



**AGENDA  
CITY OF CEDAR FALLS, IOWA  
STANDING COMMITTEE MEETING  
MONDAY, MARCH 20, 2023  
5:40 PM AT CITY HALL, 220 CLAY STREET**

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*Committee meetings will begin at the time noted above with succeeding Committee meetings starting immediately following the conclusion of the previous meeting. Time periods for individual topics represent an estimate and is based on the time of completion of the previous Committee topic.*

**Call to Order**

**Roll Call**

**Public Works Committee**

1. Review snow removal practices and policies.  
(40 Minutes, Public Works Director Chase Schrage & Operations & Maintenance Division Manager Brian Heath)

**Community Development Committee**

1. Code Enforcement - private snow removal code revisions discussion.  
(30 Minutes, Community Development Director Stephanie Houk Sheetz & Building Official Jamie Castle)

**Adjournment**



DEPARTMENT OF PUBLIC WORKS

**MEMORANDUM**

ADMINISTRATION DIVISION  
2200 TECHNOLOGY PKWY  
CEDAR FALLS, IOWA 50613  
319-273-8629  
FAX 319-273-8632

OPERATIONS AND  
MAINTENANCE DIVISION  
2200 TECHNOLOGY PKWY  
319-273-8629  
FAX 319-273-8632

**TO: City Council Members**  
**FROM: Brian Heath, Oper./Maint. Division Manager**  
**DATE: March 10, 2023**  
**SUBJECT: Snow & Ice Control Presentation**

During the Public Works Committee meeting on March 20<sup>th</sup>, you will be presented with an update on snow and ice control operations. This presentation is intended to provide a complete overview of winter operations conducted by the public works department.

This presentation is for informational purposes only and will not require Council action.

If you have questions or comments prior to the meeting, please feel free to contact me.

# City of Cedar Falls Snow & Ice Control Operations



# Winter Preparation

- ▶ Equipment prepared beginning early October
- ▶ Snow & ice control training takes place each fall toward the end of October
- ▶ Snow fence installation at high wind locations
- ▶ Sand Barrel placement in select areas

# Snow Removal Coverage

- ▶ Over 520 lane miles of streets
- ▶ 10 Municipal Parking Lots
- ▶ 7 Public Building Parking Lots
- ▶ 16 City Park Parking Lots
- ▶ 3 Cemeteries
- ▶ Approximately 20 miles of recreation trails and sidewalks

# The Team

- ▶ PW Supervisors – Rotate on call duties weekly
- ▶ Plow Operators – Equally divided into two on call groups that alternate call duties every other week
- ▶ Public Safety – Our weather eyes during the night
- ▶ During full plow operations all O/M division staff are used along with 4 employees from the water reclamation division.
- ▶ In all, 37 plow operators, 2–3 mechanics and 2–3 supervisors comprise a full plow operation

# Staff Contact Text-Em-All

Item 1.

The screenshot displays the 'Broadcast Details - 3/15/21' page in the Text-Em-All application. The interface includes a navigation bar with options like HOME, CREATE BROADCAST, CONVERSATIONS, CONTACTS, and MESSAGE LIBRARY. A user profile for 'MIKE' is visible in the top right. The main content area is divided into a left sidebar for 'Text Results' and a central 'Summary' section. The sidebar lists various status categories with counts: All Texts (17), Delivered (17), Failed (0), Invalid (0), Incomplete (0), Opted Out (0), Replied (14), and Not Replied (3). The Summary section features action buttons (EDIT, DUPLICATE BROADCAST, DELETE) and a date filter for 3/15/21. It provides key statistics: 17 Delivered (100%) and 14 Text Replies (82%). A circular progress indicator shows 100% delivery. Below this, a 'Text Message' box contains the broadcast content: 'You are needed for priority Snow and Ice control. Please respond YES if you are available, if not please follow up with the supervisor on call.' A 'SAVE MESSAGE AS TEMPLATE' button is located at the bottom of the message box.

app.text-em-all.com/broadcast-details/12968213/summary

text-em-all

HOME CREATE BROADCAST CONVERSATIONS CONTACTS MESSAGE LIBRARY MIKE

### ← Broadcast Details - 3/15/21

Summary

EDIT DUPLICATE BROADCAST DELETE

3/15/21  
Created Mar 15, 2021 5:16 AM  
Started Mar 15, 2021 5:16 AM  
Completed Mar 15, 2021 5:17 AM

Broadcast ID	12968213
Broadcast Type	Text
Text Number	(888) 206-2043
Created By	Jason Yearous

Text Results

- 17 Delivered 100%
- 14 Text Replies 82%

Text Message

You are needed for priority Snow and Ice control. Please respond YES if you are available, if not please follow up with the supervisor on call.

SAVE MESSAGE AS TEMPLATE

# General Guidelines

Anti-icing material (salt brine) may be applied prior to the forecasted event if it is determined to be beneficial.

Trace to 3”

Chemical de-icers are applied to priority 1 & 2 streets.

Priority 1 & 2 streets will be plowed if it is determined to be beneficial. (which is typically the case)

3” or more

Usually triggers a full plow operation. Appropriate ice & snow control activities are determined utilizing decision-making factors.

The city does not have a bare pavement policy for residential streets. City staff will make every effort to ensure all streets are passable.



# Decision Making Factors That Determine Snow and Ice Control Activities

## **FACTORS TO BE CONSIDERED**

- \* Intensity of the precipitation
- \* Forecasted duration of the precipitation
- \* Type of precipitation
- \* Time of day & day of week
- \* Wind speed and direction
- \* Air temperature
- \* Pavement temperature
- \* Occurrence of the last snowfall
- \* Availability of personnel
- \* Availability of equipment
- \* Availability of materials

## **GOALS**

- The primary goal during initial action is to provide expedient and efficient snow/ice removal from priority 1 and priority 2 streets making them passable for vehicles.
- The secondary goal is to provide snow removal from residential streets, public sidewalks and parking lots.
- Lastly, clearing of select recreation trails takes place

# General Snow Removal Timeline

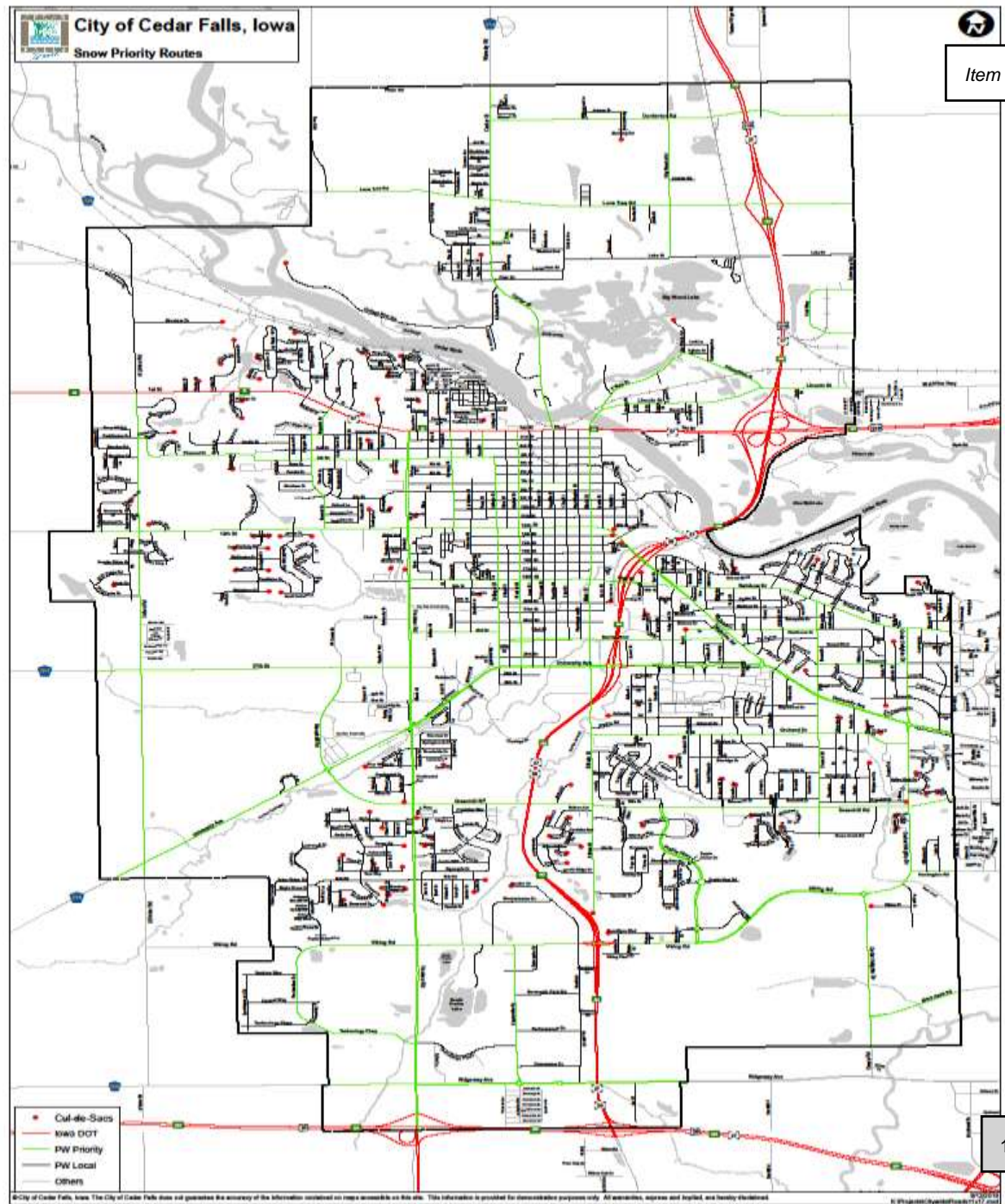
Item 1.

Typical snow removal sequence based on an average 3”- 6” snowfall occurring throughout the day with sustained freezing temperatures and no additional snow forecast.

- Onset of snow Day 1 into the night – Plowing of Priority I & II streets,
  - As snowfall subsides, begin plowing res. streets and city parking lots (Overtime most likely)
- Day 2 – Calendar parking, plowing back areas where vehicles have moved, de-ice slippery roadways, finish up parking lots. Park staff work on public building shovel routes and public sidewalks
- Day 3 - Push back intersections, wing plow rural areas to maintain future snow storage, continue with sidewalk, park access, and begin trail clearing.
  - 48-hour parking enforcement cleanup begins (coordinated with public safety)
  - Prepare equipment for hauling snow from CFHS, College Hill and Parkade area (weather forecast depending)
- Day 4 (Beginning late night day 3) - Haul out High School, Parkade, College Hill. (Overnight/early morning ops.)
  - Post hauling– Limited staff continue with residual cleanup, continue clearing trails, park access and sidewalks
- Day 5 – Haul snow from parking lots. Continue clearing trails, sidewalks, etc.
- Day 6 – continue with snow related activities – Trail clearing, restock materials, maintain equipment, etc.

# The Arterial Roadways

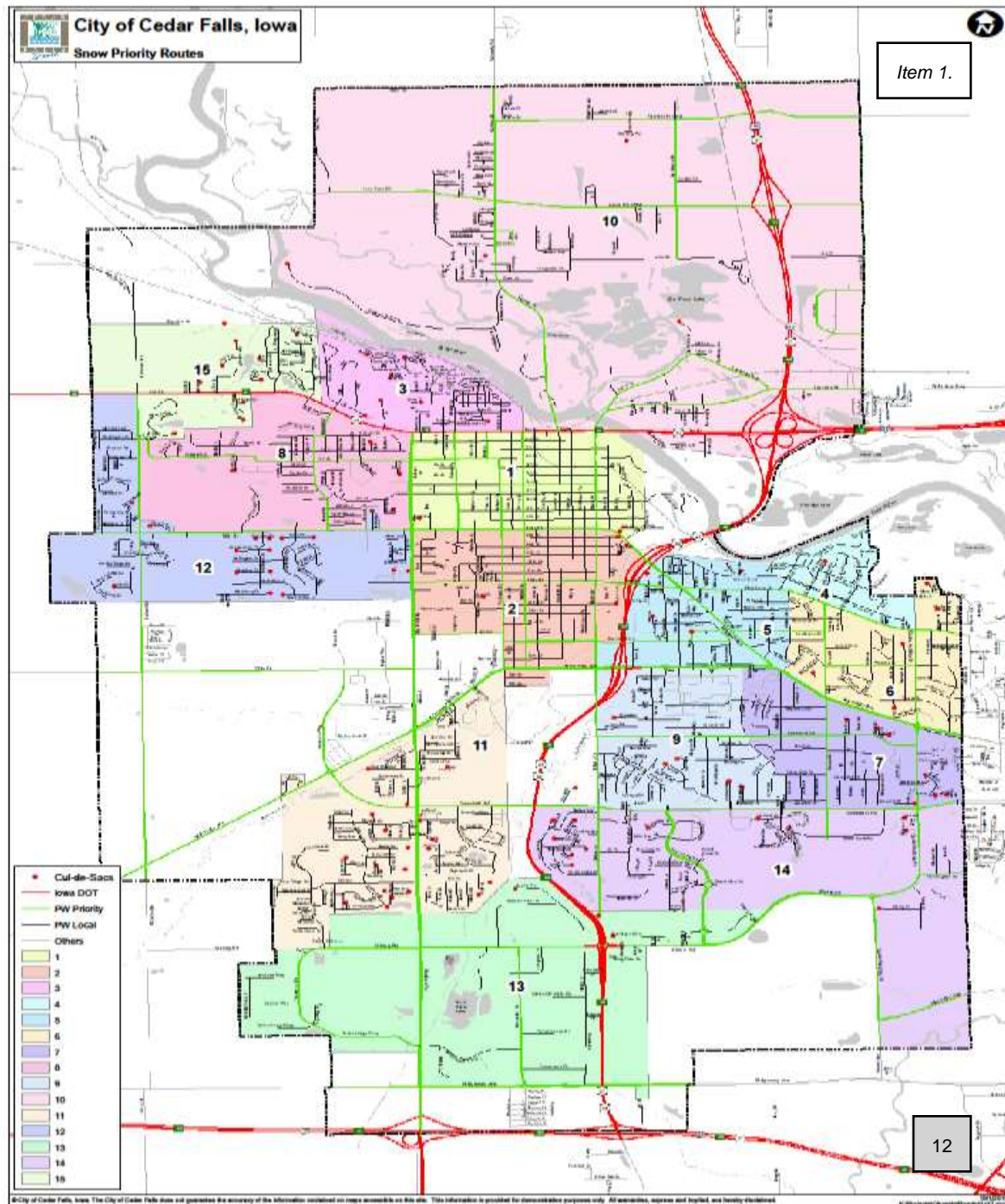
## Priority I & II Streets



# The Routes

15 Residential Routes

5 Cul De Sac Routes



# The Fleet

- ▶ 24 Dump Trucks
  - 11 operate with wing plows
  
- ▶ 2 Road Graders
  - Both outfit with wing plows
  
- ▶ 4 End Loader/plow units
  - 3 with wing plows
  
- ▶ 9 Smaller Truck Plows
  - 4 with salt spreading capabilities

# Plow Operations

- ▶ Weather events that require servicing only arterial streets typically require 12–14 plow operators, 4–5 hours to complete
- ▶ Full plow events require anywhere from 8–12 hours to complete.

# Winter Operations Costs 2022/2023

Item 1.

## 32 Snow & Ice Related Events

(SH costs do not include comp earned)

▶ 6,411 staff hours	\$152,961
▶ 2,050 tons of salt	\$200,018
▶ 30,746 gallon of brine	\$ 14,143
▶ 8,928 gallons of fuel	\$ 37,408
▶ Misc. exp. (Plow blades)	\$ <u>24,000</u>
<b>Total Cost</b>	<b>\$428,530</b>

# Efficiency

- ▶ Use of single axel trucks with wing plows and metered spreading capabilities





# Efficiency

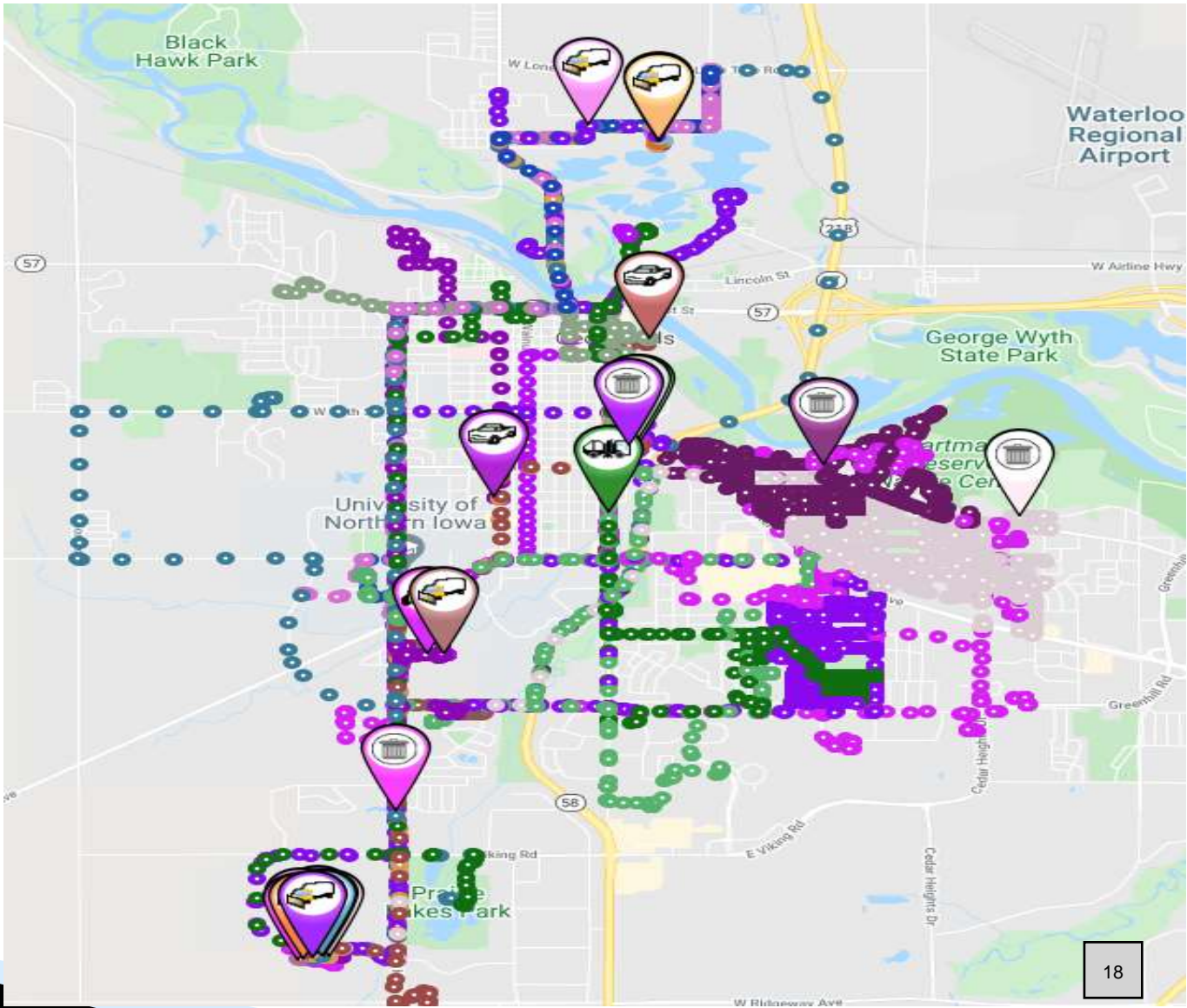
## Telematics

### Electronic controls

- Ground Speed sensing material distribution
- Supervisors have ability to track location and operations from office
- Ergonomic controls provide operator comfort



# Telematics



# Snow & Ice Control and the Environment

Item 1.



# De-Icer Usage

- ▶ Cedar Falls uses sodium chloride only
  - Sand is used only in extreme cold as an abrasive
  - Strive to comply with MS4 and NPDES requirements
  
- ▶ Ground Speed Sensors
  - Material is metered from truck using ground speed sensing technology
  
- ▶ Anti Icing
  - Spraying of road surface prior to weather event (reduces ice bonding to the pavement)
  
- ▶ Prewet
  - Application of brine to solid material as it is dispensed from the truck (reduces salt bounce/activates salt quicker)

# Salt Spread Rate Guideline

## Treatment suggestions: Grip and pavement temperature



Grip	Pavement Temp	Roadway Description	Action (Pavement Temp Rising)	Action (Pavement Temp Falling)
.82-.60	30-34	Dry to generally wet	None	50 - 100 lbs/lnm
.50-.60	25-32	Slushy to snow covered	50 - 100 lbs/lnm	100 - 150 lbs/lnm
.40-.50	20-25	Snow covered perhaps wheel tracks	100 - 150 lbs/lnm	150 - 200 lbs/lnm
.40-.45	15-20	Snow covered with possible pack	150 - 200 lbs/lnm	250 - 300 lbs/lnm
.30-.40	15-20	Slippery and ice likely	200 - 300 lbs/lnm	250 - 300 lbs/lnm
<.30	<15	Icy covered	350 - 400 lbs/lnm	400 lbs/lnm

### Disclaimers

*When pavement temperatures drop near 15°F or below, many agencies use alternative chemicals. Agencies should follow manufacturer's recommendations and their own policies. Treatment rates are suggestions based on 2-hour cycle times while plowing and using pre-wetted salt. Some agencies use high volumes of liquids and that would reduce these rates. Vaisala accepts no responsibility or liability with respect to these suggestions, and agencies should follow internal policies and levels of service.*

# Salt and Brine Storage

- ▶ 3000 tons per year on average



# Anti Ice Applicators



# Brine Production





# Snow Hauling Operations 2022/23

## Parkade/College Hill/High School

- ▶ Two overnight haul events
  - ▶ High school required removals on three occasions
- 
- |                       |                 |
|-----------------------|-----------------|
| ▶ 650 staff hours     | \$13,967        |
| ▶ 550 gallons of fuel | \$ <u>2,304</u> |
| Total                 | \$16,271        |

# Snow Hauling

Downtown Area

College Hill

CFHS – Division Street



# Hauling

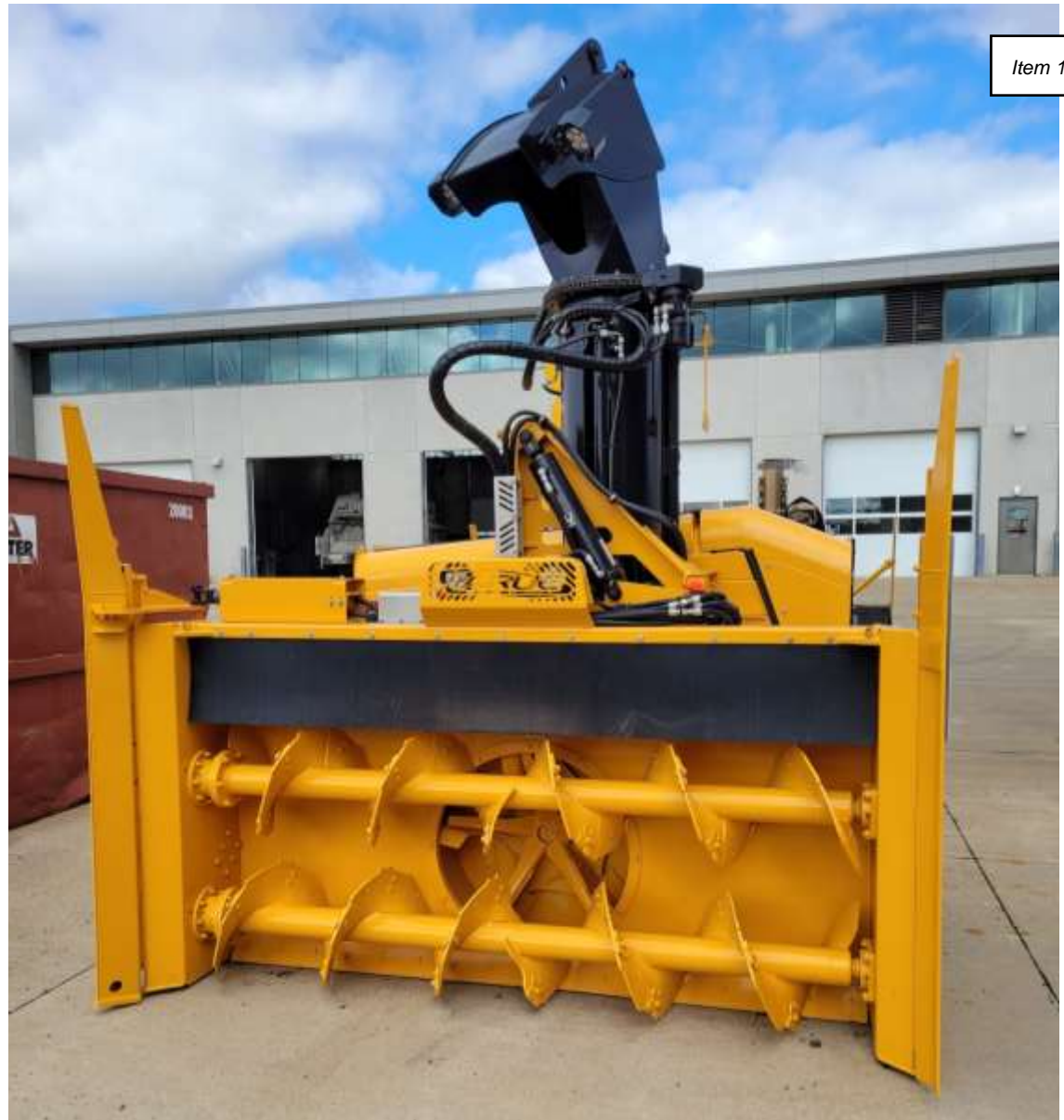


# Hauling



# Snow Hauling Equipment

- 2 Motor Graders
- 3 End Loaders
- 4 Skid Loaders
- 1 End Loader Mounted Rotary Plow
- 15 Haul Trucks



Item 1.

# The #1 reason we are successful...



# Questions?





## DEPARTMENT OF COMMUNITY DEVELOPMENT

City of Cedar Falls  
220 Clay Street  
Cedar Falls, Iowa 50613  
Phone: 319-268-5161  
Fax: 319-268-5197  
[www.cedarfalls.com](http://www.cedarfalls.com)

**MEMORANDUM**  
*Inspection Services Division*

**TO:** Honorable Mayor Robert Green & City Council

**FROM:** Jamie Castle, AIA  
Building Official

**DATE:** March 13, 2023

**SUBJECT:** Ordinance Changes Discussion Regarding Snow Removal by Property Owner

Over the last few years, while enforcing the snow removal ordinances(19-185, 19-4, and 19-186), we have experienced some challenges. Staff would like to discuss potential revisions. These revisions cover the topics of reorganization and consolidation, updated terminology, defining internal responsibilities, timeliness of removal, and the extent of the property owner’s responsibilities. By addressing these topics we hope to create an ordinance that is clear, concise, and consistent making it easy to understand and enforce.



# ***Snow Removal and Code Enforcement Community Development Department***

***March 20, 2023***



# ***Snow Removal By Property Owners***

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## Topics:

- Reorganize and Consolidate
- Define Internal Responsibilities
- Update Terminology
- Timeliness of Removal
- Extent of Property Owner's Responsibility

# ***Reorganize and Consolidate***

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- Ordinance Sections *19-4 Removal of Snow and Ice* and *19-185 Clearing of Snow and Ice from Sidewalks*
  - Duplicate sections
  - 19-185 more complete

# ***Define Internal Responsibilities***

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- Replace any portion that specially names a position to say City Staff.
  - Currently references: Public Works Director, City Engineer, Public Works
  - Enforcement has moved to Community Development and is cleared by a City Contractor.
  - Use “City Staff” in all locations.

# Update Terminology

- Use “snow and ice” rather than “natural accumulation of snow and ice”

Why:  
Removal not occurring in some cases, stating its not “natural accumulation” yet neighbors are addressing it. Seeking clarity on expectation to clear sidewalks.



# Update Terminology

- Use “snow and ice” rather than “natural accumulation of snow and ice”

Survey of other communities:

Community	Term Used
Ames	snow, ice, and accumulations
Bettendorf	snow or ice accumulations
Cedar Rapids	snow and Ice
Dubuque	accumulations of snow, ice or slush
Fort Dodge	snow and ice
Iowa City	accumulations
Marion	accumulations
Marshalltown	remove all accumulations
Mason City	accumulation of snow
Urbandale	snow or ice or accumulations
Waterloo	accumulation of two inches
West Des Moines	accumulations

# Timeliness of Removal

- Remove “reasonable amount of time” and replace with “within 48 hours of the snow event”

Why:

Reasonable amount of time can have multiple interpretations. Defining the timeframe creates clarity and removes challenges to enforcement and makes rules consistent for all.

**5. Revise snow removal policies and enforcement practices**



Snow removal policies vary from city to city. In Waterloo, the city gives property owners 48 hours after the snow stops to clear the sidewalk and another 24 hours after a notice has been posted on the property.

Cedar Falls' snow removal policy is less stringent. Property owners are responsible for clearing the “natural accumulation” of ice and snow from abutting sidewalks in “a reasonable amount of time.” After plows clear snow off the streets, property owners are not liable to clear the snow deposited on the sidewalk or curb ramps because it is not “natural accumulation.” This often results in snowbanks that cover curb ramps and block sidewalks for long periods of time. This poses safety hazards to pedestrians who either walk in the street or attempt to climb the snowbanks, and it functionally restricts people in wheelchairs from using the sidewalks entirely.

All jurisdictions are encouraged to review their snow removal policies and amend them to prioritize pedestrian safety and access.

**Applicable jurisdictions:**  
All

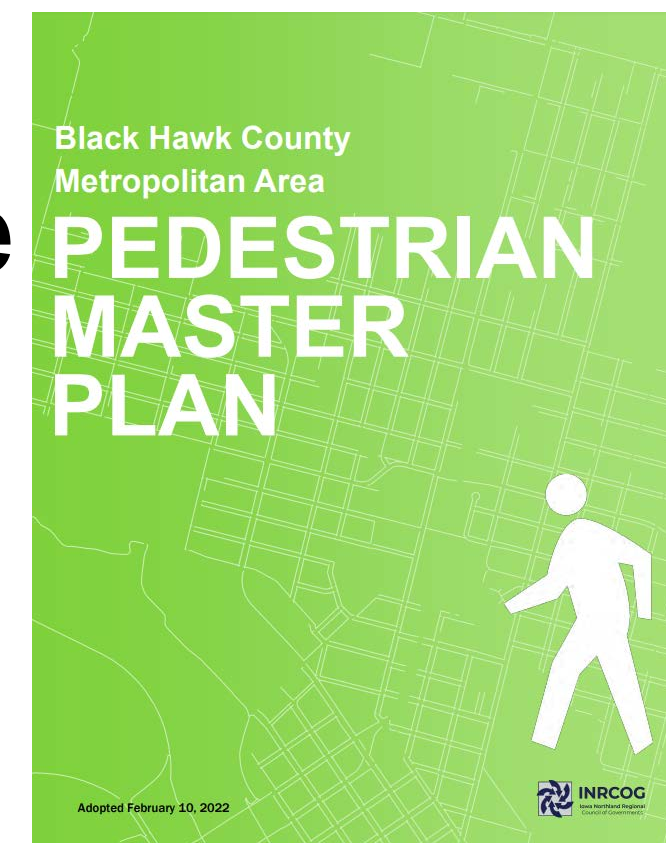
**Responsible parties:**  
City public works departments, City attorneys, City councils

# *Timeliness of Removal*

- Notification posted on property rather than by mail

Why:

- Current policy: inspect after 48 hours, mail notice, removal of snow must occur 48 hours after date of notice
- Complaints that snow removal letter arrives after date of compliance
- Creates issues with timely removal
- 2022 Black Hawk Co. Pedestrian Master Plan notes this as an area we can improve





# Timeliness of Removal

## Proposal:

- Notice posted on property with a sticker on front door or on the property if vacant.
- Sticker notes time and date of inspection and compliance date.

### 5. Revise snow removal policies and enforcement practices



Snow removal policies vary from city to city. In Waterloo, the city gives property owners 48 hours after the snow stops to clear the sidewalk and another 24 hours after a notice has been posted on the property.

# ***Extent of Property Owner's Responsibility***

- Snow removal should occur for the full width of the sidewalk.
  - Safety
  - Accessibility



# ***Extent of Property Owner's Responsibility***

- Corners

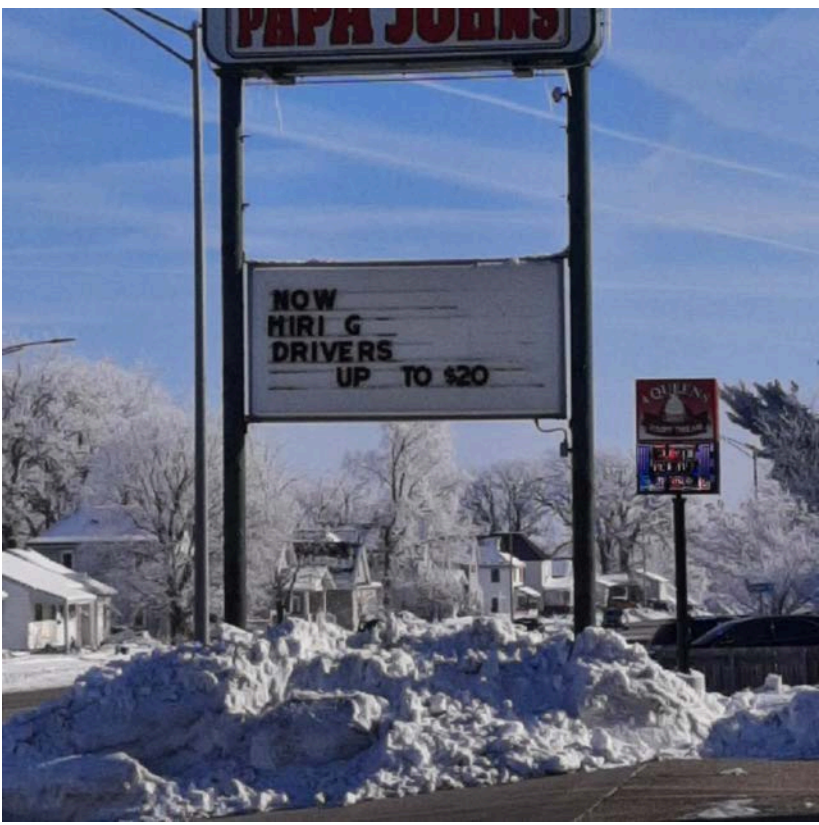


Why:

- Safety
- Ability to cross
- Useability of sidewalk

# ***Extent of Property Owner's Responsibility***

- Difficult corners
  - When the removal of snow at a corner is not feasible, City Staff can approve an alternative route that allows pedestrians safe ability to cross the street.



# ***Extent of Property Owner's Responsibility***

- All sidewalks to be cleared. Ordinance states owner is responsible for snow removal from the sidewalk adjacent to their property, no exception for rear or otherwise.



# ***Motion***

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Asking for a motion to direct staff to revise appropriate sections of the code to address:

- Reorganization and consolidation
- Update terminology
- Define internal responsibilities
- Timelines of removal
- Extent of property owner's responsibilities