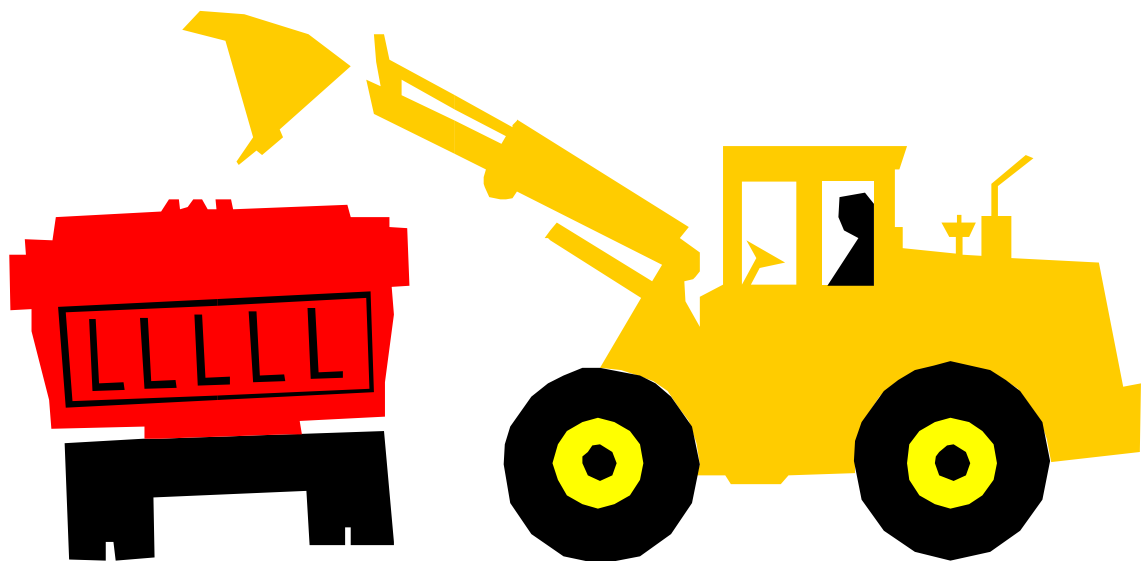


ROADWAY WINTER MAINTENANCE MANUAL / POLICY

TOWN OF ROCKY MOUNTAIN HOUSE
OPERATIONS DEPARTMENT
2002 - 2003



ROADWAY WINTER MAINTENANCE MANUAL/POLICY

Objective:

It is the Town's objective that all paved and gravel perimeter roads within the boundaries of Rocky Mountain House be maintained relative to safe winter driving conditions. In order to facilitate the orderly and economic use of resources, a priority system has been developed to ensure that critical areas requiring snow maintenance treatment be initially addressed while those streets deemed less immediate in terms of traffic volume, be dealt within a systematic fashion.

Introduction:

When a major snowstorm occurs, all drivers throughout the Town are faced with deteriorating driving conditions at the same time. Without consideration to the limitations of a snow maintenance operation and regardless of the weather, these drivers expect cleared roadways and safe driving conditions within the shortest possible period of time. Rapidly cleared streets are important, not only for safe travel, but are also required to facilitate the handling of emergencies by fire, ambulance and police operation. The economic life of a Town is also affected when un-cleared roadways hamper the transportation of people and goods.

To meet public safety and convenience, the prime objective of a municipal snow maintenance operation is to establish reasonable mobility in the central core and clear a network of roadways for a safe access from all major subdivisions as quickly and efficiently as possible. Snow maintenance can become one of the major services provided by the Town.

This Roadway Maintenance Manual represents the collective efforts of all staff. The purpose of the Roadway Maintenance Manual is to provide information on procedures pertaining to winter maintenance operations. This manual will also be used as a guideline for supervisors when instructing their field personnel in normal winter operating procedures.

Providing guidelines of this nature will result in a uniform approach to roadway winter maintenance operations ensuring that quality service is provided.

The Roadway Winter Maintenance Manual includes a variety of activities including snow fencing, sanding, salting, plowing, snow removal, and drainage.

This manual will be expanded and/or revised as required.

This manual will supersede all existing policies and procedures, written or implied.

ROADWAY WINTER MAINTENANCE MANUAL

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DEFINITIONS

BARE PAVEMENT

Bare Pavement means that snow remaining on the pavement shall not exceed 3 cm.

COMPACTED SNOW SURFACE

Compacted snow surface shall mean that snow will be allowed to accumulate on the roadway surface to a maximum of 25.5cm (10 inches) and be packed by traffic or leveled by snow plows.

DRAINAGE PROBLEMS

Drainage problems shall mean water run-off problems resulting from melting snow; for the purpose of this manual references made to drainage problems shall mean those problems experienced in the spring of the year.

DOWNTOWN CORE

For the purpose of snow removal, the downtown core is defined as the following roadways (also see attached Schedule A):

- ✓ 52nd Street from 50th Avenue to 49th Avenue.
- ✓ 51st Street from 50th Avenue to 49th Avenue.
- ✓ 50th Street from 52nd Avenue to 48th Avenue.
- ✓ 49th Street from 52nd Avenue to 48th Avenue.
- ✓ 48th Street from 52nd Avenue to 51st A Avenue.
- ✓ 51st Avenue from mid block between 51st & 50th Street to 49th Street.
- ✓ 50th Avenue from 52nd Street to 49th Street.
- ✓ 49th Avenue from 51st Street to 49th Street.

ICE CONTROL

The control of the build up of packed snow or ice on roadways through the use of equipment, abrasive materials or chemicals.

MAJOR STORM

For the purpose of this manual, a major storm shall mean a snowfall of 13cm or more or the experiencing of weather conditions, which, at the discretion of the Director of Operations or his designate, constitute a major storm.

SALTING

The application of chemicals to roadways either manually or by mechanical spreaders to control icing conditions.

SANDING

The application of treated or dry sand to roadways, either manually or by mechanical spreaders, to improve traction.

SIGNAGE

Large freestanding signs posted at entrances to each subdivision informing the public of the type of cleaning and dates that streets in their subdivision will be cleared. Public is notified 24 hours in advance to enhance snow removal operations.

SNOW FENCING

The provision of protection from drifting snow to roadways, sidewalks, or lanes.

SNOW PLOWING

Crews with snow plowing equipment in clearing accumulated snow from the roadway surface.

SNOW REMOVAL

The removal of snow from a roadway, abutting curb and/or boulevard after the roadway has been plowed and/or windrowed.

WINDROWING

The plowing of snow into a long continuous pile for storage or to facilitate removal or to provide protection from drifting.

HYDRANT IDENTIFICATION

Hydrants will be marked with proper identification on an on-going basis in areas where plowing will take place.

RESPONSIBILITY

The Director of Operations shall act as overall coordinator of all winter maintenance operations.

It should be noted that wherever the term "Director of Operations" is mentioned, it is intended to mean either the Director of Operations or any person who may be designated from time to time to act in his stead.

The Operations Supervisor will be responsible for the day-to-day operation and coordination of the winter maintenance program.

GENERAL PURPOSE

Maintain designated roadways and sidewalks in such a manner as to minimize economic loss and inconvenience to the community.

To prevent or reduce hazardous roadway and sidewalk conditions which may cause accident or injury.

To facilitate the handling of emergencies by fire, police, and ambulance services.

As a guideline for management and operating personnel in the handling of winter maintenance operations.

GUIDELINES

SNOW PLOWING

The following description of events shall be implemented in order of priority **AFTER A MAJOR STORM**.

- ✓ Snow plow highway commercial and the downtown core to a bare pavement state within 48 hours
- ✓ Snow plow arterials to a bare pavement state within 48 hours
- ✓ Snow plow collectors within 72 hours
- ✓ Snow plow rural roads within 92 hours

As a result of the above, the major streets will be plowed clean of snow within 3 days (72 hours) following a major storm. A snowplowing schedule has been enclosed at the end of this manual and is identified as Schedule B.

If following a major storm. Insufficient personnel and equipment are available in the Operations Department to meet the above schedule; personnel and equipment from other Town sections will be shifted to lend assistance. For storms of 13 cm or greater in snow fall or as may otherwise be directed by the Director of Operations, rented equipment shall be engaged to supplement Town forces.

After minor snow storms, emphasis for plowing operations shall be placed on ensuring that there are no blocked roadways in the Town and that the major arterials within the Town are returned to bare pavement state as soon as possible after the storm. The requirement of plowing operations on residential roadways after these minor storms shall be at the discretion of the Director of Operations.

SIDEWALK CLEARING

For the purpose of sidewalk/walkway clearing operations, the Town sidewalks surrounding and/or abutting the areas listed on the attached Sidewalk/Walkway Clearing Schedule, shall generally be serviced in order of priority following all major storms.

The program of operations shall be implemented **48 hours** following a major storm. After minor or localized snow storms, sidewalk-clearing operations shall be implemented at the discretion of the Director of Operations. Where Recreation responsibilities lie, the Director of Recreation, Parks & Culture shall implement clearing operations at his own discretion.

SNOW REMOVAL

Snow removal operations shall be undertaken only in situations where lack of adequate storage prohibits the normal winter movement of vehicles and/or pedestrian traffic.

Emphasis for snow removal will be given to **highway commercial, the downtown core and arterial roadways**. Snow removal will be carried out only on collector and residential streets for reasons of safety and restricted access at the discretion of the Director of Operations. See attached Schedule B for removal priorities.

NOTE: Truckers must have 4 feet high snowboards on the passenger side and front of their trucks, which are securely fastened.

DRAINAGE

The necessary procedures to combat drainage problems shall be implemented to ensure a reasonable level of protection to the general public and the properties within the Town that may be subjected to drainage problems.

SNOW FENCING

In determining locations requiring snow fencing, equal consideration will be given to all areas in the Town where drifting is a problem and protection is required for roadways, sidewalks, and lanes.

ICE CONTROL

Sanding and/or salting of streets, lanes, and sidewalks shall be undertaken in designated areas to ensure a reasonable level of safety to motorists and pedestrians as local conditions dictate

ORGANIZATION CHART

CHIEF ADMINISTRATIVE OFFICER



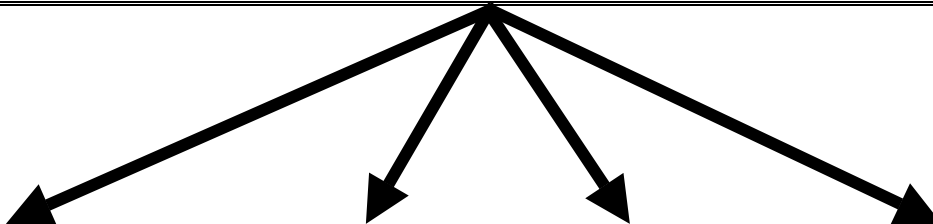
DIRECTOR OF OPERATIONS



OPERATIONS SUPERVISOR



SENIOR OPERATOR OR DESIGNATED CREW CHIEF



ON CALL PERSONNEL AND OPERATIONS DEPARTMENT FIELD STAFF

PUBLIC RELATIONS

The Operations Department will handle all complaints between 7:00 a.m. and 4:00 p.m. Monday to Friday. Standby employees or personnel handle after hour complaints at 845-3220 on a 24-hour basis 7 days a week and includes Town designated holidays.

All complaints and inquiries shall be recorded as they are received and their phone call returned ensuring the public that their inquiry has been acknowledged.

Complaints of a routine nature will be transmitted to appropriate field personnel for action. Records shall be kept as to whom the complaint was passed to for action.

OPERATING PROCEDURES

SNOW FENCING

EFFECTIVENESS

In the spring of each year, the Director of Operations in conjunction with the Operation Supervisor will conduct a review as to the effectiveness of the snow fence, which was erected the previous winter. Upon completion of the review, the Director of Operations shall prepare comments regarding additions or deletions.

The Director of Operations or his designate shall order materials for the next winter's snow fencing operation.

REQUIREMENT

The prevailing winds are from the Northwest. Therefore, in determining locations requiring snow fencing, consideration will be given to all areas in the Town where drifting is a problem and protection is required for high usage roadways, sidewalks, and lanes.

Various obstacles may be used as snow fencing such as shrubs, windrows, lathing and a combination of these; however, prefabricated snow fencing shall be utilized to the extent that it is available in areas where snow drifting on pavement is prevalent.

The general rule for determining the distance snow fences are to be placed from the area to be protected is 15 meters horizontal distance to windward for every 1-meter vertical height of snow fence.

As the season progresses, windrows accumulating from maintenance operation may hamper the effectiveness of the snow fences. The Director of Operations will monitor the windrows and from time to time the windrows will be removed by distributing the snow in the abutting field.

INSTALLATION

The fence posts will be installed mechanically prior to freeze up. The fence shall be hung on the windward side of the fence posts.

Removal of snow fence including posts shall be undertaken at the earliest possible date in the spring. The fence shall be removed prior to removing the posts. When the ground has sufficiently thawed, the posts will be removed by mechanical means.

ICE CONTROL BY SANDING & SALTING

In order to ensure a reasonable level of safety to motorists and pedestrians, this procedure shall be undertaken as conditions dictate.

Sanding operations shall be initiated by the Operations Supervisor and shall be continued at his discretion until a reasonable level of ice control has been attained.

The Operations Supervisor shall be responsible for scheduling crews to be available for sanding and salting operations. Also, Operations staffs are on call for weekends and after hour operations.

Back lanes in the downtown core and in major commercial areas shall generally be sanded at street intersections. Sanding in back lanes shall only be done after an INSPECTION confirms the need for service.

The Operations Supervisor shall arrange for sidewalk sanding in designated areas as may be required. Dry sand shall be used for sidewalks unless a severe icing condition occurs at which time an alternate method shall be used.

Sand with high concentration of salt shall be used on roadways as directed by the Operations Supervisor.

Lengths of areas to be sanded and/or salted are based on calculated stopping distance requirements assuming vehicles are equipped with highway tread tires, a sanded ice surface and a temperature of -1°C (31°F) as follows:

<u>Posted Speed Limits</u>	<u>Length to be Sanded</u>
50 km/h	60 m
60 km/h	90 m
70 km/h	120 m
80 km/h	240 m

In addition to the above, should the condition of a major arterial roadway be such that icing is extensive, the whole street shall be sanded.

Unless otherwise directed by the Operations Supervisor, residential streets shall be sanded. These streets shall generally be sanded for a length of 20 M BACK FROM THE INTERSECTION. Water breaks and other emergencies shall be in accordance with instructions issued by the Operations Supervisor.

SNOW PLOWING

Snow plowing operations shall generally follow the priority street program as per Schedule B unless otherwise directed by the Director of Operations.

All blocked highway commercial, downtown, arterial and collector roadways shall be opened up with graders and front-end loaders prior to implementing the priority street-cleaning program. All other blocked residential and lane roadways shall be opened by front-end loaders and other available equipment at a time coinciding with the early stages of the priority street cleaning program.

As required, the Operations Supervisor will coordinate manpower and equipment between sections.

If following a major storm, insufficient personnel and equipment are available in the Operations Department; the schedule as per maps, or for any storms, rented equipment shall be engaged to supplement Town forces.

Unless otherwise directed by the Director of Operations, minor storms will normally be handled by priority. After minor storms, emphasis for plowing operations shall be placed on ensuring that there are no blocked roadways in the Town and that major arterials within the Town are returned to a bare pavement state as soon as possible after a storm.

In **SCHOOL BUS AND HANDICAP STOP AREAS** on Town owned roadways, trucks and loaders shall be utilized to open an area for the loading and unloading of passengers. Piling of snow into open areas will be limited as much as possible so as to eliminate further congesting of the area by drifting. In certain designated areas where snow storage is limited, snow ridges will be accumulated along the center median to be hauled away by the removal crews.

Work on highway commercial, downtown and arterial roadways shall be done during the morning shift, as much as possible, in order to minimize the problems associated with traffic and parked vehicles.

When WINDROWING snow along roadways, the operators of graders equipped with snow gates shall clear the front driveways along the roadway. THE TOWN SHALL NOT BE RESPONSIBLE FOR THE CLEARING OF MINOR AMOUNTS OF SNOW LEFT ON THE DRIVEWAYS AS A RESULT OF THE EFFORT. Personnel shall return to clear a front driveway, which may have inadvertently been missed or where the grader that windrowed the roadway was not equipped with a snow gate.

Highway commercial, downtown and arterial streets shall be plowed to a bare pavement state during plowing operations.

NOTE: Hydrants will be clear of snow at all times for Fire Department use.

SNOW REMOVAL

Snow removal shall be undertaken only in situations where lack of adequate storage prohibits the reasonable movement of vehicular and/or pedestrian traffic. Emphasis for snow removal will be given to the DOWNTOWN CORE AND ARTERIAL ROADWAYS. Snow removal will be carried out on other residential streets for reasons of safety and restricted access at the discretion of the Director of Operations. Snow removal operations will *generally* follow Schedule B.

Due to limited visibility, snow removal may be undertaken at specific locations. Examples:

- ✓ Signalized intersections for a distance of 15 m from the intersection.
- ✓ Railroad crossings for a distance of 15 m
- ✓ At pedestrian corridors and handicap drops and sidewalk crossings identified as such by a sign for a total distance 15 m
- ✓ Where center boulevards have been used for the storage of snow, these areas shall be cleared 15 m from each intersection

In order not to unduly impede traffic flow and for the reason of safety snow removal operations will generally be carried out on downtown and arterial streets between the hours of 7:00 a.m. and 4:00 p.m. The Operations Supervisor will determine the crew sizes and trucks for hauling. Blowers will generally be used for loading of snow from streets.

**BLOWING AND HAULING SHALL NOT BE
UNDERTAKEN NEAR SCHOOLS BETWEEN THE HOURS OF
8:00 A.M. TO 9:30 A.M., 11:30 A.M. TO 1:30 P.M., AND 3:00 P.M. TO 4:30 P.M.**

PROCEDURE FOR BLOWING AND HAULING SNOW IN SCHOOL ZONES AND CONGESTED AREAS

The following procedures were established for a safe and efficient operation and to provide safety for pedestrians and traffic flow.

1. Proper signage will be provided at all times in school zones and congested areas.
2. Vehicles **that have** flashing lights will have them on at all times to provide guidance and clearance for the snow blower and truckers.

DRAINAGE

The Director of Operations shall act as the overall coordinator of forces and equipment during the implementation of drainage procedures.

The Operations Supervisor shall be responsible for assessing, prioritizing and coordinating the effective implementation of procedures to combat normal drainage problems throughout the Town.

Accumulated snow and ice on catch basins in the Town shall be removed by manual and/or mechanical means in order to promote better drainage. In order to minimize the risk of having to redo this work, this process shall normally not begin until after March 1. During years of early spring breakup, this process will be initiated prior to March 1.

Where necessary, graders and/or other appropriate equipment, which may be available, will be used to trench the snow and ice along the curb in order to promote better drainage to the catch basins.

Steamers shall be utilized to thaw catch basins and culverts in streets and lanes

SNOW DUMP SITES

Early each fall the Director of Operations shall confirm proposed snow dumpsites with private owners and other Town Departments. Once confirmed, a schedule outlining these areas shall be provided to all concerned personnel and posted for information. Commercial haulers and the general public will be allowed in only those sites specifically designated for their use. Town personnel observing an unlawful dumping by a commercial hauler or the general public should gather information, such as license number of the vehicle and the company name on the vehicle. This information should then be forwarded to the Director of Operations for further action.

From time to time, the Operations Supervisor will dispatch equipment to snow dumpsites in order to arrange the snow in such a manner that congestion of snow hauling vehicles does not occur. The Operations Supervisor will arrange to clear the snow dumpsites of accumulated debris as soon as possible following the thawing of the accumulated snow.

SNOW DUMP LOCATIONS

Winter 2002-2003

Operations Yard - 4607-48 Street

Town Owned Land immediately East of the Giant Car & Truck Wash

TOWN OWNED EQUIPMENT

The Town Mechanic/Welder shall be responsible for the preparation and overhauling of equipment used in the winter maintenance operations.

The operators of all equipment-requiring repair shall complete an Equipment Work Order outlining the nature of the problem and notify the Operation Supervisor as soon as possible after the breakdown. Throughout the winter season priority shall be given to the servicing and repair of all equipment used in winter maintenance. In anticipation of spring drainage problems, the Town Mechanic/Welder shall ensure that all pumps and their accessory equipment and all steamers are in proper working order by the end of February of each year.

In the spring of each year, a review of the adequacy of the equipment utilized during the past season's winter maintenance operations will be performed. From this review, possible additions and/or changes in the present fleet of equipment will be recommended.

MATERIALS

Materials used in winter ice control operations shall be stockpiled at the Town yard. The amount of stockpiled materials shall vary in accordance with usage patterns from previous years.

Sufficient road sand shall be stockpiled in the Town yard for the whole winter season. This road sand shall consist of sand or processed sand. The sand will have been screened in order to produce such a size as will comply with the Town requirements.

All aggregate shall be clean and durable and shall not contain clay balls, organic materials or non-durable particles.

As required, this sand and salt shall be mixed with the ratio of 90% sand to 7 - 10% salt in order to form treated sand used in ice control operations.

In preparing for the winter season, stockpiled materials (sand, salt, and rock chips) shall be ordered in September/October so that we are prepared well in advance.

Additional supplies of sand and/or salt shall be prepared or ordered as required throughout the winter season. For the purpose of inventory control, all materials leaving the yard shall be entered on Daily Records and these sheets turned in at the end of each shift.

HIRING EQUIPMENT

In order to complete snowplowing operations within 3 days following a major snow storm additional equipment may be hired to supplement Town forces.

Each year, prior to September 30, a list shall be prepared outlining the following items:

- ✓ Names and telephone numbers of firms, which have indicated an interest in participating in winter maintenance operations on a call-out basis. These firms must supply proof of insurance liability, WCB coverage and a valid Town of Rocky Mountain House business license.
- ✓ Types of equipment available from these sources.
- ✓ Names of individuals from these firms who can be contacted after office hours.
- ✓ Stipulations regarding provision of supplies.
- ✓ Rates of pay for various types of equipment to be rented. (Rental rates will follow Alberta Transportation rates).
- ✓ Annual Vehicle Safety Inspection Certificate.
- ✓ Working Alone Regulations.
- ✓ Certificate of Recognition relating to Safety Policies, Practices and Procedures.

The Director of Operations, with the assistance of the Operations Supervisor, shall be responsible for arrangements pertaining to the renting of equipment.

Schedule B

Snow Plowing

1. Highway #11 Service Roads.
2. 47th Avenue, Downtown core.
3. School Zones.
4. 54th Street, 61st Avenue from 54th Street to Highway 11, 59th Avenue from 54th Street to Highway 11, 50th Avenue west of Town Office, 50th Street north of 52nd Avenue, Town Office Parking lot.
5. 48th Street, 53rd Avenue, 51st Avenue, 49th Avenue, 46th Street.
6. Swimming Pool, Arena, Community Center, Museum.
7. 42nd Avenue (south of Rainbow Ford), 42nd Street (east of Rainbow Ford), McNutt/Deboer Subdivision, Industrial areas.
8. Remaining residential areas, Pioneer Center.

Sidewalk/Walkway Clearing Schedule

Operations Department Responsibilities

1. 52nd Avenue from Highway 11 to 60th Street (south side), 52nd Avenue from 50th Avenue to 58A Street.
2. All Town owned parks.
3. All Walking Trail accesses.
4. All walkways.
5. CN overpass on Highway 11.
6. 61st Avenue from 54th Street to Highway 11, 59th Avenue from 54th Street to Highway 11 (north side only).

Recreation Department Responsibilities

1. Town Office.
2. Library.
3. Walking trail.