New Water, Wastewater, and Reclaim Residential Service Installation Guide

1. Introduction

The goal of this document is to help developers, home builders, owners, and their subcontractors follow GRU's Standards when connecting to new water, wastewater, or reclaim water services.

We have provided photos with instructions to help make this process as clear as possible. This document is a supplement to GRU's Design Standards, Construction Details, and Material Standards which are all available online on GRU's website: https://www.gru.com/Work-With-GRU/Content/Water-Wastewater-Reclaimed-Water-Standards

2. Installation Guidelines

A. Service Location Staking

Staking by the Builder is required to ensure that the new water, wastewater, and reclaim water services are installed at the proper location that is compatible with your lot's site plan. The location of all new services must be outside of the right-of-way (ROW), behind any proposed or existing sidewalks, and must meet all other requirements of other agencies (e.g. Building Permit, ROW Permit).

GRU crews will rely on the Builder to properly set the stakes for the location of each new service. If no stakes are present when a GRU crew arrives to install the new service, then the crew will install the meter or cleanout at a location outside of the ROW.

All relocations of meters or cleanouts after initial installation will result in delays to your project and will likely result in additional construction costs for the relocation work by GRU.

Providing the address on the stake is critical, especially in meter banks (multiple adjacent meters) to ensure the GRU billing account is linked to the correct meter number.

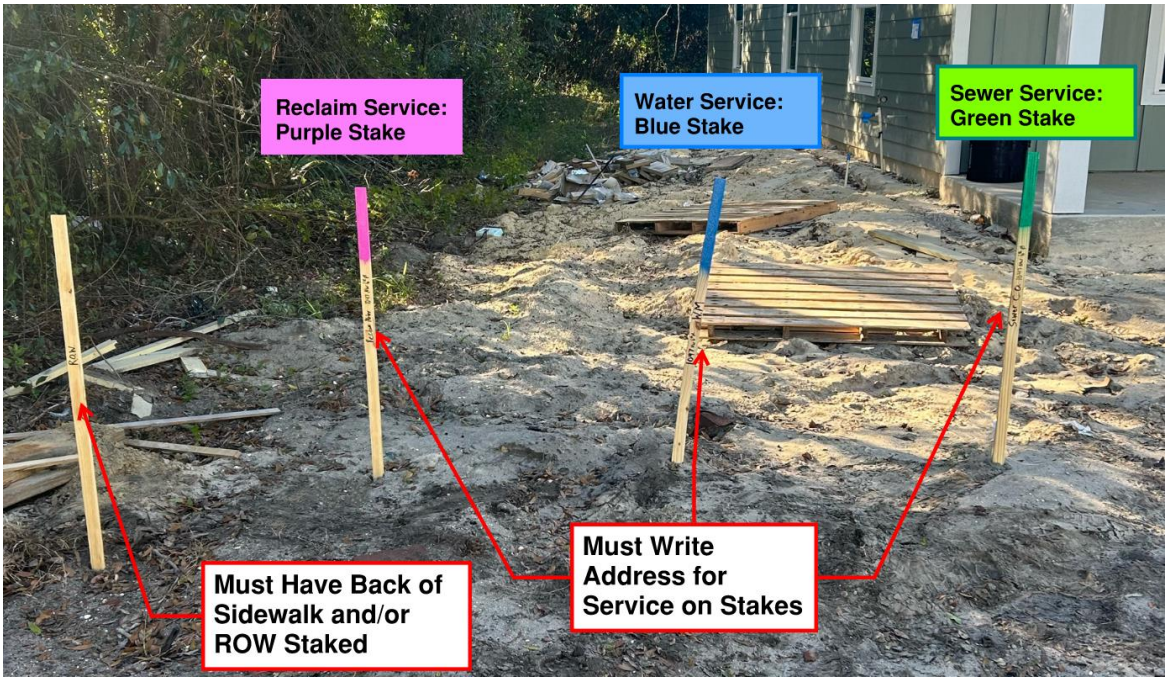


Figure 1 New Service Location Staking, Infill Lots and ADUs

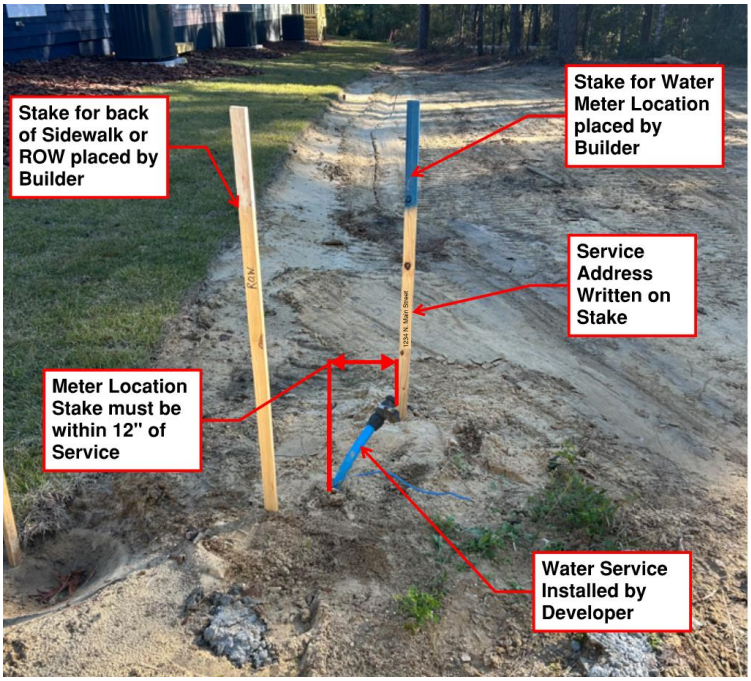


Figure 2 New Service Location Staking, Subdivisions

B. *Water and Reclaim Service Installation*

GRU will set meter boxes at existing grade at the time of installation. If there are minor grade changes, the Builder may make adjustments to the meter box so that the box is flush with finished grade. However, if the grade changes are significant and the service depth is outside of the required range (8” min to 12” max) then the Builder will need to request a Meter Adjustment through GRU New Services.

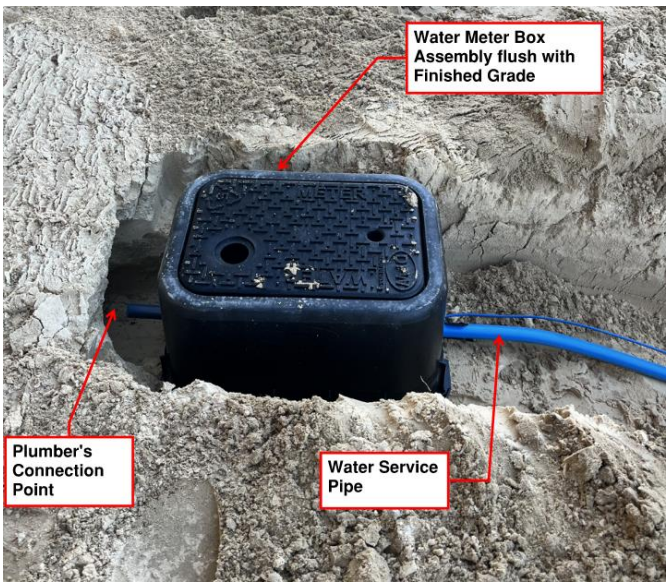


Figure 3 Water or Reclaim Service Installation

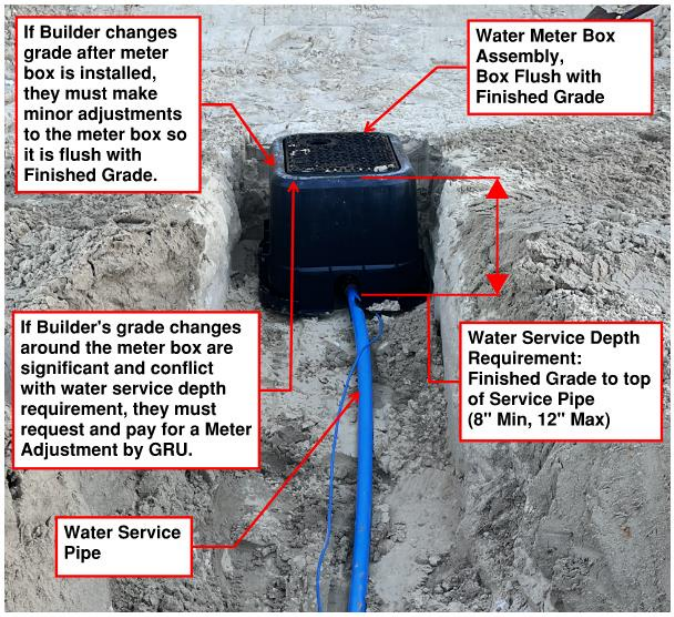


Figure 4 Water or Reclaim Service Installation, Grade and Depth Requirements

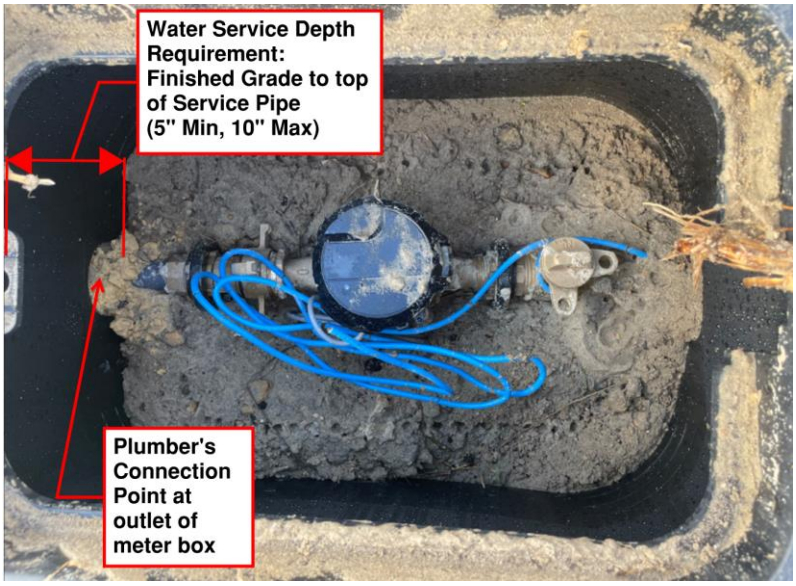


Figure 5 Water or Reclaim Meter Box Interior

When finished the meter box should be flush with the grading, landscaping, and other site features surrounding it to ensure it's not a trip hazard.

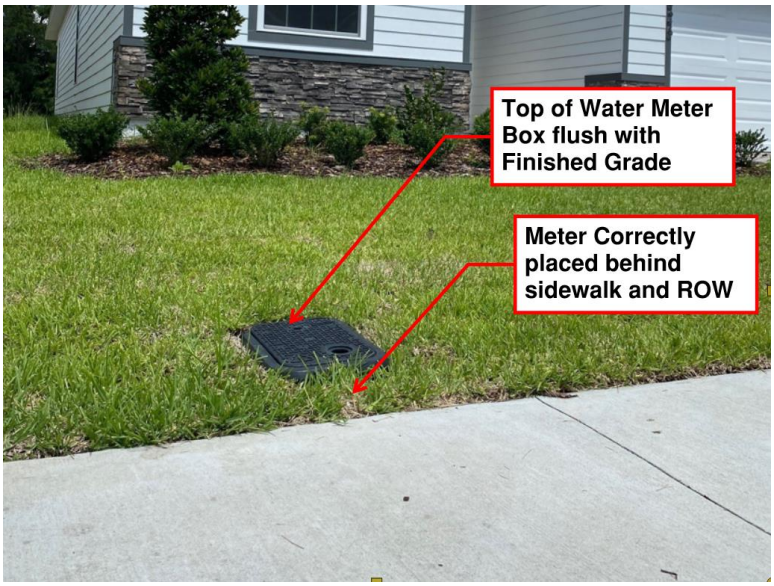


Figure 6 Water or Reclaim Meter Box, Finished Installation

C. Wastewater Service Installation

The following installation guidelines apply to all new wastewater/sewer service installations. GRU's Standards are changing to include a buried standpipe to help protect the pipe during construction. During this transition of our standards, it will be common to find either configuration shown below.

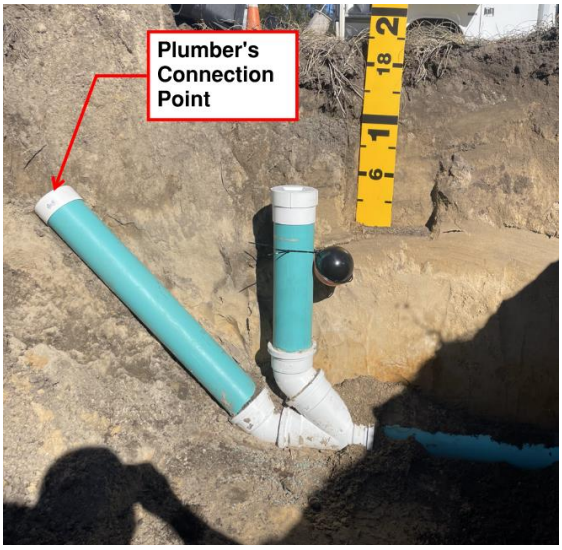


Figure 7 Typical Service (Buried Standpipe)

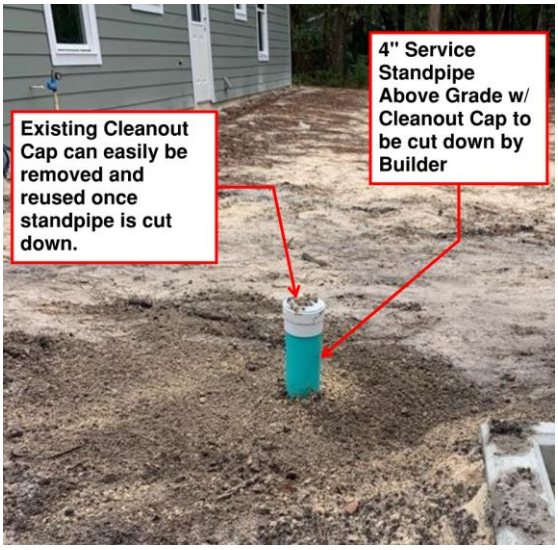


Figure 8 Typical Service (Raised Standpipe)

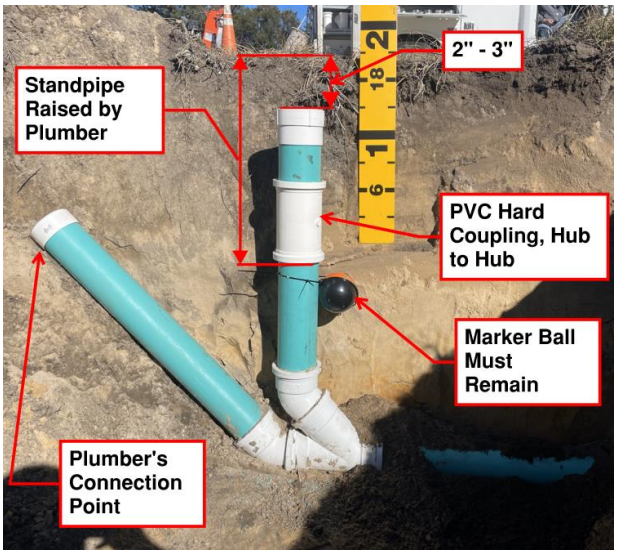


Figure 9 Typical Service, Lowered by Builder

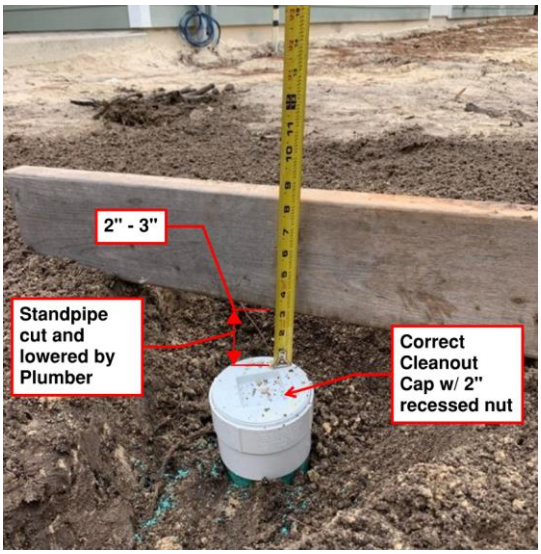


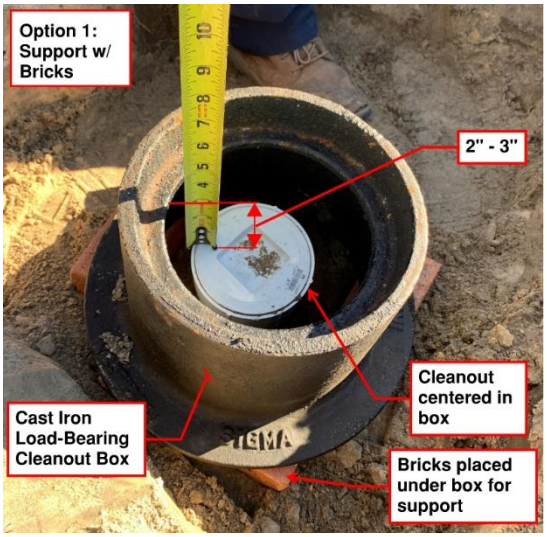
Figure 10 Typical Service, Raised by Builder

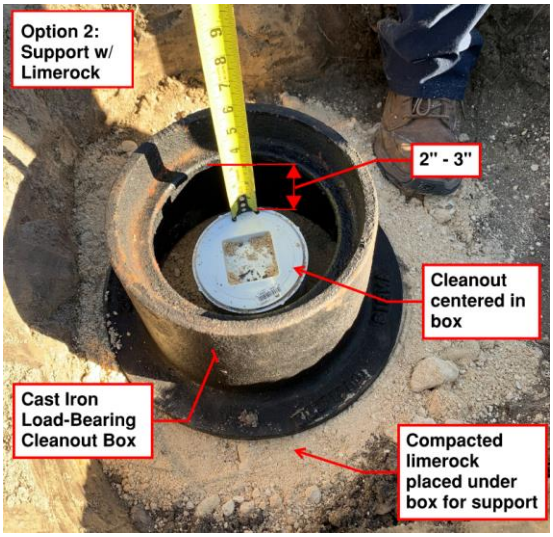
ALL cleanouts must have either a Load-Bearing or Non-Load Bearing Box installed by the Builder.

- Load-Bearing boxes are required for all cleanouts installed in driveways, walkways, sidewalks, and any other location in concrete, pavement, or pavers. This style box may have two options for support – 1). Bricks or 2). Lime rock.
- Non-Load Bearing boxes are required in all other locations. This style box must have bricks placed in each corner of the box for support.

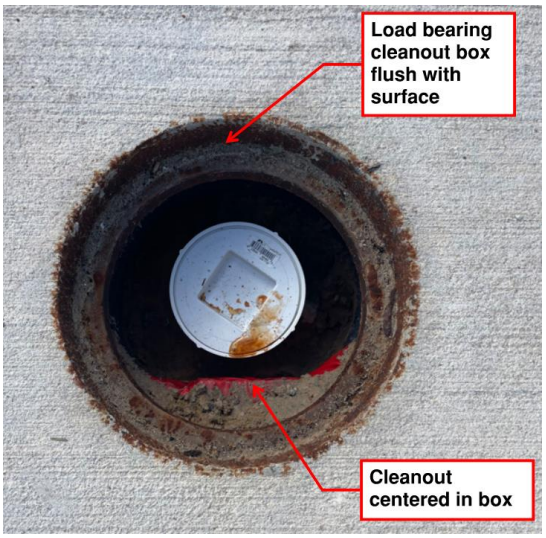
Figures 11 and 12 Cleanout Box Installation, Non-Load Bearing

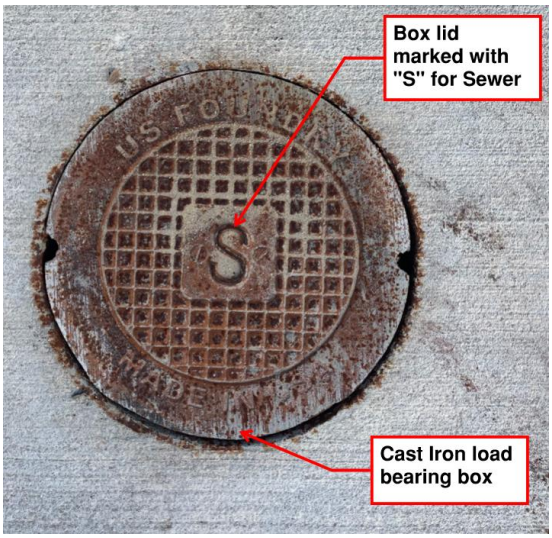
Figure 13 Finished Installation of Non-Load Bearing Cleanout Box





Figures 14 and 15 Cleanout Box Installation, Load Bearing Support Options





Figures 16 and 17 Cleanout Box, Load Bearing

D. Curb Markings

GRU will be requiring curb markings for all new water, wastewater, and reclaim water services. These markings help ensure we can quickly find our connection point in emergencies.

We ask that Builders preserve these curb markings if they are present or replace them if removed for driveways, etc.

Figure 18 Water Meter Curb Marking

Figure 19 Reclaim Meter Curb Marking

Figure 20 Sewer Wye Curb Marking

E. Valve Boxes and Collars

All valves (water, reclaim, and sewer) installed in new developments have a concrete collar constructed around the valve box. These are set at grade when installed. The Builder is responsible for accommodating these valves and collars with construction of site features on their lot, and must protect them during the home construction process. Valve collars must be present at our final inspection. If the valve is located in a driveway, walkway, or sidewalk, then the valve box must be adjusted to the top of that surface and accessible.

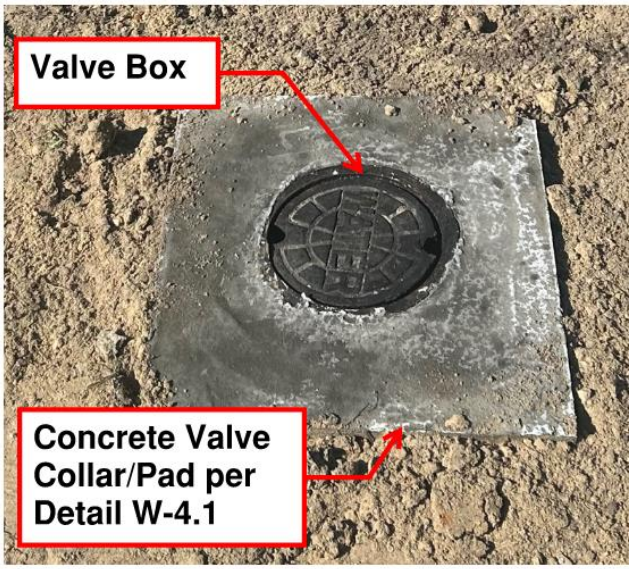


Figure 21 Valve Box and Collar/Pad

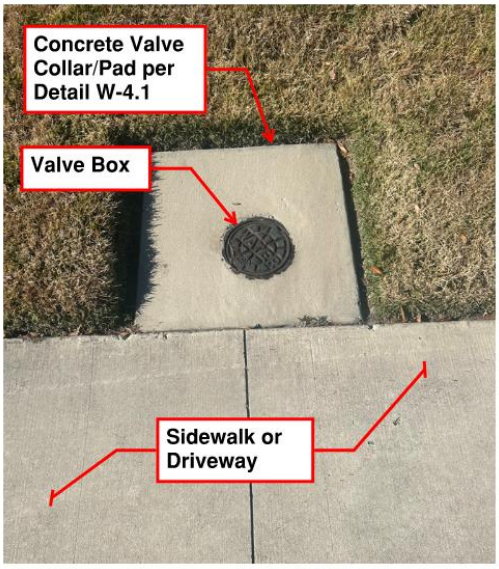


Figure 22 Valve Adjacent to Sidewalk/ Walkway

3. Materials Resource

The materials listed in the section below are items that need to be provided by the Builder as part of the connection process, and ones that are commonly damaged during the home building process that need to be replaced by the Builder.

These items can be purchased from your local suppliers and regional parts distributors:

- WinSupply of Gainesville. 3310 N. Main Street, Gainesville, FL 32609
- Ferguson Plumbing Supply, 4414 SW 34th Street, Gainesville, FL 32608
- Sunstate Meter & Supply, 14001 W. Newberry Road, Newberry, FL 36229
- Core & Main:
  - Ocala Branch: 820 SW 33rd Avenue, Ocala, FL 34474
  - Lake City Branch: 1115 SW Sisters Welcome Rd, Lake City, FL 32025
- Fortiline Waterworks:
  - Ocala Branch: 3518 SW 13th Street, Ocala, FL 34474
  - Lake City Branch: 2249 SE Baya Drive, Lake City, FL 32025

GRU's complete W/WW Material Standards Guide can be found online here.

Wastewater Service Cleanout

Description: The cleanout consists of two separate parts, 1). PVC adapter and 2). Recessed Plug. These must be installed on the top of every standpipe. Both parts are existing on every standpipe (both buried and raised), and Builders may have their plumbers reuse the existing fittings. If the existing fitting is not reused, they must comply with the material requirements below.

Part Name	*Part Description*	*GRU Standards Page*	*Part Photograph*
PVC Adapter	4" DWV Female Adapter, PVC Open Market	A-10.00	
Recessed Plug	4" Plug, Cleanout, PVC SDR-26, Threaded, Recessed (MPT) Open Market	P-31.10	

Wastewater Cleanout Box and Cover, Non-Load Bearing (Plastic)

Description: This part will be required to be furnished by the Builder. The cleanout consists of two separate parts, 1). Cleanout Box and 2). Cleanout Box Cover. These must be installed on the top of every cleanout installed outside of pavement, concrete, or paver surfaces.

Part Name	*Part Description and Approved Manufacturer & Part #*	*GRU Standards Page*	*Part Photograph*
Cleanout Box Body	Box, Cleanout, Black Manufactured by DFW (Part # DFW1200TT.12BODY)	B-56.00	
Cleanout Box Cover	Lid, Green, “Sewer”, T-Top Manufactured by DFW (Part # DFW1200TT-12-2M SEWER)	B-57.00	

Wastewater Cleanout Box and Cover, Load Bearing (Cast Iron)

Description: This part will be required to be furnished by the Builder. These must be installed on the top of every cleanout located in pavement, concrete, or paver surfaces.

Part Name	*Part Description and Approved Manufacturer & Part #*	*GRU Standards Page*	*Part Photograph*
Cleanout Box	Box, Cleanout, Heavy Duty Manufactured by Sigma Corp (Part # CO-2610S)	B-55.00	

Wastewater 4” PVC Coupling

Description: This part will be required to be furnished by the Builder. This part is used to raise a buried cleanout by connecting to the vertical standpipe for extension of the 4” standpipe to within 2” to 3” of finished grade.

Part Name	*Part Description and Approved Manufacturer & Part #*	*GRU Standards Page*	*Part Photograph*
PVC Hard Coupling	4” PVC SDR-26 Coupling (Gasket x Gasket) with Stopper Open Market	C-67.10	

Water Meter Box

Description: This is the standard box used for all residential 5/8” water meter services. This product will be either furnished by GRU or the Developer. However, if this is damaged by the Builder then it will need to be replaced with the correct product. Meter Boxes consist of two components – 1) Box Body and 2). Box Lid.

Part Name	*Part Description and Approved Manufacturer & Part #*	*GRU Standards Page*	*Part Photograph*
Meter Box Body	Manufactured by DFW Plastics (Part # D1200TT-12-M1M)	B-42.00	
Meter Box Lid	Manufactured by DFW Plastics (Part # DFW36M-1MT_NHK)	B-42.00	

Reclaim Water Meter Box

Description: This is the standard box used for all residential 5/8” reclaim water services. This product will be either furnished by GRU or the Developer. However, if this is damaged by the Builder then it will need to be replaced with the correct product. Meter Boxes consist of two components – 1) Box Body and 2). Box Lid.

Part Name	*Part Description and Approved Manufacturer & Part #*	*GRU Standards Page*	*Part Photograph*
Meter Box Body	Manufactured by DFW Plastics (Part # MODEL D-1200P-DI)	B-44.00	
Meter Box Lid	Manufactured by DFW Plastics (Part # DFW1200-5C-LID)	B-44.00	

4. Examples of Common Installation Issues

The following are examples of items we commonly find on inspections that are not compliant with GRU's Standards. Many of these items will result in a failed inspection.

A. Common Water Installation Issues

Most issues with the water services are related to meter boxes being either too high, or the service being too deep. This is a result of grade changes on the lot around the water service changing between the time the meter was set and the time the lot construction is completed.

Figure 23 Meter Box Too High

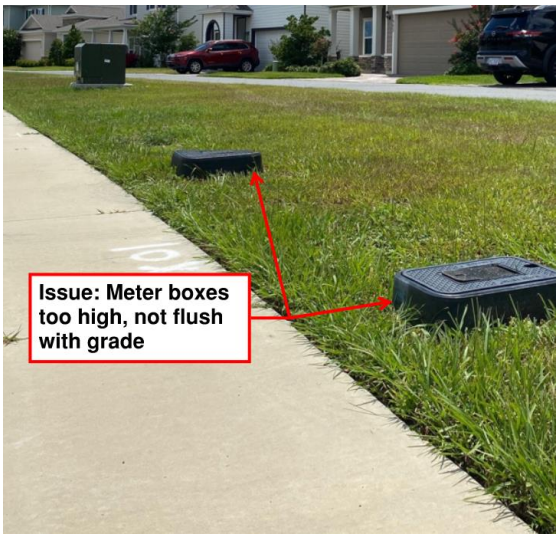


Figure 24 Meter Box Too High

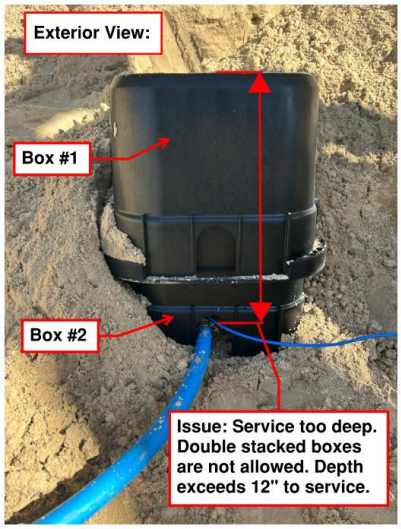


Figure 25 Meter Box Too Deep

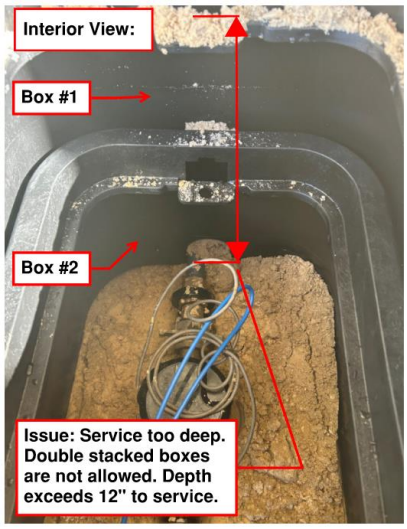


Figure 26 Meter Box Too Deep

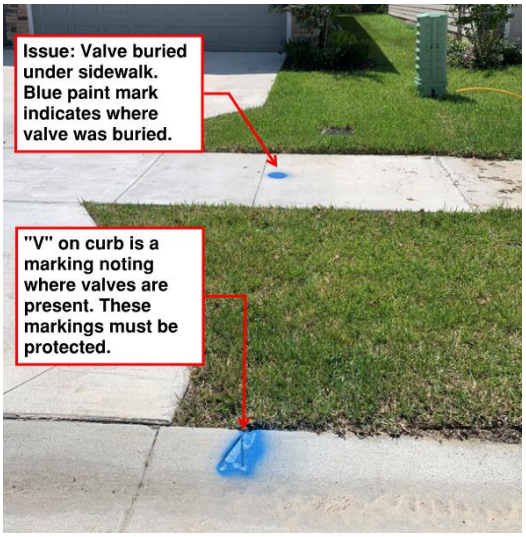


Figure 27 Water Valve Buried

B. Common Wastewater Installation Issues

Most issues with the sewer services are related to the cleanout – typically the cleanout is buried or missing, the incorrect cleanout cap part is installed, or the box protecting the cleanout is missing or the incorrect type. Other common issues involve construction debris in the sewer lateral piping that needs to be cleaned and removed.

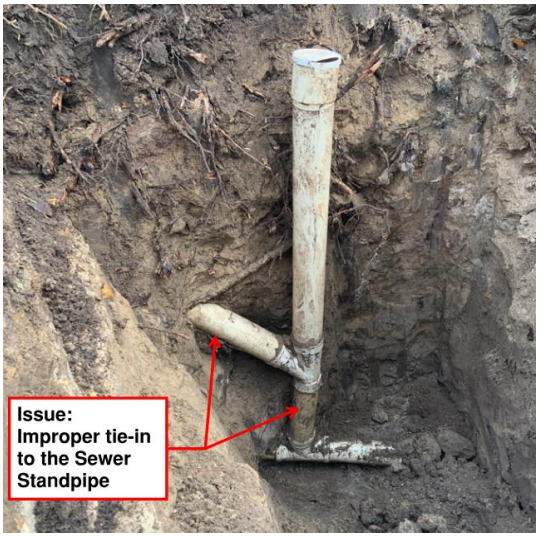


Figure 28 Standpipe Connection

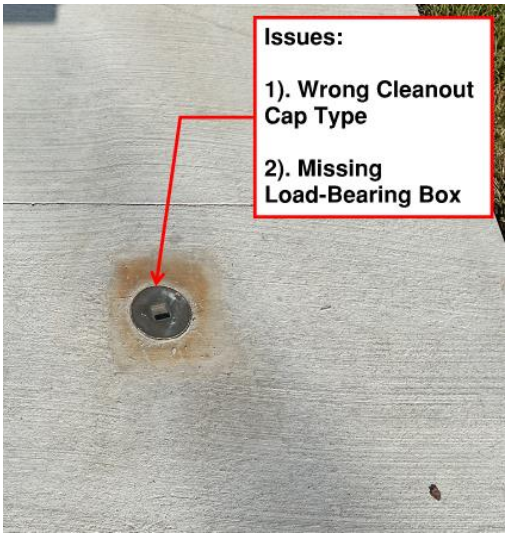


Figure 29 Wrong Cap and Box

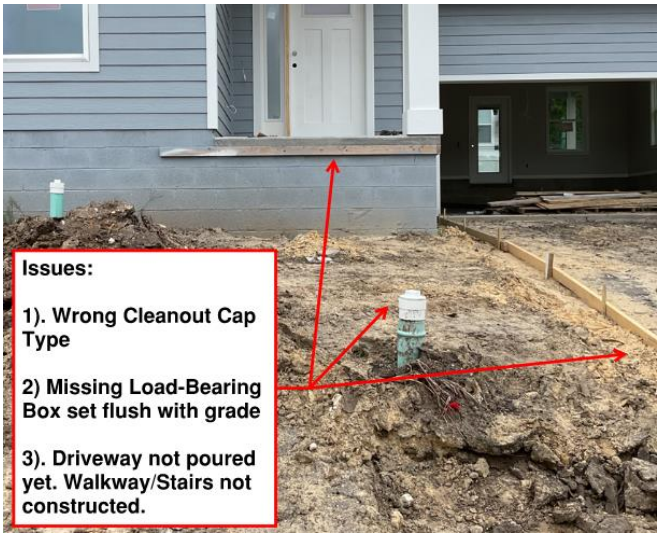


Figure 30 Multiple Sewer Issues

Figure 31 Cleanout Missing Box

Figure 32 Cleanout Missing Box

Figure 33 Construction Debris

Figure 34 Buried Cleanout

Figure 35 Buried Cleanout

5. Inspection Checklists

GRU Inspectors use a standardized checklist for every new connection inspection. Copies of these checklists are included in this section for reference. After the inspection is complete, GRU will provide the results to the Builder via an automated email. These results will also be uploaded to CitizenServe if part of a Building Permit.

Each item on the checklist will be marked as either Pass, Fail, or N/A. Items marked as Informational Only will be labeled Yes, No, or N/A.

The results of the inspection will fall into one of the following categories:

- **Pass**: All inspection items passed.
- **Pass with Corrections**: Items were found that need minor corrections, but they will not delay your Building Permit.
- **Fail:** Significant items were found that require immediate correction before proceeding.

GRU W/WW Release

Item #	Checklist Item	Description
1	General Comment	Additional notes not covered in inspection items below.
2	General, Inspection Readiness	Water and wastewater connections must be completed; Final grading must be established; Sidewalk, driveways, and walkways must be installed; and Construction equipment and debris clear from area around W/WW infrastructure (e.g. dumpsters, construction materials)
3	Sewer, Camera Service	Private lateral is properly connected to the GRU service per Details WW-5.0, WW-5.1, and WW-5.2
4	Sewer, Service Debris	Construction debris not entering the system from the sewer service
5	Sewer, Pipe, Fittings and Joints	Pipes are in sound condition; all joints on GRU owned portion of the service are gasketed joints; joints are properly assembled; Glued joints are prohibited.
6	Sewer, Cleanout Box	Cleanout box placed over cleanout per Detail WW-5.3 or WW-5.3.1; Box level and at grade; box and lid undamaged; lid fits correctly and flush, and box is properly supported
7	Sewer, Cleanout Cap	Cleanout cap is properly installed; Cleanout cap is the approved product type.
8	Sewer, Cleanout Locate Ball	Locate marker ball installed at cleanout and reading properly by locator device
9	Sewer, Valve Box and Pad	Valve box accessible and flush with grade; valve nut visible; box free of debris; 24"x6" round or square pad around box; tracing wire present
10	Sewer, Manhole Cover	Manhole cover accessible and flush with grade
11	Sewer, Curb Markings	Curb markings present for all cleanouts, manhole, valves, and wire boxes. Markings must be sized and colored per installation guidelines.
12	Water, Meter	Meter centered in box; curb stop upright and inside box; dual check valve installed (if Reclaim Customer); meter depth is within acceptable range per Detail W-8.01 (8" min to 12" max depth from grade to top of service pipe).
13	Water, Meter AMI	AMI ERT is connected to the meter; ERT cable is not damaged or broken; ERT is correctly placed in the box.
14	Water, Meter Box	Approved box is installed; box level and at grade; box and lid undamaged; lid fits correctly and flush.
15	Water, Meter Locate Ball	Locate marker ball installed at water meter and reading properly by locator device
16	Water, Valve Box and Pad	Valve box accessible and flush with grade; valve nut visible; box free of debris; 24"x6" round or square pad around box; tracing wire present
17	Water, Backflow Present	(Informational Only) If lot has irrigation system then they must have a Backflow Preventer installed 12" (min) above finished grade; must be installed outside of Right-of-Way.
18	Water, Irrigation System	(Information Only) Lot has residential irrigation system

GRU Reclaim Inspection & Cross Connection Tests

Item #	Checklist Item	Description
1	General Comment	Additional notes not covered in inspection items below.
2	General, Inspection Readiness	Final grade must be established; irrigation system must be installed; Owner's representative must be present and able to operate irrigation system for the test.
3	Reclaim, Meter	Meter centered in box; curb stop upright and inside box; meter depth is within acceptable range per Detail RCW-8.0 (5" min to 10" max depth from grade to top of service pipe).
4	Reclaim, Meter AMI	AMI ERT is connected to the meter; ERT cable is not damaged or broken; ERT is correctly placed in the box.
5	Reclaim, Meter Box	Box colored purple for reclaim; Box level and at grade; box and lid undamaged; lid fits correctly and flush.
6	Reclaim, Valve Box and Pad	Valve box accessible and flush with grade; valve nut visible; box free of debris; 24"x6" square or round pad around box; tracing wire present
7	Reclaim, Meter Locate Ball	Locate marker ball installed at reclaim meter and reading properly by locator device
8	Reclaim, Curb Markings	Curb markings present for all meters, valves, and wire boxes. Markings must be sized and colored per installation guidelines
9	Reclaim, CC Test #1	With Water Meter OFF and Reclaim ON, open hose spigot, operate each zone of irrigation system and verify no water discharges from the water spigot.
10	Reclaim, CC Test #2	With Water Meter ON and Reclaim OFF, open hose spigot and verify water is running then operate each zone of irrigation system and verify no reclaim discharges from any sprinkler.