Snow and Ice Control Plan

CITY OF SHERIDAN, WY
# Snow and Ice Control Plan

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Snow and Ice Control Plan

I. GENERAL

A. PURPOSE

The purpose of the Snow and Ice Control Plan is to communicate the process and level of service the citizens of Sheridan can expect for snow removal and ice control. The goal of the Public Works Operations Division is to maintain mobility on roadways and pathways. This does not always mean pavement will be bare and dry, but it will be passable. While the severity of each winter storm is unpredictable, the City will continue to work within its resources to maintain the highest level of customer service possible while balancing efficiency in snow and ice control.

The objective of snow and ice control is to return road surfaces to safe winter driving conditions as soon as feasible within the limitations of this policy, our limited resources and weather conditions. With proper use of storm forecasts, personnel, equipment, and de-icing materials, the desired result can usually be attained. However, flexibility is needed to adapt to the variety of circumstances and conditions during a winter event.

B. POLICY CONSIDERATIONS

In developing the policies for how to best undertake winter maintenance activities, several factors must be considered including the following:

- Public safety- Car accidents, slips and falls, damaged property
- Funding- Operate within a reasonable budget
- Resources- The availability of personnel, equipment and subcontractors
- Essential Mobility- Hospital, Police, Fire and Schools
- Commerce- Local businesses, mail, and restaurants
- Quality of life- General daily activities

C. SOURCES

Guide for Snow and Ice Control, AASHTO
The Basics of Snow and Ice Control, APWA
Snowfighter’s Handbook, Salt Institute

D. POLICY STATEMENT

The snow and ice control objectives of the City are to:

- Maintain its priority roadways, which consist of major and minor arterial streets, access for emergency services, major collector streets, school zones and business access.
- Provide adequate mobility and safety for properly equipped and prudently operated vehicles within a reasonable time after the end of a weather event.
- Provide cost effective snow and ice control services

The City has a commitment to provide effective and efficient winter maintenance to its citizens. However, it must be noted that the following circumstances may prevent or delay snow and ice removal.
Snow and Ice Control Plan

- Equipment breakdowns
- Severe weather events that risk the wellbeing of the maintenance crew
- Equipment rendered inadequate by the depths of the snow or drifts
- Parked or stalled vehicles that restrict access
- Unforeseen emergencies

E. DEFINITIONS

**Snow route**- A designated street that will receive curb-to-curb snow removal when a snow alert is declared. Vehicles should be removed from these streets during a snow alert.

**Snow alert**- A notification to the public indicating the city will commence curb to curb snow removal on selected snow routes.

**Citywide snow alert**- A notification to the public indicating the city will commence curb to curb snow removal on selected streets that are NOT snow routes.

**Level of service**- Desired, normally achievable condition of road surfaces at different times during and after typical winter events.

F. LEVEL OF SERVICE

It is very important to preserve the mobility of Sheridan’s residents during the winter months. However, for a variety of reasons, it is impractical to achieve bare pavement on all of our roads after a storm. Below this plan establishes to what degree different areas of town will be maintained. The 3 levels of service are:

- **Level 1**: This is the highest level of service. The roadway is clear from curb to curb.
- **Level 2**: Clear wheel tracks
- **Level 3**: Navigable surface. The street may still have packed snow or ice

G. PRIORITY LEVELS

Prioritizing streets is a critical component of any Snow and Ice Control Plan. It provides a systematic way to dispatch resources as each storm dictates. Streets will be maintained according to the following priorities. The priorities and their criteria are as follows:

**Priority 1**: These roadways are the major arterial streets. Also included are streets that provide access for emergency services such as fire stations, medical facilities and the police department along with chronic icing problems at hills, curves or intersections that are likely to cause traffic accidents. Priority 1 streets will be maintained for all snow events.

**Priority 2**: These roadways are minor arterial and major collector streets and are generally streets that connect major arterial streets to residential streets. Also included are streets that provide access to school zones, major office areas and business areas such as grocery stores and service stations. Priority 2 streets will be maintained for all snow events.

**Priority 3**: These roadways are mainly cross streets that connect major collector streets. Also included are collector streets that serve businesses. Priority 3 streets will be maintained for most snow events.

**Residential**: Four-way intersections controlled by stop signs will be sanded. These streets will not otherwise be maintained; however, requests for maintenance at specific locations may be made by calling customer service at 307-674-6483. The location(s) will be inspected for snow or ice conditions that warrant attention to
eliminate a severe hazard. Generally, locations that will receive attention are limited to hills and intersections with steep grades. Ice build-up in gutters is not a condition that will warrant attention. If attention is warranted, the location(s) will be inspected periodically to determine if the street should be included as a Special Priority street.

If severe winter storm conditions warrant and when directed by the Public Works Director or designee, supplemental snow plowing/removal of residential streets will be initiated.

The Plan’s appendix and the City’s website, www.SheridanWY.net, provide the current priority route map which shows the streets that will be maintained for snow and ice control operations. Streets that are not shown on the map may be added if they meet the criteria of the priority policy.

II. WINTER STORM OPERATIONS

A. RESPONSIBILITIES

The Street department is responsible for all roadways and city owned parking lots. The Street Superintendent will monitor the forecast and make appropriate adjustments to accommodate each particular event.

The Park department is responsible for parks, pathways and bridge sidewalks.

Some streets in the City are state and county maintained roads. Snow and ice control on these streets will be performed by another agency.

The equipment maintenance department is responsible for the repair and maintenance of snow removal equipment before, during and after an event.

B. WINTER STORM CATEGORIES FOR OPERATIONS

For the purposes of this Plan, winter storms will be categorized into four basic types. The response to the storm varies for each category. The following discussion presents information concerning the service levels maintained and the materials used for each category of storm.

Category I

Predicted Snowfall Amount: Trace – 2 inches

Service Level: Maintain Priority 1 and Priority 2 routes during the storm. Priority 3 streets are not maintained.

Street treatment may consist of applying brine to bridges and overpasses prior to the onset of the storm. Solid de-icer may be used at limited locations depending upon the accumulation and street conditions. Snow plows will be deployed.

Category II

Predicted Snowfall Amount: 2 – 4 inches

Service Level: Maintain Priority 1, Priority 2 and Priority 3 streets during storm.
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Storms at the upper snowfall level of this category will require deployment of more snow plows. Heavy equipment, such as loaders and graders, is not required for storms at this level. Street treatment consists of plowing and applying solid de-icer during the storm. Brine may be applied to bridges and overpasses prior to the onset of the storm.

Category III

Predicted Snowfall Amount: 4 – 10 inches

Service Level: Maintain Priority 1, and Priority 2 streets during storm. Priority 3 street maintenance may be limited, depending upon the severity of weather conditions.

Storms at this level likely require all snowplows. Storms at the upper snowfall level may require heavy equipment such as loaders and graders. Snow will be removed up on all pickup routes. Street treatment consists of plowing during the heavy snowfall period and transitioning to application of solid de-icer as snowfall ends and loose snow is removed.

Category IV

Predicted Snowfall Amount: 10 inches or more

Service Level: Priority 1 streets are maintained to remain passable during the storm event. Priority 2 street maintenance will be limited to completing maintenance after Priority 1 streets remain passable. Other divisions may be called upon to assist snow and ice control efforts.

This category includes severe winter storms with sufficient snowfall that causes a major disruption in the transportation system. Major roadways, including interstate highways, may be closed. Businesses and schools may also be closed. Storms in this category require all available personnel and equipment and may include contracted snow removal personnel and equipment.

C. SNOW AND ICE CONTROL PROCEDURE - STREETS

Hours of Work

During the winter months, when an event is not expected, the street department will have a typical shift starting at 7:00 am to 3:30 pm on weekdays. The swing shift operator will work between 2:00 pm and 10:00 pm while the morning shift operator will work between 4:00 am and 12:00 pm. On the weekends, a designated on-call person will be available. This will ensure there is coverage for an unexpected storm virtually all of the time.

When a snowstorm is predicted, the Street Superintendent will adjust the crew’s schedule so that the correct number of plows can be dispatched continuously for the duration of the event. Employees will be staggered so that there are always plows on the road.
Snow and Ice Control Plan

The weather forecast and the predicted intensity of the storm will dictate the required level of staffing for each snow storm. If required, the superintendent can call on other divisions to supply snowplow drivers.

Preparation

The intent of this plan is to establish consistent protocols that will be used throughout the season. However, each meteorological condition presents different difficulties that will dictate exactly how the city will respond to a given storm. A variety of factors are considered when preparing for an upcoming event including:

- Rate and accumulation
- Moisture content
- Presence of sleet and freezing rain
- Temperature before, during and after storm
- Wind velocity
- Time of day
- Storm duration
- Intervals between storms

Between storms the snow plows should be fully fueled and loaded with ice melt. All equipment should be kept indoors if possible, otherwise they should be plugged in when nighttime temperatures are expected to be below 35°F. Equipment should be inspected daily before using and at least every 3 days if they aren’t being used. The Street Superintendent will make sure there is always an adequate supply of sand and ice melt.

The Street Superintendent will, at his discretion, direct crews to apply a brine mixture to prepare for an expected storm if the conditions are appropriate. Brine will not be applied if temperatures are anticipated to fall below 20°F or rain is likely in the forecast.

Sanding and Plowing

A variety of materials may be used for ice control such as conventional anti-skid mixture, liquid anti-icer and solid de-icer. (See the description of these materials later in this Plan.) The required materials and application rates are determined by the Street Superintendent based on current and future weather conditions in accordance with supplier recommendations, environmental guidelines and acceptable municipal practices.

The Street Superintendent will implement methods and procedures to monitor weather conditions in order to begin operations as soon as possible after accumulation begins and snow can be effectively plowed. Plow(s) will be dispatched immediately when snow starts and in some cases, will pretreat areas with de-icer.

Streets shall be plowed and/or de-iced in accordance with the street plowing priority policy as defined in the Plan. Priority 2 streets may be plowed with Priority 1 streets when route plowing efficiency can be achieved. All snow will be moved from the center of the road to the curb unless directed otherwise by the Street Superintendent. Snow should only be plowed to the middle if it is going to be picked up and hauled off.

Priority 1 and Priority 2 streets with multiple lanes will be plowed such that snow is removed from all travel lanes during the storm and from turn lanes after the snowfall has ended. This may require pushing snow near public sidewalks. Operators shall make every effort to prevent snow from being plowed onto walkways.
Snow and Ice Control Plan

Streets with two lanes will be plowed as wide as possible without pushing snow on the public sidewalks. One plow pass in each direction will be made on priority 3 streets in order to keep snow from being pushed into the parking area or onto sidewalks.

Snow removal

In the case of a category III or IV storm, the Operations Superintendent will declare a snow alert by notifying city management, the police department, customer service, the text club and all media outlets in Sheridan. Crews will start curb-to-curb snow removal on snow routes that evening.

A map of these routes can be found in the appendix. The road graders will start putting the snow in windrows down the middle of the road at 12:00 am. The snow blower will begin at 2:00 am picking up snow with the assistance of outside-rented trucks and city dump trucks.

Snow routes are typically picked up in two nights. Depending on the amount of snowfall and the interval between consecutive storms, it may take longer or the street department may wait to pick up snow until the storm slows down.

These trucks will haul the snow to dedicated snow storage sites. Drivers will make every effort to minimize the resulting noise from dumping snow. Drivers will also track their hours, miles traveled and the number of loads they hauled. Outside rented trucks must be pre-approved by the Street Superintendent and are required to provide proof of insurance before they are allowed to haul snow. It is important to note that the snow storage sites are for City use only. Private contractors may not utilize the sites for dumping.

Splattering

After a storm does not produce any more snow and temperatures are warm enough, crews will begin to plow snow from the gutters into the vehicle wheel paths. This splattering technique is helpful because the cars will break up chunks of snow and accelerate melting. If snow is left stacked in the gutter it likely will not melt between storms and could clog catch basins as it melts and refreezes at night. Splattering will be performed on Priority 1, 2 and 3 streets.

D. SNOW AND ICE CONTROL PROCEDURES- PARKS

The Park Superintendent will monitor the forecast and schedule the parks crew to start at 6:00 a.m. the following day if a snowstorm is expected. Subcontractors will be dispatched to clear pathways based on need. The Operations Superintendent will approve the use of snow removal contracts if their services are warranted.
E. MATERIALS

De-icing Solids

During normal ice control operations, a solid deicing material (salt) is spread on the street pavement to melt ice and packed snow. The numerous and changing deicing solids that are commercially available will be evaluated prior to each winter season by the Public Works Department and purchased based on performance and cost. Salt will be kept out of the weather and monitored closely throughout the season to make sure there is not a shortage.

Typical de-icing solids used by Wyoming cities include:

- **Rock salt** - 100% sodium chloride (NaCl), mined natural white salt supplied to the Wyoming region by railroad cars from Kansas. Application temperature to 20 degrees F.

- **Ice Slicer®** - mined natural salt from Redmond, Utah. It is reddish in color, 93.5% sodium chloride and 6.5% minerals. It is 50% more expensive and 6.5% less corrosive than white rock salt.

- **Rapid Thaw®** - mined natural salt similar to Ice Slicer®. It is reddish in color, 90% sodium chloride and 10% minerals. It is 75% more expensive and 10% less corrosive than white rock salt.

- **Caliber M-1000®** - a blend of 30% magnesium chloride solution and 70% corn by-product. Twice as expensive but 78% less corrosive than white rock salt.

- **Anti-skid material** – (Salt/Aggregate Mixture) sand typically mixed at a 3:1 ratio with de-icing solids. This material may be effective in certain temperature or street conditions.

Brine

Prior to snow plowing operations, brine may be sprayed on the street and bridge pavement to prevent bonding of packed snow and ice to the pavement. It should only be used as a pre-treatment under certain circumstances. Rain and/or low temperatures will negate the effects of brine.

Equipment

The City’s standard snow removal equipment is shown in the table below. All snow removal equipment shall be tracked in real time using Automatic Vehicle Location/Global Positioning System. The data collected during each storm will be reviewed daily to verify plow trucks are being effective and following established routes.
F. STORM SUMMARY REPORT

When any storm event has ended, the Street Department shall prepare a written summary of the snow and ice control operation that will contain:

- Starting and ending time of operations
- Number of miles plowed
- Amount of material used
- Number of CDL hours used
- Loads of snow hauled
- Brief analysis of problems encountered and recommendations
- Estimated snow depth

III. COMMUNICATIONS PLAN

A. STATEMENT OF OBJECTIVES

It is the objective of the City to communicate important, up-to-date information about snow and ice control operations to Sheridan citizens, school district officials, health care facilities, utilities, and local businesses.

B. INTERNAL COMMUNICATIONS

During any severe weather incident, information from briefings and updates will be disseminated by the Operations Superintendent to all internal audiences. People to be contacted include city management, police dispatch, and customer service.
C. EXTERNAL COMMUNICATIONS

- The Sheridan Police Department may use Reverse 911 for extreme emergencies.
- The Operations Superintendent or designee will be proactive with local media to convey information to the public.
- The City will encourage citizens residing on snow routes to join the text club so that they can be notified when a snow alert is declared. (text “SNOW” to 28748)
- Customer Service will record all customer concerns and notify the appropriate division when required.
- Citizens are encouraged to check the City website for information on snow and ice control operations.

IV. SIDEWALKS, DRIVEWAYS, PARKING AND PRIVATE PLOWING

A. SIDEWALKS

The City maintains the public sidewalks located adjacent to city property. Sidewalks located adjacent to private property are the responsibility of the property owner.

In the interest of public safety, the City strongly encourages residents and business owners to remove snow from the sidewalks adjoining their property within 24 hours after a snowstorm ends. It is also important that the areas around school bus stops, fire hydrants, power boxes and storm drains be kept cleared and accessible. City ordinances allow snow that is removed from sidewalks to be put in the street, however citizens are strongly encouraged to put snow in their yards. Snow along the curb makes it difficult for the post office to deliver mail. It also causes gutters to freeze over which slow down the melting and causes ice to last longer.

Although the City’s snowplow operators attempt to keep snow from being plowed onto sidewalks it may occur and it is the resident’s responsibility to clear the snow from the sidewalk. Supervisors and plow operators will be informed of incidents of plowng snow onto residential sidewalks when they are reported. Citizens can call Customer service at (307) 674-6483 to report an incident.

B. DRIVEWAYS

The resident, business owner or property owner is responsible for opening driveways that are plowed closed by City snowplows. Snow from plowing driveways or opening driveways shall not be plowed into the street. Placing snow in a public street is a violation that is subject to enforcement by the police department.

C. PARKING ON SNOW ROUTES

Removing snow on high priority routes cannot be accomplished if vehicles and trailers are parked in the way. The City marks snow routes with signage that states no parking is allowed when a snow alert is declared. Citizens can be notified by text if they sign up. The City’s Facebook page and media outlets will also publish a snow alert. Parked or abandoned vehicles on these routes may be towed.

D. USE OF PRIVATE CONTRACTORS

The City does not encourage the use of private contractors for snow removal on City streets. Private contractors that plow snow from City streets must obtain a permit. Individuals that use a private contractor for snow and ice control on publicly owned streets will not be reimbursed by the City for any snow and ice expenses incurred. The private contractor will be held responsible for damages to public infrastructure.
Snow and Ice Control Plan

Private contractors shall not push or place snow from private property, streets or driveways onto public streets or sidewalks. Placing snow in a public street is a violation that is subject to enforcement by the police department.
### APPENDIX

**City Management**

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<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone</th>
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<tbody>
<tr>
<td>Nic Bateson</td>
<td>Public Works Director</td>
<td>(307) 675-4248</td>
</tr>
<tr>
<td>Mathers Heuck</td>
<td>Operations Superintendent</td>
<td>(307) 674-4112</td>
</tr>
<tr>
<td>Bill Schwabauer</td>
<td>Street Superintendent</td>
<td>(307) 674-4112</td>
</tr>
<tr>
<td>Steve Gage</td>
<td>Park Superintendent</td>
<td>(307) 674-6483</td>
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**Customer Service**

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<tr>
<th>Service</th>
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<tr>
<td>Customer Service</td>
<td>(307) 674-6483</td>
</tr>
<tr>
<td>City Service Center</td>
<td>(307) 674-4112</td>
</tr>
<tr>
<td>Police Dispatch</td>
<td>(307) 672-2413</td>
</tr>
<tr>
<td>Street On-call</td>
<td>(307) 461-2480</td>
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