

## *Best Management Practices Snow Storage*

### *Purpose*

The intent of this document is to provide guidance for the storage and management of snow removed from roadways, parking lots, and other impervious surfaces that can potentially contain a range of pollutants. These include, but are not limited to, sediment, salt (and other deicing compounds), oil/hydrocarbons, nutrients, metals, trash, etc. Snowmelt can also result in erosion and flooding if improperly managed and stored.

Utah's MS4 permits require that the Permittee minimize discharges to waters of the state associated with snow disposal and melt (Small MS4 Permit part: 4.2.6.6.4.). Additionally, Utah's MS4 permits require that Standard Operating Procedures (SOPs) be created for maintenance of snow disposal areas to ensure they are protective of water quality (Small MS4 Permit part 4.2.6.6.1.).

Snowmelt is stormwater and can be discharged like rain runoff to the MS4 and storm drain systems with appropriate Best Management Practices (BMPs) as necessary to prevent contaminants from discharging with the stormwater to waters of the state.

### *Snow Storage Locations to Consider*

- Pervious surfaces (preferably in areas with well-draining soils)
- Shallow slopes (less than 6%)
- Vegetated areas (preferably with salt resistant vegetation)
- Above a stormwater treatment BMP (such as a vegetative strip, detention basin, swale, etc.)

### *Snow Storage Locations to Avoid*

- Areas with septic systems/leach/drain fields
- Areas draining to impaired waterbodies
- Areas within a floodplain
- Areas on or directly adjacent to storm drains
- Areas that may block/restrict stormwater drainage
- Areas upgradient of salt piles or other pollutant sources
- Areas near roadways (where further contamination could be introduced)

### *Snow Storage BMPs (Temporary)*

Temporary BMPs should be considered, especially in instances where the snowmelt is suspected to be heavily contaminated.

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This snow storage location is labeled, on a paved surface, & upslope of drainage BMPs. This photo is available at: [https://tahoebmp.org/Documents/BMPHandbook/Chapter%204/4.2/c\\_SnwStrg.pdf](https://tahoebmp.org/Documents/BMPHandbook/Chapter%204/4.2/c_SnwStrg.pdf)

Some examples include: downgradient sediment controls (i.e., berm, silt fence, straw wattle, etc.) to filter snowmelt water prior to discharging, berms/silt fence to direct snowmelt to long-term storm water controls (i.e., detention basins, vegetative strips, etc.), and velocity dissipation devices in areas that will receive channelized flow (to prevent erosion).

### *Snow Storage BMPs (Permanent)*

For many locations in Utah, snow storage and management are required each winter. As such, more permanent controls and locations should be considered.

When identifying or managing these locations, consider implementing factors such as: salt-resistant vegetation, large capacity for infiltration (shallow slope, convex shape, permeable soils), areas away from high ground water, and stormwater controls that treat potential pollutants of concern (See Table Below).

The table below was taken from the [Minnesota Storm Water Manual Website](https://stormwater.pca.state.mn.us/index.php?title=Guidance_and_recommendations_for_storing_transported_snow_and_for_on-site_snow_storage). It identifies pollutants of concern within snow piles depending on the land use designation where the snow originated.

Pollutants of concern for different land uses							
Land use	Sediment	Phosphorus	Nitrogen	Metals	Organics	Chloride	BOD
Residential		X	X				X
Commercial	X			X		X	
Industrial	X			X	X	X	
Transportation	X			X	X	X	
Park		X	X				X
Parking lot				X		X	

Table available on: [https://stormwater.pca.state.mn.us/index.php?title=Guidance\\_and\\_recommendations\\_for\\_storing\\_transported\\_snow\\_and\\_for\\_on-site\\_snow\\_storage](https://stormwater.pca.state.mn.us/index.php?title=Guidance_and_recommendations_for_storing_transported_snow_and_for_on-site_snow_storage)

### *Snow Storage Prohibited Practices*

Snowmelt is considered a stormwater discharge. As such, it must be protected appropriately. Any activities or practices that intentionally introduce contamination to the snow are prohibited. For example, greasing the beds of snow plow trucks would be a prohibited practice.

Additionally, discharges that are mixed with any sources of non-stormwater, discharges that would cause or contribute to in-stream exceedances of water quality standards, and discharges of any pollutant into any waters of the state for which a Total Maximum Daily Load (TMDL) has been approved by EPA (unless the discharge is consistent with the TMDL) are strictly prohibited per Utah’s MS4 permit part 1.4.

### *References*

Minnesota Stormwater Manual, Minnesota Pollution Control Agency. [Guidance and recommendations for storing transported snow and for on-site snow storage guidance and recommendations for storing transported snow and for on-site Snow Storage](https://stormwater.pca.state.mn.us/index.php?title=Guidance_and_recommendations_for_storing_transported_snow_and_for_on-site_snow_storage). Last updated 2-2-2023.

TRPA BMP Handbook. [Chapter 4: BMP Toolkit 4.2-c Snow Storage](#). Last updated May 2014.