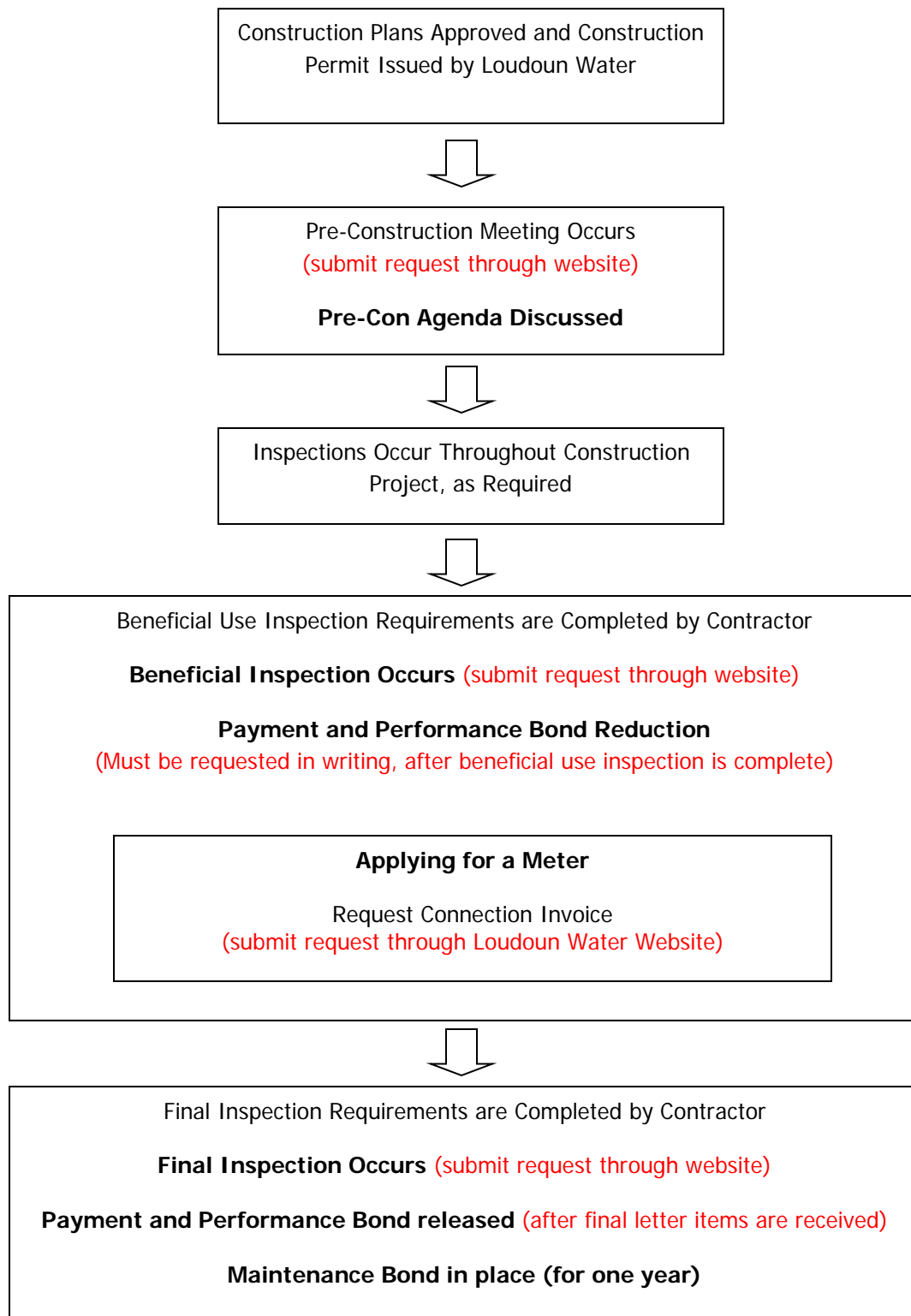


# **Workflow Information Packet**

## **Land Development Projects**

# Typical Construction Flow Diagram for Land Development Projects



# Loudoun Water Land Development Projects – General Workflow Procedure

1. Loudoun Water (LW) reviews the entire construction plans package and approves it. Once developer provides all information required in the approval letter, the Manager of Land Development signs the construction permit and LW sends the developer a copy of the signed construction permit, the contact information for the LW inspector assigned to the project, and this Workflow Information Packet.
2. The developer or designee requests a preconstruction meeting by submitting the “Pre-construction Meeting Form” found on the LW website (please note that this is separate from the County preconstruction meeting). During the preconstruction meeting, the scope of the project and any specific construction related issues are discussed. A pre-construction agenda can be found in Appendix A of this document. Attendees for the preconstruction meeting should include, at a minimum, Loudoun Water inspector, the owner’s representative, the general contractor and any subcontractors that will install water and sewer.
3. Inspections take place throughout the installation of the water and sewer utilities. The developer or designee can request a Beneficial Use Inspection once those requirements are completed (see Appendix B of this document), by submitting the “Beneficial Use Inspection Form” found on the LW website. Please note that LW only performs the hydrostatic test on the portions of the fire line(s) within the LW easement or right- of-way. Loudoun County should be contacted to obtain a permit for all tests and inspections associated with the fire line(s) outside of the LW easement/right of way.
4. The inspector approves the Beneficial Use Inspection or asks for certain items to be completed before passing this inspection. Once passed, the developer can request a reduction in their performance bond. This reduction is granted only after the record drawing fees are paid and lien releases are provided.
5. In conjunction with the Beneficial Use Inspection obligations, the project may reach a point where the entire project or a portion of the project meets the requirements of Beneficial Use, and is ready to obtain a meter(s). To begin this process, visit the LW website and submit the online “Request for Connection Invoice” form.
6. After the Connection Invoice Request form is received by LW, LW emails the requestor a quote for the meter(s), which includes the availability charge. The requestor should confirm with LW that the quote includes the meter(s) they need, and then LW will issue the invoice. Once the invoice is paid, visit the LW website

and request the meter(s) by submitting the online form "Meter Request Form". Please note, with the request of a meter, building lateral sewer inspections (from the test tee to the building) should have been completed. The project plumber requests these inspections via the LW website – "Lateral Request Form". If there are any concerns with regard to the actual meter setter length for commercial meters, this should be confirmed at this time. The meter set is then scheduled for delivery. *Note: Please include the contact name/phone number for the field contact person with the online meter request form.* LW will set the meter for all residential or commercial (less than 1½"), or provide the contractor with the meter (commercial) if the meter crock is set up correctly, for contractor installation (1½" and greater).

7. The developer or designee can request Final Inspection once requirements are completed (see Appendix C of this document) and by submitting the "Final Inspection Form" found on the LW website. The inspector walks the job with the contractor to verify compliance with Appendix C requirements and documents any punch list items. Upon request from the contractor, the inspector can provide written documentation of the punch list items. Once all of the items are addressed and seen by the inspector, the inspector passes the Final Inspection.
8. LW sends a letter to the developer asking for actual construction costs, a maintenance bond, lien release, list of materials used and executed deed. Once LW reviews and approves all documents, the performance bond is released. The VDOT land use permit (LUP-IPP) can now be submitted to LW for signature.
9. After one year, the maintenance bond is released and the project is considered closed, barring no defects in the work.

*A few notes for reclaimed meters:*

The processes for potable water service connections, noted above, also apply to reclaimed water service connections. The following items outline additional requirements for reclaimed water service connections. For a complete overview of reclaimed water design and installation requirements, please reference the Reclaimed Water Information Packet available on LW's website at:

<https://www.loudounwater.org/developers-new-construction/pre-design>.

1. Irrigation systems connecting to reclaimed water service must submit an irrigation site plan (i.e. design) and list of system components to LW for approval prior to installation.
2. All reclaimed water service connections require a signed Reclaimed Water Service Agreement for each building and/or irrigation system that wishes to connect to the system, prior to the release of a meter set.

3. The reclaimed water connection, building plumbing, and/or irrigation system needs to be inspected by the LW engineer and the backflow prevention technician prior to the release of a meter set. These inspections include the signage, labeling, pressure testing, backflow prevention, and demonstration that the installation is in conformance with the approved design. This inspection can be scheduled as soon as the interior plumbing is completed and/or when the irrigation system is installed.

# Appendix A: Pre-Construction Agenda

Date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Job Number: \_\_\_\_\_

- Introduction of Teams
- Verify Construction Plans (Rev and Date) Match Inspector's Plans; Current Standard Details

## Job Details Discussion:

- Inspector presence on site
- Cut sheets –email copy to Inspector and provide hard copy
- Water line installation
- Water quality samples
- Sewer installation, including discussion of slopes
- Blocking/Cross-blocking
- Gravel Requirements
- Marking tape/tracer wire
- Pump arounds or shutting off of valves – Plan and schedule
- Yellow Hydrants for Construction water
  - Policy for Yellow Hydrants and obtaining hydrant meter; Note on Std Detail G-5;
  - Construction Water: Rates and Usage
- Fire Lines
- Questions regarding approved materials
- Meters (size, type, std details that are applicable)
- Meter Crock Protection – Protective Orange Fencing (residential)
- Backflow Prevention, as applicable
- Grease Interceptor, oil water separator – material submittal to LW
- Other Project Specific Items (reclaimed water, grinder pumps, etc)
- Utility Protection

## General Information

- Memorandums to the Industry (see Loudoun Water website for full list)
- Workflow Information Packet for Land Development Projects - Checklists
  - Beneficial Use Inspection Minimum Requirements (request inspection on website)
  - Final Inspection Minimum Requirements (request inspection on website)
  - Meter Installation/Transfer Requirements
  - CCTV Inspection Requirements
- OT Policy (request/cancel on website)
- LW calendar (online website) and Holidays



## Appendix B: Requirements for Beneficial Use Inspection

Date: \_\_\_\_\_ Project Number: \_\_\_\_\_

Inspector: \_\_\_\_\_

### Sewer System:

- All manholes to be cleaned
- Hydrostatic testing completed and passed (mains)
- Sanitary lines flushed and CCTV inspection completed
- Removal or relocation of bulk heads / plugs
- House to main lateral installed and tested (for Connection Invoice Request)

### Water System:

- Pressure testing completed and passed (mains) (150 psi minimum)
- Fire line pressure testing completed and passed (200 psi test pressure)
- Water quality samples taken and passed (Contractor to record flushing time and provide to Inspector)
- Curb and Gutter installed
- Water service lines installed and approved
- Fire Hydrants – Reflective white top; bollards installed as required by plans
- For commercial applications, Backflow Preventer to be installed and Backflow Test Sheets submitted to Loudoun Water

### General:

- Base asphalt installation surrounding all valves and manholes (anything in the street); includes snow caps on manholes and valves as needed.
- Contractor has located all valves and manholes
- Contractor to verify all valves and fire hydrants are in working condition
- Contractor to verify proper frame and covers for manholes (per detail); easement manhole frame and cover bolted to top of manhole
- Concrete pads poured for LW utilities not in asphalt / finished grading of non asphalt areas around LW utilities
- Cleanout's are capped and protected



## Appendix C: Requirements for Final Inspection

Date: \_\_\_\_\_ Project Number: \_\_\_\_\_

Inspector: \_\_\_\_\_

### General:

- All manholes to be cleaned
- Sanitary lines flushed and final CCTV inspection completed
- Final paving
- Contractor has located all valves and manholes
- Contractor has verified all valves and fire hydrants are in working condition
- Fire hydrants to be painted in accordance with approved drawings and details
- Restoration of project easement areas completed by contractor (general grading and seeded/straw)
- Check meter crocks (refer to "Requirements for Meter Installation/Transfer" checklist for criteria)
- Cathodic protection test passed and locating wire on PVC water mains and pressure force mains;  
All documentation received by Loudoun Water
- Marker posts installed, where applicable, per Loudoun Water Standard Detail
- Verify any reclaimed (above grade) hydrants on site are locked out with proper locking collar  
(provided by Loudoun Water)
- Confirm final status for flushing station has been executed (i.e., remaining, removed, relocated, replaced).

## Appendix D: Requirements for Meter Installation / Transfer

Date: \_\_\_\_\_ Project Number: \_\_\_\_\_

Inspector: \_\_\_\_\_

**NOTE:** A failed meter crock inspection will result in a \$45.00 re-inspection fee and the need to re-schedule meter delivery.

### General:

- Installation meets requirements of Standard Detail for the project meter - refer to standard detail(s) within contract drawings, connection packet or the *Loudoun Water Engineering Design Manual, Standard Details* ([www.loudounwater.org](http://www.loudounwater.org)).
- All necessary Loudoun Water inspections have been passed
- All meter fees have been paid to Loudoun Water
- All associated piping connections not leaking
- Tracer wire is installed per detail
- Grade around crock is correct
- Cover set to grade
- Frame is level and centered on crock
- Meter setter is level and centered in meter crock
- Meter setter is set to correct min/max level from grade
- Maintain accessibility within the 5 foot easement from center of meter crock
- Meter crock is installed in grass area, unless specifically approved by LW during design; If exception exists, meter crock must be surrounded by one type of medium (i.e., concrete sidewalk, grass, brick, asphalt, etc)

### Additional specifics for commercial meter installation:

- Flared connections at meter setter are located inside meter crock
- The correctly sized meter setter is installed for the meter size requested and is adjusted to correct meter dimension. **NOTE: Loudoun Water's standard practice is not to allow the use of meter adaptors.** (Reference the Loudoun Water Engineering Manual (EDM), Table 4.6 – Meter Types, Capacities, Locations and Service Connections)
- Correct meter crock is installed for the meter size requested
- Bottom of crock has appropriate gravel/bedding layer (no dirt layers between gravel)
- Debris and rocks are removed from bottom of crock

**NOTE:** Request all meters via the website <https://www.loudounwater.org/content/water-meter-request>  
All meters are delivered to the site by Loudoun Water  
Meters 1-inch and below are installed by Loudoun Water  
Meters 1 ½ - inch and above are installed by the Contractor

## Appendix E: Requirements for CCTV Inspections

Date: \_\_\_\_\_ Project Number: \_\_\_\_\_

Inspector: \_\_\_\_\_

### General:

- Manhole frames are set
- All necessary Loudoun Water inspections have been passed
- Bulk Heads / Plugs are removed
- Manhole sewer lines are flushed and free of debris, grease, rocks, gravel, etc

**Note: CCTV Crew may inspect past the last manhole for the job to ensure debris was not flushed to existing sanitary line**

- No leaks at joints, connections, invert, or in manhole
- Free of low spots

### Additional specifics for CCTV1 inspection (occurs immediately preceding Beneficial Inspection):

- All manholes have base asphalt
- All manholes not in pavement and/or still having active construction nearby must have 3-sided orange fence
- All invert finished

### Additional specifics for CCTV2 inspection (occurs immediately preceding Final Inspection):

- Final paving