



Winter Service Plan 2018 / 2019

The Winter Service Plan 2018/2019
was approved by Councillor Phyl Davies,
Portfolio Holder for Highways
on dd mmm 2018

Powys County Council
Winter Service Delivery Plan 2018/2019

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Section A – Winter Service Policy

Policy and Objectives

Powys County Council aims to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by ice or snow.

Area

Powys is a large predominately rural County that covers an area of 5,180 sq km. It is served by a road network of Trunk, County Principal, Non Principal and Unclassified roads comprising:

Trunk Roads	Surfaced Length 431 km
County Roads:	
Principal (Class 1 Roads)	238 km
Non Principal Classified (Class 2 & 3 Roads)	2,706 km
Unclassified	<u>2,127 km</u>
Total	<u>5,502 km</u>

Extent of Policy

Powys County Council is the Highway Authority for county roads throughout Powys and is responsible for their maintenance. Maintenance policy is set by the elected Members of the Council in accordance with the Constitution of the Council.

This Winter Service Plan relates to the management of Ice and Snow on the county road highway network across Powys that are highways maintainable at the public expense as defined by the Highways Act 1980.

Trunk Roads across Powys are the responsibility of the Welsh Government and are not covered by this plan. Information on Trunk Roads is provided in Appendix A.

Private roads or drives are not the responsibility of the Highway Authority and are not covered by this policy.

Some sections of road under the control of other public sector bodies (e.g. hospital or fire station access roads) may be treated by the Council under agreement but are not covered by this policy.

Statutory Requirements and Guidance

The Highways Act 1980 Section 41(1A) places a duty on the Authority to ensure; so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice. (This amendment to the act was introduced under the Railways and Transport Safety Act 2003, Chapter 20 Part 6 Section 111).

Section 150 of the Highways Act 1980 Act places a duty upon Authorities to remove any obstruction of the highway resulting from accumulations of snow.

The Authority believes the level of service meets the requirements on the current interpretation of “reasonably practicable” but will continue to keep service provision under review, particularly in respect of any legal judgements.

After a decade of relatively mild conditions the UK experienced a number of colder winters. The severe winter of 2008/2009 together with the coldest and most extended winter to hit the UK for thirty years in 2009/2010 lead the UK Government to commission a report to review winter resilience. Whilst primarily focusing on England the final report “The Resilience of England’s Transport Systems in Winter” was published in October 2010 and offered guidance that was appropriate to winter service operations across the UK. The report lead to reviews of best practice guidance and revised recommendations.

In Wales there are two primary guidance documents that that are used to develop a reasonably practicable winter service:

1. For Trunk Roads the Welsh Government set out their policy and provide guidance in the Trunk Road Maintenance Manual (TRMM). The Welsh Minister has made the document available to local authorities across Wales to aid with the development of winter service plans.
2. Nationally the UK Roads Board publishes guidance in its document “Well-maintained Highways”. Revised winter service guidance is contained within Appendix H of Well-maintained Highways and was issued in September 2013. This guidance was considerably more detailed and it was considered that it could take 10 years to implement if fully adopted.

Following comments and concerns by many Winter Service providers nationally a review of this document was proposed and, together with other Welsh Authorities, the proposals will not be considered for full adoption, until the completion of said review.

An updated document “[Well-managed Highway Infrastructure: A Code of Practice](#)” was published in October 2016. This continues to be considered in collaboration with Welsh counterparts through the Welsh County Surveyors Society (CSS Wales) as part of the Authorities updating of future Winter Service Plans.

Winter Risk Period

The winter service period is identified as being from October to April inclusive but due to changing weather patterns this period may need to extend to allow for the wide variances and problems that can arise.

Three distinct periods for 'winter service' have been established reflecting the different states of readiness required in order to meet anticipated demand.

Outside of these periods wintry conditions may arise but would normally be of limited impact for highway users.

The periods are defined as:

Winter Service Period	High Period	December, January and February when severe conditions might be expected.
	Low Period	November and March when severe conditions may occur.
	Marginal Period	October and April when severe weather conditions are not expected.
Non-Winter Service Period	Minimal Period	May to September when severe conditions are not expected. During this period it is not planned to have available dedicated operational winter service vehicles.

In Mid Wales, which comprises mainly upland roads exposed to early and late frosts, with wet and icy conditions occurring for short periods around dawn, past experience has shown that a full winter service needs to be available from the beginning of November until the end of March (Low and High Periods).

In October and April (Marginal Period) a reduced capability sufficient to deal with the anticipated conditions will be appropriate. The "low period" and "marginal period" can in some years merge into each other and therefore the calendar only forms a general guide.

During the Non-Winter Service Period (May to September) severe winter weather is not expected and no dedicated operational winter vehicles will be kept in service. Winter weather instances during this period are generally rare, of short duration and have little impact on highway users. Any requirement during this period will be met by available resources including owned vehicles. Arrangements are in place for extending hire periods for rented vehicles subject to availability.

The shift of weather patterns in recent years requires the service to be responsive to change.

Levels of Service

The level of service for County Roads is determined by the elected Members of the County Council. This is based on a risk assessment style approach to determining a hierarchy of treatments and routes. This will be delivered from a budget of £1.444 million for 2018/2019.

Weather patterns during the winter period vary year on year and this is demonstrated by the number of planned carriageway treatment actions undertaken to prevent the formation of ice or accumulation of snow. Tables 1 and 2 below show monthly and annual variations.

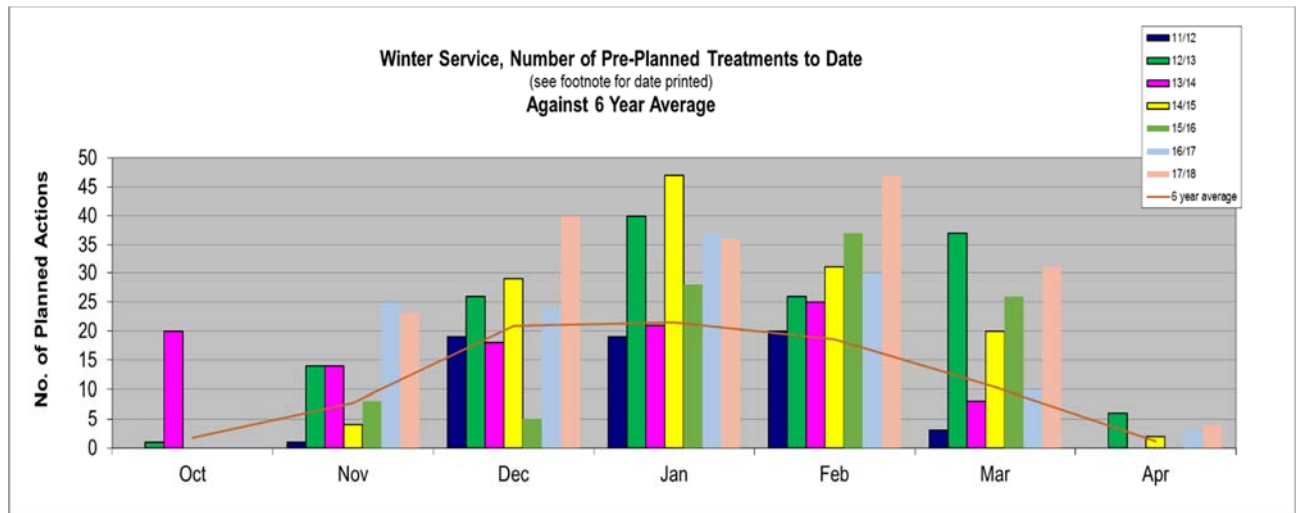


Table 1

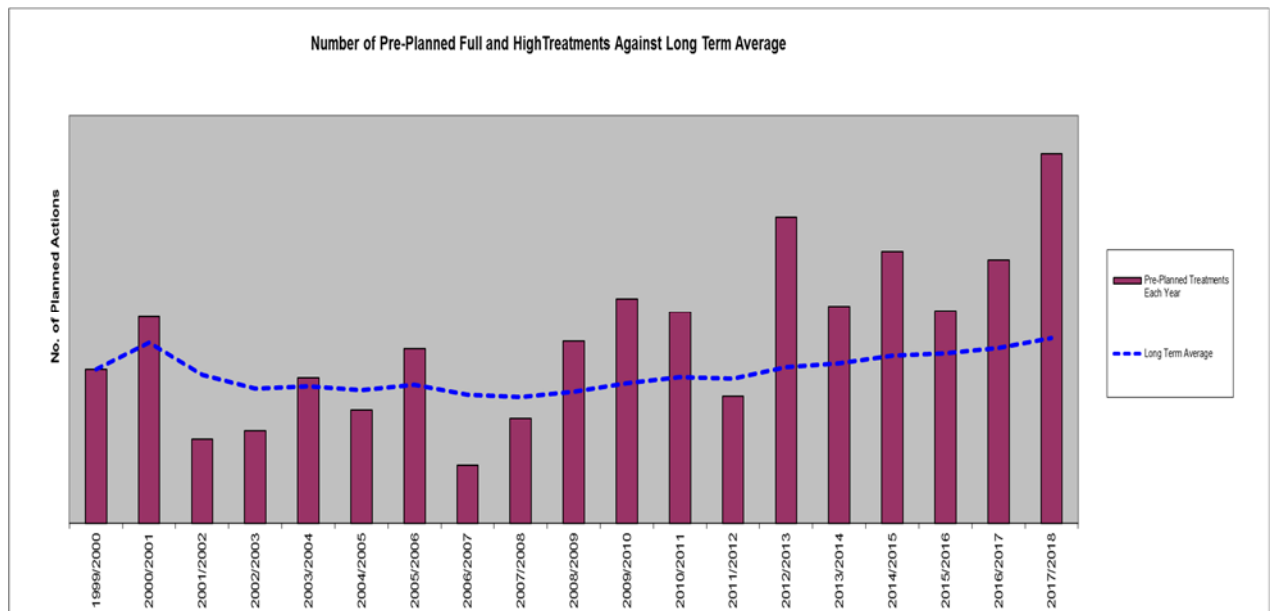


Table 2

Service Objectives for County Roads

The objectives of the service are to:

- As far as possible within resource availability ensure a safe passage for all users on the Highway network;
- Ensure the serviceability of the network is achieved by use of experienced personnel to make judgements that the public will be able to judge the Authorities performance by;
- Identify areas at risk of damage due to severe weather conditions and assess the impact on the whole life cost of providing the service.

Service Delivery Responsibilities

The Highway Authority powers and responsibilities in respect of the winter service are delivered through the Highways, Grounds and Street Scene (HGSS) services teams in a joint approach for Trunk and County Roads.

The winter service is provided primarily by the Council's own workforce, supplemented by external resources during periods of need.

Delivery of the service is overseen by a core team with day-to-day operations managed locally through offices and depots around the County.



Role of Elected Members

Delivery of winter services operates at strategic and local levels. The strategy is set out in this plan and is set by Elected Members through the Cabinet of the Council. At a high level the strategy determines those routes that are of strategic importance in keeping traffic moving throughout the County. As part of this the Cabinet is responsible for determining which roads are included in the primary treatment regime i.e. those routes that are pre-treated when ice or snow are forecast.

At a local level Elected Members provide a vital link with their communities in identifying local priorities. These are managed through the Highways, Grounds and Street Scene (HGSS) teams in accordance with the general principles of this plan and include:

- Priorities for tertiary treatment regime on carriageways;
- Priorities for the treatment of footways and cycleways;
- Location of salt bins and heaps.

Community Involvement

Concern is often expressed by businesses and residents about liabilities on them if they clear snow or treat ice on the highway. Latest government advice can be found through the Government web site (www.gov.uk) by searching for “clear snow” Government advice given for winter 2011/2012 stated: *“There’s no law stopping you from clearing snow and ice on the pavement outside your home or from public spaces. It’s unlikely you’ll be sued or held legally responsible for any injuries on the path if you have cleared it carefully. Remember, people walking on snow and ice have a responsibility to be careful themselves.”*

Government guidance provided for 2016/2017 states:

Clear snow from a road, path or cycleway

You can clear snow and ice from pavements yourself. It’s unlikely that you’ll be sued or held responsible if someone is injured on a path or pavement if you’ve cleared it carefully.

How to clear snow and ice

When you clear snow and ice:

- do it early in the day - it’s easier to move fresh, loose snow
- don’t use water - it might refreeze and turn to black ice
- use salt if possible - it will melt the ice or snow and stop it from refreezing overnight (but don’t use the salt from salting bins as this is used to keep roads clear)
- you can use ash and sand if you don’t have enough salt - it will provide grip underfoot
- pay extra attention when clearing steps and steep pathways - using more salt may help

<https://www.gov.uk/clear-snow-road-path-cycleway>

The Council will work with local community groups who wish to undertake snow clearance and gritting works in their area through an agreed snow warden who will act as the link between the County Councillor, Community Council, other community groups and the Council.

Liaison and Communication with Other Authorities and Agencies

Powys borders 13 other Councils in England and Wales as follows:

Shropshire, Herefordshire, Monmouthshire, Blaenau Gwent, Caerphilly, Merthyr Tydfil, Rhondda Cynon Taff, Neath Port Talbot, Carmarthenshire, Ceredigion, Gwynedd, Denbighshire and Wrexham.

Opportunities for shared service have been agreed with some of these councils (e.g. treatment of sections by/for neighbouring authorities to provide more efficient service);

Other agencies with an interest in winter service delivery in Powys include:

- The Welsh Government and their Agents;
- The Department for Transport and their Agents (Trunk Roads in England);
- Police, Fire, Ambulance and Health services.

Relevant contact details for each are maintained to enable communication when required. The nature of roads crossing boundaries varies considerably, from minor unclassified roads to roads of strategic importance for transportation and emergency access to hospitals etc. outside the County. A varying level of liaison and communication is undertaken having regard to the nature and use of the boundary crossings as well as prevailing conditions.

Where appropriate arrangements for the routine exchange of information are agreed at the commencement of each season to ensure appropriate levels of information are received and issued.

During periods of predicted or actual severe weather direct contact will be initiated as appropriate in order that actions can be coordinated and movement of weather fronts monitored.

Decision Making and Management

Decisions on actions to be taken, within the framework policy set by Members, are delegated to staff with appropriate experience. During working hours decisions on action to be taken are made by appropriately experienced officers.

Outside normal working hours, on weekends, public holidays, etc. Out of Hours (OOH) Officers are responsible for making decisions. In exceptional circumstances additional officers will support operations.

Factors taken into account (not in any order of priority) include:

- Member Approved Policy;
- Weather forecast from the Council's appointed provider;
- Road sensor data from sites in and around the Mid Wales region;
- Local Conditions and Reports;
- Previous Treatment Actions;
- Need to preserve resources (labour, plant and materials) during extended or difficult periods of operation.

Decision Making in Extreme Weather Conditions

During extended periods of bad weather across the country salt stock levels can become significantly depleted Table 3 provides profiles of salt usage and stock levels and identifies intervention levels for increased monitoring by the Portfolio Holder and Head of Service as well as intervention levels for reducing salt usage through reduction of treatments until stock recovers.

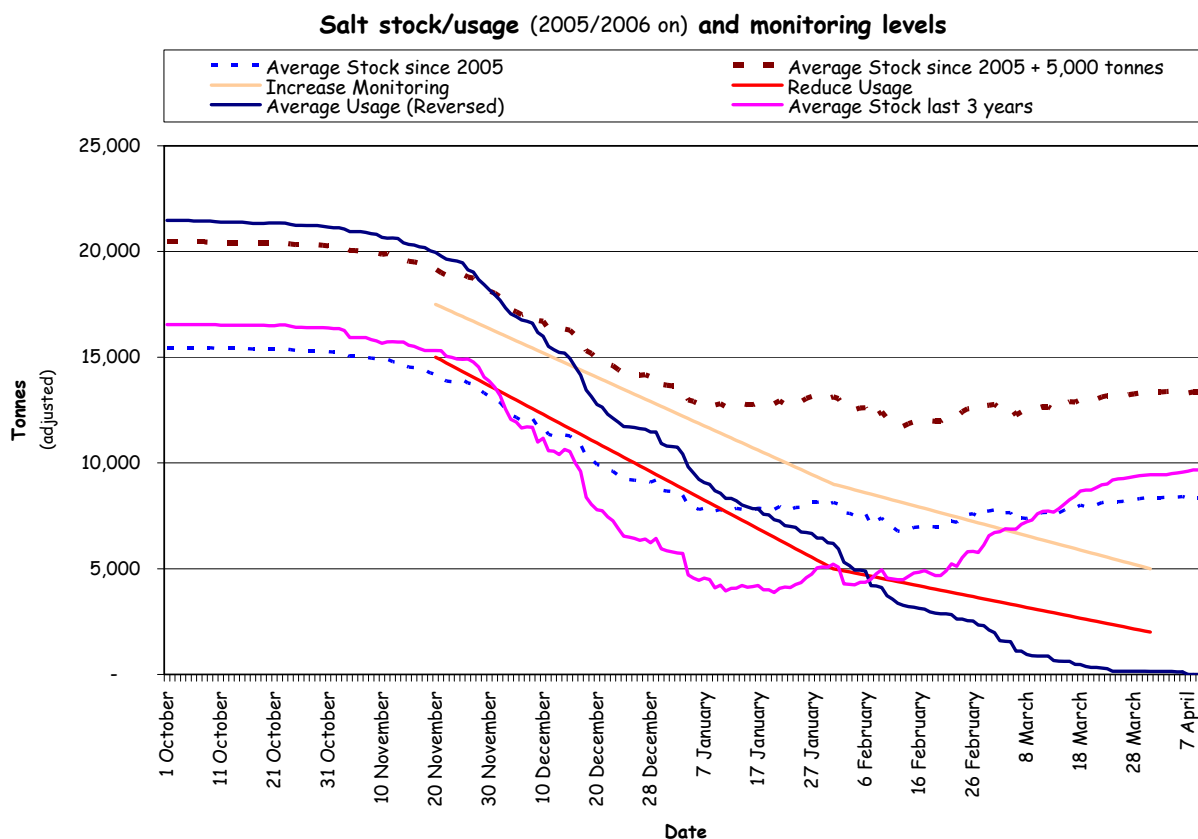


Table 3

The Service

The Winter Service is delivered on a hierarchical basis developed over many years' experience and following the principles of risk assessment. The three basic areas of the service are:

Pre-planned treatment

Aimed at preventing the formation of ice or accumulation of snow.

Reactive treatment

Aimed at dealing with ice or accumulations of snow once they have formed.

Ancillary provision



Including salt/grit bins or heaps at key locations to support self-help actions on the minor network. Snow fencing adjacent to sections of carriageway susceptible to blockage due to drifting snow may be provided.

For carriageway treatment three levels of service are defined which recognise the hierarchy of the network. These are Primary, Secondary and Tertiary Treatment Regimes and are defined as follows:

Primary Treatment Regime for Carriageways

This comprises highways across the County forming the highest level in the transport infrastructure. Single access routes along a public highway to education establishments are also included together with access routes to hospitals and emergency services facilities where practicable. It should be noted however that where access is poor or blocked by parked vehicles routes may not be treated.

The aim is to complete planned pre-treatment before the formation of ice. At other times a one-hour response time for the commencement of treatment following call out is the aim where response time is the maximum time taken from the decision to treat until the staff arrive at a depot to start operations.

The target treatment time for completing pre-planned treatments is three hours where treatment time is defined as the maximum time taken from leaving the depot through to returning to the depot after completion of the treatment route.

Having regard to the varied geographical nature of Powys the regime is sub divided into two treatment levels that have been developed to meet the most frequently encountered conditions.

These are defined as Priority Treatment and High Treatment and comprise the following roads across the County:

Full Treatment Network (Appendix C)

This includes all Trunk Roads and key County routes together with highway access roads to emergency services where practicable.

High Treatment Network (Appendix D)

Forecasts frequently refer to ice formation or rain and sleet accumulating as snow above certain altitudes, typically the 250m contour. A network of routes has been developed that includes sections of road that experience suggests may be affected when such conditions are forecast. This does not include all roads above 250m.

As a large rural area with varying topography Powys can experience varied localised weather conditions which require a limited response. In such circumstances only affected roads within the Primary Treatment Regime will receive attention.

Experience has shown that the need for treatments on rural and urban roads can vary. A number of factors can influence this, including higher road surface temperatures. The treatment of urban and rural roads on the same basis can lead to over-salting and cause a build-up of salt particularly in urban areas. The risks in urban areas are generally considered to be lower due to low traffic speeds, higher traffic densities and generally higher road surface temperatures. County urban routes in low lying areas,

will therefore be treated more pragmatically and may be assessed separately for the need for treatment from other higher rural areas.

Where conditions are wide-spread, severe or extended it may be necessary to restrict the response to a core transport network. This will typically only include Trunk and County A roads. Because such situations are variable in duration and impact decisions on priorities can only be made at that time. The response will take into account available resource, current and forecast conditions and any other relevant factors.

Secondary Treatment Regime for Carriageways (Appendix E)

This comprises highways not included in the Primary Treatment Regime but which generally give access to centres of significant population such as: town shopping centres, residential homes, waste transfer stations, military establishments, industrial estates and medical practices.

Whilst a network of routes have been developed the priority for the order of treatment will be dependent on local conditions, impact on safety and maintaining services.

Secondary Treatments will only be carried out in extreme events. They will only be completed during the working day and when resources allow.

Assistance will be given to adjoining Authorities as far as possible on request to maintain "through route" value and to medical and other emergencies in support of the emergency services.

Due to the nature of secondary treatments no target response or treatment times are stated.

Tertiary Treatment Regime for Carriageways

The roads in the remainder of the network that lie outside the full and secondary treatment regime will be treated:

- In situations involving urgent medical need, birth or burial;
- For delivery or collection of stock feed or milk at farms following prolonged severe weather and where stocks are exhausted or milk containers are full; Farms are expected to make appropriate arrangements and hold sufficient stock/storage facilities for normal winter conditions;
- To alleviate hardship problems caused by being cut off for a long period of time.

Powys County Council Car Parks and Other Public Sector Facilities

Where practicable Short Stay Pay & Display car parks and other public sector areas covered under agreement (e.g. hospitals), will be treated as part of the Primary Treatment regime provided access is not blocked at the time of planned treatment and subject to available resource.

Primary Treatment Regime for Footways and Non-Recreational Cycleways

During the treatment of the primary carriageway network the footways and cycleways immediately adjacent to the carriageway should benefit from some over spray from the passing gritter vehicle.

The risks associated with ice or snow on footways are significantly lower than those associated with carriageways. During periods of prolonged severe weather footways and cycleways may be treated by the application of salt on a reactive treatment basis having regard to available resources and prevailing conditions.

Those routes, which have been designated as Safer Routes to School or are used as commuter routes, will receive a Winter Service as part of this Treatment Regime.

A number of footway and cycle routes are constructed alongside the road network and where practicable these will be treated at the same time as the adjacent carriageway.

Where practicable snow clearance will be undertaken at a time prior to pedestrian usage compacting the snow.

Sections constructed through environmentally sensitive areas, e.g. along river banks will not normally receive treatment with de-icing materials.

The order of treatment priority is:

- Priority 1 Footways in core town centre areas; bus & rail stations and key routes to schools (including promoted safe routes to school if surfaced) i.e. those routes of significant pedestrian traffic.
- Priority 2 Footways in quieter shopping areas; key routes to doctor's surgeries and hospitals; housing link footways.
- Priority 3 Routes from town centres to areas of population.
- Priority 4 Residential estates.
- Priority 5 Rural footways and recreational cycleways.
- Priority 6 All other areas of highway.

Snow Clearance



Light to medium snowfall will be cleared by the use of a gritter mounted snowplough

If necessary, snow-blowing equipment or other machinery will be used.

In heavy snowfall, work will concentrate on core transport routes.

When these are clear, work will proceed in a diligent manner according to the resources available, the severity of the problem in each locality and the degree of hardship being experienced.



Discontinuity of Actions

On County Roads, post salting and snow clearance work will not normally take place between 00.00 (midnight) and 05.00am on any day unless exceptional circumstances apply.

As a large rural area with varying topography Powys can experience varied localised weather conditions which require a limited response. In such circumstances only affected roads within the Primary Treatment Regime will receive attention.

Where conditions are wide-spread, severe or extended it may be necessary to restrict the response to a core transport network. This will typically only include County A roads. Because such situations are variable in duration and impact, decisions on priorities can only be made at that time. The response will take into account available resource, current and forecast conditions and any other relevant factors.

Salt/Grit Bins and Heaps

Salt/grit bins or heaps primarily for self-help purposes will be provided prior to the onset of winter. These will generally be situated on the minor road and footway networks. In order to reduce the effects of wash-off from heavy autumnal showers stocking will commence toward the end of October with the aim of completing by the

end of November before the significant risk of ice formation or snow accumulation. Replenishment will take place on a needs basis during the winter period.

De-icing materials used in bins or heaps will normally be a grit/salt blend. Where stocks of road salt are low this may be varied to grit only.

Information and Contact Details for the Public and Other Services

During the Winter Service period the Authority receives many calls from the public, businesses, emergency services etc.

Information and requests for service can be obtained through:

Powys County Council web site www.powys.gov.uk

In person: At any local Council Office (who will relay enquiries);

By post to: Powys County Council, Highways, Transport & Recycling
County Hall, Llandrindod Wells, Powys, LD1 5LG

By email: customer@powys.gov.uk

By telephone: 01597 827465 / 01597 826000

Outside normal working hours calls requiring **emergency** action are directed to an Out of Hours Officer who will decide on appropriate action.

Other Agencies, such as the emergency services, are provided with additional contact details for key staff. This provides backup systems and direct means of contact for emergency situations.

In extreme conditions information on road conditions is collated centrally and distributed to appropriate organisations on request, including school transport coordinators, local radio stations, road information services etc. Details of roads affected by the weather will be posted on the council's web site at www.powys.gov.uk as soon as practicable.

Trunk Road Contact Arrangements:

For matters relating to Trunk roads the following contacts are available:

(A list of Trunk Roads is included at Appendix A)

Public non-urgent enquiries / service requests:	Public urgent enquiries / service requests:
North & Mid Wales Trunk Road Agency, Unit 5, Llys Britannia, Parc Menai, Bangor, LL57 4BN Office Hours line (01286) 685 180 email: enquiries@nmwtra.org.uk	North Wales Traffic Management Centre NWTMC Ffordd Sam Pari Morfa Conwy LL32 8HH 24hr line for Traffic Wales 0300 123 1213

Section B – Winter Service Operations

Decision Making

Decision Making and Recording

For the period October to April inclusive conditions are monitored daily and decision taken on any action required in accordance with the framework policy set by this plan.

Decisions on actions to be taken are delegated to staff with appropriate experience.

Outside normal working hours, on weekends, public holidays, etc. Out of Hours (OOH) Officers are responsible for making decisions.

Weather Forecasting and Monitoring

Since Powys extends over 100 miles north to south, and stretches from the edge of the coastal belt in the west to the edge of the Midland Plains in the east, the weather patterns can vary significantly. Three weather domains, based broadly on the Shire boundaries have been adopted to assist weather forecasting and decision making. Due consideration is given to those routes that cross boundaries.

Weather forecasting is provided by an external specialist forecast organisation. The following forecasts and support services are delivered:

Forecast	Approximate Delivery Time	Period
Oct – April (Inclusive)		
Morning forecast (Typically 24 to 36 hours ahead).	8.00 am	Oct – April inclusive
Midday Forecast (Typically 24 to 36 hours ahead) Detailed forecast with Ice Prediction Graphs for specific sites.	1.00 pm	Oct – April inclusive
Extended Period Forecast 2 to 10 day Forecast.	1.00 pm	Oct – April inclusive
Evening Update Forecast.	6.00 pm	Oct – April inclusive
24-hour monitoring service by the forecast provider.	Continuous	Oct – April inclusive
24-hour consultation service.	On demand	Oct – April inclusive

Weather and Road Condition Sensors

To assist in monitoring conditions information is collated from locations across Powys and adjacent Counties (see Appendix B for locations). This information is available to all staff that are actively engaged in providing winter services as well as the forecast provider. Details available include:

- Road surface temperatures;
- Deep road temperatures;
- Road surface condition - dry/wet/icy;
- Road surface salinity level for wet roads;

- Air temperatures, wind speed and direction;
- Dew point;
- Precipitation.

Road Weather Information Bureau Service

Information from the road condition sensors is accessed through a web based Information Bureau and is available to all staff actively engaged in providing the winter service.

Maintenance of Weather Station Equipment

The sites are provided and managed by either Welsh Government, Powys County Council or neighbouring councils. Data is shared freely between all parties including external organisations involved in forecasting and monitoring.

Periodic calibration and electrical tests are carried out on County Road sites. Other sites are managed by the respective organisation(s).

Operational Treatment

Quality Management Regime

Quality Management Systems based on ISO 9001, 14001 and 18001 are operated to cover key aspects of the winter service. The systems are audited by trained internal staff with external monitoring undertaken by UKAS accredited organisations.

Route Planning

Sections of highway identified for treatment under the various regimes are collated into routes for the most commonly encountered conditions. This aims to ensure maximum efficiency and consistency of approach.

Decisions on which highways (roads, footways etc) are included in a specific treatment regimes are made by the elected members.

Decisions on how highways are organised into routes for treatment are an operational matter and are managed by officers. Routing may change to reflect conditions and resources.

Routing and Salting is managed by the in-house operational workforce, who undertake operations for a number of bodies including the County Council, Welsh Government and The Local Health Board. Routes will be developed to meet the needs of the policy and may be subject to variation during the season subject to all sections identified for treatment being included. Copies of route plans are circulated as appropriate with the key routes being stored in each gritter.

Operational Record Keeping and Reporting

Details of pre-planned treatments undertaken are recorded for each action. Information recorded includes timing, estimate of salt usage and details of problems encountered.

Plant and Vehicle Manning Arrangements

Personnel are managed to ensure that in normal situations cover is available over a 24 hour period. Staff are rotated so that hours on duty do not contravene Drivers Hours Regulations or EU Working Time Directive.

Plant and Vehicle Servicing and Breakdowns

A mixture of owned, leased and hired vehicles and plant are operated for winter service operations. These are a mixture of dedicated special purpose and multi-functional vehicles. All items are regularly inspected and serviced.

Breakdown cover is provided at all times.

External Plant and Contractors

Powys County Council have arrangements in place for the hire of external plant and contractors. This enables Powys to hire from numerous local and regional firms and allows for the provision of a driver/operator if required.

Training and Development Arrangements

Appropriate training is provided to staff involved in winter service provision.

Vehicle operatives for winter service provision are trained to City & Guilds 6159 as a minimum requirement. Refresher training is undertaken at intervals not exceeding five years.

Decision making officers are selected based on their experience and can be drawn from a range of service areas. It is normal practice for at least two officers to be available to make decisions and for new officers to be mentored by more experienced officer who have completed relevant training. New officers will undertake training relating to weather forecasting, road conditions and decision making during their first three years. Refresher training is undertaken at intervals of five years (\pm one year to allow for course availability). At least one officer involved in the decision making process will have completed relevant training.

Health and Safety

A Quality Management System based on ISO 18001 is operated to cover key Health and Safety aspects of the winter service. Health and Safety issues including the method statement, COSHH and Safety Data information regarding winter maintenance is held within Safety Files located at key operational sites.

Winter Service Provision will be managed and monitored in such a manner as to comply with relevant Health and Safety legislation, organisation safety policy and accepted safe systems of work, in order that risks to personnel and property are minimised.

Safe systems of work for routine Winter Maintenance activities are maintained. The safe systems of work manual will be available at key offices at all times. Employees

and sub-contractors are required to adhere to the procedures laid down at all times.

HGSS Managers, or their nominee, will be responsible for identifying and managing activities with risks to Health and Safety which are not covered by site-specific method statements, risk and other assessments, but for which written safe systems of work are already formulated.

There are no significant hazardous activities which are considered to be outside those usually connected with work of this type undertaken by the operational team or their contractors.

Facilities, Plant, Vehicles and Equipment

Winter Service Compounds and Facilities

Operations are carried out from facilities around the County. Details of these are shown below:

Note: Access for the public is not available at these compounds.

Shire	Location	Salt Storage Type	Maximum Capacity (Tonnes)	Notes
Brecknockshire	Abercrave / Abercraf	Dome	2,500	Operational facility
Radnorshire	Boughrood	Barn	1,200	Operational facility
Brecknockshire	Brecon	Dome	3,000	Operational facility
Brecknockshire	Crickhowell (Dan-y-Parc)	Barn	1,600	Salt Store
Montgomeryshire	Llanbrynmair	Open	800	Operational facility
Montgomeryshire	Llanfyllin	Barn	700	Operational facility
Brecknockshire	Llangammarch	Barn	1,000	Operational facility
Montgomeryshire	Llanidloes*	Dome	2,500	Operational facility
Montgomeryshire	Newtown	Barn	2,000	Operational facility
Radnorshire	Penybont	Barn	1,800	Operational facility
Radnorshire	Presteigne	Barn	1,600	Salt Store
Montgomeryshire	Welshpool	Dome	3,000	Operational facility
	Maximum Capacity		21,700	

* Welsh Government have a strategic salt store for c7,500 tonnes at Llanidloes. Arrangements are currently in place with Powys County Council to use this to ensure stock is rotated. During this period the Powys County Council stock at Llanidloes will be retained as strategic stock.

Fuel Stocks and Locations

Vehicles draw fuel from depots and local retailers via fuel card arrangements. Reserve supplies of fuel are held by the Authority at strategic locations across the County to supplement this arrangement.

Salt and Other De-Icing Materials

De-Icing Material

A range of de-icing products are available for preventing and treating ice formation or snow accumulations. There are practical difficulties associated with maintaining a range of materials and spreading equipment suited to differing conditions. It is therefore necessary to select a product that performs satisfactorily in a range of circumstances. Powys uses rock salt to BS3247. This is generally stored in purpose built barns or domes in order to maintain spreading capability, reduce wastage and minimise environmental impact.

Testing of delivered salt is undertaken where necessary to ensure compliance with the standard.

Salt is stored at locations around the County as shown in the table above. Appropriate loading facilities and training are provided.

De-icing rock salt is normally purchased through a framework agreement in association with Welsh Government. Stock monitoring and control systems are in place to manage stock during the year.

Treatment Requirements Including Spreading Rates

Salt Spreading Rates

The rate at which salt is spread will vary depending on a number of factors including road surface temperature, precipitation and the type of de-icing material chosen. The treatment of both Trunk and County roads are undertaken as a combined operation, therefore the council adopts the rates of spread specified by the Welsh Government for the treatment of Trunk Roads for use on the county road network.

At times when salt stocks are low the rates of spread may be reduced below that specified by Welsh Government.

The current rates are included at Appendix F.

Updated recommendations from the Welsh Government will be reviewed and if appropriate adopted by the council for use on its own network.

Section C – Winter Service Snow Plan

The Snow Plan outlines the principles used during times of snowfall. The Snow Plan is complimentary to the Winter Service Plan and will operate within the over-arching policy, objectives and priorities of the plan.

The impacts from snow will vary with each event. The Snow Plan recognises that a tailored response may be necessary in each case and that the extent of service set out in the core Winter Service Plan will need to be varied. The need to move resources to priority areas affected by snow may lead to reduced treatment on other routes.

In general an action will be completed across routes defined in the core plan after which vehicles will focus on those parts of the routes affected by snowfall. This will generally be sections of route at higher altitude or in exposed areas. Periodically vehicles may be required to complete a treatment of the full route.

Snow accumulations up to around 50mm

These are managed by the application of de-icing materials (normally rock-salt) which together with traffic movement assists the dispersal of any accumulations.

Snow ploughs are generally not effective for snowfall up to this amount. Re-treatment may be necessary on all or part of a route.

Where traffic is light, a covering of snow may remain until either temperatures rise and natural thaw occurs, or the action of vehicles with the applied salt assist in the dispersal of the snow.

Snow accumulations above 50mm

As snow depth reaches 50mm the use of snow ploughs is likely to be necessary to clear snow before the application of salt.

Pedestrian Routes

Snow events will often impact on movement at a local level leading to more journeys on foot. Snow clearance of footways are determined and implemented at a local level and follow the priorities set out in the core Winter Service Plan.

Snow Drifts

In cold, dry conditions wind may blow snow from adjacent land causing snow drifts. These will routinely be cleared by snow ploughs. Where levels are significant the use of a snow blower or excavator may be appropriate.

Snow drifts are not a regular event across Powys and given their variable nature snow fencing is not routinely used.

Significant snow events

Significant snow events are those that are likely to cause significant disruption to travel across a wide area and include:

- Moderate to heavy snow fall;
- Extended periods of snow fall (typically over 36 hours);
- Snow fall during periods when temperatures are below freezing for an extended period (typically over 36 hours) with little or no prospect for thawing;

In such instances, snow clearance may initially need to be restricted to a core transport network, most likely comprising the Trunk and County A roads so as to ensure access in and out of Powys for medical and food supplies.

Such events will likely require a higher level management response to ensure that actions and resources are coordinated across Powys. This may be at a local level (Powys County Council); Regional Level (Wales) or National Level (UK). As well as internal services (highways, social care, schools etc.), external services such as emergency services (fire, police, ambulance etc.); health care providers and utilities (water, electric, gas, telephone) are likely to be involved. The Emergency Planning Team within Powys County Council will generally facilitate these management responses.

Snow clearance equipment

Snow clearance on roads will routinely be undertaken using snow ploughs to move the snow to the roadside. However, where the snow is too deep or drifting then the use of snow blowers or excavators may be more appropriate e.g. on minor roads with high earth banks or hedges on either side.

Dedicated gritting vehicles for use on the Primary Treatment Regime for Carriageways will be equipped with demountable snow ploughs.

A range of non-dedicated vehicles used to support winter service operations will be equipped with demountable snow ploughs. This will include vehicles such as those normally used for grass cutting which can be used in areas such as footways, pedestrianised areas, cycleways, etc.

A number of snow blowers are retained. Their use is limited as they require relatively deep snow of the right consistency to be effective.

A range of general purpose excavators are normally available, either operated by the Council, or hired from sub-contractors.

Stopping snow clearance

In some circumstances it may be necessary to stop snow clearance activities until conditions improve. This will normally be during periods of blizzard type conditions e.g. significant snow fall and high wind. Experience suggests that in such situations public travel is generally suspended voluntarily. During such periods support continues to be provided to the emergency services.

Road closures

During periods of snow fall roads may become blocked or impassable. Where A or B class roads are affected every effort will be made to erect signs as quickly as possible to inform users of the closures. Due to the quantity of minor roads that could be affected it may not be practicable to erect signs. Users should take account of weather conditions before deciding to use the minor road network. Conditions on minor routes are likely to be poorer than on the main routes.

Appendix A - Information on Trunk Road Winter Services

The Welsh Government is responsible for the maintenance of the Trunk Road network across Wales and delivers the majority of services through two appointed Agents:

- North and Mid Wales Trunk Road Agency (NMWTRA)
(Managed by Gwynedd County Council);
- South Wales Trunk Road Agency (SWTRA)
(Managed by Neath Port Talbot County Borough Council).

Powys is covered by the North and Mid Wales Trunk Road Agent. A list of Trunk roads within Powys is provided below.

Details in this Appendix are provided for **information only** and are not binding on either Powys County Council, Welsh Government or their Agents.

Confirmation of the winter service provided on Trunk Roads should be sought either directly from Welsh Government or their appointed agent.

The Agent's contact details within Powys are:

Public non-urgent enquiries / service requests:	Public urgent enquiries / service requests:
North and Mid Wales Trunk Road Agent Bangor Main Office Unit 7, Llys Onnen Ffordd y Llyn Parc Menai Bangor LL57 4DF Office Hours line 01286 685 186 email: enquiries@nmwtra.org.uk	North Wales Traffic Management Centre NWTMC Ffordd Sam Pari Morfa Conwy LL32 8HH 24hr line for Traffic Wales 0300 123 1213

Welsh Government apply the same level of service for all Trunk Roads across Powys. It is Welsh Government's objective to keep all 431km of Trunk road carriageways clear of snow and ice where reasonably practicable. This is achieved through service providers undertaking precautionary treatments and/or reactive treatments to prevent the formation of ice or accumulation of snow.

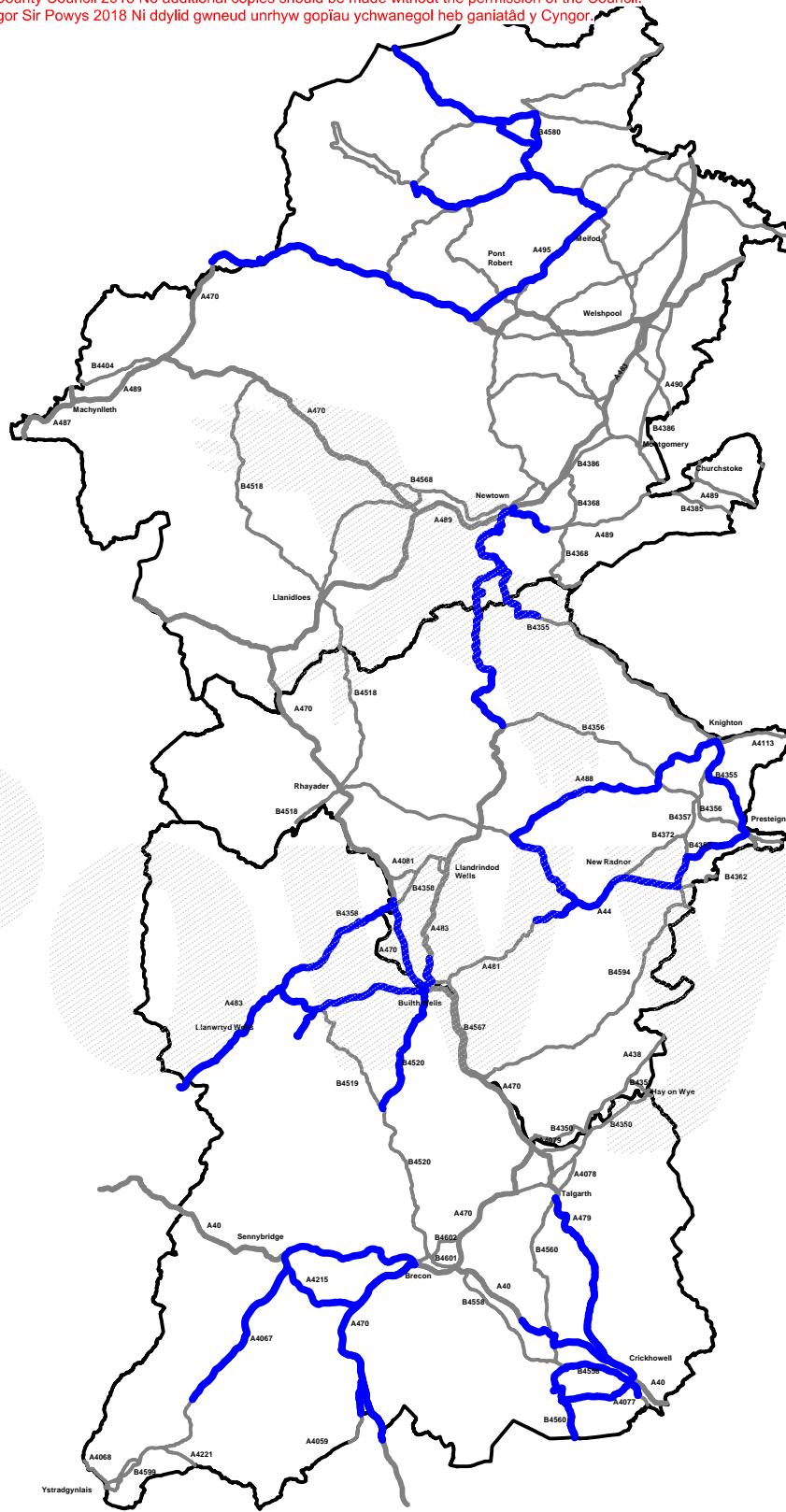
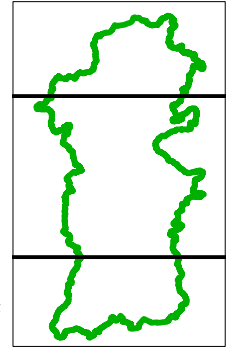
Powys County Council are a service provider to Welsh Government through the North and Mid Wales Trunk Road Agent.

Winter services across Powys are routinely undertaken by Powys County Council in a joint approach for Trunk Roads and Powys County Council's Primary Treatment Regime.

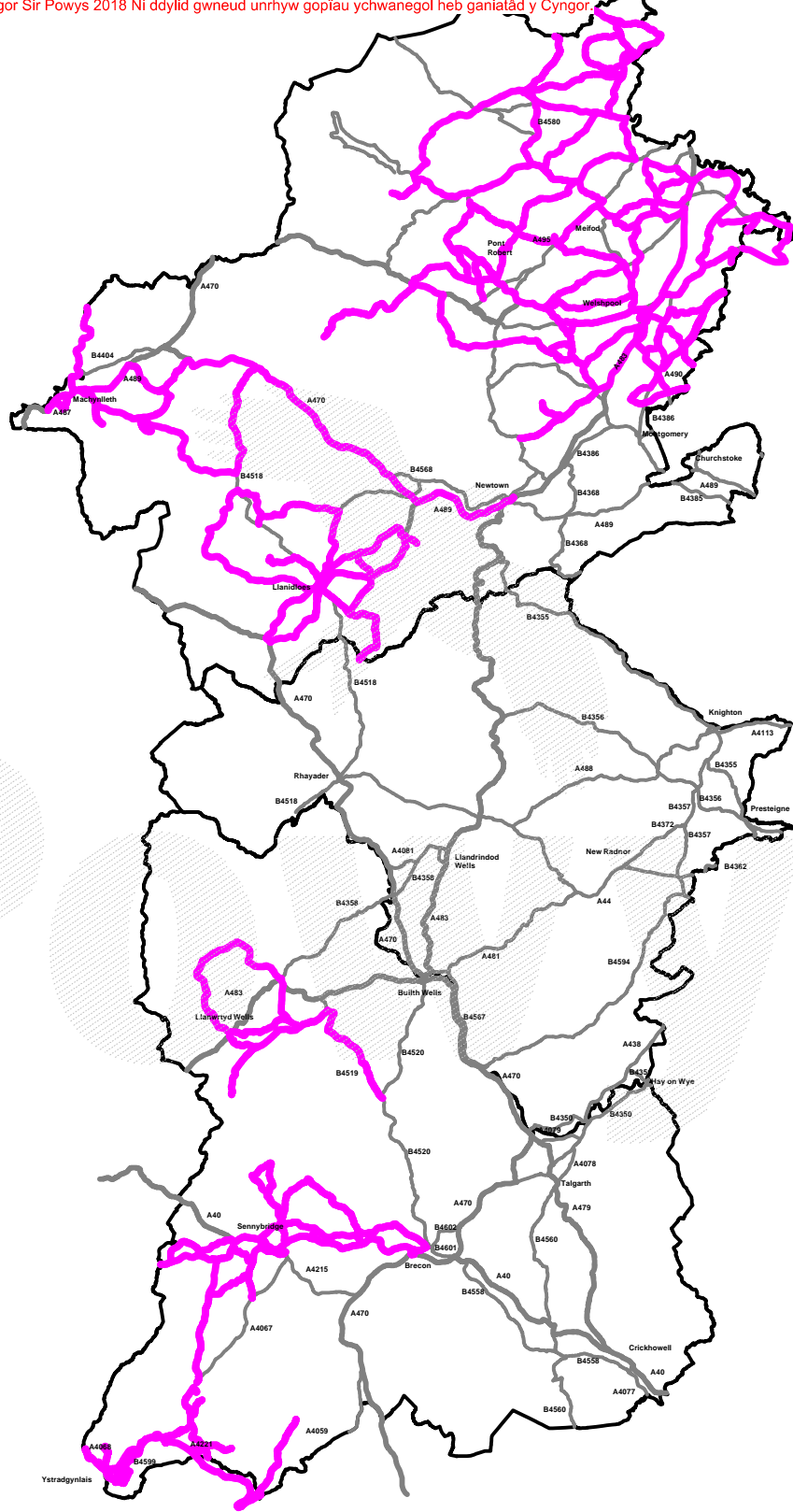
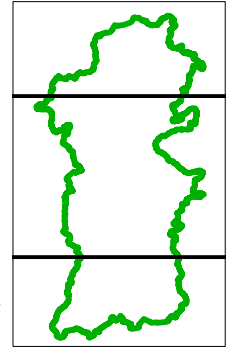
Appendix A - Schedule of Trunk Roads in the County of Powys

- A40** Monmouthshire Boundary at Glangrwyney to the Carmarthenshire Boundary at Halfway (Just East of Llandovery).
- A44** Junction with A470 at Llangurig to Ceredigion Boundary at Eisteddfa Gurig.
[Note: Ceredigion County Council routinely carry out winter actions along the A44 from the Ceredigion/Powys Boundary at Eisteddfa Gurig to the roundabout at Llangurig to Ceredigion County Council. This ensures continuity of action along the route.]
- A458** Shropshire Boundary at Middletown to the junction with the A483 at Buttington and thence from the North and South junctions with the A483 at Welshpool to the junction with the A470 at Mallwyd in Gwynedd.
- A470** Powys boundary with Merthyr Tydfil to the junction with the A458 at Mallwyd in Gwynedd.
- A479** Junction with A40 at Tretower to the junction with the A470 at Llyswen.
- A483** Carmarthenshire Boundary in the South to the Shropshire Boundary at Llanymynech and Pant in the North.
- A487** County Boundary South of Machynlleth to Dyfi Bridge just North of Machynlleth.
[Note: Ceredigion County Council routinely carry out winter actions along the A487 from the Ceredigion/Powys Boundary at Pont Llyfnant to the roundabout south of Machynlleth at Y-Plas. This ensures continuity of action along the route.]
- A489** Junction with A483 in Newtown to the junction with the A470 near Caersws. From the A470 junction at Cemmaes Road to the A487 junction in Machynlleth.

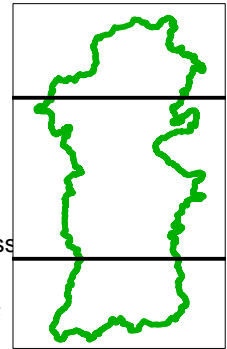
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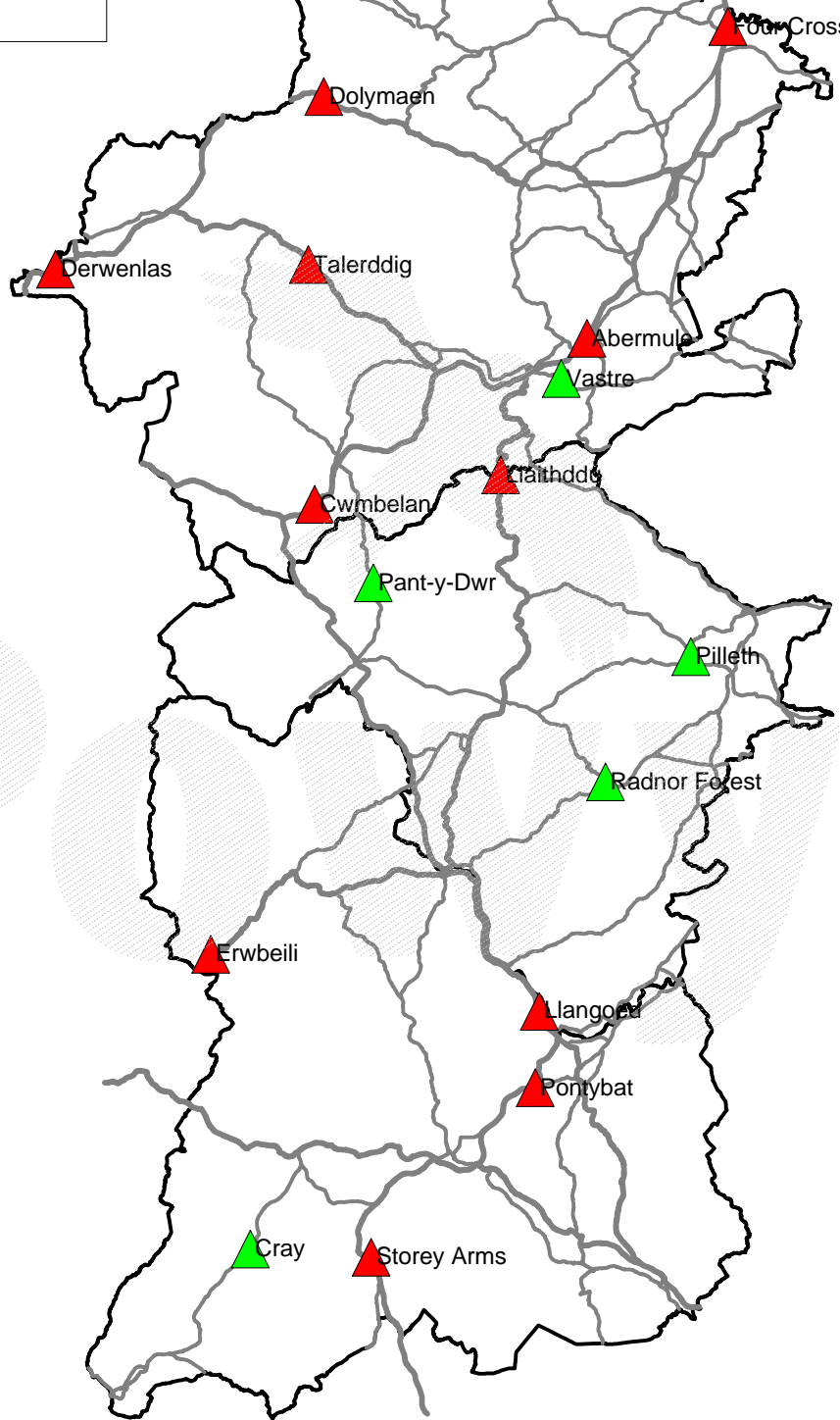


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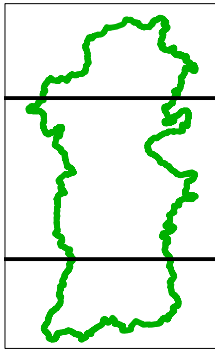


Weather Station Legend




-  PCC Owned
-  WAG Owned

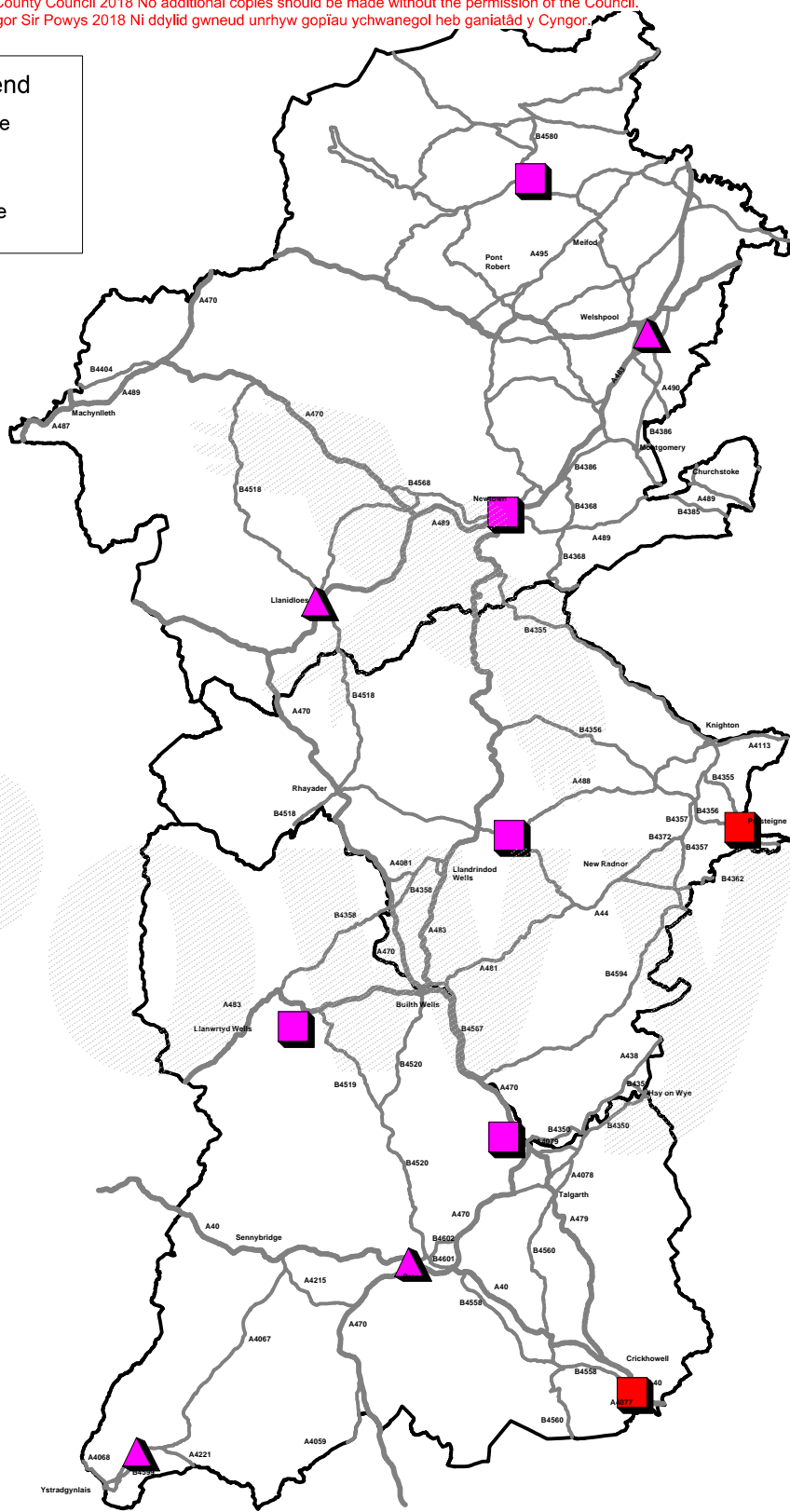


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Salt Storage Legend

-  Operational Dome
-  Operational Barn
-  Strategic Reserve



Treatment Matrix		(2018/2019)	
Treatment			
Weather Conditions Road Surface Conditions Road Surface Temperature (RST)	Air Temp	Dry Salting (g/m²)	Ploughing
(MARGINAL CONDITIONS) Frost or forecast frost, RST at or above -2°C and dry or damp road conditions. (Porous / open textured surfacing, see Note 2)		10 (12)	No
Frost or forecast frost, RST at or above -2°C and wet road conditions. (see Note 1 if wet and lightly trafficked) (Porous / open textured surfacing, see Note 2)		10 (15)	No
Frost or forecast frost, RST below -2°C and above -5°C and dry or damp road conditions (see Note 1 if damp and lightly trafficked) (Porous / open textured surfacing, see Note 2)		15 (20)	No
Frost or forecast frost, RST below -2°C and above -5°C and wet road conditions (see Note 1 if lightly trafficked) (Porous / open textured surfacing, see Note 2)		20 (25)	No
Frost or forecast frost, RST at or below -5°C and above -10°C and dry or damp road conditions (see Note 1 if damp and lightly trafficked) (Porous / open textured surfacing, see Note 2)		20 (25)	No
Frost or forecast frost, RST at or below -5°C and above -10°C and wet road conditions (existing or anticipated) (see Note 1 if lightly trafficked) (Porous / open textured surfacing or particularly low temperatures at lower end of temperature band, see Note 2)		2x15 (2x20)	No
Light snow forecast (<10mm)		10-20	No
Medium/heavy snow or freezing rain forecast		2x20	No
Freezing rain falling		20 (successive)	No
After freezing rain		20 (successive as required)	No
Ice formed (minor accumulations)	Above -5°C	20	No
Ice formed	At or below -5°C	2x20	No
Snow covering exceeding 30mm		10-20 (successive)	No
Hard packed snow/ice	Above -8°C	20 (successive)	No
Hard packed snow/ice	At or below -8°C	Salt/abrasive (successive)	No

Rates of spread for precautionary treatments may be adjusted to take account of residual salt or surface moisture. Refer to more detailed Advice and Guidance Notes.

If the indicated spread rate cannot be accurately applied due to limitations of the equipment or calibration difficulties the next higher spread rate should be used. For example, when indicated 12g/m² use 15g/m².

Equipment shall be calibrated and adjusted to ensure that the required spread rates throughout the salting route (with varying loads) does not fall below the minimum rate specified, this is particularly important for the lower spread rates indicated.

Where a double treatment is necessary the initial first treatment shall be at the highest spread rate possible within the limitations of the spreader for the route length. For example, 2x15g/m² applied as 1x20g/m² + 1x10g/m².

Notes:

1) Treatments should be carried out, whenever possible, after traffic has dispersed standing water. Successive normal or half rate treatments (for pre-wetted, pre-coated and dry salt) may be considered, based on operational experience for lightly trafficked roads at the lower end of the temperature bands indicated and climatic variations experienced.

2) Where a surfacing is of an open texture and /or porous or surface water is evident the higher spread rate (indicated in brackets) should be used. Where temperatures may reach the lower end of the temperature bands, light traffic or a more cautious approach to treatment is required based on operational experience, local knowledge the higher spread rate (indicated in brackets) may be used.