



1 Stop Storm Water Design

June 28, 2023

- Retain the first 0.50 inch (80th percentile storm) of precipitation on site
 - For new developments, retain the 80th percentile storm OR mirror the pre-development hydrological discharge conditions—whichever is less. Refer to the [SW Design Manual](#).
- Detain water generated by a “twenty-five year storm” on site with a max release rate of 60 GPM/acre or 0.13 CFS after the required retention.
- Design for the 100-yr overflow path and show it on the grading/drainage sheet.
- Evaluation of a Low Impact Development (LID) approach is required. Non-structural BMPs which are a form of LID, must be utilized before reliance on structural BMPs. Non-structural BMPs may include:
 - Route run-off to vegetation. All roof and dumpster area run-off is required to drain to vegetation prior to injection, infiltration, or discharge (Orem City Code 23-4-8(7)). If this or other LID is found to be infeasible due to site constraints such as: high groundwater, drinking water source protection areas, soil conditions, slopes, accessibility, excessive costs, or any other justifiable constraint; written justification and selected alternatives must be provided on the [SW Questionnaire](#). Alternative options for roof run-off can be found in the [Roof Drain Education](#) document found at stormwater.orem.org.
 - Show grading of dumpster pad on grading/drainage plan sheet.
 - Minimize or break up impervious surfaces
 - Preserve native soils/vegetation
 - Utilize landscaping via curb cuts, etc. LID practices can be found in [A Guide to Low Impact Development within Utah](#) found on the DEQ website.
- For Class V injection wells (sumps, stormtech chambers, etc), a geotech report with borings performed in or near infiltration areas will be required to verify soils and water levels are sufficient for percolation. Bottom of the gravel envelope must be 5 feet above the historical high water mark for the area.
- An inspection port is required in each chamber row of underground stormwater storage for maintenance inspections.
- Vegetated swales must have 50% of the lowest part of the area evenly vegetated.
- Provide storm water pretreatment specific to expected pollutants prior to injection, infiltration, or discharge.
 - Once storm water is treated, all consecutive structures must have solid lids.
- Provide a drainage report that includes all of the items listed in the [Full Site Plan DRC Checklist](#).
- Details of every storm water structure must be included. Particularly those designed specifically for the site (overflow, orifice, underground chambers, etc).
- Do not discharge storm water within 5 feet of any building foundation. Building code requires that the grade around the foundation slopes away at 0.25"/foot for 10 feet.
- Do not place any obstruction over manholes or sumps including tree canopy. This impedes future maintenance.

This document is an abridgement of common redline comments and the City of Orem's storm water design documents found at stormwater.orem.org. It is not all inclusive, refer to the full documents for the design of a proposed storm water system.