

Purpose & Intent:

The uncontrolled runoff of rainwater from impermeable surfaces into the storm sewer system is of growing concern as development spreads in Portland, overtaxing a system that wasn't designed for the burgeoning rate of stormwater flow. Responsible mitigation of that runoff is the purpose of this plan. In so doing, we will create a model of acceptable rainwater management unequaled by any other residential property in the city.

Elements:

- Catchment
- Diversion
- Artificial Permeable Surfaces
- Storage
- Distribution and use

Catchment:

Gutters will be installed at key points of the dwelling and garage roofs, directing the flow of rainwater through downspout conductors for multiple uses.

Diversion:

Most of the collected runoff will be directed by gravity to strategically located plantings. In particular:

- The driveway will be graded in such a way to divert the flow of rainwater to the parking area screen planting of White Cedar and to the root well of the saved 12" Red Maple on the Lot #2--Lot #3 boundary line.
- Part of the guttered flow of rainwater will be directed by sub-grade drain piping to the root well of the Bald Cypress planted on the eastern boundary area of the property.
- All of these species relish wet conditions and will thrive under these conditions.

Artificial Permeable Surfaces:

On the Site Plan, the path from the main driveway that leads down to Private Catch Basin #3 will be covered in pavers and bedded in well drained soils, allowing much of rainwater to percolate into the soil before reaching the catch basin.

Storage:

Private Catch basins #1 and #2 each have an internal capacity of several hundred gallons to the level of the exit drain piping.

Distribution and Use:

Submersible irrigation pumps will be installed in Catch Basins #1 and #2. They will be controlled by float switches with manual overrides and will feed a sub-grade network of irrigation hoses feeding the root structures of the various plantings around the property. In addition, hose standpipes will be installed for feeding water flow to portable lawn sprinklers and hoses as needed.

Summation:

When completed, this plan will mitigate and reuse a vast majority of the stormwater runoff from the property's impervious surfaces, resulting in a very low, if any, net flow into the storm drains. This is good for the overtaxed capacity of the city's storm sewer system, and a real benefit to our property; a win-win.