

Upper Rum River Watershed Management Organization (URRWMO) Watershed Management Plan

Landlocked Basins Standards

The following standards were recommended by a Technical Advisory Committee (TAC) including representation from each URRWMO member city. Each member community must update their local water plan and ordinances for consistency with this amendment within two years of the effective date.

Date of URRWMO Board Approval of Landlocked Basins Standards: Sept. 3, 2020

Background

The URRWMO Plan states the TAC will develop additions to the current plan content regarding landlocked basins. Specifically, the TAC must determine what is required in an engineering report or what constitutes acceptable safeguards before creating an outlet to a landlocked basin.

Landlocked Basins Definition

Land areas without an outlet or discharge to a receiving waterbody such as a stream or lake.

Purpose of Landlocked Basin Standards

The purpose is to prevent increases in flood elevations within landlocked basins not wholly owned by the entity proposing development and to prevent increases in discharge in the watershed by projects that provide outlets to areas that were landlocked (no discharge).

Originally Adopted URRWMO Plan Content (replaced by this amendment)

“Control increase in runoff volume from landlocked basins by only allowing outlets in conformance with approved local plans. Prohibit new discharges from landlocked basins unless an engineering study is completed to evaluate the effects of the outlet and design to mitigate impacts. Must demonstrate that downstream properties are not adversely affected by the flows. Any outlet must be in conformance with current wetland regulations.”

Revised Landlocked Basins Standards

For development or redevelopment projects >1 acre, prohibit new discharges to or from landlocked basins unless an engineering study is completed to evaluate the effects of the outlet and design to mitigate impacts. The study must include:

- Within the basin, hydrologic/hydraulic modeling certified by a licensed professional engineer to determine that storage is adequate for a 100-year precipitation event.
 - An outlet may be created to allow discharge above the 100-year event.
 - An outlet could also be considered below the 100-year High Water Level if additional retention and/or volume control measures are constructed such that the post-condition runoff rates and volumes for the site do not exceed the pre-condition runoff rates for 2-yr, 10-yr, and 100-yr storms and average annual volumes. Increases in rates and volumes may be allowable if compensatory BMPs have been designed and constructed in accordance with an approved Local Water Management Plan.
 - If the landowner controls the entire storage area of a land locked basin and any change in storage would not affect other landowners, then this analysis is not required.
- Downstream of the basin, hydrologic/hydraulic modeling analysis certified by a licensed professional engineer to determine no rise (>0.00ft) in downstream 100-yr flood elevations.
 - A slight or negligible increase in downstream 100-year flood elevations can be allowed if easements were existing or obtained and if it does not create downstream nuisance conditions. Considerations should include size of the watershed, size of the landlocked basin and size of the receiving water, and mitigating practices installed elsewhere.
- Hydrologic/hydraulic modeling analysis certified by a licensed professional engineer demonstrating stormwater volume and rate control within the site consistent with federal, state, WMO and local standards. Acceptable methodologies will be determined by the city.
- Identification of maximum practical on-site water retention and/or infiltration. Include identification of possible retention and/or infiltration sites, actual sites planned, and volume retained and/or infiltrated. For infiltration, include calculation of volume infiltrated. For retention, include discussion of the timing of discharge from the basin(s) in relation to the timing of other inflows to the receiving waterbody.
- Analysis considering how federal, state and local wetland laws, including the MN Wetland Conservation Act, impact possible actions.
- Consideration of risks and probability of the new outlet degrading downstream waters by conveying invasive species or pollutants. At a minimum the analysis must include:
 - Comparison of total phosphorus (TP) and total suspended solids (TSS) concentrations in the receiving waters and anticipated in the landlocked basin.
 - Calculation of additional TP and TSS, or other pollutants of concern as determined by the city, loading to the receiving waterbody if an outlet is added to the landlocked basin.
 - A search for invasive species in the landlocked basin.
- Consideration of alternatives and why they were not selected.

Final permitting decisions shall be made by the city where the project occurs. The city will determine any critical elevations or boundaries of waterbodies needed for the engineering study. Development which results in quantifiable increases in 100-yr flood elevations may be allowed if appropriate financial agreements (and/or easements, as appropriate) are enacted with affected property owners.