

Agenda Item	6
Report No	WRSL/013/21

HIGHLAND COUNCIL

Committee: Wester Ross, Strathpeffer and Lochalsh Committee

Date: 19 August 2021

Report Title: Winter Maintenance Plan for 2021/22

Report By: Executive Chief Officer Infrastructure, Environment and Economy

1 Purpose/Executive Summary

1.1 This report details the 2021/22 Winter Maintenance Plan for Wester Ross, Strathpeffer and Lochalsh area.

2 Recommendations

2.1 Members are asked to approve the Winter Maintenance Plans.

3 Implications

3.1 **Resource** - All winter maintenance operations will be undertaken in line with the winter maintenance budget.

3.2 **Legal** - Under the Roads (Scotland) Act 1984 The Highland Council has a duty to keep roads reasonably free of snow and ice. This report complies with the legislation.

3.3 **Community (Equality, Poverty and Rural)** - No impact.

3.4 **Climate Change / Carbon Clever** - In relation to Carbon Emissions the Service provides specialist training for all operatives in respect to fuel efficient driving, and route plans are in place to achieve the most efficient routing of vehicles.

3.5 **Risk** - There are no risks associated with this report.

3.6 **Gaelic** - This report has no impact on Gaelic considerations.

4 Background

- 4.1 The Council's Scheme of Delegation to Area Committees gives Wester Ross, Strathpeffer and Lochalsh Committee the power:-

“ to approve the winter maintenance plan within the strategy and budget allocated by Community Services Committee”

- 4.2 Under Section 34 of the Roads (Scotland) Act 1984, a Roads Authority shall take such steps as they consider reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads.

- 4.3 The Transport, Environmental and Community Service Committee agreed a number of enhancements to the winter maintenance service at its meeting on 16 May 2013 (Report TEC-41-13). These enhancements were included in the approved revised Winter Maintenance Policy approved on 19 September 2013 (Report TEC-67-13). Community Services Committee reviewed the winter maintenance policy on 28 April 2016 (Report COM23/16) which benchmarked winter maintenance against other Scottish Local Authorities. The Committee agreed that 10% of the gritter fleet could start one hour earlier at 5 am during adverse weather to aid treatment of roads in advance of commuter traffic as well as aiding service bus routes in larger urban areas.

The Environment, Development and Infrastructure Committee agreed on 16 August 2018 to provide the same level of treatment on Saturdays and Sundays. As the winter maintenance budget remains the same, the Saturday service is reduced, and the Sunday service increased. This represents the changing retail, work and leisure patterns and the associated travel requirements.

There are no changes to winter maintenance from Monday to Friday.

- 4.4 The Council's Winter Maintenance Policy is in place to ensure a consistent level of service between areas and to ensure, as far as possible, the safety of drivers and pedestrians. However, the operation of that Policy does not and cannot ensure that every road and footway will be free of ice or snow at all times.
- 4.5 Wester Ross, Strathpeffer and Lochalsh have their own Winter Maintenance Plan which set out the operational details required to deliver a service and comply with the Council's policy.
- 4.6 Across Ross and Cromarty winter maintenance operations are split into two separate groups. East Group operates from Greenhill, Alness and Tain Depots and covers Easter Ross, Dingwall and Seaforth and Black Isle areas. West Group covers all of Wester Ross, Strathpeffer and Lochalsh from various depots throughout that area.

Winter maintenance in Wester Ross, Strathpeffer and Lochalsh is provided from various depots in the area with the exception of Route 20 Dingwall – Contin which is provided by Greenhill Depot.

5 Winter Maintenance Policy

- 5.1 The Council's Winter Maintenance Policy sets out the hierarchy of priorities for treatment, target times for treatment, and the hours of operation. The current Winter Maintenance Policy is contained in **Appendix A**.

With the introduction of the revised weekend service all Secondary Routes will be completed by 10:30 am.

5.2 Primary routes are treated first, thereafter Secondary routes and then all Other routes being treated as resources permit. Exception to this will be where a gritter has to travel across a Secondary or Other Route to treat a higher priority road.

5.3 The total lengths of each Priority in Wester Ross, Strathpeffer and Lochalsh are:-

Primary	267.7 km	33%
Secondary	221.5 km	28%
Other	308.8 km	39%

5.4 The Council publishes “Winter Services” leaflets for each operational area providing the public with information on snow clearing and gritting of Council roads along with maps showing the Priority attributed to individual roads.

5.5 The leaflets and Policy information are provided on the “Winter Maintenance” pages on the Council’s web site at:-

www.highland.gov.uk/yourenvironment/roadsandtransport/wintermaintenance

Route maps for the Area are included in **Appendices B and C**. These are available on the Council’s website.

5.6 Secondary routes vary from year to year to reflect school bus routes where either a bus or minibus, with nine or more seats, provides a service. The Dingwall and Seaforth Winter Maintenance Plan reflects the current school bus routes according to policy.

6 Forecast / Decision Making

6.1 The Council employs a professional forecast provider (MetDesk) who provides daily and 5-day weather forecasts. Separate forecasts are received for the 7 climatic zones across Highland to support local decision making.

6.2 The daily forecast is received at noon and covers the following 24 hours. This forecast is used to plan treatment for the evening and following morning. The forecast is updated at 06:00. If there is any adverse deterioration in the forecast during the forecast period, an update is provided directly to the duty officer(s) by telephone.

6.3 Across The Highland Council, real time data is obtained from 30 icelert sites (including 8 located on the trunk road). These sensors provide information on the road surface temperature, surface condition (wet, dry, ice), and the presence of salt, graded 1, 2 or 3. A Salt 1 level will prevent freezing down to about minus 2 and Salt 3 down to minus 8 degrees Celsius.

6.4 East Group operates a “Duty Officer” rota to ensure that there is always a suitably qualified and experienced member of staff available 24 hours a day, 7 days a week, to take decisions on the deployment of appropriate resources to deal with the prevailing weather conditions.

6.5 Duty officers have all had training from the weather forecast provider. Training is refreshed every three years.

7 Staff Establishment

- 7.1 The numbers of manual workers allocated to road maintenance is determined by the number of routes required to deliver the winter maintenance policy. The current staff establishment is shown below with the majority of operatives holding an LGV driving licence:-

West Group Establishment

- Dingwall Office
 - 1 Roads Operations Manager
- Silverbridge Depot
 - 2 Operatives
- Lochcarron Depot
 - 3 operatives
- Ardelve Depot
 - 1 Roads Officer
 - 1 Technician
 - 3 operatives
- Glenelg Depot
 - 2 operatives
- Applecross Depot
 - 1 foreman
 - 2 operatives
- Gairloch Depot
 - 1 foreman
 - 5 operatives
- Ullapool Depot
 - 3 operatives
- Achiltibuie Depot
 - 2 operatives

- 7.2 Operatives normally allocated to grounds maintenance and street sweeping are used to provide resources for treating footpaths. The majority of these operatives hold ordinary driving licences, which generally restrict their involvement to the operating of mini tractors and vehicles of 3.5 tonnes or less.
- 7.3 A standby system is put in place over the winter period to ensure sufficient drivers are available to cover weekends. An operative is also put on standby during the week which allows an initial response to emergencies out of hours.

8 Vehicles and Plant

- 8.1 Across Ross and Cromarty there are 29 front-line gritters available and 11 footpath tractors. There are a limited number of spare gritters available across Highland.

There are 15 gritters serving Wester Ross, Strathpeffer and Lochalsh. These are based in the various depots across the area.

- 8.2 Each vehicle treats, on average, 50km of Primary and Secondary routes followed by 50km of Other routes. Routes that are not classified as 'Primary', 'Secondary' or 'Other' are treated as a last priority if conditions dictate.

8.3 Some footway tractors treat several villages, which involve travel time between routes, this will impact on the length of surface they can treat in a day.

9 Treatments

9.1 Winter maintenance treatments consist of morning routes, evening precautionary treatment routes and, during extreme/poor conditions, continuous or all-day treatments.

9.2 All operations begin at 0600hrs and can continue to 2100hrs. Saturday and Sunday operations begin at 0600hrs and treat Primary routes and Secondary routes excluding school transport routes. The routes covered on a Sunday may be extended during snow conditions.

9.3 During adverse weather morning treatment for the following routes begins at 0500 hrs:-

- A832 Braemore Junction to Gorsten Junction

9.4 Treatments consist of the application of pure salt or occasionally salt/sand mix and where required blading or ploughing snow from the road surface. A spread rate for salt application has been agreed by Council, dependant on weather conditions.

10 Salt

10.1 The average annual usage of salt for Wester Ross, Strathpeffer and Lochalsh area is approximately 7500 tonnes. Although the occurrence of snow lying on the roads has reduced, ice and frost remain prevalent especially on the higher routes. There is sufficient salt in stock or on order spread across our depot locations.

11 Provision of Grit/Salt Bins

11.1 Grit/salt bins are generally placed at locations with steep gradients where we are not providing a regular road or footway gritting service.

11.2 The bins are filled before the onset of winter conditions. They are replenished regularly over defined routes as well as on an ad-hoc basis as required subject to availability of resources.

11.3 Requests for additional bins are considered taking into account the following factors:-

- the elevation and steepness of the road/footpath;
- whether a regular road or footway gritting service is already provided;
- the needs and numbers of the regular users of the footpath/road; and
- the resources available to service the bins

12 Co-ordination and Support for Other Services

12.1 There is on-going co-ordination between Council Services and in particular Community Services, Care and Learning and the NHS to close any local gaps in the winter maintenance service at the schools, care homes and housing estates. For example, Community Services supplies schools with salt suitable for facilities management staff to spread on the paths and roads within school grounds.

12.2 At times of extreme weather, Council Services meet as a group to coordinate action to address issues of access to schools, health services and care services. Representatives from the Council's Emergency Planning section, Police, HIFRS, NHS, Transport Scotland, Trunk Road Operating Companies and other key agencies are involved if there is a requirement to consider the wider implications of a winter emergency. The meetings are normally chaired by a representative from the Chief Executive's Service. The Council's Press Office is kept informed to enable appropriate communication with the public through media and social networking channels.

13 Exceptional Conditions

13.1 While the resources set out above will deal with the majority of winter events, there may be occasions, for example periods of heavy prolonged snowfall, when additional resources are required.

13.2 To help deal with these exceptional situations, a framework contract is in place which allows us to bring in additional resources at short notice. Local contractors are available who can supply equipment and operators to assist in clearing deep snow at short notice.

13.3 Community Service resources are also available to assist with the treatment of footpaths.

14 Community Self-Help

14.1 The Council also encourages communities to "self-help" as much as possible and to generate awareness of people within their community that may need assistance from neighbours in clearing snow and ice or possibly shopping or accessing health and social services during extreme weather conditions.

14.2 Community self-help is also being encouraged under the Councils "Winter Resilience" scheme whereby communities can submit an application via their community council to carry out footway gritting operations within an agreed area. The Council will provide the community with salt/grit, bins, scrapers and reflective waistcoats. It is important to note that this does not replace the service provided by the Council but allows the community to provide an enhanced level of service.

14.3 Guidance is also published on the Council web site and by the Scottish Government on their web site (www.readyscotland.org) urging people to be prepared for emergencies and extreme weather.

14.4 The Council also provides (on request) salt/gritting services for key strategic local service providers, including hospitals, health centres, fires stations, airports and train stations etc.

Designation: Executive Chief Officer Infrastructure, Environment and Economy

Date: 3 August 2021

Author: Iain Moncrieff, Road Operations Manager (Ross and Cromarty)



The Highland Council

Community Services

Winter Service Policy

August 2018

Winter Service Policy

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THE HIGHLAND COUNCIL

Community Services

Winter Service Policy

1.0 BACKGROUND

- 1.1 Under Section 34 of the Roads (Scotland) Act 1984, a Roads Authority shall take such steps as they consider reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads.
- 1.2 This Winter Maintenance Policy relates to the Council's responsibilities as Roads Authority for adopted roads, cycle ways, footways and footpaths.
- 1.3 Cross Service Working arrangements exist between Services to ensure that Council properties receive an appropriate winter maintenance service. The appropriate Service Director will determine the appropriate level of winter maintenance service for footpaths, car parks and other areas that are the responsibility of the Council but are not on the list of public Roads.

2.0 GENERAL

- 2.1 With the operational management devolved to the Areas it is essential that a common Winter Maintenance Policy is in place to ensure a consistent service for drivers passing between local Areas.
- 2.2 It is the aim of Highland Council in respect of its winter maintenance service to:-
 - 2.2.1 Provide a winter gritting and snow clearing service which, as far as is reasonably practical, using the resources available, permits the safe movement of vehicles and pedestrians on the adopted road and footway network and seeks to minimise delays attributable to weather conditions.
 - 2.2.2 Conduct operations having regard to the requirements of the Health and Safety at Work Act 1974 and EU and Domestic Driver Hours Regulations.
- 2.3 The Council as Roads Authority is not responsible for Winter Maintenance on unadopted roads and will not provide a Winter Maintenance service for unadopted roads. It will however make every effort to provide assistance for emergency and medical services during severe weather conditions where there is an urgent need for safe access.
- 2.4 The responsibility for Winter Maintenance on Trunk Roads lies with Transport Scotland.
- 2.5 The Council will source Winter Weather Forecasting Services from recognised Meteorological Service Providers during the period 14th October to 14th April.

3.0 TREATMENT OF ROADS

The Council will endeavour to provide the highest level of service possible within the resource available. During winter, especially during severe weather, it may not be possible to keep every road free from ice and snow at all times.

The treatment of roads will be carried out based on a hierarchical system dependant on route priority. The time taken to complete the treatment of routes will vary from day to day depending on actual weather conditions and can be expected to increase significantly during periods of snow due to having to plough both sides of the road.

3.1 NETWORK HIERARCHY

The following prioritised hierarchy will be used to determine the order of treatment of roads.

PRIMARY (Highest)	Strategic, Regional, Sub Regional and Link roads which serve the larger communities and permit the majority of road users to travel across the region. Main and Local distributor roads in the larger urban settlements. High frequency service bus routes operating at least 6 days a week and starting prior to 7am with identified hazards.
SECONDARY	Roads connecting smaller communities to the primary network. Link and Service roads within the larger urban settlements. Service bus routes not covered by the Primary network.
OTHER	Minor rural and local access roads. Residential roads in urban settlements.

Gritting may not be completed on all routes before buses start their journeys.

The priority network will be agreed by Local Area Committee. Leaflets with maps showing the Primary and Secondary network will be made available via the Council web site at the start of each winter period.

3.2 TREATMENT OF ROADS

MONDAY TO FRIDAY

The service will be provided to the full road network between 6am and 9pm. Treatment after 6pm will in general be restricted to Primary routes only.

SATURDAY AND SUNDAY

A strategic service will be provided at the weekend which covers Primary, strategic Secondary and difficult Other routes between 6am and 9pm. Treatment after 6pm will in general be restricted to Primary routes only.

3.2.1 25th December and 1st January

The service will be provided between 7am and 9pm and will be restricted to the Primary network only. During periods of sustained snow, or where significant snow conditions are forecast, the service may be extended to include difficult Secondary routes.

3.2.2 26th December and 2nd January

The service will be provided between 7am and 9pm and treatment will be restricted to the Primary and Secondary networks only. Where December 26th and January 2nd fall on a Saturday or Sunday then a standard weekend service will be provided.

3.3 PRECAUTIONARY TREATMENT

Precautionary treatment carried out the previous evening, normally before 9pm, in advance of forecasted adverse weather, will in general be restricted to Primary routes only.

3.4 TREATMENT DURING SNOW CONDITIONS

In times of severe weather, resources will be concentrated on keeping the Primary network clear and as a result there may be a delay before it is possible to treat the Secondary and Other road network, including residential streets. In exceptional snow conditions external contractors will be deployed to assist with snow clearance.

3.5 SNOW GATES

For safety reasons Snow Gates are located on routes where drifting snow can make the route impassable very quickly. The closure and subsequent opening of snow gates will only take place with the authority of the Police.

The roads controlled by snow gates within the Highland area are as follows:-

- A939 Bridge of Brown
- A939 Grantown to Dava
- A939 Dava to Ferness
- A832 Braemore to Dundonnell
- B9007 Carrbridge to Ferness
- B9176 Struie Hill Road
- Cairngorm Ski Road
- Bealach na Ba

In severe snow conditions the Council may withdraw resources from these roads and allow the storm to abate. In such circumstances resources may be diverted to assist snow clearing operations on other parts of the network. Additional resources may be employed during such snow conditions.

3.6 TARGET TREATMENT TIMES

The following are the target times for completion of routes during conditions of ice and light snow.

3.6.1 Monday to Friday

PRIMARY ROUTES	8.30am
SECONDARY ROUTES	9.00am
OTHER	As resources and conditions permit.

3.6.2 Saturday and Sunday

PRIMARY ROUTES	8.30am
SECONDARY and OTHER Routes	as resources and conditions permit

3.6.3 25th / 26th December and 1st / 2nd January

PRIMARY ROUTES	9.30am
SECONDARY ROUTES	as resources and conditions permit.

3.7 TREATMENT OF DIVERSION ROUTES

Where a road, including a trunk road, is closed to traffic due to either planned works or an emergency situation then the agreed diversion route will be treated as follows.

Trunk Road Closure

The agreed diversion route will be treated to Primary standard and signs erected at each end of the diversion and any other junctions with trunk roads, stating that there will be no overnight salting.

In an emergency situation and after Transport Scotland or its trunk road management and maintenance agents have notified the Council of the closure, every endeavour will be made to both treat the agreed diversion route appropriately and erect signs before the first overnight period.

Council Road Closure

Any part of the agreed diversion route that is of a lower priority than the closed road will be treated to the same priority as the closed road.

4.0 TREATMENT OF FOOTWAYS, FOOTPATHS AND CYCLE WAYS.

Treatment for ice and light snow conditions on adopted footways, footpaths and cycle ways will be carried out as set out below. Each gritting route will take a significant length of time to complete. The length of time taken will vary from day to day depending on actual weather conditions.

4.1 NETWORK HIERARCHY

The following prioritised hierarchy will be used in determining the order of treatment of footways.

Priority	Description
PRIMARY	Main urban shopping centres. Primary cycleways.
SECONDARY	Footways serving main urban areas, schools, hospitals and minor shopping areas. Sheltered Housing and locations of special need with known identified hazards.
OTHER	Other footways as resources allow.

4.2 FOOTWAY TREATMENT TIMES - MONDAY TO FRIDAY

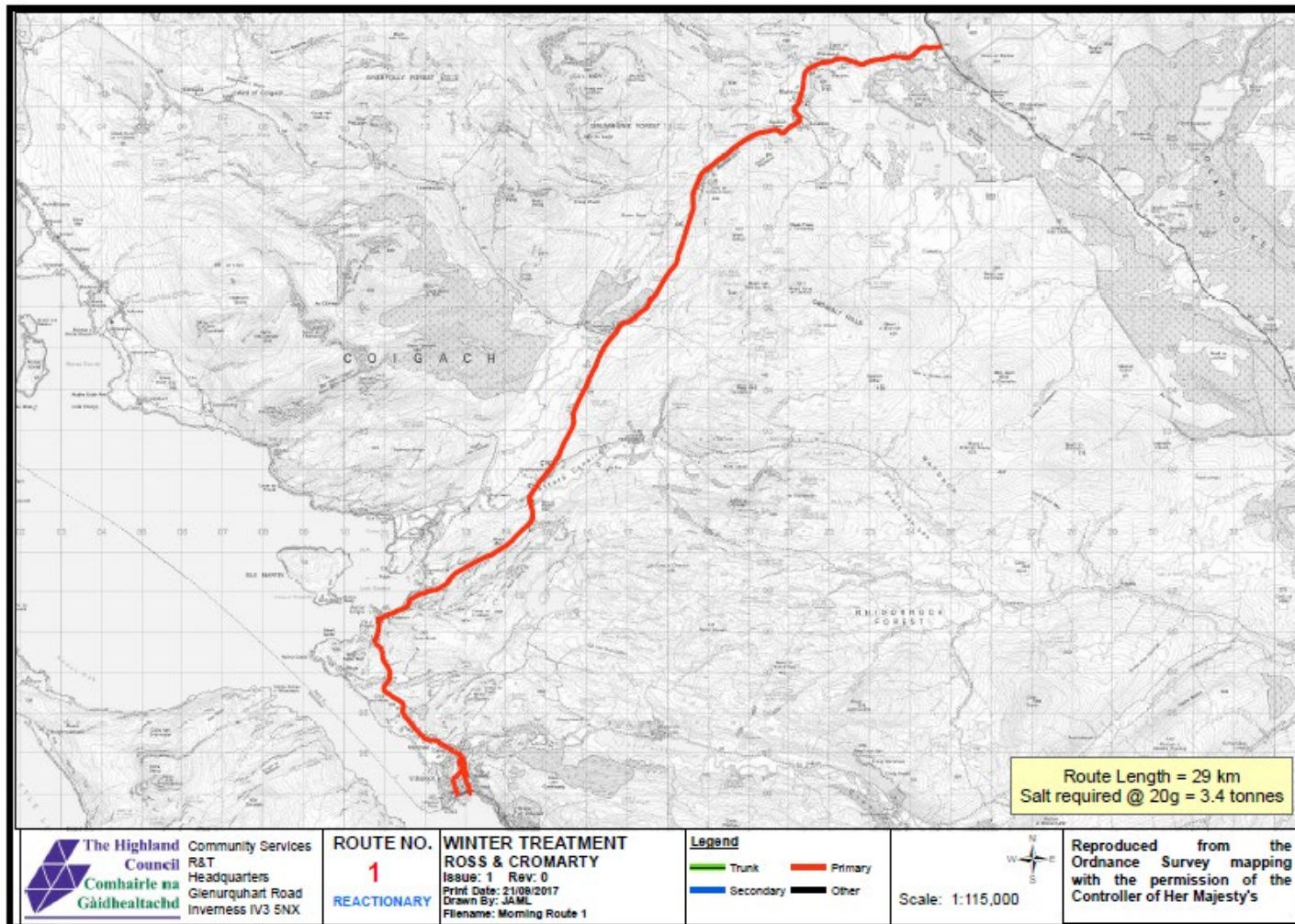
The service will be provided between 6am and 6pm and footways will be treated on a priority basis as resources permit

4.3 FOOTWAY TREATMENT TIMES – SATURDAY, SUNDAY AND PUBLIC HOLIDAYS

The service will be provided between 6am and Noon on Primary and strategic secondary footways as resources permit. There will be no service for footways on Christmas Day or New Year's Day.

-- End of Policy Statement --

Winter Routes Plans Mondays to Fridays



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ROUTE NO.
1
REACTIONARY

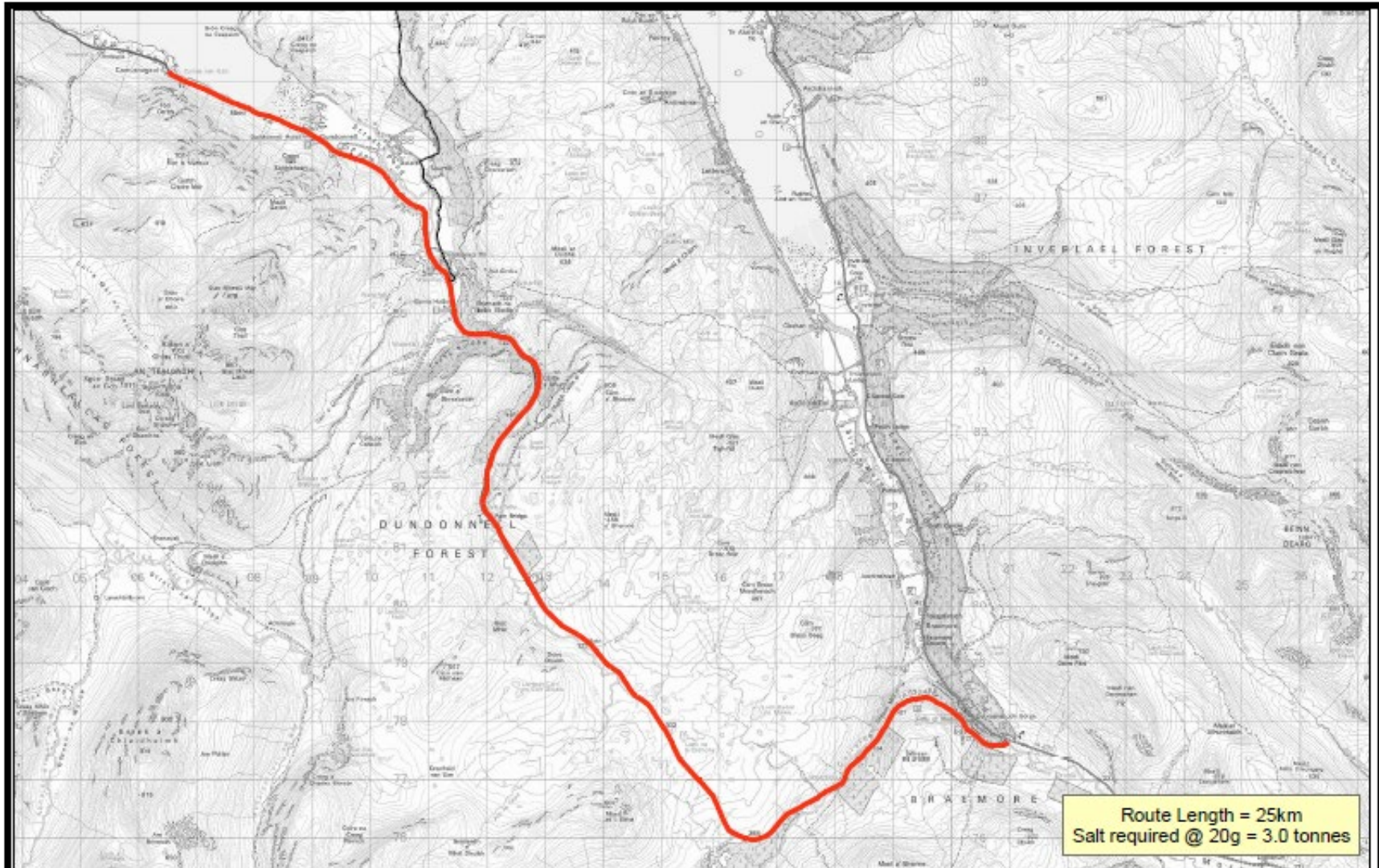
WINTER TREATMENT
ROSS & CROMARTY
 Issue: 1 Rev: 0
 Print Date: 21/08/2017
 Drawn By: JAML
 Filename: Morning Route 1

Legend
 Trunk (green line)
 Primary (red line)
 Secondary (blue line)
 Other (black line)

Scale: 1:115,000



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ROUTE NO.
2
REACTIONARY

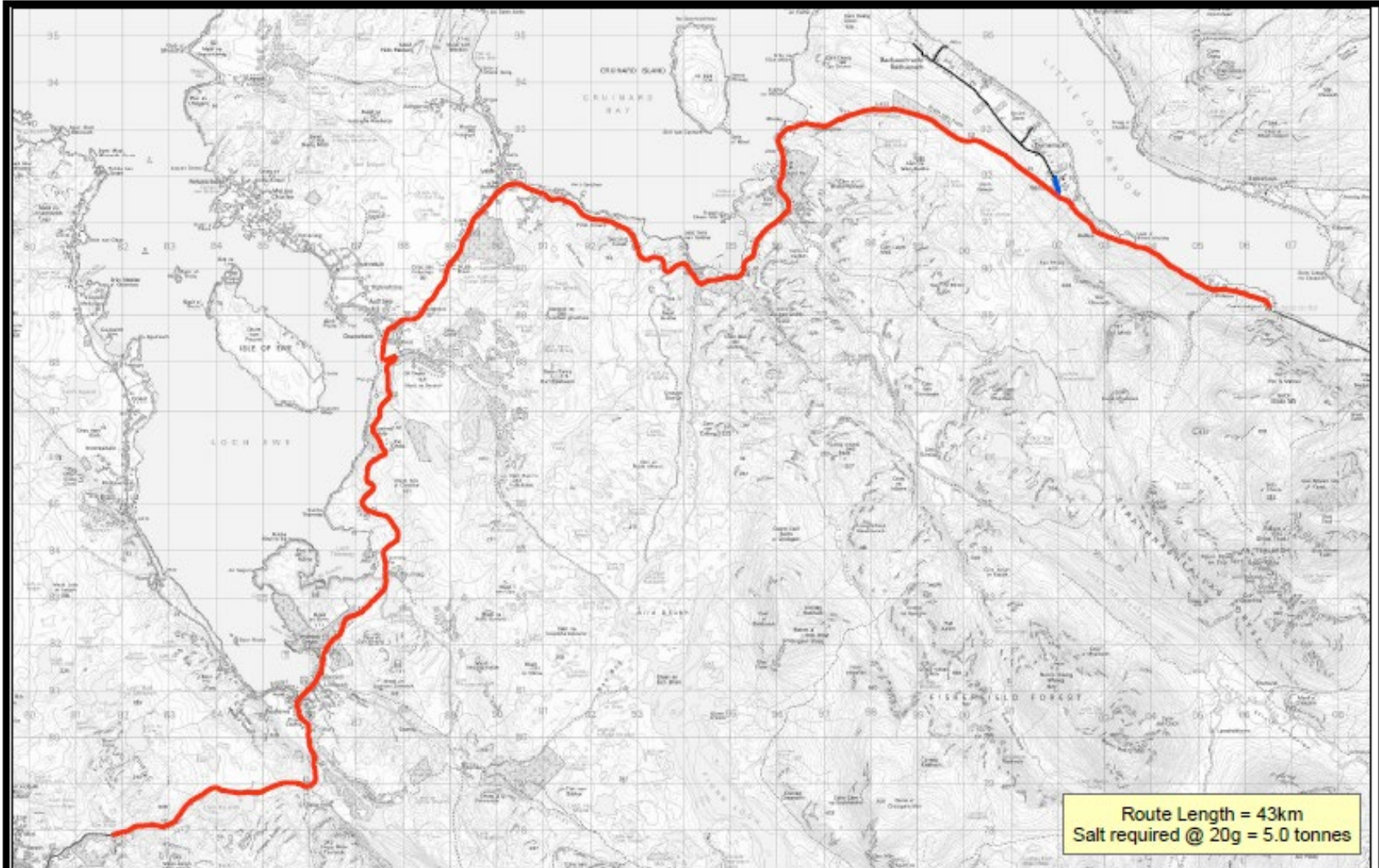
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ROSS & CROMARTY
 Issue: 1 Rev: 0
 Print Date: 21/08/2017
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Legend
 Green line: Trunk
 Blue line: Secondary
 Red line: Primary
 Black line: Other



Scale: 1:84,317

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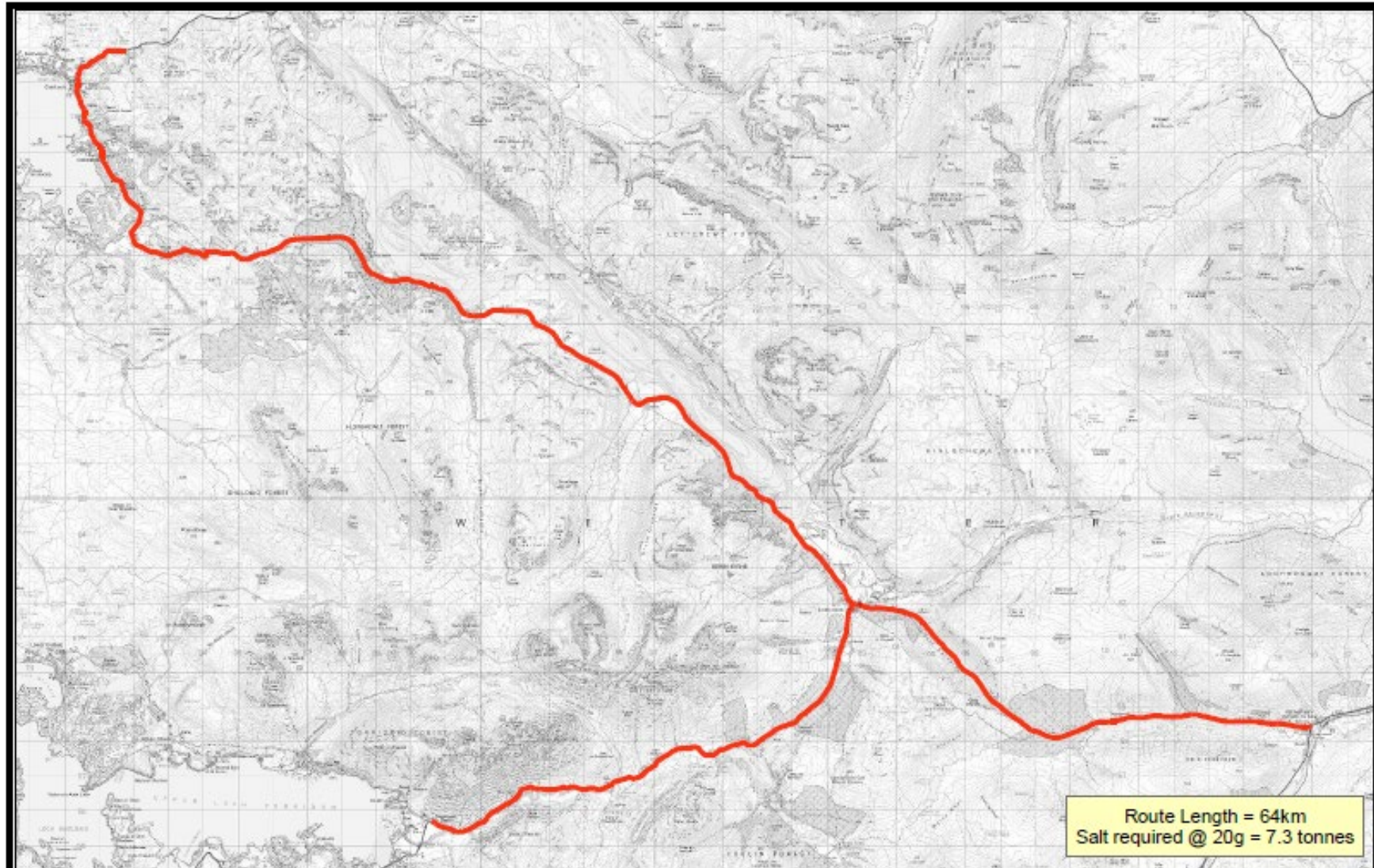
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REACTIONARY

WINTER TREATMENT
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Legend
 Trunk
 Primary
 Secondary
 Other


 Scale: 1:105,000

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ROUTE NO.
4
REACTIONARY

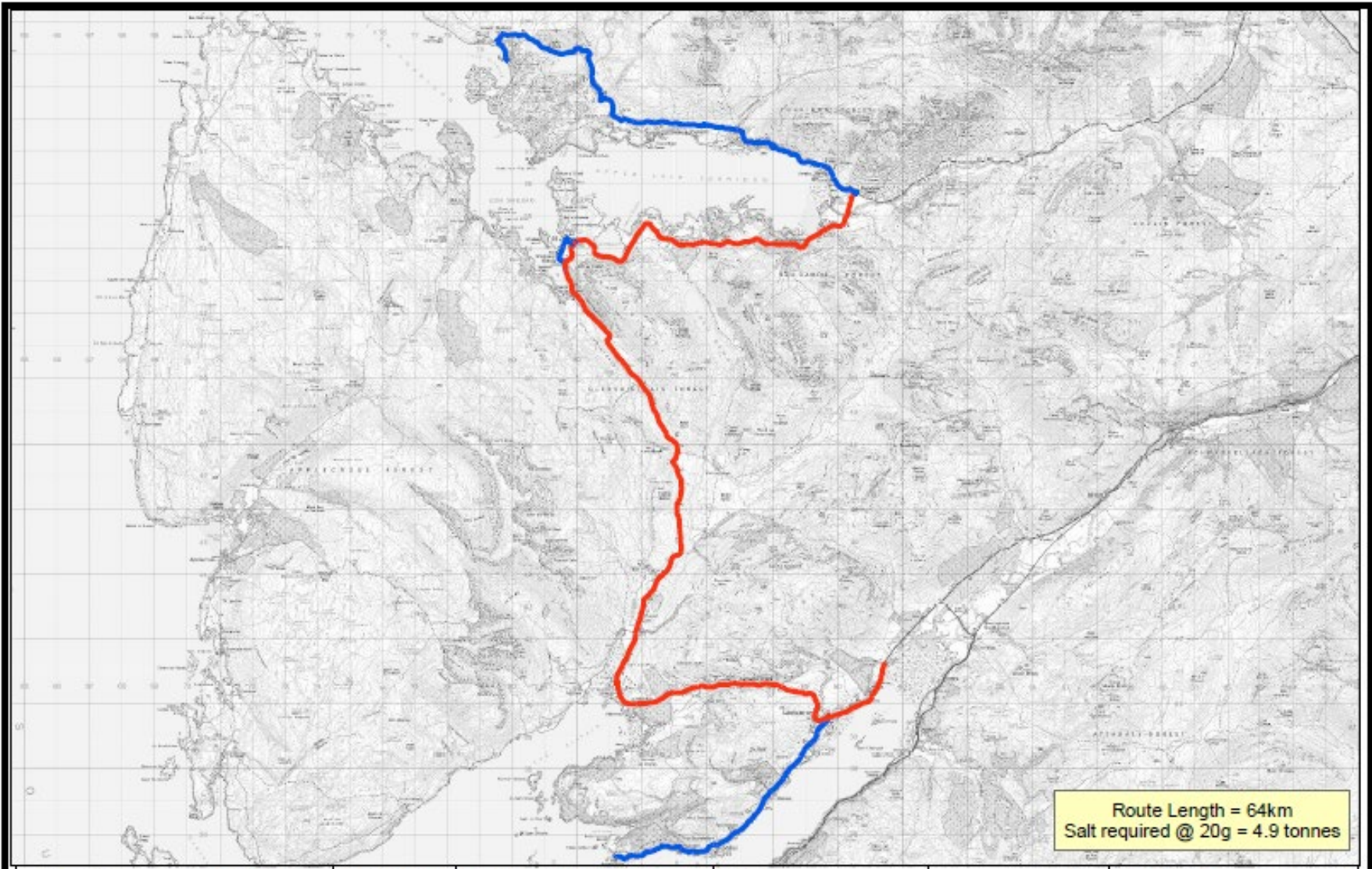
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ROSS & CROMARTY
 Issue: 1 Rev: 0
 Print Date: 21/09/2017
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 Filename: Morning Route 3

Legend
 Trunk Primary
 Secondary Other

Scale: 1:141,632



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ROUTE NO.
5
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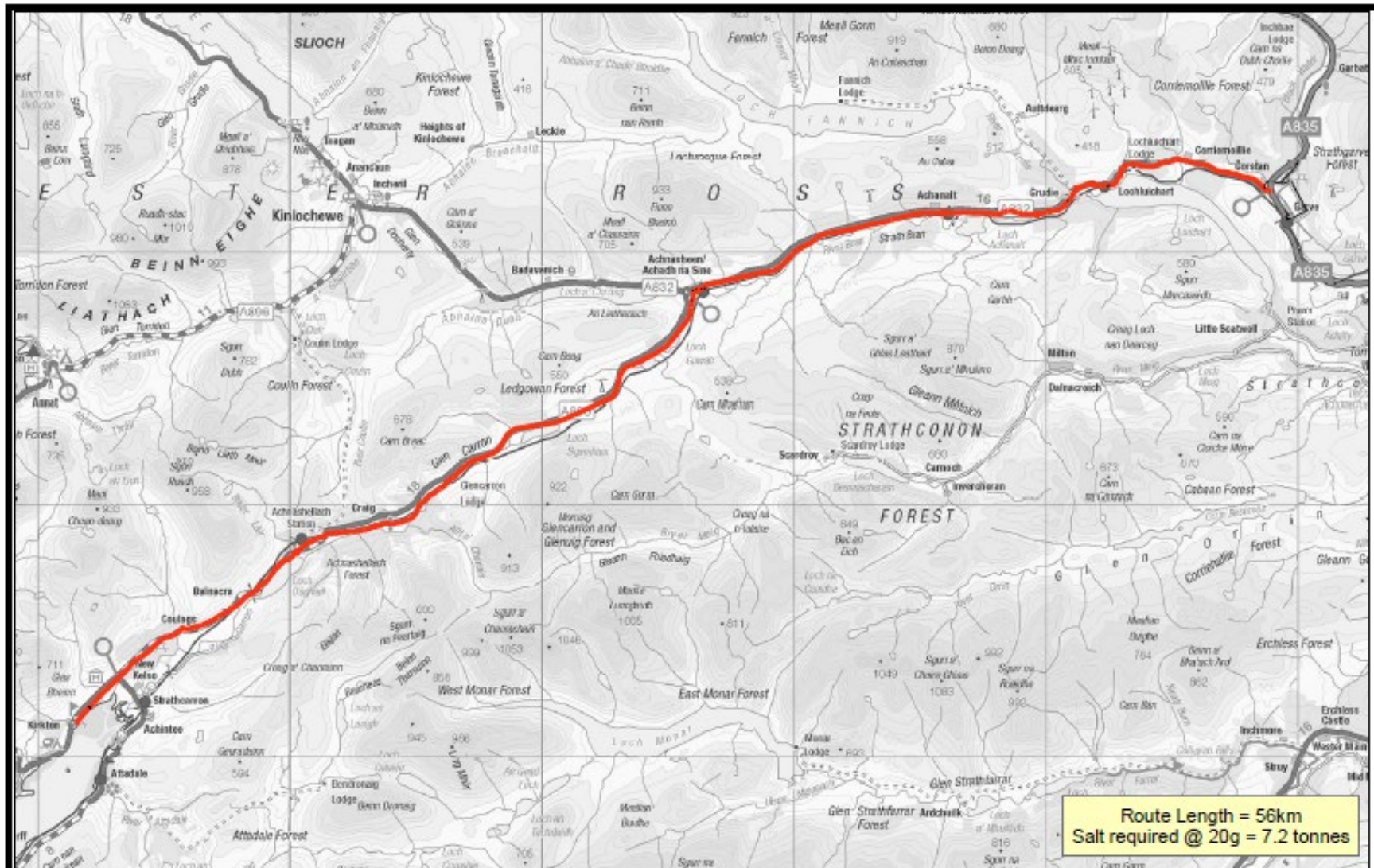
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 Issue: 1 Rev: 0
 Print Date: 21/09/2017
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 Filename: Morning Route 4

Legend
 Trunk Primary
 Secondary Other

Scale: 1:150,000



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Route Length = 56km
 Salt required @ 20g = 7.2 tonnes



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ROUTE NO.
7
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WINTER TREATMENT
ROSS & CROMARTY
 Issue: 1 Rev: 0
 Print Date: 21/08/2017
 Drawn By: JAML
 Filename: Morning Route 7

Legend
 Green line: Trunk
 Red line: Primary
 Blue line: Secondary
 Black line: Other

Scale: 1:194,278

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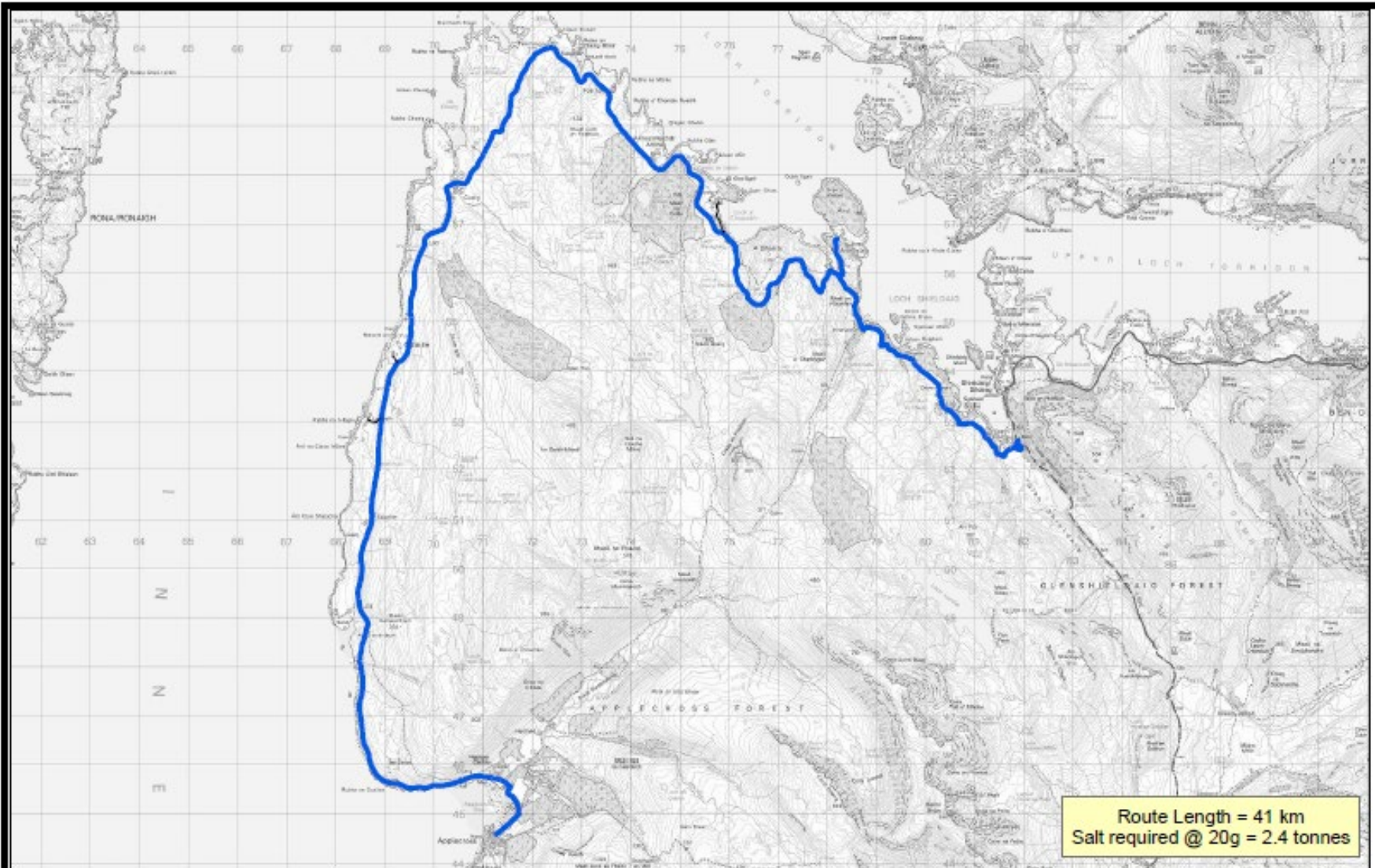

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ROUTE NO.
9
REACTIONARY
WINTER TREATMENT
ROSS & CROMARTY
 Issue: 1 Rev: 0
 Print Date: 21/08/2017
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 Filename: Morning Route 7

Legend
 Trunk
 Primary
 Secondary
 Other


 Scale: 1:52,547

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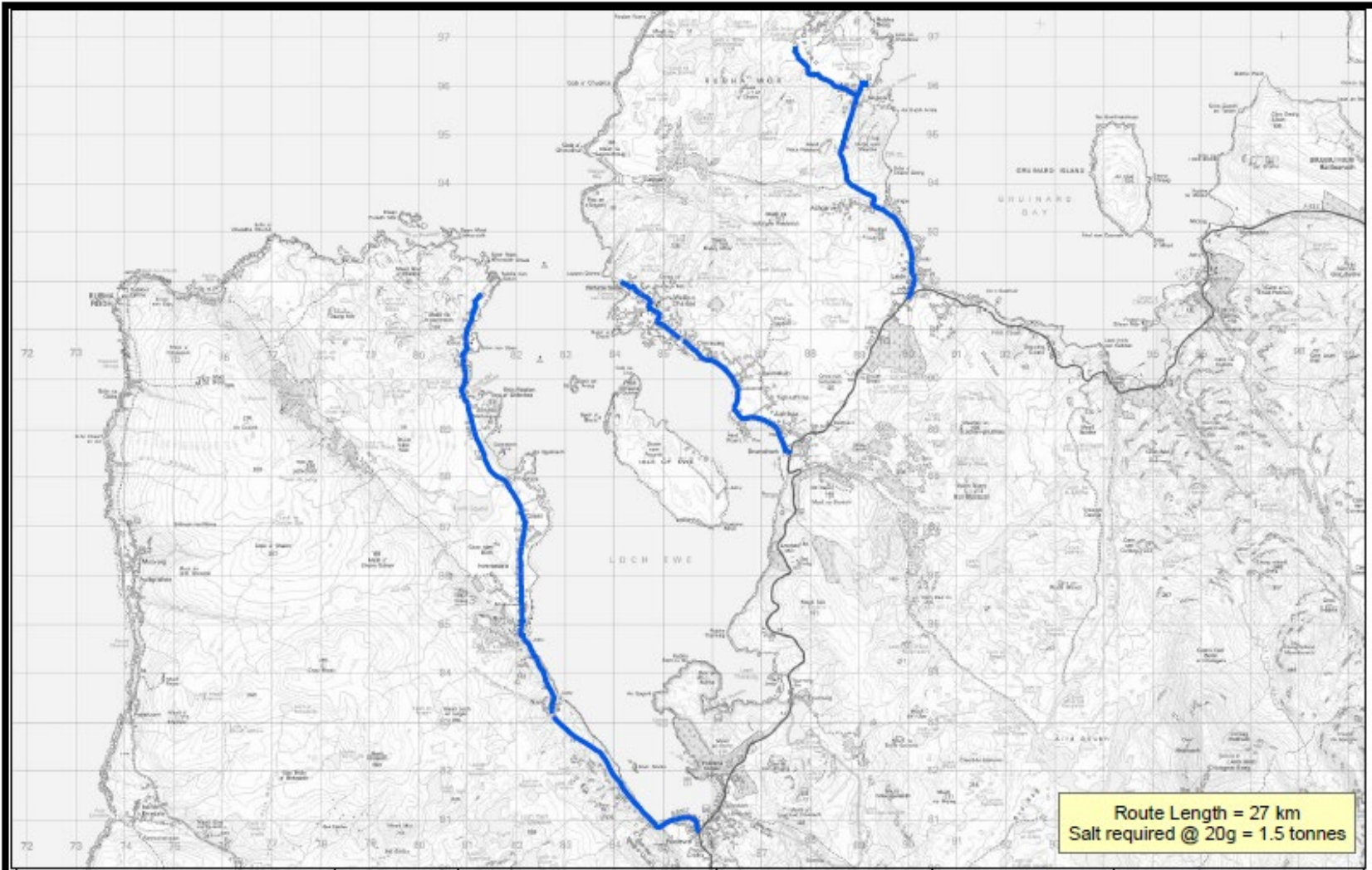
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REACTIONARY

WINTER TREATMENT
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 Print Date: 21/08/2017
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 Filename: Morning Route 8

Legend
 Thunk Primary
 Secondary Other

Scale: 1:100,000

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ROUTE NO.
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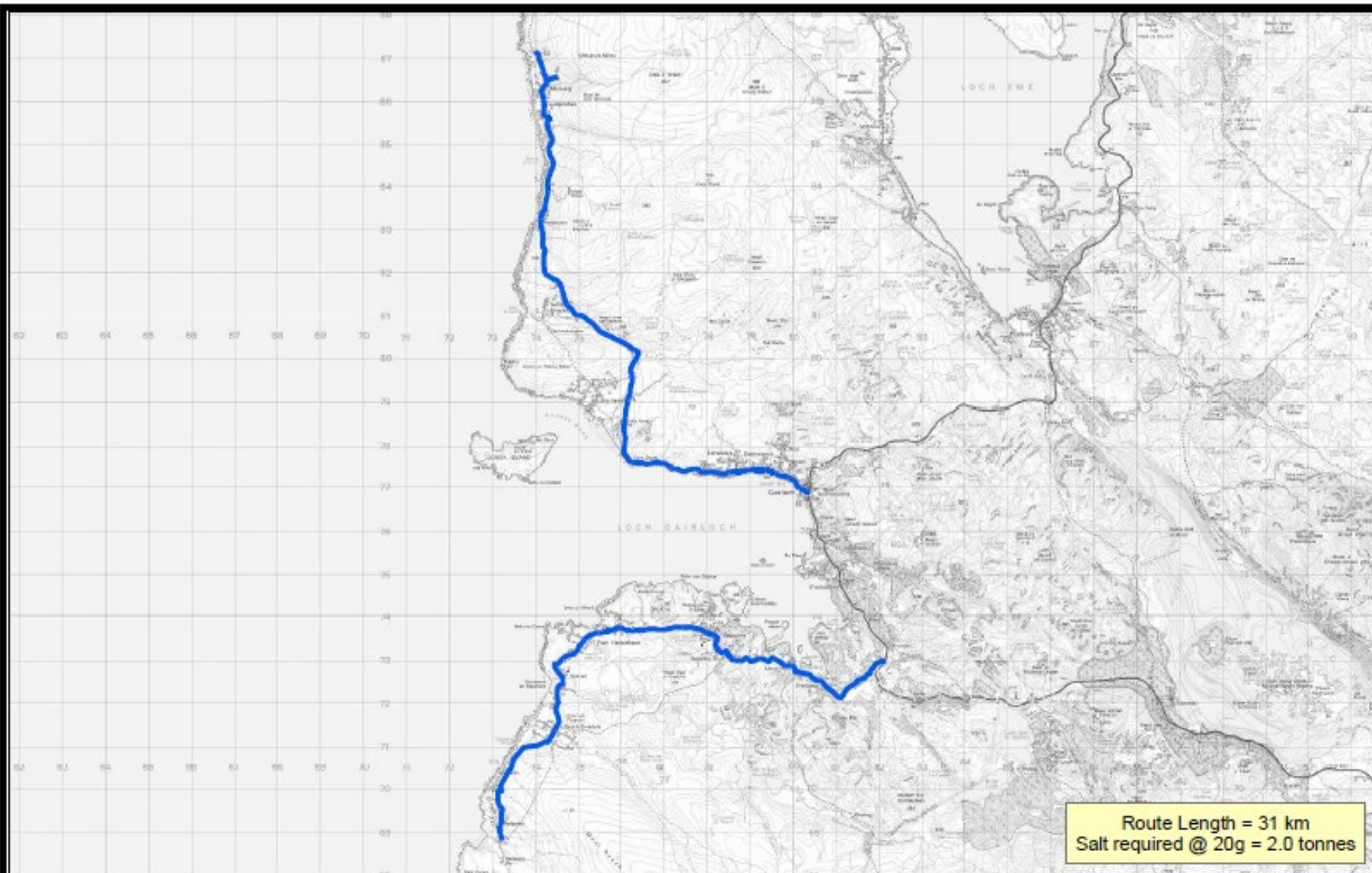
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 Print Date: 21/08/2017
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 Filename: Morning Route 1

Legend
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 Primary (orange line)
 Secondary (blue line)
 Other (black line)

Scale: 1:100,000



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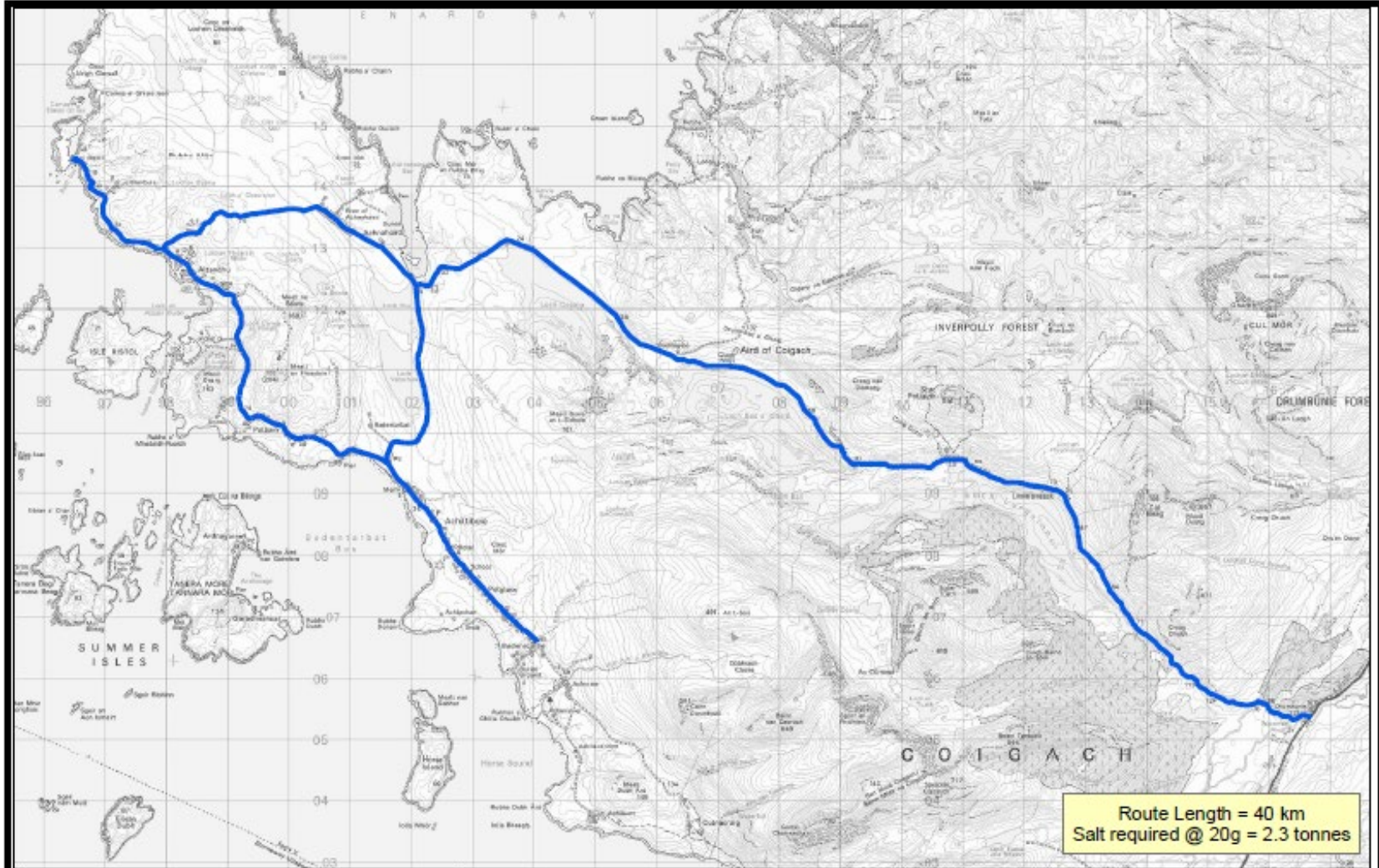
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WINTER TREATMENT
ROSS & CROMARTY
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 Filename: Morning Route 12

Legend
— Trunk — Primary
— Secondary — Other


 Scale: 1:114,842

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ROUTE NO.
14
REACTIONARY

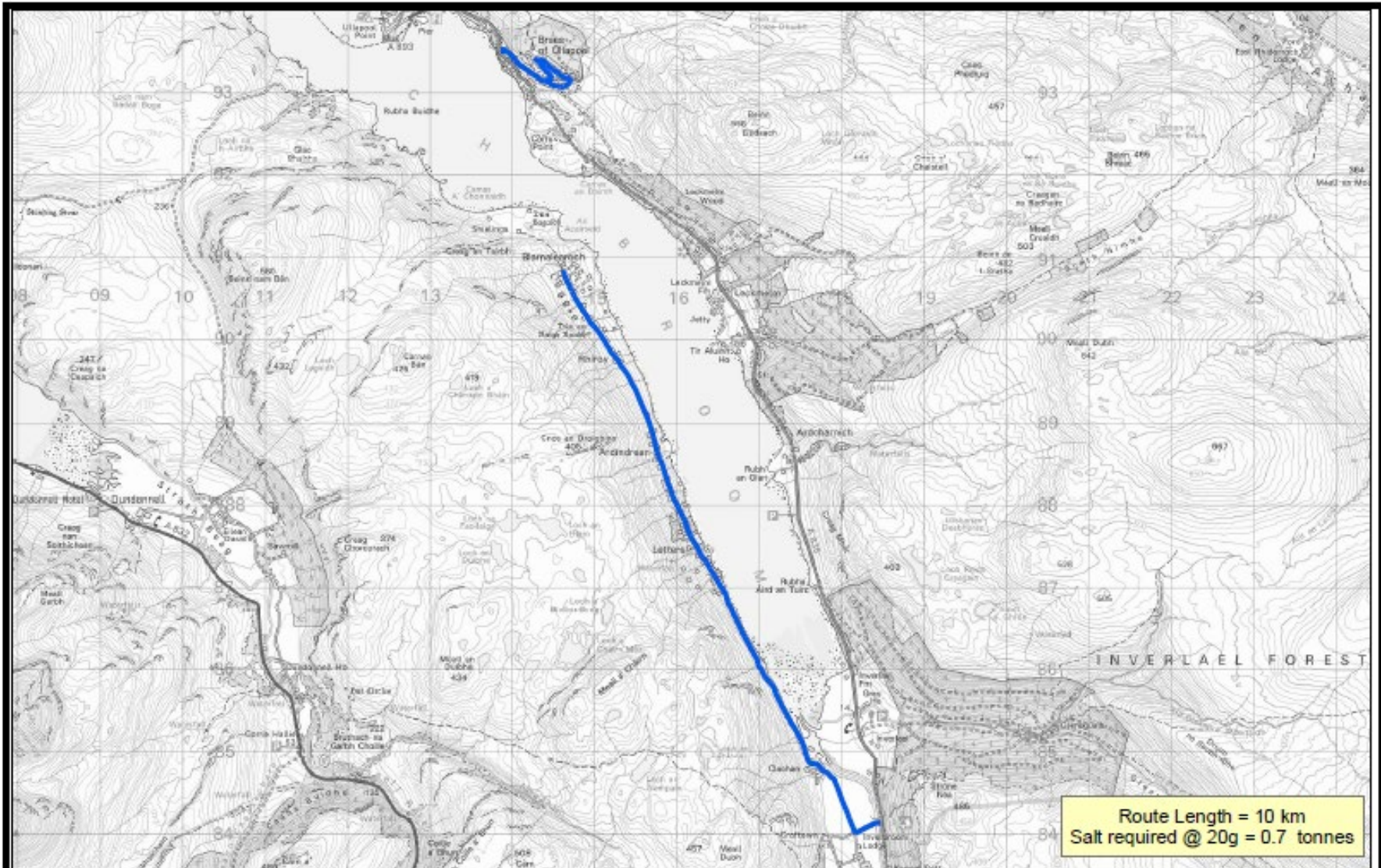
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 Filename: Morning Route 13

Legend
 Trunk Primary
 Secondary Other



Scale: 1:80,000

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ROUTE NO.
15
REACTIONARY

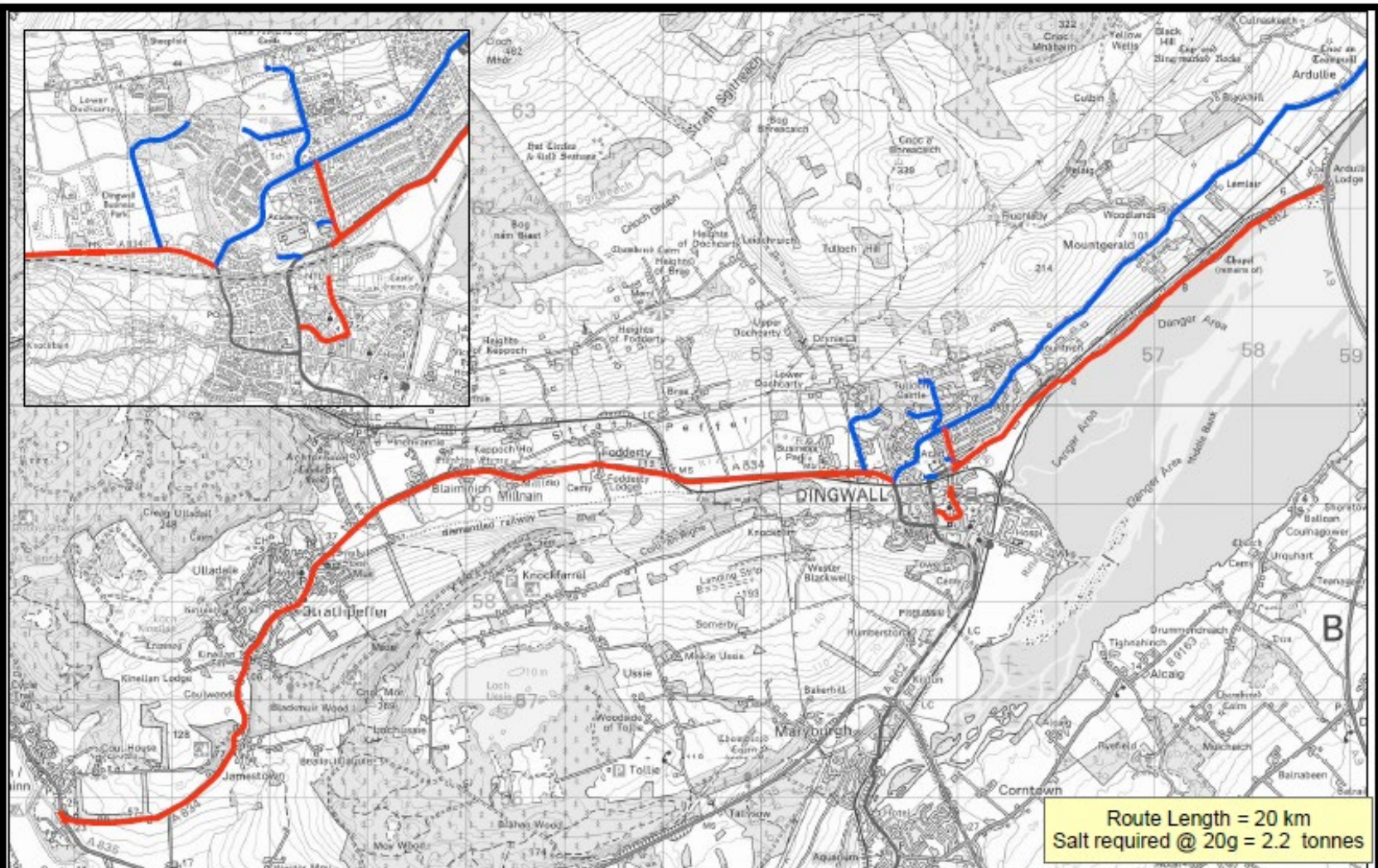
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ROSS & CROMARTY
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 Print Date: 21/08/2017
 Drawn By: JAMM
 Filename: Morning Route 14

Legend
 Trunk Primary
 Secondary Other

Scale: 1:59,560



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ROUTE NO.
20
REACTIONARY

WINTER TREATMENT
ROSS & CROMARTY
 Issue: 1 Rev: 0
 Print Date: 20/10/2017
 Drawn By: JAML
 Filename: RC Morning Route 20

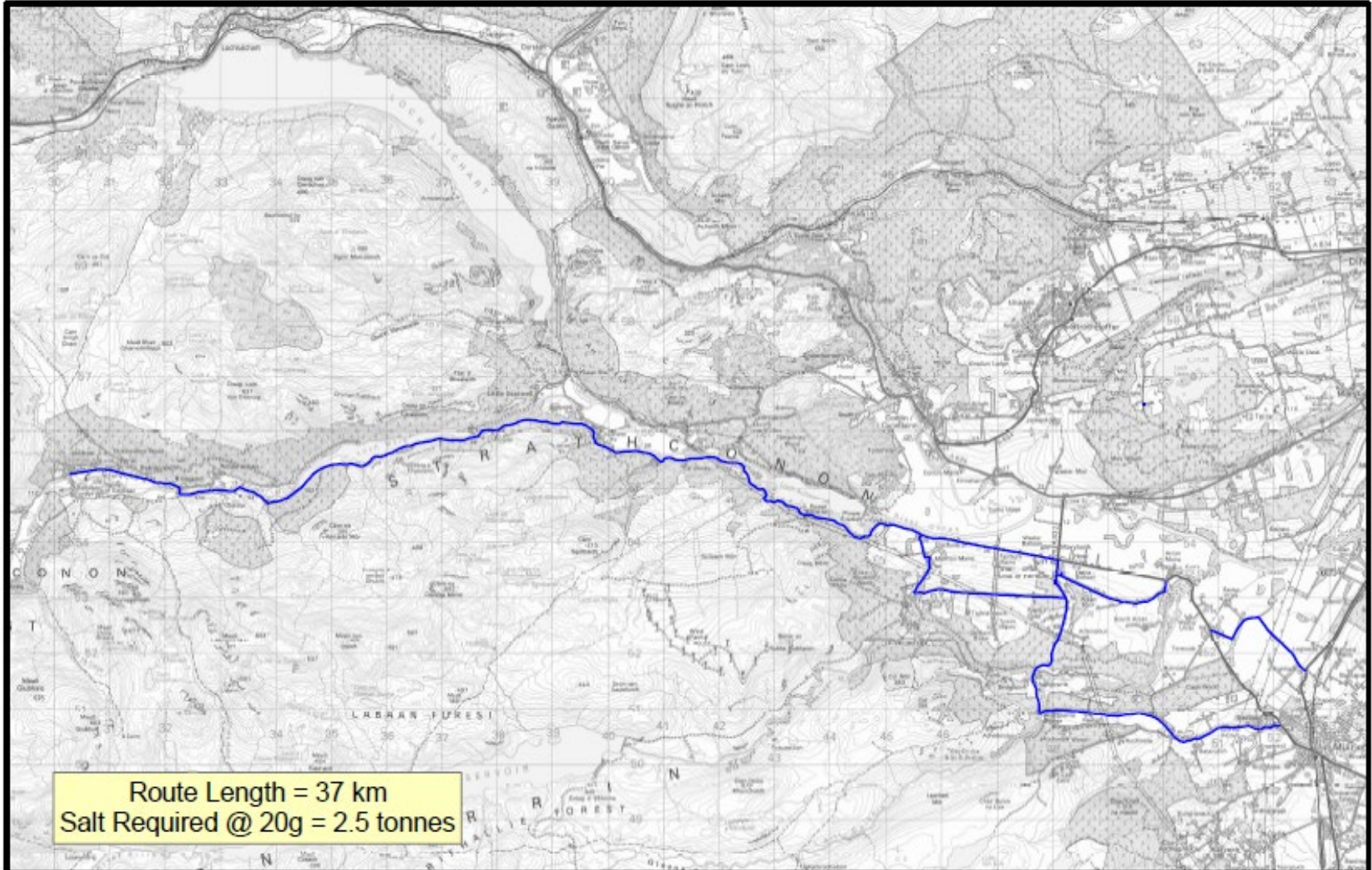
Legend

— Trunk	— Primary
— Secondary	— Other

Scale: 1:50,000



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Route Length = 37 km
Salt Required @ 20g = 2.5 tonnes



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ROUTE NO.
21
REACTIONARY

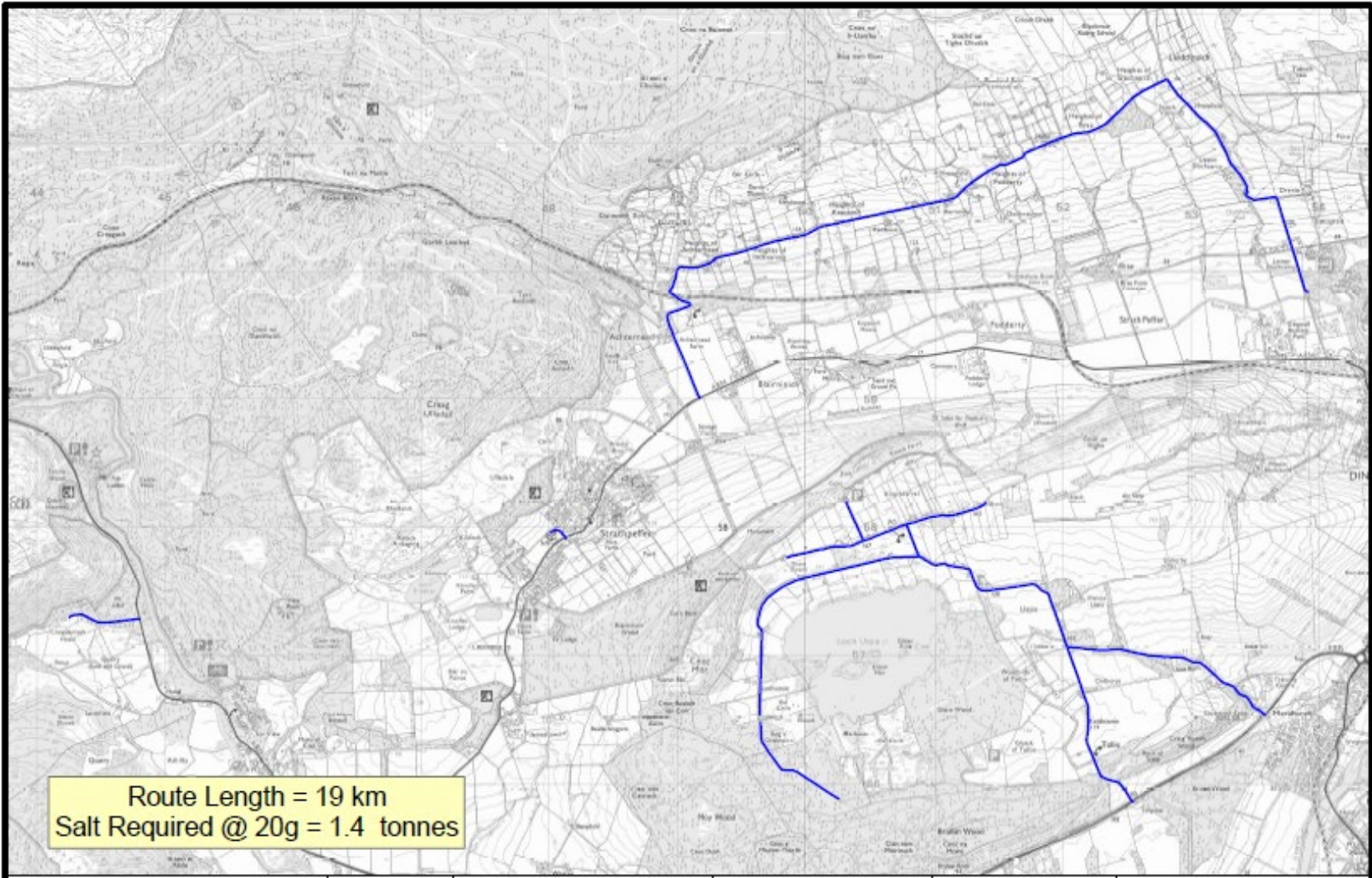
WINTER TREATMENT
ROSS AND CROMARTY
Issue: 1 Rev: 0
Print Date: 20/10/2017
Drawn By: JAML
Filename: RC Morning Route 21

Legend Priority
 Primary
 Secondary

Scale: 1:61,000

 0 310 620 1,240 1,860 2,480
 Meters

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Route Length = 19 km
Salt Required @ 20g = 1.4 tonnes

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ROUTE NO.
25
REACTIONARY

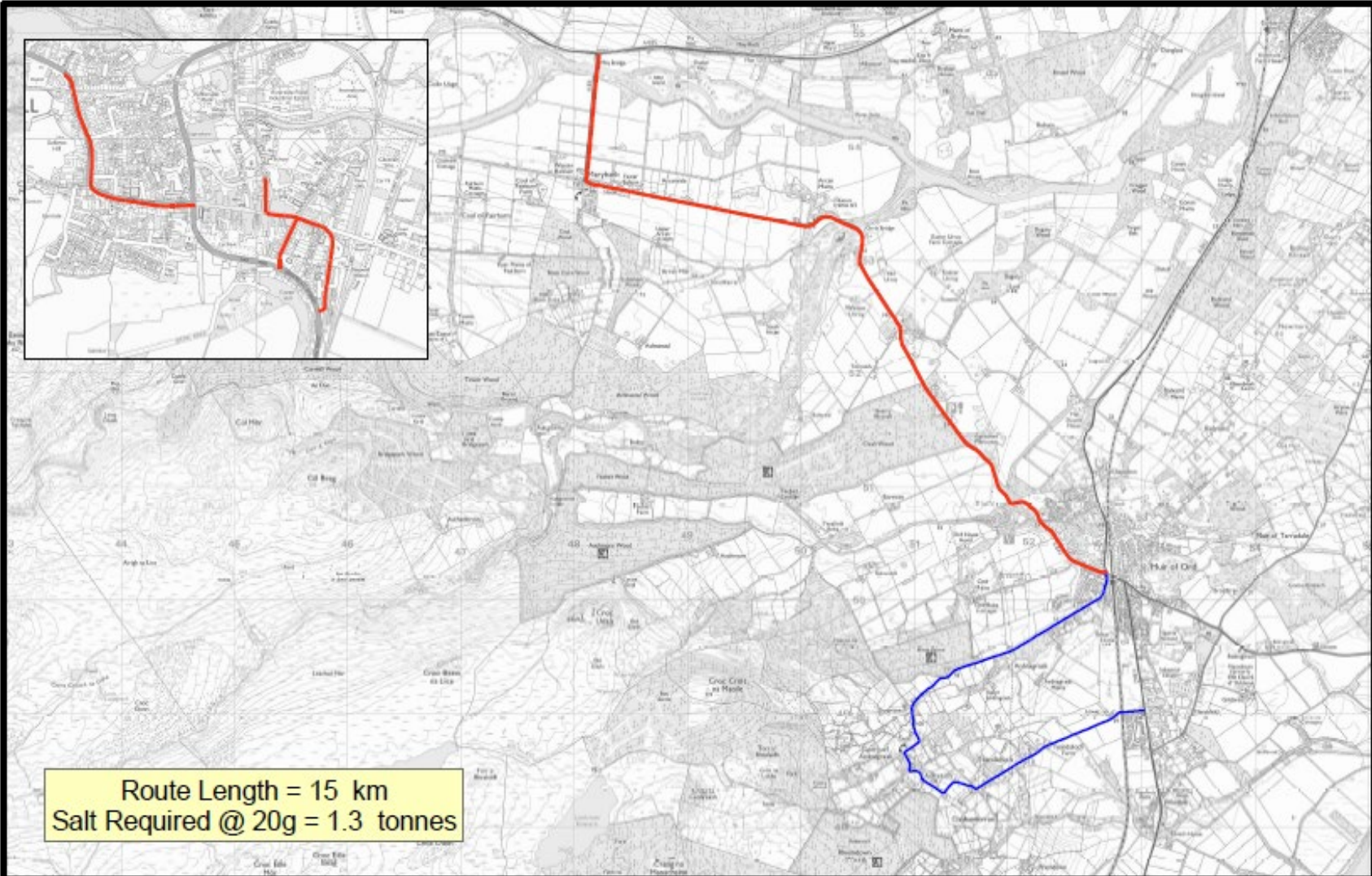
WINTER TREATMENT
ROSS AND CROMARTY
Issue: 1 Rev: 0
Print Date: 20/10/2017
Drawn By: JAML
Filename: RC Morning Route 25

Legend Priority
 Primary
 Secondary



Scale: 1:26,457

 0 132 264 528 1056
 Meters

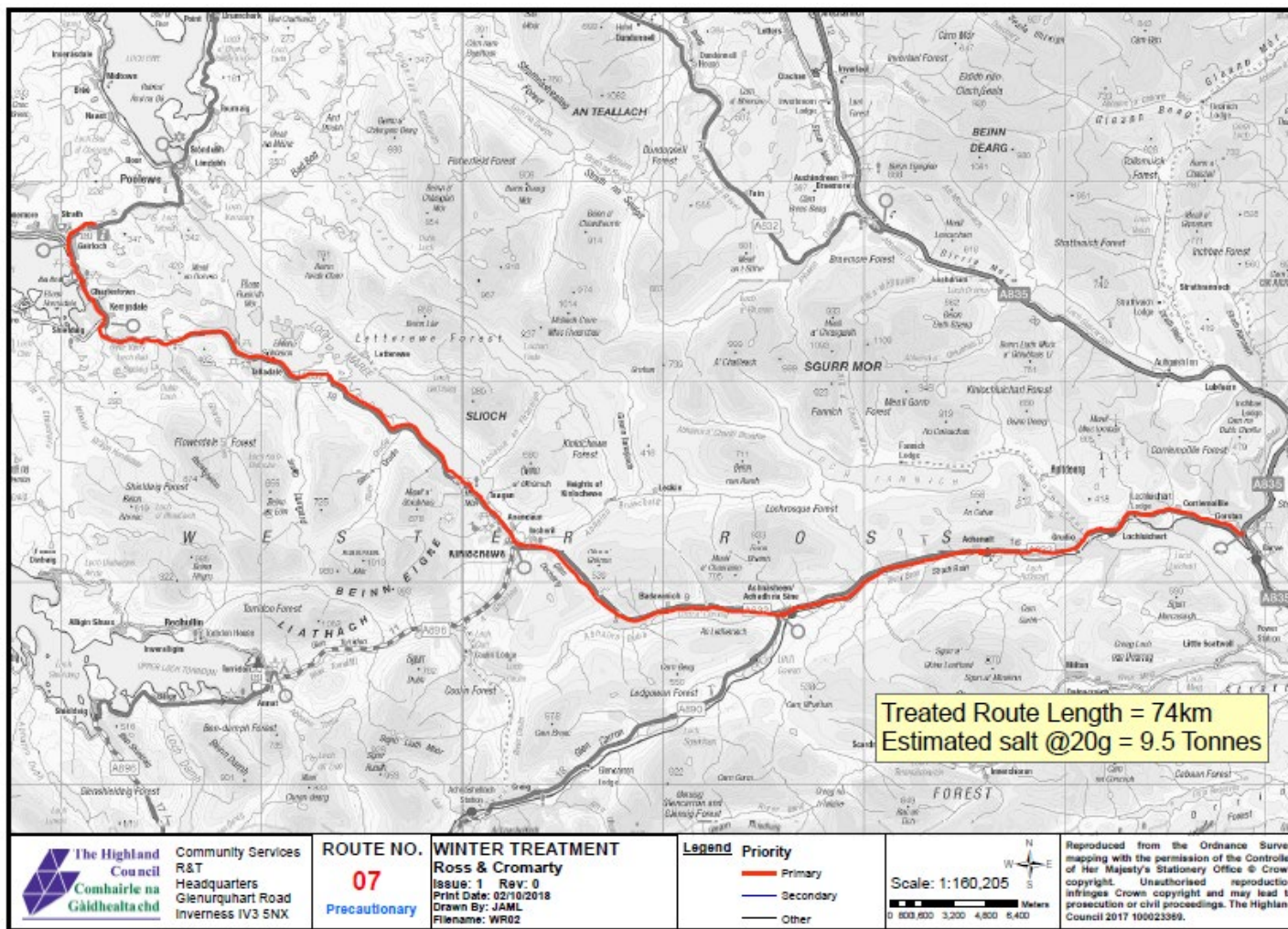
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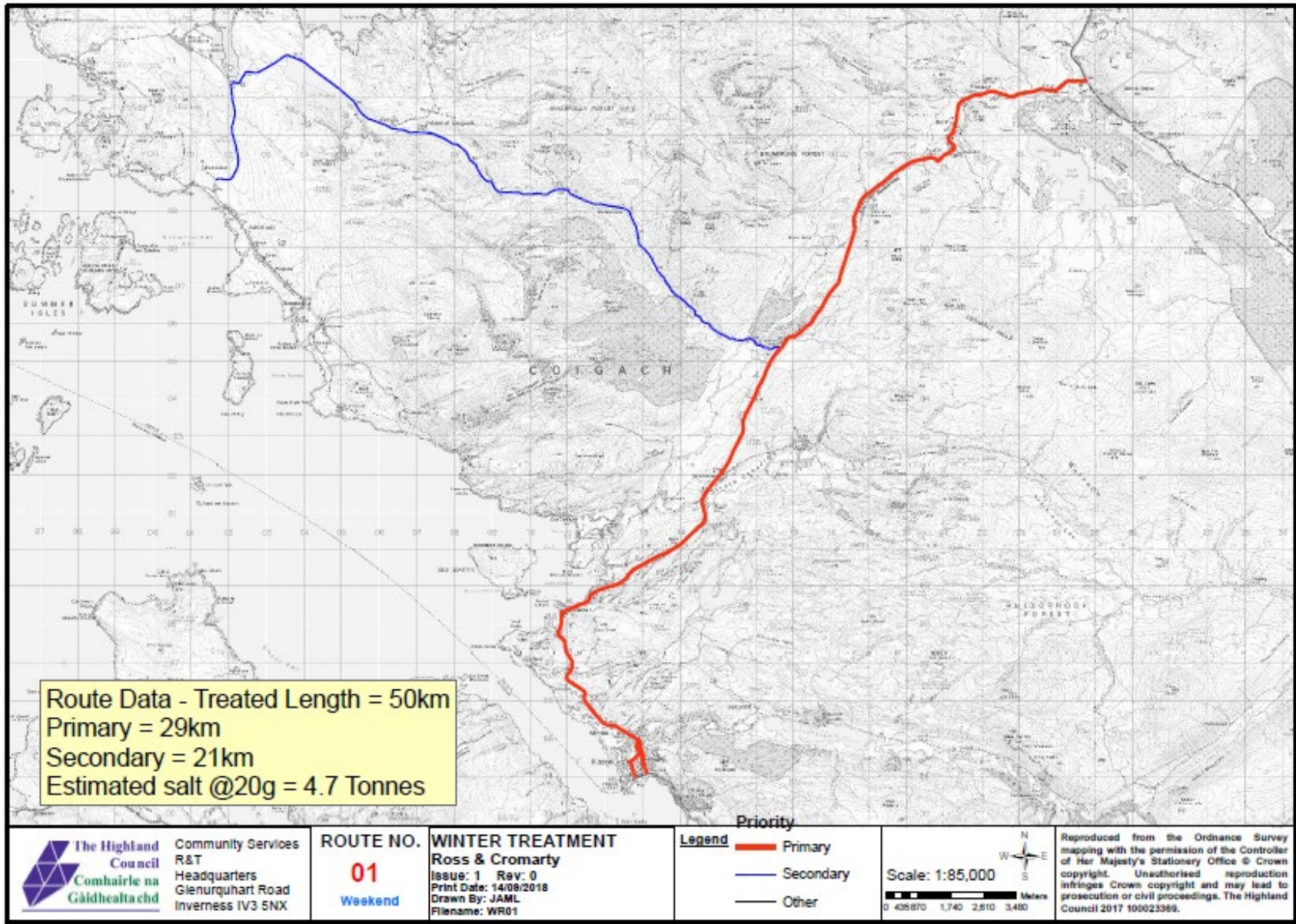


Route Length = 15 km
Salt Required @ 20g = 1.3 tonnes

 <p>The Highland Council Comhairle na Gàidhealtachd</p>	<p>Community Services R&T Headquarters Glenurquhart Road Inverness IV3 5NX</p>	<p>ROUTE NO. 28 REACTIONARY</p>	<p>WINTER TREATMENT ROSS AND CROMARTY Issue: 1 Rev: 0 Print Date: 20/10/2017 Drawn By: JAML Filename: RC Morning Route 28</p>	<p>Legend Priority</p> <ul style="list-style-type: none"> — Primary — Secondary 	<p>Scale: 1:30,000</p> 	<p>Reproduced from the Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationary Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. The Highland Council 2017 100023369.</p>
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Weekend Routes





Route Data - Treated Length = 50km
 Primary = 29km
 Secondary = 21km
 Estimated salt @20g = 4.7 Tonnes



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ROUTE NO.
01
Weekend

WINTER TREATMENT
 Ross & Cromarty
 Issue: 1 Rev: 0
 Print Date: 14/08/2018
 Drawn By: JAML
 Filename: WR01

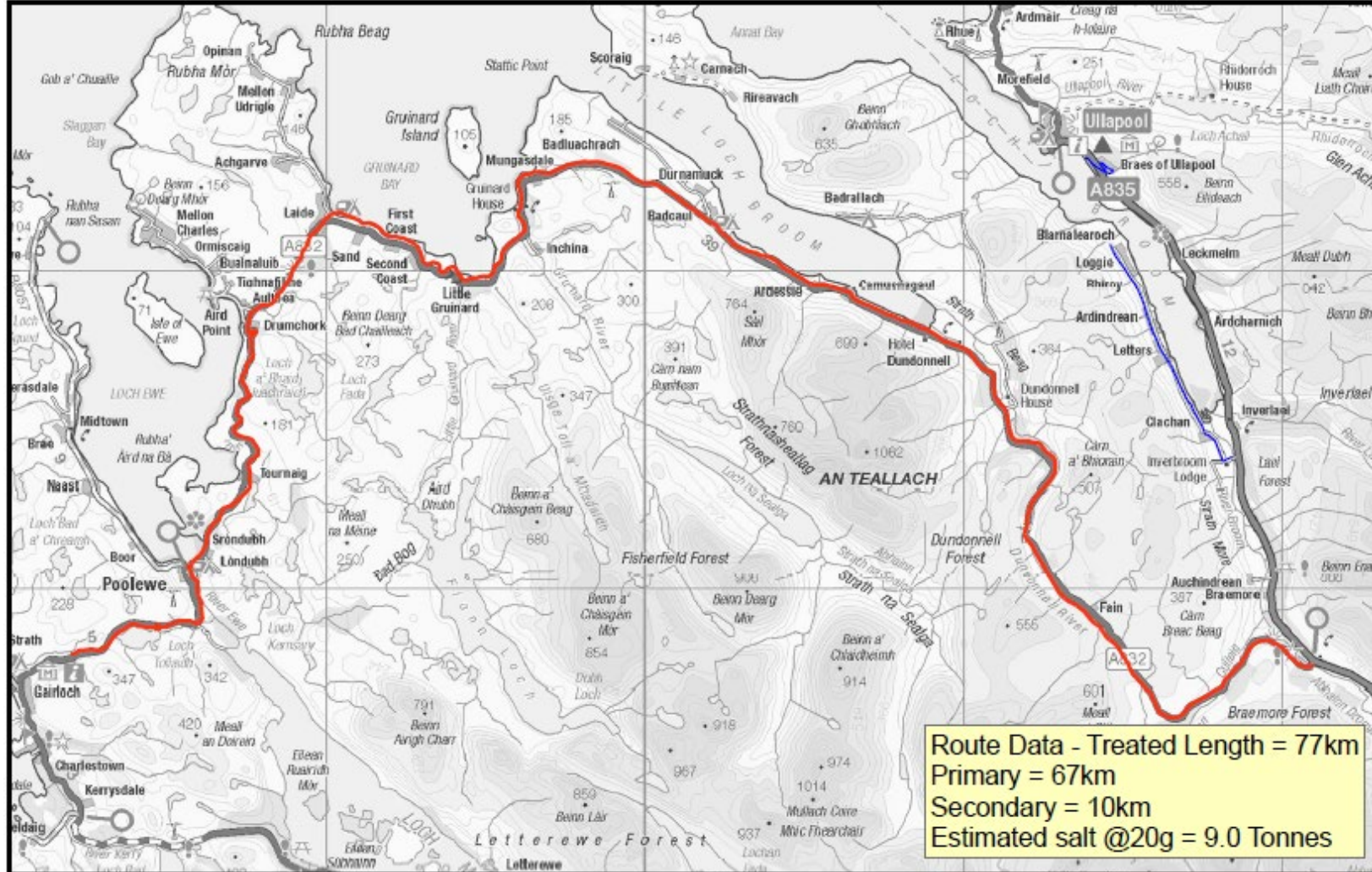
Legend

- Primary
- Secondary
- Other

Scale: 1:85,000

0 43870 1,740 2,810 3,480
 Meters

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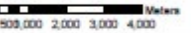

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ROUTE NO.
02
Weekend

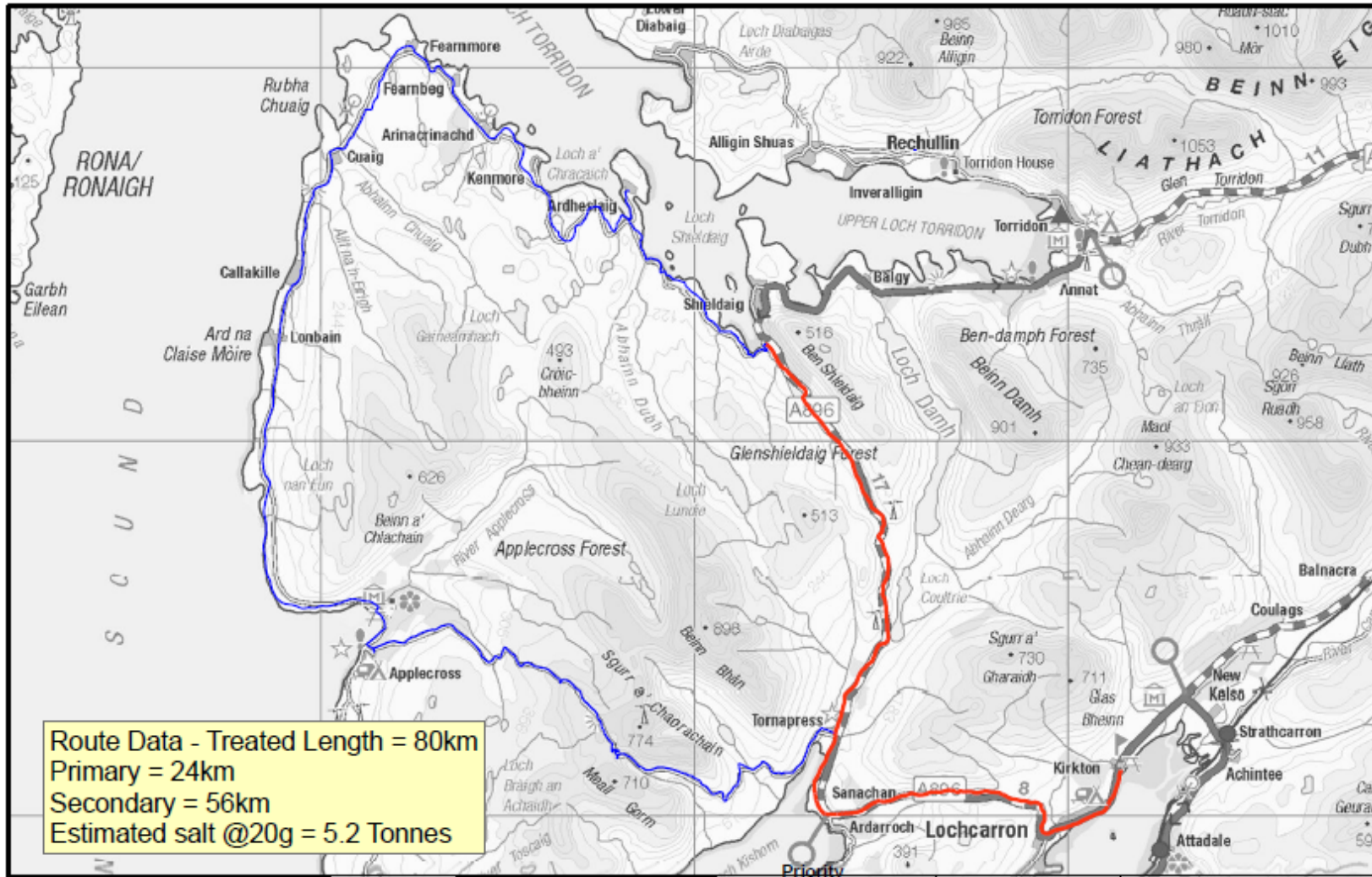
WINTER TREATMENT
Ross & Cromarty
 Issue: 1 Rev: 0
 Print Date: 18/08/2018
 Drawn By: JAML
 Filename: WR28

Legend

	Primary
	Secondary
	Other

Scale: 1:106,570


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Route Data - Treated Length = 80km
 Primary = 24km
 Secondary = 56km
 Estimated salt @20g = 5.2 Tonnes

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ROUTE NO.
09
 Weekend

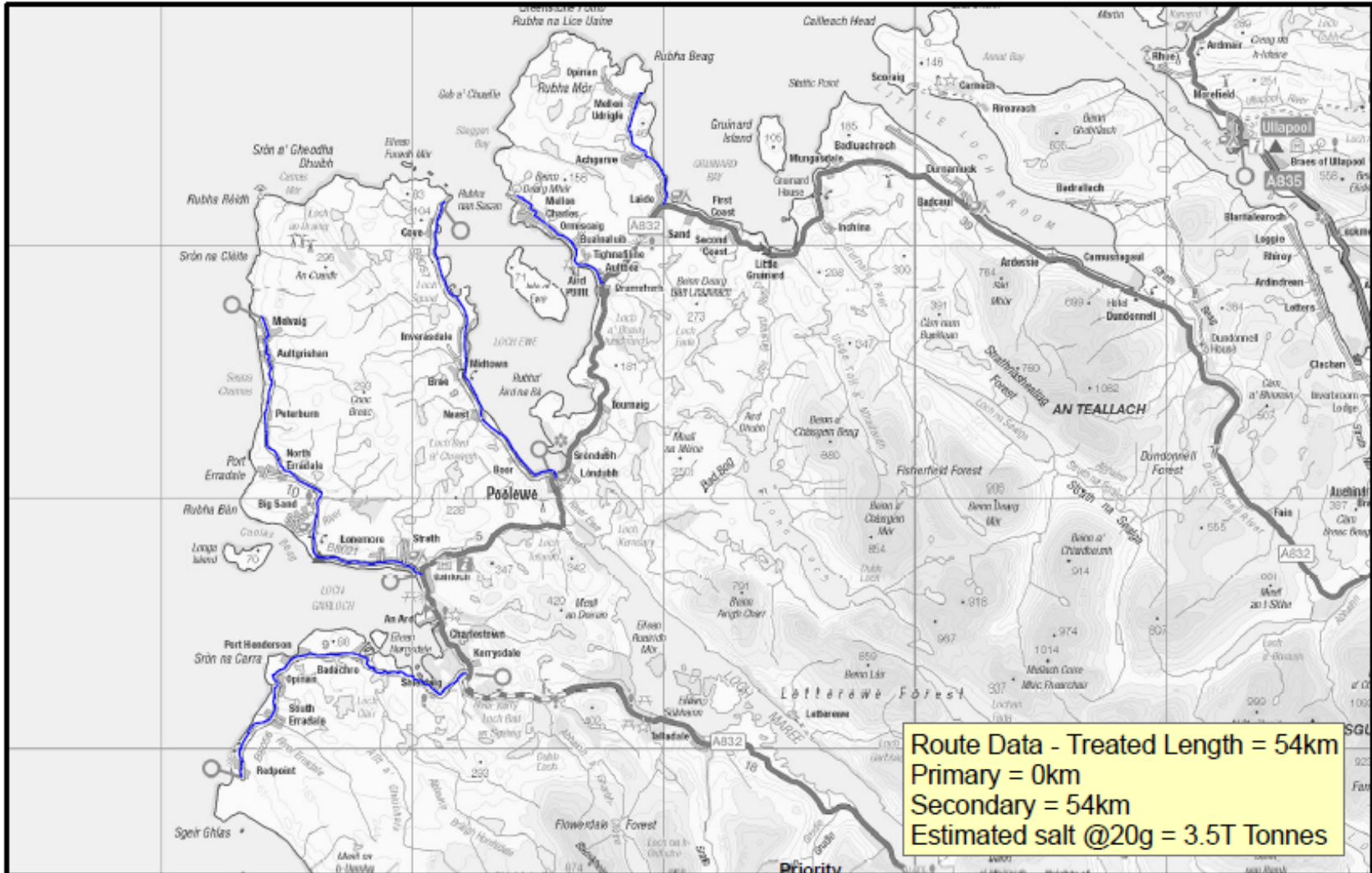
WINTER TREATMENT
 Ross & Cromarty
 Issue: 1 Rev: 0
 Print Date: 14/08/2018
 Drawn By: JAML
 Filename: WR01

Legend
 Primary
 Secondary
 Other

Scale: 1:90,928

 0 452 905 1,809 2,714 3,700 Meters

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Route Data - Treated Length = 54km
 Primary = 0km
 Secondary = 54km
 Estimated salt @20g = 3.5T Tonnes



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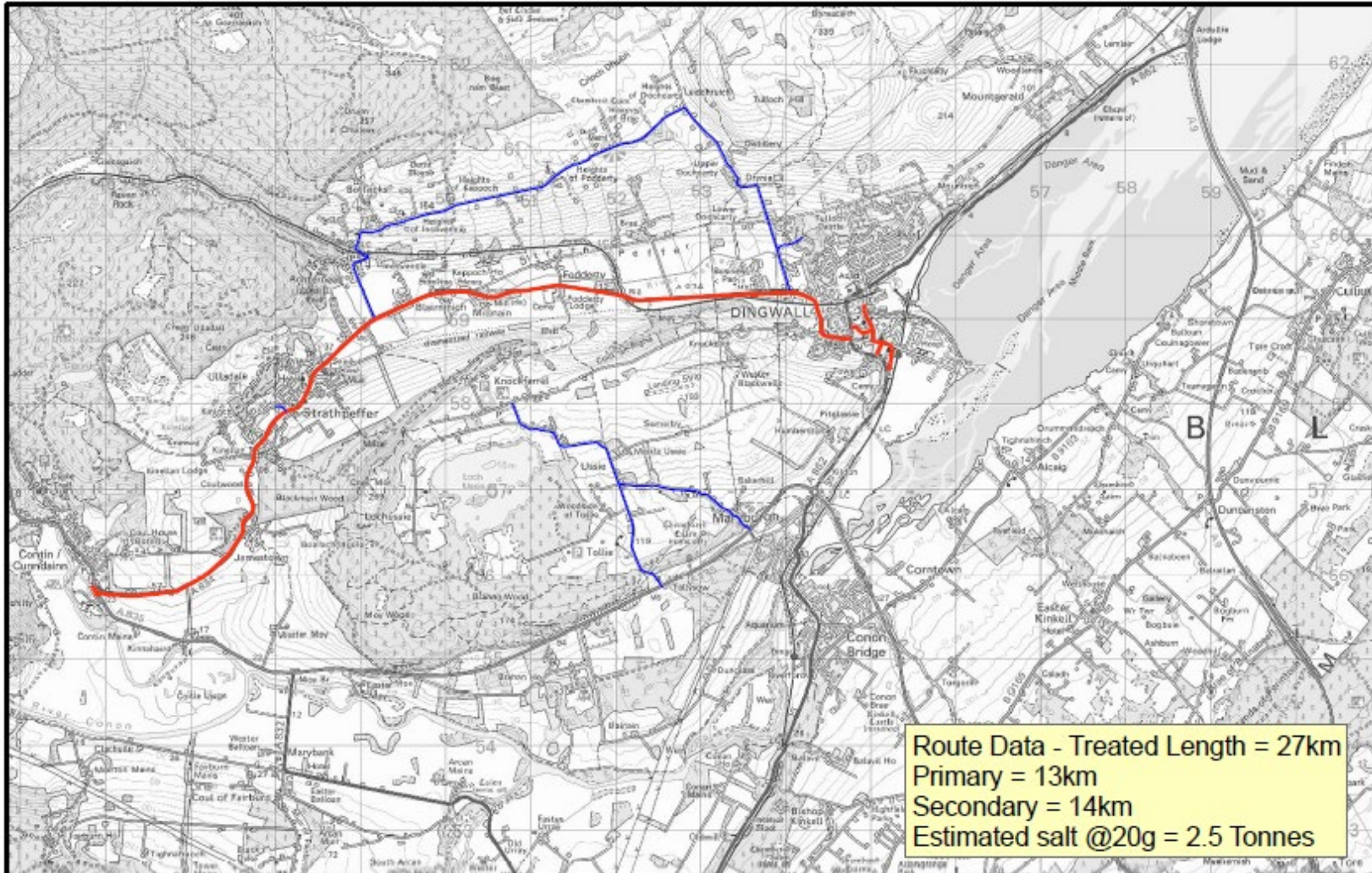
ROUTE NO.
12
 Weekend

WINTER TREATMENT
 Ross & Cromarty
 Issue: 1 Rev: 0
 Print Date: 14/09/2018
 Drawn By: JAML
 Filename: WR01


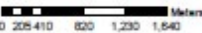
Legend
 Primary
 Secondary
 Other

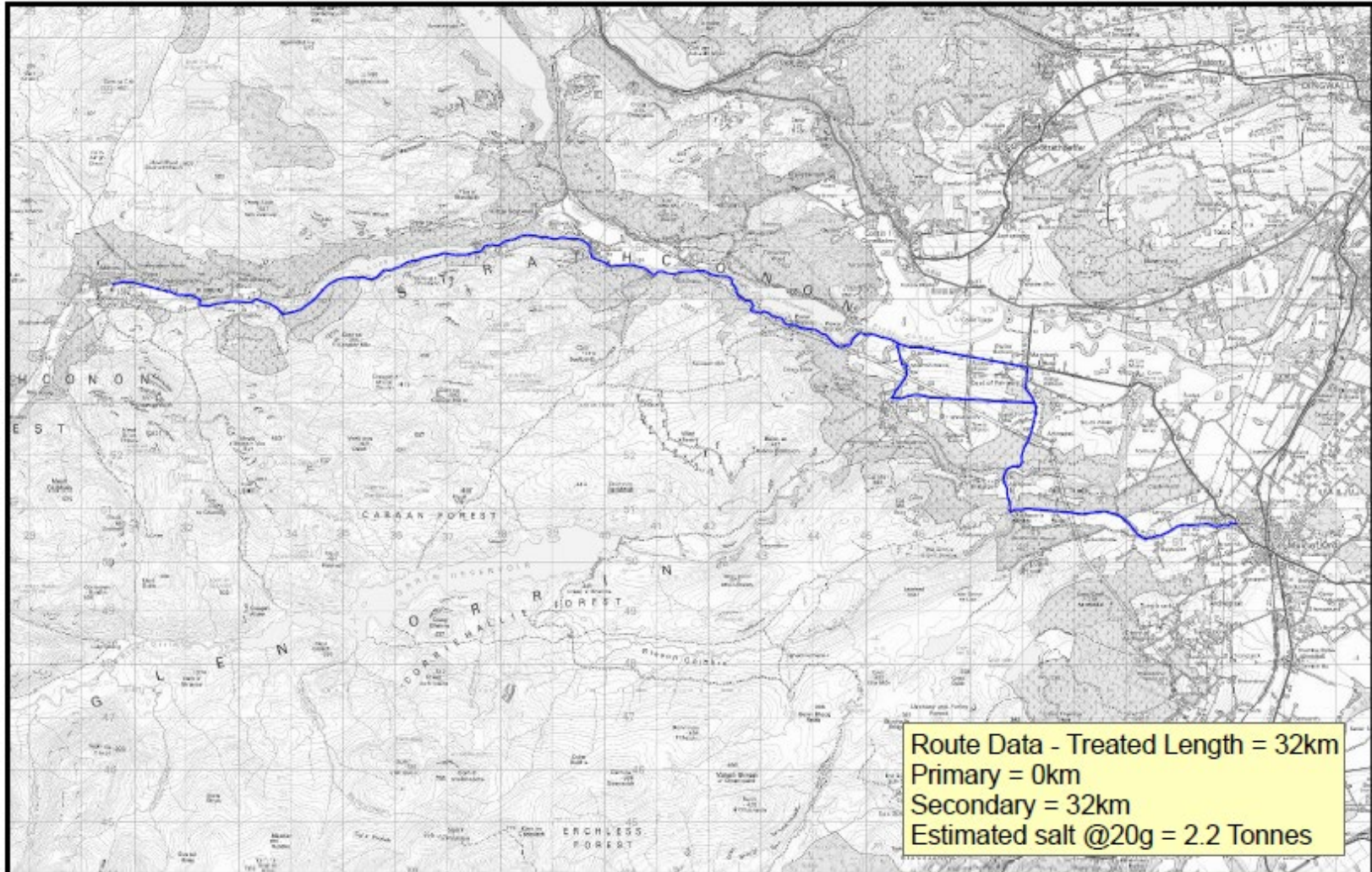
Scale: 1:135,000
 0 650 300 2,600 3,900 5,200

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Route Data - Treated Length = 27km
 Primary = 13km
 Secondary = 14km
 Estimated salt @20g = 2.5 Tonnes

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Route Data - Treated Length = 32km
 Primary = 0km
 Secondary = 32km
 Estimated salt @20g = 2.2 Tonnes



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ROUTE NO.
21
 Weekend

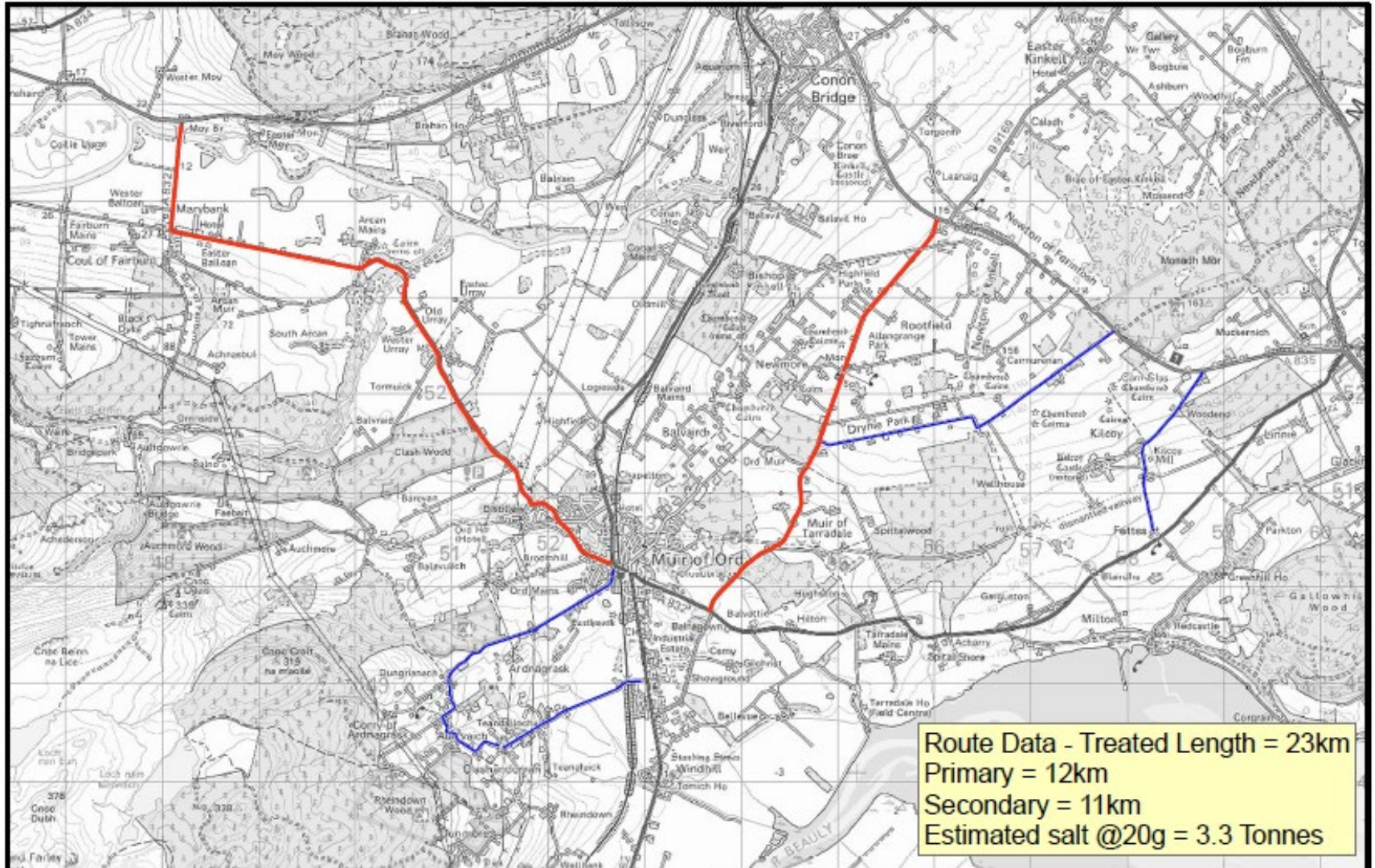
WINTER TREATMENT
Ross & Cromarty
 Issue: 1 Rev: 0
 Print Date: 14/08/2018
 Drawn By: JAML
 Filename: WR01

Legend Priority
 Primary
 Secondary
 Other

Scale: 1:65,000
 0 330 660 1,320 1,980 2,640
 Metres



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ROUTE NO.
28
 Weekend

WINTER TREATMENT
Ross & Cromarty
 Issue: 1 Rev: 0
 Print Date: 18/08/2018
 Drawn By: JAML
 Filename: WR32

Legend Priority
 — Primary
 — Secondary
 — Other

Scale: 1:35,000
 0 175 350 700 1,050 1,400
 Meters



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