



Florida Keys Aqueduct Authority

1100 Kennedy Drive

Key West Florida, 33040

Big Coppitt
Wastewater Treatment District

Lateral Connection Construction Packet



Background

The Florida Keys Aqueduct Authority (FKAA) is currently installing a central wastewater system for the Big Coppitt Wastewater Treatment District. The District Includes Big Coppitt Key, Rockland Key, Geiger Key and Shark Key. This packet is intended to provide the basic information needed to connect a property to the connection point provided by the FKAA at the property line. The process includes working with the Monroe County Building Department (MCBD), The FKAA and the Monroe County Health Department (DOH) or the Department of Environmental Protection (FDEP). If you need more specific information from an agency their contact information is provided at the end of the packet.

Connection Tasks Overview

1. Obtain Permits
2. Begin Construction
3. Receive Required Inspections
4. Hook-up to the Connection Point at the Property Line
5. Abandon the Septic/Cesspit or DEP Wastewater System

Responsibilities

The responsibility to connect a property ultimately falls with the property owner. Owners typically hire plumbers to make the connection and abandon the existing septic tank/cesspit and in some cases have the plumber obtain the necessary permits.

Owners who meet Monroe County's requirement as an "owner-builder" may choose to forgo hiring a plumber and make the connection and complete the abandonment themselves. Typically, if you own and live in the house you may qualify as an "owner-builder" for that dwelling unit. If you are considering acting as an "owner builder" Please contact the Monroe County Building Department at (305) 289-2501 to ensure you meet the requirements.

Previous plumbing experience is highly recommended for any individual attempting to make the connection as an "owner-builder."

Notifications

Property Owners will receive a "30-Day Notice of Service Availability" when the central system is available and ready for their connection. Construction may begin before the "Notice of Availability" is issued, however, **the tie-in to the connection point at the street must not be completed until written notice is received from the FKAA and the owner has successfully passed the applicable Monroe County Inspections.** Tie-in prior to this notification can lead to sewage back-ups and equipment damage and may result in additional costs to the property owner.

Pre-notification Construction

Prior to receipt of the notice of availability portions of the construction can begin, including digging the trench and laying the pipe up to the house and street connection. Owners who choose to begin construction early are required to obtain a "Dry-line" permit from Monroe County.



Connection Tasks Checklist

- Obtain Abandonment Permit* (\$50)** Department of Health
1100 Simonton St., Suite 242
Key West, FL 33040
(305) 293-7524



Download Application at: <http://www.doh.state.fl.us/environment/ostds/index.html>
Click on "Forms, Memos, & Policies" and download form DH 4015 (page 1) & DH 4015 (page 2)

- Obtain Lateral Connection Permit* (\$66)**
Monroe County Building Dept
Juvenile Detention Center OR Monroe County Government Center
5503 Junior College Road 2798 Overseas Highway
Key West Florida 33040 Marathon, FL 33040
(305) 295-3990 (305) 289-2500



Download at: www.monroecounty-fl.gov
Click on "Links for Businesses" and follow the forms links to "Building Department Application-Short 2pgs"

- File Notice of Commencement (\$10)**

- Begin Construction and Tie-in to Connection Provided at the Property line**

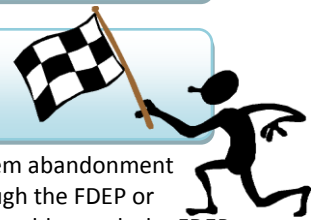
- Obtain Initial Inspections**
(County & FKA)

- Make Final Connection at House & Receive Final County Inspection**

- Abandon Septic Tank**

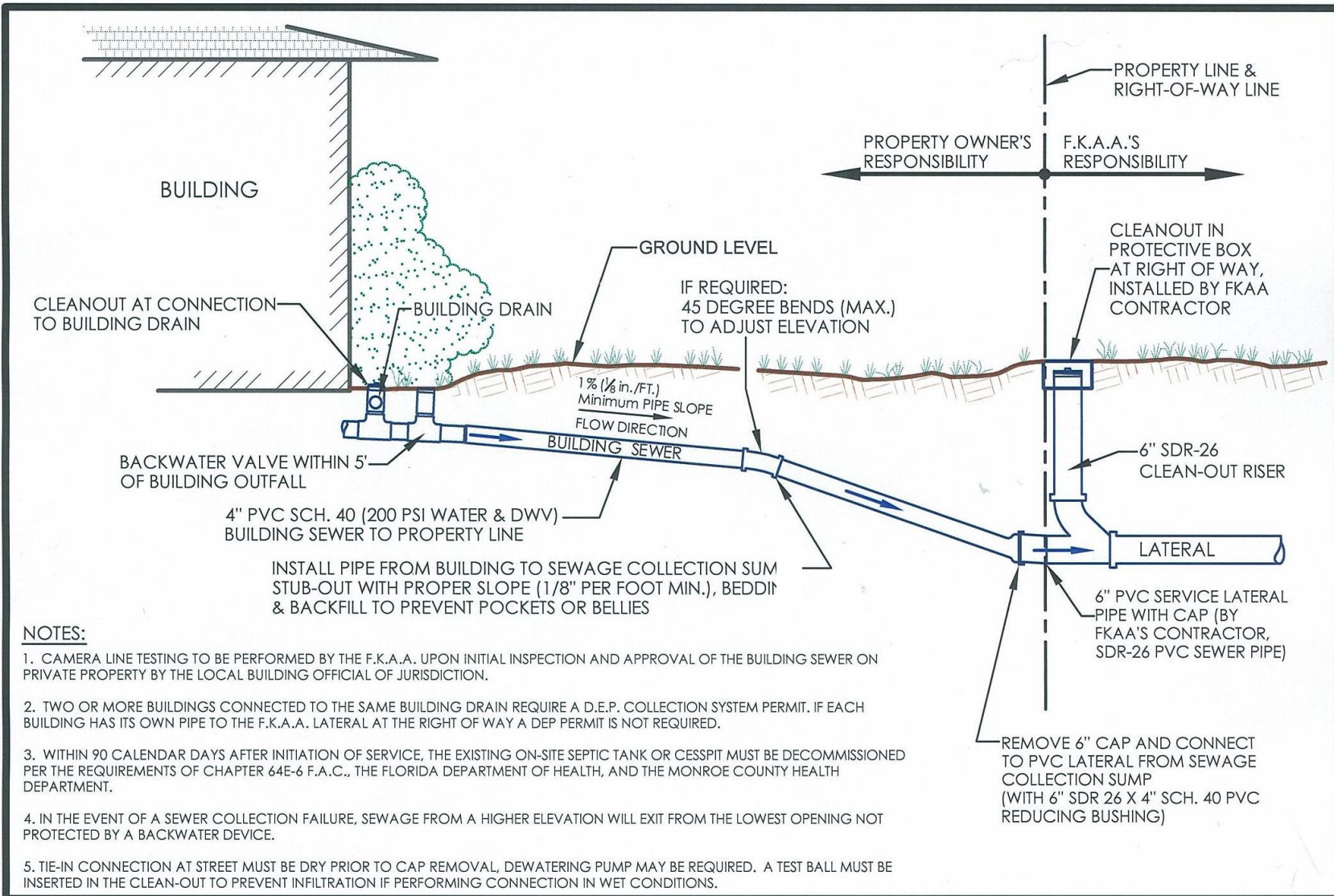
- Receive DOH Abandonment Inspection & Close Abandonment Permit**

- Supply Monroe County with Completed Abandonment Documentation and Close MC Connection Permit**



*Most properties, including single service connections from single family residences, will permit system abandonment through the DOH. However, properties with a wastewater treatment plant currently permitted through the FDEP or properties that require connections that are more complex than a single service gravity connection should consult the FDEP for additional permitting or plant abandonment requirements. Additional information may be found through the FDEP contact information provided at the end of this packet or may be obtained through this link:

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



NOTES:

1. CAMERA LINE TESTING TO BE PERFORMED BY THE F.K.A.A. UPON INITIAL INSPECTION AND APPROVAL OF THE BUILDING SEWER ON PRIVATE PROPERTY BY THE LOCAL BUILDING OFFICIAL OF JURISDICTION.
2. TWO OR MORE BUILDINGS CONNECTED TO THE SAME BUILDING DRAIN REQUIRE A D.E.P. COLLECTION SYSTEM PERMIT. IF EACH BUILDING HAS ITS OWN PIPE TO THE F.K.A.A. LATERAL AT THE RIGHT OF WAY A DEP PERMIT IS NOT REQUIRED.
3. WITHIN 90 CALENDAR DAYS AFTER INITIATION OF SERVICE, THE EXISTING ON-SITE SEPTIC TANK OR CESSPIT MUST BE DECOMMISSIONED PER THE REQUIREMENTS OF CHAPTER 64E-6 F.A.C., THE FLORIDA DEPARTMENT OF HEALTH, AND THE MONROE COUNTY HEALTH DEPARTMENT.
4. IN THE EVENT OF A SEWER COLLECTION FAILURE, SEWAGE FROM A HIGHER ELEVATION WILL EXIT FROM THE LOWEST OPENING NOT PROTECTED BY A BACKWATER DEVICE.
5. TIE-IN CONNECTION AT STREET MUST BE DRY PRIOR TO CAP REMOVAL, DEWATERING PUMP MAY BE REQUIRED. A TEST BALL MUST BE INSERTED IN THE CLEAN-OUT TO PREVENT INFILTRATION IF PERFORMING CONNECTION IN WET CONDITIONS.

<p>FLORIDA KEYS AQUEDUCT AUTHORITY</p>	<p>BIG COPPITT LATERAL CONNECTION DETAIL</p>	<p>SCALE: N.T.S.</p> <p>DATE: 1/09</p>
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Connection Details

****State Statute, in some instances, allows for property owners to complete their own wastewater plumbing installation. Prior plumbing experience is strongly recommended prior to undertaking this process. Please consult with the Monroe County Building Department to see if you qualify as an owner builder.*

Achieving Drainage Slope

Building sewer piping must slope away from the building at the usual minimum of 1/8" per foot (1% slope or 1' drop in 100'run). One method of ensuring that a 1/8" per foot slope exists is to shim a carpenter's level on one end so that the bubble will be centered when the pipe is at minimum slope. For example, on a two foot level a shim of 1/4" plywood might be taped. On a four foot level, a 1/2" shim would be used. Be certain that the shim is on the downhill end of the level! If the bubble is off center towards the un-shimmed/uphill side, then more than minimum slope exists, which is okay. Avoid the mistake of trying to use a torpedo level- the longer the level, the more reliable the results. Has it been a while since you checked your level for accuracy? To check it, find a stable, fairly level surface and then use a stack of dimes or something to raise the low end of the level until the bubble is centered. Now reverse the level end for end and see that the bubble is still centered. If it is not, the level is not true. Many new levels still in the store will be found not true! Some levels may be adjusted but most are not adjustable. If the level has a bubble top and bottom, check both: one may be true and the other not. If the level bubble is in the direct sun, it will distort the tube and give a false read. Allow the bubble tube to stabilize in the shade before testing or use.

Trenching

When trenching, over excavate to allow room for some bedding material such as sand or fine gravel. The bedding is easily adjusted to the correct slope with the shimmed level on a 2x4. Laying the pipe on the prepared bedding will result in fast achievement of the correct slope and even support for the pipe. When planning for the alignment that will most efficiently pipe your building sewer to the sewer collection system lateral, keep in mind that the Florida Standard Plumbing Code calls for 5 feet of horizontal separation from your water service pipe unless the sewer pipe is at least one foot lower.

Cleanouts

A cleanout is provided at the lateral connection (at the road right-of-way) and required at the building drain connection at a minimum. A cleanout is also required every 100 feet and at every change of direction of greater than 45 degrees. If there is more than one change of direction, a cleanout is required every 40 feet. Two small bends with a stub between will allow flow more easily than one bend that changes direction with one fitting. Use only DWV Schedule 40 fittings. A long radius bend is preferred. Review your proposed configuration and any difficult situations with the Building Inspector before construction to better ensure approval of the work. Situate your cleanouts such that there is 18" minimum clearance for working room. The cleanout at the lateral connection must be easily accessible. A **Union Foundry #7610** is one traffic rated "handhole box" that should be satisfactory.



Connection at the Street

The connection from the building sewer to the sewer lateral must not be made with any connector utilizing stainless steel bands such as a “Fernco” or “no-hub” coupling. It has been the experience in Key West that they do not withstand anaerobic saltwater exposure.

The nominal 4” sewer lateral pipe may be either 4.500” OD (outside diameter) or 4.215” OD. Schedule 40 water pipe (using Sch. 40 DWV fittings) is 4.500” OD. Most of the 4.215” OD sewer laterals were installed with push-on gasketed caps. If you find a glued-on (solvent welded) cap it is likely 4.500” OD pipe.

There are two acceptable ways to connect a 4.500” building sewer to a 4.215” lateral. In dry conditions you can use a Genova part number 75340 (or equivalent) solvent welded adapter bushing in a Schedule 40 DWV fitting. “True Value” is a Genova distributor so these bushings may be obtained from “Specialty Hardware” in Marathon or from other True Value affiliates. The second method, preferable if working in water and quicker if you can get the lateral end cap off, is to use a gasketed adapter coupling that just pushes on to the sewer lateral. Such a fitting is made by Vassalo Industries as part # 22685 and is available from wholesaler Barnes Industrial in Miami. Barnes also carries a Vassalo solvent welded adapter that will do the job of the previously discussed Genova bushing. If you have to cut off a gasketed cap, remember that you will have to bevel the cut pipe to use a gasketed push-on fitting: a difficult chore in tight quarters. If pulling a gasketed cap from the sewer lateral, take care that you do not pull a section of lateral pipe from a fitting further back!

Testing

Your inspector is going to want to see a static water test. A 5 foot high column of water in a temporary stack maintaining its level is recommended. You will need to plug the lateral connection with an inflatable test ball lowered into the cleanout at the street. Be certain to secure the ball with a chain to prevent the ball from being pushed out of reach by the test water when the ball is deflated! The chain on the ball comes with a ring that is too big to be pulled into the pipe. If you use an extension hose to inflate the test ball, be certain to keep the ring attached to the extension chain. If you need but cannot find an extension hose, one may be made by removing the valve core from the test ball (important!), then clamping a length of 3/8” tubing onto the test ball valve stem and pushing a whittled-down discard valve stem (free at any tire place) into the other end of the tubing. Better is a “snifter valve”, but they are hard to find.

Backwater Valve

Per Monroe County Code a backwater valve is required to be placed within five (5) feet of the structure.

Warning!

It is **imperative** that rocks and debris not be allowed to enter the building sewer or lateral piping!



Cutting and Gluing PVC pipe to ASTM D2855-96(2002) Standards:

Cut pipe square to the axis using fine toothed hand saw and a miter box or equivalent that will not raise a burr or flare the cut end.

Any burr or flaring must be removed with a file, knife, or abrasive paper or the solvent cement and softened plastic may be scraped from the fitting socket, resulting in a leaky joint.

Clean joint surfaces free of dirt, moisture, oil, etc. Use a chemical or abrasive cleaner if a dry cloth is inadequate. Avoid skin contact with chemical cleaners. Keep pipe and fittings below 110 degrees F by avoiding direct sun on hot days.

Protect cement by keeping the can closed and shady when not in use. Use at least a 2" brush or dauber for 4" pipe. Work quickly when applying solvent cement, especially on humid days when condensation of moisture on the cement surface is possible.

Apply primer to inside socket surface using a scrubbing motion to assure penetration. Next, soften the male end of pipe to be inserted by applying a uniform, liberal coating of primer. Be sure entire surface has been softened. Again, brush inside socket with primer and **apply cement** to pipe while the surface is still primer wet. Apply a light, uniform coat of cement to the inside of the socket, taking care to avoid any excess. Work quickly and apply a second cement coat to the pipe end.

Immediately push the pipe end into the socket using a steady even motion while both inside socket and outside pipe surfaces are soft and wet with cement, turning about ¼ turn during insertion, and forcefully bottoming pipe end to socket bottom. After the cement is applied, assembly should be completed in less than 20 seconds.






Allow adequate set time, 30 minutes minimum between 60 and 100 degrees Fahrenheit, before handling pipe taking great care to not disturb the joints.

Note: The above is the right way to glue pipe. Most people just brush some primer on the pipe end and fitting, brush on some glue, push the two quickly together with a bit of a twist to correct alignment, and usually have no leaks. The larger the pipe, the more likely you will have leaks. Heavy glue gives more working time and less likelihood of leaks than the lightweight. The "grey glue" appears to work best, reportedly due to fillers that seal scratches.

Information as to the location of your sewer lateral connection, the pipe utilized, the depth of soil before encountering rock at the lateral location, and a photo of the lateral as installed may be available from the FKA if this might be useful to you. You may call **Julie Cheon at (305) 295-2178** or email jcheon@fkaa.com to see what information is available at your location.



Agency Contacts

Wastewater Connection & General Project Information	
	<p>Julie Cheon Environmental Specialist Florida Keys Aqueduct</p> <p>Office: 305-295-2178 Cell: 305-360-1460 Fax: 305-295-2157 Email: jcheon@fkaa.com</p>
Monroe County Permitting Information	Project Funding and System Development Fee Structure
 <p>Paul Tugwell Plumbing Inspector Monroe County (305) 797-4064 tugwell-paul@monroecounty-fl.gov</p>	 <p>Elizabeth Wood Sr. Administrator, Sewer Projects Monroe County (305) 292-4525 Wood-Liz@MonroeCounty-FL.gov</p>
Package Plant Abandonment and Multi-Structure Permitting	Septic Abandonment Information
 <p>Steve Johnson Department of Environmental Protection Environmental Manager (305) 289-2310 Steven.Johnson@dep.state.fl.us</p>	 <p>Joe Aretz Environmental Supervisor Florida Department of Health 305-293-7524 Joseph_aretz@doh.state.fl.us</p>