

Winter Maintenance Policy 2019-2021



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1 | Background

- 1.1 Section 41 of the Highways Act 1980 places a statutory duty on the Highway Authority to maintain the highway, as follows:-

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

- 1.2 The legislation does not impose an absolute duty but rather involves a balance between the degree of risk and the steps necessary to eliminate the risk.
- 1.3 In order to provide a statutory defence, a County Policy on winter maintenance services is required which should be reviewed on a regular basis.
- 1.4 The requirement to ensure compliance with Section 1.3 has been emphasised in collaborative meetings that have taken place amongst the six North Wales Authorities following the Coroner’s inquest into the winter maintenance incidents that have occurred in North Wales Authorities during recent years.
- 1.5 The level of service for County Roads is determined by the elected Members of each Council. This is based on a risk assessment approach to determining a cost effective hierarchy of routes and treatments. The Authority believes that the level of service meets the requirements on the current interpretation of **‘reasonably practicable’** but will continue to keep service provision under review, particularly in respect of any legal judgements. A review of the Winter Maintenance operations is undertaken each year before the winter season.

2 | Purpose of policy

- 2.1 To demonstrate compliance with the statutory duties of the Highway Authority by recording a managed, cost effective approach to providing winter maintenance service in the interest of public safety.
- 2.2 To provide a statutory defence against third party claims.
- 2.3 To inform and involve Members in the procedures associated with the winter maintenance service
- 2.4 To set out the aims and standards for the winter maintenance service, the facilities and resources available and guidance as to how the aims and standards are to be achieved.

3 | Procedures

3.1 Winter Weather Forecasts

3.1.1 Daily weather forecasts are received throughout the winter period and are specific to Flintshire County Council. The forecast is currently provided by MetDesk. MetDesk utilise their experience at weather forecasting combined with additional data from weather models and information provided by Ice Prediction sensors situated at:

1. A55 at Brynford
2. A541 at Hendre

to predict the weather for a 36 hour period from approximately 12-noon daily. The weather forecast is provided through a web based system and this forms the basis of the decision making process with regards to gritting actions taken in the interest of road safety over the succeeding 24 hours.

3.1.2 The Forecast Provider provides forecast information in the in the following format:

- ▶ Projected road surface temperature graphs for two ice sensor sites within the County and others in the neighbouring Counties. These sites have been specifically chosen to provide information which is considered representative of the whole County.
- ▶ A site specific forecast for each of the ice sensor sites covering a 36-hour period from the time of issue (normally 12:00 hrs).
- ▶ A 24-hour consultancy service, staff can talk to forecasters at the Weather Centre to expand on the general forecast.
- ▶ A 2-5 day forecast text indicating the outlook.
- ▶ A morning summary in text describing the events of the night before and a preliminary forecast covering the succeeding 24 hours.
- ▶ Alerts and forecast amendments electronically and by direct contact throughout the 24 hour period.

3.1.3 A cross boundary partnership approach is adopted throughout the North Wales Authorities and in conjunction with North & Mid Wales Trunk Road Agency (NMWTRA) to ensure an effective and consistent service delivery.

3.1.4 A North Wales protocol for distributing daily weather forecasting information and proposed action details has been formally adopted. This has been coordinated through the North and Mid Wales Trunk Road Agency (NMWTRA) and has established improved communications between neighbouring Authorities, NMWTRA and North Wales Police. The actions of all the North Wales Authorities are recorded on the Forecast Provider web page for all partner authorities to view.

3.2 Priority of Roads

3.2.1 Roads within the Authority have been prioritised for treatment into Priority 1, 2 and 3 routes.

3.2.2 **Priority 1 routes** are roads carrying substantial volumes of traffic having characteristics, which require protection from frost throughout the night. These routes form the spinal road network of the Authority and merit high priority to sustain the free flowing movement of traffic. They include:-

- ▶ Trunk Roads (48kms)
- ▶ Class A Roads (151kms)
- ▶ Class B and C Roads (351kms)
- ▶ Strategic/ Important Bus Routes (8 bus services or more per hour)
- ▶ Main access roads to schools or establishments of higher education
- ▶ Town centre access and distributor roads through villages and housing estates
- ▶ Industrial Estate Roads (10.1Kms)

The 12 **Priority 1** precautionary gritting routes total **45%** of the total County highways network.

3.2.3 **Priority 2 routes** are formed from the Unclassified roads that form main distributor routes in both the urban and rural areas. They include:-

- ▶ Housing Estate Roads
- ▶ Access routes between smaller rural communities
- ▶ Remaining bus routes (4 service buses or more per hour)
- ▶ Known problems, including significant gradients, exposed areas and other topological factors
- ▶ Council maintained Car Parks

Priority 2 gritting routes will be treated upon satisfactory completion of the Priority 1 routes providing the criteria set out in 3.2.3 are met and adequate resources are available.

3.2.4 **Priority 3 routes** are all the remaining adopted roads within the County.

3.2.5 Priority of Roads

- 3.2.5.1** All Priority 1 routes will be subject to precautionary gritting operations throughout the winter period at the discretion of the Highway Network Manager or his representative. The decision to undertake precautionary gritting actions is made daily at around 13:00hrs between the period from 1 November to 30 April of the following year.
- 3.2.5.2** Priority 2 routes will only be treated in the event of icy conditions or a forecast of prolonged icy conditions, and following the satisfactory treatment of the Priority 1 routes. The Duty Officer will make the decision whether or not to proceed to Priority 2 routes. The protocol for treatment during this period will be for a continued action on the Priority 1 gritting routes as required with discretionary actions being taken on Priority 2 routes in response to known or observed problem areas, or in relation to requests that have been assessed and justified by staff of Flintshire County Council. If temperatures remain below zero with prolonged icy conditions the winter maintenance teams will continue to undertake inspections and liaise closely with the Duty Officer. The level of actions will be dictated by the available resources and the weather forecast outlook. Bulk gritting vehicles and manual salting gangs will be deployed for this purpose. A discretionary decision to suspend further actions pending improving weather conditions may be taken.
- 3.2.5.3** Priority 3 routes will normally be treated dependent upon the availability of appropriate resources following the satisfactory attention to Priority 1 and 2 routes and will be restricted to normal working hours, and in response to known or observed problem areas, or in relation to requests that have been assessed and justified by staff of Flintshire County Council..
- 3.2.5.4** During the onset of snow conditions and the satisfactory treatment of the Priority 1 routes, all available plant and resources will be deployed to clear snow within the Priority 2 routes. During such operations the gritting appliances will be directed by Flintshire County Council staff who will patrol their respective areas and liaise with the Duty Officer.
- 3.2.5.5** The Authority employs 38 No. agricultural snow ploughing contractors to clear the highway during periods of snow conditions. Each Contractor has a dedicated route which enables the Authority to clear the entire adopted highway network within the County. During snow conditions contractors may be hired at the discretion of the Duty Officer or his representative at the tendered rates. The schedule of the snow ploughing contractors is available to all winter maintenance staff to access as required.

3.2.5.6 Road Priority / Treatment Matrix Treatment

Route type	Precautionary Salting	Salting	Times
Priority 1	At any time of the day	At any time of the day	When ice is predicted Priority 1 routes will be pre salted before the on-set of frost. Where severe conditions such as snow or ice persist resources will remain on Priority 1 routes
Priority 2	None	At any time of the day	Priority 2 routes will only be treated if severe weather conditions persist and the Priority 1 routes have been completed
Priority 3	None	At any time of the day	On satisfactory completion of Priority 1 and Priority 2 routes and if severe weather conditions persist these roads will be treated on a reactive basis dependent upon resources

3.3 De-icing Materials

3.3.1 Flintshire County Council procures its de-icing materials through a tendered process. The current tender is with Compass Minerals through the Yorkshire Purchasing Organisation and the life of the contract is 1st April 2019 to 31st March 2023.

3.3.2 6.3 mm nominal size rocksalt

This is the most commonly used material for general purpose gritting. It is spread at a prescribed rate of 10 – 15 grams per square metre for precautionary gritting. This rate can be increased to 40 grams per square metre when treating snow conditions. These rates are in accordance with the recommendations made in the Code of Practice for Highways Maintenance Management and the Trunk Road Maintenance Manual.

6.3 mm nominal size coated rocksalt (Safecote)

This material is standard rocksalt with an applied coating which enhances its performance to treat ice at lower temperatures (conventional rocksalt has a reduced efficiency at temperatures below -6 degrees centigrade). It has a greater adhesion to the applied surface and is effective over a longer period.

3.3.3 A total of 2200 tonnes of coated rocksalt (Safecote) is currently stored in a storage dome at Alltami Depot. A stock management service is operated in collaboration with the Compass Minerals, Winsford. The stock management system highlights the requirement for the delivery of rocksalt which is triggered by predetermined maximum and minimum intervention stock levels throughout the winter season. This service provides the following benefits:-

- ▶ Fresh stocks of rocksalt which retain maximum salinity values.
- ▶ Controlled levels of stock to meet storage availability and providing the ability to avoid storing large volumes of rocksalt outside of the winter period.
- ▶ Avoidance of a shortage of rocksalt during periods of high demand
- ▶ Regional proximity of supplier provides reduced delivery times.

3.3.4 Strategic Salt Stocks

Due to national shortages of rock salt in previous years and following advice from WLGA and Welsh Government, an additional strategic salt stock of 7000 tonnes is stored under sheeting at the Greenfield Recycling Site at Greenfield.

3.3.5 Most of the road de-icing salt used in the UK is derived from a non-renewable source through mining a natural salt bed stretching from North West England to Ireland. The majority of rock salt is a 10mm grain size to British Standard BS3247. However, a trend is emerging in the UK where a number of Highway Authorities are moving toward a 6.3mm grain size. BS3247 requires the rock salt to contain no more than 4% moisture by weight and the soluble Sodium Chloride content to be not less than 90% of the dry salt mass.

Flintshire County Council introduced using 6.3mm grain size coated salt in 2005/2006. The proprietary name of this product is Safecote.

3.3.6 To effectively remove ice from the road surface the rock salt requires the action of traffic, which assists in the process of breaking down the salt granules into a saline solution. This rapidly melts the ice and prevents further ice forming for several hours.

3.3.7 Salt in solution freezes at a lower temperature than water and if spread before the onset of freezing conditions can be effective in preventing ice from forming on road surfaces at temperatures down to -7°C. However, salt is only effective if it can form a solution with the water on the road surface. If this water has already frozen before the salt is applied, the salt is much less effective in combating the slippery conditions. The generic term 'gritting' is often used to describe what is actually "pre-salting" or "precautionary salting", i.e. spreading salt before the onset of ice or frost formation.

3.3.8 The significant benefits of using Safecote Salt are:-

- ▶ more accurate spreading of the salt
- ▶ more salt remains on the road surface
- ▶ reduced wastage
- ▶ faster de-icing effect
- ▶ increased longevity on the road surface
- ▶ less Sodium Chloride used
- ▶ less corrosive to the gritter vehicles
- ▶ less corrosive to the highway infrastructure.
- ▶ cost benefit

3.3.9 Treatment Matrix

Carriageways - The Council operations will follow the standard guidance issued by Welsh Government as part of the Trunk Road Maintenance Management Policy and the Code of Practise for Highway Maintenance and any subsequent amendments. The de-icing material will continue to be Safecote.

Footways - Following successful trials of alternative de-icing materials heavily used footways in town centres, car parks and sheltered accommodation will be treated with a product called 'Safethaw'. This product is a brine solution mixed with agricultural by-product similar to that used on the highway. 'Safethaw' is sprayed by using a knapsack sprayer or a self-propelled spray bar fitted to an All-Terrain Vehicle (ATV) or a pickup and will be applied in periods of heavy snow and prolonged icy conditions in accordance with the risk assessment for each element.

3.4 Operational Practices

3.4.1 The winter period is defined as between 1st October and 30th April each year. Streetscene drivers are contracted to deliver the service and standby payments will apply from November to March.

3.4.2 Forecasts are received at approximately 06.00hrs, 12.00hrs and 18.00hrs every day within the period between 1st October and 30th April each year by the duty Officer at Alltami Depot or the on-call Duty Officer at weekends.

3.4.3 A decision on the appropriate action will be made by the Duty Officer, and the supervisory staff and standby crew will be informed accordingly. Standby crews are available to respond to forecast changes and subsequent actions/decisions outside of normal working hours.

- 3.4.4** Priority 1 routes will be treated before the formation of ice. The average route treatment time of 3.0 hours will be taken into account in making the decision to ensure that all pre-cautionary Priority 1 routes are completed on time. Any changes to the pre-determined actions will be verified with the Duty Officer before notification to the workforce. The situation may be varied by weather conditions such as heavy rain immediately before a frost, which may restrict the time to carry out the work.
- 3.4.5** Depending on the forecast, further actions may be required to support the precautionary gritting decisions. Whilst every effort will be made to plan this action it may be considered necessary to obtain updated forecast information from the Forecast Provider prior to a decision being made. The weather forecast update will be carried out by the Duty Officer at any time of the day or night, to ensure that appropriate actions are carried out in the interest of public safety and to provide a cost efficient service.
- 3.4.6** In the event of a forecast of snow the Priority 1 routes will be pre-treated prior to the event. Where this is not possible, for example when it starts as rain and turns to snow, a decision to delay action until the rain stops in order to prevent the salt from being washed away will be taken. It should be noted that this situation can be even more difficult if it occurs during the rush hour as traffic congestion impedes the progress of the gritting vehicle.
- 3.4.7** Following snowfall with significant accumulations, clearance work will continue around the clock until all Priority 1 roads are clear. When the Priority 1 roads are cleared to a standard which safeguards the safe passage of vehicular traffic, all available resources will be dedicated to attend to Priority 2 roads.
- 3.4.8** Priority 3 routes will receive attention when resources are available and after all Priority 1 and 2 roads have received appropriate treatment.
- 3.4.9** Services across Streetscene & Transportation (and possibly others across the wider Authority) will support the Winter Service during periods of prolonged disruption to the county. It may be necessary to curtail certain services during these periods, for reasons such as practicality or safety, and the resource and labour will be redirected to the Winter Service operations as appropriate.
- 3.4.10** During periods of snowfall, all gritting vehicles will be equipped with snow or slush ploughs depending on the type of snow being cleared. Snow ploughing contractors will be deployed at the discretion of the Duty Officer.
- 3.4.11** Following periods of heavy snowfall, priority should be given to the inspection and clearance of gullies to ensure that meltwater from snow on verges and central reservations can quickly drain away.

3.5 Communication

During periods of severe or prolonged adverse weather conditions, the service will provide updates to the senior leaders group (including the Chief Officer Team and Cabinet Members, along with relevant operational managers) advising them of the impact of the current weather conditions, a summary of the weather forecast, a briefing on the allocated resource and operational response, and an outline of the operational plans in place to deal with the forecast.

3.6 Partnership Working

3.6.1 Liaison and cross boundary operational practices are established between Flintshire County Council and its neighbouring Authorities and North & Mid Wales Trunk Road Agency, with the intention of maintaining a consistency and continuity of winter services throughout the region.

For this purpose the following cross boundary precautionary gritting arrangements are in place:-

Wrexham County Borough Council will treat the following roads for **Flintshire County Council**:-

- ▶ B5102 from County boundary Llay to A541 Mold Road.(Hollybush)

Flintshire County Council will treat the following roads for **Wrexham County Borough Council**:

- ▶ B5430 Bwlchgwyn from County Boundary to Four Crosses
- ▶ B5373 County Boundary to Miners Road (Sharps)

Flintshire County Council will treat the following roads for **Denbighshire County Council**:

- ▶ Section of road from A5151 to Gwaenysgor Cross Roads

Denbighshire County Council will treat the following roads for **Flintshire County Council**:

- ▶ Section of the A494 from County Boundary, Cadole to Cadole junction

3.6.2 It is the responsibility of each individual Highway Authority to ensure adequate treatment of the roads under their jurisdiction. A protocol of daily communications between neighbouring authorities / agencies has therefore been established to ensure continuity of actions.

3.7 Footways and Cycleways

3.7.1 Footways, pedestrian areas or cycleways are not included in precautionary salting operations. Nevertheless, there will be a certain amount of overspill of salt onto footways and cycleways when precautionary salting is being carried out on adjacent carriageways.

3.7.2 Resources will be deployed to treat footways once snow has settled or during periods of prolonged freezing conditions on a priority basis at locations including:

- ▶ Town centre footways and footways in the vicinity of shopping areas
- ▶ Footways in the vicinity of civic buildings
- ▶ Public highway in the vicinity of hospitals
- ▶ Public highway in the vicinity of residential homes / old age pensioners flats
- ▶ Public highway in the vicinity of day care centres
- ▶ Public highway in the vicinity of Schools (during term times only)
- ▶ Footbridges
- ▶ Bus Stops
- ▶ Cemeteries

If any reports of icy footways are received for locations not included in the above criteria, the footway will be inspected to assess whether treatment is appropriate, however this is dependent upon available resources.

3.8 Salt Bins and Salt Heaps

3.8.1 Salt bins are located in areas for the use of pedestrians and motorists to treat the public highway only. The decision for the distribution of salt bins is that of the Highway Network Manager or his representative in the interest of financial management.

3.8.2 Salt bin locations will be individually assessed against criteria which include:-

- ▶ Non precautionary gritting routes
- ▶ Location within bounds of public highway
- ▶ Benefit to road safety, i.e. areas with steep inclines
- ▶ Traffic volumes
- ▶ Proximity to schools and locations of public interest.

A Pro Forma to aid in the assessment of suitable salt bin locations has been created and will be distributed to staff as required.

3.8.3 All salt bins will be filled at the start of the winter season and refilled once again in January, if necessary. Similarly, salt heaps will be provided before the winter season and replenished once during the winter months.

3.8.4 Salt heaps in the rural areas will also be subject to the same assessment criteria as the salt bins.

3.8.5 Streetscene Services will provide salt bins and rock salt within Council establishments on request at cost to the relevant Department. Every effort is made to establish and meet the requirements of each Department prior to the onset of

the winter season. The availability of resources will dictate the priority allocated to provide this service during the winter season.

- 3.8.6** Provision is available for Community Councils to purchase salt bins and rock salt from Streetscene Services with the intention of supplementing the Authority's winter maintenance services to the benefit of the general public. Salt bins purchased by the Community Council will be distinguishable from Streetscene salt bins and will be maintainable by the Community Council. Location of the salt bin on the public highway will require prior approval of the Highway Authority.

3.9 Resources

- 3.9.1** The workforce involved will all be part of Streetscene Services and all drivers will be trained and assessed. Additional resources can be sought from other sections within the service if required.

- 3.9.2** The Council's winter maintenance fleet consists of 12 frontline gritting vehicles and 2 spare gritting vehicles, these are supported by 3 trailer type gritters. These are stored at Alltami Depot.

- 3.9.3** Welsh Government and WLGA have suggested that all Authority's in Wales hold a strategic salt stock to ensure resilience in the event of further winters of extreme weather and national shortages of rock salt. For this coming season Flintshire will hold an additional residual salt stock of 7000 tonnes covered and sheeted at the Greenfield green waste recycling site.

- 3.9.4** The suggested minimum stock levels is based on the last six year average usage figure and with a multiplier of 150%. The tonnage of salt held in Flintshire for 2017-19 will be a minimum of 9,000 tonnes.

3.10 Standards Monitoring

- 3.10.1** Flintshire County Councils service delivery is benchmarked against National performance statistics to ensure that a comparative cost effective service delivery is being maintained.

- 3.10.2** Regional and National meetings of operational staff and support service providers creates the opportunity for continual assessment of operational practices, standards and resources.

3.11 Vehicle Tracking

- 3.11.1** Flintshire County Council's fleet of 14 bulk gritting vehicles have all been fitted with an innovative GPS tracking system. The tracking system is a monitoring device that interfaces with the control systems on the vehicles so not only do we know where the vehicle has been, but exactly what it was doing and, because it is web based, the information can be accessed remotely. The tracking system operates in real time and therefore it is easy to find out exactly where a vehicle is and to check its activity. This gives the Duty Officers the confidence to ensure that any operational decisions that they make are based on accurate live information.

3.11.2 In these increasingly litigious times it is vital that Managers are able to provide positive supporting evidence in the event of a claim. The GPS tracking system will monitor how much salt was spread on what roads, at what rate and at what time. The system is able to provide a record of all control box functions, route time, salt sensor data, spread rate/width and vehicle speed.

3.11.3 The Council operates a fleet of gritting vehicles all equipped with an Autologic system which spreads the amount of salt required based on the location, so gritter drivers can concentrate solely on the road and not have to focus on the vehicles spreading settings. The Autologic system has been pre-loaded with the Authorities road widths and ensures the optimal amount of salt has been spread to maximise the treatments, meaning salt is not wasted. The system provides optimisation and higher levels of road safety, leaving drivers free to concentrate on driving, and providing flexibility in staff deployment as route knowledge is not necessary for the driver.

3.12 Extreme Weather Protocol

3.12.1 On receipt of a severe weather warning an operational control room will be established in Alltami and manned by staff from Streetscene Services who will act as a dedicated point of contact for the Contact Centre staff. The staff within the operational control room will have direct contact with Streetscene Coordinators/Supervisors who will be on-site to investigate complaints and mobilise dedicated gritting vehicles under their direct control.

3.12.2 The operational control room will be responsible for directing all operations and act as a liaison contact to the press office through which all press releases will be made.

3.13 Community Engagement

3.13.1 Flintshire County Council is committed to provide assistance in the form of small quantities of rock salt and tools to community and local groups to enable them to assist with the removal of snow and ice off the footpaths within the urban areas.

3.13.2 The Highway Network Manager will write annually, prior to the winter, to all Community Councils and known action groups for contact details of interested parties and for their requirements.

3.13.3 Contact details provided by these groups will receive daily weather forecasts and details of the proposed daily winter maintenance action, by e-mail, direct from the forecast provider.

3.14 High Winds - Flintshire Bridge Closure/Restriction Procedure

- 3.14.1 **Forecasts** - Weather forecasts are received daily via e-mail from MetDesk for the next 3 days. These should be reviewed daily by the Duty Officer to anticipate likely restrictions and resources required to implement a bridge closure or lane closures.
- 3.14.2 When wind gusts are forecast over 50 mph within the next 24 hours the Duty Officer should ring Weather service provider and seek advice from a forecaster of the risk of high winds in excess of the criteria described below.
- 3.14.3 Based on the advice of the forecaster the Duty Officer will decide on any necessary restriction using the criteria described below.
- 3.14.4 Experience has shown that a planned closure based on forecasts is preferable to waiting until wind speeds increase and reacting to them at short notice. If a closure is planned, due to a forecast advice from MetDesk, the FCC Press Office should be informed immediately so they can list the closure on the FCC web site and inform local radio stations in advance of the closure.
- 3.14.5 **Criteria for Traffic Restrictions for A548 Flintshire Bridge**

<i>Wind Speed (miles/h)</i>	<i>Wind Speed (km/h)</i>	<i>Wind Speed (m/s)</i>	<i>Restriction</i>
50-55	80-88	22-25	No restriction – Monitor wind speeds
55	88	25	Close bridge or Down-wind lane closures (see note (i))
60	95	27	Close bridge

Notes:-

- (i) In exceptional circumstances a down-wind lane closure can be implemented to allow the bridge to remain open for wind speeds above 55 mph. Generally this method of restriction would only be considered when there is advance notice of anticipated high wind speeds over a prolonged period. A down-wind lane closure provides an empty lane in the event that a vehicle is blown off course or blown over. In addition traffic speed is generally reduced. For down-wind lane closures there will be a slow lane closure on one carriageway and a fast lane closure on the other.
- (ii) The above allowable wind speeds may be increased by 5 mph if the wind is a head or tail wind i.e. blowing along the bridge in a due East or Westerly direction.

- 3.14.6 **Closure** - If a full closure is decided upon, the duty officer will:
- ▶ Arrange for warning and diversion signs to be deployed and for the bridge to be close.
 - ▶ Inform all listed in the Contact List contained within the FCC Winter Maintenance Operation Plan handbook which is issued to all nominated personnel.
 - ▶ The police will inform the media and other emergency services of the closure
- 3.14.7 If a lane closure is decided upon the Duty Officer will arrange this and inform FCC Street works Section and the Police.
- 3.14.8 **Monitoring** - If it is decided that no immediate action is required, the situation shall be monitored by the Duty Officer until the risk of high winds has receded.
- 3.14.9 If a restriction/closure is implemented the Duty Officer shall monitor the situation and contact the Police to keep them informed of the anticipated re-opening time.
- 3.14.10 **Re-Opening** - When the weather improves the Duty Officer shall decide on a time for the removal of any restriction. PA can give advice on timing of reducing wind gust speeds.
- 3.14.11 The Duty Officer shall arrange for the removal of signs, cones and diversion signs used for the closure and inform the FCC Street works Section & Press Office, Police, Shotton Paper and FCC Business Development when the bridge is re-opened.
- 3.15 Flooding**
- 3.15.1 **Forecasts** - Weather forecasts are received daily via e-mail from MetDesk for the next 3 days. The service is also in receipt of national flood guidance alerts. These should be reviewed daily by the Duty Officer to anticipate likely impacts and resources required to respond.
- 3.15.2 The nature of flooding tends to be very localised and is difficult to predict accurately, however resources will be allocated to inspect known hotspot and drainage infrastructure prior to forecasted events.
- 3.15.3 The Duty Manager should refer to the Flintshire County Council Sandbag Policy when considering the prioritisation of requests.

4 | Risk Assessment

- 4.1 The winter maintenance service has undertaken various risk assessments on the provision of road surface treatments as follows:
- ▶ Precautionary Treatment on Priority 1 Roads

- ▶ Salting on Priority 2 Roads
- ▶ Salting on Priority 3 Roads
- ▶ Salting Town Centre Footways
- ▶ Salting footways with low footfall
- ▶ Salting Council maintained Car Parks

5 | Background Documents

5.1 The additional documents outlined below provided further detail and background information relating to the contents of this policy:

- ▶ Highways Act 1980
- ▶ Railways and Transport Act 2003
- ▶ Traffic Management Act 2004
- ▶ Code of Practice for Well-managed Highway Infrastructure (2016)
- ▶ Quarmby Report – July 2010
- ▶ Trunk Road Maintenance Manual
- ▶ Welsh Government Advice Documents
- ▶ WLGA Advice Documents