

WINTER SERVICE POLICY 2021/22

1.0 EXECUTIVE SUMMARY

- 1.1 Each year Members consider for approval the Council's Winter Service Policy. The format and general content of the proposed Winter Service policy 2021/22 remains similar to 2020/21.
- 1.2 The policy sets out priorities for treatment and routes which will be 'pre-treated' in advance of winter hazards. In prolonged winter conditions the policy provides for all roads to be treated with resources being allocated to focus on the hierarchy of priorities (i.e. the lower priorities will only be cleared once the higher priorities have been treated and are clear).
- 1.3 The policy is a comprehensive document setting out the management, governance and operational requirements for the winter service. The policy sets out signing provision to warn the travelling public of roads which are unsuitable for use during extreme winter conditions. The policy also provides a protocol for the reduction in use of salt and preservation of remaining stocks in the unlikely event of replenishment salt stocks not being available. This was introduced following the severe winters of 2009/10 and 2010/11.
- 1.4 It is recommended that the Committee:-
- Agrees that the £50k funding allocation for community resilience is used as part of the general winter budget.
 - Notes weather summary from 2020/21 at Appendix 1
 - Approves the 2021/22 Winter Maintenance Policy at Appendix 2
 - Endorses the Advisory signing, routes unsuitable in severe conditions at Appendix 3
 - Approves the Salt Use Reduction and Preservation of Stocks Protocol at Appendix 4.

WINTER SERVICE POLICY 2021/22

2.0 INTRODUCTION

2.1 This report presents the Winter Service Policy 2021/22 which remains in a similar format and covers a similar network to the Policy approved by this Committee in previous years, with COVID also covered. This is generally based on the network and times of the public bus service with additional priority and resources allocated to strategic high speed roads.

3.0 RECOMMENDATIONS

3.1 It is recommended that the Committee:-

- Agrees that the £50k funding allocation for community resilience is used as part of the general winter budget.
- Notes weather summary from 2020/21 at Appendix 1
- Approves the 2021/22 Winter Maintenance Policy at Appendix 2
- Endorses the Advisory signing, routes unsuitable in severe conditions at Appendix 3
- Approves the Salt Use Reduction and Preservation of Stocks Protocol at Appendix 4.

4.0 DETAIL

Winter Maintenance Policy 2021/22

4.1 The proposed Winter Maintenance Policy for 2021/22, in terms of treatment standards and routes, remains largely unchanged from that approved by the Council in 2011. The number and category of pre-treatment salting routes remains the same including the amendments introduced to cater for the transfer of A83 Kennacraig – Campbeltown to the Trunk Road network in August 2014. No other direct changes to the category or length of routes treated is proposed at this time. The current level of treatments is based largely around the public bus service network.

4.2 The advisory signs of alternative routes in severe snow conditions remain similar to the four routes proposed in previous years. Details on sign configuration and locations are contained in Appendix 3 of this report.

4.3 Winter stand-by arrangements will commence on Friday 29 October 2021 and will continue until Friday 15 April 2022. There are a total of 31 treatment routes detailed in

the policy's operational planning web-based management tool. Should weather conditions dictate it may be necessary to bring forward the start date and push back the finish date. This would be determined operationally depending on forecasted weather conditions.

- 4.4 The Winter Treatment Fleet for 2021/22 will consist of 17 hired gritters from Econ Ltd. 1 contractor vehicle on Jura, one shared route assisted by 1 contractor in Lochgoilhead and 12 Council vehicles. This provides 31 main frontline vehicles with 2 spare vehicles to cover breakdowns. In addition, there are 2 x 7.5 tonne tipper vehicles which also incorporate 'multispread' units (gritting attachments) and ploughs and a further 4 x 7.5 tonne tippers that can accommodate ploughs giving a total of 6 extra vehicles that can be deployed together with tractors and 'V' ploughs if conditions demand.
- 4.5 The requirement to manage drivers' hours within the delivery of all Council Services directly impacts on the retention of the Council's Operator Licence. Drivers from across the operational teams (grounds, waste, roads) deliver the pre-treatment service, in conjunction with external contractor assistance on the islands of Jura and partly in North Cowal. In extended periods of extreme winter conditions consideration will be given, at an operational level, to prioritising services to ensure that winter treatments can be delivered. This may result, for example, in refuse collections and other services being temporarily suspended in order to prioritise the clearing of ice and snow. Such measures are only likely in prolonged periods of extreme weather.
- 4.6 Steps are being taken to increase the available driver "pool" by utilising other council drivers including grounds and waste disposal operatives. Discussions are ongoing to resource additional resilience by engaging assistance from external contractors on some mainland routes where in-house coverage is limited. In extreme and prolonged weather events and where other priority tasks occur (such as responses to road traffic collisions, collapsed culverts or COVID 19 outbreak/isolation requirements etc) resource may need to be allocated based on a risk based priority.
- 4.7 The table below indicates the statistical variations in operational activities over the last five winter seasons. Weather patterns vary with some years experiencing hazards more widespread and in others more concentrated on inland and higher routes. The equivalent full fleet runs statistic is used to indicate an approximation to the budget allowance. The application of salt varies between 10gm² and 40gm² depending on a number of factors including road surface temperature, forecast and residual salt. In parallel with these methods, grit and sand are applied in snow conditions. The route with the individual highest number of turn-outs, remains consistently the A819 East Lorn strategic route.
- 4.8 Footways and footpaths will only be treated, in periods of lasting hazard, when it is considered by the winter management team that the physical condition of the footways and footpaths makes it necessary and treatments will be effective. Footways and footpaths will usually only be treated during normal working hours. Our staffing levels are such that we generally don't have sufficient labour available to deal with footways and footpaths in parallel with treatments of the carriageway. This winter maintenance policy applies to the public road network and a limited number of 'emergency service and public transport routes. Public car parks, access to council offices, schools etc all being subject to local arrangements out with the scope of this policy.
- 4.9 In specific locations additional information and diversion signing will be erected to

further inform drivers of the hazardous conditions on some routes and advise them of alternative routes where available resources will concentrate on maintaining treatments. There are three roads where signing to indicate specific alternative routes are available. The sign is deployed for these road closures are detailed in Appendix 3.

1. A817 "Haul Rd", Lomond.
Snow gates at A82 and A814 "central" roundabout
Diversion via A818 Arden - A814 Garelohead
2. C46 Glen Aros / Glenbellart road , Mull Signs
at Aros Bridge and Dervaig Primary School
Diversion via A848Tobermory
3. C9 Glenfinart Road (The Larach) , Cowal
Signs at Whistlefield Hotel and Sligrachan Bus turning head;
Diversion via A880 Cot House
4. C11 Otter Hill road (Bealach an Drain) , Cowal
Signs at Glendaruel A886 and Otter Ferry B8000;
Diversion via A8003 Tighnabruaich and Kames.

Appendix 1 to this report provides a summary of the 2020/21 winter conditions.

Winter Season	2016-17	2017-18	2018-19	2019-20	2020-21
Equiv Fleet Runs	66nr	110nr	62nr	78nr	79nr
Salt used tonnes	11,457t	22,992t	13,059t	12,280t	15,753t
Most turned out run	A819 = 99nr	A819 = 162nr	A819 = 109nr	A819 = 139nr	A819 = 114nr

4.10 The Council's Winter Maintenance budget was increased by £500k in Financial Year 2019/20 to an operational budget of £2.12M. This provides the capability to deliver the equivalent of approximately 62 full runs over the coming winter season. This is an increase in estimated runs from the pre 2019/20 budgeted 55 runs, however was lower than the actual 2020/21 figure of 79 runs. The actual cost of winter maintenance is dependent upon the severity of winter conditions and is a financial risk in that the service responds in accordance with set policy to variable weather events which are not predictable, as an example in the financial year 2018/19 the Hire Gritter Supplier went into administration and thanks to strong financial procurement management the council did not suffer any detrimental financial burden, in fact we were able to save over £250k in hire costs. The amount of salt used will vary year to year depending on the grams per M² spread rate of individual runs.

4.11 Overall the financial cost for 2020/21 was £ 2.276 million against a budget of £2.122 million. The actual cost of winter maintenance will be dependent upon the severity of winter conditions and is an ongoing financial risk in that the service responds in accordance with set policy to variable weather events that are not predictable.

- 4.12 The current 2021/22 Gritter Hire Contract with Econ Ltd is valued at £916,864.00 ex VAT. This contract is over 2 years which provides better value for money than a single year procurement.
- 4.13 As of 23 April 2021, the Council held a stock of 10,670 tonnes of salt. Provisional replenishment orders will be called forward from mid-Oct, for 1,000 tonnes. This will top up capacity in storage facilities to the target starting stock of +11,000 tonnes. Salt deliveries will continue to be ordered through the winter period to keep reserves stocked. Weekly salt reserve stock lists are submitted to Scottish Government as part of a Scotland wide winter resilience plan.
- 4.14 The Salt Use Reduction and Preservation of Stocks protocol was introduced in December 2010 in light of severe shipping and material shortages experienced at that time. The protocol is attached at Appendix 4.
- 4.15 The assessment of school routes subject to pre-treatment before 08:00hrs, as required under Priority 3b of the route hierarchy, in section 4 of the Policy, has been assessed for the year after the confirmation of enrolment numbers from the autumn intake. The levels of occupancy on school bus routes have been confirmed. No amendments are required to the pre-treatment route plans and descriptions for the coming winter season 2021-22.

Community Engagement

- 4.16 As part of the 2019/20 year budget settlement, Council allocated an additional £500k to offset historic overspends. £50k of this funding has been allocated to help improve community resilience during winter conditions. Due to possibly numerous factors including COVID-19, officers have had limited uptake from communities expressing interest in this initiative. The funding has effectively been used to deliver the policy treatments (delivering the policy treatments last season exceeded the budget). It is recommended that this initiative is abandoned and that the £50k is allocated towards the general winter budget.

Transport Scotland

- 4.17 Following the decision to trunk the southern section of the A83, Transport Scotland are now roads authority for this section of road. Argyll and Bute Council continue to provide a winter service and reactive emergency repair service on behalf of Transport Scotland via Bear Scotland to the section of trunked A83 between Kennacraig and Campbeltown. The current 4G (Generation) contract between Transport Scotland and their network operator BEAR Scotland will come to a natural end in September 2022 when a new 5G contract will be mobilised.

5.0 CONCLUSION

- 5.0 This report details the Council's Winter Maintenance Policy for 2021/22 and highlights the pressures on resources and operational effectiveness due to the constraints of future funding levels and best practice advice.
- 5.1 Committee is asked to approve the Winter Service Policy 2021/22 and note the

details in appendices 1 – 3.

6.0 IMPLICATIONS

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| 6.1 | Policy | It is considered to be good practice for Committee to confirm policy for winter maintenance activity on an annual basis. This report seeks to achieve the above. |
| 6.2 | Financial | The Council's Winter Maintenance budget was increased to £2.12M in financial year 2019/20. This provides the capability to deliver the equivalent of approximately 62 full runs of the treatment fleet over the season. The actual cost of winter maintenance is dependent upon the severity of winter conditions and is a financial risk in that the service responds to weather events that are not predictable. Should the criteria for school bus routes change this will have a financial effect on the budget. Extra costs associated with COVID-19 to ensure vehicles are properly cleaned as well as if they are off road for 72 hours in the case of contamination will also have an effect on the budget. |
| 6.3 | Legal | The Winter Maintenance Policy sets out the Council's level of service provision for winter maintenance |
| 6.4 | HR | Staffing levels have reduced over recent years, this can make it challenging to have sufficient staff to deal with a severe winter event. Processes are in place for external suppliers to assist in geographic specific locations with additional support being levered in by framework contracts should severe weather persist. |
| 6.5 | Equalities
/Fairer Scotland Duty | None known |
| 6.6 | Risk | The proposed policies are designed to reduce the Councils exposure to risk. |
| 6.7 | Customer Services | The winter service has been designed to maintain access to the Councils Strategic Road Network during winter conditions. |

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August 2021

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APPENDICES

1. Summary of 2020/21 winter conditions

2. 2021/22 Winter Service Policy
3. Advisory Signing – Road Closures in Severe Conditions.
4. Salt Use Reduction and Preservation of Stocks Protocol (2020 revised)

Appendix 1 – Weather Report Summary of conditions 2020-21

Weather Observations 2020-2021, Summary

Winter Season Summary, October 2020 – May 2021

A season of contrasts, with generally settled, average to mild conditions, before the new year. Wintry conditions were restricted to occasional nights with no sustained periods of frost in the first 8 weeks of the operational standby period. There was a sustained period of cold weather starting in the Christmas – New Year week and running through to the middle of January. This resulted in hard frosts and persisting ice conditions in shaded areas. Showers were of sleet, hail and snow particularly at altitude but lying for a few days at lower levels. The lowest RSTs for the season at Minus 10 Deg C were recorded in this period. Conditions fluctuated through January and February, with several “Named Storms” bringing mild wet conditions alternating with colder periods as weather fronts passed over the country resulting in alternating wind directions. March was unusually mild by comparison, with very limited sub-zero hazards necessitating treatment. As temperatures improved in clear sunny conditions the contrast at night still resulted in localised RSTs of Minus 4Deg C at times. The second part of March was mild and wet but colder conditions returned with a late dip in average temperatures during the first 10 days of April. Conditions remained marginal in late April and there was some late season Snow and Hail into May, mainly affecting higher routes with daytime RSTs reaching Plus 30 - 35Deg C in sunny spells before falling back to Plus 1 – 4 Deg C in the early hours. Weather fronts and periods of more persistent rain affected the area up to Mid-May, end of winter forecasting period.

Weather Observations, October and November 2020

November marked a bit of a change after a wet October, with rainfall generally near or perhaps slightly above normal. However, temperatures were generally well above average after a colder than normal October. The mean temperature for the whole month was around 1.5-2C above normal, and as a result, the number of frost events was below normal as well. This is due to winds often being out of the southwest, bringing in more sub-tropical air from the Atlantic. The first few days of the month saw a few low pressure systems bring some heavy rain and slightly cooler than normal air in from the northwest. Some chilly nights developed on the 3rd and 4th, but frost did not develop. However, by the 5th and until the second week of the month high pressure overhead and into Central Europe kept things a bit drier. There were a few chilly nights, but temperatures remain above freezing thanks for fresh breezes and patchy cloud. When low pressure tracks returned later in the second week and into the third, they brought some rain again and a few days of some colder air from the northwest. For the most part, however, winds had shifted to the southwest and were bringing in milder air from the sub-tropical Atlantic. During the third and fourth weeks of the month, the large-scale weather pattern was fairly consistent, with high pressure often to the south or southwest with the jet stream just to the north of Scotland. This kept the weather unsettled but also continued to keep the coldest polar air masses away to the north and nearer to Iceland. There were still a couple of cold nights as the occasional cold front would sweep in from the northwest followed by a brief northerly wind and a ridge of high pressure. The first of the cold snaps was on the nights of the 18th and 19th as a cold front brought in a more polar air mass. A few patches of frost developed, but patchy cloud kept many areas above zero. The second cold snap occurred on the 25th through the 28th under high pressure and partly clear skies overnight. Frost initially was quite patchy with many marginal but above zero areas, but a very cold night on the 28th saw widespread frost; Altnafoedh reached the coldest minimum of the month with a low of -2.4C, but many sensors were below zero. These cold snaps were always short-lived though, lasting only one or two days before a warm front brought milder air back in from the southwest or west. High pressure ridges behind cold fronts were the main culprits of frosty nights.

Weather observations - December 2020

Skies cleared overnight into the 1st Dec allowing RSTs to drop over the Northern and Western mainland areas, with a minimum of Minus 2 Deg C at A886 Leanach, Minus 1.9C at A816 Salachray to Minus 0.5C at A819 Accurrach. This trend in overnight sub-zero temperature continued for the first week up until 6th December with a minimum of Minus 4.8C at A819 Accurrach on 3rd and Minus 6.5C at A886 Leanach on 4th Dec.

Temperatures recovered from 7th Dec onwards for a period up until 21st Dec. RSTs varied throughout this period and occasional treatments were mobilised in response to marginal forecasts, with 12th Dec recording a short duration dip to minus 1.9C overnight at A886 Leanach and Minus 1.7C at A816 Salachray.

From 21st Dec RSTs of Minus 1 at Leanach and Blaran progressed overnight until by the morning of 24th, all sensors recorded sub-zero overnight from Minus 0.5C at the Mull sensors to Minus 5C at Leanach. This spread of sub-zero temperatures was repeated overnight into Christmas morning.

Christmas Day became increasingly mild and wet with drizzle turning to rain, with strong winds developing overnight with the arrival of named storm "Bella" on Boxing Day. This allowed temperatures to remain 2-3 Deg above freezing for this 24 – 36 hour period. The highest winds were recorded as 48.5mph gust 15:00hrs at Ballygrant and 68.7mph gust 16:00hrs at Dervaig on 26th. Storm Bella moved south east into England and eventually the North Sea over 26th-27th Dec, with most damaging winds affecting areas well south of Argyll and Bute. For the remainder of December, RSTs continued to drop with more of the network sub-zero overnight until by 31st all sensors recorded sub-zero with inland sensors as low as Minus 7.7 Deg C at Leanach on the morning of 31st with little recovery above freezing during sunny conditions. Precipitation became less of a risk, becoming confined to hoar frosts, as clear cold conditions allowed sustained cold conditions to develop.

Weather observations - January 2021

The cold, clear, settled conditions at the end of 2020 continued into the first week of January 2021. Sub-zero temperatures were recorded at all sensor sites throughout the period up to 7th Jan. at which point cloud cover started to allow RSTs to recover. The lowest overnight temperatures for the season so far, were generally recorded at the high level inland north-eastern sensor sites at either A886 Leanach – Cowal or A819 Accurrach – Lorn. Sub-zero RSTs were recorded at all sensor sites each night through to 7th, with Minimum RSTs recorded ranging from Minus 6.3C on 1st Jan to a record low of Minus 9.7C at Leanach on 3rd, with Blaran recording minimum Minus 7.9C overnight both 4th and 5th, with Leanach dropping to Minus 8.7C on 6th. A band of snow passed over the area in the early hours of Thu 7th, resulting in accumulations, which persisted mainly on high level inland routes, into daylight hours. Cloud cover allowed temperatures to recover slightly but with minimum Minus 4.7C recorded, again at north-eastern sensors. However drizzle falling onto sub-zero surfaces caused a "freezing rain" effect, which resulted in ice re-forming after treatments during the day. Colder temperatures returned overnight into 8th with the overnight minimum ranging from Minus 3.7C at Ballygrant-Islay and Argyle St – Helensburgh, down to Minus 8.7C Accurrach and Minus 9.3C Leanach. The coldest recorded surface temperatures of the season so far were recorded overnight into 9th Dec, with Accurrach down to Minus 9.3C and Leanach to Minus 10.1C. Cloud cover and bands of rain allowed conditions to improve overnight into 10th with minimum RSTs Minus 0.7C to Minus 1.2C. There were still incidents of persisting ice on untreated sections of the network as temperatures were slow to rise in shaded areas or cloudy conditions. The improvements continued into 11th, with wind and rain covering the area with minimum RSTs Plus 3.1C. Colder weather returned overnight into 12th, as a cold front moved over the area drawing northerly air and reducing overnight RSTs to between minus 6.2C at Leanach and minus 5.8C at Salachray, Blaran and Accurrach through to Minus 1.7C at Lochdonhead – Mull. This variable weather pattern continued, with still a full spread of sub-zero RSTs on 13th from Minus 0.2C down to minus 5.2C but with clear sunny spells during the day. A band of rain sleet and snow passed over the area

into 14th, with a distinct East / West split in conditions. West mainland and island sensors stayed positive, between Plus3C to Plus 1.1C whereas inland eastern domains dropped subzero, down to Minus 1.7C at Accurrach under persisting wintry showers through the day. The risk of overnight sub-zero RSTs diminished further into Friday 15th, with only a few sensors reporting sub-zero, however this was spread geographically with the minimum Minus1.5C recorded at Ballyrant – Islay with Accurrach and Leanach only marginal at Minus0.2C with most other sensors marginal but positive. Conditions continued to fluctuate over the next 5 nights, with marginal conditions and localised sub-zero RSTs in unsettled conditions with rain and sleet showers and light frosts on overnight cloud breaks. Named Storm Cristoph passed over England on Wed 20th with Argyll and Bute outside the area of severe weather, with heavy rain and snow well to the East and North, as the trailing edge of the storm moved in off the North Sea. Wintry showers in a northwesterly airflow brought a light covering of snow to most western domains on Saturday 23rd with more snow overnight with RST lows between Minus3.8C and Minus7.4C. Sunny intervals and scattered showers on Sunday 24th continued into Monday 25th. As the last week of the month progressed, hazards became confined to inland high level routes, with limited risk of wintry showers, Conditions were briefly milder than the previous week with limited subzero RSTs. In the final weekend, clear sunny days led to overnight Area wide frosts with minimum RSTs on 30th Minus5C and Minus6C on 31st.

Weather Observations - February 2021

February started as January ended with generally clear cold conditions overnight into 1st but with cloud cover progressing in a Northeasterly direction. . Due to its geographical location, Argyll and Bute was sheltered from the snow falls experienced in more easterly authorities, in January and February, with very little apart from intermitted flurries on high level routes.

Overnight RSTs Ranging from Minus 0.1C at Stewarton –Kintyre to Minus 6.5C at Accurrach– East Lorn, this trend continued into Tue 2nd with only the North eastern domains recording overnight sub-zero RSTs, Stewarton Plus 1.6C to Salachray Plus 0.1C , Dervaig –Mull Minus 0.1C to Accurrach Minus 1.6C with light precipitation under cloud, of sleet and snow at higher levels in the east.

This trend for localised sub-zero temperatures at high level, inland sensors continued into 4th, with A817–Haul Rd dipping to Minus1C overnight. Low level conditions were mainly of rain and high winds causing resultant flooding and wind-blown tree hazards. Light snow showers started to affect Eastern districts on the afternoon of 4th. Cloud cover over most of the area minimised the extent of sub-zero conditions until 7th, when most rural sensors dropped between Minus0.3C Stewarton and Minus2.4C Dervaig, with a more universal drop in RST overnight into 8th of Minus1.4C – Dunoon to Minus4.8C - Accurrach.

Overnight temperatures continued to drop to lower values through the next week, with all sensors reporting sub-zero overnight. Overnight into Tue 9th recordings of Minus1.1C Dunoon to Minus7.3C Accurrach. Temperatures dropped further to between Minus3.9C Dunoon to Minus 9.0C Blaran on 10th and between Minus 3.1C Stewarton to Minus8.0C Accurrach on 11th. The easterly winds continued over the following week, allowing cold clear conditions to persist.

However unlike January this was a drier airflow, which minimised the development of excessive frosts. The temperatures overnight lessened from 12th onwards but still in the range Minus1.4C to Minus6.1C on 13th. The overnight drops in temperature reduced from 14th, with a minimum RST Minus4.2C.

The easterly airflows were overcome earlier than predicted, by stronger westerly fronts

The last sub-zero temperature was recorded overnight 14th – 15th Feb with Leanach at Minus 0.2Deg C. From mid-month onwards, the weather pattern changed to that of frequent westerly and south-westerly winds, bringing successive weather fronts in, off the Atlantic. Heavy rain and winds affected the road network, with localised flooding incidents. Temperatures fluctuated, depending on cloud cover, with some gaps between weather fronts allowing clear sunny intervals and colder nights. Temperatures dropped to between Plus 0.3C and Plus 1 Deg C on 18th, 22nd and 25th of the month but generally overnight minimum RSTs were in the banding Plus 3C to

Plus 6C through to Sunday 28th February. The last day of February saw the return of colder conditions as clear skies developed over the north of the area. There were isolated sub-zero conditions reported overnight into Monday 1st March.

Weather Observations - March 2021

The pattern of the winter since new year continued with early March conditions similar to those in January and February. A high to the SE of the UK allowed cold clear sunny days and frosty nights to develop. Overnight minima of Minus2.3C at Leanach and Minus 2.0C Blaran with marginal Minus 0.5C briefly at A817 Haul Rd–Lomond and A849 Lochdonhead-Mull. Other domains stayed marginal but positive between Plus 1 and Plus 3 C. prolonged clear air overnight into Tue 2nd saw a development of overnight frosts in the northern domains, with Minus1.4C recorded at Blaran to Minus 0.3C at Accurrach, whilst temperatures at sensors in Southern and Eastern domains remained above freezing with Dervaig – Mull dropping no lower than Plus 5C overnight. Cloud cover allowed most domains to stay positive overnight into 4th, with only A816 and A819 sensor at Minus 1C.

A high pressure system developed over the country, bringing northerly airflows down across the North Sea, with periods of light cloud in still air developing on some nights. Clear daytime skies and sunny conditions allowed RSTs to warm considerably but cloud breaks into Friday resulted in a return to sub-zero conditions. A816 Blaran sensor showed the largest RST range, from **Plus18.5C** -12:00hrs Thu 4th, to **Minus4.4C** - 07:30hrs Fri 5th. Overnight sub-zero RSTs were limited to a few sites on 6th in intermittent cloud cover but on 7th. Northern and Western sensors recorded a range Minus0.4C down to the coldest at Minus2.1C at Ballygrant – Islay. The next week saw frequent weather fronts from the Atlantic, bringing heavy and at times, persistent rain, with minimum overnight temperatures between Plus1C and Plus6C. Localised Hail showers affected the area on Thu 11th, with RSTs dropping overnight to Minus0.2C at some sensors with hail slush visible on cameras at A816 Blaran, A886 Leanach and A819 Accurrach at 09:30hrs on 12th. Lower RSTs were recorded at Rest and Be Thankful trunk road sensor, at Minus1.3C due to hail showers.

Intermittent cloud cover allowed localised subzero RSTs to appear in NorthWestern districts on 13th, in the range Minus0.2C Accurrach, Minus0.4C Dervaig to Minus 1.1C at Leanach, with short duration hill snow on routes at 200m or above, during the morning. This gave way to marginal conditions on 14th and 15th with cloud cover keeping temperatures at or above Zero C . Clear dry days with long sunny spells and warmer nights with minima Plus 5C on 16th, Plus 1C on 17th and again Plus 5C on 18th, with no winter hazards recorded. More northerly winds allowed lows of Plus 2C on 19th and 20th and a return to localised sub-zero on 21st with Minus 1C recorded at Accurrach and Leanach. Temperatures fluctuated during the next five days but no sub-zero RSTs were recorded

A brief change to Northwesterly winds as a high developed over Iceland on 25th, resulted in marginal RSTs. A clearance on 27th allowed overnight RSTs to drop to between Minus 0.2C and Minus 1C in northern and western sensors, with a localised dip to Minus 3.8C at A819 Accurrach. This resulted in localised hill snow affecting routes above 150m, for a time in the morning. Continuous bands of rain on an elongated weather front affected Argyll from 28th March, with accumulations of over 25mm / day resulting in flooding issues. This front continued to affect the area, until it weakened and moved away south of Argyll on 31st March with overnight minimum RSTs in the range Plus 7 to Plus 9 Deg C.

Weather observations – April 2021

The first day of the month saw a clearance early morning bringing minimum temperatures of Plus 0.4C but during the day, widespread sunny spells allowed RSTs to reach Plus 25C to Plus 27C. The clear skies caused RSTs to drop dramatically after dusk, back to marginal positive in urban and southern areas but between Minus0.2C at Ballygrant to Minus1.6C at Blaran. Clear skies allowed temperatures to rise again on Good Friday 2nd, Max RSTs of Plus 30.2C at Stewarton and Plus 32.2C at Salachray before again dropping back in clear air after dusk to minimum

generally Plus 2.5C to 0.5C in most districts but with Salachray again Minus0.2C , Accurrach Minus 0.7C and Blaran lower still at Minus 1.3C. on the morning of Saturday 3rd . Throughout this period there was little precipitation to cause ice to form. Cloud cover overnight into Easter Sunday 4th held RSTs above freezing with minimum Plus 1.9C at Blaran and Plus 1.4C at Haul road, the lowest recorded, as a weather front travelled south over the country, drawing arctic northerly airflows behind it. This allowed a more substantial drop in overnight temperatures, with early morning minima Minus 0.2C to 1.0C in Urban areas and Minus0.9C Ballygrant to Minus 3.9C Blaran. Easter Monday 5th saw intermittent snow showers develop between sunny spells, with maximum RSTs pegged in the colder air flows, at Plus18C to Plus 22C. Any light Snow did not lie for long on road surfaces, in sunny spells. RSTs again dropped overnight into 6th with minima recorded at Salchray Minus3.3C and Blaran Minus4.3C. Temperatures eased overnight into 7th, with positives recorded in southern domains, however Minus1.6C recorded at Accurrach, Salachray and Cnoc na Rath (Bute), with Minus2.0C Leanach and Minus 2.3C Blaran. A weather front brought heavy rain overnight, with temperatures held at Plus5.7C to Plus3.5C into Thu 8th with showers throughout the day. This cleared overnight into 9th allowing RSTs to drop again to minimum Minus2.0C to Minus2.9C at rural sensors. Over the weekend high pressure developed over Iceland and moved towards Norway, this brought clear cold sunny days, with daytime road surfaces reaching Plus 25C to 29C by early afternoons. These gave way to colder nights and sharp frosts. RSTs dropped to Minus4.2C at Blaran and Salachray on the morning of 10th with similar lows on 11th and 12th. Cloud cover overnight and a band of rain passed over the area into 13th, holding most sensors above 0 Deg C but this cleared and brighter skies returned before dusk, with overnight grass frost and RSTs down to Minus 0.4C to Minus 1.3C at Northern inland sensors, with clears skies after some localised sea fog in the west on the morning of 14th. The highest daytime RSTs so far were recorded around 15:00hrs on Thu 15th with **Plus 33.4C** at Blaran and **Plus 35.7C** at Salachray. Overnight temperatures in 15th and 16th were generally no lower than marginal 0C around dawn, with minor grass frosts. The continued dry weather meant there was very little road surface hazards indicated. Cloud developed in the afternoon of 16th, as weather fronts slowly edged eastwards as the High pressure weakened over Norway. Temperatures improved with minimum Plus 2C 17th, Plus 5.7C 18th and Plus 6C Monday 19th in cloud and occasional showers. This fluctuating trend continued for the remainder of the month, with some nights clear with RSTs approaching Zero Deg C in sheltered locations or higher routes on 28th and 30th but generally milder, with minimum RSTs in the range Plus 4C to Plus 8 C overnight, as a low pressure system approached Scotland from the West.

Weather Observations - May 2021

Although colder northerlies allowed temperatures to drop in early May, conditions were generally dry and clear during the day allowing RSTs to warm. Heavy rain from a low pressure system affected all areas on Mon 3rd May. Localised minimum RSTs gradually fell away in the evenings to around Zero to Minus 1C for one or two hours around dawn, before temperatures improved by 5 to 10 DegC in the 90mins after sun rise on 4th to 7th, with mid-day to early afternoon RSTs reaching **Plus 35C** or above, at some sensors, where clear sunny conditions persisted. Showers also affected the area in Northerly winds on 6th and 7th May, with some hail and sleet down to lower levels, before another low pressure system moved over the area during the weekend 8th / 9th May, bringing another period of heavy rain showers and clear spells. The temperatures started to show a rise overall, as southerly airflows predominated as weather fronts moved up from the south over the country on successive days through to 14th May. (Effective end of "Winter" forecast period).



WINTER SERVICE POLICY 2021-22

Author	Network and Standards Manager
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1. INTRODUCTION

- 1.1 Argyll & Bute 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" in the Council area, which by definition includes carriageways, footways, footpaths, pedestrian precincts, etc.
- 1.2 Argyll and Bute Council will consider implementation of the recommendations included in the UK Roads Liaison Group document - Well Managed Highways Infrastructure, code of practice (first published October 2016) within the practicalities of resources and geography. The Council, through its officers, will liaise and take guidance from the Society of Chief Officers of Transportation in Scotland (SCOTS), Winter Service Subgroup on the consistent approach to implementation, in the context of the Geographical and Climatic conditions relevant to Scotland.
- 1.3 It is the aim of Argyll & Bute Council to provide a service with respect to the above that will:-
- a) Ensure the provision of a standard of treatment appropriate to the prevailing weather conditions.
 - b) Establish patterns of working which will produce the greatest benefit from the deployed resources, with the view to reducing the level of risk and the extent of any delays to the public, caused by adverse weather conditions.
 - c) At all times comply with the requirements of the Health & Safety at Work Act 1974.

2. OUTLINE PRINCIPLES

The Council, through the Executive Director of Development and Infrastructure Services, will:-

- a) Set policy and strategy and monitor the winter maintenance service.
- b) Arrange weather forecasts to assist the Winter Management team to determine the daily winter maintenance treatment strategy.
- c) Provide specialist winter maintenance plant. e.g. snow plough attachments, bulk gritters, demountable gritters, towed gritters and loading shovels.
- d) Provide salt, grit, grit bins, snow gates and signing.
- e) Provide organise and manage a trained labour force.
- f) Provide non specialist plant e.g. lorries for demountable gritters, pickups, non-specialist loading equipment, hand tools, tarpaulins and the like.

- g) Provide suitable cleaning equipment for staff to sanitise their vehicles prior to and after use, as per the Working Safely in Argyll and Bute Council's Vehicles Guidance.

3. MANAGEMENT ARRANGEMENTS

- 3.1 The Executive Director of Development and Infrastructure Services is responsible for implementing the Council's Winter Service Policy.
- 3.2 The Head of Roads and Infrastructure Services has overall responsibility for ensuring that the Council's winter maintenance activities are carried out in line with the Council's Winter Service Policy.
- 3.3 The Operations Manager is responsible for the day to day operation of the Council's winter service policy. He is responsible to the Head of Roads and Infrastructure Services for the appointment of a Weather Service Provider (forecaster), collection of winter management and weather data, maintaining salt stocks, winter plant and communications, training of staff, preparation of rotas for on-call Managers and Area Supervisors.
- 3.4 The Operations Manager in consultation with the Network and Standards Manager shall appoint appropriate staff as Winter Managers. The Winter Manager on duty is responsible for consulting with the Duty Manager and approving the draft winter plan of action together with any subsequent updates to that plan produced by the on-call Duty Manager.
- 3.5 Duty Managers are responsible for analysing forecast data, liaising with the forecast provider and producing the daily winter maintenance action plan and gaining approval from the Winter Manager. They will ensure that the daily winter maintenance action plan is submitted to local areas for action by 15:00 hrs each day. They will monitor the weather information and make any changes to the action plan as conditions require.
- 3.6 The Operations Manager will ensure that the appointed staff in their areas are aware of and understand the strategies and priorities as stipulated. On receiving the Duty Manager's approved daily winter action plan they will ensure, through the Area Winter Supervisor, that the plan is correctly implemented. They will ensure, wherever practicable, that adequate resources are available to fully undertake the Council's Winter Service Policy.
- 3.7 Discussions will take place between Senior Management to monitor performance, at regular meetings. Any problems highlighted by the Duty Managers will be resolved at local level, where possible. Duty Managers will be relieved by other Area Office staff, from any local management responsibilities, during their weekly duty requirements.
- 3.8 Provision of the Winter Service on Council roads will normally run from the nearest Friday to the 1st November through to 15th April each season. However, this period may be extended, at either end, to accommodate prevailing weather conditions.
- 3.9 Daily communication will take place with the Trunk Roads Service provider to inform each other of their respective treatment proposals. The Council work in partnership

with the Trunk Road Operation Company and provide the winter and emergency response service for A83 Trunk Road, Campbeltown to Kennacraig section. Treatment instruction for this road is received as part of the daily TR plan and actions are recorded on the TR grit-log form and transmitted to their control room on completion.

4.0 POLICY ON TREATMENT PRIORITIES

4.1 Carriageway treatment

4.1.2 Prior to the commencement of each winter the Assistant Network and Standards Manager will produce carriageway gritting routes based generally on the following principles:-

Priority 1					
Strategic high speed, main traffic routes					
Lomond - A814 Dumbarton- Garelochhead, A818 Arden (A82) - Helensburgh					
Cowal - A815 Cairndow – Dunoon Ferry					
Lorn / Mid-Argyll - A816 Oban - Lochgilphead, A819 Dalmally – Inveraray					
	04:00 – 08:00hrs	08:00 – 16:00 hrs	16:00 – 22:00 hrs	22:00 – 04:00 hrs	
Mon - Sat	Pre-treat as required + reactive	Pre-treat as required + reactive	Pre-treat as required + reactive	Reactive as reported conditions dictate	
Sun & PH	Pre-treat as required + reactive	Pre-treat as required + reactive	Pre-treat as required + reactive	Reactive as reported conditions dictate	

Priority 2					
Other “A” and “B” classified roads, Except where treatment is categorized under Priority 3 bus routes, or less.					
A814 Garelochhead –Arrochar, A815 Dunoon-Toward, A817 Haul Road & B833 Rosneath Peninsula, A880 to Ardentiny, A885 Sandbank, A886 Strachur– Colintraive, A8003 Tighnabruaich, A844 / A845 & A886 on Bute, A846 / A847 on Islay, A846 on Jura, A848 / A849, A884 & B8073 Tobermory – Dervaig, on Mull, B828 / B839 to Lochgoilhead , B842 Southend –Carradale, B843 to Machrihanish, B844 / B8003 to Easdale & Cuan, B8024 Kilberry Loop , B841 / B8025 Achnamara & Tayvallich. Plus Principal Accident and Emergency routes or roads to hospitals and routes to Police stations, Fire stations and Ambulance depot accesses Other selected streets in main urban areas e.g. steep hills, etc where route efficiency permits.					
	06:00 – 08:00hrs	08:00 – 16:00 hrs	16:00 – 22:00 hrs	22:00 – 0600 hrs	
Mon -Sat	Pre-treat as required + reactive	Pre-treat in advance (if possible) + reactive	Reactive as reported conditions dictate	Reactive - only in extreme conditions	
Sun & PH	Pre-treat as required + reactive	Pre-treat in advance (if possible) + reactive	Reactive as reported conditions dictate	Reactive - only in extreme conditions	

Priority 3					
Any section of public road, outwith P1 & P2 above, subject to :- Main Public Service bus routes as timetables require that can be met within operational time bands. Should it be impractical to cover a service then the operator must be notified or Main School Bus routes prior to or during term days only.					
New designation		06:00 – 08:00hr	08:00 – 16:00 hrs	16:00 – 22:00 hrs	22:00 – 0600 hrs
Priority 3	Mon-Fri	Pre-treat as required	Pre-treat in advance (if	No treatment unless stable	No Treatment

Service Route		+ reactive	possible) + reactive	conditions forecast a.m.	
	W/E	Pre treat in advance of journey, if possible, but no guarantee. Timetabled days only.			
Priority 3 School Route (12 or more occupied seats)	Mon- Fri	Pre-treat as required + reactive	Pre-treat in advance + reactive	No treatment unless stable conditions forecast a.m. (Not Friday p.m.)	No Treatment
	No treatments out-with School Term days (apart form Sunday evenings in advance, if stable conditions forecast Monday a.m.)				

Priority 4 All other public roads, Only as actual conditions dictate and resources are deemed to be effective.				
	06:00 – 08:00hr	08:00 – 16:00 hrs	16:00 – 22:00 hrs	22:00 – 0600 hrs
Mon - Fri	No treatment	Reactive (may include pre-treat)	Reactive – only in extreme conditions	No treatment
W/E & PH	No treatment	Reactive – only in extreme conditions	No treatment	No treatment

4.1.3 The above route priorities are set around the requirements to pre-treat in advance of freezing conditions or react to developed hazards within a reasonably practicable timescale within the confines of the resources available. Under standard conditions, pre-treatment routes are designed to be completed within 3 hours of mobilisation.

4.1.4 Where hazards re-occur after treatment or in conditions where instantaneous hazards occur, resources may be required to concentrate on re-application of several treatments prior to moving on. In such circumstances the highest priority routes, experiencing such conditions, will generally be treated first and resources will only be released to other priorities once it is determined that treatments have an expectation of remaining effective.

4.2 Footway and Footpath Priorities

421 At the start of each winter, the Assistant Network and Standards Manager will produce footway and footpath treatment routes based generally on the following principle.

Priority 1 - Urban Shopping Areas and Precincts

Priority 2 - Other areas of high pedestrian concentration, e.g. in the vicinity of hospitals and schools.

Priority 3 - Steep hills in housing developments and in the vicinity of residential homes for the elderly.

422 Footways and footpaths will only be treated, in periods of lasting hazards, when the Duty Manager, in consultation with Area staff, considers that their physical condition makes it necessary and treatments will be effective. They will usually only be treated during normal working hours.

4.3 Resources

4.3.1 Labour

To ensure that an adequate labour resource is available to allow treatment to be carried out, arrangements are in place with Amenity Services section to participate in the supply of additional labour when conditions require.

4.3.2 Plant

Plant to assist with the clearance of snow and spreading of salt has been provided by Roads and Infrastructure Services. Attachments to mowers to allow footpath ploughing will be fitted at the start of each season, where practicable. Footway salt spreading barrows are provided for use by available labour when required.

4.4 Cycleways

- 4.4.1 Only cycleways contiguous with roads and footways will be treated in conjunction with any planned treatments.

5. WINTER STANDBY, STANDBY PROCEDURES AND GRITTING GUIDELINES

- 5.1 The formal winter standby period for Council roads will normally be from the end of the working day on the Friday nearest to 1st November to the Friday nearest to 15th April. This period may be extended at either end as the prevailing weather conditions dictate.

5.2 Shift and Standby Procedures.

- 5.2.1 During the operational period, standby arrangements will be operated on a formal home standby basis, with call-out as required. Arrangements will be put in place to allow mobilisation of any frontline vehicle within 1 hour of call out.

- 5.2.2 Standby rotas will include sufficient drivers to ensure that the priority 1 routes can be treated within 3 hours of commencing treatment

- 5.2.3 On receipt of a weather forecast indicating medium to heavy snow, sufficient additional operatives will be placed on standby to cover all priority 1 & 2 routes and any priority 3 routes likely to be affected as timetables indicate, by the forecast.

5.3 Carriageway Treatment

- 5.3.1 Carriageways will generally be treated in the order of priority as specified in section 4.

- 5.3.2 By 13:00 each day during the winter months, having considered the most recent weather forecast, the level of residual salt on the road

Network and the available resources, the Duty Manager will compile an Action Plan for carriageway treatment for the following twenty-four hours. The Winter Manager will review, recommend any adjustments if needed and then approve the proposed plan.

- 53.3 Precautionary treatment for frost and light snow will be spread at a target rate of 10g/m² of salt.
- 53.4 Precautionary treatment for conditions where frost is forecast after rain should be delayed as long as possible to reduce loss of salt due to wash-off. This should not preclude the treatment of routes during showers where freezing of rain on contact has been predicted, or is reported.
- 53.5 Precautionary treatment when heavy snow falls are expected should be at a rate of between 20 and 40g/m² of salt according to the anticipated severity of snowfall and confidence level of the forecast.
- 53.6 In conditions where current snowfall is forecast to continue, substitution of salt with abrasive materials, sand or grit, will be instigated until such time as showers cease and any use of de-icing materials are deemed to be more effective. In extreme or persisting conditions, all material spreading will cease until there is an expectation that any deposits will remain on the carriageway and be effective in aiding traction.
- 53.7 In marginal conditions, consideration will be given to limiting treatment to known localised areas prone to icing. During periods of prolonged freezing conditions in the absence of precipitation, spot salting of areas of persistent seepage will continue while hazards remain.
- 53.8 Where areas of seepage from adjoining land are recorded on a regular basis, these will be identified and pre-emptive rectification of the drainage system will be instigated.
Land owners will be notified of their requirement to carry-out such work as it affects public roads. The Council will take necessary steps to effect repairs, in the absence of any undertaken by landowners and pursue recovery of costs accordingly.

54 Footway and Footpath Treatment

- 54.1 Treatment of footways and footpaths will be by a combination of mechanical and manual operation. In large urban areas footway salting will be carried out by purpose built spreader barrows with a nominal design spread rate of 50g/sq.m.
- 54.2 Salt will only be utilised where ice and frost are the main hazard. In all snowfall conditions, physical clearance will be the priority with sand / grit spread thereafter to aid traction.

- 5.4.3 Treatment of footways and footpaths will normally only be carried out during the normal working day as resources permit. In most cases additional resources should be mobilised at local level as conditions dictate. The Winter Manager and Duty Manager will be kept informed of all additional resources mobilised by local management.

6. SNOW CLEARANCE STRATEGY

6.1 Carriageways

- 6.1.1 On receipt of a weather forecast indicating medium to heavy snow, carriageways should be treated in accordance with section 5.3.5. When the forecast is for rain turning to snow or the snow prediction is marginal the salting operations should be delayed accordingly.
- 6.1.2 When forecasts indicate that there will be medium or heavy snow falls, the Duty Manager will instruct that all vehicles capable of being fitted with ploughing devices will be so equipped.
- 6.1.3 Salting should be continued or be restarted when snow is falling, as conditions warrant however sand / grit must be used to preserve de-icing materials until such time as it can be used effectively.
- 6.1.4 Snow ploughing will commence as soon as it is considered that the operation will be effective. Generally snow can only be ploughed effectively at depths exceeding 30mm.
- 6.1.5 Spreading treatment of ploughed surfaces will be carried out when it is considered that the material will have the most beneficial effect. The normal case on two lane carriageways will be for spreading treatment to be started when the second lane is being ploughed, generally in the return direction. However in persisting snow conditions the spreading of materials shall be delayed until clearance of accumulations is effective.
- 6.1.6 Resources should generally be allocated to clear roads in the order of priority shown in section 4, but with precedence being given to those areas which have experienced the heaviest snow falls and drifting
- 6.1.7 Where slush is formed it should be ploughed as soon as practicable to avoid the risk of rutting should there be a further significant drop in temperature which might result in freezing conditions.
- 6.1.8 Where snow hazards are predicted to persist or develop intermittently throughout the night, consideration will be given to continuing action in some circumstances. Mainly in cases where a break in operations may result in hard packed snow or other conditions difficult to treat on resumption.

6.1.9 Individual circumstances, such as access for emergency services or other lifeline service vehicles will normally take precedent over the above route priority arrangements.

6.1.10 Where it is judged that a road cannot be kept open, early closure in liaison with the Police in a planned manner, should be initiated. Direct consultation at local level must be maintained where conditions are changeable and in some circumstances this may mean discussions on site between local Supervisors and Police officers.

6.1.11 In specific locations additional information and diversion signing will be erected to further inform drivers of the hazardous conditions on some routes and advise them of alternative routes where available resources will concentrate on maintaining treatments. There are three roads where signing to indicate specific alternative routes are available.

1. A817 "Haul Rd" , Lomond.
Snow gates at A82 and A814 "central" roundabout
Diversion via A818 Arden - A814 Garelohead
2. C46 Glen Aros / Glenbellart road , Mull
Signs at Aros Bridge and Dervaig Primary School
Diversion via A848Tobermory
3. C9 Glenfinart Road (The Larach) , Cowal
Signs at Whistlefield Hotel and Sligrachan Bus turning head;
Diversion via A880 Cot House
4. C11 Otter Hill road (Bealach an Drain) , Cowal
Signs at Glendaruel A886 and Otter Ferry B8000;
Diversion via A8003 Tighnabruaich and Kames.

6.1.12 Road closures will be reported to the Director, Head of Service, Operations and Network Standards Managers' as soon as practicable, with immediate notification transmitted to Traffic Scotland and local radio stations where appropriate.

62 Footways and Footpaths

621 Where footways and footpaths are covered with light accumulations of snow i.e. less than 30mm, treatment will consist of the application of Sand or Grit as described in section 5.4. of this document.

622 Where snow depths exceed 30mm footways clearance will be carried out where practicable by pedestrian operated or ride on powered footway ploughs. This will be enhanced by manual clearance when necessary i.e. where access precludes the use of the above plant.

623 Snow clearance of footways will normally only be carried out during the normal working day and as resources permit.

7. ASSISTANCE FROM EXTERNAL CONTRACTORS

- 7.1 Roads and Infrastructure Services provide labour and non-specialist plant as specified. In some districts, mainly islands, resources are limited and private contractors are used to provide cover to comply with this policy.
- 7.2 In areas of the network remote from the main depots, sub-contractors are engaged to provide the full winter service provision in parallel with the in house council resources.
- 7.3 In severe weather conditions additional resources can be drafted in from local private contractors to supplement those of the Council. Arrangements are made through the Operations Manager to contact these contractors in advance to determine their availability and formulate contingency plans for contact and mobilisation. The Winter Manager and Duty Manager will be kept informed of all additional resources mobilised by local management.

8. SALT ETC.

8.1 Provision of Salt

- 8.1.1 Salt or other de-icing materials will be supplied through the Network and Standards Manager. An annual supply contract shall be let prior to the start of the winter season.
- 8.1.2 Onsite sampling and testing shall be carried out in each area as the Network and Standards Manager deems necessary. The Network and Standards Manager will ensure that sufficient stocks of Salt and Abrasive materials are maintained at each storage location.

8.2 Storage of Salt

- 8.2.1 Where practicable salt shall be stored under cover to prevent leaching, improve handling and to reduce treatment times. A programme of upgrading salt stores with permanent roofs will be undertaken as quickly as practicable and as financial, planning and operational considerations allow.
- 8.2.2 Storage facilities will be loaded out prior to the commencement of operations and stock levels will be monitored weekly to assure optimum supplies are available throughout the season. Stores will be kept as full as practicable as protection from the weather allows and minimum stock levels will dictate optimum re-ordering procedures.
- 8.2.3 Weekly totals of all salt quantities delivered, transferred or issued as treatments will be collated for each storage location and e-mailed to HQ for central collation from 12:00hrs each Friday.
- 8.2.4 Requests for additional salt will be included in these weekly e-mails and calling forward of orders will be co-ordinated centrally through the Roads

Procurement Officer, with the supply contractor to provide the most efficient means of optimising stock levels.

83 Use of Salt and Salt / Abrasive Mixtures

- 83.1 Preservation of salt or other de-icing materials for use where they are most effective should be a consideration when formulating a treatment plan. Service resilience must be taken into consideration at all times.
- 83.2 All routes will be pre-treated with pure rock salt, as the most effective method of preventing freezing of wet surfaces or melting of previously formed ice. However on predominantly rural routes affected by snow, grit may be added at 1:1 salt/grit mix to aid traction and break up compacted layers. In severe conditions or when supplies are restricted, pure Sand / Grit will be employed to preserve de-icing stocks.
In wholly urban areas, salt only should be applied to the carriageway at all times. Salt should be spread at the designated spread rates as determined by the Duty Manager.
- 83.3 The grading of salt and grit for mixtures shall be such that 100% will pass a 6.3mm sieve but less than 1% passing a 2mm sieve.
- 83.4 Grit bins should be filled with a 3:1 grit/salt mix, initially at the start of the season. Continued replenishment in times of persisting hazard will be purely of Sand / Grit to preserve de-icing materials and only when resources permit.
- 83.5 Provision of Salt to other departments of the Council or other Contractors will be restricted to maintain the resilience of the Roads and Footways Winter Service within the terms of the Salt preservation Protocol.

84 Calibration and control of Salt Rates of Spread

- 84.1 The Operations Manager will ensure, through the Fleet Manager that all spreaders, permanent and demountable, are maintained in such a manner as to optimise the salt feed and regular checks of the calibration shall be carried out. Records of all tests and alterations to the calibration shall be maintained for inspection.
- 84.2 All spreaders shall have limiting devices fitted such that spread rates cannot exceed 60g/m². The device may be fitted in such a manner as to allow it to be temporarily disconnected to assist the clearance of blockages.

85 Grit Bins and Grit Heaps

- 85.1 Grit heaps and grit bins are normally placed on routes not included on the Priority 1 – 3 pre-treatment network, or on sections of these routes where additional self help facilities are considered advantageous. They are provided to allow the public to use the salt/grit mix to treat localised hazards on carriageways and footways on the public adopted network.

- 85.2 Grit heaps will be situated on rural road verges predominantly on bends, junctions or steep sections. They shall be placed at distances which provide a reasonable volume of material over the extent of any problem area as, if material has to be carried too far, it is unlikely to be used. Consideration will be given to the environmental impact associated with tree roots, hedges and watercourses.
- 85.3 Grit Bins will normally be situated in urban areas or where leaching from grit heaps in rural areas is likely to have an environmental impact. They are placed similarly to rural grit heaps to provide an additional self help facility in streets such as at bends, junctions, steep sections of carriageway or footway or close to schools and other public buildings where delays in planned treatments may result in persisting hazards. Care must be taken in locating bins to avoid impeding sight impaired pedestrians or access to public utilities or roads authority apparatus. Generally where practicable, grit bin sites will allow material to be carried downhill to treat sections of the public network
- 85.4 Replenishment of material to grit heaps or bins will be carried out as regularly as conditions of use require, within the confines of available resources. Sites in regular use may require more frequent visits and the mix of material may vary as operational resources and stocks of available materials permit. This may depend on the overall salt resilience capability of the Council in times of prolonged severe weather conditions.
- 85.5 Requests for the locating of additional grit heaps or grit bins in urban areas will be considered using the following criteria.
- Is the request relevant to the Council asset of adopted roads and footway network?
 - Is there a genuine need for an additional facility, based on local knowledge, the type of hazard of concern and any accident history? The criteria for locations in 8.5.2 & 3 above will apply.
 - The proximity of similar facilities will be considered, as provision of bins and heaps often leads to further requests in similar locations.
 - The overall volume of bins and heaps will have an impact on the ability to provide an effective replenishment operation.
- 85.6 A register of grit bins shall be maintained by the Network and Standards Manager and their location and suitability will be reviewed annually. Grit bins will be serviced and all debris and litter removed prior to the start of the winter season. Initial replenishment of heaps and bins will be carried out prior to the start of the formal standby period, where practicable.

9. PLANT RESOURCES AND SERVICING PRACTICES

- 9.1 All winter maintenance plant will be serviced, overhauled and made ready for use, at least two weeks before the designated start of the winter period. All servicing and maintenance of specialist winter maintenance plant will be the responsibility of

the Operations Manager. The Council's Fleet Services section, maintain all plant and equipment for the user departments. The Fleet Manager will inform the Operations Manager of any deterioration in the effectiveness of any items of Winter Maintenance Plant.

92 Any short fall in resources caused by the removal of plant from service, during the winter period, should be reported to the Operations Manager by the Duty Supervisor. The Operations Manager will then seek ways to address the problem. Where additional fleet vehicles are available, these will be prepared as back-up units, either in advance of operations or as soon as practicable whenever a shortfall in vehicles arises.

93 The Operations Manager will ensure that all major items of plant are made operational by the start of the standby period. A programme of trial runs will be drawn up, to allow all items of plant to be tested and have all their accessories fitted to ensure readiness for the winter period. The trial runs will be carried out on a depot by depot basis during normal working hours.

10. WEATHER FORECASTING AND MONITORING

10.1 DTN Group , Antwerp, (formerly MeteoGroup, London) have been contracted to provide the road forecast for the period 1st October to 15th May each winter period. Access to forecast information will be gained via the local area networks at Council offices during office hours, or by a broadband router link from Duty Manager's homes. Information is available on a bespoke website for weather information and partially backed up by e-mail. In the event of a system failure it will be possible to obtain the forecast information by fax to the Duty Manager's Office or verbally out of hours to their home.

10.2 The contract with DTN Group provides for a twenty-four hours consultancy arrangement. Forecasters are available throughout the winter period by telephone, to discuss weather matters and clarify details with department staff.

10.3 The text forecast is augmented by other services as necessary, including the use of RADAR and satellite images to study precipitation patterns. There are fourteen Road Sensor stations, owned by the Council and maintained by DTN Group's partner Vaisala Ltd, giving atmospheric and surface conditions, situated throughout the Argyll and Bute road network.

11. OPERATIONAL COMMUNICATIONS

11.1 Vehicle / Duty Supervisor / Depot Communications

11.1.1 Winter maintenance vehicles are provided with a cellular telephone, such that contact may be maintained with the Duty Supervisor or depot at all times. When it is considered safe to do so, manning of vehicles fitted with effective communications facilities, will be limited to the driver only.

11.1.2 The fleet of 31nr frontline, route specifically allocated and 2nr back-up, winter maintenance vehicles are fitted with satellite tracking and data-

logging equipment, provided by Trackyou Ltd. Vehicles can be monitored through web access, in real time during operations and their actions are recorded and archived for future reference. One other private contractor owned vehicle is employed on pre-treatment operations on the Isle of Jura where in-house resources are limited.

11.13 Throughout the period of winter standby, the Operations Manager will ensure that staff are available to receive calls from the Police and other appropriate agencies. Call out rotas will be provided to the Operations Manager, adjacent authorities, management agents and the Police.

11.2 Communications with Police Scotland, Roads Policing Section

11.21 It is important that the strong partnership, formed with the Police, is maintained. Information relating to severe weather conditions will be communicated to the Police at the earliest possible opportunity. The Duty Manager will consult fully with the Police when it becomes necessary to arrange road closures and when there is a need to move abandoned vehicles.

11.22 The “out of hours” emergency rota will be issued to the Police by the Operations Manager. This will be confirmed to the Police Area Control Room at Helen Street, Glasgow on the Friday start to each weekly duty shift.

11.23 The Duty Manager will arrange for the daily action plan to be e-mailed to the four main local Police offices each day. This will also include a confirmation of the Area Supervisors’ and Duty Manager’s out of hours contact telephone numbers.

11.24 The Duty Manager will take due regard of all reports received from the Police, concerning dangerous road conditions and give consideration to them, in line with the Council Policy, in deciding the action to be taken.

11.3 Communications with other Agencies and Motoring Organisations

11.31 BEAR Scotland, the North West Trunk Roads term contract operator will be sent the daily action plan and out of hours contact information, each day throughout the winter period.

11.32 The Duty Manager will inform Glasgow City Council ; Roads and Lighting Faults Call Centre , R.A.L.F. , of the out of hours contact numbers for the following weeks shift and any amendments necessary thereafter. Contacts with Scottish Fire and Rescue and Scottish Ambulance Service, control rooms are included in this transmittal process.

11.33 The Winter Manager will inform Traffic Scotland when severe weather conditions are causing delays to traffic movement.

11.4 Communications with the Public

- 11.41 The Winter Manager will post details of the 24hour winter treatment plan each day no later than 1400hrs on the winter maintenance page of the council website.
 - 11.42 Enquiries from the public will normally be dealt with by the Customer Access Centre during normal working hours.
 - 11.43 Consideration will be given to the placing of warning signs, alerting drivers to the possibility that road surface hazards may develop outwith treatment times will be placed at the interface of Priority 1 to Priority 2 & 3 routes
 - 11.44 Leaflets explaining the extent of treatment routes, their priority and hours of operation will be prepared and where necessary updated, in advance of each season. These will be distributed by electronic means or to all local area Council premises and other public access buildings and establishments, such as filling stations and shops. Further copies may be issued as mail-drops or inserts to local newspapers.
 - 11.45 The Winter manager will ensure that any disruption to the network is reported through the internal service disruption noticeboard on the council website.
- 11.5 Media
- 11.51 National radio, television and national press enquiries should be dealt with by the Director or the Head of Service or through the Council's Press and Media Relations Office.
 - 11.52 Local radio and press should be dealt with by the Head of Service or by the Operations and Network and Standards Manager.
 - 11.53 The Head of Service, Operations or Network and Standards Manager will be advised as soon as practicable if conditions deteriorate such that major routes have to be closed.

12. INSTRUCTION AND RECORD KEEPING.

- 121 The management of the Instruction, Recording and Archiving of daily winter Action plans is automated, by use of a bespoke winter maintenance management tool provided by Vaisala Ltd.
- 122 Vaisala – Road DSS Manager is the web based system which allows access by managers and supervisors simultaneously, to post instructions and record actual activities on each specific pre-treatment route as operations progress. Details will include some or all of the following:-
- a) Details of the routes treated.
 - b) The start and completion of treatment on a specific route.
 - c) Type of treatment carried out.
 - d) Driver and other operator details
 - e) Quantity of materials used
 - f) The prevailing weather conditions.
 - g) Any contacts by Police regarding reactive requirements
 - h) Details of any plant breakdowns, accidents or incidents.
 - i) Any other problems
- 123 In parallel to the above recording system, vehicle activities are recorded on the “Trackyou” - vehicle tracking system. Reports and map based graphical records can be run to confirm and clarify in more detail, the recorded activities.
- 124 All records are archived in separate remote servers and can be retrieved through web access by any authorised user, at any time after a plan has been completed.
- 125 Additional records of all telephone calls related to winter operations are kept by all duty supervisors and managers. These are completed at the end of each shift, collated and filed centrally for future reference.

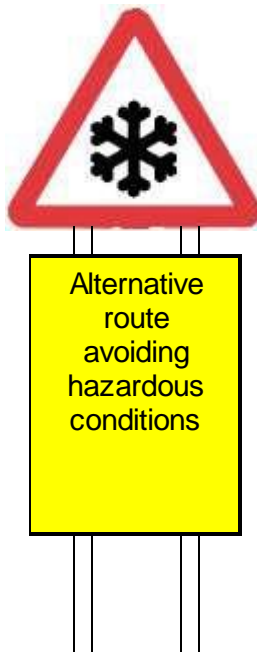
End – Winter Policy Document

Appendix 3 – Advisory signing, routes unsuitable in severe conditions

In specific locations additional information and diversion signing will be erected to further inform drivers of the hazardous conditions on some routes and advise them of alternative routes where available resources will concentrate on maintaining treatments. There are three roads where signing to indicate specific alternative routes are available.

5. A817 "Haul Rd" , Lomond.
Snow gates at A82 and A814 "central" roundabout
Diversion via A818 Arden - A814 Garelochhead
6. C46 Glen Aros / Glenbellart road , Mull
Signs at Aros Bridge and Dervaig Primary School
Diversion via A848Tobermory
7. C9 Glenfinart Road (The Larach) , Cowal
Signs at Whistlefield Hotel and Sligrachan Bus turning head;
Diversion via A880 Cot House
8. C11 Otter Hill road (Bealach an Drain) , Cowal
Signs at Glendaruel A886 and Otter Ferry B8000;
Diversion via A8003 Tighnabruaich and Kames.

Example of typical information sign



Sign on permanent display during Winter Season.

Road Closure in conjunction with temporary signs when conditions dictate.



APPENDIX 4 Salt Use Reduction and Preservation of Stocks Protocol.

Argyll and Bute Council WINTER SERVICE – OPERATIONS 2021/22

Protocols for the reduction in use of salt and preservation of remaining stocks.

Storage Capacity, Stock Transfers and replenishment times

Storage capacity in all 15 “Operational” salt stores has been increased by 3,500tonnes to approximately 14,000tonnes, since 2009, through phase 1 of the covered tunnel construction programme. The 3,000tonne plus capacity Dome in Helensburgh, although an operational store, has an element of strategic storage.

For national salt resilience purposes, daily usage is calculated on 2 Priority WRC1-3 network treatments and one WRC4 “other routes” treatment in each 24hr period.

This equates to 375tonnes/day at normal use levels, 600tonnes/day for heavy snow.

The West of Scotland Co-ordination Group, Roads sub-group agreed that Roads Authorities should achieve a minimum storage capacity of equivalent to 70% of the average total salt usage of the last three severe winters. This equates to a minimum 11,650tonnes for Argyll and Bute.

However the target tonnage for the start of each season, 1st November may vary, as replenishment of some stores are related to shipping capacity and availability, however a minimum 11,000tonnes is considered reasonable. This equates to 28 continuous days supply at Winter Policy treatment levels.

As the national salt supply contract has an allowance of 21days to fulfil delivery from point of order, the minimum resilience required in normal conditions equates to four weeks operations or approximately 60% of the new capacity, at 10,000tonnes. In practice, reduced quantities of 6,000tonnes before replenishment are acceptable. This equates to a resilience of 16 days operations, at normal treatment levels.

Within this total quantity, material may require to be moved between stores to preserve a degree of individual resilience in each of the operational stockpiles around the network. Internal transfers between stores ensure adequate stocks are available as much as practicable to maintain a consistent treatment regime throughout the network. In this way the hierarchy of route treatments can be preserved as per the policy, for as long as practicable within any delivery shortage period.

Operational Decision techniques to Manage Salt use.

Winter Service Policy already recognises the need to preserve salt primarily for the prevention or treatment of ice on higher speed carriageways. 3Grit:1Salt mixes are already utilised in Grit Heaps and Bins and in the reactive treatment of footways.

Salt preservation techniques can be instigated on carriageway treatments where forecasts or conditions indicate that a mixture of salt and grit will provide the best treatment to aid traction. The winter operations decision to use 50/50 mixes should only be for this purpose, rather than to preserve supplies. In periods of falling snow, Grit only should be used on “return” ploughing legs until such time as snowfall ceases and there is an expectation that salt will melt any residual snow after ploughing.

In settled constant dry conditions Residual Salt levels on carriageways allow the curtailment of further treatments, as part of the daily operational plan.

Reduction in Salt use in treatments, to preserve remaining stocks.

Where salt stock levels reduce and replenishment activities are doubtful in either quantity or timescale, the use of salt will be curtailed under the following procedures.

Salt Preservation level Circumstances Authorised by.

SP1 Total Operational Stocks reduce to 6,000tonnes Winter Manager

This level will be reached in conditions of reasonably prolonged hazardous conditions or where extreme conditions reduce the effectiveness of salt. The supply chain for salt replenishment may become of national importance and Transport Scotland and West of Scotland Co-Ordination Group advice may be received.

First Operation:- Activate replenishment from Strategic Stockpile at Helensburgh Dome

Depending on the likely delay in replenishment, part of the Strategic stockpile may be moved to other operational stores. The quantity will be determined by the potential delivery date for shipping, to replenish the Helensburgh store from King George 5th Dock Glasgow and other western stockpiles, via Argyll ports. The transfer of each 1,000 tonnes of stock will provide a further 4 days resilience within the operational stores, at normal use rates.

Resilience:- 4 - 12days at normal use levels 375t/day : 2 - 6 days heavy snow 600t/day

Second Operation:- Activate Salt Preservation Measures.

Salt treatments will be reduced. Spread rates adjusted from 40g/m² to 20g/m², or 20g/m² to 10g/m². Further reductions in the salt content of all carriageway treatments will be achieved by mixing Grit and Salt together, firstly at 1Grit:1Salt then 2Grit:1Salt.

In extreme frosts where RSTs remain below -5C all day, and salt is considered to be ineffective, additional treatments of pure Grit on all routes can be instructed to aid traction. Grit heaps, bins and footway treatments will remain at 3grit:1Salt.

Resilience:- 32days at reduced use SP1 = 188t/day : 20days heavy snow

SP2 Total stocks reduce to 4,000tonnes Head of Service

Salting treatments will be curtailed to Priority 1&2 pre-treatment routes only (1205 km)
The SP1 salt mixing techniques will be used in all further SP levels.

All other treatments will be of pure Grit including replenishment of grit bins / heaps.

Resilience:- 25 days at reduced use SP2 = 156t/day : 15 days heavy snow

SP3 Total Stocks reduce to 2,000tonnes Executive Director

Salting will be reduced to one treatment per 24hr forecast period, of the Priority 1&2 network, usually 06:00hrs mornings, in advance of the majority of traffic movements.

All other treatments will be of pure Grit including replenishment of grit bins / heaps

Resilience:- 25 days at reduced use SP3 = 78t/day : 15 days heavy snow

SP4 Total stocks reduce to 1,000tonnes Chief Executive

Salting reduced to Priority 1 and Priority 2 "A" class routes only 06:00hrs. (492km)

All other roads and mobilisation times, Grit only.

Resilience:- 32 days at reduced use SP4 = 31t/day : 20 days heavy snow

SP5 Total Stocks reduce to 700 tonnes Chief Executive

Effectively **2 days resilience at original policy normal use.** The trigger point for application to Scottish Executive Emergency Salt stockpile. Release of salt, allowing replenishment out with the normal constraints of the national salt supply contract.

Resilience:- 22 days at reduced use SP5 = 31t/day : 13 days heavy snow

Total resilience: SP1 (2nd Op) > SP5 (end) = 68 days : 41 days heavy snow.