ENVIRONMENTAL HEALTH PREPAREDNESS GUIDE FOR ONSITE SEWAGE TREATMENT SYSTEMS

State of Florida
Department of Health
Division of Disease Control and Health Protection
Bureau of Environmental Health- Preparedness

If you have any comments or suggestions on how to improve this toolkit, please contact:

Onsite Sewage Program
Bureau of Environmental Health
Division of Disease Control and Health Protection
AskEH@flhealth.gov
850-245-4250

Nancy Leiva-Krause
Environmental Health Preparedness Planner
Division of Disease Control and Health Protection
Nancy.Leiva.Krause@flhealth.gov

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ENVIRONMENTAL HEALTH PREPAREDNESS TOOLKIT FOR ONSITE SEWAGE TREATMENT SYSTEMS

PURPOSE

The information in this toolkit is intended to serve as a resource toolkit for owners of onsite sewage treatment systems, also known as septic systems. When a failure produces poorly treated sewage on the surface of the ground, backing up into houses, or into surface water bodies, the public's health and the environment are placed at risk. This toolkit is intended to provide owners of septic systems with checklists and fact sheets that serve as guidance documents in order to reduce their risk to health and safety when faced with a disaster affecting failing onsite sewage systems.

INTRODUCTION

State of Florida regulations refer to a septic system as an Onsite Sewage Treatment and Disposal System (OSTDS). The Florida Department of Health - Onsite Sewage Program has responsibility for regulating OSTDS which treat a good portion of our state's domestic wastewater. However, the majority of the state's domestic wastewater is treated by larger centralized treatment facilities, which are the regulatory responsibility of the Department of Environmental Protection (DEP).

In Florida, the Bureau of Environmental Health, Onsite Sewage Programs in the Florida Department of Health (DOH) and the environmental health section of the County Health Departments regulate the use of OSTDS'. However, DOH does not permit the use of an OSTDS where:

- the estimated domestic sewage flow from the establishment is over 10,000 gallons per day (gpd) or
- the commercial sewage flow is over 5,000 gpd; or
- where there is a likelihood that the system will receive toxic, hazardous or industrial wastes; or where a sewer system is available; or
- if any system or flow from the establishment is currently regulated by DEP, unless a variance from these prohibitions has been granted by DOH.

In 1983, DEP entered into an Interagency Agreement with DOH to coordinate the regulation of onsite sewage systems, septage and residuals, and marina pumpout facilities. This agreement sets up procedures for addressing interagency issues including jurisdiction. For purposes of the Agreement, "Domestic Wastewater" includes waste from homes, portable toilets, holding tanks, boats and marinas and even wastewater from certain commercial and industrial establishments. "Commercial Wastewater" is similar to domestic, only stronger, such as wastewater from food service operations (e.g., restaurants, school cafeterias, etc.), commercial laundries with no more than four washing machines, animal holding facilities (e.g., commercial kennels, veterinary hospitals, and animal grooming facilities), and beauty salons.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) FACILITIES

I. WASTEWATER FACILITIES

Wastewater incidents, which include wastewater spills, can pose a threat to the environment and the public health. Immediate notification and appropriate response are essential factors at minimizing the impact from wastewater incidents.

Spills which are of 1,000 gallons or greater, or which may threaten the environment or public heath are required to be immediately reported by a utility to DEP through a toll-free, 24-hour hotline known as the State Watch Office. Citizens are also encouraged to report any suspected wastewater incidents to the toll-free number.

II. INJECTION WELLS

What are Injection Wells?

An injection well is any bored, drilled or driven shaft, or dug hole whose depth is greater than its largest surface dimension; an improved sinkhole; or a subsurface distribution system used to discharge fluids underground. These wells range from deep, highly technical, and more frequently monitored wells to shallow on-site drainage systems, such as septic systems, cesspools, and storm water drainage wells.

In Florida, the Department of Environmental Protection's Aquifer Protection program (Chapter 62-528, F.A.C.) implements the Underground Injection Control (UIC) regulations to prevent degradation of the quality of other aquifers adjacent to the injection zone. Subsurface injection, the practice of emplacing fluids in a permeable underground aquifer by gravity flow or under pressure through an injection well, is one of a variety of wastewater disposal or reuse methods used in Florida.

III. VACUUM/PUMP STATIONS

In areas with high water tables, stations are designed to withstand flotation forces when empty. When siting the station, the design considers the potential for damage or interruption of operation because of flooding. Station structures and electrical and mechanical equipment are designed to be protected from physical damage by the 100-year flood.

Stations are designed with an alarm system which activates in cases of power failure, pump failure, unauthorized entry, or any cause of pump station malfunction. Station alarms are designed to be telemetered to a facility that is manned 24 hours a day. If such a facility is not available, the alarm is designed to be telemetered to utility offices during normal working hours and to the home of the responsible person(s) in charge of the lift station during off-duty hours. Note, if an audio-visual alarm system with a self-contained power supply is provided in lieu of a telemetered system, documentation is provided showing an equivalent level of reliability and public health protection.

DEP’s district office map and contact information can be found at
http://www.dep.state.fl.us/secretary/dist/default.htm

Report incidents by calling DEP State Watch Office # at 1-800-320-0519.

ATTACHMENT A- ONSITE SEWAGE TREATMENT DISPOSAL SYSTEM PRE-HURRICANE CHECKLIST

Hurricane season begins June 1st and ends November 30th each year. As part of the pre-hurricane preparations, this checklist should be included with your important documents in your disaster preparedness supply kit. It can be filled out prior to hurricane season and have it ready in case you have to evacuate and later need access to your onsite sewage system's information.

GENERAL OWNER INFORMATION

PROPERTY OWNER: _____
ADDRESS OF OWNER: _____
CITY: _____ STATE: _____ ZIPCODE: _____
HOME PHONE: _____ CELL PHONE: _____

PROPERTY STREET ADDRESS (IF DIFFERENT FROM ABOVE):

_____
CITY: _____ STATE: _____ ZIPCODE: _____
SECTION: _____ TOWNSHIP: _____
RANGE: _____ PARCEL: _____ LOT: _____
BLOCK; _____ SUBDIVISION: _____

ONSITE SYSTEM INFORMATION

Please complete as much as possible those items shown below which are applicable to the existing permitted onsite sewage disposal system serving the above referenced property. Make sure you include this document in your important document papers of your disaster supply kit.

RESIDENTIAL SYSTEM _____ BUSINESS/COMMERCIAL/INDUSTRIAL _____

A. RESIDENTIAL:

ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM CONSTRUCTION PERMIT NUMBER (IF KNOWN): _____
SEPTIC TANK _____ GALLONS
AEROBIC UNIT _____ GALLONS TYPE OF ATU _____
GREASE TRAP(S) _____ GALLONS
DOSING TANK _____ GALLONS
DRAINFIELD SIZE: _____ SQUARE FEET
DRAINFIELD INSTALLED IN A (SELECT ONE):
- STANDARD SUBSURFACE SYSTEM _____
- FILLED SYSTEM _____
- MOUND SYSTEM _____

DRAINFIELD LAYOUT (SELECT ONE)
- TRENCHES _____
- ABSORPTION BED _____
- OTHER (DESCRIBE) _____

NUMBER OF DWELLINGS BEING SERVED BY THIS SYSTEM _____
IS THERE AN ONSITE WELL? YES _____ NO _____
SYSTEM SETBACK TO POTABLE DRINKING WELL: _____ FEET
LOT SIZE _____ SQUARE FEET

B. BUSINESS/COMMERCIAL/INDUSTRIAL

ZONING DESIGNATION FOR THE PROPERTY _____

DESCRIPTION OF ZONING AND EXAMPLES OF APPROVED BUSINESSES IN THIS ZONING _____

_____

_____

Briefly describe the type of activities that are supported by the onsite sewage system serving this property.

_____

_____

Please provide the following information regarding your business facilities and the activities which will take place on site.

BUSINESS NAME _____

OCCUPATIONAL LICENSE # _____

BUSINESS OWNER'S NAME _____

BUSINESS MAILING ADDRESS _____

_____

BUSINESS TELEPHONE # _____

STREET ADDRESS OF BUSINESS _____

ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM CONSTRUCTION PERMIT NUMBER (IF KNOWN): _____

SEPTIC TANK _____ GALLONS

AEROBIC UNIT _____ GALLONS TYPE OF ATU _____

GREASE TRAP(S) _____ GALLONS

DOSING TANK _____ GALLONS

DRAINFIELD SIZE: _____ SQUARE FEET

DRAINFIELD INSTALLED IN A (SELECT ONE):

- STANDARD SUBSURFACE SYSTEM _____
- FILLED SYSTEM _____
- MOUND SYSTEM _____

DRAINFIELD LAYOUT (SELECT ONE)

- TRENCHES _____
- ABSORPTION BED _____
- OTHER (DESCRIBE) _____

NUMBER OF DWELLINGS BEING SERVED BY THIS SYSTEM _____

IS THERE AN ONSITE WELL? YES _____ NO _____

SYSTEM SETBACK TO POTABLE DRINKING WELL: _____ FEET

LOT SIZE _____ SQUARE FEET

Please list licensed waste haulers removing wastes from your site.

Company Name	Type of Waste Removed
_____	_____
_____	_____
_____	_____
_____	_____

List any chemical compounds routinely used in your business: Attach Material Safety Data Sheets for Compounds Used or Stored

NAME	GALS OR LBS/MONTH	AMOUNT ON HAND	STORAGE METHOD	DISPOSAL METHOD	SIC CODE

As part of disaster preparations, does your business have an emergency disaster plan to address how emergencies, such as spills, overflows, contamination, will be handled at this site?
YES _____ NO _____
** If YES, attach copy of emergency plan to this checklist

In case of a disaster, such as hurricane, tornado, tropical storm, etc., does your business have an agreement with a licensed waste hauler in a neighboring county to remove waste in case your local and/or established waste hauler is unable to fulfill his commitment with your business?
YES _____ NO _____
If Yes, Business Name _____
Telephone # _____ County _____
State of FL Contractor Registration # _____
Plumbing License # _____
TYPE OF WASTE:
SEPTAGE* _____
OTHER WASTE** _____ DESCRIBE _____
_____
_____

DISPOSAL METHOD:
Wastewater Treatment Plant: _____ Location:_____ Approved: Yes___ No___
Land Application Site:_____ Location:_____ Approved: Yes____No___
Sanitary Landfill:_____Location:_____ Approved: Yes___ No___

Owner/Operator of Disposal Site: _____
Telephone # _____

*Septage- waste pumped from DOH jurisdictional OSTDS system
** Other Waste- waste from DEP jurisdictional facilities

ATTACHMENT B- TROPICAL STORM/HURRICANE INFORMATION SHEET: HOME CLEAN-UP AFTER THE STORM

After a storm or hurricane has passed, failure to remove contaminated materials can be a health risk. If there is flooding related to a hurricane, water must be removed as quickly as possible since it may contain material from overflowing sewage systems.
If flood water containing sewage has gotten into the house, the following measures should be taken to ensure proper clean-up:

- Wear rubber boots and waterproof gloves during clean up.
- Be careful about mixing household cleaners and disinfectants. Combining certain types of products can produce toxic fumes and result in injury or death.
- Walls, hard-surfaced floors and many other household surfaces must be cleaned with soap and water and disinfected with a solution of 1 cup of bleach per 5 gallons of water.
- Remove and discard contaminated household materials that cannot be disinfected such as wallcoverings, cloth and rugs.
- Drywall and insulation that have been soaked should be removed and discarded so disinfection and drying of the internal wall structure can take place.
- Items that cannot be washed or dry-cleaned, such as mattresses and upholstered furniture, may possibly be air dried in the sun and sprayed thoroughly with a disinfectant. However, these items may need to be discarded.
- Wash all linens and clothing in hot water or dry-clean.
- Thoroughly disinfect surfaces that come in contact with food and children's play areas.
- Steam-clean all carpeting. The carpet and padding may ultimately not be salvageable.
- Fiberboard, fibrous insulation and disposable filters in your heating and air conditioning system should be replaced.
- Once cleanup is complete, it is important to completely dry out affected items to prevent the growth of mold.

It can be difficult to throw away items in a home, particularly those with sentimental value. However,keeping certain items soaked by sewage or floodwaters may be unhealthy. In general, materials that cannot be thoroughly cleaned and dried within 24-48 hours should be discarded.

For more information, please contact your county health department or visit www.floridahealth.gov or www.Floridadisaster.org.

ATTACHMENT C- FLOOD INFORMATION SHEET PROPER SEWAGE CLEAN UP PROCESSES

Heavy rainfall from hurricanes may result in flood waters that are contaminated with sewage. Proper cleaning and disinfecting processes are recommended to prevent illness.

How to clean up sewage contaminated items and sewage spills inside your home:

- Wear protective clothing such as rubber boots and waterproof gloves.
- Clean walls, hard-surfaced floors, and other household surfaces with soap and water and disinfect with a solution of 1/4 cup of bleach in 1 gallon of water. Once cleanup is complete, dry out affected items to prevent the growth of mold.
- Do not mix ammonia cleansers with bleach as toxic fumes will form.
- Wash all linens and clothing in hot water or have them dry cleaned.
- Discard items that cannot be washed or dry cleaned, such as mattresses, carpeting, wall coverings and upholstered furniture.

For spills outside your home:

- Contact your public utility or a registered septic tank contractor for clean up.
- Minor spills requiring instant attention may be disinfected with regular garden lime from a garden shop. Follow the lime container's label instructions for personal protective equipment needed.
- Use lime outdoors only.
- Sprinkle the lime onto the spill so it is dusted mostly white on the surface. After a day, rake up the thicker deposit and place it in a trash bag for disposal. Use a sprinkler or hose to water the remainder into the soil.
- Let the area dry in the sun a day before allowing access. If there is still white lime dust visible on the yard, water it until the white dust is gone.

Follow proper hygiene processes to prevent illness:

- Keep hands and fingers away from the nose, mouth, eyes and ears.
- Wash hands with soap and water immediately after cleanup efforts, as well as before eating or drinking.
- Keep fingernails short and clean. Use a stiff brush to remove dirt and foreign materials.
- Do not store clean work clothes with used work clothes.
- Shower as soon as possible after cleaning up sewage or sewage contaminated flood waters.

For more information, please contact your county health department or visit www.floridahealth.gov or www.FloridaDisaster.org.

ATTACHMENT D- FLOODING/STORMS CAN CAUSE PROBLEMS WITH SEWAGE SYSTEMS

Following a storm, you may experience problems with the operation of your sewage system. If you have a septic system that runs by a dosing pump, it will not work without electricity. You should stop using water in your home as much as possible until the electricity comes back on. Without the pump working, the septic tank will fill and may cause backup of sewage in your home.

General precautions:

- Do not let children play in flood waters, as these waters may be contaminated by sewage.
- If you live in a low-lying or flood-prone area, the ground in your area may be soaked from heavy rainfalls or flooding from the hurricane. You should use household water as little as possible to prevent backup of sewage into your home

What should I do if sewage backs up into my home?

- If a sewage backup has happened in your home, stay out of affected areas and keep children away. If your entire home has been soaked, abandon the home until all affected areas, including but not limited to carpets, rugs, sheetrock, drywall and baseboards, have been thoroughly cleaned and disinfected.
- If sewage has overflowed in open areas or streets avoid these areas and do not let children play in these areas.
- If you are having problems in areas served by public sewer systems, please contact your utility company to make sure they are aware of problems in your area.

For more information, please contact your county health department or visit www.floridahealth.gov or www.FloridaDisaster.org.

ATTACHMENT E- FLOODING

As a tropical storm or hurricane impacts the state, it is important to be prepared for flooding.

Moving Flood Water

During flooding, the greatest threat comes from moving water. The deeper the moving water, the greater the threat. People should avoid driving in moving water, regardless of the size of the vehicle.

Pooling Flood Water

Heavy rain causes flood waters to rise and pool on streets and throughout neighborhoods. In these situations, be aware of the following:

- Road surfaces become disguised and drivers can unknowingly steer into a deep body of water, such as a canal or pond.
- Electricity from streetlights and power poles may be present in standing water, causing a deadly shock to anyone coming in contact with it.
- Children playing in contaminated standing water can become sick or be bitten by snakes or floating insects.
- People coming into contact with floodwaters should thoroughly wash and rinse any exposed body parts with soap and disinfected water.

Contaminated Water Supply

Drinking contaminated water may cause illness. Water in a hurricane-affected area may not be safe to drink. Listen to local announcements on safety of the water supply.

If the public water system lost pressure, a boil water notice will likely be issued for your area.

People in these areas should take precautions to avoid consuming contaminated water. If your well is in a flooded area, your water may contain disease-causing bacteria and may not be safe to drink.

DOH recommends one of the following:

- Boil water for at least 1 minute before using it for drinking, cooking, making ice, brushing teeth, or washing dishes.
- Disinfect water by adding 8 drops (about 1/8 tsp – this would form a puddle about the size of a dime) of unscented household bleach per gallon of water, and then let it stand for 30 minutes. If the water is cloudy after 30 minutes, repeat the procedure. Use a container that has a cap or cover for disinfecting and storing water to be used for drinking. This will prevent contamination.
- Use only bottled water, especially for mixing baby formula.

After the flooding subsides:

- Disinfect your well using the steps provided by your local health department, or located on the Department of Health's website at http://www.floridahealth.gov/environmentalhealth/private-well-testing/index.html.
- If available, have your water tested through your county health department or by a laboratory certified by the state to perform a drinking water analysis.

Contaminated Food

- Do not eat any food that may have come into contact with floodwaters.
- Discard any food without a waterproof container if there is any chance it has come into contact with floodwaters.
- Undamaged, commercially canned foods can be saved if you remove the labels thoroughly,wash the cans, and then disinfect them with a solution consisting of 1/4 cup of unscented household bleach per gallon of water for clean surfaces.
- Re-label your cans, including the expiration date, with a marker. Food containers with screw-caps, snap lids and home canned foods should be discarded if they have come in contact with floodwaters, because they cannot be disinfected**.**

Contaminated Items

- Discard wooden cutting boards, plastic utensils, baby bottle nipples and pacifiers. There is no way to safely clean them if they have come in contact with contaminated floodwaters.
- Thoroughly wash metal pans, ceramic dishes and utensils with soap and hot water and sanitize by boiling them in clean water or by immersing them for 15 minutes in a solution of 1/4 cup of household bleach per gallon of water.

Hygiene

Basic hygiene is very important during a natural disaster. Always wash your hands with soap and water that has been boiled or disinfected and cooled. Hands should be washed before preparing or eating food, after using the bathroom or changing a diaper, after handling uncooked food, after playing with a pet, after handling garbage, after tending to someone who is sick or injured, after blowing your nose, coughing or sneezing, after helping in flood cleanup activities, and after handling items contaminated with flood water or sewage.

For more information, please contact your county health department or visit http://www.floridahealth.gov/index.html or FloridaDisaster.org

ATTACHMENT F- United States Environmental Protection Agency (US EPA) Homeowners Guide to Septic Systems

Here are some recommendations from the US EPA guide:

1. Regularly inspect your system and pump your tank as necessary.
2. Use water efficiently.
3. Don't dispose of household hazardous wastes in sinks or toilets.
4. Care for your drainfield.

You should have a typical septic system inspected at least every 3 years by a professional and your tank pumped as recommended by the inspector (generally every 3 to 5 years). Alternative systems with electrical float switches, pumps, or mechanical components need to be inspected more often, generally once a year.

Four major factors influence the frequency of pumping: the number of people in your household, the amount of wastewater generated (based on the number of people in the household and the amount of water used), the volume of solids in the wastewater (for example, using a garbage disposal increases the amount of solids), and septic tank size.

What Does an Inspection Include?
• Locating the system.
• Uncovering access holes.
• Flushing the toilets.
• Checking for signs of back up.
• Measuring scum and sludge layers.
• Identifying any leaks.
• Inspecting mechanical components.
• Pumping the tank if necessary.

Use water Efficiently!

- Install high-efficiency showerheads
- Fill the bathtub with only as much water as you need
- Turn off faucets while shaving or brushing your teeth
- Run the dishwasher and clothes washer only when they're full
- Use toilets to flush sanitary waste only (not kitty litter, diapers, or other trash)
- Make sure all faucets are completely turned off when not in use
- Maintain your plumbing to eliminate leaks
- Install aerators in the faucets in your kitchen and bathroom
- Replace old dishwashers, toilets, and clothes washers with new, high efficiency models.

For more information on water conservation, please visit www.epa.gov/owm/water efficiency/index.htm

What shouldn't you flush down your toilet?
Dental floss, feminine hygiene products, condoms, diapers, cotton swabs, cigarette butts, coffee grounds, cat litter, paper towels, and other kitchen and bathroom items that can clog and potentially damage septic system components if they become trapped.

Flushing household chemicals, gasoline, oil, pesticides, antifreeze, and paint can stress or destroy the biological treatment taking place in the system or might contaminate surface waters

and groundwater. If your septic tank pumper is concerned about quickly accumulating scum layers, reduce the flow of floatable materials like fats, oils, and grease into your tank or be prepared to pay for more frequent inspections and pumping

Care for your drainfield
Your drainfield is an important part of your septic system. Here are a few things you should do to maintain it:

- Plant only grass over and near your septic system. Roots from nearby trees or shrubs might clog and damage the drainfield.
- Don’t drive or park vehicles on any part of your septic system. Doing so can compact the soil in your drainfield or damage the pipes, tank, or other septic system components.
- Keep roof drains, basement sump pump drains, and other rainwater or surface water drainage systems away from the drainfield. Flooding the drainfield with excessive water slows down or stops treatment processes and can cause plumbing fixtures to back up.

What Can Make a System Fail
You can suspect a system failure not only when a foul odor is emitted but also when partially treated wastewater flows up to the ground surface. By the time you can smell or see a problem, however, the damage might already be done.

By limiting your water use, you can reduce the amount of wastewater your system must treat. When you have your system inspected and pumped as needed, you reduce the chance of system failure.

A system installed in unsuitable soils can also fail. Other failure risks include tanks that are inaccessible for maintenance, drainfields that are paved or parked on, and tree roots or defective components that interfere with the treatment process.

Whenever the water table is high or your sewage system is threatened by flooding there is a risk that sewage will back up into your home. The only way to prevent this backup is to relieve pressure on the system by using it less.

Flooded septic systems
If possible, don't use the system if the soil is saturated and flooded. The wastewater will not be treated and will become a source of pollution. Conserve water as much as possible while the system restores itself and the water table fails.

Prevent silt from entering septic systems that have pump chambers. When the pump chambers are flooded, silt has a tendency to settle in the chambers and will clog the drainfield if it is not removed.

Do not open the septic tank for pumping while the soil is still saturated. Mud and silt may enter the tank and end up in the drainfield. Furthermore, pumping out a tank that is in saturated soil may cause it to "pop out" of the ground. (Likewise, recently installed systems may "pop out" of the ground more readily than older systems because the soil has not had enough time to settle and compact.)

Do not dig into the tank or drainfield area while the soil is still wet or flooded. Try to avoid any work on or around the disposal field with heavy machinery while the soil is still wet. These activities will ruin the soil conductivity.

Flooding of the septic tank will have lifted the floating crust of fats and grease in the septic tank. Some of this scum may have floated and/or partially plugged the outlet tee. If the septic system backs up into the house check the tank first for outlet blockage. Clean up any floodwater in the house without dumping it into the sink or toilet and allow enough time for the water to recede. Floodwaters from the house that are passed through or pumped through the septic tank will cause higher flows through the system. This may cause solids to transfer from the septic tank to the drainfield and will cause clogging.

Locate any electrical or mechanical devices the system may have that could be flooded to avoid contact with them until they are dry and clean.

Aerobic plants, upflow filters, trickling filters, and other media filters have a tendency to clog due to mud and sediment. These systems will need to be washed and raked.

What do I do with my septic system after the flood?

Once floodwaters have receded, there are several things homeowners should remember:

- Do not drink well water until it is tested. Contact your local county health department at _____ - _____ - _____

- Do not use the sewage system until water in the soil absorption field is lower than the water level around the house

- Have your septic tank professionally inspected and serviced if you suspect damage. Signs of damage include settling or an inability to accept water. Most septic tanks are not damaged by flooding since they are below ground and completely covered. However, septic tanks and pump chambers can fill with silt and debris, and must be professionally cleaned. If the soil absorption field is clogged with silt, a new system may have to be installed

- Only trained specialists should clean or repair septic tanks because tanks may contain dangerous gases. Contact your health department for a list of septic system contractors who work in your area

- If sewage has backed up into the basement, clean the area and disinfect the floor. Use a chlorine solution of a half cup of chlorine bleach to each gallon of water to disinfect the area thoroughly

- Do not pump the tank during flooded or saturated drainfield conditions. At best, pumping the tank is only a temporary solution. Under worst conditions, pumping it out could cause the tank to try to float out of the ground and may damage the inlet and outlet pipes. ONLY after the drainfield condition has improved (not saturated, not flooded) pump the septic system as soon as possible. Be sure to pump both the tank and lift station. This will remove silt and debris that may have washed into the system

- Do not compact the soil over the soil absorption field by driving or operating equipment in the area. Saturated soil is especially susceptible to compaction, which can reduce the soil absorption field's ability to treat wastewater and lead to system failure

- Examine all electrical connections for damage before restoring electricity
- Be sure the septic tank's manhole cover is secure and that inspection ports have not been blocked or damaged
- Check the vegetation over your septic tank and soil absorption field. Repair erosion damage and sod or reseed areas as necessary to provide turf grass cover.

Do I pump my tank during flooded or saturated drainfield conditions?

No! At best, pumping the tank is only a temporary solution. Under worst conditions, pumping it out could cause the tank to try to float out of the ground and may damage the inlet and outlet pipes. The best solution is to plug all drains in the basement and drastically reduce water use in the house.

Furthermore, pumping out a tank that is in saturated soil may cause it to "pop out" of the ground. (Likewise, recently installed systems may "pop out" of the ground more readily than older systems because the soil has not had enough time to settle and compact.)

Flooding Impacts on Wastewater Utilities

Flooding can be caused by heavy precipitation events, storm surge, levee or dam failures or inadequate drainage

Flooding impacts to utilities often include, but are not limited to:
•Infrastructure damage
•Pipe breaks
•Debris blockage at an intake or unearthed water and wastewater lines
•Loss of power and communication lines
•Combined sewer overflows
•Water quality changes to source waters and treated effluents
•Restricted access to the facility due to debris, flood waters and damage to roadways
•Loss of water quality testing capability

ATTACHMENT G- ELECTRICAL OUTAGES AND SEPTIC SYSTEMS

Electrical outages are the most common type of interruption of service. The appropriate response depends on the type of pretreatment and final treatment and dispersal components of your onsite wastewater treatment system. However, if your system contains components that require electricity to operate, the wastewater will collect in the system during the electrical outage and will have to be treated and dispersed when electrical service resumes. System components include:

Aerobic treatment units
Sand filters
Re-circulating media filters
Flow equalization tanks
Low pressure distribution
Subsurface drip distribution
Spray distribution

These system components usually have a reserve or alarm capacity that allows some use during electrical power outages or when components break. If you have an electrical power outage and have electrically-operated components:

- Limit water usage to essentials such as toilet flushing and hand washing.
- Laundry, bathing, showers, and dishwashing should be minimized or eliminated.
- Stop all water use if electrical outage is extended or the plumbing begins to drain slowly. Slow-draining plumbing may indicate that the reserve capacity is exceeded and the system is full.

Allow the system to continue to operate normally until the water level recedes in the system. A time dosed system may take a 24 hour period to have all of the stored water distributed and the high water alarm deactivated. System components that require electricity are usually equipped with a high water alarm. This alarm may sound when the power is restored based on your water usage during the power outage. You can silence the alarm if it has a silence switch option. If the alarm remains activated more than 24 hours, contact your service provider.
Where applicable, manually control the dose duration of the treated wastewater delivered to the dispersal field to prevent flooding of the field. If the final treatment and dispersal component has an on-demand pumping system, the first dose following restoration of power can overload your system.

ATTACHMENT H- GUIDANCE FOR CONNECTION OF NON-SINGLE FAMILY RESIDENTIAL PROPERTIES TO CENTRAL SEWER SYSTEMS IN THE FLORIDA KEYS

Guidance for Connection of Non-Single Family Residential Properties to Central Sewer Systems in the Florida Keys

Marathon Branch Office
Devon Villareal, Water Facilities
(305)289-7075
Devon.Villareal@dep.state.fl.us

Gus Rios, Environmental Administrator
(305)289-7081
Gus.Rios@dep.state.fl.us

South District Office
P.O. Box 2549
Fort Myers, Florida 33902-2549

Dr. Abdul Ahmadi, P.E.
(239)344-5614
Abdul.Ahmadi@dep.state.fl.us

Gary Maier, P.E.
(239)344-5664
Gary.Maier@dep.state.fl.us

James Oni, P.E.
(239)344-5679
James.Oni@dep.state.fl.us

Maria Beltran
(239)344-5624
Maria.Beltran@dep.state.fl.us

BACKGROUND

In 1999, the Florida Legislature established wastewater treatment and disposal standards for Monroe County under Section 6 of Chapter 99-395, Laws of Florida (L.O.F). In 2010, these requirements were incorporated into Section 403.086(10), Florida Statutes, and the deadline for wastewater compliance was extended to **January 1, 2016**.

The authority for local governments in Monroe County to require connection to their central wastewater systems remains in Section 4 of Chapter 99-395, L.O.F.

Beginning January 1, 2016, the effluent from Domestic Wastewater Facilities with design capacities of less than 100,000 Gallons Per Day (GPD) shall not exceed the following standards on an annual average basis:
Biochemical Oxygen Demand (BOD) = 10 mg/L
Total Suspended Solids (TSS) = 10 mg/L
Total Nitrogen (TN) = 10 mg/L
Total Phosphorus (TP) = 1 mg/L

Beginning January 1, 2016, the effluent from Domestic Wastewater Facilities with design capacities of greater than or equal to 100,000 GPD shall not exceed the following standards on an annual average basis:
BOD = 5 mg/L
TSS = 5 mg/L
TN = 3 mg/L
TP = 1 mg/L

The information provided herein is applicable to any non-single family residential properties with existing FDEP or Monroe County Health Department (MCHD) regulated systems, which may require a FDEP collection system permit for connection to a central sewer system. Abandonment of existing Facilities is handled through the current regulating Department.

CONNECTION

Generally speaking, any non-single family residential properties with more than one building will require a FDEP wastewater collection system permit to connect to a central sewer system.

Applications for a FDEP wastewater collection system permit must be completed by a Florida Licensed Professional Engineer (P.E.), submitted to the South District Office, and the permit must be obtained prior to construction. The system must be **cleared for use** by the Department prior to being placed into service.

Several local municipalities will not issue local permits prior to receiving a copy of the FDEP wastewater collection system permit or correspondence from the FDEP indicating that the connection is exempt.

Collection System Permitting Guidance, including exemption information, is available on the Department's website at
http://www.dep.state.fl.us/water/wastewater/dom/domcollect.htm

Questions regarding wastewater collection system permitting and exemptions are best submitted via email to the Department's South District permitting staff, listed on the c flap, with a plan of the proposed system and a sketch with property boundaries and the right-of-way clearly marked on the drawing. The Department will promptly advise via email whether or not a FDEP permit is required.

Prior to determining whether a FDEP wastewater collection system permit will be required for connection of any non-single family residential property, please contact the relevant municipality (contact information in this brochure) to learn more about the point and type of connection which will be provided to you.

For more information on the DEP's Domestic Wasterwater Collection/Transmission System Permitting visit http://www.dep.state.fl.us/water/wastewater/dom/domcollect.htm

RESOURCES

FL Department of Health (FDOH)- Onsite sewage treatment and disposal systems:
http://www.floridahealth.gov/environmental-health/onsite-sewage/index.html

FL Department of Environmental Protection (FDEP):
http://www.dep.state.fl.us/water/uic/index.htm or

http://www.dep.state.fl.us/water/wastewater/dom/domcollect.htm

FL Division of Emergency Management:
www.floridadisaster.org

US Environmental Protection Agency (US EPA) Onsite systems: www.epa.gov/owm/septic or
http://water.epa.gov/infrastructure/septic/

US Environmental Protection Agency (US EPA) Water: http://water.epa.gov/drink/