

Annual Report for Year 1 (2022-2023) of the Time Limited Water Quality Standard for Chloride

**NPDES ID ILG103058
Annual Report 4.3**

**Prepared by the Village of La Grange
320 East Avenue, La Grange, IL 60525**

with assistance from Baxter & Woodman, Inc.



The Village of La Grange is a member of the Lower Des Plaines Watershed Group (membership in process).



1.0 Introduction to Chloride Issue in CAWS/LDPR

This Pollutant Minimization Plan (PMP) has been prepared by the Village of La Grange to reduce the environmental impacts of chloride from the Village's winter roadway operations. The Village is a discharger covered under the Time Limited Water Quality Standard for Chloride for the Chicago Area Waterways System and Lower Des Plaines River watersheds. 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, Facility Information

Agency Name: Village of La Grange		
Facility Name: Village of La Grange Public Works		Permit Number: ILG103058
Facility Address: 320 East Ave		
City: La Grange	State: IL	Zip Code: 60525

2.1 Level of Service for Winter Maintenance Activities

The Public Works Department plows all streets within the Village limits, regardless of roadway jurisdiction. The Department prioritizes the main roadways in the Village (La Grange Road, Ogden Avenue, and 47th Street) and then addresses side streets and parking lots. The Department has five established snowplow routes, one for each of the five Village-owned plow and salt application trucks. The snowplow routes cover the 76 lane miles of roadway, including the IDOT roads. The Department also works to clear sidewalks in the downtown area and encourages residents to clear public sidewalks on or adjacent to their property.

3.0 Best Management Practices

Details regarding the Village’s implementation of the best management practices (BMPs) identified as part of the TLWQS for Chloride are included below.

Workgroup BMP

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
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.	The Village of La Grange will become a member of the Lower Des Plaines Watershed Group in 2023. Once members, the Village of La Grange Public Work’s staff will attend workgroup meetings.

Salt Storage and Handling BMPs

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
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	All salt stored by the Village is stored in a dedicated permanent covered structure on a concrete pad for containment and to prevent contact with stormwater.

<p>stormwater does not come into contact with the salt.</p>	
<p>Cover salt piles at all times except when in active use, unless stored indoors.</p>	<p>Salt is delivered as needed and stored in the permanent storage structure. No salt is stored outside of the salt structure.</p>
<p>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.</p>	<p>All salt is stored inside the permanent structure. The impervious surface is pitched away from the opening of the structure, and salt is swept away from the opening. The facility was built to drain stormwater away from the storage structure.</p>
<p>MS4/CSO Only - Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.</p>	<p>The Village has a permanent, covered structure for salt storage and liquid deicers are stored within indoor tanks.</p>
<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; 	<p>The Village implements good housekeeping practices:</p> <ul style="list-style-type: none"> • Salt is cleaned up at the end of each day or conclusion of a storm event; • Bulk salt transportation and storage is not performed by the Village; • The Village maintains the pad and equipment; • Good practices during loading and unloading are performed; • Vehicles and equipment are washed in a designated washing area that drains to the combined sewer after each snow/ice event. Wash bay area has a pitched surface to direct wash water to combined sewer; • The Village is writing an inspection program for storage facility, structures and work area; • The Village does not store surplus materials outside of designated covered areas; • Annual inspection and repairs completed as a part of normal operations; • The Village does not currently produce its own brine, but will evaluate the opportunity to reduce or reuse the wash water.

<ul style="list-style-type: none"> • annual inspection and repairs completed when practical; • evaluate the opportunity to reduce or reuse the wash water. 	
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Winter Maintenance Operations BMPs

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
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.	Application rate will be calibrated annually on each truck. Each truck setting and rate will be documented at start of every snow season and after significant maintenance.
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.	The Village uses an on-board prewetting protocol using an IDOT organic blend.
Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.	The Village has a subscription to Data Transmission Network (DTN) Weather Sentry that provides live pavement temperatures and weather forecasts. DTN has 5 pavement monitoring sites within 5 miles of the PW facility. The Village also has a handheld pavement temperature sensor to use when needed.
Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.	The Village has a protocol in place and has adopted Minnesota DOT guidelines and practices.
Track and record salt quantity used and storm conditions from each call-out.	The Village records salt usage per truck for each winter event. The Village also has a 5-year running average of annual salt usage that is used to approximate the salt required for the next winter season.
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 Village has anti-icing equipment and pretreatment of pavement is performed in select route areas. The Village's Snow and Ice Plan is included as Appendix 1.

<p>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.</p>	<p>Winter maintenance training is fulfilled as a function of a Union requirement. The Village sends and will continue to send employees to local deicing workshops. Village employees have also attended Minnesota DOT deicing workshops.</p>
<p>Be responsible for complying with all applicable BMPs even when deicing practices are contracted out and ensure that contractors are properly trained and comply with all applicable BMPs.</p>	<p>The Village does not contract out winter operations work.</p>
<p>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.</p>	<p>Annual report will be completed by July 1, 2023.</p>
<p>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 pre-wetting and proper rates of application.</p>	<p>The Village has the necessary equipment.</p>
<p>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.</p>	<p>The Village has a subscription to Data Transmission Network (DTN) Weather Sentry that provides live pavement temperatures and weather forecasts. DTN has 5 pavement monitoring sites within 5 miles of the PW facility. The Village also has a handheld pavement temperature sensor to use when needed.</p>
<p>MS4/CSO/IDOT/TOLLWAY Only - Before the first re-evaluation, develop a method for conducting a post-winter review</p>	<p>The Village will hold a post winter/spring meeting to discuss areas of success and areas in need of improvement.</p>

<p>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.</p>	
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Additional BMPs Identified for Agency/Facility

BMP	Agency Description of Current Implementation
N/A	

3.1 Analysis of BMPs Implemented

Winter operations BMPs were determined to be effective at managing the use and storage of road salt and chloride containing liquids. No changes to the BMPs are proposed at this time.

3.2 Analysis of Alternative Treatments or New Technology

No alternative winter operations practices or new technologies are being considered at this time.

4.0 Deicing/Anti-Icing Agents Used

Materials used by the Village for the 2022-2023 winter season are included as Appendix 1.

4.1 Application Rates

The Village has developed application rate calibration procedures for its spreader trucks and calibration documentation forms. Each year, the Village plans to perform spreader calibration for each truck before November 30th. Application rates will be tracked in future years and included in a future Appendix 2 to this report.

4.1.1 Application Rate Analysis

Application rates will be evaluated in future years.

4.2 Application Practices

Each salt application truck is equipped with on-board pre-wetting equipment. The Village implements an on-board prewetting protocol using an organic blend. The Village uses a Force America systems on their trucks. Force America provides support and will come out for service calls. Equipment calibration is performed annually and after significant maintenance. Each truck setting and rate is documented at start of every snow season and salt usage for each truck is documented after each winter event. The Village calibrates vehicle application rates for each truck by weight annually.

The Village has a subscription to Data Transmission Network (DTN) Weather Sentry that provides live pavement temperatures and weather forecasts. Pavement temperature monitoring from DTN has 5 pavement monitoring sites within 5 miles of the Public Works facility, and 20 pavement monitoring sites within 15 miles. This data is available by App that all operators have access to. It is also displayed on monitors in real-time at the facility. A meteorologist is also available through DTN that can provide forecasting data specific to the Village upon request.

4.3 Call Outs

A total of 16.8 inches of snow was reported in the Village for the 2022-2023 winter. There were 10 snow events for the 2022-2023 winter. The Village had 10 call outs during the 2022-2023 winter. A log of all call outs completed is included as Appendix 3.

4.4 Use of Liquids

The Village has equipment for anti-icing (pretreatment) of select route areas. Anti-icing is performed as needed based on weather forecast, pavement temperature and other factors.

5.0 Training

The Village completed annual training for all Public Works staff (16 employees) who are part of the winter maintenance operations in October 2022. A list of annual training topics by type of employee is included as Appendix 4.

6.0 Deicing and Snow Removal Equipment and Maintenance

The Village uses equipment listed in Appendix 5 during winter maintenance activities.

6.1 Description of Equipment Washing and Wash Water Collection

Vehicles and equipment are washed in a designated washing area that drains to the combined sewer after each snow/ice event. The wash area is graded to direct wash water to the combined sewer.

7.0 Material Storage

The Village maintains one storage area. Information regarding the storage area is included in Appendix 6.

8.0 Capital Purchases

No capital purchases were determined necessary in the Village Chloride PMP (Appendix 7).

9.0 Environmental Monitoring Data

Chloride monitoring data is collected for the Lower Des Plaines River watershed per the IPCB order. The data is maintained by the Lower Des Plaines Watershed Group. The 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.

Chloride monitoring data reports are posted to <https://www.cawswatershed.org/reports/> and <https://ldpwatersheds.org/about-us/lower-des-plaines-watershed-group/our-work/chloride-tlwqs/>.

10.0 Program Evaluation

10.1 Proposed Steps for the Coming Year

Continue to implement the Village's Chloride PMP and produce an annual report.

11.0 Workgroup Participation

The Village will become a member of the Lower Des Plaines Watershed Group in 2023. Once members, Village Public Work's staff will attend workgroup meetings.

Chloride TLWQS Annual Report
 Appendix 1 - Deicing/Anti-Icing Agents Used

Material or Product	Dry, Pre-Wet, Pretreated, or Liquid	Lane Miles Treated with the Product for 2022-2023	Parking Lot and Sidewalk Area (Sq. Ft.) Treated with the Product for 2022-2023	Total Amount used for 2022-2023 (Year 1) in Tons or Gallons	Total Amount used for 2023-2024 (Year 2) in Tons or Gallons	Total Amount used for 2023-2024 (Year 3) in Tons or Gallons	Total Amount used for 2023-2024 (Year 4) in Tons or Gallons	Total Amount used for 2023-2024 (Year 5) in Tons or Gallons	Total Amount Used Over First 5-Year Term
Rock Salt	Pre Wet or Dry	76	500,000	400 tons					
CaCl	Prewetting	76	500,000	0 gal					
Brine Blend (CaCl, Beet Juice)	Pre Wet or Anti-Icing	6	500,000	3,500 gal					

Estimates of Relative Material Amounts Applied and Coverage Achieved

Year	Total Lane Miles Maintained	Total Parking Lot and Sidewalk Area (Sq. Ft.) Maintained	Percent of Total Lane Miles Treated with Dry Materials	Percent of Total Lane Miles Treated with Pre-Wet or Pretreated Materials	Percent of Total Lane Miles Treated with Liquids	Percent of Total Parking Lot and Sidewalk Area Treated with Dry	Percent of Total Parking Lot and Sidewalk Area Treated with Pre-wet or Pretreated Materials	Percent of Total Parking Lot and Sidewalk Area Treated with Liquids
2022-2023	76	500,000	0%	100%	0.08	100%	100%	0%
						Sidewalks	Parking Lots	

Date: 2-24-23
 Time Started: 9:15
 Time Ended: 2:15
 Crew Leader: HP

TOTAL QUANTITIES
 Salt (Tons) 30 Ton
 Calcium Chloride (gallons) _____
 Bags of Salt (number) _____

Appendix 3

PRIORITY A - ROADWAYS AND PARKING LOTS

Activities	Equipment & Route	Person Assigned	Salt (tons)	CaCl (gal)
1 <input checked="" type="checkbox"/> Ogden Avenue Bridge	<input type="checkbox"/> Truck / Route No. 2 →			
2 <input checked="" type="checkbox"/> State Routes	<input type="checkbox"/> Truck / Route No. 4 X →	HP	12	
3 <input checked="" type="checkbox"/> Local Roads	<input type="checkbox"/> Truck / Route No. 6 →			
4 <input checked="" type="checkbox"/> Parking Lots (See Back Page)	<input type="checkbox"/> Truck / Route No. 8 →			
5 <input type="checkbox"/> Alleys	<input type="checkbox"/> Truck / Route No. 21 X →	R.A.	8	
	<input type="checkbox"/> Truck No. 14 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input checked="" type="checkbox"/> Truck 15 →	M.G.	10	

PRIORITY B - TRAIN STATIONS AND SIDEWALKS

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input checked="" type="checkbox"/> Burlington Avenue Train Station	<input type="checkbox"/> Front End Loader →			
2 <input checked="" type="checkbox"/> Stone Avenue Train Station	<input type="checkbox"/> Small Pickup →			
3 <input type="checkbox"/> Village Hall	<input type="checkbox"/> Large Skid Steer →			
4 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Small Skid Steer →			
5 <input type="checkbox"/> Other Sidewalks and Parking Spaces (See Back Page)	<input checked="" type="checkbox"/> Trackless →	FF	100	
	<input type="checkbox"/> Blue Machine →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Snow Blowers →			
	<input type="checkbox"/> Shovels →			

PRIORITY C - SNOW REMOVAL

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Truck No. 2 →			
2 <input type="checkbox"/> Parking Lots	<input type="checkbox"/> Truck No. 8 →			
3 <input type="checkbox"/> CBD	<input type="checkbox"/> Front End Loader →			
	<input checked="" type="checkbox"/> Truck No. 20 →	R.A.		
	<input type="checkbox"/> Truck No. 64 →			
	<input type="checkbox"/> Large Skid Steer →			

Date: 1-(21-22) 23
 Time Started: 11pm
 Time Ended: 7am
 Crew Leader: SK-HP

TOTAL QUANTITIES
 Salt (Tons) _____
 Calcium Chloride (gallons) _____
 Bags of Salt (number) _____

21 TONS

PRIORITY A - ROADWAYS AND PARKING LOTS

Activities	Equipment & Route	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Ogden Avenue Bridge	<input type="checkbox"/> Truck / Route No. 2 →	HP		
2 <input type="checkbox"/> State Routes	<input type="checkbox"/> Truck / Route No. 4 →	HP	5 1/2 tons	
3 <input type="checkbox"/> Local Roads	<input type="checkbox"/> Truck / Route No. 15 →	MG	6 tons	
4 <input type="checkbox"/> Parking Lots (See Back Page)	<input type="checkbox"/> Truck / Route No. 8 →	SK	3 tons	
5 <input type="checkbox"/> Alleys	<input type="checkbox"/> Truck / Route No. 21 →			
	<input type="checkbox"/> Truck No. 14 →	JB	1/2 4 tons	
	<input type="checkbox"/> Truck No. 64 →	Sam	2 1/2 tons	

PRIORITY B - TRAIN STATIONS AND SIDEWALKS

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Burlington Avenue Train Station	<input type="checkbox"/> Front End Loader →			
2 <input type="checkbox"/> Stone Avenue Train Station	<input type="checkbox"/> Small Pickup →			
3 <input type="checkbox"/> Village Hall	<input type="checkbox"/> Large Skid Steer →			
4 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Small Skid Steer →			
5 <input type="checkbox"/> Other Sidewalks and Parking Spaces (See Back Page)	<input type="checkbox"/> Trackless →	RP	3/4 ton	
	<input type="checkbox"/> Blue Machine →	Goran	3/4 ton	
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Snow Blowers →			
	<input type="checkbox"/> Shovels →			

PRIORITY C - SNOW REMOVAL

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Truck No. 2 →			
2 <input type="checkbox"/> Parking Lots	<input type="checkbox"/> Truck No. 8 →			
3 <input type="checkbox"/> CBD	<input type="checkbox"/> Front End Loader →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input type="checkbox"/> Large Skid Steer →			

Date: 12-26-22
 Time Started: 9 am
 Time Ended: 1:30 pm
 Crew Leader: _____

TOTAL QUANTITIES
 Salt (Tons) _____
 Calcium Chloride (gallons) _____
 Bags of Salt (number) _____

8401

PRIORITY A - ROADWAYS AND PARKING LOTS

Activities	Equipment & Route	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Ogden Avenue Bridge	<input type="checkbox"/> Truck / Route No. 2 →			
2 <input type="checkbox"/> State Routes	<input type="checkbox"/> Truck / Route No. 4 →	HP		
3 <input type="checkbox"/> Local Roads	<input type="checkbox"/> Truck / Route No. 6 →			
4 <input type="checkbox"/> Parking Lots (See Back Page)	<input checked="" type="checkbox"/> Truck / Route No. 8 →	SK		
5 <input type="checkbox"/> Alleys	<input checked="" type="checkbox"/> Truck / Route No. 215 →	MG		
	<input checked="" type="checkbox"/> Truck No. 14 →	JB		
	<input checked="" type="checkbox"/> Truck No. 64 →	Gorman		

PRIORITY B - TRAIN STATIONS AND SIDEWALKS

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Burlington Avenue Train Station	<input type="checkbox"/> Front End Loader →			
2 <input type="checkbox"/> Stone Avenue Train Station	<input type="checkbox"/> Small Pickup →			
3 <input type="checkbox"/> Village Hall	<input type="checkbox"/> Large Skid Steer →			
4 <input type="checkbox"/> Parking Deck	<input checked="" type="checkbox"/> Small Skid Steer →	SA		
5 <input type="checkbox"/> Other Sidewalks and Parking Spaces (See Back Page)	<input checked="" type="checkbox"/> Trackless →	RP		
	<input type="checkbox"/> Blue Machine →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Snow Blowers →			
	<input type="checkbox"/> Shovels →			

PRIORITY C - SNOW REMOVAL

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Truck No. 2 →			
2 <input type="checkbox"/> Parking Lots	<input type="checkbox"/> Truck No. 8 →			
3 <input type="checkbox"/> CBD	<input type="checkbox"/> Front End Loader →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input type="checkbox"/> Large Skid Steer →			

Date: 12-24-22
 Time Started: 9 Am
 Time Ended: 1 pm
 Crew Leader: Jim T.

TOTAL QUANTITIES
 Salt (Tons) 12
 Calcium Chloride (gallons) _____
 Bags of Salt (number) _____

8397

PRIORITY A - ROADWAYS AND PARKING LOTS

Activities	Equipment & Route	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Ogden Avenue Bridge	<input type="checkbox"/> Truck / Route No. 2 →			
2 <input type="checkbox"/> State Routes	<input type="checkbox"/> Truck / Route No. 4 →			
3 <input type="checkbox"/> Local Roads	<input type="checkbox"/> Truck / Route No. ¹⁵ 6 →	<u>Gianni</u>	<u>6</u>	
4 <input type="checkbox"/> Parking Lots (See Back Page)	<input type="checkbox"/> Truck / Route No. 8 →			
5 <input type="checkbox"/> Alleys	<input type="checkbox"/> Truck / Route No. 21 →			
	<input type="checkbox"/> Truck No. 14 →	<u>Rodrigo</u>	<u>6</u>	
	<input type="checkbox"/> Truck No. 64 →			

PRIORITY B - TRAIN STATIONS AND SIDEWALKS

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Burlington Avenue Train Station	<input type="checkbox"/> Front End Loader →			
2 <input type="checkbox"/> Stone Avenue Train Station	<input type="checkbox"/> Small Pickup →			
3 <input type="checkbox"/> Village Hall	<input type="checkbox"/> Large Skid Steer →			
4 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Small Skid Steer →			
5 <input type="checkbox"/> Other Sidewalks and Parking Spaces (See Back Page)	<input type="checkbox"/> Trackless →			
	<input type="checkbox"/> Blue Machine →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Snow Blowers →			
	<input type="checkbox"/> Shovels →			

PRIORITY C - SNOW REMOVAL

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Truck No. 2 →			
2 <input type="checkbox"/> Parking Lots	<input type="checkbox"/> Truck No. 8 →			
3 <input type="checkbox"/> CBD	<input type="checkbox"/> Front End Loader →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input type="checkbox"/> Large Skid Steer →			

Date: 12-23-22
 Time Started: ~~8 AM~~ 7 AM
 Time Ended: 7 PM
 Crew Leader: Jim

TOTAL QUANTITIES
 Salt (Tons) ~~10~~ 24
 Calcium Chloride (gallons) _____
 Bags of Salt (number) _____

8396

PRIORITY A - ROADWAYS AND PARKING LOTS

Activities	Equipment & Route	Person Assigned	Salt (tons)	CaCl (gal)
1 <input checked="" type="checkbox"/> Ogden Avenue Bridge	<input type="checkbox"/> Truck / Route No. 2 →			
2 <input checked="" type="checkbox"/> State Routes	<input type="checkbox"/> Truck / Route No. 4 →	Jim / Rodrigo	6/9	
3 <input type="checkbox"/> Local Roads	<input type="checkbox"/> Truck / Route No. 6 →			
4 <input type="checkbox"/> Parking Lots (See Back Page)	<input type="checkbox"/> Truck / Route No. 8 →	Pernell	9	
5 <input type="checkbox"/> Alleys	<input type="checkbox"/> Truck / Route No. 21 →			
	<input type="checkbox"/> Truck No. 14 →			
	<input type="checkbox"/> Truck No. 64 →			

PRIORITY B - TRAIN STATIONS AND SIDEWALKS

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Burlington Avenue Train Station	<input type="checkbox"/> Front End Loader →			
2 <input type="checkbox"/> Stone Avenue Train Station	<input type="checkbox"/> Small Pickup →			
3 <input type="checkbox"/> Village Hall	<input type="checkbox"/> Large Skid Steer →			
4 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Small Skid Steer →			
5 <input type="checkbox"/> Other Sidewalks and Parking Spaces (See Back Page)	<input type="checkbox"/> Trackless →			
	<input type="checkbox"/> Blue Machine →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Snow Blowers →			
	<input type="checkbox"/> Shovels →			

PRIORITY C - SNOW REMOVAL

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Truck No. 2 →			
2 <input type="checkbox"/> Parking Lots	<input type="checkbox"/> Truck No. 8 →			
3 <input type="checkbox"/> CBD	<input type="checkbox"/> Front End Loader →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input type="checkbox"/> Large Skid Steer →			

Date: 12-22-32
 Time Started: 7 Am
 Time Ended: 11 pm
 Crew Leader: Jim T

TOTAL QUANTITIES
 Salt (Tons) 27
 Calcium Chloride (gallons)
 Bags of Salt (number)

8392

PRIORITY A - ROADWAYS AND PARKING LOTS

Activities	Equipment & Route	Person Assigned	Salt (tons)	CaCl (gal)
1 <input checked="" type="checkbox"/> Ogden Avenue Bridge	<input type="checkbox"/> Truck / Route No. 2 →	<u>Pernell</u>	<u>9</u>	
2 <input checked="" type="checkbox"/> State Routes	<input type="checkbox"/> Truck / Route No. 4 →	<u>Rodrigo</u>	<u>12</u>	
3 <input checked="" type="checkbox"/> Local Roads	<input type="checkbox"/> Truck / Route No. ¹⁵ 6 →	<u>G10 / 7-33</u>	<u>2</u>	
4 <input checked="" type="checkbox"/> Parking Lots (See Back Page)	<input type="checkbox"/> Truck / Route No. 8 →	<u>Jim / Pernell</u>		
5 <input checked="" type="checkbox"/> Alleys	<input type="checkbox"/> Truck / Route No. 21 →			
	<input type="checkbox"/> Truck No. 14 →	<u>Jim</u>		
	<input type="checkbox"/> Truck No. 64 →	<u>Cyle</u>	<u>4</u>	

PRIORITY B - TRAIN STATIONS AND SIDEWALKS

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input checked="" type="checkbox"/> Burlington Avenue Train Station	<input type="checkbox"/> Front End Loader →			
2 <input checked="" type="checkbox"/> Stone Avenue Train Station	<input type="checkbox"/> Small Pickup →			
3 <input checked="" type="checkbox"/> Village Hall	<input type="checkbox"/> Large Skid Steer →	<u>Josh</u>		
4 <input checked="" type="checkbox"/> Parking Deck	<input type="checkbox"/> Small Skid Steer →	<u>Pedro</u>		
5 <input checked="" type="checkbox"/> Other Sidewalks and Parking Spaces (See Back Page)	<input type="checkbox"/> Trackless →	<u>Frank</u>		
	<input type="checkbox"/> ^{orange} Blue Machine →	<u>Josh</u>		
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Snow Blowers →			
	<input type="checkbox"/> Shovels →			

PRIORITY C - SNOW REMOVAL

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Truck No. 2 →			
2 <input type="checkbox"/> Parking Lots	<input type="checkbox"/> Truck No. 8 →			
3 <input type="checkbox"/> CBD	<input type="checkbox"/> Front End Loader →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input type="checkbox"/> Large Skid Steer →			

Date: 12-22-22
 23
 Time Started: 11 pm
 Time Ended: 7 AM
 Crew Leader: SK

TOTAL QUANTITIES
 Salt (Tons) _____
 Calcium Chloride (gallons) _____
 Bags of Salt (number) _____

8394

PRIORITY A - ROADWAYS AND PARKING LOTS

Activities	Equipment & Route	Person Assigned	Salt (tons)	CaCl (gal)
1 <input checked="" type="checkbox"/> Ogden Avenue Bridge	<input type="checkbox"/> Truck / Route No. 2 →			
2 <input checked="" type="checkbox"/> State Routes	<input checked="" type="checkbox"/> Truck / Route No. 4 →	HP		
3 <input checked="" type="checkbox"/> Local Roads	<input type="checkbox"/> Truck / Route No. 6 →			
4 <input type="checkbox"/> Parking Lots (See Back Page)	<input checked="" type="checkbox"/> Truck / Route No. 8 ^{SK} →	SK		
5 <input type="checkbox"/> Alleys	<input type="checkbox"/> Truck / Route No. 21 →			
	<input checked="" type="checkbox"/> Truck No. 14 →	JB		
	<input checked="" type="checkbox"/> Truck No. 64 ¹⁵ →	MG		

PRIORITY B - TRAIN STATIONS AND SIDEWALKS

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input checked="" type="checkbox"/> Burlington Avenue Train Station	<input checked="" type="checkbox"/> Front End Loader →	RD		
2 <input checked="" type="checkbox"/> Stone Avenue Train Station	<input type="checkbox"/> Small Pickup →			
3 <input checked="" type="checkbox"/> Village Hall	<input checked="" type="checkbox"/> Large Skid Steer →	Goran M.		
4 <input checked="" type="checkbox"/> Parking Deck	<input checked="" type="checkbox"/> Small Skid Steer →	SA		
5 <input checked="" type="checkbox"/> Other Sidewalks and Parking Spaces (See Back Page)	<input checked="" type="checkbox"/> Trackless →	RP		
	<input type="checkbox"/> Blue Machine →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Snow Blowers →			
	<input type="checkbox"/> Shovels →			

PRIORITY C - SNOW REMOVAL

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Truck No. 2 →			
2 <input type="checkbox"/> Parking Lots	<input type="checkbox"/> Truck No. 8 →			
3 <input type="checkbox"/> CBD	<input type="checkbox"/> Front End Loader →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input type="checkbox"/> Large Skid Steer →			

Date: 12-17-22
 Time Started: 3:30 AM
 Time Ended: 9 AM
 Crew Leader: Jim T

TOTAL QUANTITIES
 Salt (Tons) _____
 Calcium Chloride (gallons) _____
 Bags of Salt (number) _____

8374

PRIORITY A - ROADWAYS AND PARKING LOTS				
Activities	Equipment & Route	Person Assigned	Salt (tons)	CaCl (gal)
1 <input checked="" type="checkbox"/> Ogden Avenue Bridge	<input type="checkbox"/> Truck / Route No. 2 →	Pernell		
2 <input checked="" type="checkbox"/> State Routes	<input type="checkbox"/> Truck / Route No. 4 →	Rodrigo		
3 <input checked="" type="checkbox"/> Local Roads	<input type="checkbox"/> Truck / Route No. ¹⁵ 6 →	Gio		
4 <input checked="" type="checkbox"/> Parking Lots (See Back Page)	<input type="checkbox"/> Truck / Route No. 8 →			
5 <input checked="" type="checkbox"/> Alleys	<input type="checkbox"/> Truck / Route No. 21 →			
	<input type="checkbox"/> Truck No. 14 →	Jim		
	<input type="checkbox"/> Truck No. 64 →	Cyle		

PRIORITY B - TRAIN STATIONS AND SIDEWALKS				
Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input checked="" type="checkbox"/> Burlington Avenue Train Station	<input type="checkbox"/> Front End Loader →			
2 <input checked="" type="checkbox"/> Stone Avenue Train Station	<input type="checkbox"/> Small Pickup →			
3 <input checked="" type="checkbox"/> Village Hall	<input type="checkbox"/> Large Skid Steer →			
4 <input checked="" type="checkbox"/> Parking Deck	<input type="checkbox"/> Small Skid Steer →	Pedro		
5 <input checked="" type="checkbox"/> Other Sidewalks and Parking Spaces (See Back Page)	<input type="checkbox"/> Trackless →	Frank		
	<input type="checkbox"/> Blue ^{Kubota} Machine →	Josh		
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Snow Blowers →			
	<input type="checkbox"/> Shovels →			

PRIORITY C - SNOW REMOVAL				
Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Truck No. 2 →			
2 <input type="checkbox"/> Parking Lots	<input type="checkbox"/> Truck No. 8 →			
3 <input type="checkbox"/> CBD	<input type="checkbox"/> Front End Loader →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input type="checkbox"/> Large Skid Steer →			

Date: 12-16-72
 Time Started: 9:00 AM
 Time Ended: 3:00 PM
 Crew Leader: HP

TOTAL QUANTITIES
 Salt (Tons) 4 TON. 3 Loads
 Calcium Chloride (gallons) _____
 Bags of Salt (number) _____

8369

PRIORITY A - ROADWAYS AND PARKING LOTS

Activities	Equipment & Route	Person Assigned	Salt (tons)	CaCl (gal)
<input checked="" type="checkbox"/> Ogden Avenue Bridge	<input checked="" type="checkbox"/> Truck / Route No. 2 →	HP	3/4	
<input type="checkbox"/> State Routes	<input checked="" type="checkbox"/> Truck / Route No. 4 →	R.A	1	
<input checked="" type="checkbox"/> Local Roads	<input type="checkbox"/> Truck / Route No. 6 →			
<input checked="" type="checkbox"/> Parking Lots (See Back Page)	<input type="checkbox"/> Truck / Route No. 8 →			
<input type="checkbox"/> Alleys	<input type="checkbox"/> Truck / Route No. 21 →			
	<input type="checkbox"/> Truck No. 14 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input checked="" type="checkbox"/> Truck # 15	MFB	1 1/2	

PRIORITY B - TRAIN STATIONS AND SIDEWALKS

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
<input type="checkbox"/> Burlington Avenue Train Station	<input type="checkbox"/> Front End Loader →			
<input type="checkbox"/> Stone Avenue Train Station	<input type="checkbox"/> Small Pickup →			
<input type="checkbox"/> Village Hall	<input type="checkbox"/> Large Skid Steer →			
<input type="checkbox"/> Parking Deck	<input type="checkbox"/> Small Skid Steer →			
<input type="checkbox"/> Other Sidewalks and Parking Spaces (See Back Page)	<input type="checkbox"/> Trackless →			
	<input type="checkbox"/> Blue Machine →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Snow Blowers →			
	<input type="checkbox"/> Shovels →			

PRIORITY C - SNOW REMOVAL

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
<input type="checkbox"/> Parking Deck	<input type="checkbox"/> Truck No. 2 →			
<input type="checkbox"/> Parking Lots	<input type="checkbox"/> Truck No. 8 →			
<input type="checkbox"/> CBD	<input type="checkbox"/> Front End Loader →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input type="checkbox"/> Large Skid Steer →			

Date: 11-18-22
 Time Started: 3 AM 4 1/2 AM
 Time Ended: 3 30 pm
 Crew Leader: Jim T

TOTAL QUANTITIES
 Salt (Tons) 5 1/2
 Calcium Chloride (gallons) _____
 Bags of Salt (number) _____

8345

PRIORITY A - ROADWAYS AND PARKING LOTS

Activities	Equipment & Route	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Ogden Avenue Bridge	<input type="checkbox"/> Truck / Route No. 2 →			
2 <input type="checkbox"/> State Routes	<input type="checkbox"/> Truck / Route No. 4 →	Frank	2	-
3 <input type="checkbox"/> Local Roads	<input type="checkbox"/> Truck / Route No. 15 →	Jim	1 1/2	-
4 <input type="checkbox"/> Parking Lots (See Back Page)	<input type="checkbox"/> Truck / Route No. 8 →			
5 <input type="checkbox"/> Alleys	<input type="checkbox"/> Truck / Route No. 21 →			
	<input type="checkbox"/> Truck No. 14 →			
	<input type="checkbox"/> Truck No. 64 →	Sam	1	

PRIORITY B - TRAIN STATIONS AND SIDEWALKS

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Burlington Avenue Train Station	<input type="checkbox"/> Front End Loader →			
2 <input type="checkbox"/> Stone Avenue Train Station	<input type="checkbox"/> Small Pickup →			
3 <input type="checkbox"/> Village Hall	<input type="checkbox"/> Large Skid Steer →			
4 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Small Skid Steer →	Goron		
5 <input type="checkbox"/> Other Sidewalks and Parking Spaces (See Back Page)	<input type="checkbox"/> Trackless →			
	<input type="checkbox"/> ^{Kubota} Blue Machine →	Josh		
	<input type="checkbox"/> Truck No. 20 →	Pedro/Gio	1	
	<input type="checkbox"/> Snow Blowers →			
	<input type="checkbox"/> Shovels →			

PRIORITY C - SNOW REMOVAL

Activities	Equipment	Person Assigned	Salt (tons)	CaCl (gal)
1 <input type="checkbox"/> Parking Deck	<input type="checkbox"/> Truck No. 2 →			
2 <input type="checkbox"/> Parking Lots	<input type="checkbox"/> Truck No. 8 →			
3 <input type="checkbox"/> CBD	<input type="checkbox"/> Front End Loader →			
	<input type="checkbox"/> Truck No. 20 →			
	<input type="checkbox"/> Truck No. 64 →			
	<input type="checkbox"/> Large Skid Steer →			

Role in Winter Operations	Training Topics Covered
Public Works Management	Lake County Sensible Salting Practices for Roads Workshop (2019)
	Program management, pre-wetting, anti-icing, application rates, record keeping
Operators	Lake County Sensible Salting Practices for Roads Workshop
	Program management, pre-wetting, anti-icing, application rates, record keeping
Operators	In-House Training
	Routes, equipment calibration, weather forecasting, use of salt, pre-wetting, pretreatment of pavement (anti-icing), vehicle clean out / clean up

Type of Equipment	Equipment/Vehicle Number	Type of Spreader (mechanically controlled, computer controlled, etc.)	Type of Material Used with Equipment (Dry, Pre-Wet, Pretreated, Liquids)	Other Important Equipment Information
Spreader Truck	2	Mechanical	Pre-Wet	
Spreader Truck	4	Mechanical	Pre-Wet	
Pretreatment Truck	6	Mechanical/Computer	Liquid	
Spreader Truck	8	Computer	Pre-Wet	
Spreader Truck (back up)	14	Mechanical	Pre-Wet	
Spreader Truck	15	Computer	Pre-Wet	
Spreader Truck	21	Mechanical	Pre-Wet	
Spreader Truck (small)	64	Computer	Dry	

Chloride TLWQS Annual Report
 Appendix 6 - Material Storage

Location of Storage Area	Material Stored (Rock Salt, Salt Brine, etc.)	Amount of Material Stored 2022-2023	Material stored under permanent cover? (yes/describe other)	Material stored in a fully enclosed structure? (yes/describe other)	Material stored on an impervious pad? (yes/describe other)	Good housekeeping practices followed at storage area? (yes/describe other)
Public Works	Road Salt	800 tons	Yes	Yes	Yes	Yes
Public Works	Liquid Deicer CaCl	2,000 gal	Yes	Yes	Yes	Yes
Public Works	Liquid Deicer Brine	4,000 gal	Yes	Yes	Yes	Yes

Capital Purchase Description	Plan/Schedule for Purchase
None Required	N/A