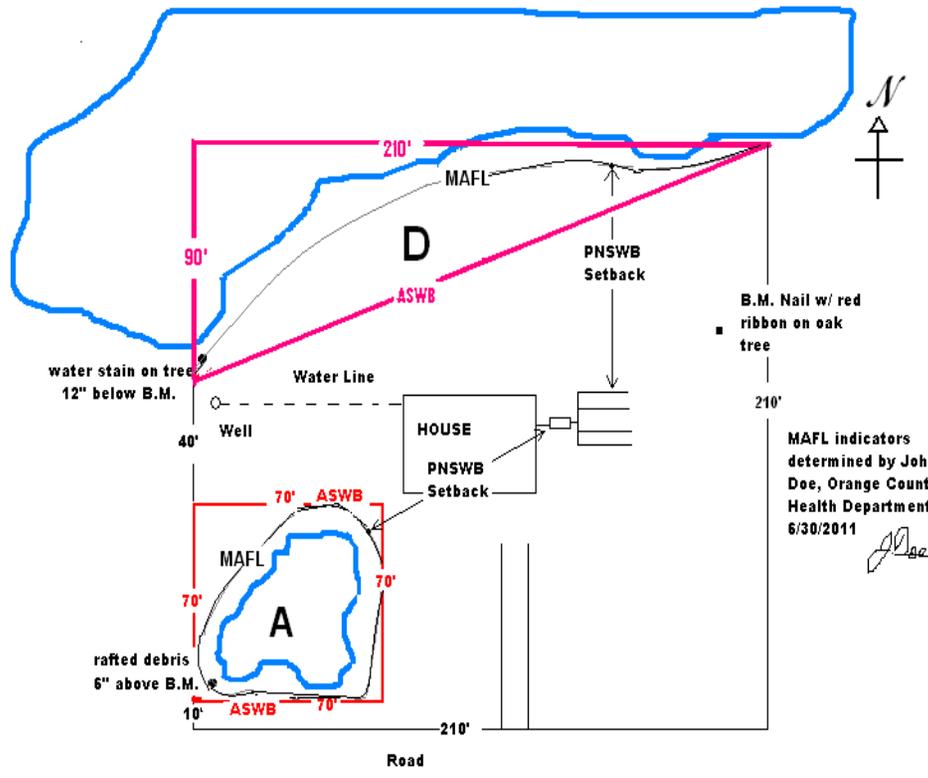
ASWB-Example 1



MAFL indicators determined by John Doe, Orange County Health Department 6/30/2011

	ASWB
Total Area of The Lot (L x W)	210' x 210' = 44100 sq ft
Area "A": Small pond in SW corner of lot (L x W)	70' x 70' = 4900 sq ft
Area "B": Rear 15' of the northern boundary of the lot (L x W)	210' x 15' = 3150 sq ft
Area "C": Triangular area at the western boundary of the lot that begins at the water stain indicator and runs 75' north to within 15' of the northern property line and 89' northeast of the indicator. (a² + b² = c²) and (½ b x h)	$75^2 + b^2 = 89^2$ $5625 + b^2 = 7921$ $b^2 = 2296$ $b = 48$ $\frac{1}{2} (75)(48) = 1800$ sq ft
Total ASWB Area	4900 sq ft 3150 sq ft + 1800 sq ft ----- 9850 sq ft
Net Usable Area	44100 sq ft - 9850 sq ft ----- 34250 sq ft / 43560 sq ft 0.786 Acre
Authorized Sewage Flow	1500 gpd/Acre x 0.786 Acre ----- 1179 gpd

ASWB- Example 2



	<u>ASWB</u>
Total Area of The Lot (L x W)	210' x 210' = 44100 sq ft
Area "A": Small pond in SW corner of lot (L x W)	70' x 70' = 4900 sq ft
Area "D": Large triangular area which begins at the water stain indicator and extends north to the northwest property corner and northeast to the northeast corner of the property. (1/2 b x h)	1/2 (210')(90') = 9450 sq ft (delineated in pink)
Total ASWB Area	9450 sq ft + 4900 sq ft ----- 14350 sq ft
Net Usable Area	44100 sq ft - 14350 sq ft ----- 29750 sq ft / 43560 sq ft = 0.683 Acre
Authorized Sewage Flow	1500 gpd/Acre x 0.683 Acre ----- 1024 gpd

Mean High Water Line MHWL



Governed by Chapter 177, Florida Statutes

Boundary of tidally influenced surface water bodies,
defined in s. 177.27(15)

Tidally influenced surface water body

s. 381.0065(2)(o), FS



Means a body of water that is subject to the ebb and flow of the tides

Tidally influenced surface water body
s. 381.0065(2)(o), FS



Who can determine the MHWL?

- Professional Surveyor or Mapper
- Representative of U.S. Government (when approved by DEP to perform this determination)

Mean High Water Line



Safe Uplands Line

More restrictive alternative to determining the MHWL.

A surveyor is still required.

Determined by adding 0.5ft to the nearest tidal datum point (within $\frac{1}{2}$ mile radius of the established safe uplands line).

Mean High Water Line



Sea Wall or Canal Wall

Top of wall can be used as more restrictive alternative to MHWL

Elevation of top of wall established by surveyor or mapper must be higher than the tidal datum point within $\frac{1}{2}$ mile of the wall otherwise MHWL must be established by surveyor or mapper.

Mean High Water Line



- DEP maintains information on MHWLs
- DEP also allows mathematical calculations, but a letter from DEP is necessary to validate.

More information can be found in LABINS or by calling or emailing Mr. Lamar Evers at 850-245-2606, lamar.evers@dep.state.fl.us

See interoffice memorandum 11-006 for more detail.



Jurisdictional Areas

Permitting Coordination in Jurisdictional Areas



- Memo 00-014 and 11-006 describes some instances where other agencies may have jurisdiction.
- They also establish a uniform policy for implementing 64E-6.006(2) and (6), FAC.

Permitting Coordination in Jurisdictional Areas



- For permit applications where the wet season water table is determined to be at or above the elevation of existing ground surface, the permit shall be issued requiring sufficient fill to provide a 24 inch separation from the bottom of the drainfield to the wet season water table elevation.
- For permit applications where the proposed system site is subject to frequent flooding, the permit shall be issued requiring sufficient fill be placed in the area of the system and contiguous unobstructed area to raise the lot elevation above the 2 year flood elevation.
- Where the wet season water table is not at or above the elevation of the existing ground surface, but the area may be under the regulatory authority of another agency, the permit shall be issued under current rule specifications.

Permitting Coordination in Jurisdictional Areas



- The applicant shall be notified of the jurisdictional issues in writing.
- The appropriate regulatory agencies shall be notified of the permit issuance by copy of the letter to the applicant. In these cases, it is not appropriate to “hold” an application pending action by another regulatory agency.

Permitting Coordination in Jurisdictional Areas



Dear Applicant:

The above referenced permit has been issued on property that may contain areas under the regulatory authority of the Florida Department of Environmental Protection, U.S. Corps of Engineers, or a local permitting agency, such as your county building department or local environmental program. The above referenced permit does not authorize you either to excavate or to place fill in a jurisdictional area. If applicable, you must obtain the necessary permit from the appropriate regulatory agency.

By copy of this letter, we are advising the appropriate regulatory agencies and the local building department that we have issued a construction permit for an onsite sewage treatment and disposal system on a site that may be under their regulatory authority.

If you have any questions on this matter please call our office at 999-9999.

Sincerely,

Environmental Health Director

Copy to:
Florida Department of Environmental Protection (appropriate district)
U.S. Corps of Engineers
XXXXXX Building Department

**This letter is
available
through the
EHD**

Questions?

