

## HALTON BOROUGH COUNCIL BRIDGE & HIGHWAY MAINTENANCE DIVISION



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## Foreword

The Halton Borough Council Winter Service Plan is a two part document as follows:

**Part A** – This is the policy document itself, and is a public document available via the Council's website or upon request.

**Part B** – This is the operational document and is an internal only document detailing operational procedures to the contractor.

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## Document Control

<b>Organisation</b>	Halton Borough Council Bridge & Highway Maintenance Division 1 <sup>st</sup> Floor Municipal Building Kingsway Widnes Cheshire WA8 7QF
<b>Document Title</b>	Halton Borough Council Winter Service Plan – Part A
<b>Issue No</b>	1
<b>Revision</b>	0
<b>Issue Date</b>	1 <sup>st</sup> April 2014
<b>Document Owner</b>	Lead Officer – Reactive & Routine Maintenance

Issue (Revision)	Date	Written By	Reviewed By	Amendment Details

## Distribution

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## 1.0 Introduction

1.1 The winter service contributes significantly to the core objectives of:

- **Safety** – here, detailed statutory obligations and users’ needs are the drivers, but safety is the prime consideration for our winter service.
- **Serviceability** – maintaining the availability and reliability of the highway network is a key objective for our winter service, and one where user-judgements of performance will be immediate rather than longer term.
- **Sustainability** – low temperatures and the formation of ice can cause serious damage to the fabric of road services and our winter service can therefore make an important contribution to whole life costs.

1.2 Halton Borough Council’s winter service provision is important, both in terms of road safety and the local economy. It is carried out, as far as is reasonably practicable, to ensure the safe movement of all highway users, and is economically significant because of the delays the winter weather can cause.

1.3 Our winter service plan sets out the standards for the treatment of the borough’s highway network as a consequence of winter weather. The plan sets out a framework of good practice within which the Borough’s winter service provision is managed and reflects the recommendations and advice set out in the Code of Practice for Highway Maintenance Management “Well Maintained Highways” and the recently revised Appendix H relating to winter weather.

## 2.0 Legislation

2.1 In England and Wales, Section 41 (Highways Act 1980) “duty of the Highway Authority to maintain the highway”, was added to by the introduction of Section 111 of the Railways and Transport Safety Act 2003, by the insertion of:

“(1A) in particular, a Highway Authority is under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice”

2.2 The duty came into effect on 31 October 2003, and it should be noted that this is not an absolute duty, given the qualification of “so far as is reasonably practicable” Due to the scale of the task and the resources required, it is not viable to fulfill the duty on all parts of the highway network or indeed ensure that running surfaces are kept free of ice and snow at all times, even on parts of the network that have been treated.

2.3 Additionally, section 150 of the Highways Act 1980 places a duty on the highway authority to remove snow from the highway:

“(1) If an obstruction arises in a highway from the accumulation of snow or from the falling down of banks on the side of the highway, or from any other cause, the highway authority shall remove the obstruction”

Again, this is so far as is reasonably practicable in terms of winter weather.

## 3.0 Policy

3.1 Halton Borough Council as highway authority has a statutory duty to provide a winter service so far as is reasonably practicable, to allow all highway users to use the highway network safely during adverse winter weather conditions.

3.2 The Council's policy is to provide a winter service, so far as is reasonably practicable, which allows for the pre-salting of the primary network when there is a forecast for ice to form on road surfaces, the post-salting of the secondary network where ice and snow conditions are prolonged and the clearance of snow from key areas during periods of severe and prolonged snow.

3.3 The Council's winter service policy statement is as follows:

**“Halton Borough Council aims to assist users of the network in adverse weather conditions, as far as is reasonably practicable, by providing a service to prevent ice and snow endangering the safe use of the network”**

3.4 The criteria for the treatment of the highway in the winter service is as follows:

“The primary gritting routes will have precautionary gritting carried out where possible, but if conditions do not allow, then they will be treated reactively. These routes are gritted when the forecast is for the temperature to have a falling trend and there is a likelihood of ice forming. Cycleways are treated when they form part of the carriageway network. Footways and footpaths are not routinely treated” The criteria for roads to be included in the primary gritting routes include:

- a) principal routes
- b) major commuter routes which are also bus routes with frequent services
- c) steep gradients with heavy traffic
- d) roads servicing secondary schools, hospitals, ambulance and fire stations

The secondary gritting routes are treated following periods of prolonged and severe ice or snow, when the primary gritting routes are considered to be safe.

The criteria for roads to be included in the secondary gritting routes include:

- a) roads servicing minor industrial estates
- b) roads with less than 2 buses an hour
- c) roads servicing schools

Also, during periods of prolonged snow or ice, treatment will be carried out in the town centres of Runcorn and Widnes. See paragraph 4.2.2 for further details.

3.5 This criteria is based on risk management principles in that the roads on the primary gritting routes would have a high impact if not treated, due to them being the roads most used within the borough.

3.6 The primary gritting routes total 305km, which equates to almost 52% of the Council's road network.

3.7 Maps of the primary, secondary and strategic snow clearing routes can be found on the council's website – <http://www3.halton.gov.uk/communityandliving/171753/171777/>



3.8 The motorways within the borough are the responsibility of the Highways Agency. The HA website is <http://highways.gov.uk>

## 4.0 Winter Operations

### 4.1 Winter Period

4.1.1 The winter service period starts on 10<sup>th</sup> October and ends on the 10<sup>th</sup> April. Winter operations are carried out by the Council's term maintenance contractor (Lafarge Tarmac). In periods of prolonged and extreme winter weather, additional resources can be made available by re-directing the Council's Open Spaces and Waste Management labour force who, due to the weather conditions, would not be able to carry out their normal functions.

### 4.2 Gritting Routes

4.2.1 There are 5 primary gritting routes in Halton, that total 305km of treated network, and 2 secondary routes which total 40km of treated network (**See also Appendix 1**). In addition, there are a number of vulnerable footway locations that are treated using liquid de-icer. Whilst the aim of pre-salting of the primary routes is to have them treated prior to the onset of freezing conditions (ice), the routes have an average treatment time of up to 3.5 hours in free flowing traffic, and as such it is not always possible to complete the treatment prior to the onset of freezing conditions. Various things can affect this objective including:

- a) A last minute change in the forecast
- b) Continuing rain up to and beyond the point of freezing
- c) Traffic volumes

The contractor, however, is required to commence gritting operations within 1 hour of receiving the instruction from the Council.

4.2.2 Runcorn & Widnes town centres & car parks will be treated using a liquid de-icer applied using a quad bike that is normally deployed on weed spraying during the summer months. The town centres will be treated in anticipation of heavy snow fall or when freezing conditions are forecast following wet weather.

4.2.3 The secondary gritting routes are treated following periods of prolonged and severe ice or snow, but only when the primary routes are considered to be safe and there are adequate stocks of salt, fuel and operatives.

### 4.3 Plant and Equipment

4.3.1 Our winter fleet consists of 5 purpose built salt spreaders, and 2 quad bikes fitted with spray tanks for the application of liquid de-icer in town centres. In addition we have 4 No back pack systems for the application of liquid de-icer to specific vulnerable footway locations.

4.3.2 We have 2 snow ploughs available for use with the purpose built spreaders.

4.3.3 A detailed inventory of the winter service plant and equipment is set out in **Appendix 2**

### 4.4 Highways Term Maintenance Contract

4.4.1 The Council entered into the current term maintenance contract in June 2013 for an initial period of 6 years. There is also an option for a potential 4 x 1 year extensions, subject to contractor performance.

4.4.2 Winter service operations are carried out by the Council's Contractor (Lafarge Tarmac), as part of the highways maintenance term contract. Instructions for winter operations are issued to the

contractor by the Council, following assessment of the weather forecast. The contractor is responsible for loading / unloading of the spreaders, treating and snow clearance of the routes and the filling and re-filling of grit bins. They are also responsible for the training and health, safety and welfare of their staff to ensure they are competent to carry out the work and functions required.

4.4.3 The contractor is required to have sufficient resources (labour & plant) to operate the gritting fleet through 24 hour operations if required. This is achieved by the contractor having 10 drivers on standby at any one time.

4.4.4 Our winter service operations are carried out from Lowerhouse Lane Depot, Widnes and Picow Farm Road Depot, Runcorn.

## 5.0 Snow Clearing

### 5.1 Carriageways

5.1.1 When snow conditions become severe then ploughing shall initially be carried out on a series of predefined strategic routes. These routes will include the 'A' road network and other roads leading to individual villages and communities so as to assist with accessibility to the centres of population within the borough.

5.1.2 Priority will be given to the strategic routes. Once conditions have stabilised and the strategic routes are clear and will remain so, treatment will be extended to the primary gritting routes.

5.1.3 Snow ploughs will be fitted to the spreaders when instructed by the Council. The Council will issue instructions regarding the routes to plough together with the timings.

### 5.2 Footways

5.2.1 **Footpaths and footways are not routinely treated.** During periods of severe and prolonged snow, clearing of footways will be carried out **as resources become available.** The Council will supplement the contractors labour and plant with its own resources, (from Open Spaces and Waste Management) to clear snow from footpaths and footways. This shall be carried out in accordance with **Appendix 3**

## 6.0 Severe Weather

6.1 In severe and prolonged winter weather conditions, difficulties can be encountered with resources to deal with the conditions as set out in the Council's policy. Typically, issues are related to salt and fuel stocks. Vehicle breakdowns can also be an issue when operations are continuous such as in periods of high snow fall.

6.2 Where such difficulties arise the Council will endeavour to continue to deliver the winter service but may reduce the level of service in line with the resources that are available on a risk based approach. The aim will be to make the best use of the resources available at the time and will include strategies to conserve salt and / or fuel stocks. The strategy will include, but not be limited to, reducing the network to be treated, reducing the rate of spread, and use of alternative materials.

## 7.0 Rock Salt

- 7.1 Rock salt is recognized as the most cost effective material to be used as a de-icer on the highway. Salt will melt ice and snow at temperatures as low as -21 °C, but below -5 °C the effectiveness of salt is reduced and below -10 °C the amount needed increases to become environmentally and economically undesirable. Other commercially available de-icers, such as those used on airport runways, are as much as 15 to 20 times more expensive than rock salt.
- 7.2 The rock salt for the winter service is purchased directly by HBC, and our current supplier is Salt Union, based in Winsford, Cheshire. The rock salt is in accordance with BS 3247. It is stored in 2 purpose built areas:
- a) A prefabricated salt barn at Lowerhouse Lane Depot, Widnes. This has a maximum capacity of 650 tonnes
  - b) A 3 bay open salt storage area at Picow Farm Road Depot, Runcorn, that is covered with a SaltSaver coverall system, which reduces the risk of contamination of the salt. This has a maximum capacity of 600 tonnes.

## 8.0 Resilience

- 8.1 The Council's salt storage capacity is 1250 tonnes. This is broken down as 600 tonnes at Picow Farm Depot and 650 tonnes at Lowerhouse Lane Depot. This gives the Council sufficient salt to carry out 14 runs of the primary routes at 40 gms/m<sup>2</sup>. This is the equivalent of 7 days resilience at this high rate of spread. It is important to also note the contents of Para 8.2 below.
- 8.2 Additional resilience can be accessed very quickly via our salt supplier (Salt Union) from the Winsford salt mine. If the Salt Union transport arrangements become overstretched, Lafarge Tarmac has the facility to collect directly from the mine.

## 9.0 Salt Bins

- 9.1 Salt bins are provided to supplement the salting of the primary gritting routes by local community groups, parish councils and public spirited members of the public.
- 9.2 Careful consideration is given to the provision of salt bins so as to ensure that maximum benefit is obtained. Priority will be given to those locations that meet certain requirements, such as sites that do not meet the criteria to be on the primary gritting route, steep inclines that lead to or from major road junctions etc. Salt bins will be filled at the start of the winter period, and periodically throughout the period as and when resources are available.
- 9.3 The salt is provided for spreading on the highway at specific locations to aid members of the public. It is not intended to be used on private roads, footpaths or driveways. The presence of a grit bin is not an indication that the highway has been treated.
- 9.4 Currently there are 71 salt bins located across the borough, and 19 tonnes of rock salt is required to replenish them (**See Appendix 4**). It takes approximately 2 working days for our contractor to complete this task. **Appendix 5** sets out the criteria to be met for the provision of a salt bin.
- 9.5 The Council's Local Area Forum's (LAF) may also provide salt bins following an application to the appropriate LAF. It should be noted that they will be green in colour to distinguish them from

the highway grit bins (yellow), and will be subject to a different filling and re-filling regime, dependent on resources available.

- 9.6 It is not possible to make a general provision for salt bins due to the high costs involved and current financial constraints.

## 10.0 **Requests for Additional Salting**

- 10.1 Requests for additional salting of the primary network will only be considered when there is clear evidence that an area has not been pre-treated. In all circumstances, any requests should initially be made via the Council's customer contact centre.

- 10.2 General requests from the Police for salting of the network may be made as a result of a road traffic collision (RTC), and consideration will be given to carrying out treatment based on the following:

- a) Scope of problem, e.g. number and severity of reported RTC's
- b) Availability of resources, e.g. are winter service vehicles already out salting the primary network
- c) Whether the road surface temperatures (RST) are expected to remain below zero for some time or are expected to rise above zero shortly.
- d) Expected precipitation

## 11.0 **Responsibilities of United Utilities for leaks onto the Highway**

- 11.1 United Utilities (UU) is responsible for the failure of its apparatus and any consequences arising from such. This includes compensating the highway authority (and other utilities) under the New Roads and Street Works Act 1991 (NRSWA), Section 82.

- 11.2 However, the highway authority will assist UU when requested or on its failure to discharge their responsibilities. Under these circumstances the highway authority will make a decision to treat based on RST's being below zero and the likelihood of ice forming on the highway.

## 12.0 **Weather Forecasting and Ice Prediction**

- 12.1 The Council works in partnership with Cheshire West & Chester and Warrington Borough Council's with regard to weather forecasting and ice prediction for winter service purposes.

- 12.2 Weather forecasts are supplied by the Meteorological Office using their "Open Road" system. The ice prediction system is supplied by Vaisala Limited.

- 12.3 Weather forecasts are supplied by the Met Office through the ice prediction system on a daily basis for the winter period, 10<sup>th</sup> October to 10<sup>th</sup> April. They comprise a forecast of Road Surface Temperatures (RST's), and surface state, for each 24hr period 12:00 to 12:00 the next day. This information is based on data from a sensor site on the A56 Daresbury By-pass in Runcorn, and also includes a text based forecast for the Halton, Warrington and North Cheshire climatic domain.

- 12.4 Text based forecasts of a 24hr forecast for the climatic domain, a morning update and a 2 – 5 day outlook forecast are provided. Additionally the duty officer has direct telephone access to the Met Office duty forecaster to discuss the more complex weather scenarios.

- 12.5 The forecast of RST's is supplemented by a forecast thermal map which enables extrapolation of the forecast RST at the A56 Daresbury site to the thermally mapped network of roads that make up the Council's primary route network.
- 12.6 Additionally, there is a reference sensor site on Beechwood Avenue, Runcorn. This enables the forecast conditions to be monitored beyond the forecast site. The two sensor sites are fully instrumented and provide the following data:
- a) Road surface temperature
  - b) Road surface state
  - c) Road depth temperature
  - d) Air temperature
  - e) Relative humidity
  - f) Rain intensity
  - g) Wind speed and direction
- 12.7 Vaisala Limited are based in Birmingham and are the market leaders in the UK in ice prediction. Recent enhancements to the system include web hosting which makes the system more accessible and reliable. The system gives access to authorized users to both the weather forecasts and all sensor information across Cheshire and neighbouring authorities from any internet enable computer. The additional sensor information from neighbouring authorities provides a check on the Halton sensor data and gives a high level of confidence in the readings.
- 12.8 All sensor sites are subject to a pre-season calibration and a mid-season check to ensure that the data is accurate. The use of the ice prediction system enables the Council's winter service officers to monitor the forecast conditions with the actual conditions at the sensor sites and to update any planned actions as needed. The weather forecasting contract with the Met Office includes an end of season review, which amongst other things, measures the accuracy of frost / ice occurring on road surfaces. The contract with Vaisala includes sensor calibration, software support and maintenance / repair of the sensor sites.
- 12.9 **Thermal Mapping**
- 12.9.1 The ice prediction system utilizes thermal maps to supplement the forecast of RST's across the primary network to support decision making.
- 12.9.2 On a typical winter night the difference in temperature across a road network can vary by as much as 5°C. Consequently, some sections may be below freezing while others may not. Thermal mapping is a process by which the spatial variation of minimum winter night time RST is measured, using a high resolution infrared thermometer. This is a proven and established technique to determine surface temperature relationships likely to occur across a road network on a winter's night. The thermal map is an integral part of an effective ice prediction system as it enables the forecast of minimum RST's at a forecast site to be extended to the network of thermally mapped roads.
- 12.9.3 Thermal mapping identifies patterns of temperature variation, by undertaking accurate measurements of winter night time surface temperatures across pre-defined sections of a highway network under a range of different weather conditions. This pattern and distribution of warm and cold sections is determined by local environmental factors and prevailing weather conditions. The occurrence of frost or ice is determined by the balance of energy a surface receives and loses in conjunction with the amount of available moisture. It is a technique which has been utilized worldwide, to enhance the information available to both highway authorities and supporting forecast providers.
- 12.10 **Monitoring Procedures**
- 12.10.1 The Council utilises a real time monitoring software package supplied by Exactrak Limited. This is a web based tracking and monitoring system for use with the gritting vehicles. This software

provides real time detailed information about the operation of our gritting fleet, and provides the following:

- a) Real time vehicle tracking
- b) Record of all control box functions
- c) Route timings
- d) Salt sensor data
- e) Spread rate / width
- f) Exception information
- g) Full salt stock management function
- h) The ability to change routes electronically

This system allows the driver to concentrate on his driving functions whilst the software deals with everything else. In the event of a software failure, the fall-back position is to revert to manual operation of the gritters spreading system. This will result in the route being treated, but not as optimally as if it were controlled by the Exactrak system.

## 13.0 **Decision making**

- 13.1 The Council is responsible for the winter service decision making. The decision to instruct the term maintenance contractor to carry out winter operations is normally carried out by the Council's winter service duty officer. There is a duty officer rota to cover 24/7 throughout the winter period.
- 13.2 The duty officer continuously monitors the weather forecasts through the ice prediction system throughout the winter period. Where possible, based on confidence of the forecast, instructions are issued to the term maintenance contractor during normal working hours so that resources can be organized in an efficient manner.
- 13.3 Where there is a lower confidence in the forecast, the Council's duty officer will monitor the forecast conditions against actual conditions and will issue an instruction to treat, with the aim of the primary routes being treated prior to the formation of ice and in an effort to complete the treatment of the primary routes by 7:00am.
- 13.4 Details of actions to be taken is available via the Council's out of hours telephone line 0333 000 4300 in the form of an automated message.
- 13.5 The current gritting fleet only has the ability to increase spread rates in increments of 5g/m<sup>2</sup>. As such, our spread rates will be set to the nearest 5g/m<sup>2</sup> above those set out in the Treatment Matrix C below. Newer gritting vehicles have the ability to increase in 1g increments, and this will be taken into account when we renew our current fleet.

**Decision Matrix (timing)**  
**[to be read in conjunction with the notes below]**

		Predicted Road Conditions		
Road Surface Temperature	Precipitation	Wet	Wet Patches	Dry
May fall below 1 °C	No Rain No hoar frost No fog	Salt before frost	Salt before frost (see note a)	No action likely, monitor weather (see note a)
Expected to fall below 1 °C	No rain No hoar frost No fog			
	<u>Expected</u> hoar frost <u>Expected</u> fog	Salt before frost (see note b)		
	<u>Expected</u> rain <b>BEFORE</b> freezing	Salt after rain stops (see note c)		
	<u>Expected</u> rain <b>DURING</b> freezing	Salt before frost, as required during rain and again after rain stops (see note d)		
	<u>Possible</u> rain <u>Possible</u> hoar frost <u>Possible</u> fog	Salt before frost	Monitor weather conditions	
<u>Expected</u> Snow		Salt before snow fall		
The decision to undertake precautionary treatments should, if appropriate, be adjusted to take account of residual salt or surface moisture. All decisions require continuous monitoring and review.				

**Notes**

- (a) Particular attention should be given to the possibility of water running across carriageways and other running surfaces e.g. off adjacent fields after heavy rains, washing off salt previously deposited. Such locations should be closely monitored and may require treating in the evening and morning and possible other occasions.
- (b) When a weather warning contains a reference to expected hoarfrost, considerable deposits of frost are likely to occur. Hoarfrost usually occurs in the early morning and is difficult to cater for because of the probability that any salt deposited on a dry road too soon before its onset, may be dispersed before it can become effective. Close monitoring is required under this forecast condition which should ideally be treated just as the hoarfrost is forming. Such action is usually not practicable and salt may have to be deposited on a dry road prior to and as close as possible to the expected time of the condition. Hoarfrost may be forecast at other times in which case the timing of the salting operations should be adjusted accordingly
- (c) If under these conditions, rain has not ceased by early morning, crews should be called out and action initiated as rain ceases
- (d) Under these circumstances rain will freeze on contact with running surfaces and full pre-treatment should be provided even on dry roads. This is a most serious condition and should be monitored closely and continuously throughout the danger period.

- (e) Weather warnings are often qualified by altitudes in which case differing action may be required in different parts of the borough.

### Spread Rate Matrix

Authorities should select the correct treatment matrix and matrix column from the table below:

**NOTE ! HBC Highlighted Green**

Spreading Technology		Treatment Matrix	
Dry Salting		Treatment Matrix A	
Pre-wet Salt Spreading		Treatment Matrix B	
Treated Salt Spreading		Treatment Matrix C	
Salt Distribution	Traffic Level	Losses	Treatment Matrix Column
Poor	High	Normal	A
Poor	High	High	B
Poor	Medium / Light	Normal	C
Poor	Medium / Light	High	D
Fair	High	Normal	E
Fair	High	High	F
Fair	Medium / Light	Normal	G
Fair	Medium / Light	High	H
Good	High	Normal	I
Good	High	High	J
<b>Good</b>	<b>Medium / Light</b>	<b>Normal</b>	<b>K</b>
Good	Medium / Light	High	L





**Treatment Matrix C**

**Treated Salting (Spread rates in g/m<sup>2</sup>)**

Frost or forecast frost RST and road surface wetness	Column Coverage Traffic Loss	A	B	C	D	E	F	G	H	I	J	K	L
		PC HT NL	PC HT HL	PC MT NL	PC MT HL	FC HT NL	FC HT HL	FC MT NL	FC MT HL	GC HT NL	GC HT HL	GC MT NL	GC MT HL
RST at or above -2°C and dry or damp road conditions		7	7	7	7	7	7	7	7	7	7	7	7
RST at or above -2°C and wet road conditions		7	8	10	11	7	7	8	10	7	7	7	7
RST below -2°C and above -5°C and dry or damp road conditions		10	13	12	14	9	11	11	12	7	9	8	10
RST below -2°C and above -5°C and wet road conditions		17	21	24	28	15	18	21	24	11	14	16	19
RST at or below -5°C and above -10°C and dry or damp road conditions		19	24	23	27	17	21	20	23	13	16	15	18
RST at or below -5°C and above -10°C and wet road conditions		2 x 16	2x20	2x23	2x27	2x14	2x17	2x20	2x23	22	27	30	2x18

**KEY:**

**Coverage:** PC = Poor Coverage, FC = Fair Coverage, GC = Good Coverage

**Traffic:** HT = High Level, MT = Medium Level

**Loss:** NL = Normal Loss, HL = High Loss

## 14.0 **Communications**

- 14.1 It is important that the highway user is aware of and understands the Council's approach to winter maintenance. The communication of the winter service plan is an important part of this and will be made available on the Council's website.

## 15.0 **Performance monitoring and review (See also Appendix 6)**

- 15.1 Following each winter a report will be produced reviewing the winter service provided by the Council along with any issues that have arisen. The report will include a review of the following:

- a) Budget & Expenditure
- b) Treatment routes along with any proposals to modify, either additions or deletions
- c) Operational performance
- d) Weather forecasting performance and decision making
- e) Salt Supplies

### 15.2 **Operational Performance**

- 15.2.1 As part of the performance monitoring and review, key performance indicators (KPI) are collected during the winter season. The capturing of this data enables both in season and end of winter reviews of performance. This gives the opportunity to understand and respond to any performance issues as they occur.

- 15.2.2 The KPI's to be measured will monitor performance in three key areas of winter service delivery.

- a) Contractor performance
- b) Service delivery
- c) Decision making

- 15.2.3 The details of the measurement and calculation of the KPI's is set out in **Appendix 6**

### 15.3 **Contractors performance**

- 15.3.1 This indicator is a percentage of treatments commenced on time compared to the total number of treatments instructed for the winter period.

### 15.4 **Service delivery**

- 15.4.1 This indicator is a measure of the amount of the primary treatment route pre-salted in advance of freezing conditions affecting road surfaces.

- 15.4.2 The target for this indicator is 100%, however, there are many reasons why this target may not be achieved on each occasion. Typically these can be, but are not limited to:

- a) Time of freezing occurring earlier than forecast
- b) RST's drop quickly following rain (salt wash off issues)
- c) Traffic conditions
- d) Vehicle breakdowns
- e) Contractor performance
- f) Decision making

- 15.4.3 This indicator is a percentage of the primary treatment route treated prior to the onset of freezing conditions.

15.5 **Decision making**

15.5.1 Was the best decision made based on the circumstances and information available at the time?

15.5.2 This indicator is a percentage of the number of correct yes decisions made compared to the total number of decisions made.

16.0 **Training and development**

16.1 The Council's winter duty officers undergo training in road weather meteorology and use of the ice prediction system on a 4 year cycle so as to keep up-to-date with developments. The training is arranged through the two service providers, Met Office and Vaisala Limited.

16.2 The term contractor's drivers are all trained to City & Guilds level in winter maintenance operations.

## Appendix 1

### Primary Treatment Route Details

Route	Treated km	Dead km	Total km
Runcorn	71.49	30.53	102.02
Widnes	81.28	36.15	117.43
Expressway	71.36	47.64	119.00
Busway	60.92	52.11	113.03
Ancillary	20.38	55.41	75.79

### Secondary Treatment Route Details

Route	Treated km	Dead km	Total km
Runcorn	20.99	43.55	64.53
Widnes	19.96	29.39	49.35

Maps showing the Primary & Secondary treatment routes are available via the Council's website:

<http://www3.halton.gov.uk/communityandliving/171753/171777/>

### Strategic Ploughing Routes

#### Runcorn Route 1

Entire Expressway Network

#### Runcorn Route 2

Exit Picow Farm Road Depot and Turn Right  
Turn right on Expressway A557  
Off at Polar Ford exit  
Up Heath Rd  
Turn left into Clifton Rd  
Along Beechwood Ave to junction Expressway  
U-Turn at Junction  
Return along Beechwood Av to Heath Rd  
Down Heath Rd to Halton Rd  
Along Halton Rd to Boston Ave  
Turn left into Boston Ave  
Turn right onto Expressway A533  
Off Expressway at Halton Lea  
Down Spur Rd and  
Return to Picow Farm Road Depot

#### Runcorn Route 3

Exit Picow Farm Road Depot and Turn Right  
Turn right on Expressway A557  
Continue onto A533 Expressway  
Take Astmoor exit  
Along Astmoor Rd  
Turn into Astmoor Spine Rd

Turn left into Castlefields Ave East  
Turn right into Castlefields Ave South  
Turn left into Halton Brow  
Turn right into Main Street.  
Turn right into Holt Lane  
Continue into East Lane  
Cross Rbt into Hallwood Link Road  
U-Turn at Expressway Rbt  
Return along Hallwood Link Road  
Continue up Eastway  
Turn left into First Ave  
Turn left into Westway  
Turn into 6th Avenue  
U-Turn at Rbt  
Return along 7th Avenue  
Turn right into West Lane  
Turn left into Halton Link Road  
U-Turn at Expressway Rbt  
Turn right into Westway  
Turn left into 6th Avenue  
Turn left into Eastway  
Continue up Holt Lane  
Turn left into Main Street  
Turn left into Halton Brow  
U-Turn at bottom of Halton Brow  
Turn left into Castlefields Ave South  
Turn left into Castlefields Ave East  
Continue into Castlefields Ave North  
Turn right into Halton Brow  
U-Turn at traffic lights junction Expressway  
Turn left into Castlefields Ave North  
Turn left into Astmoor Spine Rd  
Continue into Astmoor Rd  
Return to Picow Farm Road Depot

#### **Runcorn Route 4**

Exit Picow Farm Road Depot and Turn Right  
Turn right on Expressway A557  
Continue onto A533 Expressway  
Along Expressway to Manor Park / Windmill Hill  
Turn into Windmill Hill  
At roundabout by Windmill Hill Pub turn left into Windmill Hill Ave East  
Along Windmill Hill Ave East / Norton Station Rd  
To roundabout junction with Barnfield Ave  
Turn Right Into Barnfield Ave to roundabout at Murdishaw Ave  
Turn right into Murdisahaw Ave  
Continue to junction with Expressway  
U-Turn at Expressway Roundabout  
Back along Barnfield Ave / Norton Station Rd And Windmill Hill Ave East to Expressway  
Go along A533 Expressway and head towards Halton Lea  
Come off Expressway at take slip off for Halton Brow  
Turn right into Boston Ave  
Along Boston Ave to Heath Rd Roundabout  
U-Turn at Roundabout and back along Boston Ave to Expressway  
Return to Picow Farm Road Depot

### **Runcorn Route 5**

Exit Picow Farm Road Depot and Turn Right  
Turn right on Expressway A557  
Take Queensway slip over bridge  
Take first slip take next left to r/about  
Turn left onto Hutchinson St  
Turn left onto slip to bridge  
Continue over bridge off Expressway A533 by Railway Pub (follow bus route)  
At mini Roundabout turn right into Station Rd  
Bend right into Top High St  
Across junction and into High St and Bridge St  
Along Bridge St into Heath Rd  
Turn left into Busway (Under Expressway)  
Along Busway to first junction  
Turn right and continue to Traffic lights  
Turn left into Bridge St then High St  
Across junction into Top High St and Station Rd  
Across Mini Roundabout and down the side of Railway Pub  
Into Cavendish St Turn left under Expressway  
Turn right into Shaw St and along to traffic lights at Geenway Rd  
Turn right up Greenway Rd to Cenotaph than carry on upto Weston Rd.  
Along Weston Rd  
Turn right into Sandy Lane  
Turn left into South Parade  
Continue along Lydiate La & Bankes La  
U-Turn at expressway and return same route to Cenotaph  
Turn right into Moughland Lane  
Turn right into Heath Road South  
Turn left into Weston Road  
Turn left into Cavendish Farm Road  
U-Turn at Rbt and return same route to Cenotaph  
Turn left into Weston Road  
Turn left into Cavendish Farm Road  
Turn right onto Weston Expressway  
Come off at next junction (Bankes Lane)  
Continue along Lydiate La & South Parade  
Turn right into Sandy Lane  
Turn left into Picow Farm Road  
Turn right into Westfield Road  
Turn right into Greenway Road  
Continue down Greenway Road into Devonshire Place  
Turn left into Top High Street  
Continue over Waterloo Bridge and into Picow Farm Road  
Return to Picow Farm Road Depot

### **Widnes Route 1**

Exit Lowerhouse Lane Depot Turn Left  
Moor Lane Roundabout  
Turn onto Bridge Approach A533  
Plough over Bridge  
Off at Greenway Road Exit  
Under expressway on loop  
Back onto Bridge Approach via Greenway Road  
Plough over Bridge  
Continue ploughing along A562 to Knowsley  
Roundabout A5300 U Turn

Grit back along A533 to Moor Lane.  
Along Ashley Way to T.Lights by B/Q  
U Turn @ T.Lights  
Return to Lowerhouse Lane Depot Via Ashley Way

### **Widnes Route 2**

Exit Lowerhouse Lane Depot Turn Left  
Up Lowerhouse lane  
Turn right into Milton Road  
Across Kingsway  
Through Simms X lights down Gerrard Street  
Through By pass lights along Fiddlers Ferry Rd  
Turn right onto Dans Road  
Turn round at Boundary  
Back along Dans Road  
back down Fiddlers ferry Road  
along Gerrard Street, Milton Rd & Lowerhouse Lane  
Return to Lowerhouse Lane Depot

### **Widnes Route 3**

Exit Lowerhouse Lane Depot Turn Left  
Up Lowerhouse Lane  
Left into Liverpool Rd  
continue into Netherley Rd  
TR into Hough Green Rd and U Turn at Prescot rd Rbt  
Return same route to Hale Rd traffic lights  
TL into Prescot Road and U Turn at new Rbt  
Return to Lowerhouse Lane Depot along same route

### **Widnes Route 4**

Exit Lowerhouse Lane Depot Turn Left  
Up Dundalk Road Speed table just before bend  
Turn right into Hale Road  
Across Liverpool Road T.Lights into Prescot Rd up to new Roundabout  
U Turn back to Liverpool Rd traffic lights  
Carry on down Hale Rd to junction with Ditton Rd  
Turn right into Hale Road  
Halegate Road  
Return same route to Ditton bridge T.Lights  
Along Ditton Road  
Return to Lowerhouse Lane Depot.

### **Widnes Route 5**

Exit Lowerhouse Lane Depot Turn Left  
U-turn at McDonalds Rbt  
Turn right at Moor Lane Rbt  
Along Ditton Rd to Ditton Bridge T.Lights  
Turn right into Hale Rd  
up Hale Rd to Liverpool rd T.Lights  
Turn right into Liverpool Rd  
along Leigh Avenue and across Kingsway  
Down Deacon Road  
Follow Road round to Roundabout  
Turn right into Greenoaks way  
Down to new roundabout by Lugsdale Rd  
return same route to Deacon Rd  
up Deacon Rd and across Kingsway  
Turn left at lights into Lowerhouse Lane



Return to Lowerhouse Lane Depot.

**Widnes Route 6**

Exit Lowerhouse Lane Depot Turn Left

U-turn at McDonalds Rbt

Along Moor Lane

up Kingsway & Birchfield Rd

Turn right into Lunts Heath Rd

along Derby Rd & Farnworth Rd to boundary

U Turn at boundary

return along Derby Rd & Lunts Heath Rd

across Black Horse Junction then into Cronton Lane

along Cronton Lane & U turn at boundary

back to Black Horse Junction

down Birchfield Rd & Kingsway

along Moor lane

Return to Lowerhouse Lane Depot. Depot.

## Appendix 2

### Plant & Equipment Inventory

#### Gritting Fleet

Registration No	Capacity	Ownership
DK56 EFY	9 cubic metre	Halton Borough Council
DK56 EFX	6 cubic metre	Halton Borough Council
DK56 EFL	6 cubic metre	Halton Borough Council
CN58 AOJ	6 cubic metre	Halton Borough Council
Variable	4 cubic metre	Halton Borough Council

#### Ploughs

Reference No	Type	Ownership
SN 1	Bunce with Kuyper Blade	Halton Borough Council
SN 2	Bunce with Kuyper Blade	Halton Borough Council

#### Loading Equipment

Reference No	Manufacturer	Type	Ownership
Loader 1	JCB	Front Loader	Term Maintenance Contractor
Loader 2	JCB	Front Loader	Term Maintenance Contractor

## **Appendix 3**

### **Additional Severe Weather Treatment Sites**

**NOTE! In relation to schools, it is the footways leading to the schools that are treated, NOT paths inside the school. Paths inside the school are the responsibility of the school itself.**

#### **Runcorn**

Westfield Infant & Junior Schools  
St Edwards RC Primary School  
The Park CP School  
The Grange Infant, Junior & Comprehensive Schools  
Castle View CP School  
Weston Point CP School  
Beechwood CP School  
Hill View CP School  
Windmill Hill Primary School  
Cavendish Farm Special School  
Halton Lodge School  
Grangeway Shops  
Gorsewood CP School  
Ormiston Bollingbroke Academy  
Hallwood Park CP School  
Brookvale Infant & Junior Schools  
Palacefields Infant School  
St Chads Catholic High School  
Murdishaw West CP School  
Our Lady's RC Primary School  
St Bertelines C of E Primary School  
St Mary's C of E Primary School  
Victoria Road Primary School  
The Heath Comprehensive School

#### **Widnes**

Chestnut Lodge Special School  
Brookfields School  
Fairfield High School  
St Peter & Paul RC High School  
St Michaels School  
Simms Cross CP School  
Hale CE school  
Fairfield Infants School  
Farnworth CE Junior School  
Riverside College, Kingsway Campus  
Birchfield County High School  
Birchfield Community Centre  
Wade Deacon High School  
St Basil's RC Primary School  
St Bede's RC Infant School  
Ashley School  
West Bank Primary School  
Upton County Infant School  
Birchfield County Nursery School  
Derby Road Shops  
Liverpool Road Shops

Halton View Road Shops  
Sunningdale Avenue Shops

## **Doctors Surgeries and Clinics**

### **Runcorn**

Brookvale Practice – Hospital Way  
Castlefields Health Centre – Chester Close  
Dr M K Saksena – heath Road  
Grove House Practice – High Street  
Murdishaw Health Centre – Gorsewood Road  
Tower House Practice – High Street  
Weaver Vale Practice – Hospital Way  
Windmill Hill Surgery – Eastwood  
Chester & Halton Community NHS Trust – The Croft  
Halton Primary Care Trust – Barnfield Avenue  
Halton & St Helens Primary Care Trust – High Street  
Thorn Road Clinic – Thorn Road  
Halton Haven – Barnfield Avenue

### **Widnes**

Appleton Village Surgery – Appleton Village  
Beaconsfield Surgery – Bevan Way  
Drs Edwards, Hurst & Hallam – Peelhouse Lane  
Drs Kumar & Koya – Bechers  
Dr Narayanna – Lower Church Street  
Newton Surgery – Caldwell Road  
Oaks Place Surgery – Caldwell Road  
The Beeches Medical Centre – Ditchfield Road  
Upton Rocks Surgery – Heath Road  
Arch Initiatives – Ashley Way West  
Chapelfield Clinic – Wilsden Road  
Health Care Resources Centre – Caldwell Road  
Millbrow Clinic – Millbrow  
St Johns Unit – Alforde Street  
Widnes Sports Injury Clinic – Liverpool Road

## Appendix 4

### Grit Bin Locations

Bin No	Location	Town
HC1	Cornwall Close 30m in from Castlefields Av South	Runcorn
HC2	Princes Close 30m in from Castlefields Av South	Runcorn
HC3	Caernarvon Close 30m in from Castlefields Av South	Runcorn
HC4	Chester Close junction Castlefields Av South	Runcorn
HC5	Denbigh Court junction with Conwy Court lamp column 6	Runcorn
HC6	The Clough near lamp column 64	Runcorn
HC7	The Clough outside school	Runcorn
HC8	The Croft 20m down from Main Street	Runcorn
HC9	The Croft near house No 48	Runcorn
HC10	Lodge Lane opposite lamp column 3	Runcorn
HC11	The Underway junction of Mount Road	Runcorn
HC12	Castle Road 2 <sup>nd</sup> build out on the left	Runcorn
HC13	Woodlands Walk opposite lamp column 5	Runcorn
HL14	Stockham Lane Junction Camelot Way	Runcorn
HL15	Palacefields Avenue junction Mullion Close	Runcorn
NS16	Wharfdale opposite house No 41	Runcorn
NN17	Padsow Square adjacent lamp column 24	Runcorn
NN18	Windmill Hill Av East junction Morton Road	Runcorn
NN19	Windmill Hill Av East junction Wolverton Drive	Runcorn
NN20	Wolverton Drive near house No 41	Runcorn
NN21	Windmill Hill Av East junction Ledston Drive	Runcorn
NN22	Firbank Close outside No 12	Runcorn
NN23	Tower Lane junction Hillfield	Runcorn
NN24	Tower Lane adjacent to lamp column 11	Runcorn
NN25	Plover Drive junction Pochard Rise	Runcorn
NN26	Highgate Close between lamp columns 5 & 6	Runcorn
NN27	Broadfields junction Copperwood	Runcorn
NN28	Long Spinney at lamp column 5	Runcorn
NN29	Broadfields opposite Crabtree Fold	Runcorn
NN30	Broadfields opposite Glenwood	Runcorn
NN31	Pinders Fold junction Fernwood	Runcorn
NN32	Chetton Drive opposite house No 10	Runcorn
WH33	Clarendon Close adjacent lamp column 3	Runcorn
D34	Townfield View 20m in from Windmill Hill Avenue West	Runcorn
D35	HobbLane adjacent to canal bridge	Runcorn
D36	Moore Lane next to traffic light sign heading up hill	Runcorn
D37	Moss Lane junction Runcorn Road	Runcorn
D38	Delph Lane junction A56 Daresbury	Runcorn
D39	Delph Lane by canal bridge	Runcorn
D40	Delph Lane 20m before Keckwick Lane	Runcorn
D41	Pilgrims Way adjacent lamp column 4	Runcorn
D42	Aston Green junction Sandy Lane	Runcorn
D43	A56 junction Hill Top Road	Runcorn
H44	Sandymoore Lane junction Bisham Park	Runcorn
H45	Ashville Way junction Clifton Lane	Runcorn
H46	Clifton Lane 50m down from M56 Roundabout	Runcorn
H47	Cholmondley Road top of hill on right	Runcorn
H48	Ascot Avenue outside shops	Runcorn

H49	Cheshyres Lane opposite house No 3	Runcorn
H50	Oxford Road by school fence	Runcorn
H51	Bankes Lane junction Cavendish Farm Road	Runcorn
H52	Whitley Close opposite house No 11	Runcorn
H53	Penryhn Crescent outside house No 42	Runcorn
H54	Kingsley Crescent adj to No 5 Kingsley Road	Runcorn
B55	Ludlow Crescent adj house No 20	Runcorn
B56	Cherry Blossom Road opposite Azalea Grove	Runcorn
B57	Buttermere Grove junction Beechwood Avenue	Runcorn
B58	Paddock Rise junction Pippits Row	Runcorn
B59	Ashbrooke Avenue at lamp column No 8 downhill	Runcorn
B60	Betchworth Crescent junction Beechwood Avenue next to bridge	Runcorn
M61	Wisenholve Close adj lamp column No 7	Runcorn
M62	Clayton Crescent opposite house No 23	Runcorn
M63	Westfield Crescent junction Beaconsfield Road	Runcorn
M64	Russell Road junction Hale View	Runcorn
M65	Russell Road junction Hazel Avenue	Runcorn
G66	Greenway Road junction Okell Street	Runcorn
G67	Thorn Road opposite Pear Tree Avenue	Runcorn
G68	Halton Court adj lamp column 2	Runcorn
F1	Wilmere Lane access to farm	Widnes
Ha2	Wellington Gate adj lamp column 3	Widnes
Ha3	Cocklade Lane adj lamp column 7	Widnes

## **Appendix 5**

### **Grit Bin Criteria**

## HALTON BOROUGH COUNCIL - SALT BIN ASSESSMENT FORM

ASSESED BY:	DATE:	LOCATION:	
		APPLICANT:	
<b>IS LOCATION ON AN EXISTING GRITTING ROUTE?</b>	<b>YES / NO</b>	<b>N/A</b>	<b>YES= REJECT APPLICATION</b>
CHARACTERISTIC	SEVERITY	AVAIALBLE POINTS	POINTS SCORED
GRADIENT	HIGH	5	
	MEDIUM	3	
	LOW	0	
BEND SEVERITY	SHARP	5	
	MODERATE	3	
	SLIGHT	0	
SUITABLE LOCATION FOR BIN	YES	5	
	NO	-5	
NEAR LOCAL CENTRE / SHOPS	YES	5	
	SOME	3	
	NO	0	
NEAR SCHOOL / COLLEGE	YES	5	
	NO	0	
INDEPENENT FOOTWAY	YES	-5	
EX SALT BIN WITHIN 100m	YES	-5	
LOCAL DIST. ROAD	YES	5	
	NO	0	
BUS ROUTE	YES	5	
	NO	0	
<b>TOTAL SCORE</b>			

**POINT SCORE GREATER THAN OR EQUAL TO 12 WILL BE CONSIDERED FOR THE PROVISION OF A SALT BIN SUBJECT TO AVAILABLE RESOURCES**

SIGNED:	SIGNED:
ASSESSMENT OFFICER	LEAD OFFICER
DATE:	DATE:

### Appendix 6



## Footbridge Treatment Locations

1	Greenway Rd over canal,down to High Street (Salt and Liquid De-icer)
2	Halton Road, Opposite Stone Hills Lane (Salt only)
3	The Calvers to opp Meadway (Salt and Liquid De-icer)
4	The Calvers (Liquid De-icer)
5	Lodge Lane to Holt Lane Roundabout (Salt only)
6	Footbridge by Cemetary Over East LN (Salt and Liquid De-icer)
7	Hospital Footway & Footbridges (Salt only)
8	Hallwood Road Roundabout to Hospital way (Salt only)
9	Adjacent to ASDA (Salt only)
10	ASDA car park to Halton Lea across Westway (Salt only)
11	Halton Lea Law Courts & Grosvenor House (Salt only)
12	Crannage Close & path leading to ASDA (Salt only)
13	Grangeway leading Cosmopolitan Housing Offices (Salt only)
14	Over Spur Road (between T/Lights & R/about)(Salt and Liquid De-icer)
15	Halton Brook Avenue to Sycamore rd (Salt and Liquid De-icer)
16	Padstow Square over Busway (Salt and Liquid De-icer)
17	The Hove over Busway (Salt only)
18	Ridgeway bus stops and shop area (Salt only)
19	Norton Lane over busway towards Windmill Hill (Salt and Liquid De-icer)
20	Over Expressway before Slip Road to A5126 (Central Expressway) (Salt and Liquid De-icer)
21	Hankey St to Runcorn Railway car park (Salt and Liquid De-icer)
22	Hedge Hey to Plantation Close (Salt only)
23	Cradley to Gledemmere over Railway (Salt and Liquid De-icer)
24	Page Lane (Salt only)

## Appendix 7

### Performance Monitoring

The KPI's to be measured will monitor performance in three key areas of winter service delivery:

- Contractor performance
- Service delivery
- Decision making

The detail of the measurement and calculation of the KPI's is set out below.

#### Contractor Performance

The indicator is a percentage of the treatments commenced on time compared with the total number of treatments instructed for the winter period.

#### Service Delivery

This is a measure of the amount of the primary treatment route pre-treated in advance of freezing conditions affecting road surfaces measured by RST's reaching 0°C or below. Each route is allocated to one of the two sensor sites, A56 Daresbury or Beechwood Avenue, which ever gives the best representation of RST, to determine what length of the route was treated before the onset of freezing conditions. A calculation is then done to arrive at the percentage. For each occasion where the whole of the primary treatment route network has not been treated prior to the onset of freezing conditions, reasons are to be recorded, so as to assist with the review of any shortfall and enable improvement measures where appropriate.

- The indicator is a percentage of the primary treatment route treated prior to the onset of freezing conditions for the winter period. This data is gathered via a vehicle tracking system that forms part of the Exactrak system.

#### Decision Making

Was the best decision made based on the circumstances and the information available at the time? This is to be determined by review on the next working day, or as soon as practicable in the circumstances, by the Lead Officer Reactive & Routine Maintenance and the winter duty officer. The result is a yes or no. reasons are to be recorded where the result is no. The review will only occur when the forecast or actual RST's reach 3°C or lower. This indicator assists in developing the continuous improvement culture.

- The indicator is a percentage of the number of best yes decisions made compared to the total number of decisions made for the winter.