



Building Codes Division
Policies and Procedures

POLICY NUMBER: 94-11 (REVISED 2/2021)

SUBJECT: Rain Drains and Gutter Requirements

CODE EDITIONS: 2017 Oregon Plumbing Specialty Code (OPSC), 2017 Oregon Residential Specialty Code (ORSC), 2019 Oregon Structural Specialty Code (OSSC)

EFFECTIVE DATE: February 2021

Code Section: OPSC Section 1101

ISSUE: The consistent application and procedure for the issuance of Rain Drain permits.

Clackamas County policy requires all buildings provided with roof gutters and rain drains direct water to an approved drainage system or point of termination approved by the Building Official.

Exceptions

1. Buildings considered Ag Exempt structures or equestrian per ORS 455.315
2. Buildings exempt from a building permit per the ORSC.
3. Manufactured Homes located on their own property (Not located in a M/H park)
4. Buildings located at or above 1,500 ft. in elevation due to the snow levels at these elevations.
5. Outbuildings under 200 square feet in floor area.

NOTE: In the exceptions listed above, if a decision is made to add gutters even though not required, a permit and inspections will be required for the piping system to convey the water to an approved point of disposal.

Buildings requiring rain drains shall have a separate plumbing permit unless included in a NSFD or Manufactured Home permit. The applicant should be informed of the requirement for rain drains at the time of application. Buildings requiring a plumbing permit for a rain drain system will not be given a final until the plumbing permit is complete.

It is the responsibility of the contractor to verify that rain drains have been permitted, inspected, and have received an approved final plumbing permit inspection prior to issuing building final.

Fees

Detached garages or other outbuildings will require a full rain drain package.

If an attached garage is constructed in conjunction with the house, a separate rain drain package will not be required. If being constructed and/or inspected at a different time, a separate plumbing permit for a rain drain package will be required.

Rain drain packages are for residential only (not for commercial or industrial).

On additions or remodels of commercial, industrial, etc., structures shall be treated as new work.

Rain drain permits under the manufactured home permit. If a car port or cabana are constructed, a separate rain drain permit is required.

If questions arise, please contact the plumbing inspector supervisor.

Crawl Space or Low Point Drains

Section 408.6 of the ORSC requires that a crawl space drains will be installed on all one and two family dwellings.

Section 1804.8 of the OSSC specifies that the ground under any building or portion thereof shall be sloped to a low point and drainage facilities shall be installed to provide positive drainage from the area under the building.

Crawl space drains may be connected to footing drains or the rain drain system. Whenever these drains are connected to the rain drain system an accessible backwater valve must be installed according to the plumbing code. (2017 OPSC 1101.6.2-3)

In those instances where it is impossible to drain the space by gravity, mechanical devices shall be used. The appropriate pump and piping material shall be installed and inspected. (2017 OPSC 1101.6.2-4)

Similar to rain drains, one and two family dwellings and related structures on over 1 acre, may have these crawl space drains ran to daylight with rip-rap and rat proofing installed at the termination point.

Piping Material: If the back water valve is located inside the crawl space then the piping material from the valve to point of termination must be cast iron, ABS Schedule 40 or PVC/DWV. The back water valve must be accessible. (2017 OPSC Table 701.2, 718.3)

If the back water valve is located outside the foundation, then it must be located in an accessible yard box. The piping material from the crawl space to the valve shall be the same as above. From the valve to the point of termination, the pipe shall be cast iron, ABS Schedule 40, PVC/DWV Schedule 40. You may transition to PVC 3033 or 3034, once the pipe is more than 2 feet from the foundation. (2017 OPSC 1101.6.2-3)

Inspections: The structural/mechanical inspector will be responsible footing drains/ water proofing. The plumbing inspector will be responsible for rain drain and crawlspace drains.

Point of Termination for Residential Structures

Subdivisions

Most subdivisions have been designed with provisions for connecting to a storm sewer or perimeter system. Before considering soakage trench systems, check with Transportation Engineering regarding connecting to a system specifically designed for rain and crawl space drains.

Properties of less than one acre

Rain drains installed on properties of less than one acre will be required to terminate as per chapter 11 of the current plumbing code. In Clackamas County, storm water from rain drain systems will be conveyed to a storm sewer, storm sewage system or a rain water harvesting system in a manner which will not cause flooding to adjacent properties, streets, alleys, or walkways. Termination into a public roadside ditch or culvert is not allowed.

Properties of one acre or more

The point of termination of rain drains installed on properties one acre or larger shall terminate a minimum of ten (10) feet from all structures and five (5) feet from property lines. The point of termination shall be placed so that the storm water does not cross over a drain field or into neighboring property. There shall be approved erosion control measures provided at the outfall of the storm water line, such as rip-rap. Termination into a public roadside ditch or culvert is not allowed.

Point of Termination for Commercial, Industrial and Apartments

In the case of apartment complex carports, if the asphalt parking area is designed to receive storm drain water and allow gravity drainage away from carports, then the down spouts may be allowed to discharge on the parking area to an approved catch basin with pre-approval from the Building Official.

Manufactured Homes

Manufactured homes are not required to install rain drain systems unless they are located in a jurisdiction or which requires rain drains. However, if the applicant is going to install gutters, then a rain drain system and inspection is required. The methods of installation and point of disposal shall comply with the policy above. Some manufactured home parks and subdivisions require all units placed in the development to have rain drains. When inspections are requested, the plumbing section will do the installation inspection. Rain drains must be installed at the time of the manufactured home installation inspection. Parks are responsible for properly addressing site drainage.

Note: When installing a system for a property with more than 5,000 Sq. Ft. of impervious surface, in unincorporated Clackamas County, Please Contact Water Environment Services to obtain proper permits.

Commonly asked questions about rain drains

What type of pipe may I use?

Around the perimeter, one may use cast iron, ABS Schedule 40, or white PVC/DWV schedule 40. Contact a plumbing inspector with questions about ADS or CPE. You may transition to PVC 3033, 3034, or other material approved for storm sewer use once the pipe is more than 2 feet from the structure foundation. (2017 OPSC 1101.4.2)

The pipe used to terminate the drain may be cast iron, black ABS Schedule 40, white PVC DWV, green PVC 3033 or 3034. If using CPE or ADS contact a plumbing inspector for advice. Contact a plumbing inspector with questions about ADS or CPE. Green, 14 gauge tracer wire is required from the structure to the termination point. (2017 OPSC 718.4)

May one terminate in a soakage trench or dry well?

Soakage trenches or dry wells should be avoided if possible. When a soakage trench is being considered the soil must be of adequate porosity to facilitate drainage. If the soil is inadequate, a mechanical system will be required.

Can we tie the footing drain and/or low point drain to the rain drain?

Yes, in most cases. An approved back water valve must be installed in an accessible location on the branch line to the footing or low point drain. (2017 OPSC 1101.6.2-3)

What is the appropriate pipe size?

The size of the roof area, number of down spouts, slope of pipe, and system configuration needs to be known. Contact the plumbing inspector supervisor. Usually a 3-inch pipe will suffice for roof areas of up to 2,500 square feet.

What is the appropriate grade or fall?

Rain drain piping may be laid level on the footing around the perimeter of the structure when using cast iron, ABS or PVC-DWV material and secured. When leaving the footing or if installed next to the footing, piping shall run at a minimum of 1/4-inch per foot to point of termination.

How deep does the trench need to be and what are the backfill requirements?

Piping shall be buried per manufacturer's installation instructions for the material being used and laid on a firm bed for its entire length. Sand, gravel, or natural earth free of rocks are acceptable.

What kind of tests need to be done?

When installed on the exterior of a residential unit, no test is required. Contact the county's plumbing team for interior rain drain piping, and other applications

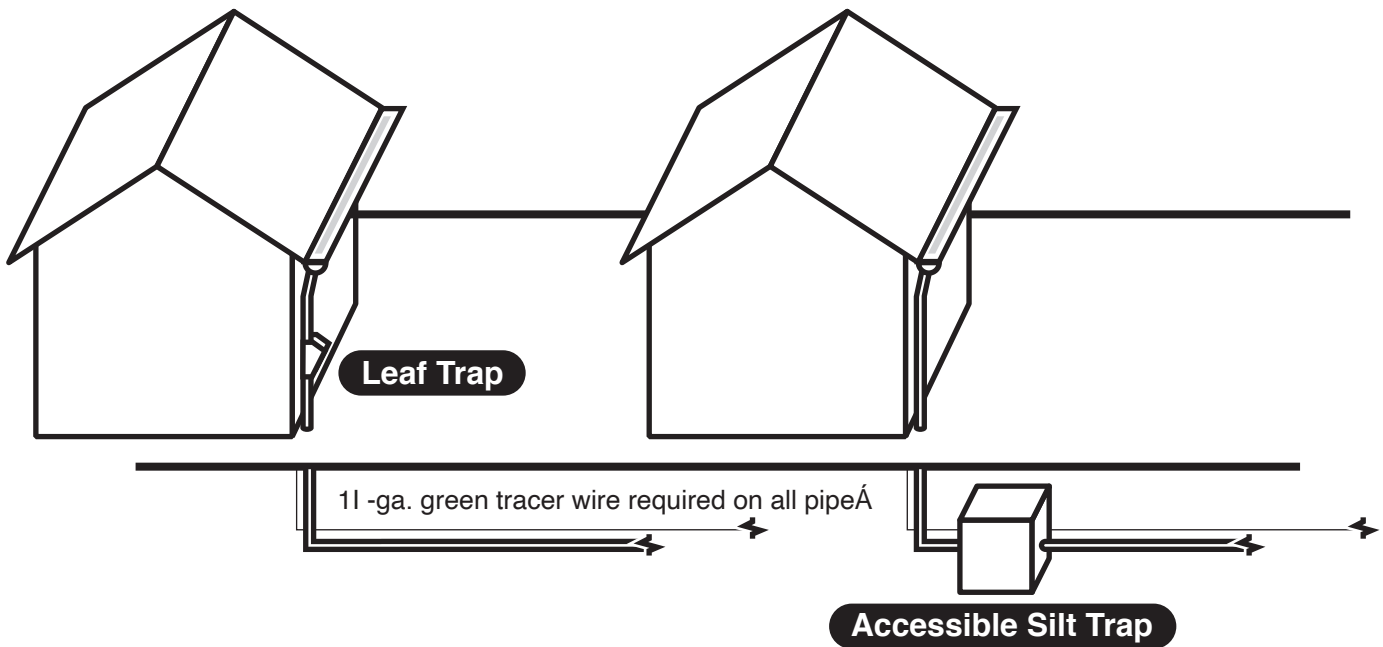
Who may install rain drains?

The home owner on their own residence or a contractor with a plumbing business license. (BCD 6-18-2014 Interpretation)



Rain Drains and Gutter Requirements

Buildings requiring rain drains must use a Leaf Trap or Silt Trap and Infiltrator Chamber, EZ Lay Drain or Perforated Pipe.



1 linear foot of trench required for every 100 sq. ft. of roof area

