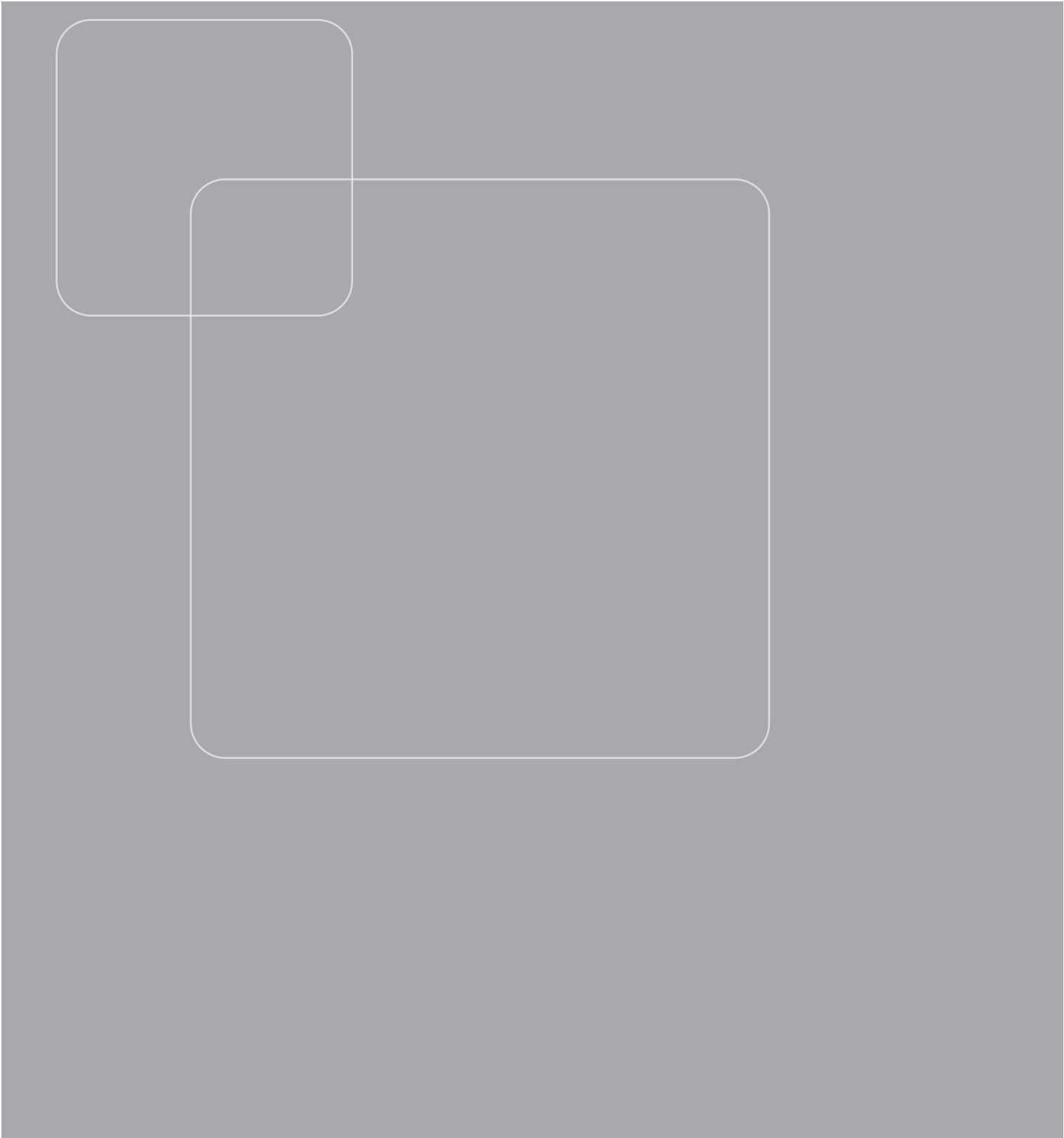


Winter Maintenance Plan

2013 - 2014





Introduction

Land & Environmental Services is responsible for providing the winter maintenance service for Glasgow, including:-

Establishing standards

Establishing treatment priorities

Day to day direction of operations

Monitoring performance

Liaison with adjoining Councils and
Emergency Services

The Winter Maintenance Plan has been revised during the summer of 2013 to incorporate operational and management improvements.

There is additional and more detailed information available for Operational personnel in the Land & Environmental Services Good Practice Guide to Winter Maintenance.

The Winter Maintenance Plan is reviewed annually and amended and updated before the onset of Winter to include any revisions and changes to service delivery.



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1.0 Statement of Policies and Responsibilities

1.1 Statutory Obligations and Policy

1.1.1 Statutory Obligation

1.1.1.1 The Council has a statutory obligation under Section 34 of the Roads (Scotland) Act 1984 to take such steps as it considers reasonable, to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads. The Winter Plan is based on the Code of Practice, 'Well-maintained Highways' 2005.

1.1.1.2 In terms of the above legislation a 'road' includes carriageways, footways, footpaths and pedestrian areas.

1.1.1.3 The aim of the Winter Maintenance Plan is to set out how the winter maintenance service will be provided for Glasgow.

1.1.2 The Council's aim is to provide an effective and efficient winter maintenance service in accordance with Land & Environmental Services Service Plan and within the resources available to:-

- Allow the safe passage of vehicles and pedestrians
- Minimise delays due to winter weather
- Ensure operations are undertaken safely

1.2 Responsibilities

1.2.1 The enabling and service delivery of the winter maintenance service is the responsibility of the Head of Roads.

1.2.2 Land & Environmental Services Roads Operations will be responsible for the work of winter maintenance on the carriageways and footways. These responsibilities include the following:-

- Designing a service to cope with an average winter but having the capability to be extended or adapted when winters are more severe or of a longer duration than average.
- Production and distribution of the Winter Maintenance Plan and Good Practice Guide.
- Carrying out an annual review of all aspects of the service and updating the Winter Maintenance Plan.
- Liaising with adjacent roads authorities including ScotlandTranServ and Connect (who have responsibility for the Motorway and Trunk Road network) in the preparation of the Winter Plan to ensure continuity of service across boundaries.



- Providing a list of roads designated for salting treatment
- Providing a list of footways, cycleways and pedestrian areas for salting treatment.
- Providing a list of roads that make up the strategic routes for snow clearing.
- Providing decision-making charts, advice and guidance for those involved in Winter Maintenance.
- Liaising with the winter supervisors to provide help and advice to ensure the service is delivered in the most effective, efficient and economical way, including establishing operational priorities during extreme or prolonged severe weather conditions.
- Arranging for weather forecasts, ice prediction reports and road and weather monitoring information to be available throughout the winter period.



- Arranging for the specialist vehicles and equipment to be available throughout the winter period.
- Arranging for supplies of salt to be available at the start of the winter season.

- Monitoring the salt usage and ensuring supplies are replenished to maintain an appropriate level of salt in the stockpile.
- Establishing contact numbers for access to emergency services control rooms, public transport operators, local media and the motoring organisations.
- Passing of factual information on road conditions to the council's press officer, local media or general public as and when required.
- Monitoring all aspects of the winter service and providing information on performance indicators for the service.
- Maintaining full and comprehensive records of all winter service activities.
- Directing all salting and snow clearing resources at their disposal.
- Liaising when necessary with the Road Weather Forecaster.
- Monitoring the 'ice prediction' forecasts and weather conditions.
- Monitoring actual road surface temperatures and road conditions.
- Assessing the requirement to carry out precautionary or post salting treatment or snow clearance on the defined network, deciding appropriate start times and rates of spread and arranging for the work to be carried out, monitoring treatments and amending instructions, when necessary, due to a change of road or weather conditions.
- Assessing the need to carry out post salting or snow clearance to footways and cycle routes and ensuring the works are carried out when necessary.
- Assessing the need to carry out post salting or snow clearance of the remaining road network during prolonged spells of sub-zero temperatures, and ensuring the works are carried out when necessary.
- In the event of deteriorating conditions, notably major blockages to the primary route network and / or severe drifting snow to contact:
 - a) The Emergency Services Control Rooms (Police, Ambulance, Fire)
 - b) The Council's Senior Resilience Officer
 - c) The Head of Communications and Service Delivery
 - d) Executive Member for Land and Environmental Services

- Maintaining a list of contractors with suitable plant for snow clearing purposes and hiring in such plant when necessary to do so.
- Liaising when appropriate with the Emergency Services and Public Transport Operators
- Providing accurate and timely information to the Council Customer Care Centre, (RALF - Roads and Lighting Faults -service).
- Ensuring the Transport workshops are notified of any vehicle faults and that they are repaired without delay.
- Arranging with the Transport workshops for appropriate staff to be available on 24 hour call out to deal with any serious mechanical breakdown(s).
- Checking and calibrating salt spreading equipment and supplying copies of the certificates to Roads Operations.
- Ensuring all operatives receive adequate and appropriate training in Winter Service activities and that drivers are issued with 'route cards' to record details of the treatment, times, etc.

1.3 Decision Making Process

- 1.3.1 The day to day routine operational decisions will be made by the Duty Controller using MeteoGroup UK Ltd weather forecasts, and the road and weather monitoring data.
- 1.3.2 The Winter period will be from beginning of November to end of March (this period can be extended should conditions warrant).
- 1.3.3 On receipt of a weather forecast or update throughout the winter period the Duty Controller, in consultation with a colleague, will reach a decision on action for the next 24 hours from one of the five following options
 - a) Presalting to commence immediately
 - b) Presalting to commence at a specified time (e.g. 1900 hours)
 - c) Treatment is likely-but start time can not yet be determined
 - d) Treatment is possible-conditions being monitored (marginal night)
 - e) No action planned (minimum road surface temperature forecast above +1C)

- 1.3.4 If treatment is planned the decision record will include the required carriageway salt spread rate.
- 1.3.5 If the decision record includes post salting and / or snow clearance this will be noted on the decision record and noted on the record sheets.
- 1.3.6 This decision will be distributed to appropriate operations personnel and other key partners.
- 1.3.7 If the decision is for option c), d) or e) and treatment subsequently becomes necessary, an amended decision record will be distributed as soon as possible.
- 1.3.8 If the decision for action is a) or b) and conditions improve so that salting is cancelled, an updated decision record will be distributed as soon as possible..
- 1.3.9 The Council will endeavour to ensure that salt is spread, as necessary, prior to the formation of ice or the settling of snow on the priority network. When the road surface temperature falls to +1°C with forecast of freezing conditions and ice forming, precautionary salting shall take place, unless:-
- No moisture is expected on the road
 - There is enough residual salt on the road to deal with the expected conditions, or
 - The weather forecast information indicates that the road surface temperature will rise before the roads could be salted or there will be no period of frost that could cause icing.
- 1.3.10 Precautionary salting would be carried out under the following circumstances
- a) On roads where a forecast indicates that freezing conditions may occur (road surface temperature forecast to be below +1°C)
 - b) On roads where a hoar frost is predicted (this occurs when the road surface temperature is below zero and also at or below the dew point)
 - c) In the absence of forecast information when falling temperatures reach +1°C, providing that account has been taken of the prevailing humidity, residual salinity and cloud cover - advice will be sought from forecast provider in the event of any doubt about these matters
- 1.3.11 Post salting would be carried out under the following circumstances

- a) Given the presence of ice or snow on roads and a forecast that these conditions will last for a period longer than it would take to treat these roads, appropriate treatment will normally take place between 0730 and 1830hrs the following day unless otherwise directed.



- b) Section 3.3.1 contains the list of P2 carriageway routes for post salting. These include industrial access roads not pre-salted, together with the more important accesses and through roads in residential areas.
- c) The remaining P3 carriageway routes may be treated by salting as determined by progress, conditions and resources.

- 1.3.12 Snow clearing operations will be carried out across the network as conditions dictate.
- 1.3.13 Three stages of snow clearing can be considered
- a) Light falls of undisturbed accumulation of snow reaching a depth of less than 30 mm
 - b) Moderate falls of snow between 30 mm and 100 mm in depth, or light falls associated with drifting
 - c) Falls of over 100 mm or moderate falls associated with drifting
- Stage a) will normally be dealt with by one or more repeated applications of salt.
- Stage b) and c) conditions may require the use of ploughs in addition to salting. As ploughing may block junctions and side roads, arrangements must be made to remove any resulting accumulations of snow.
- 1.3.14 Normal priority will be to clear the snow from main arterial routes then clear the carriageway Priority 1 routes before dealing with the remaining roads (Priority 2 and then Priority 3 as required).

1.3.15 Under extreme conditions priority will be to clear and treat snow routes as detailed in Section 3.4.

1.4 Arrangements With Adjacent Authorities

1.4.1 Reciprocal arrangements are in place with adjacent authorities to ensure the most efficient and consistent treatment of routes at boundaries, and co-operation in providing the winter maintenance service.

1.4.2 Reciprocal arrangements are in place with ScotlandTranServ and Connect who are responsible for the Motorway and Trunk Road network within Glasgow.



2.0 Quality and the Environment

2.1 Quality Management regime

- 2.1.1 The Winter Maintenance Service is part of the Roads Operations Intergrated Management System (IMS).
- 2.1.2 The Roads Operations IMS is maintained by the Policy and Development Section within Land and Environmental Services and is externally audited and verified by SGS.

2.2 Document Control Procedures

- 2.2.1 All quality/environmental documents are controlled and held on a computerised document management control system and are available for viewing by all members of Roads Operations staff.
- 2.2.2 The Winter Maintenance Plan will be maintained within the IMS and will be distributed as detailed in section 2.3.

2.3 Distribution of Documents

- 2.3.1 The Winter Maintenance Plan is issued as listed below

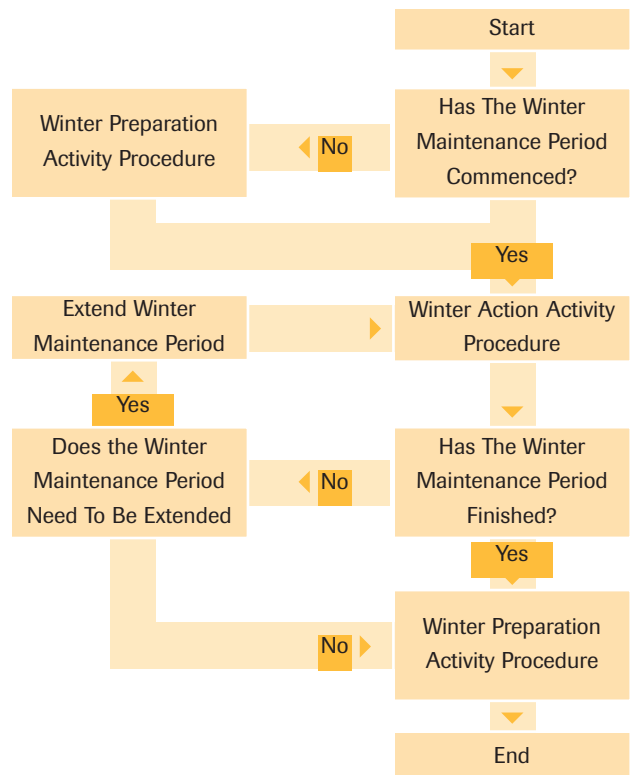
Chief Executive, GCC, City Chambers, Glasgow G2 1DU
 Leader of the Council
 Depute Leader of the Council
 Executive Member for Land & Environmental Services
 All other Local Councillors
 (all located at: City Chambers, Glasgow G2 1DU)
 Chief Executive Resilience and Safety Unit. Room 02.01
 23 Montrose Street

GCC, Corporate Communications, 78 Cochrane Street, Glasgow G2 1DU
 All Executive Directors of Services
 Chief Constable of Police Scotland, 173 Pitt Street, Glasgow G2 4JS
 Chief Officer, Scottish Fire and Rescue Service Headquarters, 5 Whitefriars Crescent Perth PH2 0PA
 SPT, Consort House, 12 West George Street, Glasgow G2 1HN
 Scottish Ambulance Service, Divisional Headquarters, Range Road, Motherwell ML1 2JE
 Freight Transport Association, Hermes House, Pavillion 1, Castlecraig Bussiness Park, Players Road, Stirling FK7 7SH
 Road Haulage Association, Roadway House, The Rural Centre, Ingliston, Newbridge EH28 8NZ
 MeteoGroup UK Ltd, 292 Vauxhall Bridge Road, London SW1V 1AE
 Strathclyde Emergencies Co-ordination Group - SECG@strathclyde.pnn.police.uk
 Bus Companies/Operators (via SPT above)
 Land and Environmental Services Management Team
 Police Divisional Commanders, Traffic Superintendents, Local Stations (separate list)

Community Planning Partnership Boards
 Community Health Partnerships
 Heads of Roads - adjoining authorities
 ScotlandTranServ (Motorway and Trunk Road Operating Contractor) Connect
 Roads Manager, Traffic Group Manager, Cleansing Services Managers, Parks Operations Manager, the Assistant Managers and 6 Duty Controllers

2.4 Information Recording and Analysis

- 2.4.1 The process is shown below and fits into a higher level process, which incorporates feedback allowing monitoring, auditing and improvement to be made.



- 2.4.2 The first procedure is Winter Preparation, which includes the following
- a) Preparation and checking of different types of treatment routes
 - b) Training of personnel involved
 - c) Calibration of plant involved
 - d) Placing and maintaining of grit bins and allowing for their collection following completion of Winter Maintenance operations
 - e) Ordering an adequate supply of salt for the start of the Winter Maintenance period.
 - f) Allowing for additional resources should they be required for extreme circumstances

- 2.4.2 The second procedure is Winter Action which includes the following
- a) The decision making process for the Winter Controller
 - b) Issuing of Instructions
 - c) Distribution of Instructions
 - d) Procedures for gritting and ploughing
 - e) Response Times
 - f) Monitoring and Reporting of actions completed
 - g) Maintaining an adequate supply of salt



2.5 Arrangements for Performance Monitoring, audit and updating

2.5.1 Performance Measures

2.5.1.1 Land and Environmental Services evaluates and compares the following 2 local key performance measures for each winter period :-

- Percentage of precautionary treatments on Priority 1 Carriageways completed within planned time
- Actual winter expenditure per kilometre of carriageway

2.5.1.2 These performance measures are compared with projections from the review and reported annually to Committee.

2.5.1.3 The SCOTS Winter Service Roads Subgroup and the Scottish Salt Group regularly monitor salt stocks/days resilience and benchmark various performance measures.

2.5.2 Auditing

2.5.2.1 Auditing is carried out in three stages

- a) Internal auditing carried out by Land and Environmental Services staff
- b) Internal auditing carried out by Policy and Development Section
- c) External Auditing carried out by SGS

2.5.3 Updating

2.5.3.1 The Winter Maintenance Plan and Winter Maintenance Good Practice Guide is reviewed annually and amended and updated before the onset of Winter to include any revisions and changes to the service delivery.

2.5.3.2 The IMS has been updated to the standards specified in ISO9001:2008 and ISO14001:2004.



3.0 Route Planning for Carriageways, Footways and Cycle Routes

3.1 General

- 3.1.1 The pre and post salting routes are reviewed on an annual basis taking into account any alterations to the roads which are treated under the specified gritting criteria.
- 3.1.2 The main treatment options are as follows
- Precautionary pre salting
 - Post salting
 - Snow routes
- 3.1.3 Routes have been devised to ensure efficient coverage within reasonable timescales.
- 3.1.4 Routes will be updated on an annual basis to accommodate changes to the network or other strategic assets.
- 3.1.5 Sets of Route Cards listing all precautionary salting routes are held in the offices of the Head of Roads Services with appropriate sub-sets at Depots.

3.2 Priority 1 Carriageways Routes for precautionary treatment

- 3.2.1 The following Priority 1 roads will be treated if it is forecast that ice or snow is likely to be present on road surfaces.
- All main bus routes registered at the end of the summer in any year within the City
 - Roads or parts of roads not used by buses but being A or B Class roads or other roads connecting the preceding category to complete the major road network
 - The dropping off points on public carriageways from the nearest gritted route for special school buses and ambulances



- The start points to the gritted route from: fire stations; police stations; bus garages and emergency vehicle locations
- Roads to Park and Ride car parks
- Hills steeper than 1 in 10 gradients
- Industrial areas as appropriate

3.2.2 In addition arrangements are in place with SPT for the treatment of Park and Ride station car parks, Buchanan Street bus station and bus turning areas.

3.2.3 The Duty Controller will be responsible for deciding on the appropriate treatment and issuing instructions to Winter Supervisors. The Winter Supervisors will be responsible for ensuring the treatments are carried out.

3.2.4 The Duty Controller has authority to amend agreed treatments should updated forecasts or conditions make this necessary. Where changes in the expected weather are forecast the Duty Controller will contact the Winter Supervisors and instruct them to take the necessary action.

3.3 Priority 2 and Priority 3 Carriageway Routes for post treatment

- 3.3.1 Given the presence of ice or snow on roads and a forecast that these conditions will last for a period longer than it would take to treat these roads, appropriate treatment will normally take place, between 0730 and 1830hrs the following day unless otherwise directed.

Priority 2 Carriageway routes

Locations which include the following amenities:

- Local shopping
- Health centres
- Day care centres
- Community sports centres
- Libraries
- Places of worship and any other places of local significance
- Appropriate link routes to main Priority 1 carriageways within each neighbourhood

Priority 3 Carriageway routes

- All remaining carriageways



3.4 Snow Routes for clearance

3.4.1 At any time the priority is as follows

- a) While snow is still falling, only the strategic routes and distributor roads will be ploughed and treated in order to target resources and to keep these routes open for traffic.
- b) After snow has stopped falling but is lying, precautionary routes will be ploughed and treated along with those covered by 3.3 as resources and conditions permit.

3.5 Priority 1 Footway Routes for Precautionary Treatment

3.5.1 The priority is as follows

- Pedestrian precincts
- Prioritised City Centre Footways with high pedestrian traffic
- Shopping Centres outwith the City Centre
- Access routes to Schools
- Hills steeper than 1 in 10 with moderate pedestrian traffic

3.6 Priority 2 and Priority 3 Footway Routes for Post Treatment

3.6.1 Priority 2 Footways

Locations which include the following amenities:

- Local shopping
- Health centres
- Day care centres
- Community sports centres
- Libraries
- Places of worship and any other places of local significance
- Appropriate link routes to main Priority 1 footways within each neighbourhood
- Community sports centres
- A designated access through route through City and District Parks

Priority 3 Footways

- All remaining footways

3.7 Routes for cycle route treatment

- a) On road cycle routes will be treated at the same time as the carriageway on which they are located.
- b) Off road cycle routes will be treated at the same time as Priority 2 footways.

3.8 Response and Treatment Times for Carriageway Treatments

3.8.1 When ice is predicted to be present precautionary salting of routes should be completed generally within 5 hours from start of treatment.

3.8.2 For Reactive Salting and Ploughing the time between the decision to start treatment and the start of treatment will be no more than one hour.

3.9 Response and Treatment Times for Footway and Cycle Route Treatments

3.9.1 Priority footways will be treated as carriageways above. All other footways and footpaths will generally be treated during normal working hours (0730 - 1830).

3.10 Allocation of plant, vehicles, equipment and materials to routes

3.10.1 The road network within the city boundary is serviced by the Roads Depot located at Gartcraig.

3.10.2 The treatment of footway routes is carried out from local operational depots of Land & Environmental Services.

3.10.3 Salt supplies are replenished at local depots as required.



3.11 Location and maintenance of salt bins

3.11.1 1247 No. salt bins are sited locally for self-help by the public and are refilled as required. These are supplemented by temporary 1 tonne grit sacks placed strategically throughout the City during severe conditions.

3.11.2 Salt bins will be placed at various agreed locations throughout the City

- A salt bin should not be sited within 200 metres of another or on a footway which is on a priority footway gritting route, to a nominal number of 20 per neighbourhood.
- Salt bins should not obstruct the passage of pedestrians.
- A salt bin should not be sited on a footway outside an individual's house without their specific agreement.
- Salt bins will not be provided in private areas.



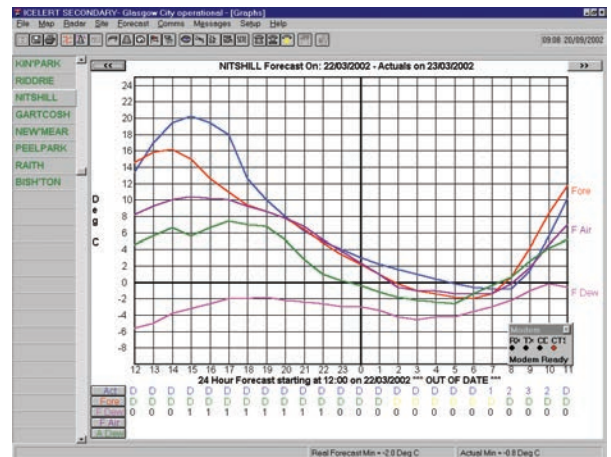
4.0 Weather Prediction and Information

4.1 Forecasting, Patrols and other Decision Support Information

- 4.1.1 The support information for use in 'Decision Making' will usually be a combination of
 - a) the road weather forecast
 - b) road and weather monitoring data
 - c) actual condition of the network
- 4.1.2 Land & Environmental Services has contracted Meteogroup UK Ltd to supply forecasts for Glasgow each day over the period 1st October to 15th May.
- 4.1.3 The road weather forecasts are provided by Meteogroup UK Ltd via a computer link to Land & Environmental Services during the normal working day or a portable computer to the Winter Controller outwith normal hours.



- 4.1.4 Should any problems exist with the computer systems for obtaining the weather forecast alternative arrangements are in place.
- 4.1.5 Ice Detection Outstations are installed at 4no. selected locations within the city and the Council has access to a further 6 in the greater Glasgow area. Access to information from the stations is available to the Winter Controllers via portable computers.
- 4.1.6 The data available from the outstations, which can be presented in both graphic and tabular format include:-
 - a) road surface temperature
 - b) deep road temperature
 - c) air temperature
 - d) wind speed and direction
 - e) relative humidity



- f) precipitation.
- g) surface state (including level of salt present on road surface).
- 4.1.7 Meteogroup UK Ltd also has direct access to the information from the outstations, which improves the accuracy of their forecasts.

4.2 Information to be provided

- 4.2.1 **Specification of Forecasts**
 - a) Morning Summary - available from around 07:00 hours
This forecast is for the next 12 hours.
 - b) Main Lunchtime Forecast - available between 12:00 and 14:00 hours
This forecast contains a 24 hour text forecast giving
 - i) details and confidence of hazards from Ice, Hoar Frost, Snow, Fog, Strong Wind and Rain,
 - ii) wind speed and direction, road state, and snow depth accumulations.
 - iii) a 2-5 day forecast of expected hazards of Ice, Hoar Frost, Snow, Fog, Strong Wind and Rain with comments on the outlook.
 - c) Evening Update - available from around 19:00 hours
This forecast provides the same information as the lunchtime forecast, with any changes highlighted



- 4.2.2 MeteoGroup UK Ltd carries out 24 hour monitoring of conditions and if these vary significantly they will contact the Duty Controller to advise of the change and when appropriate will issue an updated forecast.
- 4.2.3 MeteoGroup UK Ltd provides a 24 hour consultancy service for the Duty Controller for advice and clarification of forecasts.

4.3 Timing and circulation of information

4.3.1 The Duty Controller will receive the weather forecast each day between the hours of 12:00 and 14:00 and will assess and consult with the second named Duty Controller (verifier) on the forecast and any other relevant data and decide what action to take if any. An instruction will then be issued to the relevant staff and external bodies detailing the action proposed (see instruction sheet below). Each night at 19:00 hours a weather update is received by the Duty Controller who will then issue instructions accordingly to relevant staff who are available out of hours.



Network Management
Action for Weather Report

Action report Issued on

Time of weather report

(Y/N)

..... Action

..... Treat carriageway priority route at grms/Sqm

..... Include city centre

..... Treat footways incl. footbridges start at.....

..... Include city centre

..... Snow routes

..... Drivers to report to depot by hrs

..... Winter supervisors to be on duty for hrs

..... Gritting to commence hrs

..... Fit blades to vehicles

Additional weather warnings (state):
.....
.....


Additional comments (state):
.....
.....

Duty Controller

Phone No.

Verifier

Date



- 4.3.2 If the weather changes out with these times MeteoGroup UK Ltd will contact the Duty Controller with a revised forecast.
- 4.3.3 Any amendment made to previous instructions after an update from MeteoGroup UK Ltd, either by phone or during the evening update will be passed to the Winter Supervisors immediately and the appropriate paperwork amended.

4.4 Reporting procedures

- 4.4.1 Routine operating decisions will be reported as in section 4.3.
- 4.4.2 During extreme conditions such as heavy snowfalls when the treatment is limited only to Snow Clearing Routes appropriate senior personnel are regularly updated on the situation.

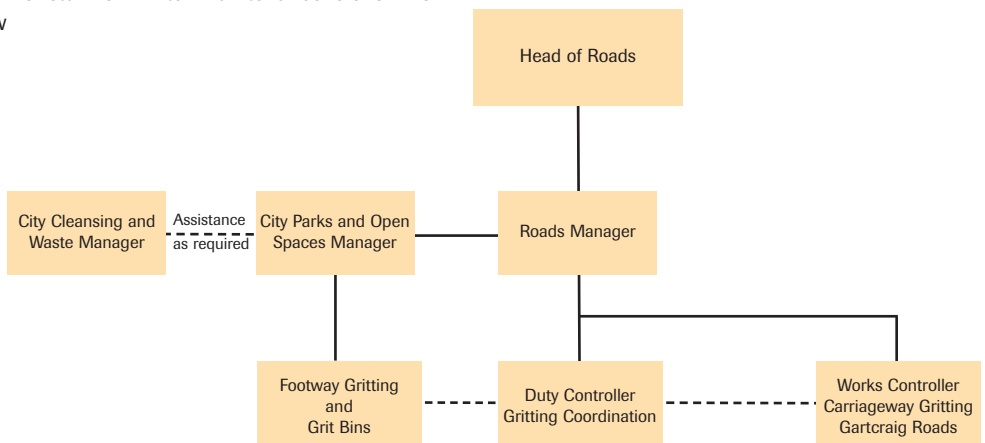
4.5 Maintenance of ice detection equipment

- 4.5.1 Maintenance arrangements are in place for these outstations and the appropriate company carries out any essential maintenance.

5.0 Organisational Arrangements and Personnel

5.1 Organisation chart and employee responsibilities

5.1.1 The organisation of staff for Winter Maintenance is shown on the chart below



5.1.2 Employee Responsibilities

5.1.2.1 The Winter Controller is responsible for monitoring the road and weather conditions, for reaching an appropriate decision on treatment of the network and passing on the information to the Winter Supervisors who are responsible for overseeing the work.

5.1.2.2 The role of the Winter Supervisor is to utilise and manage effectively all resources under his control i.e. labour, plant and materials to effect swift treatment of the road network. He will also complete all relevant records timeously.

5.1.2.3 The Works Controller will ensure adequate resources are available for the supervisor to undertake his duties efficiently with regard to performance indicators.

5.1.2.4 It is the role of the Winter Maintenance operatives to carry out gritting duties in a safe and efficient manner.

5.1.2.5 More detailed explanations of the roles of the winter maintenance operatives is included in the Winter Maintenance Good Practice Guide.

5.1.2.6 All personnel involved in the Winter Maintenance Service should acquaint themselves of the duties, responsibilities and working procedures necessary for them to carry out their tasks in an effective and efficient manner. Also driver and operative refresher training is provided every year.

5.1.2.7 The contact details and numbers are listed below.

a) During Normal Working Hours

Roads Manager	David Russell	07885 933183
Asst Roads Manager	Brendan Frankgate	07747 565249
Asst Roads Manager	Norrie Campbell	07880 401973
Asst Roads Manager (RTO)	Cameron Neill	07824 087480
Parks Ops Manager	Stephen Egan	07748 931067
Asst Parks Ops Manager (South)	Thomas McMenamin	07919 228026
Asst Parks Ops Manager (North)	Gavin Jackson	07919 228149
Cleansing Services Manager (South)	Dougie Gellan	07795 232313
Cleansing Services Manager (North)	Martin McKelvie	07796 996391
Asst Cleansing Services Manager (NW)	Eddie Scanlon	07919 228125
Asst Cleansing Services Manager (NE)	David McGoldrick	07919 228004
Asst Cleansing Services Manager (S)	Charlie Molony	07919 228161

Land and Environmental Services Directorate

Executive Director	B Devlin	287 9100
Assistant Director	G Gillespie	287 9106
Head of Roads	Andy Waddell	287 0438

b) Outwith normal working hours all contact should be made to the RALF freephone number.

RALF Freephone		0800 37 36 35
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5.2 Employee duty schedules, rotas and standby arrangements

- 5.2.1 Special arrangements will be made to ensure the availability of trained labour and supervisory staff for the winter maintenance period.
- 5.2.2 At Gartcraig Roads Operations depot sufficient LGV drivers will be available to provide 24 hr cover.
- 5.2.3 A rota system is in operation for Duty Controllers and the Winter Supervisors.

5.3 Additional Resources

- 5.3.1 During severe weather conditions the Head of Roads may augment resources from other Glasgow City Council Departments, Aleos and/or private contractors.
- 5.3.2 There is a 3 year framework contract in place for the private contractors.
- 5.3.3 All contractors must supply a list of contact numbers which must be available 24 hours a day and 7 days a week.
- 5.3.4 All operatives and Contractors are trained annually in all aspects of Health and Safety in respect to the operation before being accepted as suitable service providers.

5.4 Training

- 5.4.1 Duty Controllers and Supervisors should have received MeteoGroup UK Ltd Open Road Forecast Training every two years.

- 5.4.2 Winter Supervisors and Winter Maintenance Operatives should have received training on all aspects of their duties.

- 5.4.4 All Winter Maintenance Operatives will undergo a familiarisation exercise with all plant and procedures before the onset of the Winter Maintenance period.

5.5 Health And Safety Procedures

- 5.5.1 The Head of Roads is responsible for the Health & Safety Procedures for operational staff and details are included in the Winter Maintenance Good Practice Guide.
- 5.5.2 During winter maintenance operations, drivers/operatives must adhere to the following health and safety documentation: -

- Glasgow City Council Health and Safety Policy
- Departmental Health and Safety Policy Statement
- Health, Safety and Welfare at Work Employee Handbook
- Roads / Lighting Safe Working Methods
- Risk Assessments for Individual Activities



6.0 Plant, Vehicles and Equipment

6.1 Plant, Vehicles and Equipment

The availability of vehicles and ancillary equipment is detailed below

Description	Capacity	Quantity
Demountable Gritters	6 cu metre	26
Demountable Mini Gritters	0.6 cu metre	2
Trailer Gritters (Footway)	0.5 cu metre	32
Trailed Gritters	3-6 cu metre	12
Pedestrian Spreader	0.5 cu metre	9
Snowploughs	-	37
Slushblades	-	27
Large tractor units with gritters and ploughs		13
Mid range tractors with gritters and ploughs		13
All terrain vehicles / small tractors with ploughs and gritters		16
Powered pedestrian mowers fitted with footway 1.3m ploughs		56

- 6.1.1 Global Positioning System (GPS) tracking equipment is installed in the vehicles to establish accurate treatment records.
- 6.1.2 The large carriageway gritting vehicles are fitted with route navigation devices to assist drivers.



6.2 Location of Plant, Vehicles and Other Equipment

- 6.2.1 Land and Environmental Services will normally operate carriageway gritters from Gartcraig depot.
- 6.2.2 Other gritting equipment will be towed behind tractors and mechanical street sweepers for the treatment of footways.

The necessary equipment will be located and operated from the appropriate local depot.

6.3 Garaging, servicing and maintenance arrangements

- 6.3.1 Land & Environmental Services Transport Section will supply, maintain and repair the dedicated salting vehicles.



- 6.3.2 Land & Environmental Services Roads Operations has other vehicles that can be used for Winter Maintenance duties and are available as per operational needs.


6.4 Contact and hire arrangements for contract plant

- 6.4.1 During severe weather conditions the Head of Roads may augment resources from other Glasgow City Council Departments, ALEOS and private contractors.

6.5 Calibration Procedures

- 6.5.1 Pre-winter checks and calibration on all vehicles, plant and equipment, used by Land & Environmental Services for winter maintenance will be carried out by the beginning of October and confirmation of their readiness will be given to the Head of Roads.



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- 6.5.2 Transport LES will ensure that the controls of all spreading equipment are calibrated in accordance with Section 13, Well Maintained Highways, and clearly marked for specified rates of spread up to a maximum of 40 g/m². Guidelines for spreading rates of salt are detailed in section 7.4.3.
 - 6.5.3 ACP Salt (Safecote), is the principal de-icing agent used in Glasgow, and will be supplied in compliance with BS3247 (1991).
 - 6.5.4 The original copies of road salt test certificates will be kept as part of the Roads Operations IMS to allow both internal and external auditing of the Winter Maintenance Service.

6.6 Fuel stocks and locations

- 6.6.1 Fuel stocks for the dedicated salt spreading and other vehicles being used for winter maintenance operations are provided at some Land & Environmental Services depots and other various Glasgow City Council depots located throughout the city. The vehicles should remain topped up ready for immediate use. Standard Council fuelling arrangements apply.

7.0 Salt and De-Icing Materials

7.1 Location and capacity of stocks for salt and other materials

- 7.1.1 Salt will be kept in salt barns at Gartcraig and Nitshill.
- 7.1.2 The quantity of salt held in stock at the start of November 2013 will be 22,000 tonnes and 4000 Tonnes grit stone.



- 7.1.3 A weighbridge system is in place at the depots for stock control and salt usage purposes.
- 7.1.4 The operational depot will supply weekly reports on salt usage to the Head of Roads who will place supplementary orders for salt as required.

7.2 Testing arrangements

- 7.2.1 Salt for use on roads during winter should be to the requirements of BS 3247 'Salt for Spreading - Fine Rock Salt'.

7.3 Loading arrangements

- 7.3.1 The operational depot is responsible for ensuring a loading shovel is available for loading the salting vehicles. A 'backup vehicle', in case of breakdown of the primary loading shovel must be available at the depot at all times during the winter period.

7.4 Treatment requirements

7.4.1 Pattern of spreading

- 7.4.1.1 The gritters are to be set to salt a 6 metre width of carriageway which will be both lanes of single carriageways or both lanes of one side of a dual carriageway or 4 lane road.

- 7.4.1.2 The gritter will generally travel in the left-hand lane and the spreading pattern will be set to cover both lanes unless multiple passes are required on a wide one way road.



7.4.2 Salt Spread Rates

- 7.4.2.1 The variable nature of winter conditions makes it difficult to define exact treatments and salt applications. Guidance on appropriate spread rates is given below

Table 1 Precautionary Treatment - Salt Spread Rates

Winter Maintenance - Precautionary Treatment - Salt Spread Rate		
Weather Conditions	Rocksalt	Safecote
Frost	10 g/m ²	10 g/m ²
Ice and/or light snow expected	20 g/m ²	10 g/m ²
Freezing conditions expected after rain	30 g/m ²	20 g/m ²
Continuous snow expected	40 g/m ²	30 g/m ²
Priority Footways - All conditions	60 g/m ²	N/A

Table 2 Ice and Snow Clearance - Salt Spread Rates

Road Surface Conditions	Air Temperature	Rocksalt	Safecote
Ice formed	Above (-5°C) Stable	40 g/m ²	20 g/m ²
Hard packed snow/ice	Below (-5°C)	40 g/m ²	30 g/m ²
Snow cover exceeds 30mm	Above (-5°C)	40 g/m ²	30 g/m ²
Snow accumulation -prolonged falls	Above (-5°C) Stable	40 g/m ²	30 g/m ²

7.4.2.2 Sustained low temperatures occur only rarely. In this event however, account will be taken of the need to increase the rate of spread of salt. Below -7°C the de-icing action of untreated salt is reduced.

7.5 Salt purchasing arrangements and self help

7.5.1 GCC organises a contract for bulk purchase of winter salt. The tender will include the request delivery of salt before the start of winter and also include for further deliveries of salt, upon demand, to replenish the stockpile as necessary.



7.5.2 Salt Conservation

7.5.2.1 During periods of extreme weather and potential restrictions on the supply chain, GCC will implement nationally agreed salt conservation measures. Additionally, GCC will liaise with neighbouring local authorities via Strathclyde Emergencies Co-ordination Group concerning mutual aid and other assistance.

7.5.3 Supply of salt to others

7.5.3.1 There will be a charge for this service consisting of the cost of the salt plus any depot loading and / or delivery charges. Salt will only be released with authorisation from the Head of Roads upon receipt of an official order.

7.5.4 Salt for Self-Help

7.5.4.1 In addition to the grit bins and temporary grit sacks, small quantities of salt (10kg MAX) will be available to the public for self loading in their own containers at the depots listed below. The hours of salt availability at the depots are Monday to Sunday.

Local Parks

- Victoria Park
- Greenfield Park
- Springburn Park
- Kings Park

Disposal Complexes

- Dawsholm Complex. Dalsholm Road
- Polmadie Complex. Polmadie Road
- Easter Queenslie Complex. Easter Queenslie Road
- Shieldhall Complex. Bogmoor Road

Further advice and guidance on self-help issues can be found at www.glasgow.gov.uk/winter

7.5.5 Carbon Footprint

7.5.5.1 The introduction of the Local Authority Carbon Emissions Programme which was initially trialled in Scotland in 2003 became legislation in the UK under the Climate Change Act in November 2008. It sets a target for the UK to reduce carbon emissions to 80% below 1990 levels by 2050. It also set an interim target of a 34% reduction by 2020 (with the potential to increase this to a 42% cut given an international agreement) and established the concept of carbon budgets.

Glasgow has introduced ACP(Agricultural Co-Products) treated salt for use on priority routes. This processed salt is applied at lower spread rates than untreated salt resulting in gritting vehicles achieving greater treatment distances. Gritter bodies have been changed from diesel to hydraulically powered units, which when considered with the reduction in vehicles within the gritting fleet has resulted in a significant reduction in CO2 emissions.

To date with efficiencies made to the gritting fleet, the Council have reduced their emissions by approx. 21.58 tonnes of carbon and this does not include any reduction for reduced treatments which ACP treated salt's residual ability allows for delivery of reduced volumes of salt.

7.5.6 Environment

7.5.6.1 Research has shown that ACP treated salt reduces corrosion by 82% therefore reducing damage to roads infrastructure and vehicles.

8.0 Operational Communications

8.1 Technical systems information

- 8.1.1 Good communications are essential to ensure speedy and effective response to winter conditions.
- 8.1.2 The 'Winter Maintenance Good Practice Guide' contains contact details, usually telephone numbers, for communication with the Weather Forecast Provider, Police, Media, Emergency Services, Public Transport Operators and Motoring Organisations.
- 8.1.3 The Duty Controller and Winter Supervisors will be issued with mobile phones so they may be contacted at any time regarding Winter Maintenance operations.
- 8.1.4 The Head of Roads will keep a list of all telephone contact numbers for his operational personnel on Winter Maintenance Service standby duties. This list will be distributed to the Winter Supervisors and also included in the Councils emergency contacts directory. It will be the responsibility of each individual to inform the Supervisors of any changes to the contact numbers.
- 8.1.5 During salting and snow clearance operations each vehicle is fitted with a serviceable radio to maintain contact with the operations depot.
- 8.1.6 All gritters are fitted with a GPS system which allows the sections of road which have been treated to be clearly identified along with a time of treatment.
- 8.1.7 The large carriageway gritting vehicles are fitted with route navigation devices.
- 8.1.8 The Head of Roads is responsible for operational communications equipment.

8.2 Reporting arrangements and protocols

- 8.2.1 The Duty Controller will report the 'Daily Decision' to the personnel and offices identified in the Winter Maintenance Plan as soon as possible after it has been reached.
- 8.2.2 The standard method of distributing this proforma will be by e-mail and copies will be posted on depot notice boards.
- 8.2.3 The GPS system installed on vehicles will record the roads treated and the time of treatment.

- 8.2.4 The Duty Controller will prepare a daily report on the previous 24 hour road conditions and treatments for the Executive Director. The report will be required by 0945 hours daily.
- 8.2.5 The operations depots will report details of salt usage and of plant breakdown daily.
- 8.2.6 The operations depots will report details of all additional plant and labour hired from other Departments or Contractors as soon as practical.
- 8.2.7 During prolonged spells of severe conditions a decision will be made on whether to set up a manned 24 hour control centre. This centre will be based at TRAFFCOM Glasgow Ops Centre, Eastgate.
- 8.2.8 Winter Supervisors will report progress with snow clearing operations / dealing with prolonged spells of ice throughout the Duty Winter Controller.

8.3 Operational records

- 8.3.1 Operational records to be completed:

ANS

Action for Weather reports

Daily Winter Gritting Summary Record Sheet

Daily Winter Gritting Work Record

Non Conformance of Supplied Materials

9.0 Information and Publicity

9.1 Local Press and broadcast information

- 9.1.1 It is important that the general public is aware of and understands the City Council's approach to the Winter Maintenance Service. Publicity is to be given before the beginning of the winter period describing the level of service provision and operational contact points.
- 9.1.2 During the winter period and particularly during prolonged spells of snow and ice information will be made available to the public via
- a) Press releases
 - b) Local Radio Stations
 - c) GCC Website
 - d) Social Media - Twitter
- 9.1.3 The Head of Roads is authorised to respond to the Press, Radio and Television on matters relating to local road conditions.

9.2 Publicity

- 9.2.1 General advice and information for the public concerning the Winter Maintenance Service will be available via:
- a) An article each winter in the Council's magazine, distributed free to all homes in the city.
 - b) Publishing a Winter Advisory leaflet which will be available to the public at selected locations throughout the city, such as libraries etc.
 - c) Connect Web page for improved Public & Driver information - 'Snow Code' information to advise members of the public of how they can self help legally and safely. Driver information on how to prepare for driving during winter, planning winter journeys and use of snow tyres etc. Contact details of Neighbourhood Improvement Volunteers who can obtain a gritting kit (supply of salt/grit, snow shovels and Hi Vis vests) to assist with organised neighbourhood gritting.
 - d) 5 Variable Message Signs which will display winter and severe weather forecasts.

9.3 Other Key local and National Contact Information

- 9.3.1 The Head of Roads will inform the Police Force Control and TRAFFCOM of forecasts predicting extreme conditions.

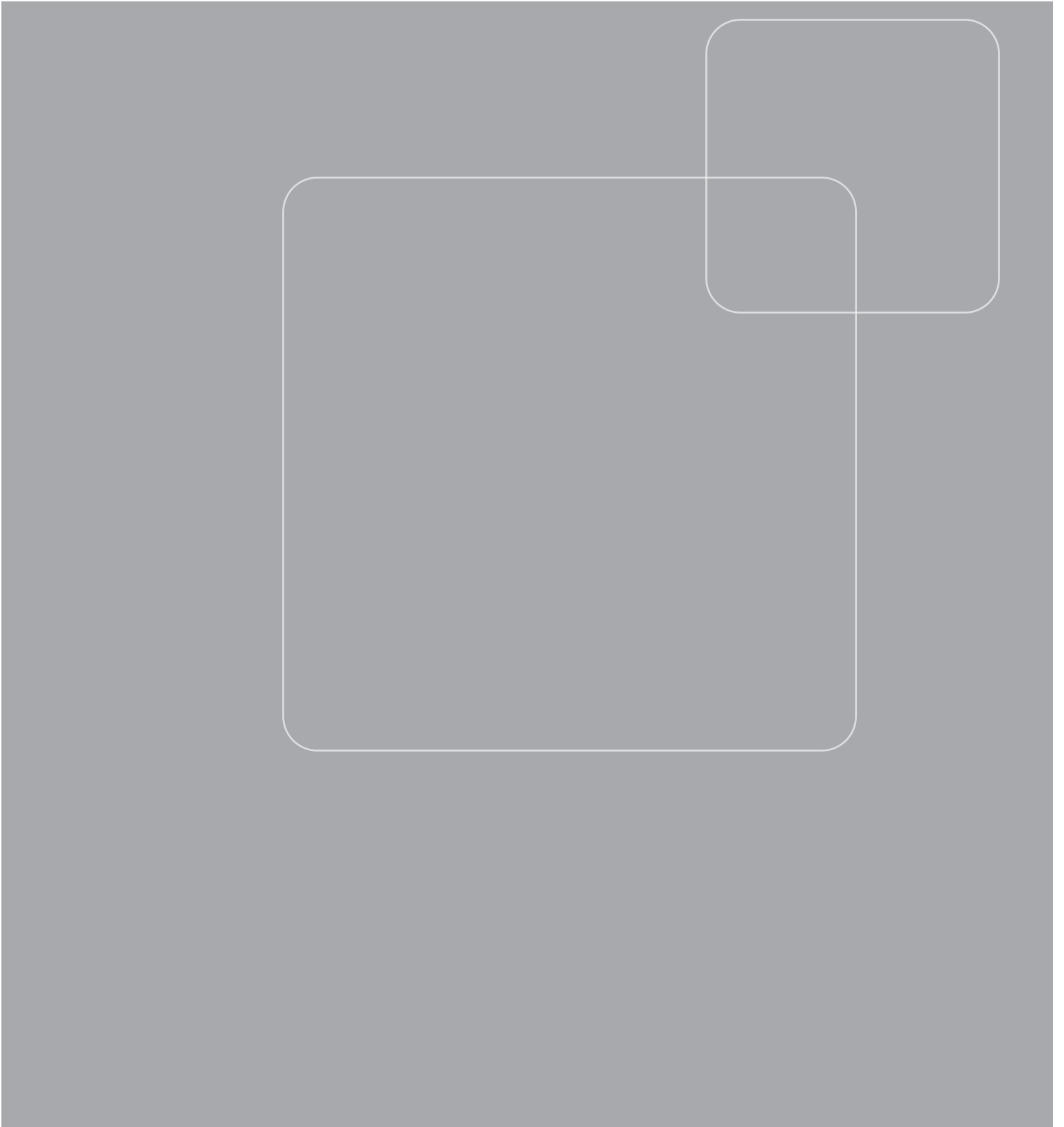
- 9.3.2 Reports from the Police or TRAFFCOM of dangerous road conditions will be acted on as soon as practicable.
- 9.3.3 Head of Roads will consult the Police and advise TRAFFCOM when any road is closed due to winter weather conditions.
- 9.3.4 RALF (0800 37 36 35) as Land & Environmental Service's Customer Care Centre is responsible for dealing with the general public's telephone inquiries about the Winter Maintenance Service.
- 9.3.5 RALF is operational 24 hours a day 7 days a week.

9.4 Records

- 9.4.1 Records will be retained by the Council for 3 years and retained in archives for a further 7 years.

9.6 Responsibilities and Guidance for Providing Information

- 9.5.1 The Head of Roads is responsible for guidance of the information to be supplied.



■ How to contact us

ADDRESS 231 George Street, Glasgow G1 1RX

EMAIL les@glasgow.gov.uk

VISIT www.glasgow.gov.uk/roads

PHONE 0141 287 9000



If you require any information regarding this document in an alternative language or format please contact 0141 287 9000