



Dickinson County Road & Bridge Department Snow Removal Plan

Purpose

The purpose of this plan is to establish the County's policy and level of service with respect to clearance of snow and ice on county roads during the winter months, specifically the months of November through April. Removal of snow and ice from county roads is the primary responsibility of Road & Bridge department personnel. The County takes pride in performing this service in an efficient, safe, and effective manner, with an emergency snow response plan that is both proven and economical for normal winter weather in the unincorporated portions of Dickinson County.

The goal of Dickinson County is to provide fiscally responsible response services during snow and ice events, supporting the safety and mobility of our transportation system by plowing and treating county roads as efficiently as possible, keeping priority roads passable, maximizing the safety for the travelling public, minimizing disruption to traffic, and keeping costs to a minimum.

The purpose of this plan is to annually review our snow and ice control methods and procedures, and to ensure that all work is done in a safe, efficient and environmentally sound manner.

Background

Dickinson County's road inventory contains approximately 200 paved center lane miles and another 100 miles of gravel roads for a total of 300 center lane miles divided into several snow and ice control routes. Routes are created utilizing geographic areas and access, and are generally able to be plowed in a normal work shift. Priority is given to higher traffic roads. Essential facilities such as fire stations and hospitals are also on priority routes.

Event Response

From November through March the county begins daily monitoring of the weather forecasts for any approaching winter storms. Based on the forecast and experience requirements for staffing, (crew supervisors and employees) equipment needed for each individual storm is determined. Each storm is individually evaluated, and a pre-event action plan is developed. Depending on the predicted size, duration, and temperature associated with a particular storm, the crews may work alternate shifts to enable 24 hour coverage and provide a safe, efficient and effective response for snow and ice control when and where it is needed. The County Road & Bridge Supervisor will monitor the situation on a continual basis and react accordingly to provide and supervise the safest and most efficient response of county resources to the incident.

It is difficult to set a standing crew start time for every storm in advance because every storm has different characteristics. Items considered include:

- projected storm duration
- intensity, which includes wind speeds, and snowfall rates
- day of the week and resulting impact on expected traffic volumes
- temperature (type of precipitation)
- projected start time
- projected snow level
- area of probable impact

The Dickinson County Road & Bridge Supervisor monitors the current road conditions. With the assistance of the Dickinson County Emergency Communications Center, they monitor weather conditions around the clock to prepare for and respond as needed.

In case of heavy snow accumulation or a prolonged storm, Crew Supervisors and their crews will convert from normal shift work to alternating twelve-hour shifts or longer if needed. Each crew will consist of 1 Supervisor and the required number of employees for that shift as determined by the Road & Bridge Supervisor for that specific snow event. This rotation will continue until the required snow and ice control is completed. In the event the snow accumulation exceeds our ability to clear and maintain our road systems, the Road & Bridge Supervisor has the option to call on contractors to help in the clearing of certain roads.

As a general rule snow removal efforts will not be initiated until after 2” of snowfall has accumulated on the roadways. At that time crews will be dispatched from the county yard to clear their respective roads, working from the yard outward across the county. Priorities for clearing are given to those roads that carry higher traffic counts, with lower traffic roads being given secondary consideration.

Surface Preparation

Dickinson County utilizes a salt/water solution known as brine applied to the road surface in certain conditions to prevent freezing. Under certain conditions, if the ambient temperature is above 25 degrees Fahrenheit crews will apply a brine solution consisting of 25% salt and 75% water to road surfaces. Once this solution has dried it will tend to prevent the subsequent snowfall from freezing on this section of roadway. Further, the application of this brine to the surface also aids in allowing any snow and/or ice that accumulates on the road surface to be removed much easier and speeds the road drying time dramatically. Due to limited quantities of this material and the time it takes to mix additional material, priority for applying this substance is given to higher travelled roads, bridges, and major intersections first, with secondary roads and intersections being covered as time and material allows.

It should be noted that if rain is forecast to be received prior to receiving any accumulation of snow and ice, the application of brine is not utilized as it would be washed from the road surface and would not be effective.

Paved Routes

- The initial effort will be to get all routes open to two lane traffic as soon as possible and/or practical. During initial snow removal operations, paved roads may only have one lane plowed for a period of time.
- After two lane travel is possible, subsequent removal will be repeated as necessary to maintain the open conditions.
- When required due to drifting snow, motorgraders may be used to keep the paved roads open whereby delaying the opening of the gravel roads.
- After the roads have been plowed, as provided in this section, intersections, hills, and curves may, but not necessarily, receive additional treatment to include salt, sand, or other abrasives or treatments.
- It is not the county's policy to provide a "dry" pavement condition.

Unpaved Routes

- The initial efforts will be to get all routes opened to one lane traffic as soon as possible and/or practical after a storm has passed.
- After one-lane traffic has been established crews will return and open a second lane.

Driveways and field entrances

Removing snow from roadways is done by blading the material from the roadway off to the outer side of the road in one direction, and then removing the material in the same manner on a second pass in the opposite direction. Blading the snow from the road will cause a windrow along each side of the roadway which is unavoidable due to the continuous operation of the plow. It's necessary for the operator to push snow without stopping in order to complete the route in a timely manner. Currently seven trucks are used to plow over 400 lane miles of road. If drivers pause to clear each driveway it would significantly increase the amount of time to plow roads and the cost to clear roads plus the stopping and backing on these roads would increase the risk for accidents or injuries. Therefore, removal of snow from private drives and entrances will not be allowed. It is the responsibility of the property owner to remove the windrow of snow from driveways and field entrances.

Property owners should refrain from leaving or moving snow or any other materials from their driveways onto any public roadway. Snow, sand, ice or any other material that is left in the public roadway can be a traffic hazard to the motoring public and result in a motor vehicle accident. Dickinson County shall not be responsible for snow or materials pushed in the roadway or shoulders by others.

Mailboxes

As a general rule, the County will only repair or replace mailboxes where it can be determined that county owned equipment made physical contact with the mailbox. Mailboxes and mail stops are located on public right of way. During wet snows, the plowing operations will often cast snow across the shoulder, which can break the weaker box supports. Every mailbox should be inspected by the owner prior to winter and repaired if necessary. The plow operator cannot see nor do they know that the mailbox was damaged when they passed due to the flurry of snow around the equipment. Ornamental mailboxes will only be replaced with standard USPS approved mail boxes. Damages to mail boxes should be reported to the County Road & Bridge department for further investigation.

Snow Removal Routes

The routes and response to snow removal may be altered depending on a number of variables such as the longevity of the storm, the rate the snow is accruing, if there is wind blowing, if ice is also being received, the time of day the storm is received, etc. Generally, our highway snow removal will be categorized in one of two categories, minor response or major response.

Minor Snow

A minor response occurs when conditions exist that 2 to 3 inches of snow or less has been received, blowing and drifting are non-existent or minimal, and no additional storm is expected in the immediate future. During a minor response county personnel will utilize six snow plow vehicles. The paved county roads are strategically broken up into six routes, with each snow plow being responsible for following their route and clearing the roads on their respective route. All plows begin their routes from the county yard in Abilene, and follow the route depicted below. All of the six designated routes are show on the attached map.

Purple Route

From Abilene on 14th Street west to Fair Rd, north on Fair Rd to 3400 Ave, west on 3400 Ave to Camp Rd, and north to the County Line, back south on Camp Rd to K-18, Camp Rd north to 3400 Ave, east on 3400 Ave to Fair Rd, south to Old Hwy 40, then north on Fair from Old Hwy 40, east on 14th St to Abilene. Beginning at K-18 and Hawk Rd north to First Rd, east on First Rd to the end of the 1100 block, back west on First Rd to Hawk Rd, south on Hawk Rd to K-18.

Yellow Route

Abilene Bypass east to Old Hwy 40, west to Solomon then back east to Eden Rd south from Old Hwy 40 to 1900 Ave and then east on 1900 Ave to Hawk Rd, North on Hawk Rd to Browns Park, south on Hawk Rd to 1900 Ave, west on 1900 Ave to Eden, then back north to Old Hwy 40, then east on Old Hwy 40 to

the Abilene Bypass, Old Hwy 40 east from Abilene to K-43 then back west to Abilene, 2200 Ave east from Abilene to K-43 then north on Jeep Rd to 3100 Ave then back south on Jeep Rd to 2200 Ave, Mink Rd from 2500 Ave to K-18 and back south to 2500 Ave

Green Route

2200 Ave from Jeep Rd east to K-43, Old Hwy 40 East to Rain Rd, south on Rain Rd to 2100 Ave then back north on Rain Rd to Old Hwy 40, east on Old Hwy 40 to the county line, back west to Rain Rd, north on Rain Rd to 3400 Ave, then east to the Lake Loop, back west on 3400 Ave to Rain Rd, north on Rain Rd to the county line, south on Rain Rd to Old Hwy 40, west on Old Hwy 40 to K-43, then west on 2200 Ave to Jeep Rd

Blue Route

2100 Ave from Enterprise to Rain Rd, Rain Rd south to 1400 Ave, 1400 Ave west to Oat Rd, then back east to Union Rd, south on Union Rd to K-4 Hwy, 500 Ave from Union Rd west to Oat Rd then back east to Union Rd, D Street both lanes, Union Rd north from K-4 Hwy to 1400 Ave, Wolf Rd from 1400 Ave north to Geary County Line then back south to 1400 Ave, 1400 Ave from Union Rd to Rain Rd, Rain Rd north to 2100 Ave then west on 2100 Ave to Enterprise

Orange Route

Jeep Rd south from 2200 Ave to 1400 Ave, 1400 Ave west to K-15 then east to Key Rd, Key Rd south to 1100 Ave, west on 1100 Ave to K-15 Hwy then back to Key Rd, Key Rd south to the County Line, north on Key Rd to K-4 Hwy, Oat Rd from K-4 Hwy south to the County Line and then north to K-4 Hwy, Key Rd north to 1400 Ave, east on 1400 Ave to K-43 Hwy then back west to Jeep Rd, Jeep Rd north to 2200 Ave

Pink Route

1700 Ave from K-15 Hwy west to Barn Rd, north on Barn Rd continuing on Solomon Rd north to 2750 Ave, south on Solomon Rd, continuing on Barn Rd to 1700 Ave, 1700 Ave west to the County Line then back east to K-15 Hwy, 1400 Ave west from K-15 Hwy to Eden Rd, Eden Rd south to K-4 Hwy continuing on Deer Rd to the County Line, north on Deer Rd to K-4 Hwy continuing on Eden Rd north to 1400 Ave, 1400 Ave east to K-15 Hwy.

Major Snow

The second category of storm response is called a major snow removal. A major snow removal would constitute 4 inches of snow or more, with any amount of snowfall with blowing and drifting, with continued snow being predicted. A major storm will dictate a response of personnel leaving from the county yard, following six designated routes, in the following manner:

Purple Route

From Abilene, each road will be cleared on both lanes of traffic before moving the next, starting with 14th Street west of Abilene, Fair Rd, 3400 Ave, Camp Rd, Hawk Rd, and First Rd.

Yellow Route

Abilene Bypass/Old Hwy 40 West, Old Hwy 40 East, 2200 Ave, Jeep Rd, Mink Rd, Eden Rd, 1900 Ave, Hawk

Green Route

2200 Ave, Old Hwy 40 East, Rain Rd South, Rain Rd North, 3400 Ave, Lake Loop

Blue Route

2100 Ave, Rain Rd, 1400 Ave, Wolf Rd, Union Rd, D Street, 500 Ave

Orange Route

Jeep Rd, 1400 Ave, Key Rd, Oat Rd, 1100 Ave

Pink Route

Solomon Rd North, Solomon Rd/Barn Rd South, 1700 Ave, 1400 Ave, Eden Rd, Deer Rd

There are a number of variables that may exist that could cause a change in the exact snow removal routes and plans. Often times two or more passes on a section of roadway may be required to create a passable and safe roadway before the plow operator can move to the next segment of his route.

Conditions that are considered include:

- Depth of the snow being removed
- Rate that additional snow is being received
- Drifting rate and backfill conditions
- Ice on the roadway
- Material levels – ice and sand for traction and for weight
- Fuel levels
- Equipment problems and malfunctions

It may be necessary to pull one truck from one route to help another truck on a route due to any number of conditions or situations. These decisions are made as the situations arise..

The Road & Bridge personnel are also responsible for snow removal on the gravel roads as well. Response to gravel roads will typically occur once the paved roads have been opened and are passable.