

ABERDEENSHIRE COUNCIL

INFRASTRUCTURE SERVICES

WINTER MAINTENANCE OPERATIONAL PLAN 2017/2018

Date	Effect	Pages Amended	Originator Approved by
October	Initial Issue	-	-

Controlled copy no:

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Approved by:



Head of Roads, Landscape & Waste Services

Date: October 2017

LIST OF HOLDERS		
COPY No.	HELD BY	Position
1	Derek Murray	Roads Manager Banff & Buchan and Buchan
2	Keith Milne	Principal Engineer
3	John Stronach	Principal Roads Engineer Banff and Buchan
4	Stewart Ingram	Principal Roads Engineer Buchan
5	Ian Daniels	Principal Roads Engineer Formartine
6	Scott Walker	Principal Roads Engineer Garioch
7	Ewan Smith	Principal Roads Engineer Kincardine and Mearns
8	Angela Funk	Principal Roads Engineer Marr
9	Craig Ross	Supervisor Banff and Buchan
10	Gary Mowat	Supervisor Buchan
11	Walter Bruce	Supervisor Formartine
12	Bob Morrison	Supervisor Garioch
13	Neil Kelly	Supervisor Kincardine and Mearns
14	Robbie Adam	Supervisor Marr (North)
15	Victor Skea	Supervisor Marr (South)
16	Alastair Thompson	Chargehand Formartine
17	Michael Ingram	Chargehand Garioch
18	Morag Esson	CRM Project Manager
19	Sandy Downie	WM Operations Room Attendant
20	Alastair McLennan	WM Operations Room Attendant
21	Paul Culling	WM Operations Room Attendant

AMENDMENT POLICY

It is envisaged that revisions will fall into two categories:

- 1 Major
- 2 Minor

And it is proposed to deal with these as follows:

Major Revisions to the controlled copies of the Winter Maintenance Document will be carried out immediately in accordance with Quality Assurance Procedures.

Minor Revisions will be collated in appendix (O) and will be updated into the controlled copies of the Winter Maintenance Document as required by the Head of Roads, Landscape & Waste Services or other appointed official.

ABERDEENSHIRE COUNCIL – INFRASTRUCTURE SERVICES

QUALITY SYSTEM

**SCHEDULE OF AMENDMENTS TO THE
WINTER MAINTENANCE OPERATIONAL PLAN 2017/2018**

TO: HOLDER

CONTROLLED COPY NO.

**PLEASE AMEND THE WINTER MAINTENANCE OPERATIONAL PLAN 2017/2018 AS
FOLLOWS:**

Signed:

Date:

Head of Roads, Landscape & Waste Services

Tear along this line and return completed lower section to Head of Roads, Landscape & Waste Services

To: Head of Roads, Landscape & Waste Services **From:**
c/o Harlaw Way,
Inverurie, AB51 4SG

Schedule of Amendments dated

I confirm that the Winter Maintenance Operational Plan has been amended as indicated and that all superseded parts have been destroyed or marked “superseded” and removed from the work place.

Signed:

Date:

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1 POLICY

1.1 POLICY STATEMENT

The Council's policy objective in relation to winter maintenance is defined as the reduction as far as practicable of the effects of adverse weather conditions on the movement of people and vehicles to permit safe travel in Aberdeenshire.

In order to achieve this objective it is recognised that a priority treatment system is required, which will concentrate initially on the more important routes and then be extended to the less important routes when practicable.

Within these overall parameters the Director of Infrastructure Services is requested to try to curtail the level of expenditure within the sum provided in the annual budget bearing in mind the conditions which pertain and the overall policy objective.

1.2 PRIORITIES AND STANDARDS:

Carriageways – Precautionary Salting

Trunk Roads A90 and A96

Trunk Roads are the responsibility of the Scottish Executive, and Winter Maintenance operations on them are carried out by BEAR Scotland Ltd.

Priority 1 Roads

Priority 1 roads will be principal roads or other classified roads serving as the main routes between communities or major traffic distributors within communities. They should also carry heavy traffic flows or act as public service bus routes or give access to public services or emergency facilities providing an essential public service.

In special circumstances a road which does not meet the above definition may be considered a priority 1 road if it is regularly used and presents special hazards because it is habitually liable to drifting snow or freezing due to altitude and exposure.

A road need not be considered a priority 1 road at all times. A certain degree of flexibility is necessary to take account of seasonal or irregular usage e.g. access roads to skiing areas may be a higher priority at weekends and in peak holiday periods and a lower priority at other times.

The standard to be aimed at on priority 1 roads is that these roads should never become impassable to traffic unless there are abnormal conditions.

Precautionary treatment will be carried out between 05:30 hours and 21:00 hours. The standard to be aimed at on Priority 1 roads is that **winter maintenance operations should commence within 1½ hours in response to an instruction. Sufficient resources must be available to complete normal gritting of the priority 1 roads within 2½ hours of the physical start of operations.**

A list of priority 1 roads should be drawn up to assist in developing operational plans, which deliver the required standard of service. The list should be reviewed annually in late summer or early autumn to take account of changes in the road network

Priority 2 Roads

Priority 2 roads will be principal and other classified roads not included in the priority 1 list. These serve as main roads between small communities or as traffic distributors within larger communities and which carry medium traffic flows or give access to community or public facilities of a non-essential nature.

The standard to be aimed at on priority 2 roads is that these should be treated only after completion of treatment of priority 1 roads.

The response time to carry out treatment on priority 2 roads will depend on progress on priority 1 roads but will not normally be less than 3 hours from the receipt of an instruction to commence winter operations. Treatment should normally be completed within a further 3 hours.

Priority 3 Roads

Priority 3 roads will be all other roads not included in the list of Priority 1 & 2 roads. Typically these will be access roads to isolated communities in rural areas, local access roads, service roads and minor roads in urban areas.

The standard to be aimed at on priority 3 routes is that these routes should not receive precautionary treatment.

A939 Ballater to Corgarff, B974 Cairn O Mount, B976 Crathie to Gairnshiel Exceptions

Although the above roads are not considered Priority 1 or 2 roads they do warrant a treatment level above that of other Priority 3 roads. The treatment regime for these routes is that they may be treated without the need for the 48 hour ice conditions forecast applying. Treatment may be of a precautionary nature and/or on the day of a frost/ ice event, but treatments should be carried out no earlier than 0800 hrs. There are no performance measures for treatment of these routes.

New Developments

Roads in new developments that are yet to be adopted may only be treated if the Developer has submitted form CC7 from the Road Construction Consent suite of forms. This form confirms: the substantial completion of the road, the absence of protruding ironwork, the availability of turning areas; and indemnifies the Council against any claims for loss or damage.

Private Roads

Privately maintained roads will not be treated except in the case of emergency. This shall include private (unadopted) roads.

The Primary Route Network

To enable a practical approach to road treatment, 32 primary routes will be established (Appendix 3). These primary routes shall include all priority 1 and priority 2 roads.

It is recognised that when primary gritting routes are being designed they are likely to consist of priority 1, 2 and 3 routes. For efficient route design it is permissible to treat a lower priority route in advance of a higher one to improve route efficiency; however, routes should be designed with the aim of treating the higher priority route as early as practicable on that route.

Secondary Treatments

All roads not included in the Primary Route Network may receive reactive treatment, should prevailing weather forecasts indicate that snow or ice conditions might be expected to persist for a period in excess of 48 hours.

To enable a practical approach to road treatment, Secondary Treatment Routes will be established, consisting of Priority 3 roads of greater strategic significance (Appendix 4). These Secondary Treatment Routes will be treated first, prior to treating the remainder of the Priority 3 roads.

Carriageways - Snow Clearing

Following heavy falls of snow, in general roads will be cleared in order of their priority, however this will be dependent on operational circumstances. Repeat clearing/ treatment of the Primary Route Network may be necessary to achieve adequate removal of snow/ compacted snow/ ice. Priority 3 roads would not normally be cleared until all routes of a higher priority are adequately cleared, except in the case of access for emergency services, for an event such as a funeral or for operational efficiency. However, snow clearing may be started on priority 3 routes by farmers before higher priority routes are clear. The use of farmers in this instance allows an enhanced service to be delivered. Repeat clearing/ treatment of priority 3 routes may be necessary to achieve adequate removal of snow/ compacted snow/ ice. Snow clearing should be carried out between 0530 hrs and 2200 hrs, and where conditions persist it is likely that clearing operations will be taking place during these hours.

Emergency Response Outwith Normal Working Hours

The normal planned out-of-hours treatments comprise an evening pre-treatment of Primary gritting routes normally completed by 2100 hrs, and early morning patrols commencing at 0530 hrs. In severe weather conditions the full operational period extends from 0530 hrs to 2200 hrs.

Outwith these periods the emergency response service is provided by stand by Roads staff who can be contacted by Police Scotland on Aberdeenshire's Roads Emergency Contact number.

1.3 PRIORITIES AND STANDARDS: Footways

F1/F2 Footways

F1 footways are main pedestrian routes in busy central areas of urban communities where shopping and business/commercial facilities are concentrated.

F2 footways busy pedestrian accesses routes, linking the central areas to areas of significant housing density, school academies and transport interchanges.

The standard to be aimed at on F1/F2 footways is that these footways should be kept in a safe condition for pedestrians other than in storm conditions. This to be planned to allow treatment of F1 footways to be completed, as far as practical, before 8.00 hours. The treatment of F2 footways to follow on following completion of the F1 footways. In exceptional circumstances, where heavy snowfall is forecast, snow clearing operations may start earlier.

A list of F1/F2 footways has been established to assist in developing operational plans which deliver the required level of service. The list should be reviewed annually in late summer or early autumn to take account of changes in the network.

F3/F4 Footways

F3/F4 footways are all footways not on the F1/F2 list.

F3 footways link residential and industrial areas to the busy central areas of larger urban communities and also main footways located in smaller towns and villages that do not have a F1/F2 network.

The standard to be aimed at on F3 footways is that these footways should be treated only after completion of treatment on F1/F2 footways and then only when conditions are severe enough to prevent the safe passage of pedestrians and are likely to persist for a period in excess of 48 hours.

F4 footways are footways serving only residential areas or industrial estates, not likely to have pedestrian through traffic and all rural footways.

F4 footways will receive snow clearance only, dependant on available resources.

Footways - Snow Clearing

Following heavy falls of snow, in general footways will be cleared in order of their priority, however this will be dependent on operational circumstances. Footway snow clearing should be carried out between 0800 hrs and 1600 hrs, and where conditions persist it is likely that clearing operations will be taking place during these hours (including weekends).

Public Car Parks

Public car parks of significant importance will be treated along with the priority 3 roads in an area if treatment is necessary.

Private Footways

Private footways will not normally be treated.

Cycleways

For the purposes of winter maintenance, cycleways shall be considered in a similar fashion to footways.

2 OPERATIONAL PLAN

2.1 INTRODUCTION

Outline

The Winter Plan is designed to provide a level of service that meets Aberdeenshire Council's Winter Policy.

2.2 DELEGATION, RESPONSIBILITIES AND ROLES

The Director of Infrastructure Services

The Director of Infrastructure Services has the overall responsibility for the General, Structural and Winter Maintenance of the road network throughout Aberdeenshire. The responsibility for the provision and execution of the Winter Maintenance operations in accordance with the Council's policies and the Plan developed from them is delegated to the Head of Roads, Landscape & Waste Services.

Head of Roads, Landscape & Waste Services

The responsibility for the execution of the Operational Plan is delegated to the Head of Roads Landscape & Waste Services.

The Head of Roads Landscape & Waste Services will concern himself with the policy objectives with regard to Winter Maintenance operations and ensuring that adequate resources are allocated to meet the objectives and standards set out in this document. He will also be responsible for ensuring that the Operational Plan is continuously reviewed in the light of experience and changing circumstances.

The Head of Roads, Landscape & Waste Services will be wholly responsible for ensuring that Winter Maintenance operations are carried out in accordance with the policy. He may delegate the day-to-day responsibility for the organisation and supervision of Winter Maintenance operations to his Roads Managers.

Roads Managers

The Roads Managers are responsible for the management of the Winter Maintenance budgets, operational personnel and plant. They will ensure that resources are available and deployed as required to provide the required level of winter maintenance.

Principal Roads Engineers

The Principal Roads Engineers are responsible for collecting, recording and reporting information in relation to weather forecasts, actual weather conditions, planned operations, actual operations and reasons for variations from planned actions.

The Duty Officer

The Principal Roads Engineers, along with other nominated officers, will fulfil the role of Duty Officer on a rota basis. The Duty Officer will determine the planned Winter Maintenance operations to ensure that they are commensurate with the forecast. The Duty Officer is responsible for periodically reviewing the planned action to ensure it is appropriate.

The Winter Maintenance Operations Room (WMOR)

The Winter Maintenance Operations Room (WMOR) Attendant will assume the role of communication, coordination, monitoring and reporting outwith normal working hours. The WMOR Attendant will be the nominated emergency contact outwith normal working hours for all requests for assistance in relation to Winter Maintenance operations for the road

network. He will take the appropriate action in relation to any calls he receives. The Duty Officer will be available for consultation by the WMOR Attendant on technical and other matters.

The Duty Supervisor

The Duty Supervisors are wholly responsible to the Principal Roads Engineers for the day-to-day organisation and execution of the Winter Maintenance operations and will take immediate action during the hours of service delivery to implement the Winter Maintenance plan on receipt of instruction or when actual weather conditions vary to such an extent from the forecast that any previous action is inadequate.

The Supervisors shall keep the Principal Roads Engineers and WMOR fully advised of the prevailing circumstances with regard to the progress of Winter Maintenance operations and shall seek their advice and assistance in dealing with any augmented working undertaken or conditions outwith the scope of the Winter Maintenance plan. In particular, any road conditions encountered that vary from the forecast conditions should be notified to the Duty Officer or WMOR. Similarly, the Supervisor must notify the Duty Officer or WMOR as soon as possible of any treatment to a route that the Supervisor instigates that was not planned by the Duty Officer.

Trunk Roads (A90 and A96)

Winter Maintenance operations on trunk roads are undertaken by BEAR Scotland Ltd. on behalf of the Scottish Executive. Aberdeenshire Council may enter into some contractual arrangements with BEAR Scotland Ltd to carry out winter treatment on Trunk Roads (e.g. footway treatment), but this should not adversely affect service provision.

Aberdeenshire Council recognises the importance of mutual aid as a tool for resilience of service delivery for all Roads Authorities and will carry out Winter Maintenance work on the trunk roads when authorised by the Head of Roads, Landscape & Waste Services. Alternatively, Winter Maintenance work may be provided when the Police declare a major incident, at which time Aberdeenshire Council resources will operate under Police direction.

2.3 WORKING ARRANGEMENTS

Standby Service

The Supervisors, in consultation with the Principal Roads Engineers, will draw up a weekly duty rota for drivers and plant operators to cover both the standby service and all prescribed treatment. This will ensure that all specialist Winter Maintenance vehicles can be manned on a twenty-four hours a day, seven days a week basis in accordance with the Winter Maintenance operational plan.

Start Times

The normal start time for early morning treatment is 0530 hrs.

Service During Working Hours

If, in the opinion of the Principal Roads Engineer, road or weather conditions warrant it, Winter Maintenance operations utilising the specialist vehicles will continue during the course of the working day. In addition to the specialist vehicles, the Supervisors in consultation with the Principal Roads Engineer can instruct the use of the Council's normal heavy goods vehicles on Winter Maintenance operations. The vehicles will be fitted with snowploughs and/or gritters according to road conditions.

The Supervisors in consultation with the Principal Roads Engineer, are authorised, in the event of prolonged spells of severe weather, to seek assistance from other Services who

might have suitable labour, vehicles and plant available, or to hire labour, plant and vehicles from local contractors.

Emergency Response Outwith 0530 – 2200 Normal Working Hours

Outwith normal working hours the emergency response service is provided by standby Roads staff who can be contacted by Police Scotland on Aberdeenshire's Roads Emergency Contact number.

While it is not possible to define what constitutes an emergency in absolute terms, the following should be used as guidance:

- ◆ Any "blue-light" emergency where the Emergency Services require assistance in responding to an incident;
- ◆ Attendance at road traffic accidents to assist the police in relation to the provision of road closures and traffic diversion routes;
- ◆ Clearing debris and treating oil spills that may constitute a hazard to road users;
- ◆ Assisting the medical profession to make urgent home visits to patients.

In each operational area there will be a Duty Supervisor with sufficient operatives on standby available to respond to emergency call-outs. The Duty Officer or WMOR will normally receive telephone calls from the Police. They shall, where necessary, contact the appropriate Duty Supervisor who will assess road conditions prior to mobilising the required resources. The WMOR attendant, when taking calls, may deal solely with the Duty Supervisor for very localised events or conditions. However, where events or conditions may be more widespread, the WMOR attendant shall also alert the Duty Officer. The Duty Officer or WMOR Attendant will log all telephone calls together with the details of any action taken in response.

The operative mobilised will report, the road conditions at the area of the particular hazard and in the surrounding area together with details of action taken which will be recorded by the Duty Supervisor. The Duty Supervisor will notify the Duty Officer or WMOR Attendant of action taken.

The Duty Supervisor is authorised to mobilise all additional resources necessary in deteriorating weather conditions, and has the discretion to contact the WMOR or Duty Officer for advice or assistance at any time he considers that conditions warrant it.

Winter Maintenance vehicles will be stationed at various depots for immediate use outwith working hours. The vehicles will be loaded with appropriate material.

3 DECISION MAKING

3.1 WEATHER FORECASTS

Metdesk provides weather forecast information. Weather information is available to authorised personnel through their website. From 1 October to 30 April (inclusive). Weather forecast information will be posted every day at 1200 hrs by the forecaster.

The Forecasts include a General Synopsis and a route based forecast for each of the 32 primary gritting routes. These forecasts cover an initial 24 hour period and the following 24 to 48 hour period.

The route based forecasts should be used as the source of information on which to base treatment decisions.

Forecast updates do occur and the forecaster will contact the Duty Officer or WMOR in the following circumstances:

RST-related:

- Observed RST now below zero but was forecast to remain above and client has not taken any salting action
- Observed RST now below plus 1C but was forecast to remain above and client has not taken any salting action.
- Observed RST below zero 2 or more hours earlier than forecast and client has already salted (unless below zero period already covered by route/domain-wide zero crossing times and action not affected therefore).
- RSTs below zero for 2 or more hours longer than forecast (unless below zero period already covered by route/domain-wide zero crossing times and action not affected therefore).
- RSTs now expected to remain comfortably (>+2C) above zero but were forecast to be below zero and salting is planned at a later time.
- RSTs below zero and were expected to stay above. Salting has taken place but showers, predicted and observed, have occurred since salting and wash-off may have occurred.

Precipitation/moisture Related:

- Settling snow now expected to arrive earlier, or last significantly longer, than previously predicted (>2hrs).
- Settling snow depths now expected to be significantly greater than predicted.
- Showers (any form) now expected on nights that have required salting, but no showers were predicted.
- Freezing rain now expected, arriving earlier, or departing later, contrary to forecast.
- Hoar frost and/or ice now expected on nights during which dry roads were forecast.
- RSTs dip to zero or below in hail and do not recover 1 hour or more later.

The forecast provider also provides: a morning forecast summary, a 3 – 5 day forecast specifically for Aberdeenshire. In addition precipitation and air temperature forecast maps (between 5 and 10 days in advance) are available.

3.2 ROADSIDE WEATHER STATIONS

Aberdeenshire owns a number of automatic roadside weather recording stations. These weather stations are maintained and calibrated by Vaisala Ltd. The data from these stations and other stations managed by Vaisala Ltd can be viewed using Vaisala Manager.

The information available includes road and air temperatures, dew point data, wind speed and direction, road state (wet, damp, dry or icy), and precipitation information. Station information is used by Metdesk when they are producing their forecast. Station information should be used by Aberdeenshire staff as supplementary information to the route based forecast.

Any defects or faults with stations should be notified to Vaisala without delay.

3.3 TREATMENT DECISIONS

Route Based Forecast information and the Treatment Flowcharts will be used to determine planned treatments.

Carriageway Primary routes – precautionary treatments: upon receipt of the forecast, the Duty Officer will use the Treatment Flowcharts to determine the planned treatment for each route for that evening and the following morning. The Duty Officer may consult Road Managers, Principal Engineers and Supervisors. The planned treatment for each route shall be input by the Duty Officer into Vaisala Manager. This allows the information to be disseminated to appropriate staff and provides an electronic record of planned action, and read-only access allows our neighbouring authorities to view our planned action.

The Duty Officer shall state the number of Winter Supervisors required to be on duty.

Carriageway Primary routes – reactive treatments: where the planned morning action is stand by, the Duty Officer shall review this decision prior to 5.30am using the Morning Treatment (Reactive) Flowchart. If the Duty Officer determines that a morning treatment is required he shall arrange for Winter Supervisors to be informed without delay and shall record the treatment decision in Vaisala Manager.

Carriageway P3 roads: upon receipt of the forecast the Principal Engineer or his delegated officer in each area will use the Treatment Flowchart to determine whether treatment of the P3 roads in their area should be planned for 8.00am the following morning. The decision to carry out a treatment should be recorded in Vaisala Manager and conveyed to their Winter Supervisor.

Footways F1 and F2: upon receipt of the forecast the Duty Officer will use the Treatment Flowcharts to determine whether footway treatment crews are required to be put on stand by.

Footways F3: upon receipt of the forecast the Principal Engineer or his delegated officer in each area will use the Treatment Flowchart to determine whether treatment of the F3 footways in their area should be planned for 8.00am the following morning. The decision to carry out a treatment should be recorded in Vaisala Manager and conveyed to their Winter Supervisor.

There may be circumstances where planned action varies from the guidance contained within the Treatment Flowcharts. In these circumstances the Duty Officer should record in Vaisala Manager the reason for such variance.

In the absence of any indication or information to the contrary, the treatment plan should be followed.

At any time designated Officers or Duty Supervisors may consult the Duty Officer or WMOR Attendant if they feel that conditions have changed such that the treatment agreed in the afternoon should be significantly changed.

On Saturdays and Sundays when the WMOR is operational, the Duty Officer will discuss the forecast with the WMOR Attendant and agree the treatment required. The WMOR Attendant will then notify the Duty Supervisors of the agreed treatment. The Duty Officer will, in addition, arrange for the treatment details to be recorded in Vaisala Manager.

It is the duty of the Duty Officers and Duty Supervisors to keep themselves apprised of the up-to-date information at all times, particularly immediately prior to taking their overnight rest, when contact with the forecasters/WMOR may be appropriate.

The forecasters are available 24 hours a day and can be contacted at any time by staff for advice.

The following flowcharts should be used as a guide to treatment decision making.

Note

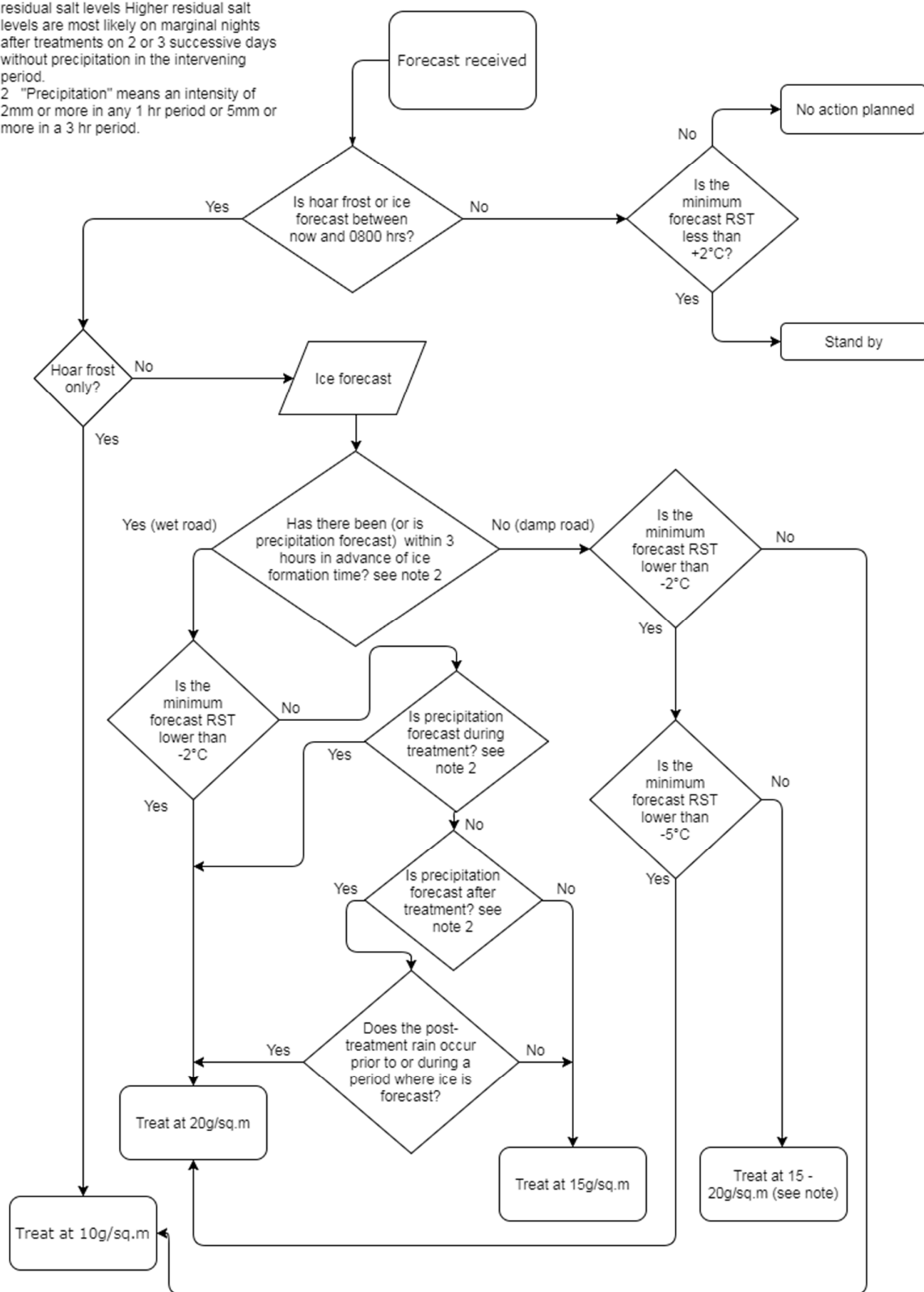
- 1 Attention should be given to the possibility of water run-off and its effect on the efficacy of salt spreading. Such locations should be considered for increased treatment.
- 2 The forecast of rain will have an effect on the timing of treatments. The occurrence of rain will also have a diluting effect on any salt spread, and ideally treatment should take place as close to rain ceasing as possible. In the event that treatment takes place whilst rain is evident or predicted consideration should be given to increasing spread rates.
- 3 The rates may be adjusted to take account of residual salt levels. However, residual salt levels will tend to be lower if lower spread rates are introduced. Residual salt levels are most likely to be significant on marginal nights after treatments on two or three successive days without precipitation in the intervening period.

Evening Treatment Decision Flowchart

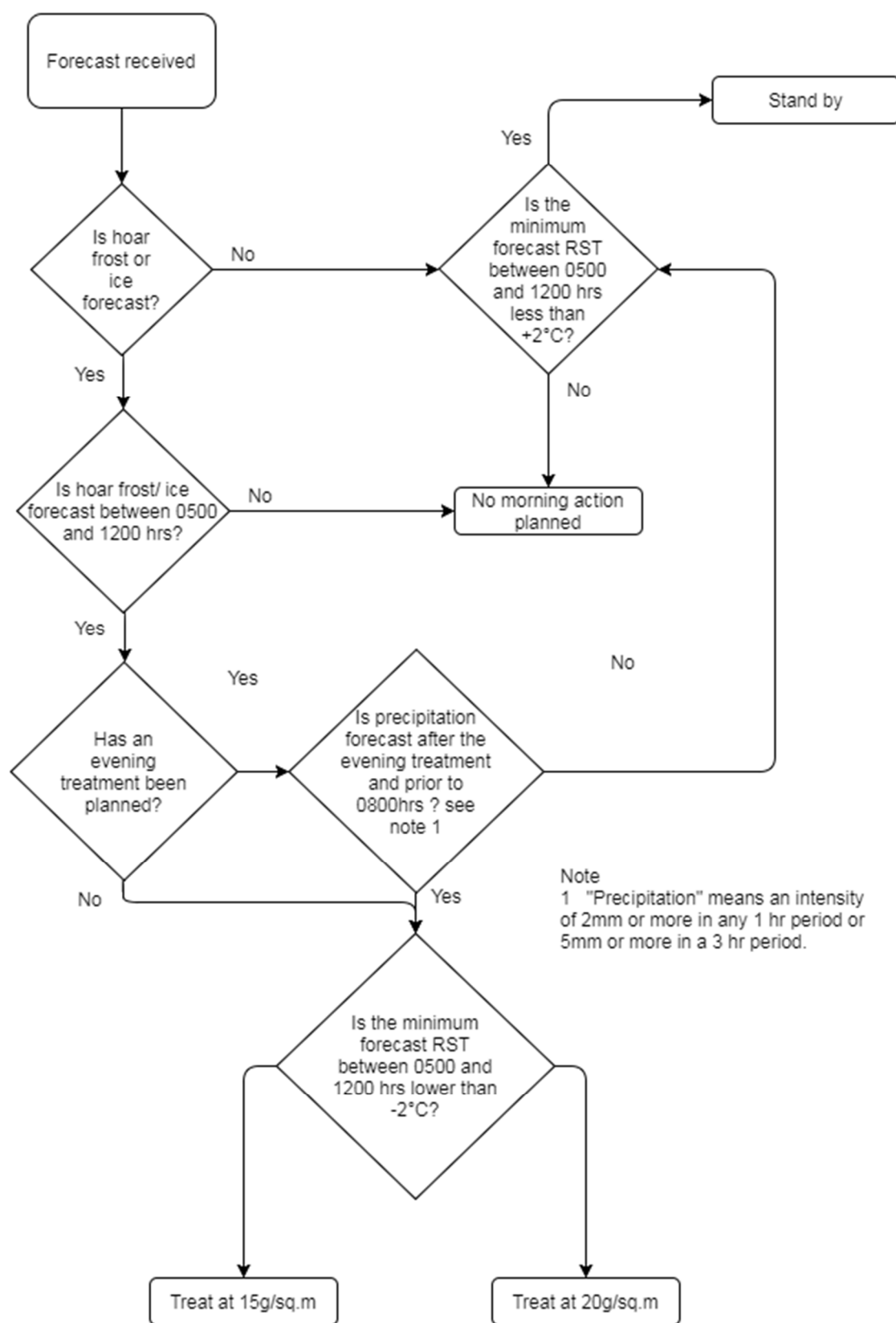
Note:

1 the spread rate may take account of residual salt levels. Higher residual salt levels are most likely on marginal nights after treatments on 2 or 3 successive days without precipitation in the intervening period.

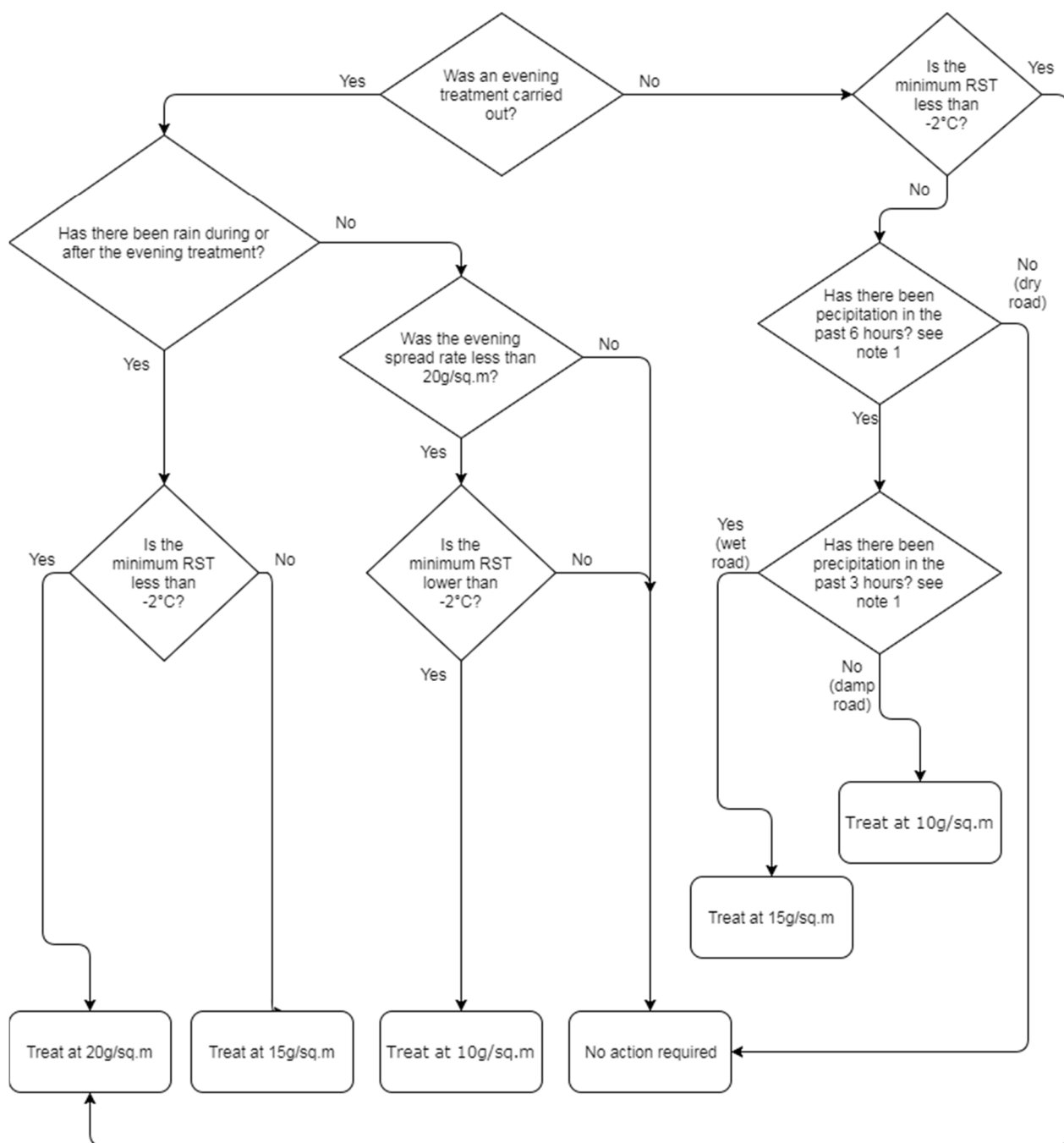
2 "Precipitation" means an intensity of 2mm or more in any 1 hr period or 5mm or more in a 3 hr period.



Morning Treatment (Planned) Decision Flowchart

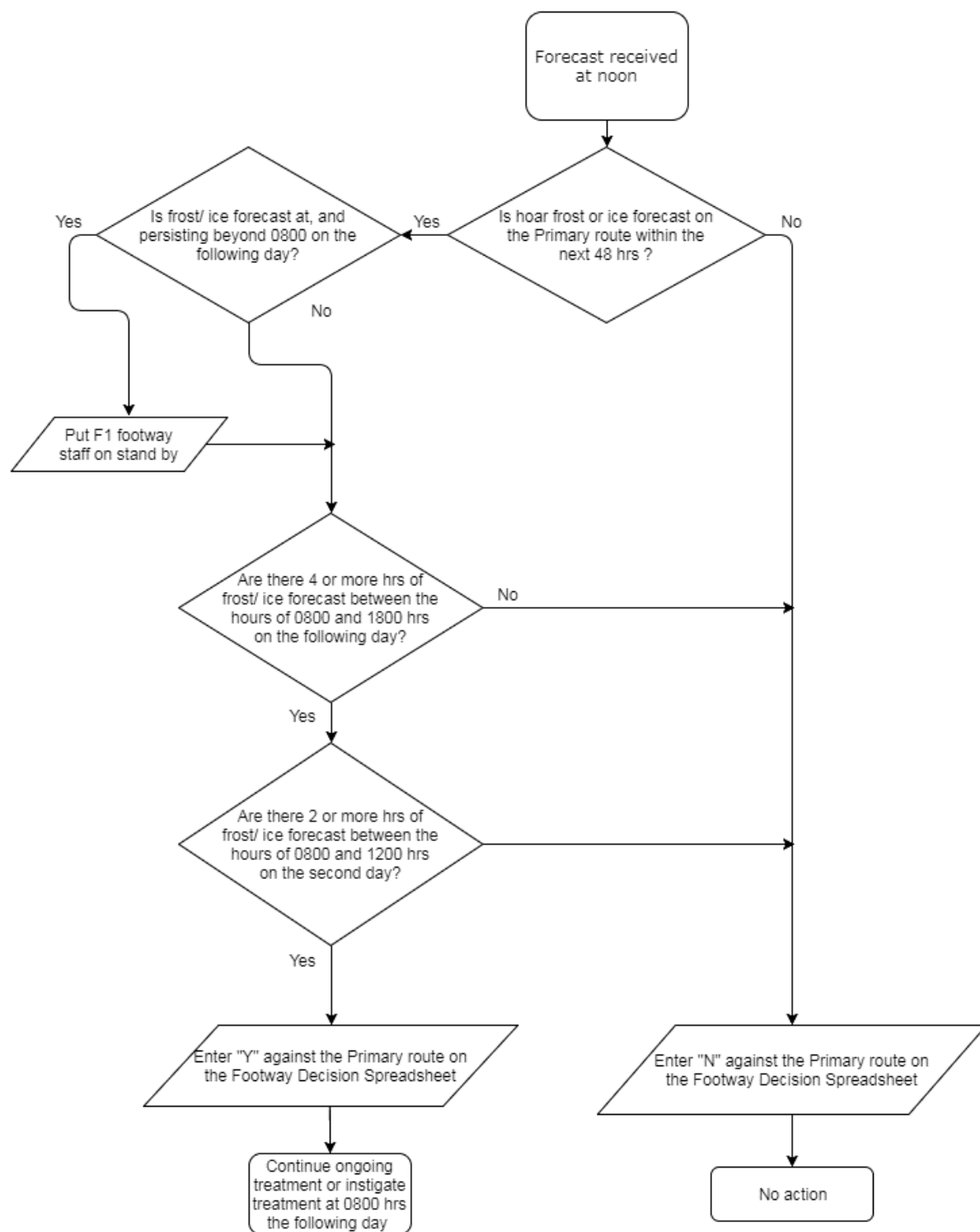


Morning Treatment (Reactive)Flowchart



Note
 1 "precipitation" means an intensity of 2mm or more in any 1 hr period or 5mm or more in a 3 hr period.

Footway Decision Flowchart



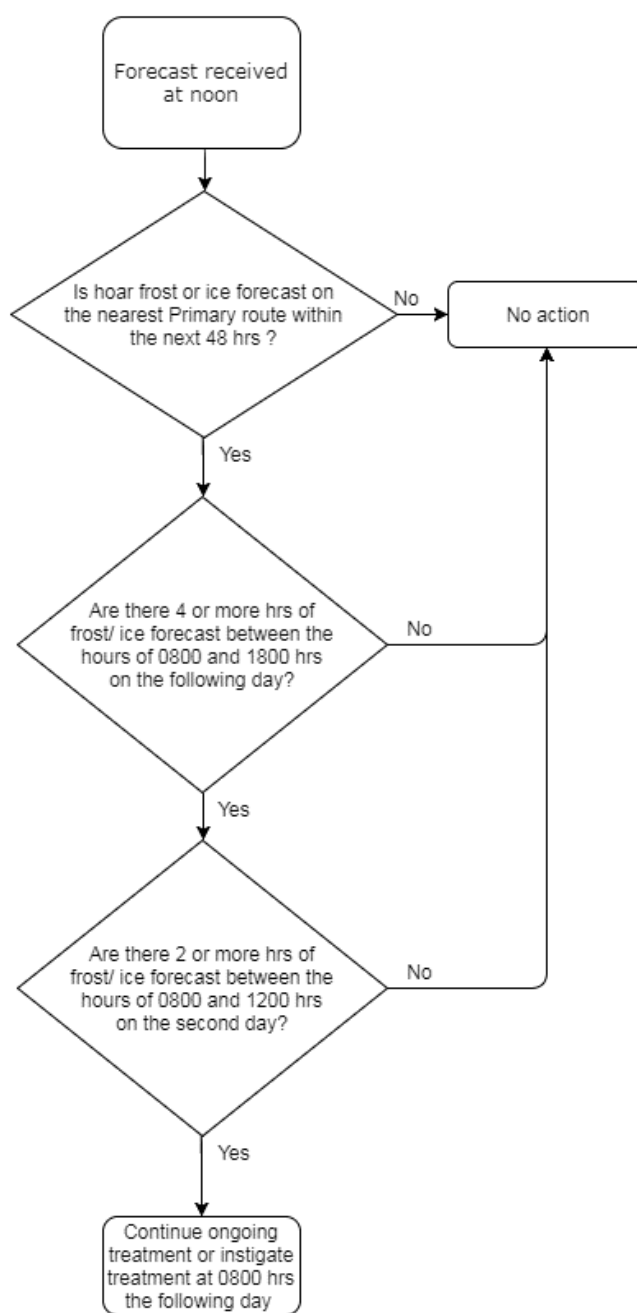
Notes: F1 and F2 follow on treatment will depend on the actual weather conditions encountered locally. The winter Supervisor has the authority to make arrangements for treatment on F1 and F2 footways.

F3 treatment shall not take place prior to 0800hrs.

F4 footways receive a snow clearing service only.

Footway salting often leaves high residual salt levels and the flowchart decision may be ignored if recent footway treatment has taken place and residual salt levels are high.

P3 Treatment Decision Flowchart



Note: P3 treatments are reactive to frost/ ice/ snow conditions. P3 treatment earliest start time is 0800 hrs. Spread rates should be:

for frost - 10g/sq.m salt

for ice layers < 1mm thick - 20g/sq.m salt

for ice/ snow layers between 1 and 5 mm thick 20 - 40 g/sq.m salt/sand mix (or 20g/sq.m salt if earlier treatments have successfully established a debonding layer.

for ice/ snow layers > 5mm thick 20 - 40 g/sq.m sand only. Once layer has started to break up switch to 20 g/sq.m salt/sand mix

Sand should be 1mm - 6mm angular material.

3.4 SNOW FORECAST

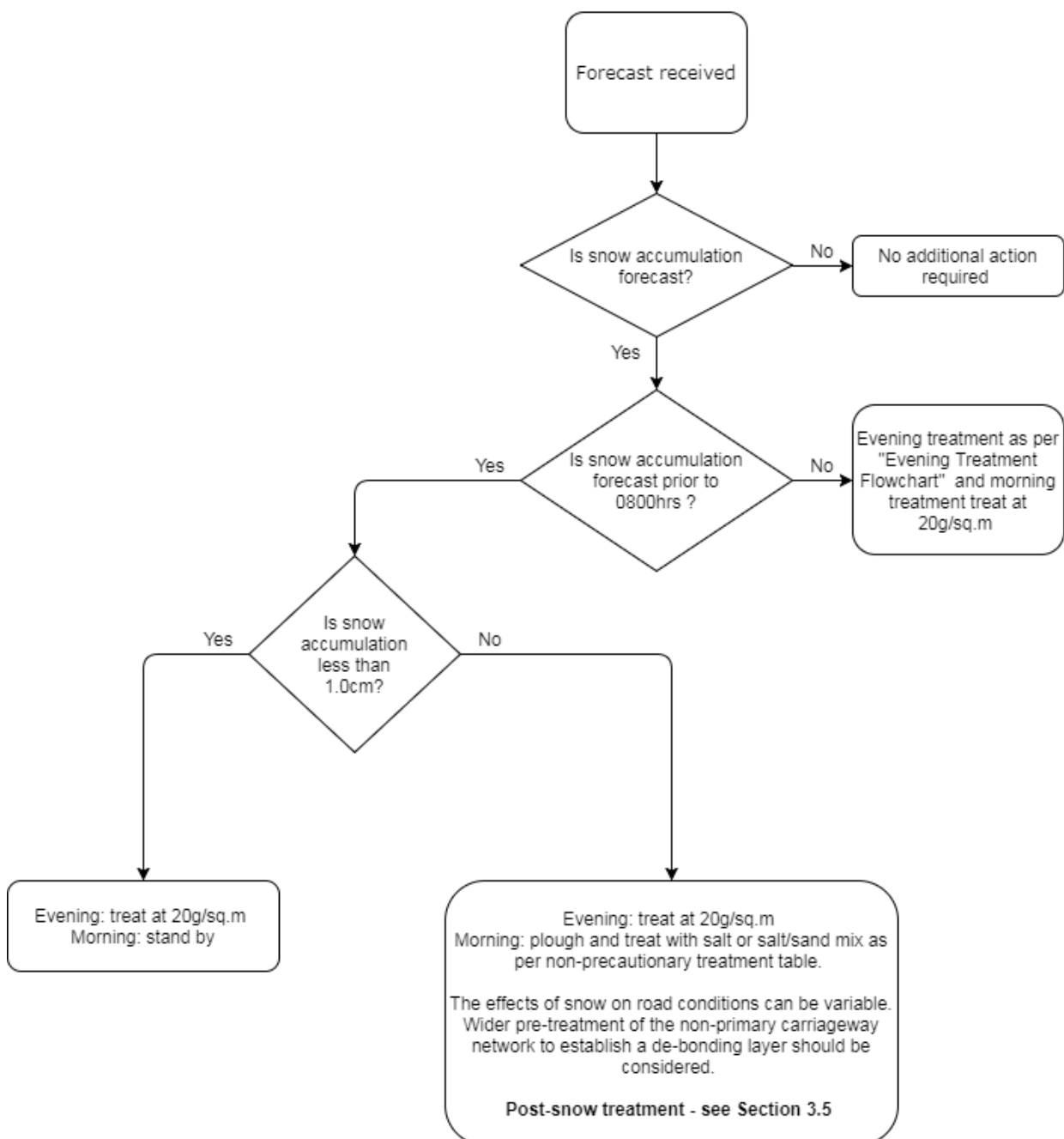
Precautionary treatment of the primary routes prior to snowfall will create a debonding layer and facilitate the break up and dispersal of snow by traffic and make subsequent ploughing more effective.

The forecast of snow on any route shall prompt a treatment decision which may increase the proposed spread rate than that indicated by the treatment flowcharts.

The route based forecasts show "Snow Accumulation (cm)". It should be noted that this accumulation is for each hour i.e. it does not include a summation of previous hours' accumulations.

Where snow is forecast the following flowchart should be used:

Snow Flowchart



3.5 TREATMENT TABLE FOR NON – PRECAUTIONARY TREATMENTS INCLUDING SNOW

It is impractical to spread sufficient salt to melt anything other than very thin layers of snow and ice. Ploughing is the only economical, efficient, effective and environmentally acceptable way to deal with all but very light snow.

The appropriate treatment on roads with snow or ice that have not received precautionary treatment will depend on temperatures and layer thicknesses. **The use of sand will be required** on these roads as the use of salt only can produce dangerously slippery conditions if a weak brine film is formed on top of the ice/snow layer.

Guidance spread rates are provided in the tables below.

Treatment during snowfall				
			20	
Treatment of thin layers of ice < 1mm				
Air or RST above -5°C			20	
Air or RST below -5°C			20	Consider use of salt sand mix
Treatment of compacted snow and ice				
Layer thickness 1 to 5mm			20 to 40 of salt sand mix	
Layer thickness greater than 5mm			20 to 40 of sand only . After layer has started to break up 20 of salt sand mix.	

Notes

- 1 For ice/ snow layers between 1 and 5mm thick salt without sand should only be used where earlier treatments have successfully established a de-bonding layer.
- 2 **For ice/ snow layers greater than 5mm thick treatments with significant amounts of salt should not be considered** as they can leave the surface very uneven – brine collects in hollows and deepens them further.
- 3 Sand should be 1 – 6mm angular material.
- 4 Treatment for snow is not limited to normal morning/ evening treatment times. Repeat treatments are expected, particularly where snow has become compacted, until the break up and/or removal of snow/ ice.

3.6 FOOTWAY TREATMENT

The standard practice for treating footways is to use neat salt, although discretion is given to Supervisors to use sand/salt mixtures when weather conditions warrant it, and especially when dealing with ice which has been formed as a result of the refreezing of partially thawed snow.

In clearing a passage for pedestrians, any cleared snow will be left piled at the edge of the footway. Special attention will be given to pedestrian crossings, road junctions where large

numbers of pedestrians cross, bus stops, etc., and gaps should be left at these locations to allow pedestrians to cross without having to negotiate the heaped snow.

Special care will also be taken to ensure that street gullies are not blocked by piled snow, as this prevents water draining away at the onset of a thaw.

3.7 THAWING

During the thaw, the first responsibility of the Supervisors will be to ensure, as far as practicable, that road channels and verges are cleared in the area of street gullies and cross grips to allow melted snow to drain away. Only after the channels and cross grips have been cleared should an attempt be made to clear the stockpiled snow.

3.8 LIFTING OF SNOW FROM ROADS ETC.

In extreme conditions after heavy snowfall it may be necessary to lift snow from streets. Snow cleared from the road will only be uplifted in exceptional circumstances, e.g. where existing piled snow is preventing further snow clearance from the road.

3.9 COMMUNICATIONS

All vehicles (with the exception of footway tractors) engaged in Winter Maintenance operations should be fitted with two-way radios. Radio sets are installed at Roads Depots. In addition, communication with the radio system can be made using the normal telephone network.

The Emergency Contact schedule contains a list of names, addresses and telephone numbers of:

- All senior staff, supervisors and operatives who will be engaged in Winter Maintenance operations;
- Contacts with adjoining Councils;
- Emergency services, public bodies, and public utilities;
- Weather forecasting bureaux;
- Vehicle Maintenance Services duty contacts;
- BEAR Scotland Ltd.

4 REPORTING AND MONITORING

4.1 ROAD CONDITION REPORTS

Reporting is an integral part of Winter Maintenance operations to:

- brief senior management in relation to road conditions and actions taken;
- advise the public of the up-to-date situation on the road network and highlight any actual or potential problems;
- keep the media informed, via the Council's Corporate Communications office, of current conditions.

The level of reporting will be in relation to the prevailing conditions; the general rule being the worse the weather or road conditions the more information will be required.

Reports, generally relating to the overnight period from 1600 hrs to 0800 hrs, on road conditions in the Areas, will be passed to the Head of Roads, Landscape & Waste Services as follows.

Weekdays – Morning Reports

The WMOR Attendant will prepare and circulate in a standard format details of:

- Outline of weather forecasts issued
- Weather conditions
- Road treatment
- Road conditions
- Roads Closed
- Operational Personnel and Plant Deployed (severe conditions only)
- Other Relevant Information

The report shall be sent by email to the Head of Roads, Landscape & Waste Services to arrive not later than 0800hrs and be copied to the Director of Infrastructure Services' P.A., Roads Managers, Roads Quality & Resources Manager, Principal Roads Engineers and the Corporate Communications office. Depending on conditions, subsequent reports on a similar basis may be required throughout the working day. Should such reports be required, these shall be prepared by the Duty Officer and distributed as above.

Weekends and Public Holidays

In Normal Conditions

The WMOR Attendant will prepare and circulate a report on email by 0800hrs, detailing operations to the Director of Infrastructure Services' P.A., Head of Roads, Landscape & Waste Services, Roads Managers, Roads Quality & Resources Manager and Principal Roads Engineers.

In Severe or Rapidly Deteriorating Conditions

The Duty Officer/WMOR will make a report on the prevailing situation by telephone to the Head of Roads, Landscape & Waste Services, or his delegated deputy, who will relay the information to others as he sees fit.

The Duty Officer/WMOR and Head of Roads, Landscape & Waste Services will keep in touch as necessary throughout the period of severe weather over the weekend period to 0800hrs on Monday.

The Duty Officer/WMOR will prepare and circulate in a standard format details of:

- Outline of weather forecasts issued;
- Weather conditions;
- Road treatment;
- Road conditions;
- Roads Closed;
- Operational Personnel and Plant Deployed;
- Other Relevant Information.

The report will be sent by email to the Head of Roads, Landscape & Waste Services to arrive not later than 0800hrs on Monday and copied to the Director of Infrastructure Services' P.A., the Corporate Communications office, Roads Managers, Roads Quality & Resources Manager and Principal Roads Engineers.

4.2 RECORD OF RESOURCES USED ON WINTER MAINTENANCE

Each day before 0800hrs Monday - Friday (except Public Holidays) the Duty Supervisor will inform the Roads Manager or his Designated Officer of the resources engaged in Winter Maintenance and the road conditions/treatment required on the priority routes, footpaths and car parks. Where operations are on-going throughout the day the Duty Supervisor will make a further report to the Roads Manager or his Designated Officer before 1600hrs of the treatment carried out and the prevailing conditions. The Designated Officer will in turn advise the Duty Officer and WMOR.

On Saturdays, Sundays and public holidays when operations continue beyond the early morning patrols the Duty Supervisor will inform the WMOR of the resources engaged in Winter Maintenance and the road conditions/treatment required on the priority routes, footpaths and car parks. The Record of Operation shall record the time when operations commenced and when they were completed. The WMOR Attendant will in turn advise Roads Managers or their Designated Officers on the next working day of the operations undertaken.

4.3 DRIVER'S LOGS

A "Driver's Log" will be kept by each driver engaged in winter maintenance operations to show the times treatment is undertaken. The log will also show the road conditions encountered and the approximate tonnage of material used. These sheets are to be completed daily by the drivers and returned to the Supervisors each week on Monday.

4.4 MATERIAL USAGE

The Council's salt supply contract requires the supplier to coordinate and manage the deliveries of salt to ensure adequate stock levels at all depots. Supervisors will collate from the 'Stores Issues' and 'Stores Received' sheets the stock movement for each week and forward this to the Principal Roads Engineers. The Principal Roads Engineers will inform the Technical Assistant (Quality & Resources) by 1200 hrs (noon) on Tuesday of the weekly figure for each location. The Technical Assistant (Quality & Resources) will then forward the standard return for each location to the approved supplier. At times of salt shortage, or when directed by the Scottish Government, salt stock information may be required on a more frequent basis. Supervisors will make every effort to supply accurate information by the required timescales.

4.5 EXPENDITURE

The outturn costs for Winter Maintenance can vary significantly from the allocated budget year-on-year depending on prevailing weather conditions.

A report detailing costs and man-hours deployed to date and a projection of the likely final cost and man-hours worked will be prepared by the Roads Quality & Resources Manager on a fortnightly basis throughout the winter to assist in the prediction of overall expenditure required to provide the Winter Maintenance service.

4.6 PERFORMANCE INDICATOR

The Roads Managers will arrange for the gathering and collation of the information necessary to measure the specified performance indicator:

“T&I 17.1: Percentage of primary gritter routes treated by 8.30 a.m.

This measure will demonstrate the level of achievement in keeping key access routes treated at a time of day when conditions are likely to present greatest public concern.

Target: 92%

4.7 HEALTH AND SAFETY

Operatives carrying out Winter Maintenance duties shall be made aware of, and comply with, the relevant sections of the T&I Operations (Roads) Management of Health and Safety document, with particular reference to:

Job Task Analysis Main Activity 12

Risk Assessment Main Activity 5

System of Work, Sections 3.1 – 3.5.

4.8 RECORD KEEPING

Drivers will record action taken for each treatment on a Road Treatment Log. Duty Supervisors will complete Road Condition/Treatment sheets for each treatment. These will include the time when operations commenced and were completed and also details of actual weather and road conditions. The information from these sheets shall be entered into the Vaisala Manager system. **The Duty Supervisor shall record all variations of action from the planned action. The reason for such a variation will be recorded on Vaisala Manager for record purposes.**

There are several situations where variations from the Advice Sheets are appropriate. These include:

- A clear emergency exists which requires immediate action.
- The actual weather [e.g. as measured by Ice Outstations] is at variance from the forecast such that action taken would need to be significantly different from that advised. For example, stepping up of salting from 10 to 20 g/m² or equivalent in mixtures or, if a forecast of snow turns out to be rain, then reducing or changing the treatment. In such cases the meteorological advisers should be contacted, advised of actual weather conditions and new forecast information requested.
- The actual weather experienced by the Duty Supervisor is at variance with the forecast requiring a change to proposed treatment (e.g. unexpected rain).
- Treatment already commenced.

5 PLANT, EQUIPMENT AND DEPOTS

5.1 AVAILABILITY AND MAINTENANCE OF VEHICLES, PLANT ETC.

The maintenance and overhauling of all specialist Winter Maintenance vehicles and plant, footway snowploughs and snowploughs supplied to farmers prior to the commencement of Winter Maintenance operations is the responsibility of Infrastructure Services (Fleet) staff. They will ensure that all items of Winter Maintenance equipment are overhauled, calibrated and are on station not later than 1 October, with the exception of heavy ploughs which are to be on station by 1 November.

Each Roads Manager will ensure that all footway snowploughs are on station by the second week in October at the latest.

Each Roads Manager will check that all vehicles, plant and equipment are fully operational on return to station. Each Roads Manager shall, before formal standby commences, arrange for calibration of all gritting vehicles to be carried out and ensure that all vehicles have a current calibration chart. Regular checks of salt usage should be used throughout the season as a check of calibration accuracy. In addition to the pre-season checks, a further mid-season calibration of all gritting vehicles should be carried out.

A Duty Mechanic will be available at all times during the winter period to carry out routine maintenance and minor repairs allocated to him.

5.2 OPERATION OF VEHICLES

While it is acknowledged that the drivers of vehicles engaged in Winter Maintenance operations do not operate under normal circumstances, it is nevertheless the driver's duty to take every precaution to avoid accidents.

Once the vehicles are on station and Winter Maintenance operations have begun it will be the duty of the driver and/or operator for each vehicle and item of plant to check his vehicle daily before starting duty. The inspection shall cover the fuel, oil and water levels and the lights, brakes and tyres, together with all bolts and couplings fixing ploughs, spinners and safety rails.

Any fault revealed by the check shall be immediately reported to the Duty Mechanic. He will inform the Supervisor whether or not the vehicle is in a fit state to continue with Winter Maintenance operations and whether it should be withdrawn from service for repair at the Depot, or transported to a Repair Depot. In the latter case, the Supervisor, in consultation with the Repair Depot Supervisor, shall decide whether or not, depending on the length of time that any repair is likely to take, an alternative vehicle should be made available as a replacement for the unserviceable vehicle.

The amber flashing lights fitted to each vehicle must be kept switched on during gritting and snow clearing operations. In poor visibility, the vehicle's horn should be sounded as necessary but its use should be kept to a minimum consistent with safe driving and the need to cause as little inconvenience as is possible to residents, particularly during early morning and late night working. Any vehicle engaged in Winter Maintenance operations must not be driven at speeds in excess of 30mph and in urban areas or where traffic is heavy, the speed should be further reduced to limit salt "bounce". A "KEEP WELL BACK" sign is to be fitted and kept clean on the rear of gritting and large snow plough vehicles.

Snow ploughs and scrapers must always be raised above the road surface when passing over sections of road which are clear of snow and ice and drivers should constantly be on the lookout for manhole covers, street ironwork or other obstructions which may be standing proud of the road surface.

Where normal haulage vehicles are being operated with gritters, it will be the responsibility of the driver to ensure that the safety guard rails are securely fitted before allowing operatives on to the platform of the lorry.

In an effort to reduce the possibility of salt bridging in the hopper, it will be the responsibility of the driver to ensure that after every run, the salt or salt/sand mix is emptied, regardless of the amount used. Drivers should therefore note the following:-

- 1 During the day, gritters will not stand loaded or part loaded in the depot after having run a route.
- 2 Gritters returning from an evening presalt and standing outside overnight must be parked up empty.
- 3 Gritters returning from an evening presalt which can be parked up under cover may be loaded up in preparation for the morning patrol, provided the contents remaining from the evening run were emptied out beforehand.

While engaged in Winter Maintenance operations, the vehicle radio must be kept switched to the "on" position. Correct radio procedure will be observed at all times to ensure that urgent messages can be relayed by the Supervisor without interference. Certain areas in Aberdeenshire are subject to poor radio reception and where a driver suspects that his vehicle has been out of radio communications in an area of poor radio reception, he should immediately upon leaving that area, report his position to his Supervisor.

5.3 ASSISTANCE FROM THIRD PARTIES

Other Council Services may undertake the gritting/salting, and/or snow clearing of footways and/or roads in designated areas, by arrangement prior to the onset of winter. Mutual aid to neighbouring Councils may be provided on an ad hoc basis only when authorised by the Head of Roads, Landscape & Waste Services.

The use of farmers to assist in snow clearing is an example of best practice. The criteria for assessing the need and route for farmer ploughs are contained in Appendix 6. Each year, farmers should be provided with the relevant terms and conditions, and with route details. The rate payable to farmers will be reviewed annually in August. Letters of agreement should be sent in early September to allow the list of farmers to be completed for inclusion in Appendix 6 by 1st October.

6 LABOUR

6.1 LABOUR ARRANGEMENTS

Details of labour available to undertake Winter Maintenance operations in each Supervisor's area are given in the relevant Appendices.

7 MATERIALS

7.1 SPECIFICATION

The key de-icing material used in Aberdeenshire shall be 10mm rock salt to BS3247.

7.2 STOCKS OF MATERIALS

Salt - Stocks of salt will be built up to the predetermined levels indicated in the contract requirements with the approved supplier (Appendix 8). It will be the responsibility of the approved supplier to maintain the agreed stock levels at all storage points as per the predetermined schedule. It will be the responsibility of the Supervisor to make a weekly return of salt receipts and issues to the Principal Roads Engineer, who will check and authorise it. The Principal Roads Engineer will forward the checked return to the Technical Assistant (Quality & Resources) by 1200hrs (noon) Tuesday for transmission to the approved supplier. Aberdeenshire may establish strategic stocks of salt at various locations. Access to the strategic stock must be authorised by the Roads Quality & Resources Manager or his designated representative.

Salt/Sand - Stocks of salt/sand mix will be built up to normal levels not later than mid October and will be replenished as necessary thereafter.

For operational reasons, daily estimates of stock levels are necessary to ensure timeous restocking.

Salt/Sand mixtures will be mixed in the dumps in accordance with the instructions of the Supervisor for that area and will generally consist of equal parts sand and salt by weight. This mixture may be varied at the discretion of the Supervisors depending upon road and weather conditions.

In general all areas will use neat salt for normal gritting activities. Mixtures may be used on lower trafficked high-level routes or during periods of sustained low temperatures. The use of neat salt or of the salt/sand mixture may be varied at the discretion of the Supervisor depending upon road and weather conditions.

It shall be the responsibility of the Supervisors to ensure that all dumps within their operational areas are allocated a tractor/loading shovel when required for Winter Maintenance operations.

During the spreading of salt, especially in built-up areas, care must be taken to keep salt clear of trees, hedges, shrubs, lawns etc.

Salt Shortages – In the event of salt shortages at depots, efforts should be made to acquire salt from other locations including strategic salt held by the Council. If alternative sources of salt cannot be found, the level of service will reduce as follows:

- Treat priority 2 footways to only one side of the carriageway. Trigger stock below 12,500t.
- Treat priority 2 footways with sand only. Trigger stock below 10,000t.
- Cease supply of salt to other services and partner agencies. Trigger stock below 7,500t.
- Stop carriageway treatment of priority 3 carriageways, reduce salt spread rate to 50% of recommended rate on priority 1 & 2 carriageways. Trigger stock below 5,000t.

The Roads Quality & Resources Manager shall inform Roads Managers and Principal Roads Engineers when trigger stock levels have been met.

8 SUPPLEMENTARY INFORMATION

8.1 ROAD CLOSURES

The closure of a road under severe winter conditions can only be authorised by the Police but the operation of the signs could equally well be carried out by the Police or Infrastructure Services (Roads). It is absolutely essential that there is consultation and co-operation between the two bodies in the use of the signs *e.g.* for a closure instigated by the Police during the night, the Duty Supervisors affected must be informed as soon as possible, and where the closure initiative came from the Council, the Police must be contacted immediately.

Whilst snow-clearing work is taking place within a blocked section, it is imperative that vehicular traffic is kept out, and this shall be done by placing approved-type barriers across the road and verge.

Where private/commercial vehicles become stuck and are abandoned in a snowstorm, preventing snow clearing operations from proceeding, the Council is only allowed to move these vehicles clear of the carriageway once Police authority has been received. Where a driver of a commercial vehicle is in attendance, he is asked to attach a towing line to get his vehicle clear and must accept responsibility for any damage resulting.

8.2 SNOW GATES AND FLAP DOWN SIGNS

Snow gates are located on major roads where sudden violent snowstorms of arctic severity are frequently experienced. Opening and closure of gates and associated flap-down signs will only take place on the advice of the Council with the authority of the Police. Within the Aberdeenshire Council area there are snow gates located on the following roads:

A93 Perth to Braemar Road at Glenshee.

A939 Cock Bridge to Tomintoul Road at the Lecht.

B974 Fettercairn to Banchory Road at Cairn O' Mount.

8.3 VARIABLE MESSAGE SIGNS

Variable message signs are located in different parts of Aberdeenshire. These are controlled by Police Headquarters and will display a range of predetermined appropriate messages.

8.4 SNOW CLEARING AT LECHT AND GLENSHEE

Lecht

The winter sports development at the Lecht creates particular access problems. In addition to Council plan to cover this area the Ski Company operates a snowplough and snowblower as required.

During snow conditions Lecht Ski Company telephone Alford depot as required regarding weather/road conditions. Information is passed to Strathdon chargehand to assist co-ordination of snow clearing efforts. Direct contact is also made between foreman and Ski Company by use of the Ski Company radio system.

Council priority routes for gritting in Strathdon area are amended at weekends to reflect additional traffic flow to Ski Centre.

Snow gates exist at Allargue and Badnafrave as well as at the Ski centre. Authority to close gates must be obtained from Police. Use of flap-type signs advising of closure must be closely co-ordinated with decisions on opening/closing gates.

There is a Memorandum of Understanding between Police Scotland, Moray Council, Aberdeenshire Council and the Lecht Ski Company regarding the A939 Tomintoul to Cockbridge Road (Appendix 9).

Glenshee

Special arrangements are necessary to provide safe access and egress to and from the ski slopes at Cairnwell.

The primary consideration will be to clear the road to the Perth and Kinross Council boundary to a minimum standard for all vehicles, thereafter to widen out and finally clear the road of all snow and ice.

The Chairlift Company hire a tractor/snowplough for the winter season to clear the section of road between the Council boundary at Cairnwell and Sean Spittal. The cost of the hire is split between the Chairlift Company and Aberdeenshire Council.

A turning space for snowploughs has been established at the south end of the car parks and must be reserved for this purpose. The pedestrian lane on the north side of the road should be kept free of snow during all operational periods.

The operation of the snow gates at Braemar (Glenshee Road and Cluniebank Road) and Glenshee is the responsibility of Police Scotland. Closure will only take place on the instruction of Police Scotland following a check that the A93 is clear of traffic, with the Roads Authority being informed when the gates are closed. The summit gates are in place for emergency use to aid evacuation or if either side of the hill is blocked while the other remains open.

Padlocks and keys for all snow gates are of the same pattern in both Authorities. Snow gates are to be kept clear of snow at all times. A JCB will be available for this purpose. All traffic management will be the responsibility of Police Scotland.

The first line of parked vehicles is to be situated at least 1.5 metres from the edge of the surfaced carriageway, facing the road to facilitate rapid evacuation and a 3-metre lane of movement left behind this row. Regular gaps are to be left to facilitate exit and entry and great care must be taken to ensure that parking does not occur on these gaps during the course of the day. Where possible, cars from Aberdeenshire would be parked initially on the north east car parks and those from Perth and Kinross on the more southerly areas. The car park on the west side of the road north of the ski building would only be used during busy periods and again by north traffic for ease of exit.

8.5 RAILWAY LEVEL CROSSINGS.

Salt spreading should cease at the STOP line in advance of a level crossing and recommence beyond the STOP line on the opposite side of the crossing. Treatment over the level crossing is only provided by salt carryover from traffic.

Ploughing over level crossings should be carried out at a maximum speed of 5mph.

Snow blowers must not be used on level crossings.

8.6 SNOW FENCES AND WARNING SIGNS ETC.

The Roads Managers, in consultation with their Supervisors, shall consider the erection of semi-permanent snow fences and “ICE” hazard signs in those areas where drifting snow and/or ice habitually cause hazard. The Supervisors shall consult the landowners and obtain their approval prior to erection of any snow fencing.

The snow fences and the temporary “ICE” hazard signs will be removed by the Supervisor when the possibility of adverse weather conditions has passed but not later than the end of April. Snow fences will also be removed immediately on request of the person on whose land they have been placed.

The Roads Managers will ensure that a number of portable “ICE” hazard warning signs are distributed to Supervisors and to each Depot. These will be erected in an emergency at any especially hazardous location if, for any unforeseen reason, a gritting vehicle is not readily available to treat a hazardous road surface.

8.7 GRIT BOXES

Grit boxes will be provided, maintained and kept filled by Roads at locations which have been identified as being potentially hazardous, so that sand/salt mixtures will be readily available at these locations to the local street orderly, roadman, other Council employees, or local residents should they choose to use this facility. Grit boxes shall only be provided at locations which meet the qualifying criteria. In addition, larger volume grit boxes are provided at Household Waste and Recycling Centres for communal use (Appendix 7).

The location and condition of all grit boxes should be reviewed annually in late summer/autumn.

8.8 WINTER MAINTENANCE OPERATIONS FOR OTHER PARTIES

Provision of Salt and Salt/Sand mixes

Salt or salt/sand mixes will be made available to public bodies either to be picked up at the nearest depot or to be delivered.

Public bodies shall include all other services within Aberdeenshire Council and Health Boards, Centres and Authorities so far as the salt or salt/sand mix is for use at facilities within Aberdeenshire.

No salt or salt/sand mix shall be issued or delivered by any Roads depot without an official order.

Gritting and Snow Clearing at Schools

Gritting and Snow Clearing shall take place, at the access roads, bus turning areas and slip roads at the following schools:

Alford Academy	Aboyne Academy	Banchory Academy
Banff Academy	Ellon Academy	Fraserburgh Academy
The Gordon Schools (Huntly)	Inverurie Academy	Kemnay Academy
Mackie Academy	Mearns Academy	Mintlaw Academy
Peterhead Academy	Turriff Academy	Westhill Academy

Although the main focus in rural areas will be on the snow clearance of public roads, assistance will be given with snow clearing at the access roads, bus turning areas and car

park entrances at other schools whenever snow ploughs or farmers' ploughs are in the vicinity and it is practical to do so.

Snow Clearing at Other Council Properties

Infrastructure Services, Roads are responsible for co-ordinating snow clearing services to other Council properties including schools and Housing & Social Work establishments. As Roads resources are generally fully committed to winter maintenance of the public road network, Landscape Services take the lead role in this operation.

Landscape Services shall maintain a list of Council properties at which they carry out or arrange to carry out snow clearing. The extent of this service is limited to clearing main pedestrian and vehicular accesses and car parking areas. Operators of these properties should be aware that in times of heavy snowfall there will be disruption to their normal routine. In particular, footway access may be narrower than normal, and some parking areas may not be cleared. The removal of snow will not normally be carried out at these properties.

Gritting and Snow Clearing at Hospitals and Health Centres

No gritting or snow clearing shall be undertaken at any hospital or health centre in Aberdeenshire.

Gritting and Snow Clearing at Other Locations

No gritting or snow clearing will take place at any other location within Aberdeenshire.

All Winter Maintenance carried out at schools and Social Work properties is on a rechargeable basis. Roads shall maintain adequate records of when such work is done to allow full recharging to the properties involved to take place.

8.9 RESILIENCE NETWORK

In extreme unforeseen circumstances such as fuel shortages or epidemic illness the level of winter service is likely to be severely reduced. The resilience network is designed to allow major settlements to access the trunk road network or routes towards Aberdeen. Treatment of the Resilience Network only will be instructed by the Head of Roads, Landscape & Waste Services. (Appendix 9)