

DRAFT: Amendment to Ordinance #19-02, the Sodaville Zoning & Development Ordinance

Placement: Appended at the end of the existing Ordinance as Section 4.100.

4.100 Storm and Surface Water Management Standards

I. Statement of Purpose

This ordinance includes standards for conveyance of surface water in streams, creeks and channels that exist on a site at the time of development. It also addresses pollution reduction and flow control for stormwater generated from new and redevelopment. For the purpose of this ordinance, “new” and “redevelopment” refers to any man-made change to improved or unimproved real estate including, but not limited to the placement of buildings or other structures, dredging, filling, grading, or paving.

The ordinance provides performance standards for addressing infiltration, treatment and detention of stormwater as well as design standards for facilities that serve to mitigate the water quality impacts of developments that fall below a certain size threshold.

II. Applicability

No permit for construction of new development or tenant improvements within the City of Sodaville shall be issued until a stormwater management plan is approved. Separate applicability thresholds for Pollution Reduction and Flow Control Standards are listed in section IV. Development projects shall not be phased or segmented in such a manner to avoid the requirement of these rules and regulations.

III. Stormwater Management Plan Submittal

A. Preconstruction Submittal Requirements

1. An analysis of stormwater mitigation strategies to increase infiltration and evapotranspiration (use of water by plants) and reduce the amount of stormwater runoff generated from the site. (Note: rainwater can soak into the ground where it falls or it can accumulate on a non-pervious surface, flow to a pervious area and then infiltrate into the ground. The former scenario is stormwater mitigation, while the latter scenario requires stormwater management.)
2. Calculations of the amount of impervious surface before development and the amount of impervious surface after development. Impervious surface refers only to strictly impervious surfaces including roofs of buildings, impervious asphalt and concrete pavements, and other specifically impervious pavement materials such as mortared masonry and compacted gravel.
3. An analysis of vegetative and other treatment methods used to reduce pollutants.

4. An analysis of flow reduction methods including, infiltration, and detention and techniques.
5. Statement of consistency with City of Sodaville stormwater management objectives and, if applicable, the watershed management plan for the basin and/or requirements of a pollutant load reductive plan for a water quality limited stream.
6. When the amount of impervious surface created is less than $\frac{1}{4}$ acre responses required by 3-5 above are waived, and of the following sections of this code only Section V., Surface Water Conveyance Standards, apply.
7. When the amount of impervious surface created is less than $\frac{1}{4}$ acres and use of the design standards specified in the Sodaville Zoning & Development Ordinance is proposed, responses required by 3-5 above are waived.

B. Post Construction Submittal Requirements

1. As-built plans, stamped by the City Recorder indicating all storm water mitigation and management strategies are installed per approved plans and approved changes.
2. Maintenance plans for all stormwater facilities installed to comply with this ordinance. The maintenance program must be approved by the City of Sodaville. Proof of maintenance shall be submitted annually. A signed maintenance agreement with a local contractor or city/county public works department can serve to meet this requirement.
3. When the amount of impervious surface created is less than $\frac{1}{4}$ acre and use of the design standards specified in the Sodaville Zoning & Development Ordinance is proposed, the requirement of 1 above is waived.

IV. General Requirements

A. All development shall be planned, designed, constructed and maintained to:

1. Provide a system by which storm/surface water within the development will be managed without causing damage or harm to the natural environment, or to property or persons.
2. Protect property from flood hazards.
3. Removal of 80% of suspended solids from stormwater.

B. Plan Review Standards

Plans shall be submitted to the City of Sodaville for review. Plan approval will be based on the following criteria:

1. Plans and calculations for development proposals resulting in more than $\frac{1}{4}$ acre of impervious surface and proposals not using treatment facilities built to the design criteria specified in the Sodaville Zoning & Development Ordinance must be stamped and signed by the City Recorder.
2. Design, construction and maintenance of proposed stormwater management practices will result in post construction stormwater volumes flowing off site

which are substantially the same as preconstruction volumes for all storms less than or equal to the two-year design storm.

3. Where required due to presence of fish, culvert installations must allow fish passage in accordance with Department of State Lands (DSL) and the U.S. Army Corps of Engineers (COE) and any other authorized federal, state, or local agency.

4. Installation of culverts, spans or stormwater outfalls along natural water features shall be designed to emphasize preservation of natural flow conditions, allow for natural obstructions and pursue stream enhancement opportunities.

5. Stormwater mitigation strategies, such as retention of existing trees, and use of porous paving surfaces, as well as stormwater treatment and flow control facilities used to meet the requirements of this code must be included in the plans.

6. Stormwater management plan shall be consistent with the State of Oregon's basin or sub basin watershed management plan and/or pollutant load reduction plan.

7. In areas of high pollutant load, stormwater infiltration shall incorporate, or be preceded by treatment as necessary to prevent siltation of the infiltration facility, protect ground water, and prevent toxic accumulations of pollutants in the soil. (It is preferable to eliminate pollutant contact with stormwater where possible.)

8. All vegetation used for the installation and landscaping of stormwater facilities shall be selected from plants listed in Appendix D of the Stormwater Management Manual adopted by the City of Eugene. Trees which are preserved or planted on site for stormwater mitigation credit, do not need to meet this criteria. Planting schedule and maintenance of vegetation shall be approved by the City Recorder.

9. All storm conveyance pipes and vaults shall be built to specifications of the City of Sodaville, as described in Sodaville Zoning & Development Ordinance. See Section VI for Pollution Reduction and Flow Control standards.

10. All stormwater infiltration, treatment and detention facilities shall be built to the specifications of City of Sodaville as described in the Sodaville Zoning & Development Ordinance. See Section VI for Pollution Reduction and Flow Control Standards.

C. The City of Sodaville reserves the right to restrict the use of infiltration facilities in high risk areas including those with steep slopes, unstable soils, high water tables, or sites known to be contaminated by hazardous substances.

D. Infiltration facilities which fall under the jurisdiction of DEQ's Underground Injection Control (UIC) Program must be registered with the state and meet the requirements of the UIC Program.

E. Bonds: Applicants shall provide a performance bond, similar surety, or irrevocable petition for public improvement acceptable to the City of Sodaville to assure successful installation and initial maintenance of surface pollution reduction and flow control

facilities. During construction and for a period of one year thereafter, the bond shall be in favor of the City of Sodaville and in an amount of the anticipated construction cost as specified in the Sodaville Zoning & Development Ordinance.

F. Contingency for system failure: If the storm management system fails due to lack of maintenance or breakage, and causes impacts to downstream water quality or flooding as a result of the failure, the City of Sodaville may perform the maintenance or repair and charge the owner of the facility.

V. Surface Water Conveyance Standards

A. Culverts and/or spans of streams, creeks, gulches and other natural drainage channels shall maintain a single channel conveyance system.

B. Culverts and/or spans are to be sized for the 24-hour post-developed tributary conditions of the 100 year storm.

C. Conveyance calculations shall use the Rational Method for analysis. Exceptions must be documented and approved by the City of Sodaville.

D. In-stream detention is not allowed.

E. It shall be the responsibility of the owner that the new drainage system shall not negatively impact any natural waters, upstream or downstream from the site. The owner is responsible for providing a drainage system for all surface water, springs, and groundwater on site for water entering the property as well as management of springs and groundwater that surface during construction.

VI. Pollution Reduction and Flow Control Standards

A. Applicability

1. This section is applicable to all construction and post-construction operations that impact more than $\frac{1}{4}$ acres.

B. Infiltration, Treatment and Detention

1. Infiltration

a. Infiltration systems are to infiltrate a minimum of one inch of rainfall in 24 hours].

b. A facility designed to temporarily hold standing water shall drain at a rate sufficient to empty its capacity volume in 30 hours.

c. Stormwater treatment, in accordance with Subsection B.2 of this Section, shall occur prior to or concurrent with infiltration.

d. Infiltration systems shall be designed to overflow to conveyance systems in accordance with Subsection D of this Section.

e. Infiltration may be waived, or reduced, if it can be demonstrated by a registered professional engineer that infiltration will destabilize the soil, cause structural problems, or provide negative impacts to the environment,

or is not feasible due to site constraints such as high groundwater or soil contamination.

2. Treatment

- a. Water quality facilities shall be designed to capture and treat runoff for all flows up to one half of a two-year, post-developed, 24-hour storm.
- b. The water quality system shall use vegetation for treatment. Accepted types of vegetated treatment facilities and sizing criteria are described in the Sodaville Zoning & Development Ordinance. Alternative systems may be used with approval of the City Recorder and shall be designed to provide equivalent treatment as is provided with a vegetated system.
- c. A facility designed to temporarily hold standing water shall drain at a rate sufficient to empty its capacity volume in 30 hours.
- d. Systems treating stormwater from over $\frac{1}{4}$ acre of impervious area and all systems that deviate from the sizing and design criteria in the Sodaville Zoning & Development Ordinance must be designed by a registered engineer and be approved by the City Recorder.

3. Detention

Onsite storm quantity detention facilities shall be designed to capture and detain runoff as follows:

- a. Two-year, 24-hour post-developed runoff rate to the two year, 24-hour pre-developed discharge rate;
- b. A facility designed to temporarily hold standing water shall drain at a rate sufficient to empty its capacity volume in 30 hours.
- c. Sites with infiltration systems designed to handle storms in excess of that specified by Subsection (1) of this Section will be permitted to reduce on-site detention requirements by a volume equal to 100% of the excess infiltration capacity.

C. Combine stormwater infiltration, treatment and detention.

Facilities receiving stormwater from impervious areas less than $\frac{1}{4}$ acre and designed in accordance with the sizing and construction standards contained in the Sodaville Zoning & Development Ordinance are presumed to comply with the City of Sodaville infiltration, treatment and detention requirements of this code.

D. Conveyance

Infiltration, treatment and detention facilities shall be constructed to convey stormwater that exceeds their design capacity. Conveyance systems shall be sized to meet the following conditions:

1. Storm sewer conveyance facilities draining less than $\frac{1}{4}$ acres, 25-year, 24-hour design storm.
2. Storm sewer conveyance facilities draining greater than $\frac{1}{4}$ acres, 50-year, 24-hour design storm.