

Chloride Pollutant Minimization Plan for the Village of Richton Park

November 12, 2022

Prepared by Richton Park Public Works Department



The Village of Richton Park is a member of
the Chicago Area Waterways Chloride
Workgroup



1.0 Introduction to Chloride Issue in CAWS/LDPR

This Pollutant Minimization Plan (PMP) has been prepared by the Village of Richton Park to reduce the environmental impacts from the organization's chloride related operations. The Village of Richton Park is a discharger covered under the Time Limited Water Quality Standard for Chloride for the Chicago Area Waterways System. This PMP has been prepared to meet the requirements laid out in the Time Limited Water Quality Standard (TLWQS) for Chloride. The term of this PMP covers the first 5-years of the TLWQS period and will be updated following the re-evaluations at Years 4 ½, 9 ½, and 14 ½.

Chloride is a permanent pollutant. It does not degrade over time and continues to accumulate in the environment. Proactive measures to reduce the amount of chloride discharged can help reduce the impacts from chloride on receiving waterways and the environment. Chloride impacts aquatic life, vegetation, and infrastructure. As the chloride concentrations increase and our waters become saltier, aquatic and plant biodiversity decreases and native species are overtaken by salt tolerant invasive species.

Chlorides are commonly found in road salt, fertilizers, water softeners, dust suppressants, and certain industrial processes. Chloride-based deicers, like rock salt, are used on parking lots, sidewalks, and roads to provide safe surfaces to the public during the winter months. These deicers are one of most common sources of chloride in the Chicago region.

The water quality standard for chloride for the Chicago Area Waterway System (CAWS) was updated as part of the rulemaking process related to changing the designated use of the CAWS. The chloride standard was updated from 1,500 mg/L during the winter and 500 mg/L during the summer to 500 mg/L all year round. The change in the chloride water quality standard took effect in 2018. Because portions of the CAWS were not going to meet this new standard due to the need to maintain public safety on roads, highways, sidewalks and parking lots during the winter months, a joint submittal and supporting individual petitions were submitted between 2015 and 2018 to the Illinois Pollution Control Board for a variance from the chloride standard. The joint petition laid out best management practices that can be achieved by the petitioners to reduce their chloride use while maintaining public safety during winter storms. In addition to the CAWS, portions of the Lower Des Plaines River watershed were included as it receives water from the CAWS.

On November 4, 2021, the IPCB issued an Opinion and Order for a Time Limited Water Quality Standard (TLWQS) for Chloride for portions of the CAWS and Lower Des Plaines River watersheds. The TLWQS for Chloride watersheds are defined in the Opinion and Order as the Des Plaines River watershed from the Kankakee River to the Will County Line (except for the DuPage River watershed) and the CAWS watershed (except the North Branch Chicago River watershed upstream of the North Shore Channel and those portions of the watershed located in Indiana). This is a watershed-based approach to reduce the chloride concentrations in the CAWS and Lower Des Plaines River. The TLWQS for Chloride requires all dischargers covered under the TLWQS for Chloride to create PMPs and implement specific best management practices based on their operations to reduce their chloride discharges.

2.0 Organization Info, Facilities' Specific Info

2.1 Facility overviews/descriptions

Agency Name: RICHTON PARK		
Facility Name: RICHTON PARK PUBLIC WORKS		Permit Number:ILG103
Facility Address: 4455 SAUK TRAIL		
City: RICHTON PARK	State: ILLINOIS	Zip Code: 60471

The Village of Richton Park *Public Works Department is responsible for providing snow and ice control for 74 lane-miles of streets. There are 10 cul-de-sacs and six Village owned parking lots. Parking lots consist of a Village Hall, Public Works facility, and a Metra Train Station.*

2.2 Chloride Sources

Salt storage located at 22022 Belmont, Richton Park

Water treatment facility #2 at 4142 Clark Drive, Richton Park

Water treatment Facility #3 at 22416 Amy Drive

Water treatment facility #4 at 22898 Latonia, Richton Park

Provide a description of your operations:

- Anti Icing to be performed in 2023-23 winter season
- Plow roads and parking lots and apply pre-wet road salt
- Bring makeup and loading is currently performed in the maintenance garage.
- Salt loading of trucks is perform within the covered storage building

2.3 Level of Service for Winter Maintenance Activities

Describe level of service for winter maintenance within community/organization. This can be brief and should reference your snow and ice plan.

The Village of Richton Park's goal is to make all streets and cul-de-sacs safe and accessible for vehicular traffic during and after a winter storm. Richton Park uses level of service goals for the roadways it maintains as guidelines to implement snow and ice operations during a storm. These level of service goals range from major and minor collector streets as Priority 1 to cul-de-sacs and dead ends as Priority 3. Specific information regarding levels of service are detailed on page 4 of the Snow and Ice Plan.

3.0 Chloride Monitoring Data

Chloride monitoring data will be collected for the CAWS and Lower Des Plaines River watersheds per the IPCB order. The data will be maintained by the workgroups. Chloride data for the CAWS will be collected by MWRD for the CAWS watershed and provided to the workgroups as part of the annual reporting as required by the IPCB order. The Lower Des Plaines Watershed Group also maintains a USGS monitoring station in the Des Plaines River at Channahon, IL that collects continuous conductivity data to estimate chloride concentrations.

4.0 Chloride Reduction BMPs for POTWs, MS4s, CSOs, Industrial Sources, IDOT/Tollway

As part of the Chloride TLWQS, specific BMPs were identified for POTWs, MS4s, CSOs, Industrial Sources, and IDOT/Tollway to reduce the chloride impact on the watershed. These BMPs will be implemented over the 15-year term and additional BMPs evaluated at 5-year intervals during the 15-year term. Further details about winter maintenance practices currently being implemented by the Village of Richton Park are included in the snow and ice plan, which is included as Appendix A. The BMPs identified are outlined below:

Workgroup BMP

Variance BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
The permittee must participate in a Chlorides workgroup for the CAWS or LDPR, depending on the watershed within which the facility's discharge is located.	X		The Village of Richton Park staff has been a member of the Chicago Area Waterways Chloride Workgroup since 2022.

Salt Storage and Handling BMPs

Variance BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
Store all salt on an impermeable pad that must be constructed to ensure that minimal stormwater is coming into contact with salt unless the salt is stored in a container that ensures stormwater does not come into contact with the salt.	Completed		The Village of Richton Park stores its salt in a covered 5,200 square foot building with cement floors and walls. There are no floor drains in this building. Salt storage can hold in excess of 2000 tons of rock salt.
Cover salt piles at all times except when in active use, unless stored indoors.	Completed		The Village of Richton Park has installed a new covered salt storage building.
For working areas, provide berms and or sufficient slope to allow snow melt and stormwater to drain away from the area. If snow melt and stormwater cannot be drained away from the working area, channeling water to a collection point such as a sump, holding tank or lined basin for collection, discharge at a later time, use for prewetting, and use for make-up water for brine must be considered.	x		The Village of Richton Park uses its maintenance garage to repair and calibrate equipment. There is a collection trough that is vactored out as needed and dispose of at the landfill. A separate brine makeup area is being built and will be online for the next snow season (23-24)
MS4/CSO Only - Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.	Completed		The Village of Richton Park stores its salt in a covered 5,200 square foot building with cement floors and walls. There are no floor drains in this building.

<p>Good housekeeping practices must be implemented at the site, including:</p> <ul style="list-style-type: none"> • cleanup of salt at the end of each day or conclusion of a storm event; • tarping of trucks for transportation of bulk chloride; • maintaining the pad and equipment; • good practices during loading and unloading; • cleanup of loading and spreading equipment after each snow/ice event; • a written inspection program for storage facility, structures and work area; • removing surplus materials from the site when winter activity finished where applicable; • annual inspection and repairs completed when practical; • evaluate the opportunity to reduce or reuse the wash water. 	<p>X</p>		<p>The Village of Richton Park uses good housekeeping practices for winter road salt related work including loading, salt deliveries, and facility inspections.</p>
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Winter Maintenance Operations BMPs

Variance BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
<p>Calibrate all salt spreading equipment at least annually before November 30th. Records of the calibration results must be maintained for each piece of spreading equipment.</p>	<p>X</p>		<p>Calibration is completed by staff of The Village of Richton Park each year. Details are included on Page 3 of the Richton Park's Snow and Ice plan.</p>
<p>Pre-wet road salt before use, either by applying liquids to the salt stockpile, or by applying liquids by way of the spreading equipment as the salt is deposited on the road.</p>	<p>X</p>		<p>The Village of Richton Park uses pre-wet road salt on 4 trucks and all future trucks purchased will have this system installed. Further information regarding pre-wetting is available on Pages 5 of the Richton Park's Snow and Ice plan.</p>
<p>Use equipment to measure the pavement temperature unless such equipment has already been</p>	<p>X</p>		<p>The Village of Richton Park monitors pavement temperatures using portable sensors mounted on Supervisors' and</p>

installed on road salt spreading vehicles.			administrators' vehicles. Further details are found on Page 6 pf the Richton Parks Snow and Ice plan.
Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.	X		The Village of Richton Park varies application rates and materials based on pavement temperatures and weather conditions. Information regarding application rates and materials is included on Page 6 pf the Richton Parks Snow and Ice plan.
Track and record salt quantity used and storm conditions from each call-out.	X		The Village of Richton Park maintains records of each winter storm call-out. Information regarding recordkeeping is included on Page 6 pf the Richton Parks Snow and Ice plan.
Develop a written plan for implementation of anti-icing, with milestones. The plan should consider increased use of liquids (e.g., carbohydrate products) beginning with critical locations such as bridges over streams.		2023	The Village of Richton Park will be implementing Anti-Icing as part of its winter operations for the 22-23 snow season. Information about the Anti-Icing program is outlined on Page 9 of the Richton Parks Snow and Ice plan.
Provide employees involved in winter maintenance operations with annual training before November 30th on best management practices in the use of road salt in operations, including the practice of plowing first and applying salt only after snow has been cleared.	X		The Village of Richton Park completes annual training for winter maintenance staff each year. Training topics and procedures are on Page 6 pf the Richton Parks Snow and Ice plan.
Be responsible for complying with all applicable BMPs even when deicing practices are contracted out and ensure that contractors are property trained and comply with all applicable BMPs.		2024	Under development and is outlined on page 10 of the Richton Parks Snow and Ice Plan.
Complete an annual report, as required by paragraph 3(B) of this order, which is standardized in an electronic format and submitted to the IEPA's website and to the watershed group.		2023	The Village of Richton Park will complete and submit an annual report each year to IEPA and the workgroup by July 1.
Obtain and put into place equipment necessary to implement all salt spreading/deicing measure specified in this BMP, such as any new or retrofitted salt spreading equipment necessary to allow for	X		Richton Park is up to date and compliant with this section.

pre-wetting and proper rates of application.			
MS4/CSO/IDOT/TOLLWAY Only - Install equipment to measure the pavement temperature on the winter maintenance fleet for a sufficient number of vehicles to provide sufficient information to adjust application rates for the most efficient levels. Develop and complete a plan to equip the winter maintenance fleet before the first re-evaluation.		2025	Under development. Current methodology is management drive zones and reports / modify load rates if needed per zone.
MS4/CSO/IDOT/TOLLWAY Only - Before the first re-evaluation, develop a method for conducting a post-winter review to identify areas of success and areas in need of improvement. Items to be completed as part of the review must include, but are not limited to, an evaluation of each salt spreader's application rate, variations in application rates, and discussion of the variation compared to the recommended rates. Once developed, the review should occur annually in the spring/early summer following each winter season.	X		Richton Park currently tracks salt usage by zone and compares this to the expectations of bare road. The pass down meeting discusses issues to be addressed prior to the next storm. Feed rates are adjusted according to data and guidelines specified in the Snow and Ice plan

Additional BMPs Identified for Agency/Facility

If your agency currently does any other BMPs for chlorides specific to your operations (for industrial members – this may include any BMPs related to chlorides in your processes), list them out in the table below and provide details about how you are currently implementing those BMPs. If you don't use any additional BMPs, feel free to delete this section.

BMP	Currently Implementing	Agency Description of Current Implementation
N/A		

5.0 Plan to Implement BMPs

List BMPs that will be implemented from the above tables, these are the BMPs your agency is currently not already doing. List out the BMP to be implemented and describe your plan to implement that BMP with measurable goals and what the timeline/schedule for the implementation will be. Also describe any barriers to

implementing the BMPs (financial, etc). The plans and schedule should be detailed enough to reflect what your agency needs to do to implement the BMP. See the highlighted example below.

The Village of Richton Park will implement the following BMPs to take steps towards compliance with chloride standards for the watershed.

BMP: Copy and Paste the BMP needing to be implemented from Section 4.

Plan to Implement BMP:

- 1) Complete an annual report, as required by paragraph 3(B) of this order, which is standardized in an electronic format and submitted to the IEPA's website and to the watershed group. **Data will be compiled and report submitted within the time frame provided.**
- 2) Develop a written plan for implementation of anti-icing, with milestones. The plan should consider increased use of liquids (e.g., carbohydrate products) beginning with critical locations such as bridges over streams. **The plan will be in place by the end of the 2022-2023 snow season.**
- 3) Be responsible for complying with all applicable BMPs even when deicing practices are contracted out and ensure that contractors are property trained and comply with all applicable BMPs. **Develop a permitting process and citation guidelines for non-compliance on Village owned locations that are contracted out. This will be implemented in the 2023-2024 snow season.**
- 4) Install equipment to measure the pavement temperature on the winter maintenance fleet for a sufficient number of vehicles to provide sufficient information to adjust application rates for the most efficient levels. Develop and complete a plan to equip the winter maintenance fleet before the first re-evaluation. **This is a financial barrier for the Village. Current methodology is a manual temperature gauge that a manager goes to the zones to validate current ground temperatures. Staff will be evaluating the road temperatures this year to develop constant points of measure to represent the zone(s). Richton Park will budget for and plan to purchase pavement temperature sensors for the winter maintenance fleet each fiscal year until all vehicles are equipped. Due to the expense of equipping the entire fleet at once, five vehicle will be outfitted at a given time to buffer the additional expense across several years, but will still provide for pavement temperature information to make decisions regarding application rates of deicer during winter storms. Replacement trucks will be spec'd to include mirror mounted temperature sensors. Start budgeting for the sensors in fiscal year 2024. Anticipate all fleet will be equipped by end of fiscal year 2027.**

6.0 Other Chloride TLWQS Required Milestones

The Village of Richton Park will implement these specific milestones (not included in the above BMPs) as outlined by the Chloride TLWQS.

Milestone	Agency Completion Date	Agency Completion Details
6 MONTHS AFTER EFFECTIVE DATE: Petitioner establishes a mechanism for tracking of de-icing salt usage for each facility.	2019	Each storm is documented and the total are placed into a spreadsheet for additional tallying as needed.
July 1st OF EVERY YEAR (BEGINNING WITH YEAR 2): Discharger must submit an Annual Report for the previous year beginning on May 1 and ending on April 30 of the following year to the Agency and the chlorides workgroup on. The report shall be on salt usage for	By July 1 of each year, beginning in Year 2	The Village of Richton Park will submit an annual report to the workgroup and IEPA.

<p>deicing and steps taken to minimize salt use and makes the report publicly available.</p>		
<p>July 1st of YEAR 3, YEAR 8 and YEAR 13: The chlorides workgroup submits a Status Report to the IEPA which includes an analysis on the following: chlorides monitoring data; report on the chloride workgroup’s outreach strategy, which includes outreach efforts to expand coverage of the TLWQS, and outreach and training for nonpoint sources; identification of any new BMPs, treatment technology or salt alternatives; identification of the impediments and potential solutions of those impediments faced by dischargers and those granted coverage under the TLWQS that prevent them from completing the training and making all capital purchases necessary to implement the required BMPs; and identification and description of any assistance (financial, technical, or otherwise) that the chloride workgroup may be able to provide.</p>	<p>By July 1 of year 3, the workgroups will submit a Status Report to the IEPA.</p>	
<p>July 1st OF YEAR 4 ½: Chlorides workgroup submits to the Board its first proposed re-evaluation pleading consistent with the Board’s order granting the TLWQS.</p>	<p>By November 12, 2026, the workgroups will submit a re-evaluation to the IEPA and IPCB.</p>	

Attachment1 – Snow and Ice Plan

The Village of Richton Park SNOW AND ICE PLAN

I. SNOW FIGHTING PLAN

The Public Works Department is responsible for the safe flow of traffic throughout the Village's network of streets. Richton Park's current roadway system, within its maintenance jurisdiction, includes about 72 lane miles of pavement. The Illinois Department of Transportation (IDOT) plows and maintains the two main State routes (Governors and Cicero Highways) within our corporate limits. Counties and Townships that overlap our jurisdiction also manage snow and ice control routes within our corporate limits. Such areas include Sauk Trail and Central Avenue.

Weather Prediction

Prediction of impending storms is important in the control of snow and ice. The Public Works Department subscribes to a live, internet based, weather radar service, and a 24-hour staffed weather prediction service. The Public Works Department also keep in contact with the local police department. All of these efforts, and others, as required, keep the Villages snow and ice control aware of the storms impacts and evolution.

Plow Routes

To coordinate snow and ice control effectively, the Village is divided into five (5) zones with snow plow routes assigned throughout the zones. Each truck is assigned a specific plowing route to maintain within a zone. Each plow route has a primary and secondary driver. Plow routes are balanced according to the number of miles serviced and the time required to complete each route. This insures that each route is completed in approximately the same amount of time.

Plowing Policy

The goal of the Public Works Department is to clear the Village streets as effectively and efficiently as possible by utilizing an effective combination of snow and ice control methods. During a snowstorm, the clearing of streets is performed on a priority basis. The roadway system in Richton Park is broken down in to three categories. These categories provide the utilization hierarchy which allows our plan to identify and service the most crucial Village roadways first.

Priority Order

1. Main arterial roadways and any routes required for emergencies
2. Residential streets and access to Commuter Parking lots
3. Cul-de-sacs and Parking lots

Arterials are generally high volume roadways designed to move traffic through the Village. *Residential streets* are designed to channel somewhat smaller volumes of traffic from local roads to the main arterials. Finally, cul-de-sacs and parking lots provide the least amount of traffic. When plowing operations begin, the driver will "open" the roads according to the priority order listed above.

All streets in town will need a minimum of four (4) passes to plow from curb to curb. Drivers will make a pass in each direction on the street starting in the center of the road. During a snow event staff will continue keeping the roads open by making the same 2 passes on every street. Once the snow stops coming down, and the drive lanes are to bare pavement, staff will start clearing curb to curb on all streets. Drivers keep the rock salt at the recommend setting for the weather conditions.

Level of Service

The proposed level of service for the Snow and Ice Control Program is to clear all routes to bare pavement after a winter storm in the following time frame

Accumulations

Time Frame *

Ice/Freezing Rain-2 Inches of Snow	12 hours after storm ends
2-8 Inches of Snow	28 hours after storm ends
9-16 Inches of Snow	40 hours after a storm ends
17-more Inches of Snow	52 hours after a storm ends

*Times could be extended due to a variety of weather and traffic conditions such as temperature drops and wind that causes snow drifts.

Spreader Calibration

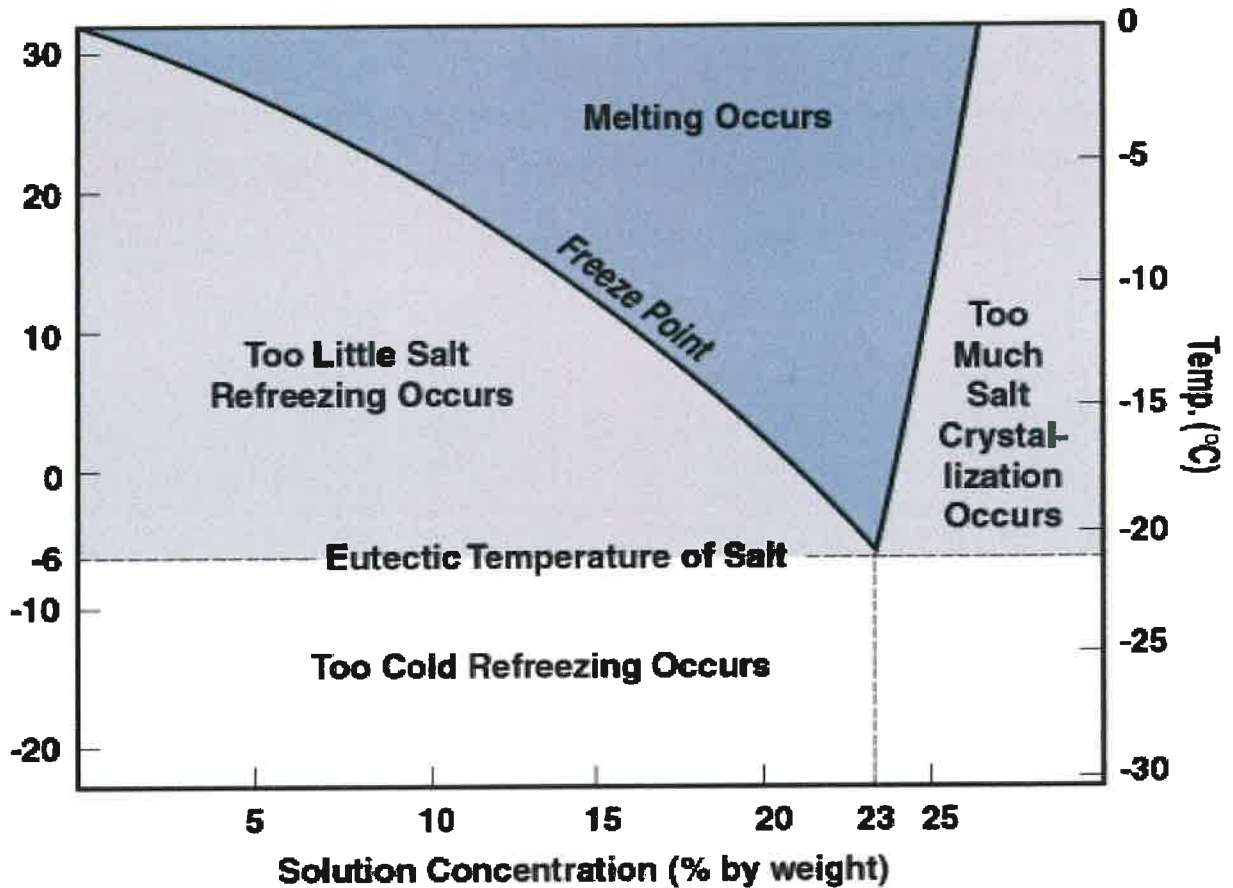
No later than November 30th of each year, each and every salt spreader must be calibrated and the calibration settings loaded into the current computer operating system in each truck. Calibration is essential for controlling application rates. Different materials will spread at different rates, so spreaders should be calibrated with the material intended to be used. Each spreader must be calibrated separately because even the same model spreaders can vary widely in their performance and spreading capacity.

Salt vs. Temperature

It's 15° F and snowing and it feels like the salt you just put down took a vacation.

Salt is the least expensive and most abundant deicing material on the market. On a cost-benefit analysis salt is difficult to beat when considered against alternative materials. The performance of salt in its practical operating range above 25° F makes it an extremely cost effective solution in that temperature range. While materials such as calcium chloride and magnesium chloride are very effective to temperatures well below zero, these materials are considerably more expensive than road salt or rock salt. However, in temperatures below 25° F, the effectiveness of salt decreases dramatically.

Phase Diagram for Salt



Pre-wetting

Pre-wetting the salt improves ice-melting capacities in a number of ways. First, it supplies moisture to the rock salt speeding the melting process. Second, it causes the rock salt to stick to the ice, snow and pavement instead of being thrown off of the road, thereby eliminating waste. Finally, the chemical properties of pre-wetting products lowers the freezing point of water therefore, it is able it to melt snow and ice at lower temperatures than rock salt alone.

Richton Park uses the pre-wetting technique with every snow event that the ground temperatures are above 10 degrees F. The data on Page 6 represents the freezing point correction of pre-wetting salt. Richton Park uses between a 20-21% bring solution.



Salt Brine and Rock Salt Statistics

FREEZING POINT OF SALT BRINE BY PERCENT OF WEIGHT

% of NaCl by Weight	Spec. Gravity 15° C - 59° F	Freeze Point °C	Freeze Point °F
0	1.000	0.00	32.0
1	1.007	-0.58	31.0
2	1.014	-1.13	30.0
3	1.021	-1.72	28.9
4	1.028	-2.35	27.8
5	1.035	-2.97	26.7
6	1.043	-3.63	25.5
7	1.051	-4.32	24.2
8	1.069	-5.03	22.9
9	1.027	-5.77	21.6
10	1.074	-6.54	20.2
11	1.082	-7.34	18.8
12	1.089	-8.17	17.3
13	1.097	-9.03	15.7
14	1.104	-9.94	14.1
15	1.112	-10.88	12.4
16	1.119	-11.90	10.6
17	1.127	-12.93	8.7
18	1.135	-14.03	6.7
19	1.143	-15.21	4.6
20	1.152	-16.46	2.4
21	1.159	-17.78	0.0
22	1.168	-19.19	-2.5
23	1.176	-20.69	-5.2
23.3 (E)	1.179	-21.13	-6.0
24	1.184	-17.00	-1.4
25	1.193	-10.40	13.3
26	1.201	-2.30	27.9
26.3 (S)	1.203	-0.00	32.00

STATISTICS

Salt brine eutectic 23.3% at 59° F

Salt brine specific gravity at 23.3% 59° F is 1.179

Pounds of salt per gallon of brine 2.28lbs at 23.3% 59° F

Salt weight per cubic foot ASTM spec D 632 approx 80 lbs

Salt weight per cubic yard ASTM spec D 632 approx 2,160 lbs

POUNDS OF ICE MELT PER POUND OF SALT

Temperature Degrees °F	One Pound of Sodium Chloride (Salt)
30	46.3 lbs of ice
25	14.4 lbs of ice
20	8.6 lbs of ice
15	6.3 lbs of ice
10	4.9 lbs of ice
5	4.1 lbs of ice
0	3.7 lbs of ice
-6	3.2 lbs of ice

E = Eutectic Point:

The percent of weight which a chemical solution has the lowest freeze point.

S = Saturation Point:

The point which water will receive no more of another substance in a solution.

Training Requirements

Annually all employees are trained in snow removal techniques. This training shall include at a minimum the review of the Chloride Reduction permit IL103, calibration, techniques, application / salting science, and general snow plowing practices. This training can be formal class room or in person through train the trainer concept.

Storm Tracking Requirements

Every storm that needs salt applications will be reacted and documented. The required documentation will be filled out for each truck plowing session. Every driver will need to start a new tracking form. This form will have at a minimum:

- Pounds of Salt used
- Gallons of Brine Used
- Gallons of additive used (like beat heat)
- Application rate for Salt
- Application rate for Brine
- Start and stop times
- Lane miles plowed
- Lane miles applied
- Total snow fall
- Ground temperature
- Ambient temperature

The storm totals will be accumulated after the storm and added to a spread sheet. This spreadsheet will account for each storm and totalize for the annual report.

Pavement Temperatures

Pavement temperatures are currently taken prior to the driver leaving the yard. The manual infrared temperature gun reports the starting ground temperature. If the weather forecast is predicting a drop in temperatures, management will spot check, in each plow zone, then report to the driver to adjust the feed rates accordingly.

In the upcoming years, this will be an automated process that will be truck specific, Mounted on the truck. A temperature sensor will report real time readings to the driver for immediate correction to application rates.

Application Rates

Because air temperature, type of precipitation, and road surface condition affect snow fighting operations, the following guidelines have been instituted to assist with the decision making process concerning chemical application:

CONDITION 1 Temperature near thirty (30) degrees Fahrenheit; precipitation of snow, sleet or freezing rain; road surface is wet.

- If snow or sleet, apply wetted salt at a rate of one-hundred (100) pounds per lane mile. If snow and sleet continues and accumulates, plow then salt.

- If freezing rain, apply wetted salt continuously at a rate of two-hundred (200) pounds per lane mile. If rain continues to freeze, reapply salt at a rate of two-hundred (200) pounds per lane mile, as required.

CONDITION 2 Temperature below thirty (30) degrees Fahrenheit or falling; precipitation of snow, sleet, or freezing rain; road surface is wet or sticky.

- Plow snow and apply salt at a rate of two-hundred (200) pounds per lane mile depending upon accumulation rate. If freezing rain, continually apply wetted salt at a rate of two-hundred to three-hundred (200-300) pounds per lane mile.

CONDITION 3 Temperature below twenty (20) degrees Fahrenheit and falling; precipitation is dry snow; road surface is dry.

- Plow as soon as possible. Do not apply salt. Continue to plow and check for wet, packed or icy spots and treat them with wetted salt applications at a rate of two-hundred to three-hundred (200-300) pounds per lane mile.

CONDITION 4 Temperature below twenty (20) degrees Fahrenheit; precipitation of snow, sleet or freezing rain; road surface is wet.

- Apply wetted salt at a rate of two-hundred to three-hundred (200-300) pounds per lane mile, as required. If snow or sleet continues and accumulates, plow then salt. If temperature starts to rise, apply salt at a rate of two-hundred to three-hundred (200-300) pounds per lane mile and wait for wetted salt to react before plowing. Continue until safe pavement is obtained.

CONDITION 5 Temperature below ten (10) degrees Fahrenheit; precipitation of snow or freezing rain; road surface has accumulation of packed snow or ice.

- Apply wetted salt at a rate of two-hundred to three-hundred (200-300) pounds per lane mile, or utilize salt treated abrasives (anti-skids) at a rate of one-hundred fifty to two-hundred (150-200) pounds per lane mile. When snow or ice becomes mealy or slushy, begin plowing. Repeat applications and plowing as necessary.

The application rate are defined by the charts provided to drivers that are developed annually after calibration. These charts are vehicle specific and an example is on the following page

Plow Truck Calibrations

Truck No. 502
 Date 11/24/2020

Pavement Tem. (F) and Trend	Weather Condition	Maintenance Actions	Road Salt Control Setting	Pre-wet Control Setting
30 and above	Snow	Plow & apply chemical	2	2
	Frz. Rain	Apply chemical	2	2
25 - 30	Snow	Plow & apply chemical	2	2
	Frz. Rain	Apply chemical	3	2
20 - 25	Snow	Plow & apply chemical	3	3
	Frz. Rain	Apply chemical	3	3
15 - 20	Snow	Plow & apply chemical	4	3
	Frz. Rain	Apply chemical	4	3
0 - 15	Snow	Plow, treat with blends, sand hazardous areas	5	4
	Snow	Plow, treat with blends, sand hazardous areas	5	4

Control Setting	Road Salt		Pre-Wet		Discharge Per Minute	Pre wet GPM	Discharge Per Revolution (pounds)
	lbs/ lane mile (10 mph)	Control setting	Gallons/Hour	Shaft RPM			
1	0	1	#VALUE!	0	0	N/A	9.5
2	57	2	15	1	9.5	0.25	
3	185.25	3	30	3.25	30.875	0.5	
4	285	4	45	5	47.5	0.75	
5	356.25	5	60	6.25	59.375	1	
6	399	6	75	7	66.5	1.25	
7	456	7	90	8	76	1.5	
8	456	8	120	8	76	2	
9	456	9	135	8	76	2.25	
10	456	10	150	8	76	2.5	

Anti-icing

Anti-icing efforts involve applying liquid chemicals to the pavement prior to the storms arrival. There are a couple of ways this is done, the most common, longest lasting, and cost effective is to apply the salt brine/beet juice liquid to the roads utilizing a truck-mounted boom sprayer system. This liquid will dry and remain on the pavement ready to work for up three days without reapplication. The other way is to apply pre-wetted salt to the roadway. Pre-wetting helps to hold the salt to the pavement and it begins working as soon as the storm begins. This can only be done a few hours ahead of a storm. Both applications start to melt the snow as soon as it begins and prevent the snow and ice from bonding to the pavement.

The application rate will be developed through the combination of in house data and external reports. In the 2022-2023 snow season, Anti Icing will be implemented.

Drivers and vehicle protocols

Drivers shall not risk injury by attempting to manually push a vehicle out of the road. Team members shall never use a Village vehicle to push or pull a privately owned vehicle that has become stuck or stranded. Plowing speeds shall not exceed fifteen (15) miles per hour. Plowing speed along the curb should be reduced to ten (10) miles per hour. Driver performance must insure the safety of the public and the diligent minimization of potential damage to the equipment.

As a rule of thumb, no public works snow and ice control driver shall drive for more than twelve (12) hours without at least eight (8) hours off of work.

Property Damage

Throughout the course of operations of snow and ice removal, a certain amount of damage may occur due to the plow riding up over the curb. The Public Works Department will repair parkway damage with the use of pulverized dirt and seed in the spring, when weather permits. If the sod is rolled back in such a way that it could be restored, this will be done by the repair crews. The responsibility of watering repairs will fall to the adjacent homeowner. Damage to sod due to the inadvertent splashing of salt brine will not be treated by the Village.

If there is no evidence of the box having been struck, the permanent repair will be the responsibility of the homeowner. If a mailbox is damaged by snow removal operations, a Public Works representative will be sent to inspect the damage. If there is evidence the box was struck by the plow, evidence of a dent in the box, there are three options for repair:

- 1) The box and/or post will be replaced with a standard type box and/or 4x4 post as needed.

2) Our crews can replace the mailbox with a box and/or post provided by the resident. The resident can receive a reimbursement not to exceed \$100 upon providing sufficient documentation of purchases.

3) The resident can replace the box and/or post themselves and receive the above reimbursement.

Assistance to Private Property

Under no circumstances will a Village employee be allowed to use a Village vehicle to push, pull, or tow a private vehicle. Furthermore, Village personnel are prohibited to perform in any snow removal, during working hours, that falls under the responsibility of the resident.

No Duty or Right Created

The purpose of this policy is to establish goals for snow and ice control. It is not to be construed to create any duty to any individual or entity. The policy does not provide or promise any special protection or service to any particular individual or group of individuals. No additional rights shall be granted any individual or entity by adoption of strikes, equipment breakdown, weather conditions, inadequacy of equipment, state or federal regulations, shortage of personnel, and any unforeseen, uncontrolled or unanticipated acts.

Contracted Services

The Village of Richton Park will be utilizing contractual service for snow removal on occasion. These contractors are required to follow the chloride reduction permit and any other policies detailed herein.