REVIEW OF GRITTING AND WINTER MAINTENANCE

1. Objectives of the review

1.1. To review the Performance of Winter Maintenance and Gritting through the severe weather events of December 2009 and January 2010.

1.2. To Examine the relevant Contracts and Management Arrangements with a view to potential improvements

1.3. To develop actions and to ensure that the council is better prepared for further similar extremes of winter weather and consideration is given to the level of resources the council wishes to invest.

2. The extreme weather events
The current cold weather is the most prolonged spell of freezing conditions across the UK for 29 years. These are exceptional weather conditions - the period of cold weather has been the most prolonged spell of freezing conditions across the UK since December 1981 – the Department for Transport has been working with the transport industries, local authorities and salt suppliers to do everything possible to minimise the disruption caused. Source: MET OFFICE STATEMENT (13-1-2010)

Severe disruption has however been experienced by every local authority in the UK affecting the availability staff in the workplace, customers for businesses and all of the core services provided to the community by third sector, business, the local authority and partners. Over the past 7 years the average snow fall for the North West as a whole has been 3 to 4cm, the running total for this winter, so far (at the start of Feb), is 39cm, which gives an indication of how different the winter of 2009/10 has been.

The Department for Transport communicated the following information against particular areas of concern:

- **Transport**
  “People should check routes before they travel. DfT have agreed to a temporary, and limited, emergency relaxation of the enforcement of EU drivers’ hours and working-time rules for drivers involved in the distribution of road salt, animal feed from animal feed manufacturers, de-icer products direct to airports, heating oil and liquid petroleum gas (LPG) and bulk milk tankers These relaxations are intended to help essential deliveries through to maintain vital services during the exceptional circumstances of the extreme weather conditions”.

- **Health and the NHS**
  “The NHS has plans in place to deal with winter. Ambulance services are under considerable pressure during this period of inclement weather and are working hard to reach patients as quickly as possible, prioritising those with immediately life threatening conditions. During times of increased demand, we all need to think responsibly about whether our health issues are a genuine emergency and use NHS resources carefully. Remember that medical advice is available by phone through NHS Direct on 0845 4647”.

- **Schools**
  “Around 2,600 schools were closed on Wednesday 13 January – significantly higher than Tuesday’s figure of just over 100 (because of further snowfall), but well below around 10,000 at the end of the previous week. Closure is a matter for local decision, generally by head teachers, but DCSF hope that most closed schools can reopen in a day or two. So far DCSF has not received any reports
REVIEW OF GRITTING AND WINTER MAINTENANCE

that schools are unable to run exams or find alternative exam centres. DCSF are keeping the situation under review with Ofqual and the Awarding Bodies”.

- Waste
There has been local disruption or delay to waste collection. Councils should adopt their business continuity plans to maintain essential services as far as they are able and communicate any alternative arrangements to their residents. Defra continues to work with local authorities, the Environment Agency and the waste industry and is monitoring the situation.

“We will do all we can to support and encourage people helping out in their communities. Our key priority is to keep open the core transport networks – national and local.” Lord Adonis Oral Statement House of Lords - 11/1/10

Key Links
Met Office: http://www.themetoffice.org.uk
Department of Transport: http://www.dft.gov.uk
Department for Children Schools and Families www.DCSF.gov.uk
Teachernet: http://www.teachernet.gov.uk
Department for Work and Pensions : www.dwp.gov.uk
Department for Health www.dh.gov.uk
Defra: www.defra.gov.uk

3. **What were the plans? (See Appendices 1, 2 and 3)**

The Duty on Local Authorities to conduct Winter Maintenance is framed in the *Well-maintained highways: code of practice for highway maintenance management* (Available from TSO (The Stationery Office) PO Box 29, Norwich NR3 1GN Tel 0870 600 5522 Text telephone for those with impaired hearing 0870 240 3701 e-mail book.orders@tso.co.uk.

The Code of Practice requires a Winter Service Policy to be developed by Local Authorities with regard to a specific scope of requirements. Our latest policy document, the “Winter Service Operational Plan 2007/2008” was developed by Environmental Management when they operated the primary responsibilities for Winter Maintenance (See Appendix 2). The Impact Partnership currently manages the Winter Maintenance through a contract with Balfour Beatty (See Appendix 3 - Key Extracts from the Contract Highway Maintenance Contract with Balfour Beatty June 2009 – 2013) Impact Partnership planned to start this winter period with 1000 tonnes of salt.
The other 9 AGMA authorities detailed their minimum salt levels in their Winter Plans for comparison as follows:

- Tameside 1600 Tonnes
- Wigan 800 Tonnes
- Oldham 3500 Tonnes
- Bolton 2000 Tonnes (actually started 2009 with 3500 Tonnes)
- Trafford 1500 Tonnes
- Manchester 1700 tonnes
- Salford 500 Tonnes
- Stockport 1000 tonnes
- Bury 1000 - 2000 Tonnes

The Winter Maintenance service was originally undertaken by the Environmental Management service. This was contracted out to McAlpine, subsequently Carillion particularly for out of hours support in the period prior to the current contractual agreement via the Impact Partnership with Balfour Beatty.

The fleet and equipment aligned to the current contract with Balfour Beatty for the borough of Rochdale is as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Capacity</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanently Mounted Gritters</td>
<td>6 m³</td>
<td>7</td>
</tr>
<tr>
<td>Loading Shovel</td>
<td>~</td>
<td>1</td>
</tr>
<tr>
<td>Salt Spreaders (pedestrian operated)</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Huskies - Gritters/brine spreaders</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>F/way</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quick Fit Snow Ploughs</td>
<td>~</td>
<td>7</td>
</tr>
</tbody>
</table>

This is the same level of vehicles as in 2007/08. It however gives much greater capacity to spread than the 2007/2008 resource due to the increased efficiency and spread capability of the new vehicles used. Each gritter is capable of gritting a 45 kilometre route in 2 hours (subject to traffic and weather factors on each trip).

During the period of disruption comparisons were raised with Calderdale. Calderdale operate 26 gritters, 15 tractor ploughs and utilise 600 grit bins for their requirements (compared to 418 in the borough of Rochdale and 38 in Manchester). This represents a larger area of 140 square miles with a hilly topography.

Impact Partnership’s Director of Highways stated that the intention from the outset of this winter period was to update the policy document at
the end of their first winter maintenance period based on a review of how it operated in practice.

The budget for winter maintenance is detailed below against the year 2008/09. This baseline was used to inform the value of the contract established with Balfour Beatty around the £367,000 value.

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAGES OVERTIME</td>
<td>19,300</td>
</tr>
<tr>
<td>NAT INS WAGES</td>
<td>1,900</td>
</tr>
<tr>
<td>SALARIES OVERTIME (STANDBY PAYMENTS)</td>
<td>37,900</td>
</tr>
<tr>
<td>NAT INS SALARIES</td>
<td>2,500</td>
</tr>
<tr>
<td>SUPERANNU - SALARIES</td>
<td>5,000</td>
</tr>
<tr>
<td>INSURANCE-EL/PL/PA</td>
<td>1,200</td>
</tr>
<tr>
<td>SERVICE PENSION COSTS FRS17</td>
<td>3,100</td>
</tr>
<tr>
<td>FUEL</td>
<td>26,400</td>
</tr>
<tr>
<td>MAINTENANCE (Internal recharge from gardener's workshop)</td>
<td>4,200</td>
</tr>
<tr>
<td>WEAR AND TEAR</td>
<td>9,000</td>
</tr>
<tr>
<td>CONTRACT HIRE (leasing/long term hire arrangement)</td>
<td>69,300</td>
</tr>
<tr>
<td>EXTERNAL HIRE</td>
<td>10,700</td>
</tr>
<tr>
<td>TRANSPORT OVERHEAD ELEMENT OF CONTRACT/EXTERNAL HIRE CHARGE</td>
<td>5,200</td>
</tr>
<tr>
<td>CAR ALLOWANCES</td>
<td>2,900</td>
</tr>
<tr>
<td>HIGHWAYS CONTRACT</td>
<td>82,900</td>
</tr>
<tr>
<td>SERVICES - GENERAL</td>
<td>6,500</td>
</tr>
<tr>
<td>MISC CHARGES</td>
<td>3,800</td>
</tr>
<tr>
<td>CONTRIBUTION TO PROVISIONS (USE OF SALT STOCK/SALT BINS)</td>
<td>88,900</td>
</tr>
<tr>
<td>APPORTIONMENT OF M&amp;SS ACCOUNT</td>
<td>16,000</td>
</tr>
<tr>
<td>INTERSERVICE ADMIN MGT CHARGE</td>
<td>19,300</td>
</tr>
<tr>
<td>INTERSERVICE PROPERTY CHARGE</td>
<td>5,300</td>
</tr>
<tr>
<td>ALLOCATION TO A RESERVE</td>
<td>1,100</td>
</tr>
<tr>
<td>Totals</td>
<td>422,400</td>
</tr>
</tbody>
</table>

Total budget which could form part of new winter maintenance contract 367,000
Total Budget which would be retained by Environmental Management 55,400
Budgets requiring further investigation (assume will remain with Council) 0

4. How did it operate in practice?

Rochdale’s experience has been typical of many local authorities in the AGMA region and throughout the country. The extremes we have recently experienced have undoubtedly been challenging and have caused severe problems. The opportunity that this gives to understand the limitations of our operation, which is mainly resourced for ice and moderate snowfall, is now being taken. This review is aimed to learn where there were problems and to propose actions to address these.

The national issues around shortages of salt stocks have demanded a focus on priority routes only and the extremely rapid and heavy fall of snow has been untypical and re-enforced the need for a priority based approach.

The Council experienced local issues in part due to the 1st year operation of a new contracted relationship and in previous years in part due to a period of transition over the supply and storage of salt stocks.
4.1. The Balfour Beatty contract terms plans and policies have been drawn together in line with the code of practice (Appendix 1, H) and the previous operation of the service by Environmental Management (Appendix 2). The communication and reporting arrangements between Impact and Balfour Beatty are defined contractually and have been enacted via “clear, timely and accurate instructions to the Duty Winter Manager” (Source: view of contract leads for Impact and Balfour Beatty). Relations at the early stages of this contract are supportive and pragmatic towards the need to make the service work in practice. There are however areas of operation which are not in line with the quality statement and can be improved.

The storage facilities for salt and grit are limited and in some instances unsuitable:

4.1.1 Entwistle Road has a very little cover (sufficient for 200 tonnes of salt). It can however hold in excess of 2000 tonnes of stock for short term storage (due to the lack of cover which leads to leaching and deterioration of salt) It is at the end of its use by Rochdale for this purpose and will not be available next year. Princess Street is unsuitable due to the residential setting and presents a very limited capacity of 260 tonnes. This is only sufficient for a day of heavy gritting.

4.1.2 The salt stock handed over from Environmental Services (approximately 900 tonnes allowed to fall to 693 tonnes by December 2009) was subject to testing for its suitability, which it passed but in practice it was notably less effective than the replenished stocks later in December 2009 (a mix of old and new salt could have increased it’s effectiveness). Leaching due to prolonged exposure to the elements was almost certainly the cause of its deterioration prior to its use in December 2009. Greater levels of salt stocks would have resulted in more extensive gritting of the lesser routes and pavements but only in the period prior to the government restrictions, which still apply.

4.1.3 Rochdale M.B.C order and control the procurement and issue of the salt via the Impact partnership and Balfour Beatty distribute it in line with the management instructions. This arrangement brings an added complication, requiring continual administration and coordination. This was especially apparent at the time when quantities of grit were issued on a priority basis directly to Environmental Services staff to react to the emergency calls for gritting. Administration and coordination around the issue of grit at this time were compromised and critically dependent on one key individual working for Balfour Beatty.

4.1.4 The ICT systems used by Balfour Beatty do not offer a remote, real time view of where the gritter is and the level of grit applied to roads from its GPS system. This does not allow an
understanding of what proportion of the route it has achieved at a particular point in time. The quality statement stating that “GPS information is viewed through the website with a unique password protected portal entry” is not happening in practice. The information is aggregated later from very detailed data files by an administrator to match the instruction to the activity. This has provided detailed evidence of gritting in hindsight to this review but it would be much more useful as live information at the time when the gritters are on the road linked to web based maps.

4.1.5 Around the first instance of extreme weather (on or about 16th December) the schedule 12 gritting instructions were issued in line with the code of practice and contractual recommendations. This work was completed (evidenced by detailed GPS data records) but may have been much less effective than expected due to the quality of the salt used.

4.1.6 Impact Partnership ordered 300 tonnes of Salt on 3rd December, 1000 tonnes of Salt on 15th December and 2000 tonnes of Salt on 5th January 2010. By 21st December we only had 99 tonnes of grit stock available (Appendix 6) which was a critically low amount way below a reasonable contingency level, especially as the poor weather conditions were set to be sustained (500 tonnes of grit were used between the 14th and 21st December leading to this situation). Full delivery of an order for grit placed earlier in the month had not been received and there were continuing delays in delivery of grit from subsequent orders. The management decisions at this point became critically dependent on the ability to secure more salt resource. This was achieved but stock levels remain extremely low in view of the weather forecasts for the rest of winter. Typical grit stock is quoted as 2000 tonnes by Environmental Management with 1600 tonnes being Rochdale’s historical lower threshold for contingency.

4.1.7 The reason for the low level of salt stock was that on behalf of the Council, the Impact Partnership has been developing an option to link with the Highways Agency for the provision of salt from Junction 21 of the M62 in this and future winter periods. This negotiation with the Highways Agency and their Operator A1+, was expected to have been positively resolved prior to the recent weather events and would have meant that we had a much more resilient capability available. The delay in securing this relationship has led to a dependence on existing facilities which are acknowledged as far less than ideal. This area of work is fundamental to the resilience of the winter maintenance response for the borough.

4.1.8 The contract defined 418 grit bins of which 28 are RBH’s. Grit bins were subject to a survey by Impact Partnership at the start
of the operational winter period. This survey found only 289 bins in the places where they were expected, 129 bins were missing. The resolution of this situation against an evolving understanding of where the bins were best placed in each case leaves around 462 bins believed to be in use at the moment, most of which should be filled weekly (when salt stock allows). The policy needs to be better defined and the practice around grit bins needs to be quickly resolved...

4.1.9 The list of bins and locations was passed to Balfour Beatty in alphabetic order, rather than organised against the priority routes or previous maintenance practice. This made the initial activity from the contractor more time consuming than it needed to be.

4.1.10 Grit bins were stolen and inappropriately emptied for extensive use on domestic driveways continually through this winter period. This accelerated the shortage of grit and was allegedly worsened by “traders” recognising the market value of bags of grit and selling on the stock which was issued and stealing the bins. Many authorities have low levels of grit bins for these reasons e.g. Manchester City Council has only 38 grit bins which it maintains. Further bins can be ordered and maintained by the community at their cost.

4.1.11 Environmental Management staff were engaged quickly by their service managers, clearing snow and gritting in cemeteries and around sheltered accommodation. The coordination of this gritting resource with Balfour Beatty’s was however slow to start due to a lack of pre-arranged practices in support of the new contract. The joint working largely relied on the direct instruction from one key member of Balfour Beatty staff as they picked up grit from the depot.

4.1.12 The Call Centre is updated by a 24hour forecast and sheet setting out the gritting instructed each afternoon. This is updated on a White Board each afternoon and by Emails to operatives. Balfour Beatty notify the centre directly if additional grit spreaders are deployed “out of hours”. The re-filling of grit bins does not yet form part of this update. There remains uncertainty over the approved locations for grit bins set against their current locations in the borough.
5. Feedback from stakeholders (see Appendix 4 and 5)

Appendix 4 draws together the extensive comments from Townships drawn together by the Township Chairs and Township Managers. Appendix 5 shows extracts from the communications via the web and from political publications.

Comments complaints and recommendations were directed via a host of offices and call entry points to the local authority. Councillors supported the coordination of comments directly in communities with citizens and sought to direct a response towards emergencies. The web and call centre experienced a huge increase in traffic volumes. The call centre fielded 6117 calls in late December related to the winter events compared to 2921 during the same period 2008 (109% of additional demand). The web communications were similarly challenged

- Between 23 December and 17 January there were 9085 page views to the page called 'Latest: Gritting’ – the page views peaked on 5 January 2010 at 2,559 in one day. Customers have also been interested in other gritting related pages on the website such as priority gritting routes.
- The gritting information was linked from the home page to www.rochdale.gov.uk/snow.
- A website satisfaction survey was added to the “latest on gritting” page Customers were given the opportunity to subscribe to pages so that they were alerted by email each time there was a significant update to the page (736 citizens had subscribed @ 13 January)
- Gritting routes were added to the website albeit not until several days of snow had fallen.
- Regular gritting updates were added to the website from 23 December 2009.
- A headline was added to the intranet to link to the information on the website using the principle of create the content once and link to it many times.

The extreme weather severely affected the waste and recycling collection service, which was suspended on 2 occasions. These problems were exacerbated by the fact that the severe weather occurred over the Christmas and New Year period, when there are alterations to the normal collection days and dates. The remit of this review does not extend to this area but the Head of Environmental Management will be preparing a review of these issues and actions to minimise any problems arising from exceptional severe weather conditions.
6. **Recommended action plan**

In looking at the future actions in terms of resource and budget we need to assess the probability and risk. This will determine what the borough wide response is in practice.

If we were to gear up to cope entirely with the weather conditions just experienced (the worst for 29 years) there will be severe financial consequences.

It is the view of Balfour Beatty and the Impact Partnership that if there had been no issues with salt stocks that the existing vehicles and provision would have been sufficient. This view is based on the existing routes associated with the contract. The view of the authority is that clearly the routes need to be amended as they do not include some critical areas.

**Routes**

6.1.1 Complete review of the Routes – Including consultation with Townships and Partners and Stakeholders (including thermal mapping data and intelligence from Environmental Managements’ previous reviews)

6.1.2 Physical checking of routes and the emerging effect of the weather has been extensively undertaken by Impact staff to avoid over reliance on the Met computer modelling. This is defined in a local procedure. The reports from this current best practice behaviour should be drawn together more coherently for record keeping and to inform future practice.

6.1.3 The contractual instructions to grit need to bear in mind the physical location of the drivers e.g. keeping them in the Borough on standby when snow is forecast rather than being called from home and delaying the start of gritting.

6.1.4 Ensure a clear protocol for gritting to support emergency and infrastructure services, major industrial estates and key economic areas, linked to the transport providers.

**Gritting/salt**

6.1.5 Ensure that the optimum amount of grit is ordered, appropriately stored and laid to match the conditions. A regular feedback of outcomes for stakeholders needs to continually improve practice (Note 1: Salt stored under cover is significantly more effective than salt stored in the open and can be stored for several years, without deterioration). (Note 2: The national salt market has failed to deliver salt in accordance with the Local Highway Authorities SLA’s both this year and last).
6.1.6 Gritters to be sent out in the optimum traffic flow times. (If gritters stop and start too much the spread of the grit is patchy and unsatisfactory, typically problematic at school times).

6.1.7 Clear pre-prepared duties for Environmental Management Staff should be available if the snow means that they are unable to perform their usual function. Clear triggers are required to speed up their response and smooth the operational requirements at a time of high need.

6.1.8 Ensure that only effective quality grit is stored under cover or preferably in appropriate barns and used.

6.1.9 Review the use of Grit Bins considering criticality, gradient and level of confidence in the security and appropriate use of the grit. Priority routes which are gritted may not in practice require additional or any bins.

6.1.10 A policy on grit bins needs to be established and clearly published.

6.1.11 Consider the use of mechanical devices to effectively spread grit on paved areas.

6.1.12 The quality statement described routes and gritting instructions being available via a portal in real time. If this was established via a web based map (e.g. via GIS) it could quickly inform stakeholders of the current situation.

**Management and budgets**

6.1.13 It would have been beneficial to have a full lessons learned review from Environmental Management managers to draw together views from a core of experienced providers. This could have signalled the way to deal with operational nuances and critical periods in more detail than specified in the contract. This should be carried out as a matter of urgency.

6.1.14 All forms of Communications via the web, call centre, services, townships, partners and community representatives need to be linked to the recommendations and the latest policies, practices and information developed in response to winter maintenance.

6.1.15 The budget and resources be reviewed and re-aligned in line with the view of a proportionate response to the risks of future weather requirements (e.g. greater variance and extremes associated with climate change)

6.1.16 Examine the responsibilities and roles further with the contractor (e.g. would a single contract manager from the local authority free up more capacity or increase the risks?)
6.1.17 Examine the numbers of gritters, snow ploughs and staff available to be deployed and consider the appropriateness of this resource in view of the risks.

6.1.18 Link the emergency response to very extreme weather conditions more firmly into the business continuity planning for the borough. The governance, pre-prepared scenarios and maintenance of the contact details of key individuals typical of business continuity processes will focus the resources and draw in valuable support at the point of need.

6.1.19 A clear corporate lead be identified on the coordination of services through heavy snow or ice to coordinate resources towards the priorities and to aide clear communication which is proportionate to all stakeholders.

6.1.20 Grit is currently provided by RMBC to Balfour Beatty without a suitable storage and distribution environment. There is a need urgently to resolve the issues with the options from Highways Authority (Junction 21 M62) or ascertain other alternatives e.g. build or lease of Salt Barns or shared provision in partnership with other authorities.

7. Resources

7.1 In previous years it was well understood that levels of work undertaken are driven by the weather and road conditions and that adherence to the budget will not be at the expense of detriment to the community at large.

7.2 The practice in this period has remained aligned to the budget probably largely due to the lack of salt capacity which has limited the approach to absolute priority areas. This is replicated nationwide.

7.3 Further consideration of the budgetary implications of the foregoing actions will need to be assessed once all the work in the action plan is completed.