

**REPORT TO:** CITY DEVELOPMENT COMMITTEE - 24 SEPTEMBER 2012

**REPORT ON:** WINTER MAINTENANCE REVIEW AND POLICY AND LEVEL OF SERVICE 2012/13

**REPORT BY:** DIRECTOR OF CITY DEVELOPMENT

**REPORT NO:** 365-2012

## **1 PURPOSE OF REPORT**

- 1.1 The purpose of this report is to outline the improvements to the service following the winter maintenance reviews carried out following the winters of 2009/10 to 2011/12. The report also explains winter maintenance operations and seeks Committee approval of the proposed winter maintenance policy and level of service for winter 2012/13 outlined in Appendix 1.

## **2 RECOMMENDATION**

- 2.1 Committee is asked to note the proposed improvements to the winter service provision and approve the policy and level of service for winter 2012/13 as outlined in this report.

## **3 FINANCIAL IMPLICATIONS**

- 3.1 The winter maintenance budget for 2012/13 is £1,542,000. The demand on the budget is subject to weather conditions and every effort will be made to contain expenditure within the overall budget. Expenditure will continue to be monitored weekly and reported to the Director of Corporate Services during the winter months.

## **4 BACKGROUND**

- 4.1 Reference is made to Article IX of the City Development Committee of 26 September 2011 where, following the severe winter of 2010/11, there was a detailed review of the winter service and a number of recommendations for improvements/amendments to the service were approved.

Below is a summarised list of improvements implemented following the winters of 2009/10 and 2010/11:-

### Plant Resource Review:

- Improvements made to footway plant resource to improve performance in snow conditions.
- Full review of winter maintenance plant with appropriate improvements made where necessary. Eg 4x4 gritter, additional pick up gritter, ploughs purchased for pick up gritters, mini ploughs power uprated, purchase of ploughs and spreaders for additional resource.

### General Policy Review

- Reviewed carriageway priority routes to include additional criteria, eg. school routes added to carriageway priority routes, along with improvements to clearance of industrial estates.

- Consultation with key Council stakeholders e.g. Environment, Education, Social Work, Housing etc.
- All council assets considered for treatment within the policy and system of priority clearing established i.e. education properties, sheltered housing, social work properties etc.
- Plans produced for each property detailing priority clearance and by which resource.
- Minor review of footway routes, with new footway route added within the Balgillo Rd area.
- External resource will be brought in to improve clearance of secondary routes. ie intervention at an earlier stage.
- Established appropriate levels of readiness ie “Green, Amber & Red”, with associated resource identified for treatment.
- Salt conservation measures established to ensure compliance with central government guidance.
- Salt stock reviewed and increased to deal with requirements of an extreme winter event, such as that experienced in 2010/11
- Key car parking areas identified for clearance to prevent congestion on priority routes.

#### Grit Bin Review

- Reviewed and updated grit bin policy.
- Online system introduced to request grit bins and notify when bins required to be filled.
- Improved grit bin filling over the festive period to ensure stocks available for self help.

#### Communication Review

- Carriageway and footway priority routes available to view on council web site.
- Winter manual produced, detailing how winter service would be provided, in particular during a “Red Alert” scenario.
- Updated Council winter leaflet with key policy information and helpful tips.
- Updated Council web site to provide winter page with various useful links and advice.
- List of frequently asked questions and answers provided for customer services team.

#### Training Review

- Additional mini plough operatives trained to support service.

4.2 In line with the annual review process, the Department undertook an internal review of its winter maintenance performance over the winter period of 2011/12. In particular this concluded a full review of the gritting routes for the priority and secondary adopted carriageway footway network.

The outcome of the route review is noted in 4.5 below.

Below is a summarised list of further improvements to be implemented following the 2011/12 review:-

#### Optimisation of Gritting Routes

- Adopted carriageway and footway routes have had a full review with new more efficient routes for all produced.
- The City now has updated gritting routes which cover the whole adopted network (note that further work is required to cover all other non-adopted Council road and footway assets).

#### Other Improvements

- Winter manual updated, with relevant parts issued to appropriate stakeholders.
- “Red” alert clearance of Council properties reviewed.
- Priorities established for treatment of Council properties during an “Amber” alert.
- Plant reviewed and updated as necessary, mini ploughs continue to be upgraded.
- Improved snow plough rubbers to be trialled on two carriageway routes.
- Two footway salt spinners to be trialled to improve salt coverage on footways.
- Trial of salt brine on section of footway at Balgillo.
- Additional external resource to be utilised in extreme ice events.

#### **Established Policy and Practice**

- 4.3 The 2011/12 approved Policy states that adopted carriageways and footways are categorised into priority and secondary routes and are covered for winter maintenance from late October to late March. In adverse conditions, priority carriageways and footways are treated before secondary routes are dealt with and are kept open in preference to secondary routes during prolonged snow conditions. Secondary routes are only dealt with after priority routes have been satisfactorily cleared, although additional resource will be engaged to start this process within 24 hours of a severe snow event occurring. Like carriageways, footways are also categorised into priority and secondary routes. The priority routes cover main thoroughfares throughout the city and in snow or ice conditions, these are treated and, if necessary, re-treated before moving to secondary footways.
- 4.4 There are 550km of adopted roads and 900km of adopted footways throughout Dundee. It is not possible to clear all the roads and footways instantaneously, particularly in snow conditions when the gritters and ploughs have to treat the same sections of roads and footways more than once. Therefore, over 700 grit bins are provided at eligible locations such as steep gradients, bends, steps and those adjacent to sheltered housing. The bins are replenished with grit/salt whenever staff resources allow, for use by the public on a self help basis, but should not be used for treating private property.

#### ***Route Reviews***

- 4.5 In order to make best use of available resources it is necessary to operate a priority system for the treatment of carriageways and footways as detailed above. Strategic routes including important bus routes, important commuter routes, roads serving

hospitals, ambulance stations, fire stations, shopping centres, schools, and major industrial centres are classed as 'priority routes' and, accordingly, are given a higher level of service and priority over the 'secondary routes'. In the same way footways are classed as priority or secondary taking into account the level of pedestrian usage.

Priority routes are:

- given extended winter maintenance coverage
- treated before secondary routes
- during prolonged snow conditions are kept open or are opened up in preference to secondary routes.

Secondary routes are:

- given a lesser winter maintenance coverage than priority routes
- treated after priority routes
- dealt with after priority routes have been satisfactorily cleared during prolonged snow and extreme ice conditions.

A full review of carriageway and footway routes has been carried out from first principles using route optimisation software.

As part of the review it has become clear that a new category of carriageway route requires to be introduced for cul de sacs due to the smaller plant generally required to treat and clear these areas. As such it is proposed that:

Cul de Sac routes are:

- given the same winter maintenance coverage as secondary routes
- treated after secondary routes
- dealt with after secondary routes have been satisfactorily cleared during prolonged snow and extreme ice conditions.

It is proposed that an additional external resource will be employed to assist in the clearance of cul de sacs.

The route optimisation review has been particularly successful and identified a number of roads not being covered and refined the routes such that previously 600km was being travelled to cover 350km of priority route whereas now, only 400km will be travelled. This means that the priority network will be treated more quickly and efficiently than before which then enables the secondary routes to be tackled earlier.

From the review, new priority, secondary and cul de sac gritting routes have been produced and recorded electronically. This means that changes can be made as required much more easily. Routes are being recorded onto satellite navigation systems in each gritter to direct the driver along the prescribed route which ensures that other drivers can easily drive the route if required.

The same route optimisation process is currently being carried out on the adopted footway network. Again, early results are encouraging and it is anticipated that once the priority routes are set, time and route coverage savings will accrue allowing the secondary routes to be tackled earlier than in previous years. The footway gritting review will be completed in time for the 2012/13 winter service provision.

### ***Winter Maintenance Policy and Level of Service***

- 4.6 The proposed Winter Maintenance policy and level of service for 2012/13 which takes account of all of the foregoing is attached as Appendix 1.

## **5 CONCLUSION**

- 5.1 The Council has a statutory duty to take such steps as it considers reasonable to keep public roads safe during adverse winter weather. The Council is also committed to delivering an effective and responsive winter service and a significant number of improvements have been introduced following the experience of dealing with the severe winters in 2009/10 and 2010/11.

## **6 POLICY IMPLICATIONS**

- 6.1 This Report has been screened for any policy implications in respect of Sustainability, Strategic Environmental Assessment, Anti-Poverty, and Risk Management. There are no major issues.
- 6.2 An effective and risk prioritised Winter Maintenance Strategy reduces the likelihood of injury to vehicular and pedestrian traffic and as such supports the Council's Risk Management Policy.
- 6.3 An Equality Impact Assessment has been carried out and is available on the Council website <http://www.dundee.gov.uk/equanddiv/equipact/>.
- 6.4 Winter maintenance is an expensive operation and the Director of City Development will continue to investigate new methods/systems that may offer opportunities to reduce costs.

## **7 CONSULTATIONS**

- 7.1 The Chief Executive, the Director of Corporate Services and Head of Democratic and Legal Services have been consulted and are in agreement with the contents of this report.

## **8 BACKGROUND PAPERS**

- 8.1 None.

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FW/DMcK/ES

14 September 2012

Dundee City Council, Dundee

**DUNDEE CITY COUNCIL**

**CITY DEVELOPMENT DEPARTMENT**

**ROAD MAINTENANCE PARTNERSHIP**

  

**WINTER GRITTING**

**& SNOWCLEARING SERVICES**

**POLICY STATEMENT**

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## WINTER MAINTENANCE POLICY AND LEVEL OF SERVICE 2012/2013

### 1 POLICY

- 1.1 Dundee City Council will operate a priority system of winter maintenance which, as far as reasonably practicable, will permit the safe movement of vehicular and pedestrian traffic on the more important parts of the road network while minimising delays directly attributable to the adverse weather conditions and will aim to provide a suitable level of service on footways subject to available resources.
- 1.2 The objective of this policy is to enable the Council to comply with its statutory duty to:-
- “take such steps as they consider reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads” (Roads (Scotland) Act 1984).**
- 1.3 As part of the Road Maintenance Partnership, Tayside Contracts operate and maintain a fleet of dedicated winter maintenance vehicles to carry out winter maintenance operations on the adopted roads and footways maintained by Dundee City Council City.
- 1.4 These roads and footways have been prioritised as priority, secondary or cul de sac depending on their strategic importance etc as referred to later in this report.
- 1.5 Winter maintenance is an expensive operation and the Director of City Development will continue to investigate new methods/systems that may offer opportunities to reduce costs.

### 2 SERVICE PROVISION

#### Operating Period

- 2.1 The winter operating period will run from October until April each year.
- 2.2 The “core” period for 24 hour continual monitoring and operating will run from the middle of October until early April with secondary and cul de sac route additional support resource and footway operations commencing at the middle of November until the middle of March, the exact starting and completion dates to be established each pre winter season and as currently detailed in Appendix A.

#### Service Provision

- 2.3 During this period, Tayside Contracts, the operational arm of the Road Maintenance Partnership, as principal service provider, will provide the necessary resources (including suitably trained personnel) in order to achieve the required standards. These resources cover priority secondary and cul de sac carriageway routes. Appendix B details the resources in place to deliver the winter service. Appropriate arrangements will be made to ensure a continuity of service during the festive season and other holiday periods.



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- 2.4 During the winter period, the Road Maintenance Partnership will operate a 24 hour winter service, using weather forecasts, road and weather monitoring data supplied through competitive tender.
- 2.5 The primary focus of the Road Maintenance Partnership is to manage the overall winter service and to directly provide an effective roads gritting & snow clearing service. To deliver this service, operatives' standby arrangements will be made which are suitable and sufficient to meet the defined standards of service required. It is expected that standby personnel will be at their base, fit for work, within 1 hour of receiving a call. The standby period for operatives will normally be consistent with the "core" winter period as defined in Section 2.2 above and as detailed in Appendix A.
- 2.6 In severe winter conditions, a carriageway secondary and cul de sac route snow clearing service is provided by external resources procured through Tayside Contracts, to work under the direction of Road Maintenance Partnership staff. Eight tractors and drivers will be employed on a standby basis. These will be deployed dependant on conditions and forecast, although one could be allocated per council ward if operationally viable and conditions allowed. It is intended that this resource will be deployed in severe winter conditions i.e. snow or extreme ice no later than 24 hours after initial treatment has started
- 2.7 A footway gritting and snow clearing service is provided by the Environment Department engaged by means of an agreed Service Level Agreement to work under the direction of Road Maintenance Partnership staff. A standby service for winter footway action on weekday, public holidays and weekends is in place as defined in Appendix A.
- 2.8 When severe weather conditions prevent normal outdoor activities such as grass cutting, grounds maintenance and various construction related work, such available resources are allocated to winter services as required. A priority system along with associated resource has been identified to address the clearance of snow in those areas of roads and footways within and around schools, sheltered housing, social work and SCIOS properties. In liaison with the various departments a priority order of snow clearance has been established and each property categorised into operational priorities 1, 2 and 3. By prioritising the properties into priorities 1, 2 and 3, this gives most flexibility to react to varying circumstances. In the event of extreme winter conditions, the Chief Executive will call an emergency meeting of appropriate Chief Officers to determine the appropriate priorities at that time. Ordinarily, schools will be given priority. Sheltered housing and social work properties will follow, with priority 1's cleared first, then priority 2's and then 3's. Plans have been prepared for each property which clearly show the routes and areas to be cleared and which resource will be used to clear each. e.g. Roads - mainline gritters, Footways - Environment Dept, Environment Dept Additional resource – agreed areas around priority Council properties, Internal footpaths - facilities staff. Such additional employees from the Environment Department are allocated to the most appropriate activity and directed by Road Maintenance Partnership staff to assist in the delivery of a prioritised winter service The agreed resources to be provided by the Department are also detailed in Appendix B.

**Sub-contractors**

- 2.9 In "Red Alert" circumstances, such as extreme weather i.e. heavy/drifted snow and extreme ice, external contractors and other resources, such as JCB's, diggers, tractor ploughs etc may also be engaged. These will be procured through existing arrangements with Tayside Contracts.

**Salt Resilience/Storage**

- 2.10 Salt is purchased each year to restore stocks to a level sufficient to meet the anticipated requirements for treating the road network and these stocks are closely monitored and controlled with restocking ordered as necessary throughout the winter to maintain agreed stock targets.
- 2.11 6mm marine salt is predominately used on the network and is currently stored uncovered at Marchbanks depot. Although considerably more expensive than indigenous rock salt, the characteristics of marine salt mean that it can remain uncovered and still perform well throughout the winter. Indigenous rock salt that is left uncovered does not flow well through gritting equipment when the moisture content increases and therefore cannot be exposed to the elements for any length of time, without affecting its performance.
- 2.12 Savings could be made if salt was stored undercover as this would allow both marine salt and indigenous rock salt to be used. Having the ability to store different types of salt, also means that there is not a reliance on an individual source, which was one of the recommendations in the UKRLG 2009 report.
- 2.13 As part of future development of Marchbanks Waste Management facility, the relocation of salt stocks to accommodate new storage and wash bed facilities continues to be considered. If this development progresses, future salt will be stored under cover maximising its use however, until this time the salt will continue to be exposed to the elements
- 2.14 As recommended by the UKRLG 2009 report, appropriate resilience has been set to meet supply and demand of salt. With Tayside Contracts procuring salt for the three surrounding councils this has never been an issue. However, decisions have been taken to implement formal resilience based on the 2009 recommendations and the experiences of 2009/10 and 2010/11 winters. The number of days of resilience is determined by each Council depending on re-stock arrangements e.g. in Dundee salt is delivered by sea, arrangements with Tayside Contracts and available depot storage space. As shown in Appendix C, the minimum stock level during the winter period is determined at 2,340 tonnes.
- 2.15 Following the experiences of salt usage in 2008/09, 2009/10 and 2010/11, the Dundee salt holding at the commencement of winter has been set at the revised maximum storage available i.e. 8500 tonnes, with an additional 1500 tonnes stored at an alternative location, taking the total salt available to 10,000 tonnes.

### **3 SERVICE PROVISION**

#### **Weather Forecasting Information**

- 3.1 The City Engineer will receive a road related weather forecast specific to the City early each afternoon during the winter maintenance period to assist him in deciding if Tayside Contracts should treat the roads and footways. Subject to the nature of the forecast, the instruction to Tayside Contracts can be to pre-treat the roads that evening and/or instruct the priority route crews to report to the depot at a specific time the following morning. At that time a more accurate assessment of conditions can be made by the Winter Maintenance Controller using the Ice Prediction System and any updates to the forecast, leading to a decision to either send the crews out or to stand them down.

#### **Road Weather Prediction System**

- 3.2 The Ice Prediction System will also take data from outstations, such as air and road temperatures, precipitation, road wetness and presence of salt, available to the weather forecast provider to refine the accuracy of the forecast, which, in combination with thermal mapping survey information will automatically produce a graphical image of minimum expected road temperatures for the high priority network. This enables selective gritting to be carried out on a route basis when freezing is likely to be restricted to relatively few locations.

#### **GPS Information System**

- 3.3 GPS monitoring systems attached to gritting plant and other selected vehicles has been in operation for a number of years. The use of GPS equipment has provided a number of benefits, including the ability to confirm when roads and footpaths have actually been treated in winter conditions. They have assisted in dealing with enquiries from the public, as well as defending public liability claims. In addition, the information provided will greatly assist in identifying future efficiency savings through improved route optimisation.
- 3.4 Investigations continue to take place in the benefits of upgrading gritters that can follow pre determined routes i.e. like satellite navigation talk through and also automatic salting based on prescribed route conditions. This allows any driver to operate a particular route that he is unfamiliar with and spread salt/grit only when required. The purchase of such equipment will be fully explored as part of the ongoing route review and route optimisation process.

#### **Levels of Readiness**

- 3.5 Three levels of readiness are to be applied throughout the Winter period:

##### **Green:**

- 3.6 'Normal' monitoring and action conditions apply. When sub zero temperatures are forecast over no more than 4 consecutive days to be followed by a thaw, a daily standard action of 10 or 20g/m<sup>2</sup> pre-grits on Priority Routes will be applied. Only staff and workforce whose normal duties include winter action, monitoring and supervision are involved.

**Amber:**

- 3.7 Extended monitoring and action conditions apply. When prolonged freezing conditions i.e. 5-10 consecutive days, snowfall or extreme ice is forecast. Additional staff will be allocated duties to handle extended reporting systems etc. Workforce participation will be extended as appropriate, other Services will be notified for assistance as required, including Emergency Planning, Environment Department and Emergency Services. The state of readiness of plant and equipment will be checked, inspect and replenish grit bins where appropriate.

**Red:**

- 3.8 Full monitoring and action conditions apply. Severe and continued snowfall or extreme ice is forecast endangering the continuity of the infrastructure. Actions as per Amber, mobilisation of additional external resource and supplementary resource from other departments. Full reporting systems in place, including daily status reports to members, Contact Centre, emergency services and appropriate Council Services.
- 3.9 It is the responsibility of the Road Maintenance Partnership Manager to implement the necessary level of readiness (Green, Amber or Red) in relation to ground conditions and forecast information.

**4 PRIORITIES AND TREATMENT STANDARDS**

- 4.1 The basis for establishing priority routes in relation to the formally adopted road network is as follows:
- i All strategic routes
  - ii Main service bus routes
  - iii Other heavily trafficked roads
  - iv Other adopted roads
- 4.2 In order that treatment of major roads (i-iii above) can be provided within an acceptable timescale, the number and length of priority routes must be held to a level commensurate with available resources.

**Night Shift Cover**

- 4.3 A limited night shift cover will operate on certain routes of major importance within Dundee City because of the need to treat these roads outwith priority treatment times.
- 4.4 The night shift will operate from between 21.00 hours and 05.30 hours. With the pre-wetted system, this vehicle can effectively treat strategic roads in marginal conditions.
- 4.5 The night shift crew will be based at Fairmuir Depot and can be instructed to patrol or treat these routes, initially based on the early afternoon forecast. Subsequent forecast updates or changes in actual conditions may result in this instruction being amended by either the Winter Maintenance Controller or a duty standby supervisor (Assistant Controller) depending on the time of this decision.

### Treatment Routes

4.6 The respective categories covered are as follows:

<u>Route Category</u>	<u>Hours of Cover</u>
Priority Routes	0500-2200
Secondary Routes	0730-1600
Cul de sac Routes	0730-1600

Cover may be extended on secondary and cul de sac routes during snow or extreme ice conditions as authorised by the Director or City Engineer.

### Priority Routes

- 4.7 The night shift will operate with 1 crew.
- 4.8 The main standby system will operate for all 14 priority routes.
- 4.9 Specific dates and times of operation are detailed in Appendix A.
- 4.10 As part of the standby system between Mondays to Saturdays, regular early morning reporting at 0400 hours will operate (with the facility to call the crews out as early as 0500 hours for priority routes if conditions dictate). During periods of anticipated relatively mild weather an operational decision may be taken daily to temporarily suspend this, though road temperatures will still be monitored.
- 4.11 On Sundays and public holidays reporting of standby personnel will only be carried out if required.
- 4.12 It should be noted that while the standby crews' initial priorities are as detailed above, some flexibility in the deployment of these standby crews throughout the city is operated, depending upon the prevailing weather conditions and the requirements of the service, but priority routes will still be treated first.

### Secondary and Cul de sac Routes

- 4.13 All resources will initially be concentrated on priority routes, and it is only when these priority routes have been adequately dealt with that resources will be deployed on secondary routes and then cul de sac routes.
- 4.14 In order to improve the service for secondary and cul de sac routes an additional supporting resource will be engaged. In severe conditions, this resource will be engaged to start within 24 hours of priority routes starting.
- 4.15 It is inevitable that many cul-de-sacs do not receive prompt treatment because large purpose-built winter maintenance vehicles have difficulty in manoeuvring due to parked cars and unsuitable turning points. It is thus not practicable to include most cul-de-sacs within priority and secondary gritting routes due to the unacceptable route times which would result.
- 4.16 The supporting additional external resource and the use of 3.5T and 7.5T demount gritters allocated to clearing cul-de-sacs on completion of other priorities will improve

the service to cul de sacs. Where practicable, some main carriageway gritters are also deployed to cul-de-sacs as their through routes are completed.

#### Weight Limited Bridges

- 4.17 There are a number of weight limited bridges in the City. While the above 7.5T demount gritter can be used on several such bridges, it is still too heavy to treat those with 3 tonne limits. A “small” gritter mounted on a pick-up is now used at these locations. After treating these bridges, this equipment is also used to treat the Murraygate and areas of footways around the Overgate. Following completion the gritter will be allocated to assisting in treating cul-de-sacs.

#### Unadopted (Private) Roads/Footways

- 4.18 Following discussion at Committee when the 1998/99 Winter Maintenance Policy and Level of Service Report was approved, investigations were carried out on the feasibility of providing a winter maintenance service on unadopted roads. It was established that quite apart from the problem of insufficient resources, the law made no specific provision to undertake this work and any insurance cover may be invalidated if such work was undertaken. While the general legal position has changed since 1 April 2003 with the establishment of the general “Power to Advance Well-Being” under Section 20 of the Local Government in Scotland Act 2003, the use of any new general powers to extend winter maintenance to unadopted roads would be subject to ensuring that private roads were not given unreasonable priority before any adopted roads, otherwise the Council may be found to be in breach of their statutory duties in, for example, a case brought against the Council by someone injured on a public road due to winter conditions.
- 4.19 The Director of Finance at that time indicated that inevitable/unavoidable damage to unadopted footways and carriageways from winter maintenance operations due to the vulnerability of unmade and substandard surfaces would not be met by the Insurance Fund. The Public Liability insurance held by the Council responds to unforeseen loss or damage rather than inevitable/unavoidable damage. This is standard insurance market practice for this class of cover. In addition, as the Roads (Scotland) Act 1984 makes no provision to carry out winter maintenance operations on unadopted roads the Council’s insurers may question our actions if claims from these areas were brought against the Council.
- 4.20 In view of all of the above and the fact that the Council has insufficient resources to deal with the unadopted network, no provision will be made for treating non Council owned roads and footpaths.
- 4.21 During periods of sustained severe weather identified as ‘Red’ within the level of readiness, assistance will be available through the use of Criminal Justice System offenders for clearing elderly/disabled private paths etc.

#### Adopted Footways

- 4.22 The basis for establishing priority routes in relation to the formally adopted footway network is as follows:
- i Education establishments (secondary, primary and nursery).

- ii Main retail locations (City Centre, Lochee, Perth Road, Albert Street, Hilltown and Broughty Ferry).
  - iii Area Housing offices (East and West).
  - iv Other retail clusters (eg Camphill, Menzieshill, Charleston etc).
- 4.23 In order that treatment of major footways (i-iv above) can be provided within an acceptable timescale, the number and length of priority routes must be held to a level commensurate with available resources.
- 4.24 Adopted footways are also categorised into priority routes and secondary routes. The priority routes are those which the footway snow ploughs deal with first, namely education establishments and shopping areas and main bus routes. Once the priority routes have been treated to a reasonable standard, secondary routes will be dealt with next.
- 4.25 Whilst the Department's aim is to clear all adopted footways, the total lengths involved mean this can take some days, particularly in recurring snow or when ice has formed and daytime temperatures remain very low. In such circumstances, the additional resource from other departments will be utilised to assist in clearing these areas as quickly as possible. In such circumstances however, a number of footways may still be untreated when a thaw occurs.
- 4.26 The fleet of footway tractor ploughs is available during the winter maintenance period to treat ice or snow. Hoar frost on footways will not be treated unless prolonged over a number of days, due to the generally more effective result of normal daytime temperatures in such conditions.

#### Adopted Footways – Priority Routes

- 4.27 During snow or ice conditions these routes will have coverage from 0600 hours to 2100 hours on all days including Saturdays, Sundays and public holidays. Cover outwith normal working hours will be by operatives who participate in the Winter Maintenance Standby Rota.

#### Adopted Footways – Secondary Routes

- 4.26 These footways will have similar coverage to priority routes and will be treated after the priority routes have been adequately dealt with.

#### Grit Bins (Adopted Roads/Footways)

- 4.27 Grit bins are a popular method of providing self-help in the least accessible locations and to deliver this service Dundee provides approximately 700 bins across the city on adopted footways and Council housing footways. It is the Council's current policy that new grit bins will be provided on request on adopted roads/footways, only at locations where the undernoted criteria are met, and that no further grit bins be provided where the carriageway or footway (as appropriate to the request) is not adopted. On Housing Department footpaths, locations based on similar criteria were initially agreed in 2004/05 and a number of further such locations have subsequently been added.

- 4.28 The criteria referred to above are:
- 1 the location is not on a Priority footway gritting route, **AND**
  - 2 the location has a gradient greater than 6%, **OR**
  - 3 the location is on a tight bend (if request relates to carriageway) **OR**
  - 4 the location incorporates a series of steps (within the adopted road boundaries) **OR**
  - 5 the location is within a sheltered housing area and is the main link road to local shops or public transport.
- 4.29 Information relating to the number, location and distribution of grit bins is held at the operational depot at Fairmuir. Following yearly increases in the provision of grit bins, there are now approximately 700 approved locations throughout the city, including approximately 100 on housing footpaths. This information is also available via the Dundee City Council web site.
- 4.30 In new housing developments grit bins are to be provided by the Developer through Road Construction Consents to the agreed specification at appropriate locations.
- 4.31 Following the successful trial in 2008/09 and 2009/10, grit bins are to remain in position throughout the year. In areas of high vandalism, recorded damage or where members of the public have identified a nuisance then these bins will be removed as notified and re-established each October or re-located following consultation with the Local Councillors.
- 4.32 Grit bins are replenished prior to the onset of winter and periodically as required throughout the course of the winter season. Specific requests for refilling will be actioned normally within 5 working days. Grit bins are filled with a 1:6 mixture of salt and sand/grit.
- 4.33 As identified in the level of readiness, additional resources will be deployed during severe winter conditions to ensure that grit bins remain replenished, enabling self help.

#### Footways/Footpaths and Other Areas Maintained by Other DCC Departments

- 4.34 As noted earlier, winter maintenance service provision by the Council goes wider than the adopted highway. Environment Department staff will be used to deliver a service clearing snow and extreme ice at Cemeteries, Educational, Sheltered Housing, Social Work and SCIOS establishments in an agreed prioritised manner.
- 4.35 All such staff from the Environment Department will come under the control of the City Engineer/Roads Maintenance Partnership Manager when providing a winter service.

#### Exceptions

- 4.36 Exceptions to paragraphs 4.1- 4.35 may be granted for snow or severe ice emergencies but will be subject to approval from the Director of City Development or the City Engineer.



### Roads Salting

#### *Salt Spread Rates:*

- 4.37 Excessive use of salt and grit is detrimental to the environment. Minimum spread rates of unmodified salt are suggested in the 'Well Maintained Highways' Code of Practice for different operational scenarios. However during conservation measures implemented during 2008/09, 2009/10 and 2010/11, it has been found that rates of spread can be reduced below that suggested and still be effective. Further research is ongoing into the effects of reduced spread rates. Based on the information available and past experience the following are to be adopted:
- Pre-salting at 10g/sqm, or (15g/sqm for uncovered salt) when temperature forecast at or above -2 degrees and 20g/sqm when below -2 degrees
  - Post-salting at 20g/sqm for ice conditions
  - Pre-salting at 20-30g/sqm for treatment when snow forecast
  - Post-salting and grit mixture at 20g/sqm for hard packed snow and ice
- 4.38 Salt is less effective when road temperatures are below  $-5^{\circ}\text{C}$ . However salt and grit may be used on sheet ice or hard-packed snow when temperatures are exceptionally low.

#### *Salt Conservation Procedures:*

- 4.39 Salt resilience levels have been determined to cope with a severe winter. However in the event that the weather pattern has been so extreme and combined with a national salt crisis that has impacted on Dundee's salt stock levels, the following good practice guidelines for salt conservation will be applied:
- Reduce salt spread rates as appropriate
  - Restrict Salt Spreading Service to Primary Nightshift Routes
  - Move to using salt/grit mixes on Priority routes
  - Move to using grit only on Secondary routes
  - Grit only to be used on hard packed snow on priority/secondary/cul de sac routes
  - Replenish Grit Bins with grit only
  - Move to using grit only on priority and secondary footway routes
  - Start spreading salt, grit or mixture on reverse run when ploughing
- 4.40 The use of the above salt resilience levels will be discussed in more detail with Road Maintenance Partnership Manager prior to being implemented on the ground. This will be dependent on road condition etc.

## **5 COMMUNICATIONS**

- 5.1 A Winter Maintenance leaflet was updated in 2011/12.
- 5.2 Up-to-date information similar to the leaflet's content is also available on the Council's website, along with full interactive details of the Priority carriageway and footway gritting routes and grit bin locations. The Council's Winter Maintenance Policy and Level of Service is also available on a dedicated winter maintenance web page.

- 5.3 During snow conditions, relevant calls from the public to the Council's switchboard and the Customer Services lines, will be redirected to the Dundee control room at Marchbanks salt depot, which will be staffed accordingly. A control room number for snow conditions is also displayed on the A-Z section of the Council's website.
- 5.4 During periods of severe weather information on road conditions and closures will be publicised via local radio stations. Further information relating to weather related road closures and winter conditions will be made available on the council web site.

## APPENDIX A - WINTER COVERAGE DETAILS

### NORMAL WINTER PERIOD: DETAILS OF COVERAGE

#### Adopted Roads & Footways

1 Night Shift Cover – 13 October 2012 to 6 April 2013 (25 weeks)

The night shift will operate between these dates (1 crew), 21.00 to 05.30 hours, 7 days a week. Christmas and New Year cover detailed below.

2 Priority and Secondary Route Cover – 18 October 2012 to 27 March 2013 (23 weeks)

The main standby system will operate for all priority routes (14 crews).

3 Supporting Secondary and Cul de Sac Route Cover – 1 November 2012 to 27 March 2013 (21 weeks)

The 48 hour advanced notice standby system will operate for all supporting secondary routes (8 crews).

4 Carriageway Cover

	<u>Weekdays</u>	<u>Weekends and Holidays</u>
Priority	0500 to 2200	0500 to 2200
Secondary*	0730 to 1600	Nil
Cul de Sac*	0730 to 1600	Nil

(\* subject to provision for exceptions in snow and extreme ice emergencies)

5 Footway Priority and Secondary Route Cover – 15 November 2012 to 13 March 2013

The 48 hour advanced notice standby system will operate for all priority routes (21 crews).

6 Footway Cover

	<u>Weekdays</u>	<u>Weekends and Holidays</u>
Priority	0600 to 2100	0600 to 2100
Secondary *	0600 to 2100	Nil

(\* subject to provision for exceptions in snow and extreme ice emergencies)

7 Grit Bin Cover

	<u>Weekdays</u>	<u>Weekends</u>	<u>Holidays</u>
Grit Bin Filling *	0800 to 1600	Nil	0800 to 1600

(\* subject to provision for exceptions in snow and extreme ice emergencies)

## WINTER CHRISTMAS/NEW YEAR PERIOD: DETAILS OF COVERAGE

### Adopted Roads

#### 1 Night Shift Route

Night shift will operate as normal throughout the period with standby providing cover at other times to give a 24 hour coverage.

#### 2 Other Carriageway Routes

The coverage for all other routes will be by standby only as follows:

Sunday 23 December 2012	Weekend/Holiday cover
Monday 24 December 2012	Weekday cover
Tuesday 25 December 2012	Weekend/Holiday cover
Wednesday 26 December 2012	Weekend/Holiday cover
Thursday 27 December 2012	Weekday cover
Friday 28 December 2012	Weekday cover
Saturday 29 December 2012	Weekend/Holiday cover
Sunday 30 December 2012	Weekend/Holiday cover
Monday 31 December 2012	Weekday cover
Tuesday 1 January 2013	Weekend/Holiday cover
Wednesday 2 January 2013	Weekend/Holiday cover
Thursday 3 January 2013	Weekday cover

### Adopted Footways

#### 3 Cover provided in snow and extreme ice conditions throughout holiday period. Reduced cover on Christmas Day/Boxing Day and New Years Day/2 January only.

Friday 21 December 2011	Weekday cover
Saturday 22 December 2011	Weekend/Holiday cover
Sunday 23 December 2012	Weekend/Holiday cover
Monday 24 December 2012	Weekday cover
Tuesday 25 December 2012	Weekend/Holiday cover
Wednesday 26 December 2012	Weekend/Holiday cover
Thursday 27 December 2012	Weekday cover
Friday 28 December 2012	Weekday cover
Saturday 29 December 2012	Weekend/Holiday cover
Sunday 30 December 2012	Weekend/Holiday cover
Monday 31 December 2012	Weekday cover
Tuesday 1 January 2013	Weekend/Holiday cover
Wednesday 2 January 2013	Weekend/Holiday cover
Thursday 3 January 2013	Weekday cover

**Grit Bin Filling**

4 The filling of grit bins will be covered as follows:

**Grit Bin Cover**

Friday 21 December 2011	Weekday cover
Saturday 22 December 2011	Weekend cover
Sunday 23 December 2012	Weekend cover
Monday 24 December 2012	Weekday cover
Tuesday 25 December 2012	Holiday cover
Wednesday 26 December 2012	Holiday cover
Thursday 27 December 2012	Weekday cover
Friday 28 December 2012	Weekday cover
Saturday 29 December 2012	Weekend cover
Sunday 30 December 2012	Weekend cover
Monday 31 December 2012	Weekday cover
Tuesday 1 January 2013	Holiday cover
Wednesday 2 January 2013	Holiday cover
Thursday 3 January 2013	Weekday cover

Reduced cover will be provided for filling grit bins during "Holiday Cover".

Note: Schools start back on Monday 7 January 2013.

## APPENDIX B - RESOURCES

### Road Maintenance Partnership Operational (Tayside Contracts)

<b>Winter Plant</b>	
<b>Vehicle Type Carriageway</b>	<b>No.</b>
6cum 4x4 fixed body gritter	1
6cum 4x2 fixed body gritter	6
6cum 6x4 Gritter / Tipper Quick Change Body	1
6cum Gritter / Hot box Quick Change Body	1
6cum Gritter / 18T Tipper Demount	4
2cum Gritter / 7.5T Lining vehicle Demount	1
1.2cum Gritter / 5.2T Pick up Demount	1
0.8cum Gritter / 3.5T Pick up Demount	1
Telehandler loading shovel	1
	<b>17</b>

<b>External Supporting Resource</b>	<b>No.</b>
Tractors, provided by external resource. Hydraulic plough and 0.8cum hopper gritter provided by TC	8
	<b>8</b>

<b>Vehicle Type Footway</b>	<b>No.</b>
3.5 T & 5.2 T pick ups	9
Footway mini plough & gritter	21
Hand barrow spreader	20
	<b>49</b>

The Service also has the following vehicles available when severe weather occurs:

- 3 No. pickups (Street lighting)
- 8 No. other operational vehicles (Operations & Street lighting)

During the winter from the middle of October until the start of April duty rosters are:

<b>Winter Weekly Labour</b>	
<b>Carriageway</b>	<b>No.</b>
Nightshift operative 21.00 to 05.30, 7 days	1
Frontline 7 day 24 hour stand by	16
Frontline 5 day Monday to Friday 24 hour stand by	16
	<b>33</b>

<b>Footway</b>	<b>No.</b>
Operatives on 48hour stand by notice	<b>34</b>

The carriageway routes are covered by a 1 in 3 standby rota as detailed below:

- Week 1 - 7 day 24 hour standby (morning and weekend)
- Week 2 - 5 day Monday to Friday 24 hour standby (evening)
- Week 3 - 7 day no standby (week off)

The operation of the rota allows drivers hours to be managed and also provides flexibility of working during severe weather.

The Service also has the following resources available Monday to Friday when severe weather occurs:

- 35 No. operatives (Operations)
- 5 No. operatives (Street Lighting)

### **Environment Department – Environmental Management Division**

Service level agreement requirements:-

23 No. mini plough drivers and pick up operatives.

21 No. additional resource for filling grit bins, clearing bus stops etc

In extreme/severe weather, the additional resources available from the Environmental Management Division are 94 No. operatives, 24 No. pickups and 19 No. operational vehicles, this does not include cemetery staff).

When weather conditions prevent the delivery of the normal outdoor duties of the Environment Department Environmental Management Division employees, they will be allocated to assist in the delivery of a prioritised winter service under the direction and control of the Roads Maintenance Partnership Winter Manager.

**Environment Department – Construction Division**

When weather conditions prevent the delivery of the normal outdoor duties of the Environment Department Construction Division employees, they will be allocated to assist in the delivery of a prioritised winter service under the direction and control of the Roads Maintenance Partnership Winter Manager.

In extreme/severe weather, the additional resources available from the Construction Division are 50 No. operatives, 6 No. pickups and 3 No. operational vehicles.

**Environment Department – Environmental Protection Division**

When weather conditions prevent the delivery of the normal outdoor duties of the Environment Department Environmental Protection Division employees, they will be allocated to assist in the delivery of a prioritised winter service under the direction and control of the Roads Maintenance Partnership Winter Manager.

In extreme/severe weather, the additional resources available from the Environmental Protection Division are 105 No. Operatives and 10 No. pickups.

Note:- During extreme/severe conditions these additional resources will be engaged only during normal working hours Monday to Friday. If resource is required outwith these times agreement will be reached in advance with appropriate operational managers.



## APPENDIX C - SALT RESILIENCE

### Salt Resilience Levels:

Dundee City Council's Resilience Level is determined as:

Overall Winter Period	1st October to 30th April
Core Winter Period	1st December to 31st January
Days Resilience (Overall Winter Period)	9 days
Days resilience (Core Winter Period)	15 days

Minimum Salt Stocks				
Route Priorities	Minimum Winter Network (tonnes/run)	Minimum Winter Network (tonnes/day)	Minimum Stock	
			Overall Winter Period 9 days resilience*	Core Winter Period 15 days resilience*
High	65 x 2	130 tonnes	1170 tonnes	1950 tonnes
High Nightshift	20	20 tonnes	180 tonnes	300 tonnes
Secondary	75	75 tonnes	675 tonnes	1125 tonnes
Footways	35	35 tonnes	315 tonnes	525 tonnes
<b>Total</b>		<b>260 tonnes</b>	<b>2340 tonnes</b>	<b>3900 tonnes</b>

Mutual aid in salt supply and other aspects of winter service and contingency arrangements in advance, are in place through the Salt Cell Group. The 32 Scottish Councils are represented on this group through SCOTS, SOLACE and COSLA. Salt Cell is monitoring salt restock for winter 2012/13.

On the basis of recent winter experience the salt holding at the commencement of winter is to be maximised to the revised maximum storage capacity available at Marchbanks of 8,500 tonnes which is more than sufficient for an average winter. An additional 1500 tonnes of salt is stored at an alternative location, taking the total salt available to 10,000 tonnes.

Daily monitoring of salt stocks will be undertaken through the winter maintenance daily costing system and reconciliation of daily weighbridge tickets through Tayside Contracts stock management system.