INTRODUCTION

The intent of this document is to identify attainable Service Standards and Standard Operating Practices, to be maintained and followed by the Town of Mahone Bay in its efforts to deliver timely and efficient clearing of snow and ice from Town streets, sidewalks and parking lots during and after winter storm events.

SERVICE STANDARDS

The Town’s snow and ice control program will endeavor to ensure the following levels of service:

1. **Class I and II Streets** – full width of surface maintained as bare as possible with a frequency of coverage during a snowstorm not to exceed 3 hours.
2. **Class III Streets** – one vehicle width surface maintained as bare as possible with a frequency of coverage during a snowstorm not to exceed 5 hours. Full width of surface maintained as bare as possible within 6 hours of the end of a snowfall event.
3. **Fire Hall Parking Lot** - surface maintained as bare as possible within 12 hours of the end of a snowfall event.
4. **Town Hall Parking Lot** - surface maintained as bare as possible within 12 hours of the end of a snowfall event.
5. **Clairmont Street Lot** - surface maintained as bare as possible within 12 hours of the end of a snowfall event.
6. **Sidewalks** – surface maintained as bare as possible within 48 hours of the end of a snowfall event.
7. **Priority Town Infrastructure Facilities** – access roads and entrances cleared of snow within 48 hours of the end of a snowfall event. (Excludes Sewage Treatment Plant Road which must be cleared of snow within 12 hours of the end of a snowfall event by contractor.)
8. **Snow Removal Operations** – as required.
9. **Lot located between Legion Hall and Post Office (Post Office property)** - surface maintained as bare as possible within 96 hours of the end of a snowfall event.
10. **Fire Hydrants** – as required.
11. **Park Cemetery** – as required.
STANDARD OPERATING PRACTICES

The following section outlines the Town of Mahone Bay’s Standard Operating Practices for the implementation of snow and ice control measures.

Use of Town Resources

The Town shall rely on use of its own human and equipment resources as much as reasonably possible to conduct snow and ice control measures.

The following is an existing inventory of Town owned equipment utilized for snow and ice control:

- One 5-Ton International Plow/Salt/Sand/Dump Truck (Note: Nov. '07 this new truck acquired and old Ford Plow/Dump Truck sold.)
- One 1-Ton Dodge Plow/Salt/Sand/Dump Truck
- One John Deere Backhoe
- One S130 Bobcat Skid Steer with Angle Blade, Bucket and Snowblower — This is the Town’s primary equipment for use on sidewalks. (* This is a revision/addition made December 2006 following its purchase.)
- One 1520 Ford Tractor Sidewalk Plow with Salt/Sand Spreader — considered back-up equipment to the Skid Steer in the event it is not operational.

Each of the above equipment may be utilized for purposes of plowing snow from streets and sidewalks.

Mobilization of Town Resources for Snow and Ice Control Measures

During regular work days (i.e. Monday to Friday, 8:30 am – 4:30 pm), the Director of Operations, or designate, shall be responsible for mobilizing staff and equipment for purposes of snow and ice control measures.

On holidays, weekends and outside of regular working hours, the Town will rely on the voluntarily diligence of Operations Staff, Council Members, RCMP or members of the public to mobilize a staff response. This is achieved through contacting the Town’s 24-hour emergency phone service (i.e. Scotia Business Centre @ 543-3251), or making direct contact with the on-call staff member responsible for snowplowing or salting/sanding of streets.

Use of Contractors

In cases where the Director of Operations determines it that the Town is unable to meet its Service Standards for snow and ice control, the use of contracted equipment and operators, as well as, spare operators for Town owned equipment shall be employed.

Typically, the Town will employ the use of contractors for snow and ice control measures under the following circumstances:

- Heavy Equipment (e.g. front-end loader, backhoe, snow blower, etc.) is required to clear snow from sidewalks.
- Snow Removal Operations (e.g. front-end loader, backhoe, dump truck, etc.)
- Spare Operator(s) utilized in cases where Town staff are unavailable to work (i.e. injury or illness) or to cover rest periods for Town staff.
Commencement of Snow Plowing Operations
Typically, the plowing of snow from streets will commence when there is an accumulation of 4 cm (1.6 inches) on Class I streets.

Upon the end of a snowfall event, an application of road salt or sand will be made, if necessary.

Dependent on street and weather conditions, an application of salt may be made at the start of a snowfall event to help prevent the bonding of snow to asphalt surfaces.

Application of Snow Plow Vehicles
During regular working hours (i.e. 8:00 am – 4:30 pm), the Town’s typical practice will be to mobilize at least two snowplow vehicles for purposes of clearing snow from streets regardless of forecasted snowfall amounts.

Outside of regular working hours and in cases of forecasted light snowfall events (i.e. light snow up to 10 cm/4 inches), the Town’s typical practice will be to mobilize one snowplow vehicle for purposes of clearing snow from streets.

Outside of regular working hours and in cases where heavy, wet or above 10 cm/4 inches of snow is forecasted, the Town’s typical practice will be to mobilize at least two snowplow vehicles for purposes of clearing snow from streets.

In the event a plow operator is unable to maintain streets at an acceptable standard, they are required to contact the Director of Operations, or designate, who may initiate the mobilization of additional plowing resources.

Echelon Plowing Techniques
In order to increase efficiency in the initial clearing of snow from Class I and II streets when two snowplow vehicles have been mobilized, it will be the Town’s practice to employ echelon plowing (i.e. one plow vehicle clears centre portion of a street and is closely followed by the second plow vehicle, which will further widen the traveled surface). Once Class I and Class II streets have been plowed using this method, one plow vehicle will concentrate efforts on maintenance standards for Class III streets, while the other vehicles’ primary responsibility will be the maintenance of Class I, II streets, however, if conditions permit this plow, or an alternate vehicle (i.e. backhoe) will be employed to assist with some Class III streets and other snowplowing priorities.

Use of Weight on Vehicles to Improve Traction
The addition of weight to snowplow trucks to improve vehicle traction, as prescribed below, will be utilized in most snowplowing situations (i.e. achieve increased traction through the use of weight);

- 5-Ton Ford Plow/Dump Truck: 2-3 tons of weight (sand, gravel, or 1-ton salt bags)
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- **1-Ton Dodge Plow/Salt/Sand/Dump Truck:** 1 ton of weight maximum (sand, gravel or 1-ton salt bag)

**Use of Tire Chains to Improve Traction**

Tire chains will be utilized on snowplow trucks, as above, in circumstances where the addition of weight to a vehicle has not provided necessary traction (i.e. achieve increased traction through the use of weight and tire chains). The primary means of achieving greater traction with the 1520 Ford Tractor Sidewalk Plow with Salt/Sand Spreader while plowing snow is the use of tire chains; enhanced traction through the use of large amounts of weight in combination with tire chains is not recommended, as to avoid over tasking this piece of equipment.

**Use of Backhoe for Clearing Snow**

Under the following conditions, experience has shown that clearing of snow using the Town’s backhoe is typically more practical, efficient and effective than the use of plow trucks;
- Low radius turning is required.
- Steep grades.
- Heavy snow accumulation.
- Need to clear snow is combined with need to remove or re-locate it.
- Rough graveled surfaces.
- Narrow street/road widths, especially combined with poor traction conditions.
- Slow plowing speeds are required.
- Combinations of any of the above.

As a result of the above, the Town’s backhoe should be considered the most appropriate plow vehicle to operate at the following locations;
- **Town Hall Parking Lot.**
- **Water Treatment Plant:** Inside gated area / To plow access road (i.e. Zwicker Lane) dependent on whether some of the above conditions are present.
- **Water Supply at Oakland Lake:** Driveway and inside gated area.
- **Mahone Bay Public Wharf** (asphalt apron and access road to dry hydrant).
- **Sewage Treatment Plant:** Inside gated area.
- **Access Road and Town Storage Area** (Kinburn St.)
- **Park Cemetery:** Typically, unplowed remainder of access road and other roads within the cemetery are in heavy snow accumulation condition when clearing of snow is required.

Experience has shown that there are often difficulties in clearing heavy snow accumulations from the following dead-end streets, which also have narrow widths and steep grades, using snowplow trucks;
- Graveled section of Fairmont St.
- Hyland Lane
- Shady Lane
- Garden Lane (to a lesser extent)
- Hawthorn St.
Dependent on conditions, use of the backhoe for clearing of snow at the above locations may be most appropriate to avoid problems associated with the need to back-up, limited space to operate (narrow street width), steep grades, and reduced traction.

**Fueling of Vehicles**
The Town of Mahone Bay does not maintain its own fuel filling station(s), and relies upon the local business community to supply gasoline and diesel for vehicles. It is imperative that staff maintains all vehicles expected to be use for extended periods, especially during overnight hours, with sufficient fuel amounts to avoid running out of gas/diesel. This can be typically attained by keeping parked vehicles fuel tanks at the full reading, and by filling vehicle fuel tanks near the normal closing time of the supplier. The local service station, Mahone Bay Irving and Convenience, maintains the following winter hours:

- 6:00 am – 10:00 pm, Monday to Friday
- 7:00 am – 10:00 pm, Saturday and Sunday

During severe winter storms, staff should contact the local service station to request notification concerning whether it may close early.

**Application of Salt and Sand**
Typically, road salt will be used on Town streets to minimize icy or slippery surface conditions, which may result from the formation of “black ice”, freezing rain, sleet, snow or wet conditions followed by sharp temperature drops. Industry research has demonstrated that the effectiveness of road salt is greatly reduced when temperatures fall below –12°C, thus, making it difficult to achieve bare surface conditions below this temperature. During periods when temperatures are excessively cold, and road salt applications may not be effective, the Town will utilize sand on streets.

Sand will be used on the following streets or driveways to minimize icy or slippery surface conditions, as to avoid potential negative impacts on private ground water wells, and the Town’s water supply;

- Zwicker Lane (This revision made December 2006.)
- Lane off Wye Street to Civic Numbers 53, 55 & 57
- Driveway to Water Supply at Oakland Lake

Typically, sand will be used on Town sidewalks to minimize icy or slippery surface conditions, however, salt may be use solely or mixed with sand if determined necessary to reduce ice build-up.

**Salt and Sand Storage**
The Town does not have indoor storage capacity for road salt or sand.
The Town purchases road salt from the Canadian Salt Company Ltd. in 1-tonne tote-bags delivered by a local contractor, and stores it outside at the Town Hall. The Town purchases sand from local suppliers and stores it outside at the Town Storage Area (Kinburn St.). During cold weather, the sand pile can become frozen making it difficult to use in spreading equipment. When possible, sand can be loaded on the 5-Ton Ford Plow/Dump Truck, which is stored in the heated garage Town Garage, thus, melting frost making the sand more usable in spreading equipment.

Snow Clearing from Sidewalks Using Heavy Equipment
Typically, when there has been a significant snowstorm, the snow cast from the streets onto the sidewalks creates conditions where the 1520 Ford Tractor Sidewalk Plow with Salt/Sand Spreader is over tasked. Further the Bobcat Skid Steer may be over tasked (This revision/addition made December 2006). In this circumstance, the Town may use its snowplow trucks or backhoe to clear snow from sidewalks. Further, it may use heavy equipment supplied by contractors to assist in this operation.

The use of heavy equipment to clear sidewalks can create hazardous conditions for commuters, heavy equipment operators and pedestrians; thus, clearing operations may commence in lower traffic flow areas in advance of higher priority areas. Also, the clearing of snow in typically high traffic areas (e.g. Main St.) may not commence until after 6:00 pm when traffic flows have reduced.

In order to aid in the efficiency of clearing snow from sidewalks, and to protect worker and public safety, the Director of Operations may temporarily close streets or sections thereof.

Snow Removal Operations
Snow removal operations may occur during or outside of regular working hours, and may involve the use of both Town and contractor resources.

The use of heavy equipment for snow removal operations can create hazardous conditions for commuters, heavy equipment operators and pedestrians; thus, removal operations may commence in lower traffic flow areas in advance of higher priority areas. Also, removal operations in typically high traffic areas (e.g. Main St.) may not commence until after 6:00 pm when traffic flows have reduced.

In order to aid in the efficiency of snow removal operations, and to protect worker and public safety, the Director of Operations may temporarily close streets or sections thereof.

Snow removal operations may involve the placing or piling of snow on Town or private property, it may involve the need to transport snow by dump truck to the snow dumpsite, and it may involve the need to temporarily pile snow along streets, sidewalks and intersections for later timely removal.
When conducting snow removal operations, both Town and contractor resources will avoid blocking any previously cleared private drive or walkways.

In the event the snow dumpsite located at Mahone Bay Public Wharf becomes filled and an alternate site is required, the Director of Operations will seek to identify and cause to have prepared another Town held or private property to be utilized for this purpose. Potential alternate dumpsites to be negotiated or selected in ranked order may include:

1. RPS Waterfront Parking Lot on South Main St. (Private Property)
2. Old School Playing Field off Fairmont St. (Town Property)
3. Open Space off Hawthorn St. near Tennis Courts or Town Storage Area (Town Property)
4. Jubilee Park Parking Lot off Pond St. (Town Property)
5. Jubilee Park Ball Field (Town Property)

**Parked Vehicles Obstructing Snow Clearing/Removal Activities**
The Town of Mahone Bay does not have a “winter parking by-law”, and relies upon the legal authority provided within the NS Motor Vehicle Act to deal with situations involving vehicles obstructing snow clearing and removal operations. When a vehicle has been identified by staff as being an obstruction to snow clearing and/or removal activities, they are authorized to contact the RCMP (Phone: 634-8674) to report the situation, and to request that an officer promptly investigate.

When possible, staff is to place temporary signage at each end of the work area as a means of communicating to the public that a certain area is scheduled for snow removal operations.

In the event that staff recognizes an obstructing vehicle and can make timely contact with its owner resulting in the vehicle being quickly moved, contacting the RCMP is not necessary.

**Special Cases**
The following is a listing of special cases where staff is expected to ensure snow is removed as soon as reasonably possible following the end of a snowfall event to aid in public parking and building access;

1. On street parking spaces located on north side of Clairmont St. (i.e. next to Kinburn Pharmacy building)
2. Marked loading zone area located at 575 Main Street

**Widening of Streets and Cleaning Up of Intersections**
Following a snowfall event, staff will assess the condition of streets and intersections, as such may require widening and general clean-up to help avoid problems such as snow melt running out onto the street and freezing creating slippery conditions. Also, the widening of streets and cleaning up of intersections will assist in dealing with future snowfall events by providing space for new snow to be plowed.
Conclusion
This document is prepared for use as a guide to direct human and equipment resources in the delivery of an effective and efficient Snow and Ice Control Program. It is recognized that many factors, some beyond the Town’s control, may affect its ability to meet Service Standards, however, it will strive to achieve the best possible services for timely and efficient snow and ice control.

Clerk’s Annotation For Official Policy Book

Date of Notice to Council Members
Of Intent to Consider [7 days minimum]: ________________________________

Date of Passage of Current Policy: ________________________________

I certify that this Policy was adopted by Council as indicated above.

__________________________________________  ________________
Clerk/CAO                                    Date