Comhairle Contae Thiobraid Árann
Tipperary County Council

FLEET MANAGEMENT SERVICE

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WINTER SERVICE PLAN 2025-2026

October 2025

LIAM BRETT,
DIRECTOR OF SERVICES,
ROADS, and TRANSPORTATION,
CIVIC OFFICES,
NENAGH

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Winter Service Co Ordinator	**Paul Farrell, Executive Engineer Machinery Yard**	Paul Farrell	**21/10/2025**

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Brendan Flannery GSS Machinery	Tipperary County Council	Machinery Yard, Nenagh
Barry Murphy SEE SEE Nenagh Municipal District	Tipperary County Council	Civic Offices Nenagh
Michael Scully, SEE Carrick-on-Suir District	Tipperary County Council	Municipal Offices, Carrick-on –Suir
James Swords, SEE Tipperary Cashel Cahir District	Tipperary County Council	Municipal Offices, Tipperary
Gillian Flynn, SEE Clonmel Borough District	Tipperary County Council	Civic Offices, Clonmel
Thomas Duffy, SEE Thurles Templemore District	Tipperary County Council	Municipal Offices, Castle Ave., Thurles
Stephen Smyth Winter Maintenance Manager	TII	Parkgate St. Dublin 8
Owen Smyth	TII	Parkgate St. Dublin 8
Superintendent	Garda Siochana	Slievenamon Road Thurles
Superintendent	Garda Siochana	Clonmel Road, Cahir
Superintendent	Garda Siochana	Emmett Street, Clonmel
Superintendent	Garda Siochana	St. Michaels Street Tipperary
Superintendent	Garda Siochana	Nenagh
Superintendent	Garda Siochana	Templemore
Chief Ambulance Officer	HSE Ambulance Service	Ambulance HQ, Clonmel
Area Services Manager	Bus Eireann	Plunkett Station, Waterford
Area Services Manager	Bus Eireann	Capwell, Cork
Eddie Ryan, Chief Fire Officer	Tipperary Fire Brigade	Nenagh Fire Station
CAFO	Met Eireann	Glasnevin Hill, Dublin 9

Table of Contents

SECTION 1 - PURPOSE AND SCOPE

The purpose of this document is to identify the processes, procedures, key personnel and control measures employed by Tipperary County Council (the Council), to ensure the delivery of Winter Service for Roads in Tipperary County Council.

SECTION 2 - HEALTH & SAFETY

Tipperary County Council will ensure so far, as is reasonably practicable:

i. Safe and healthy working conditions,
ii. Safe and road worthy equipment and systems of work,
iii. Provision of appropriate information, instruction, training and supervision,
iv. Provision, where necessary, of a competent person to advise and assist in securing the health, safety and welfare of employees and others.

An Ancillary Safety Statement for Winter Service has been prepared by Tipperary County Council to comply with its obligations under the Safety, Health and Welfare at Work Acts, 2005, the Safety, Health and Welfare at Work (General Application) Regulations, 2007 and the Safety, Health and Welfare at Work (Construction) Regulations 2013.
This procedural document should be read in conjunction with the Council's Policy and Procedures for Health & Safety, contained in the Ancillary document, so as to reduce the risks associated with operations related to Winter Maintenance operations and activities and to provide a safe working environment, the County Council will employ appropriate safe working practices.

SECTION 3 - POLICY

WINTER MAINTENANCE POLICY

Tipperary County Council is responsible for:

- 99 Km of Motorway (M7 & M8 maintained under contract from the TII by private concessions)
- 70 Km of National Primary,
- 150.2 Km of National Secondary Roads,
- 903 Km of Regional Road and
- 4,490 Km of Local roads in County Tipperary.

1.1 Route Priorities

The following table is taken from TII Template Policy section giving a description of the level of service on routes.

Route Designation	Description	Level of Service
Priority 1	Those routes which are essential to be kept serviceable in all weather conditions, as far as reasonably practicable.	To be treated during all weather events.(**as far as reasonably practicable**)
Priority 2	Those routes which are desirable to be kept serviceable in the normal winter weather conditions, as far as reasonably practicable. Priority 2 routes could include those routes which are important regionally, such as ((for example) principle public transport routes, or the main commuter routes.	To be treated as part of normal winter service but may have interruption to treatment in certain severe weather events.
Priority 3	Those routes that could be kept serviceable once Priority 1 and 2 routes have been	Not treated as part of normal winter service but

	treated, if resources allow.	may receive intermittent treatment during certain severe weather events.

The primary aim is to keep these roads safe and as free as practicable from winter hazards. Tipperary County Council is constantly striving to improve the winter maintenance service provided, however the Council or the TII has no statutory obligation to pre-salt roads.

i. The Council, as far as reasonably practicable, will seek to ensure the prevention of ice formation on Priority 1 Routes (Blue Routes) and Priority 2 Routes (Red Routes)

ii. The Council, as far as reasonably practicable, will seek to ensure the prevention of snow accumulation and ice formation on Priority 1 Routes (Blue Routes) and Priority 2 Routes (Red Routes)

(In extreme weather events Priority 1 Routes will take precedence over Priority 2 Routes in terms of allocation of available resources)

iii. As resources allow, the Council will provide periodic winter maintenance services on Priority 3 Routes (Green Routes).

(Such Services will only be provided on selected occasions associated with particularly severe conditions)

For Winter Service Delivery Risk Assessment **SEE APPENDIX I**

Road users should always assume that pre-salting or winter services have not been provided on Priority 1 & 2 routes and drive accordingly.

Road users should always assume that pre-salting or winter services have not been provided on any or all of Priority 3 Routes

Winter Maintenance Service shall be divided into four distinct phases namely: -

(1) Pre-salting of National Primary & Secondary Routes, major Regional Roads and routes of Strategic importance
(2) Salting and Sanding of ice bound National and Regional Routes.
(3) Clearance of snow by means of Snow Ploughs from National and Regional Routes.
(4) Opening up of County Roads to isolated areas.

The phases are outlined hereunder:

Phase (1) Precautionary Salting

Spreading of salt on roads before ice or snow is expected, is called Precautionary Salting (pre-Salting)

Pre-salting shall commence at the time determined by the Icecast Duty Engineer to ensure (if practical) the completion of routes before the onset of icy conditions or snowfall.

Seven (7) Pre-wet Salting Trucks and five (5) Council trucks fitted with demountable Salt Spreaders will be utilised for this phase.

Pre-salting will be carried out on National Primary & Secondary Routes, and major Urban and Regional Roads of strategic importance.

The Rate of Spread (10 to 20 gms. /m².), to be determined by the Ice cast Duty Engineer.

Precautionary Salting, if required in the mornings shall commence not later than 5.00 a.m.

For location map of Priority 1 and Priority 2 Routes SEE APPENDIX II

Phase (2) Reactive Salting

Salting and or Sanding of roads where ice has formed is called Reactive Salting

Due to the necessity to potentially carry out a 20 g/m^2 salting exercise which is the most onerous to achieve because of the implications for possible re-loading, the Priority 1 Routes shall be considered as the primary reactionary salting routes.

Reactionary salting at 10 - 20 g/m^2 will be carried out on these routes which will obviously mean that they can be completed quicker and without re-loading.

Seven (7) Pre-wet Salting Trucks and five (5) Council trucks fitted with Romaquip Salt Spreaders, will be utilised for this phase.
Further standby arrangements will be dictated by weather forecasts received from the Meteorological Office for the months of October, November, December, January, February, March and April. Salting and sanding if required in the mornings shall commence not later than 5.00 a.m.

Phase (3) Use of Snow Ploughs
Clearance of snow by means of Snow Ploughs from National and Regional Routes
Fifteen (15) snow ploughs fitted to Council trucks will be utilised for this phase.
The "snow ploughs" are Council owned and consist of loaded trucks fitted with adjustable front blades. These machines, fully equipped, loaded and fuelled will be on standby at the appointed depots over the holiday periods. Further standby arrangements at the homes of the operators will be dictated by weather reports received from the Meteorological Office for the months of December, January and February.
Phase (3) will be activated by the Winter Services Manager. The snow clearance appliances will be used only on National and Regional Routes and will work overtime and after daylight hours to keep these routes open to traffic. The trucks fitted with snowploughs will be manned by a driver and an assistant.

Phase (4) Opening up of County Roads in Isolated Areas
This Phase involving opening up of County Roads in isolated areas will be activated by the Winter Services Manager and the Co-Coordinator only on the advice of the District Engineers and the District GSS's.
Action under this Phase will be confined to nominated areas, as detailed by the District engineers in the District action plan.
Nominated mechanical loaders arranged by the District Engineer will arrange to standby at locations adjoining the designated areas and will operate in daylight hours only.

SECTION 4 - RESPONSIBILITIES

A. Director of Services, Roads and Infrastructure

The responsibilities of the Director of Services Roads and Infrastructure are:

i. To ensure a Winter Maintenance Manager is nominated.
ii. To ensure sufficient resources are available to carry out Winter Maintenance operations efficiently.

B. Winter Maintenance Manager

The Winter Maintenance Manager will be responsible for ensuring delivery of the specified winter maintenance operations

The responsibilities of the Winter Maintenance Manager are:

i. To ensure a Winter Service Strategy is produced prior to the start of each winter maintenance season.
ii. Ensure suitably experienced Duty Engineers are placed on a rota to ensure the availability of decision makers throughout entire Winter Season.
iii. To ensure suitably trained Salt Spreader/Gritter Drivers are placed on a rota that ensures availability of labour throughout the entire Winter Season.
iv. To ensure an Ice Prediction System and Weather Forecasting is available throughout the entire winter season.

v. To ensure suitable plant, equipment and salt supplies are available to undertake effective winter maintenance operations for the duration of the entire winter season.

C. Duties of the Ice-Cast Duty Engineer

The Icecast Duty Engineer will be responsible for ensuring delivery of the specified winter maintenance operations and will issue instructions for required winter maintenance based on specialist forecasts and local information.
The Icecast Duty Engineer's role is to be carried out by suitably qualified persons with the technical ability to understand the forecast information and make the decision on treatment.

Their main responsibilities are:

i. Use the WX Horizon and Vaisala DSS manager service to examine the forecast, and track the actual conditions for the roads in the area

ii. Make an initial decision based on the forecast data, and notify the relevant personnel of the proposed treatment. The decision to include the treatment to be carried out, commencement times, routes to be treated and spread rates and also have overall responsibility for monitoring progress and managing change.

iii. Notification of the activation of the Pre-salting Phase, by the Icecast Duty Engineer, will be given to the winter maintenance manager, the Winter Maintenance co-ordinator, The Fleet manager, the GSS Machinery and the duty GSS Controller, if during normal working hours, or the named duty GSS controller on the duty roster of this plan, if outside normal working hours.

iv. Notification of decision to treat or not to treat and commencement time of pre-treatment will be given, by the Icecast duty Engineer, to Roads management, the District engineers and District GSS's, and neighbouring Local Authority duty engineers, using the DSS manager SMS notification system

v. Record decisions and details such as treatment records, decision times, commencement times, routes treated and spread rates on the online Viasala DSS manager system

vi. Keeping the Winter Maintenance Manager, and the GSS Controller, informed with current status

vii. Maintaining records of all messages with, and movements of all operational plant, road conditions and of any blocked routes

viii. Providing factual information concerning the network to the Winter Maintenance Manager for onward distribution to the Gardai, press, local radio, RTE, AA and giving a response to any public enquiries, difficulties or complaints from the general public which may arise

ix. Ensure that at the change of roster the incoming duty engineer is briefed in relation to ongoing operational matters

DUTY ENGINEER GUIDELINES (as determined by TII)

- To be available outside normal working hours, this means **ANY TIME**, for the rostered period
- Fill in logs, and winter service returns on the Vaisala Roads DSS manager.

FROM HOME THE DUTY ENGINEER WILL

- Access the online WX Horizon and Vaisala Roads DSS Manager monitoring system on the hour or as required
- Track the actual conditions over their area
- Obtain updated or more detailed road weather forecasts by talking to a forecaster using The Telephone Consultancy Service (This service is provided by Met Éireann under contract with TII. Ask for the Road Ice Forecaster.);
  Phone number **01 8064219** or **01 8064255** as a backup number

- Use the thermal maps to direct operatives to the more vulnerable areas with emphasis on Precautionary Salting

D. Duties of Machinery Engineer/Fleet Manager (Winter Service Co-ordinator)

The Winter Service Co-ordinator shall ensure that:

i. A roster of nominated personnel for operation of the plan, are available in the event of severe frost or icy conditions outside of working hours, at weekends or during holiday periods if required.
ii. Appropriate machinery is available to complete pre-salting, reactionary salting, or snow removal on the priority routes, as far as practicable
iii. Stand-in drivers are available, as far as practicable, for trucks, where long hours of emergency work are envisaged.
iv. Sufficient quantities of salt are in stock or available to implement the winter maintenance plan.
v. Appropriate machinery is available to load salt as required
vi. Grade of diesel available for trucks and machinery is not likely to freeze.

E. Duties of the General Services Supervisor, Machinery Yard

The GSS Machinery Yard will be responsible for notification of callout of drivers, loader drivers and fitters etc, if callout is arranged during normal working hours, and will assign work as per roster, he will ensure that spreaders are fitted to trucks and are operational and dispatch machines to their appointed locations

i. Ensure that vehicles are cleaned and refuelled, during normal working hours.
ii. Keep control of vehicle keys during normal working hours.
iii. Ensure that mobile phones are issued to appropriate drivers etc.
iv. Ensure that all spreaders are loaded within normal working hours and parked in the vehicle storage sheds, ready for work

F. Duties of the General Services Supervisor (Controller)

The GSS on call will be responsible for notification of drivers and fitters of callouts at weekends, holidays and outside of normal working hours, as the need arises and will assign work as per roster.
During all callouts he will be the works co-ordinator and

i. be on standby during the Salting operation and monitor the works.
ii. be the primary contact in case of an emergency, and
iii. be available if the need arises to callout the fitter
iv. if the need arises, call out the spare spreader and standby personnel.
v. maintain the depot including the monitoring of stock levels and receipt of materials.
vi. prepare the salt depot, loading of salt and locking of the depot.
vii. ensure that trucks and loaders are refuelled if they are used over the weekend
viii. liaise with the District GSS & the GSS Machinery Yard in relation to operational matters, if required
ix. call out the 24-hr recovery service**,** if a vehicle needs recovery during a callout.
x. complete operational logs and transfers records and logs at the change of roster

G. Duties of the Machine Driver

The Salt Spreader Drivers on call will be responsible for

i. ensuring that vehicles are kept clean and refuelled.
ii. return vehicle keys to the key cabinet each working morning and collect again that evening.
iii. completing vehicle and spreader checklists and report any faults or repairs required to equipment to G.S.S Controller/Fitter on Call.
iv. completing the plant operational log and report any break downs or problems during salting operation to G.S.S on call
v. adhering to the rules of the Road and the Road Traffic Acts

At the change of roster Salt Spreader Drivers will

i. brief the next driver in relation to any route or operational problems
ii. transfer the plant operational checklists and logs as necessary

H. Duties of the Machinery Fitter

The Machinery yard Fitter on call who shall have the use of the Council Service van for the week on call, will be responsible for ensuring that the van is stocked with a set of spares, to enable him to carry on minor repairs such as: hoses, battery, bulb replacement, etc. and to respond to a call without delay.

The Fitter on call will

i. park the van at home for the week on call.
ii. in the event of a callout, will travel to the site, assess the breakdown, repair the machine or advise the GSS to activate the spare machine, if required assist the 24-Hour Recovery service to remove the vehicle
iii. ensure that the mobile phone is fully charged and given to next fitter taking over roster.
iv. ensure that the van is fuelled and transferred to next fitter taking over roster.
v. report any faults or repairs required to equipment to the Foreman Fitter.

SECTION 5 - WINTER MAINTENANCE

A Objectives

i. Winter maintenance operations shall allow, ***as far as reasonably practicable***, the safe movement of users of the roads of County Tipperary and shall keep to a minimum, delays caused to such users by adverse winter weather (ice and snow).
ii. The purpose of this document is to identify the Risks, processes, procedures and control measures employed by the Council to ensure that all winter maintenance activities associated with the roads of the County of Tipperary are addressed and managed in accordance with best practice.
iii. The Winter Service Delivery Risk Assessment and Method Statement is attached as **Appendix I**

B Winter Maintenance Strategy

i. The Winter Maintenance Strategy will contain all the necessary detailed arrangements for all aspects of winter maintenance as set out in the Winter Service Manual published by the TII.

   All members of staff involved with Winter Maintenance shall be fully acquainted with this Winter Maintenance Strategy and will have access to copies of it.
ii. The timely response by the Council personnel will be vital in protecting the safety of the travelling public and minimising the disruption to road users.

C. Resources

i. The Council operates 7 Permanently mounted pre-wet Salt trucks and 5 demountable Romaquip Salt Spreaders,
   a. In Clonmel/Cahir/Cashel, 5 Permanently mounted (9m3) Pre-wet unit and 2 demountable Spreaders (9m3), the demountable units are mounted on trucks for the duration of the winter season and 1 No. 6m3 Spreader is mounted on a truck for the winter season to provide cover in the event of a breakdown or extreme conditions.
   b. In Nenagh/Roscrea 5 demountable Spreaders (2 No. 9m3 & 3 No. 6m3) are mounted on trucks for the duration of the winter season and 1 No. 6m3 Spreader is mounted on a truck for the winter season to provide cover in the event of a breakdown or extreme conditions.

ii. TCC also operates 11 No. 2m3 demountable Romaquip Salt Spreaders & 2 No 1.6 m3 Spreaders (based in the district depots) which can be mounted on 7.5 Tonne pickup trucks, in the event of adverse weather forecasts, for the treatment of selected sections of priority 3 roads, and local trouble spots

iii. TCC also operates 17 No. demountable Romaquip Snowploughs which can be fitted to the salt spreader trucks at short notice.

iv. TCC also operates 5 No. telescopic Loaders in the main salt depots, which allows the drivers to fill the salt spreaders at short notice.

v. Adequate resources will be made available to treat the routes within the response and treatment time set out in Table 5.1 below

Table 5.1

Treatment Route	**Priority 1**	**Priority 2**	**Priority 3**
Mobilisation Time	1 Hr	1 Hr	Where Possible
Treatment Time	2.5 Hr	2.5Hr	Where Possible

vi. Resources will be made available to cope both with those winter conditions normally associated with the Road network and will be identified to manage all the weather conditions, which might apply from time to time. The operational winter maintenance period shall be 13th October 2025 to 30th April 2026, however should extreme conditions demand, this may be extended depending on particular conditions.

A Full schedule of vehicle and plant is itemised in SECTION 14: Table 14.2.1

D. Weather Forecasting

A specialist weather forecasting service provider (Vaisala) has been appointed by the TII to utilise information, initially from the existing ice sensor network, to give detailed forecasts for each identifiable climatic domain within the area. Facilities are provided in order that information from Met Eireann, Weather Radar and thermal mapping can be utilised to give the best information concerning existing or anticipated conditions. Use will be made of Met Eireann for forecasting services together with Vaisala for ice alert and data collection.

E. Winter Maintenance Depots

The Priority Routes will utilise five depots:

- **Salt Storage Barn at the Nenagh Motorway Maintenance depot at Tullaheedy**

  The Nenagh Salt barn constructed in 2012, as part of the M7 Motorway Construction project, is a reinforced concrete purpose built and covered storage shed with a nominal capacity of 1,500 Tonnes.

  A Telescopic Loadall will be based in the depot for the duration of the winter maintenance season.

  During normal working hours machinery yard drivers will load the salt spreaders and park the vehicle ready for collection by the spreader driver at the appointed time to commence treatment of his designated route.

  This depot is floodlit and has canteen and welfare facilities.

- **Salt Storage Barn at the Roscrea District depot**,
  The Roscrea Salt barn constructed in 2012 is a purpose built and covered storage shed with a nominal capacity of 100 Tonnes.
  A Telescopic Loadall will be based in the depot for the duration of the winter maintenance season.
  During normal working hours machinery yard drivers will load the salt spreaders and park the vehicle ready for collection by the spreader drivers at the appointed time to commence treatment of his designated route.
  This depot is floodlit and has canteen & welfare facilities.
- **Salt Storage Barn at the Cahir Area depot**,
  The Cahir Salt barn constructed in 2009 is a reinforced concrete purpose built and covered storage shed with a nominal capacity of 600 Tonnes.
  A Telescopic Loadall will be based in the depot for the duration of the winter maintenance season.
  During normal working hours machinery yard drivers will load the salt spreaders and park the vehicle ready for collection by the spreader driver at the appointed time to commence treatment of his designated route.
  This depot is floodlit and has canteen & welfare facilities.
- **Salt Storage Barn at the Carrigeen Business Park, Clonmel**,
  The Carrigeen Salt Barn constructed in 2011 is a reinforced concrete purpose built and covered storage shed with a nominal capacity of 600 Tonnes
  A Telescopic Loadall is permanently based in the depot.
  This depot is floodlit and has canteen & welfare facilities.
- **Salt Storage Barn at the Roads District depot, Wallers Lot, Cashel**
  The Cashel Salt barn constructed in 2017 is a reinforced concrete purpose built and covered storage shed with a nominal capacity of 350 Tonnes.
  A Brine Saturator & 80,000 litres of Brine Storage was added in 2021
  A Telescopic Loadall is permanently based in the depot.
  During normal working hours machinery yard drivers will load the salt spreaders and park the vehicle ready for collection by the spreader drivers at the appointed time to commence treatment of his designated route.
  This depot is floodlit and has canteen & welfare facilities.

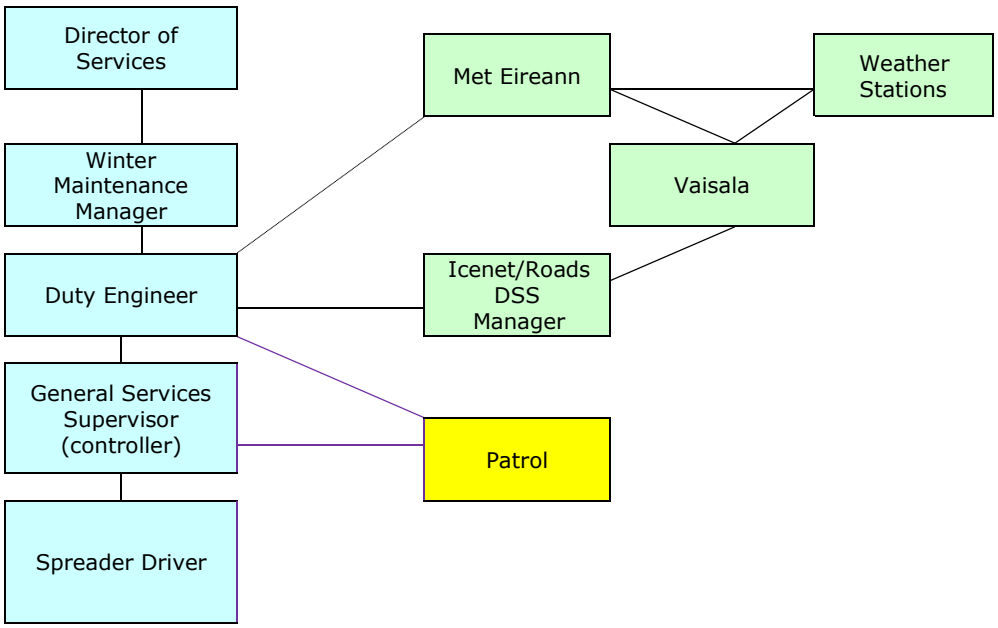
For a complete schedule of Salt Storage capacity see **APPENDIX IV**

Smaller district roads depots have salt storage capacity mostly outdoors under tarpaulins for use locally on Priority Routes or emergencies

SECTION 6 – MANAGEMENT STRUCTURE

6.1 – During working hours

The management and reporting structure will be as the following flowchart:



Members of the Winter Service Team based at the Machinery Yard in Carrigeen, Clonmel and at the Civic Offices, Limerick Road, Nenagh, will carry out the management of the Winter Maintenance Service.

The information gathering and decision-making process will be managed by the Senior Engineer in roads with responsibility for the machinery yard, who will assume the role of Winter Maintenance Manager having specific responsibility for service provision.

A roster of Duty Engineers to provide 24-hour coverage to manage information from Met. Eireann and Vaisala shall be agreed by the Winter Maintenance Manager and the Machinery Yard Engineer.

The Duty Engineer will have authority to instruct treatment as required. Consultation with the Winter Maintenance Manager, Winter Service coordinator, will be carried out as necessary.

The Duty Engineer will also ensure plant and personnel are mobilised. The Duty Engineer will instruct the General Services Supervisors, Machinery, (GSS) and the General Services Supervisor Controller, when a decision to treat has been made, the routes to be treated, the commencement time and the rate of spread, and any special conditions

The General Services Supervisor, Machinery will ensure the drivers are instructed and ready to treat the road at the time required.

The Machinery GSS and the GSS Controller will take instruction from the Duty Engineer.

6.2 – Out of working hours

The rostered Duty Engineer will monitor the weather conditions from the 13th October, 2025 to 30th April 2025, during the night and at weekends. The Duty Engineer will have access to the Vaisala Roads DSS manager website on the internet to access the updated information.

In all cases a Duty Engineer and sufficient labour resources will be provided to ensure that treatment of the Priority Routes will be completed within the time matrix in **Table 5.1.** The GSS will record the response times and the treatment times.

In order to provide the required response to weather conditions, operational staff required to operate the winter maintenance plan will operate a rostered-on call/standby at home. personnel arrangements are defined as follows:

- Rostered on call - personnel available at home for immediate duty outside normal working hours to be contacted by the GSS, Controller.

The Duty Engineer will confirm to the Machinery Engineer/Fleet Manager the particular manning arrangements required for holidays and weekends by 3.00PM GMT, the previous working day

Tipperary County Council Supervisory and Management Contacts*:*

Table 6.1: Winter Maintenance Team - List of contact numbers with locations/Tel. no. (24 hours)

Name	Position	Location	Contact Numbers
			Office
James Murray SE Winter Services Manager	Senior Engineer	Civic Offices Clonmel	0818 06 5000
Paul Farrell EE Winter Service Co-ordinator	Machinery & Duty Engineer	Clonmel	0818 06 5000
Michael Barry	Fleet Manager & Duty Engineer	Clonmel	0818 06 5000
Liam Cronin	Duty Engineer	Clonmel	0818 06 5000
Jim Ryan EE, Thurles District	Duty Engineer	Nenagh	0818 06 5000
Philip McGrath EE Nenagh District	Duty Engineer	Nenagh	0818 06 5000
Matt Ryan	Foreman Fitter	Machinery Yard, Carrigeen	0818 06 5000
John Harkins	Foreman Fitter	Machinery Yard, Nenagh	0818 06 5000
Brendan Flannery	GSS Machinery	Machinery Yard, Nenagh	0818 06 5000
Pat Kelly	GSS, Machinery	Machinery Yard, Carrigeen	0818 06 5000
John O'Meara	GSS Cahir Area	Cahir Depot	0818 06 5000
Kieran Stone	GSS Roscrea Area	Roscrea Depot	0818 06 5000
Francis Molumby	GSS Thurles Area	Thurles Depot	0818 06 5000
Liam Gleeson	GSS Thurles Area	Templemore Depot	0818 06 5000

***Liaison with other parties*:**

Liaison with Adjoining Local Councils

i. Contact will be made with the Winter Maintenance Duty Engineers of adjacent authorities if the need arises.
ii. Copies of the agreed Winter Maintenance Strategy will be provided to the adjoining Local County Councils and other emergency services.
iii. The Duty Engineer will advise, by SMS using the DSS manager SMS system, the Winter Maintenance Duty Engineers of adjacent local authorities and the Motorway maintenance contractors of Tipperary County Council decisions regarding precautionary treatment on a daily basis.

Table 6.2: Across Boundary Contacts:

Authority	Contact	Location	Tel. Office	Email
Waterford County Council	Gabriel Hynes Senior Engineer	Waterford	051 395555	ghynes@waterfordcouncil.ie
Laois County Council	Darren Coss MY Engineer	Portlaoise	086 4644871	dcoss@laoiscoco.ie
Offaly County Council	High McConnell Engineer	Tullamore	057-9346751	hmcconnell@offalycoco.ie
Cork County Council	Brendan O'Gorman Senior Engineer	Cork	021 4276891	Brendan.OGorman@CorkCoCo.ie
Kilkenny County Council	Seamus Kavanagh Senior Engineer	Kilkenny	056 7794000	seamus.kavanagh@kilkennycoco.ie
Limerick County Council	Sean Moloney Senior Engineer	Limerick	061 496453	sean.moloney@limerick.ie

iii. Tipperary County Council has in place **SECTION 86 and Section 85** agreements with adjoining counties as listed below. These agreements allow Councils to formally carry out works on each other's behalf. This allows for greater efficiencies in the operation as it allows Councils to treat roads which they travel over outside of their functional area on a quid pro quo basis.

6.4.1 **Section 86 Agreements**

TIPPERARY COUNTY COUNCIL

WINTER MAINTENANCE 2024-2025
CROSS COUNTY BOUNDARY TREATMENT ARRANGEMENTS

TIPPERARY/OFFALY

Road No.	From	To	Carriageway Direction	Road in	Distance KM	Treated By
R445	Tipp/Offaly Bounds (North of Roscrea)	Offaly/Laois Bounds	East & West	Offaly Co. Co	1.10	Tipperary Co. Co.
R445	Tipp/Offaly Bounds (South of Roscrea)	Offaly/Tipp Bounds (North of Moneygall)	East & West	Offaly Co. Co	7.10	Tipperary Co. Co.
R445	Tipp/Offaly Bounds (North of M7 at Moneygall)	Tipp/Offaly Bounds (South of M7 at Moneygall)	East & West	Offaly Co. Co	3.30	Tipperary Co. Co.
R490	Tipp/Offaly Bounds (South of Cloughjordan	Junction R445 at Main Street, Moneygall)	North & South	Offaly Co. Co	6.50	Tipperary Co. Co.
R491	Tipp/Offaly Bounds (South of Cloughjordan	Offaly/ Tipp Bounds (South of Cloughjordan	North & South	Offaly Co. Co	2.00	Tipperary Co. Co.
N62	Offaly /Tipp County Bounds North of Roscrea	Junction with R421 at Grove Street, Roscrea	North & South	Tipperary Co. Co.	2.30	Offaly Co. Co.
R421	Junction N62 at Grove Street, Roscrea	Junction R491 at Limerick Street Roscrea	East & West	Tipperary Co. Co.	0.75	Offaly Co. Co
R491	Offaly /Tipp County Bounds at Streamstown	Junction with R421 at Limerick Street Roscrea	North & South	Tipperary Co. Co.	2.90	Offaly Co. Co.
R438	From Offaly/Tipp Co Bounds	Junction R438 with R489	North & South	Tipperary Co. Co.	4.00	Offaly Co. Co.
R498	From Junction R438	Junction N52 at Riverstown	East & West	Tipperary Co. Co.	6.00	Offaly Co. Co.
N52	From the Junction of R489 with N52	Tipp/Offaly Bounds	East & West	Tipperary Co. Co.	0.15	Offaly Co. Co.

TIPPERARY/KILKENNY

	From	To	Carriageway Direction	Road in	Distance KM	Treated By
R697	Tipp/Kilkenny county bounds at Cregg Bridge	Junction with N24 at The Green, Carrick on Suir	North & South	Tipperary Co. Co.	3.40	Kilkenny Co. Co.
N24	Junction with R697 at The Green, Carrick on Suir	Tipp/Kilkenny Bounds at Threebridges, Carrick on Suir	East & West	Tipperary Co. Co.	2.10	Kilkenny Co. Co.
N76	Junction R695 with N76 at Callan	Kilkenny/Tipp Co Bounds at Ahanure Bridge	North & South	Kilkenny Co. Co.	6.80	Tipperary Co. Co.
N76	Tipp/Kilkenny Bounds at Poulacapple	Kilkenny/Tipp Bounds at Killamery	North & South	Kilkenny Co. Co.	3.50	Tipperary Co. Co.

TIPPERARY/WATERFORD

	From	To	Carriageway Direction	Road in	Distance KM	Treated By
R680	Tramore Road, Carrick-on-Suir from Dillon Bridge	Tipp/Waterford Bounds at Tinhalla	East & West	Tipperary Co. Co.	3.00	Waterford Co. Co.
R676	Dungarvan Road, Carrick-on-Suir, from Dillon Bridge	Tipp/Waterford Bounds at Crehanagh	East & West	Tipperary Co. Co.	1.70	Waterford Co. Co.
R665	Junction R671Dungarvan Rd Roundabout, Clonmel	Waterford/Tipp Bounds at Knocklofty Bridge	East & West	Waterford Co. Co.	5.40	Tipperary Co. Co.

MARC CONTRACTS

Road No.	From	To	Carriageway Direction	Treated By
M7	Tipp/Laois Bounds	Tipp/Limerick Bounds	East & West	Colas Roadbridge
M8	Tipp/Kilkenny Bounds at Fennor	Tipp/Limerick Bounds at Brackbawn	North & South	Egis Lagan Services Ltd.
N24	M8 Junction 10 at Cloughabreeda	Junction with N24/R640 at Knockagh Roundabout	North & South	Egis Lagan Services Ltd.

Liaison with the Garda Siochana*:*

i. The Winter Maintenance Manager will advise the Garda Siochana of severe weather forecasts.
ii. In the event of severe weather conditions Gardai assistance may be requested when moving winter maintenance equipment, arranging for any required road closures or for dealing with any abandoned vehicles.
iii. Copies of the agreed Winter Maintenance Service Plan will be provided to the Garda Siochana and other emergency services as a controlled document.
iv. Gardai Traffic Patrols on the network will be requested to report any local adverse conditions to the Winter Maintenance Manager in order that appropriate action can be taken and resources deployed.
v. The Winter Maintenance Manager will arrange an annual meeting with the relevant Traffic inspector and or Sergeant prior to the start of the winter season to review the detailed liaison and communication systems for the impending winter season. A further meeting will take place at the end of each winter season to review performance and the effectiveness of procedures for dealing with the actual weather conditions.
vi. In difficult conditions, a Gardai presence may be requested to accompany the snow clearing or gritting plant until a reasonable passage for traffic has been obtained. The Duty Engineer will make requests for Gardai presence to the appropriate Gardai Control Room. The Gardai Traffic Patrol will be advised of any commencement of snow ploughing operations.

Table 6.3: Gardaí Contacts:

Name / Position	Location	Contact Numbers Office
Superintendent	Thurles	0504 25100
Superintendent	Cahir	052 7445630
Superintendent	Clonmel	052 6177640
Superintendent	Tipperary	062 80670
Superintendent	Templemore	0504 32630
Superintendent	Nenagh	067 50450

SECTION 7 - FORECAST PROVIDER

Provider Contact Details

7.1 **Forecast Provider**:

24-hour weather forecast updates will be provided by the Forecast Provider, namely:

Met Eireann
Glasnevin Hill
Dublin 9
Ireland
Tel No: 01 8064219

A full forecast service shall be available throughout the period 13th October 2025 to 30th April 2025, although outside this period a road danger warning system service shall be utilised.

7.2 **Description of Service Received**

Met Eireann shall also provide on a daily basis, to be delivered to the internet-based Ice Prediction System the following:

i. Site specific ice prediction graphs
ii. Routine updates for operational areas including expected minimum road surface temperatures and weather hazards, issued daily.

Met. Eireann Office shall issue, directly to the Duty Engineer, non-routine amendments to the site-specific forecast's graphs and revisions to the 24-hour forecast if:

i. there is, or the Met. Eireann forecaster expects there to be, deterioration in the forecast road surface state i.e. a change from no-frost to frost, on either the 24-hour forecast or any of the site-specific forecast graphs.
ii. there is, or the Met. Eireann forecaster expects there to be, an improvement in the forecast road surface state i.e. a change from frost to no-frost, on either the 24-hour forecast or on any site-specific forecast graphs.
iii. there is, or the Met. Eireann forecaster expects there to be, a difference of at least 1 hour between the original forecast onset of freezing conditions and the revised onset of freezing conditions, and no precipitation is forecast for the intervening period.
iv. Snow, ice, hoarfrost or freezing rain which were in the original forecast and are now not expected.
v. Snow, ice, hoarfrost or freezing rain which were not in the original forecast and are now expected.
vi. The expected timing of precipitation changes by at least 1 hour from the original forecast.
vii. The amount of snow changes from light to moderate or from moderate to heavy.
    a. Light = less than 3cm
    b. Moderate = 3 to 10cm
    c. Heavy = greater than 10cm
viii. Notwithstanding the above, Met. Eireann shall immediately advise the Duty Engineer, of a deterioration in the prevailing weather and surface conditions when the actual road surface temperature on any site-specific forecast graph falls to zero degrees Celsius or lower and this has not been forecast beforehand.
ix. The Duty Engineer will record the receipt of updated forecast information provided by Met Eireann.

Met. Eireann shall prepare and issue severe weather warnings, as necessary, to the Council. This service shall be provided throughout the year.

In accordance with TCC management advisory Weather Environment Risk Assessment TCC staff will not work during RED WEATHER EVENTS
Under the Safety, Health & Welfare at Work Act 2005 and the Safety, Health & Welfare at Work Regulations (General Applications) 2007 the (Principle Response Agency) PRAs have a duty of care for their employees. TCC Severe Weather Alert Team (SWAT) will evaluate the weather conditions, and the nature and urgency of the task that is required to be carried out and plan accordingly. This decision is based on a risk assessment carried out in accordance with the SMS taking account of all the hazards, and balancing the evolving situation against available control measures.

SECTION 8 - ICE PREDICTION SYSTEM

8.1 **Road Weather Sensor Locations**

Road Sensors and Ice Stations are installed at the following locations

i. M7 Nenagh
ii. M7 Birdhill
iii. M8 Twomileborris.
iv. M8 Tincurry, Cahir
v. M8 Mitchelstown
vi. M10 Kilkenny
vii. N24 Clonmel Inner Relief Road
viii. N24 Pallasgreen
ix. N52 Fivealley
x. R445Ballywilliam
xi. R445 Roscrea

8.2 **An Ice Prediction System will be supplied by:**

Vaisala TMI Ltd
Vaisala House
349 Bristol Road
Birmingham,
England
B5 7SW
Tel No: 0044 (0)121 683 1200 Fax No: 0044 (0)121 683 1299

i. The server for the network Ice Prediction System (Icecast) is at the Vaisala office in Birmingham, England
ii. The Ice Prediction System will poll the weather stations on the network at maximum intervals of twenty minutes. This may be reduced to shorter intervals depending on conditions during the winter season.
iii. Any faulty sensors detected by the service provider will be notified to the Council to carry out frontline checks and maintenance
iv. Access to the Icecast website will be available to all the responsible Duty Engineers, this access is available from any computer with internet access.

8.3 **Weather Radar**

Access to weather radar information is available to the Duty Engineer through the Met Eireann Website to assist in response arrangements and to give maximum warning of the arrival time of inclement weather to permit resource mobilisation.

8.4 **Thermal Maps**

Thermal mapping will be used as an additional tool in the decision-making process in relation to Precautionary Salting.
Thermal mapping will be used to highlight potentially hazardous areas or cold spots on the Priority Routes requiring additional or specific treatment.

The thermal mapping system will be designed to be driven from the forecast minimum temperatures from outstation data with an updated thermal map produced at the time of each revised forecast.

SECTION 9 - DECISION MAKING

9.1 Decision Making Procedure

i. The decision to carry out treatment will be made by the Duty Engineer who will instruct the GSS to mobilise resources. The GSS will then instruct the required operatives to give them their instructions.
ii. Provisional arrangements to commence Winter Maintenance Operations will be made during each afternoon based on information from the Icecast system.
iii. Decisions will be regularly monitored to include for variations in the forecast weather or to reflect actual conditions on site. These decisions will be reviewed on receipt of non-routine weather forecast updates. The decisions will be recorded on the salting decisions form which will form the basis of the action plan.
iv. The exact time at which precautionary salting will take place, to all, or part of the Routes will be determined from forecast and local information available.
v. On receipt of a forecast of abnormal weather/snow the decision will be taken to implement the Emergency Blizzard Plan.

9.2 Guidelines

While the duty engineer's decisions/actions are his responsibility, he may wish to consider the following:

Every day, including weekends, check weather stations relevant to his area and the associated forecasts using the icecast service at or before 2:30pm.

Met Éireann works in UTC (GMT).

If the forecast temperature is less than 5° C, check the weather stations every hour until a decision is made

When the road temperature falls to plus 1° C, precautionary salting will be implemented unless:

- *no moisture is expected on the road*
- *there is enough residual salt on the road to deal with expected conditions, or*
- *there is enough cloud cover to suggest that temperatures will not fall any further*

Pre-salting shall commence at the time determined by the Ice-cast duty Engineer to ensure the completion of routes before the onset of icy conditions.

As the Ice-Cast forecast and data is normally available at or before 2.30 pm, it is expected that the callout is given as early as possible (particularly on a Friday when the finishing time for outdoor staff is 3.30 pm.), in order that arrangements can be made before personnel finish work.

Note:

In the event of a change from predicted forecast conditions or a revised forecast from Met Eireann, which warrants pre-salting of any or all of the routes, the Icecast duty Engineer will immediately notify the GSS (Controller) on call who will decide to call out rostered personnel

Table A 9.1 Decision Matrix:

<table>
<tr><td colspan="2"></td><td colspan="3">Predicted Road Conditions</td></tr>
<tr><td>Road Surface Temperature</td><td>Precipitation etc</td><td>Wet</td><td>Damp</td><td>Dry</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>May fall below 1°C</td><td><u>No</u> rain
<u>No</u> hoar frost
<u>No</u> fog</td><td rowspan="2">Salt before frost</td><td>Salt before frost (see note A)</td><td>No action likely, monitor weather (see note A)</td></tr>
<tr><td rowspan="4">Expected to fall below 1°C</td><td><u>No</u> rain
<u>No</u> hoar frost
<u>No</u> fog</td><td colspan="2">Salt before frost (see note B)</td></tr>
<tr><td><u>Expected</u> hoar frost Expected frost</td><td colspan="3">Salt after rain stops (see note C)</td></tr>
<tr><td>Expected rain BEFORE freezing</td><td colspan="3">Salt before frost and after rain stops (see note D)</td></tr>
<tr><td>Expected rain DURING freezing</td><td colspan="2">Salt before frost</td><td>Monitor weather conditions</td></tr>
<tr><td>Possible rain
<u>Possible</u> hoar frost
Possible fog</td><td colspan="3">Salt before snow fall</td></tr>
<tr><td colspan="2">Expected snow</td><td colspan="3">Salt before rainfall (see note D)</td></tr>
<tr><td rowspan="3">Freezing Rain</td><td>Before rain</td><td colspan="3">Salt during rainfall (see note D)</td></tr>
<tr><td>During rain</td><td colspan="3">Salt after rainfall (see note D)</td></tr>
<tr><td>After rain</td><td colspan="3"></td></tr>
<tr><td colspan="5">The decision to undertake Precautionary Treatments shall, if appropriate, be adjusted to take account of surface moisture. Tipperary County Council shall plan and mobilise precautionary treatments so as to complete the treatment as close to the forecasted time of freezing as possible.
All decisions shall be evidence based, recorded and require careful monitoring and review.</td></tr>
</table>

NOTES:

a) Particular attention should be given to the possibility of water running across carriageways and other running surfaces e.g. surface water off adjacent fields after heavy rains, washing off salt previously deposited.
Such locations should be closely monitored and may require treating in the evening and morning and possible other occasions. Ideally the source of the run off should be diverted from the roadway.

b) When a weather warning contains reference to expected hoar frost, considerable deposits of frost can occur.
Hoar frost usually occurs in the early morning and is difficult to cater for because of the probability that any salt deposited on a dry road too soon before its onset, may be dispersed before it can become effective.
Careful monitoring is required under this forecast condition which should ideally be treated just as the hoar frost is forming. Such action is usually not predictable and salt may have to be deposited on a dry road prior to but as close as possible to the expected time of the condition. Hoar frost may also be forecast at other times of the day, in which case the timing of salting operations should be adjusted accordingly.

c) If under these conditions, rain has not ceased by early morning, crews should be called out and action initiated as rain ceases.

d) Under these circumstances rain will freeze on contact with running surfaces and full precautionary treatment should be provided even on dry roads.
This is a most serious condition and should be monitored closely and carefully throughout the danger period.

9.2 Standard forms for proposed action

Proposed action forms are completed and stored online on the Roads DSS Manager System

9.3 Record of events

The following list identifies typical records required:
Decisions taken when and by whom

Pre-Operational

i. 'Tool Box 'records
ii. 'Dry Run' Records
iii. Spreader Calibration Records

Operational

i. Treatment Records
ii. Ice detection records
iii. Weather forecasts and actual weather experienced
iv. Response times achieved
v. For each depot quantities of de-icing materials used, in stock and on order
vi. Plant and equipment deployment records and driver / operator logs are completed and stored online on the Roads DSS Manager System Records will be held at the Machinery general office by the Fleet Manager.

9.4 Accuracy of forecast, justification for changing decisions

Monitoring of the actual road surface temperatures in relation to the forecast road surface temperatures will determine the accuracy of the forecast and will provide the necessary information for the Duty Engineer to amend the treatment requirements.

9.5 Spread rates

Precautionary Salting

The philosophy behind Winter Maintenance operations is, wherever possible, to carry out pre-salting before ice forms or snow settles on the road. To enable this to be undertaken effectively depends on a mixture of local knowledge and experience, good local weather forecasts, thermal mapping and knowledge of the state of the road at the time through patrols (i.e. is it wet or dry, salt covered or not etc).
If no forecast is available for whatever reason and the temperature has fallen to +1ºC, then precautionary salting shall take place unless:

a. No moisture is or is expected on the road
b. There is enough residual salt on the road to deal with the expected conditions.
c. There is enough cloud cover to suggest that temperatures will not fall any further.

Rates of Spread for Precautionary Salting

The following are guidelines in relation to rates of spread

i. For frost and road surface temperatures at or above -2ºC, salt shall be spread at 10 gm/m^2 dependant on local conditions and the immediate forecast.

ii. If freezing conditions are expected after rain and the road surface temperature is below -2ºC spread rates will be increased to 15g/m^2 according to the amount of moisture present and the temperature expected.
Unless freezing conditions coincide with rainfall, salting shall be delayed as long as possible to reduce loss of salt by run-off.

iii. If continuous snow is forecast, salt shall be spread at 20-40g/m^2 according to the anticipated severity of the snowfall.
Every effort will be made to ensure enough salt is applied before snow starts to accumulate on the road to melt the initial snowfall and to provide a wet surface.

iv. Elevated sections of road, bridges and sections lying in low ground or where the local topography channels windborne cold air is more prone to freezing and may need special treatment.
These areas will be identified from thermal mapping, local knowledge and reports from the winter maintenance patrol drivers.

v. It is intended that precautionary action forms the major part of winter operations.

vi. The spread rates for precautionary salt treatments are summarised below.

Table 9.5: Treatment Matrix for Pre-wet modified & Dry Unmodified Salt

Weather Conditions Road Surface Conditions Road Surface Temperature (RST)	**Temperature**	**Spread rates Pre-wet and dry salt Treatments (gm/m2)**	**Ploughing**
Frost or forecast frost RST at or above -2°C		10 g/m2 Also refer to note (b)	No
Frost or forecast frost RST below -2°C and above -5°C		15 g/m2	No
Frost or forecast frost RST below -5°C and above -10°C and dry or damp road conditions		20 g/m2	No
Frost or forecast frost RST below -5°C and above -10°C and wet road conditions (existing or anticipated)		2 runs x 20 g/m2	No
Light snow forecast (<10mm)		20 g/m2	No
Forecast for medium/ heavy snow or a freezing rain forecast.		2 runs x 20 g/m2	No
Ice formed	Above -5°C	20 g/m2	Not possible
Ice formed	At or below -5°C	2 runs x 20 g/m2	Not possible
Snow covering exceeding 30mm		20 g/m2 to supplement ploughing, up to 40 g/m2 if temperatures are falling	Required
Snow accumulations due to prolonged falls		20 – 40 g/m2 to supplement ploughing	Required
Hard packed snow/ice	Above -8°C	Successive treatments at 20 – 40 g/m2 (repeat as needed)	Not possible
Hard packed snow/ice	At or below -8°C	Successive treatments at 20 – 40 g/m2 Supplemented by abrasives (repeat as needed)	Not possible
Sustained low temperature	Below -10°C	Refer to the appropriate section	

The Council will execute pre-wet salting as the primary treatment type for winter maintenance on selected routes
Pre-wet salt is the distribution of 70%-30% of salt and brine.
Brine to be made in the concentration of 22-23 %.

Spreading Rates (g/m2)	Dry Salt (g/m2)	Salt-Brine (g/m2)	Total (g/m2)	Total salt on the Road Surface (dry Salt + salt mixed in Brine) (g/m2)
10	7	3	10	7.69
15	10.5	4.5	15	11.85
20	14	6	20	15.38
25	17.5	7.5	25	19.225
40	28	12	40	30.76

NOTES: -

a) Rate of spread for precautionary treatments may be adjusted to take account of variations occurring along the route such as residual salt, surface moisture (in the air or on the road surface) and traffic density.

b) For salt stored outside, it may be necessary to increase the speed rate for precautionary salting from 10gm/m^2 to 15 – 20 gm/m^2.

c) All decisions should be forecast based, recorded and require careful monitoring and review.

d) Ice refers to all ice on the road surface, including black ice.

9.6 Treatment of ice already on the Road

If ice has already formed on the road, salt shall be spread up to 20g/m^2 depending on the amount of ice present and the air temperature to ensure a rapid melt. Particular attention will be paid to lengths of the National Roads, which are known to be susceptible to poor run-off.

Application of salt at 40g/m² will be made in severe conditions where road surface temperatures falls to below -5°C or where hard packed snow is present on the network.

9.7 Treatment of snow already on the road after Precautionary Salting

i. Snowploughs will be fitted to vehicles when snow is forecast and ploughing shall commence as soon as snow depths on all or part of the Network exceed 30mm or as directed by the Duty Engineer.
ii. Each pass of the plough shall be supplemented by an application of salt at a rate of 20 g/m², depending on the temperature trend.
Information from the Ice Prediction System together with temperature measurements at the weather stations will be available.
iii. Special salting may be necessary to deal with melted water from snow, which may freeze at night, and a watch will be kept for such conditions.
iv. Snow ploughing routes will be as the Priority 1 salting routes for simplicity of driver training.

9.8 **Treatment of Hard-Packed Snow and Ice**

If the above procedures are carried out successfully then the formation of hard-packed snow and ice should be rare. However, should these conditions occur provided that the ice is no more than 20mm thick and the air temperature is below -5ºC, then removal shall be carried out by successive salt applications of 20 g/m^2. The use of salt spread at successive salt applications of 20 g/m^2. is however applied selectively in the following circumstances:

- Precautionary salting of the Priority 1 Routes in those areas where continuous heavy snow is forecast. The intention is to melt the initial snowfall to make operation of snow ploughing more effective.
- Treatment of ice formed on relatively lightly trafficked sections of roads when the temperature is sustained and below -5°C.
- Successive treatment for areas of hard packed snow or ice less than 20mm thick with temperatures above -5°C.
  Local observations and local experience will essentially identify these areas.
  A timely application of precautionary treatment should make the formation of hard packed snow/ice a rare event.
- When temperatures fall below -10°C or where snow is more than 20mm thick a single sized abrasive aggregate of particle size up to 6mm shall be added as necessary to the salt.
- A reversion to the use of salt only is to be made at the earliest opportunity to avoid the possibility of blocked drains or gullies.
-

SECTION 10 - SALTING ROUTES

10.1 **Pre-salting Routes**

There are 12 routes designed to treat the Priority Routes 1 & 2.

NT2: Nenagh Regional Roads. Southwest of Nenagh
NT3: Nenagh N52, Regional Roads. west of Nenagh
NT4: Nenagh, N52, N65 Regional Roads. northwest of Nenagh
NT5: Nenagh, Regional Roads nnorth of Nenagh
NT6: Roscrea N62 North of Templemore & Regional Roads North of Templemore
ST1: Regional Roads around and south of Cahir
ST2: N74 East of Golden, R639, and Regional roads North and West of Cashel.
ST3: N24 West of M8, N74 west of Golden and Reg. Roads serving Tipperary Town
ST4: N24 East of Clonmel, N76 and Regional Roads around Carrick-on-Suir and Clonmel
ST5: N24 in Clonmel, and Regional Roads in and around Clonmel, south of Cashel,
ST6: East of R639, Killenaule and Fethard and N76 north of Ninemilehouse
ST7: Thurles, N75, N62 & Regional Roads, serving Thurles

Full Schedule and map of Priority 1 & 2 Routes treated are included in **APPENDIX II**
The detailed drawings and descriptions of these routes are in **APPENDIX III**.

10.2 **Reactive Salting**

Due to the necessity to potentially carry out a 20 g/m^2 salting exercise which is the most onerous to achieve because of the implications for possible re-loading, the Priority 1 Routes should be considered as the primary reactionary salting routes. Reactionary salting at 10 - 20 g/m^2 will be carried out on these routes which will obviously mean that they can be completed quicker and without re-loading.

10.3 **'Dry Runs'**

Prior to 1st October each year

- A 'Tool Box' talk will be carried out
- a 'dry run' and route familiarization of each route will be carried out which will include the fitting and removal of a Spreader & snowplough to every vehicle

Records will be kept of these dry runs detailing times taken to traverse the route, fit the snowplough, and any other relevant comments.

SECTION 11 - PATROLS

11.1 **Patrolling in adverse weather.**

Patrolling of the N24, N52, N62, N65, N75, N76, R445, R498 & the R639 will be carried out during the period 13th October 2025 to 30th April 2026, when adverse weather is being experienced or is predicted.

Periods of adverse weather are those when the M7/M8 is likely to be affected by severe frost or snow, and diversions from the M7/M8 will affect the roads listed above, particularly the R445 & R639

11.2 **Patrolling when Snow or Freezing Rain is Predicted**

During adverse weather, when a forecast is predicting snow or freezing conditions after rain, patrols will be undertaken in loaded gritters with snowploughs fitted to enable timely commencement of treatment of potentially hazardous conditions when they occur.

Patrol drivers will report on conditions to the Duty Engineer if conditions require a Spreader/gritter to be actioned.

SECTION 12 - SNOW CLEARING STRATEGY

12.1 **Description of arrangements and resources for snowfall**

i. To assist in route familiarity for operations it is intended that snow ploughing will be carried out on the same routes as for reactionary salting. This readily enables ploughing and salting.

ii. Ploughing of snow will normally commence at a snow depth of 30mm and will be accompanied by salt applications at 20 g/m^2. Should snow depth on the carriageway exceed 100mm then salting may be suspended with ploughing carried out by a laden vehicle to aid traction.
The application of salt shall be recommenced as soon as practicable.

iii. where echelon ploughing is deployed salting will take place over the full carriageway width by the trailing vehicle

iv. where ploughing a single lane width, salt will normally be spread only on the ploughed width.

12.2 **Prolonged snowfall strategy**

i. All Winter Maintenance Operations will be controlled by the Winter Maintenance Manager or by allocated staff to ensure that the optimum use is made of dedicated and any externally resourced plant items.

ii. Routine and cyclical works will cease.

iii. The priority routes will be precautionary treated with salt in accordance with the above spread rates. The routes will be patrolled throughout the period of the forecasted adverse weather and otherwise vehicles will be on standby at the Nenagh, Roscrea, Cahir, Carrigeen & Cashel depots

iv. Other resources of the Council including any reserve vehicles will be utilised with the main efforts directed at key areas to enable traffic flows to be maintained, or in the event of road closure, to be recommenced at the earliest opportunity. Resources will be deployed to areas of high importance. Plant will only be reallocated on a temporary basis by agreement with the Winter Maintenance Manager.

v. The roster of Duty Engineers will be available to give continual management presence in periods of extreme weather.

vi. The appointed drivers of winter maintenance equipment will be available to operate the equipment on a 24-hour operation should conditions require.

vii. Stocks of salt and winter quality fuel will be maintained at sufficient levels in the depots over the winter period to permit full-scale operations for an extended period.

viii. During severe weather conditions the Winter Maintenance Manager will liaise directly with the Gardai to ensure that up to date information is available regarding travel conditions and blocked roads. All media enquiries will be directed to the Winter Maintenance Manager.

ix. The Winter Maintenance Manager will, where considered to be appropriate, make suggestions to the TII/DOT in relation to the broadcasting of information during or in response to forecast severe winter weather conditions and shall advise Winter Maintenance Managers of adjacent authorities accordingly.

x. Where extreme conditions persist and road closures or partial closures have to be considered, then the Winter Maintenance Manager will contact the TII/DOT and advise them accordingly.

xi. Where appropriate and after consultation with the Gardai, the District Engineer shall arrange for installation of signs that clearly show the road closure, with reason for the closure and where appropriate, diversion routes.

xii. The Winter Maintenance Manager will notify the TII immediately by telephone of any major incident arising on the National Roads as a result of winter conditions and in particular of any parts of the National Road network closed to traffic followed up with written confirmation the next working day.

Large Towns

i. Clearance of snow and treatment of icy road surfaces and paths shall be carried out by the town-based employees under the direction of the District Engineers, they shall not confine their activities to local roads only but shall also deal with and give preference to National and Regional routes within the Town Area.

ii. Use of pick-up trucks, tractors and trailers and manual clearance of snow from roads and paths are considered the most practical methods of dealing with the problem in Town Areas.

iii. Salt spreading should be adopted as a means of de-icing paths and roads in preference to sanding and gritting.

iv. Provision should therefore be made for the stocking of salt in each Town Area.

v. Snow clearance and de-icing in Town Areas shall be activated by the Town Foreman on the instruction of the District Engineer or his Deputy.

vi. Snow clearance and de-icing of roads in Town Areas shall be carried out during daylight hours only.

Small Towns and Villages

i. Snow clearance and de-icing of streets and paths shall be carried out in the rural towns and villages during normal working hours in blizzard conditions.

ii. District Engineers and Area GSS's may at their discretion use a limited number of employees to salt and clear snow and ice from footpaths and roads in major towns if blizzard conditions arise on weekends and/or public or church holidays.

Availability and turn out of Machinery & Employees

- Before the winter season period 13th October 2025 to 30th April 2026, District Engineers, Area GSS's and Town Foremen should ensure that employees under their control are aware that they, the employees, may be called on to carry out emergency work in blizzard conditions at times outside normal working hours.
- Similarly, District Engineers and Area GSS's should make themselves aware of the availability of nominated standby hired loaders for clearance

of snow in isolated areas and of nominated loaders for loading sand, salt etc. at nominated loading depots.

- The Owners of such machines should be contacted before the winter season, instructed on what to do in emergencies and an agreed hire rate per hour determined if necessary.

Response to Distress Calls

The Council shall respond to distress calls only where they are associated with illness, injury, birth or death of persons.

Considerable expenditures have been involved in the past in responding to false alarms.

District GSS's should therefore endeavour as far as practicable to confirm and substantiate calls for help by contacting local Gardai, Medical Practitioners, Clergy and local County Councillors.

Public Water Supplies

Public water supplies are likely to be interrupted due to the breakdown of electrical supply to the treatment works and pump houses.

In carrying out emergency action under Phase 3 of this Plan, on the completion of Priority 1 routes, preference should be given to clearing roads to these water treatment plants and pump houses in order to enable E.S.B. and County Council water service maintenance crews or designated contractors to gain access for repair purposes.

Prior to the winter season the Senior Engineer, Water Services should discuss

- with the E.S.B. the implications of blizzard conditions relative to the above installations.
- with the winter maintenance manager, the implications of blizzard conditions relative to the above installations.

SECTION 13 - LABOUR

13.1 **Numbers Available**

The required resources are based on 2.0 trained and qualified drivers per spreading vehicle; in addition, a standby list of drivers will be available to assist should one of the rostered drivers be unavailable for a period or as relief in case of long hours working.

Drivers are trained to the standards required to comply with Health & Safety legislation

13.2 **Training**

Training of Winter Maintenance Operatives will consist of informal 'Tool Box' talks, formal training courses, and hands on experience.

13.3 **'Tool Box' Talks**

i. 'Tool Box' talks consisting of Specific Procedures, Method Statements, Risk Assessments, and other related information. This will be given by a specified trainer engaged by the Council and the operatives Supervisor on a regular basis to insure Operatives are aware of relevant information and hazards.

ii. Records of these informal 'Tool Box' talks will be kept to ensure compliance.

13.4 **Hands on Experience**

Dry runs of salting routes will take place in the autumn for

i. driver training in fitting Spreaders, snow ploughs
ii. route familiarisation and to demonstrate compliance with the specified response times
iii. to identify route hazards

iv. To identify work activity risks.

13.5 **Formal Training**

All operatives' formal training will conform to the following training matrix:

Table 13.1 Operator training matrix

	GSS/ Patrol Driver	Spreader Operator	Snow Plough Operator	Loadall Operator
Emergency First Aid	Yes	Yes	Yes	Yes
Winter Maintenance	Yes	Yes	Yes	Yes
Gritter Training		Yes	Yes	Yes
Snow Plough training		Yes	Yes	
Loadall Training		Yes	Yes	Yes

13.4 **Call Out Procedures**

i. Call out of the required level of resources will be coordinated by the Duty Engineer and Fleet Manager, Machinery.

ii. The decision to carry out treatment will be made by the Duty Engineer who will instruct the appropriate GSS to mobilise resources and give the instruction to carry out the appropriate treatment at the specified time. The GSS will then contact the required operatives who will proceed to the depot to start the treatment.

SECTION 14 - PLANT, EQUIPMENT AND DEPOTS

The fleet size and disposition will be reviewed after each Winter Maintenance season and any recommendations put into practice.

14.1 **Number, capacity and location of vehicles available for precautionary salting**

The following tables give an indication of the plant absolutely dedicated to Priority Routes 1 & 2 however in extreme conditions more plant could be deployed from local plant hire, haulage and quarry companies.

14.2 **Location and Type of Loading Shovels**

County Council telescopic loadalls/ loaders will be permanently based at the Salt storage depots for the duration of the winter season.

Table 14.1 Loading Equipment

Location	Type / Capacity	Number
Nenagh Salt Barn	Manitou Loadall 1 Tonne (161 T 5155)	1
Cahir Area Depot	JCB Loadall 1 tonne (12 TS 2195)	1
Carrigeen Depot	JCB Loadall 1 tonne (172 T 1816	1
Cashel Depot	JCB loadall 1 Tonne (11 TS 3526)	1
Roscrea Area Depot	JCB Loadall 1 tonne (142 T 2076)	1

14.3 **Number, capacity and location of vehicles available for snow conditions**

Salt Spreaders will be permanently mounted for the duration of the winter maintenance season and will be deployed as required on Priority 1 & 2 Routes
Snowplough DIN plates will be permanently mounted for the duration of the winter maintenance season and available to fit snowplough in the event of severe weather forecast

Table 14.2.1 Salt Spreading & Snowploughing Equipment

Location	Spreader Type	Truck	Capacity	Spreader No.	Snow plough	Plough No.
Cahir Depot	Fixed Pre-wet	251 T 2125	RDS9 (9 m^3)		Yes	SP 1
Cashel Depot	Pre-wet Demountable	172 T 438	RDS9 (9 m^3)	SG8	Yes	SP 5
Cahir Depot	Fixed Pre-wet	251 T 2126	RDS9 (9 m^3)		Yes	SP 8
Cashel Depot	Pre-Wet Demountable	141 T 647	RDS9 (9 m^3)	SG5	Yes	SP 4
Carrigeen Depot	Fixed Pre-wet	251 T 2439	RDS9 (9 m^3)		Yes	SP 9
Cashel Depot	Fixed Pre-wet	132 OY 264	RDS9 (9 m^3)		Yes	SP T2
Carrigeen Depot	Fixed Pre-wet	132 OY 265	RDS9 (9 m^3)		Yes	SP T1
Nenagh Depot	Demountable	172 T 434	RDS6 (6 m^3)	SP Y03	Yes	SP 5
Nenagh Depot	Demountable	172 T 437	RDS6 (6 m^3)	SP Y04	Yes	SP 5
Nenagh Depot	Demountable	161 T 3016	RDS6 (9 m^3)	SP Y08	Yes	SP 5
Nenagh Depot	Demountable	11 TN 1867	RDS6 (6 m^3)	SP Y06	Yes	SP 5
Roscrea Depot	Demountable	06 TN 3305	RDS6 (9 m^3)	SP Y09	Yes	SP 5

A Reserve salt spreader will be permanently mounted for the duration of the winter maintenance season in both Clonmel & Nenagh machinery yards, and available as a standby in the event of a breakdown
Snowplough DIN plates will be permanently mounted for the duration of the winter maintenance season and available to fit snowploughs in the event of severe weather forecast

Table 14.2.2 Spare Equipment & Snowploughs

Location	Spreader Type	Truck	Capacity	No.	Snow plough	No.
Cahir Depot	**Demountable**	**141 T 646**	**RDS6 (6 m^3)**	**SG2**	**Yes**	**SP 7**
Carrigeen Depot	**Demountable**	**172 T 439**	**RDS6 (6 m^3)**		**Yes**	**SP 8**
Carrigeen Depot		**Tractor 182 T 891**			**Yes**	**SP9**
Nenagh	**Demountable**	**171 T 436**	**RDS6 (6 m^3)**		**Yes**	
Carrigeen Depot	**Pre-wet demountable**	**182 T 1125**	**RDS9 (9 m3)**		**Yes**	

Area Salt spreaders shall be mounted on nights of extreme weather and shall be mobilized to service selected sites on Priority 3 routes.
Area staff using 7.5 Tonne pickups fitted with spreaders (2.0 M capacity) may treat local trouble spots and areas susceptible to frost which are identified by the District Engineer for inclusion in a daily action plan, these areas include, Steep

inclines/declines, elevated sections of roads or bridges, exposed sections of roads and frost hollows

Table 14.2.3 Area Salt spreading equipment

Location	Spreader Type	Truck	Capacity	No.	Snow plough
Cahir Depot	Demountable	172 T 1273	RDSR2 (2 m^3)	SG 22	No
Kilsheelan Depot	Demountable	161 T 2301	RDSR2 (2 m^3)	SG 12	No
Ballincurra Depot	Demountable	211 T 2636	RDSB2 (2 m^3)	SB 1	No
Gas House Lane Depot	Demountable	12 TS 1316	RDSR2 (2 m^3)	SG 14	No
Ninemilehouse Depot	Demountable	201 T 2085	RDSR2 (2 m^3)	SG 11	No
Cashel Depot	Demountable	12 TS 1327	RDSR2 (2 m^3)	SG 15	No
Hollyford Depot	Demountable	12 TS 1323	RDSR2 (2 m^3)	SG 16	No
Fethard Depot	Demountable	201 T 2086	RDSB2 (2 m^3)	SB 2	No
Carrigeen, Clonmel	Towable		RDSR1.4 (1.4 m^3)	SG 10	No
Carrigeen, Clonmel	Towable		RDSR1.4 (1.4 m^3)		No
Clogheen Depot	Demountable	201 T 2089	RDSR2 (2 m^3)	SG 20	No
Ballagh Depot	Demountable	161 T 2305	RDSR2 (2 m^3)	SG 17	No
Carrick on Suir	Demountable	201 T 2087	RDSB2 (2 m^3)	SB 3	No

14.4 Vehicle servicing and maintenance

Servicing and maintenance will be co-ordinated by the Technical Services Supervisor, Machinery. All salt spreading equipment will be mechanically maintained by the Council's Workshop. Drivers will be responsible for daily maintenance and for vehicle washing after each salt operation. Qualified plant fitters will be on call at all times during the Winter Maintenance period.

14.5 Calibration of equipment

Calibration checks will be carried out on the salt spreading equipment at the final service before the winter maintenance season commences. Calibration records for all salt spreading equipment that will be utilized, will be held at the Machinery Office.

Vaisala Ltd to carry out annual detailed inspections and calibration checks on all ice sensors in accordance with the manufacturer's recommendations (Aug/Sept). Repairs and re-calibration of faulty equipment will be carried out within 14 days of defect notification.

14.6 Communication equipment

All Winter Maintenance operatives will be issued with cellular telephones. During the course of normal daily usage, any faults in the communication system will be reported to the Duty Engineer who will instigate any repairs necessary. Contact with maintenance staff during and outside normal work hours will be made by the cellular telephone system. Staff will operate on a roster basis.

SECTION 15 - DE-ICING MATERIALS

15.1 Salt stock quantities

Details of the proposed stock levels for the Winter Maintenance Operations of Tipperary County Council is as below:

Table 15 Salt Depot Stock Levels

Salt Depot	Max.	Minimum Stock Level (Tonnes)						
Period		**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**
Nenagh	1500	500	750	750	750	750	750	500
Roscrea	100	20	50	50	50	50	50	20
Cahir	600	200	300	300	300	300	300	200
Carrigeen	600	200	300	300	300	300	300	200
Cashel	350	50	150	150	150	150	50	50
Total	**3,150**	**970**	**1550**	**1550**	**1550**	**1550**	**1450**	**970**

15.2 Salt management strategy

Stock levels of the depot will be maintained at levels to give approximate 2 weeks winter usage without replenishment deliveries. Salt storage areas will be maintained to ensure the following:

- Salt is stored in dry conditions
- No sheer faces left in stock piles
- Salt stockpiles do not become contaminated.
- Salt stockpiles or adjacent operations do not affect the environment.

15.3 Other materials – Fuels

Fuel will be stored at the operating depot in appropriately bunded tanks. A minimum level of fuel will be stocked to ensure continuity of operations in severe weather conditions, for 10 days

SECTION 16 - LOCATIONS FOR SPECIAL TREATMENT

16.1 Ice susceptible areas- Inclines/Declines

During periods of heavy snow and with freezing conditions the action of vehicles can turn the snow into ice. On areas of the Priority Routes where there are steep inclines and declines the formation of ice will cause traction problems either preventing vehicles from gaining grip and unable to climb the gradient or loosing grip and being unable to stop, during snow fall these areas will be given priority and the spread of salt will be boosted to ensure there is adequate application of salt.

Frost susceptible areas

Areas susceptible to frost shall be identified by patrols and reported to the Duty Engineer for inclusion in the daily action plan, and precautionary gritting routes:

These areas include:

- Elevated sections of roads or bridges
- Exposed sections of roads
- Frost hollows

An Appendix detailing such sections will be developed in light of experience.

16.2 Known surface water run off locations

Areas susceptible to surface run off shall be identified by patrols and reported to the Duty Engineer for inclusion in the daily action plan and precautionary gritting routes:

SECTION 17 – ANNUAL REVIEW

An annual review of the previous winter maintenance season will take place midsummer. All interested parties will be invited to forward their comments and to participate. Minutes of the review will be written and any actions carried out prior to the season commencement.

APPENDIX I: Winter Service Delivery Risk Assessment

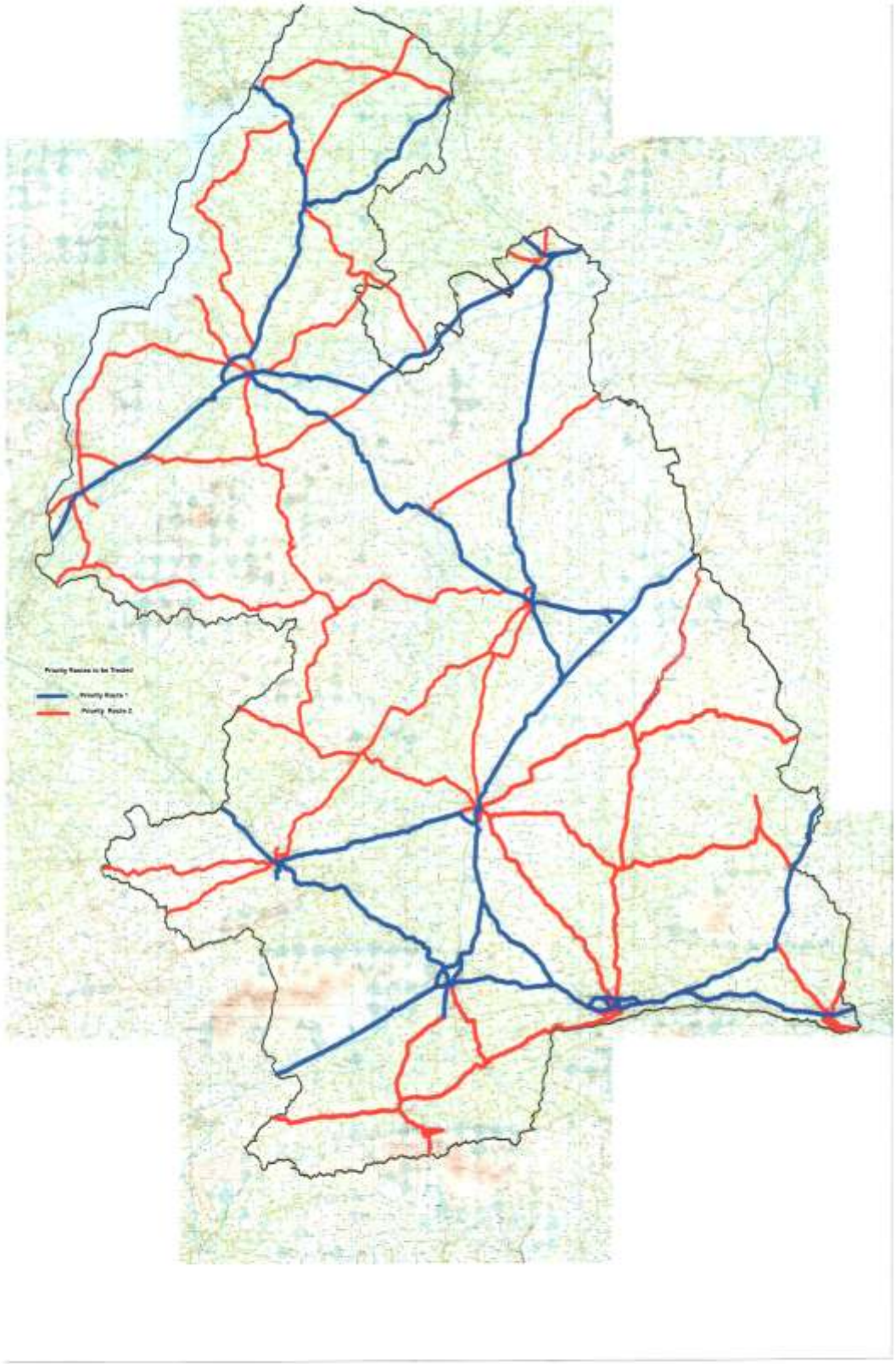
WINTER SERVICE DELIVERY RISK ASSESSMENT				
	Risk	**Probability**	**Severity**	**Mitigation**
	Winter Service Delivery	High	High	TCC Winter Service Strategy provides a clear process with allocated overall responsibility for overseeing the winter service delivery plan and specific unction/tasks assigned to individuals. Detailed depot/site specifications with identified hazardous areas and bespoke instructions for each depot/site including risk assessments and method statements. Continuous monitoring of the winter service delivery plan. The overall winter service delivery plan is formally reviewed at the start and end of the winter season. Planned schedule of maintenance of winter vehicles and equipment, prior to and after the operating season. Regular inspection and maintenance of winter vehicles and equipment, throughout the operating season The planned procurement of adequate supplies of Salt and fuel. The planning of route details, rosters and rest periods to comply with the working time act Procedures to communicate to all staff risk assessments and the safe operating procedures
	WS Operative on roster unavailable (sickness, injury, communication, etc)	Low	Medium	A Roster of two (2) operatives is rostered for each route. An emergency trained operative is available for each depot familiar with each route working from that depot If a Rostered operative is unavailable he contacts his paired operative. If the paired operative is unavailable then the GSS controller contacts the emergency operative.
	WS GSS controller unavailable	Low	Medium	A Roster of two (2) GSS Controllers is rostered, if the rostered GSS is unavailable he contacts his paired GSS. If neither GSS is available, the Fleet Manager Machinery to assume the role.
	WS Duty Engineer unavailable	Low	Medium	A Roster of two (2) Icecast Duty Engineers is rostered, if the rostered Duty Engineer is unavailable he contacts his paired Duty Engineer. If neither Engineer is available, the Winter Maintenance manager to assume the role.
	WS unit [truck and/or Spreader] mechanical fault	Low	Medium	Machinery workshop to maintain a minimum stock of essential parts. On call Fitter/mechanics to be contacted to investigate/repair the defect. Reserve vehicles/spreaders available in main depot.

				If required the WS GSS controller to arrange the use of the reserve vehicle, or fit reserve spreaders Maintain the list of local specialists to be contacted (recovery). Prevention: Inspect and maintain vehicles regularly, with increased frequency in the peak months of the winter season (Jan., Feb., & March)
	WS unit involved in RTA	Low	High	GSS controller to attend and take charge of incidence response as per the incidence response plan Immediately instruct the other operative from the depot to cover the missed sections on the route. If needed call in additional drivers from the roster and utilise the reserve vehicle.
	Route closed due to incident	Medium	Low	GSS Controller to ascertain diversion route from District staff, and note any areas of importance Ensure the diversion route is treated the same as the Network would have been. Do not re-open closed section until it is treated/cleared and safe for the public to travel on it.
	Multiple vehicle faults in the same depot	Low	High	Utilise reserve vehicles. Transfer reserve vehicle from the main depot for the time of the repairs. Fitter to maintain a minimum stock of essential parts. Fitters to be contacted to investigate/repair the defect. Develop alternative route plans for 3 vehicles as a doomsday scenario.
	Mechanical fault of the loader	Low	High	Machinery workshop to maintain a minimum stock of essential parts. On call Fitter/mechanics to be contacted to investigate/repair the defect. If required the WS GSS controller to mobilise reserve/district loader. There is at least 1 reserve/District loader available in every depot. Maintain a list of available hire companies with loaders available to deliver 24/7 to provide further reserves.
	Brine saturator fault	Low	Medium	Each brine saturator and storage tank has capacity of 80,000 litres of brine, enough for a 5-day continuous operation. In case brine runs completely out, dry-salt treatments should be used. Maintain a list of available Brine supply companies with a minimum of 20,000 litres capacity available to deliver 24/7 to provide further reserves. Ensure the supplier has 24/7 response team available.
	Fuel station fault	Low	Medium	Every vehicle needs to be refuelled after every treatment to keep the fuel tanks full. One full fuel tank holds sufficient fuel for 7 treatments minimum. WS GSS controller to have Credit/Fuel card to be used in emergencies Ensure a manual pump is available to retrieve fuel from the on-site fuel tanks in case of a pump failure.
	Weather station(s)	Medium	Medium	Use the neighbouring stations to indicate weather patterns without relying on the exact

	not providing data			values. Use the forecast data with additional caution and consider early treatments with higher salt rates.
	Forecast Provider not providing forecasts/graphs	Medium	Medium	Use alternative forecast applications to indicate weather patterns without relying on the exact values. Use the forecast data with additional caution and consider early treatments with higher salt rates.
	Environmental Contamination from salt/Brine storage	Low	Medium	Regularly inspect salt/Brine storage facilities and drainage arrangements. Repair any defects found immediately or mitigate the effect of the defect. Maintain drainage items. Maintain environmental response kits in the salt storage.
	Environmental Contamination from Fuel/oil Spillages	Low	Medium	Inspect vehicles/spreaders prior to use. Repair any defects found immediately or mitigate the effect of the defect. Inspect drainage arrangements, and maintain drainage items. Maintain environmental response kits in the Vehicle parking area.
	Prolonged severe weather forecast	Low	High	Follow procedures set out in the WSP.
	Weather Alert issued by Met Eireann	Low	High	SWAT to meet and risk assess the specific conditions • Establish the real and most urgent needs of the community; • Set priorities for the response and be prepared to defend these to the public and the media; • Organise and maintain a protracted 24/7 response;
	Snow forecast	Medium	High	Follow procedures in WSP. Prepare vehicles, snowploughs, contact operatives, neighbouring organisations, ER Services. Initiate a system of patrols. Fleet manager to check salt, brine, fuel stocks, and reorder if necessary. On call Fitter/mechanics to check stocks for essential repairs Set up communications. Duty Engineer to monitor weather conditions on all weather stations, including stations outside of the Network. Monitor weather alerts, reports. Carry out timely precautionary treatments and snow removal as necessary.
	Unexpected snow	Low	High	Immediately mobilise operatives on-call. Carry out treatments to priority 1 routes as necessary. Proceed as per WSP
	Abandoned Vehicles in snow event	Low	Medium	Snowplough Driver to use extreme caution when ploughing routes and in particular snow drifts.

				In the event of abandoned vehicles which prohibit ploughing, Driver to use alternative route and report untreated section to GSS controller. GSS controller to notify the Gardai of abandoned vehicle and untreated section of road. Ensure the diversion route is treated the same as the Network would have been. Do not Plough the closed section until it is cleared and safe for the plough to travel on it.
	Rainfall after the treatment with possible frost after the rain	Medium	Medium	Depending on the intensity and the volume of rain, treatments shall be repeated after the rain stops. Do not rely on the residual salt values.
	Fatigue during Prolonged winter service delivery	Low	Medium	Ensure additional rest periods are available to operatives and decision makers. Consider short time roster changes to allow for rest in the operative and or decision maker roster.
	Inadequate training, Inexperienced GSS/Controllers and drivers	Low	Medium	Ensure all operatives fully partake and understand all the trainings in the WS training matrix. Hold additional TBTs before WS operations and de-briefs regularly and after each major severe weather event. Document feedback and re-visit on the next TBT. Inexperience controllers/drivers shall drive the routes with experience drivers before their first rostered period to familiarise themselves with the route and local circumstances. Operatives to assist the Fitters in the calibration process to perfect their knowledge in the vehicle controls.
	Inadequate training, inexperienced duty engineers	Low	Medium	Ensure all duty engineers participate on all the trainings set out in the WS training matrix, in the Winter Service desktop exercises, in the Winter Service Workshops and de-briefs. All duty engineers must record their decisions, communications in the Vaisala Manager website
	Traffic Tailbacks at rush hour	Medium	Medium	Duty Engineer to factor rush hour traffic into his callout timing Alternative route layout or sequence of treatment to be devised to avoid rush hour traffic, Operative to be aware of possible rush hour/traffic congestion events
	Narrow Streets with illegal parking	Medium	Medium	Driver to use alternative route and report untreated section to GSS controller, Duty Engineer, GSS Controller to report untreated section to District GSS for local treatment.
	Pedestrian on footpaths or gatherings	Medium	Medium	Driver to be aware of possible pedestrians and reduce width of spread to ensure that salt does not spread onto footpaths or strike vulnerable pedestrians etc. GSS Controller/Driver to be aware of pedestrian gatherings (funerals, games, shopping, etc.) in his callout run Alternative route layout or sequence of treatment to be devised to avoid pedestrian gatherings

APPENDIX II – LOCATION MAP of PRIORITY ROUTES



APPENDIX III – SCHEDULE OF ROADS TO BE TREATED

Legend of Electoral Districts

A = Nenagh District
B = Templemore-Thurles District
C = Carrick-on-Suir District
D = Clonmel District
E = Tipperary-Cashel-Cahir District
AADT = Annual Average Daily Traffic

PRIORITY 1 ROUTES

Road No.	District	Description	Comment
N24	C, D, &E	Limerick County Bounds at Monard, Tipperary to Waterford County Bounds at Three Bridges, Carrick-on-Suir	National Route
N52	A	N52 from J26 of M7 at Tullaheady Nenagh via Borrisokane to Offaly County Bounds at Riverstown, Birr	National Route
N62	B	J6 on M8 at Horse & Jockey via Thurles, Templemore & Roscrea to Offaly County Bounds	National Route
N65	A	Main Street, Borrisokane to Portumna Bridge	National Route
N74	E	N74 from J9 on M8 at Cashel to N24 at Bank Place, Tipperary	National Route
N75	B	Junction N62 at the Square, Thurles to J5 on M8 at Two Mile Borris	National Route
N76	C & D	Kilkenny County Bounds at Poulacapple to South Lodge to Kilheffernan Roundabout, Clonmel	National Route
R445	A	(Old N7) From Annaholty on Limerick County Bounds via Birdhill, to J26 M7 at Tullaheady, Nenagh	Motorway Diversion Route, Bus Route, Retail/Commercial Access,
R445	A	(Old N7) From Junction N52 at Tullaheady Nenagh Town, & Toomevara, to Ollatrim (Old N7) on Offaly County Bounds	Motorway Diversion Route, Bus Route, Retail/Commercial Access
R445	A	(Old N7) From Offaly County Bounds at Moneygall to Busherstown on Offaly County Bounds	Motorway Diversion Route, Bus Route, Retail/Commercial Access
R445	B	(Old N7) Ballynakill/Inane on Offaly County Bounds via Roscrea Town, to Offaly County Bounds at Mount Butler	Motorway Diversion Route, Bus Route, Retail/Commercial
R498	A	From Kenyon Street, Nenagh via Borrisoleigh, & the Ragg to Parnell Street Thurles	AADT 7027, School Access Retail/Commercial
R639	E	R639 (old N8) from Limerick County Bounds at Brackbawn Bridge, at Kilbehenny to N24 at Tipperary Road Roundabout, Cahir	Motorway Diversion Route, Bus Route, AADT 4382, Fire, Ambulance & Bus Route
R639	E	R639 (old N8) from N24 at Cloughabreeda, Cahir to J9 on M8 at	Motorway Diversion Route, Bus Route,

Road No.	District	Description	Comment
		Cashel	AADT 4382, Fire, Ambulance & Bus Route
R639	B & E	R639 (old N8) from N74 at Spafield, Cashel via Main Street Cashel, Horse & Jockey, Littleton to Kilkenny County Bounds at Fennor, Urlingford	Motorway Diversion Route, Bus Route, AADT 4382, Fire, Ambulance & Bus Route
R640	D	From N24 at Tipperary Road Roundabout Cahir, via the Square, Cahir to N24 at Knockagh	Bus Route
R664	E	From N24 at Main St., Tipperary via Station Road to Entrance to Tipperary Golf Club	AADT 2520, Bus Route and access to Railway Station
R668	E	From R640 at Cahir Bridge via Cahir Fire Station to Kilcommon Cross and link road to R903 at Lissava	AADT 3108, access to Fire Station and Food processing plants
R670	E	From N24 at Kedrah to the R640 at the Square, Cahir	AADT 3484, School & bus route
R687	D	From N24 at Rathkeevan Cross, Clonmel to R639 at New Inn	AADT 2794, Ambulance
R689	D	From Fethard Rd., Roundabout on the N24 at Inner Relief Road, Clonmel to the R707 Queen Street Junction, Clonmel	Access to Railway station, Bus Depot and Bus Route
R707	D	From N24 Cahir Road Roundabout Clonmel, via Western Road, Queen St., Dillon St., Davis Road to Moangarriff Roundabout on N24 Clonmel Inner Relief Road	Hospital Access & Bus Route
R903	E	From R640 at Cahir Bridge to R639 at Lissava, Cahir	AADT 2782, Access to Fire Station and Bus Route
R906	E	R664 at Station Road, Tipperary to N24 Bansha Road, Tipperary	Bus Route, access to Schools and Factory
L1222	A	Nenagh Railway Station via Martyrs Rd, to R445 Dublin Rd	Access to Railway Station
L3005	B	Golf Course to Railway road, Templemore	Access to Garda College and Railway Station
L3009	B	Main Street to Templemore Railway Station	Access to Railway Station
L3604	D	Heywood Road, Clonmel, from Western Road to N24 Clonmel Inner Relief Road	Access to Fire Stations
L1501	E	Junction R692 at Feehans Rd, Cashel, to R639 at Boherclough, Cashel	Ambulance Route
L3603	D	From R689 at Railway Station Clonmel, via Thomas Street to R707 at the Crescent	Access to Railway Station, Bus Depot and Bus Route
L81061	E	From N24 to Limerick Junction Railway Station	Access to Railway Station
L4411	E	From N24 to Tipperary Fire Station	Access to Fire Station

PRIORITY 2 ROUTES

Priority	Road No.	District	Description	Comment
R421	B		From R445 at Parkmore Roundabout Via Main Street, Railway Rd. to Offaly County Bounds	Route, Retail/Commercial, School Access. Access to Railway Station
R433	B		From N62 at Templemore via Clonmore to Laois Co. Bounds	AADT 1116
R438	A		From N62 Borrisokane to Anglers' Rest (Athlone Road) on Offaly County Bounds	AADT 2110
R466	A		From R445 at Birdhill to Limerick County Bounds at O'Briensbridge	AADT 2110
R489	A		From N65 at the Ferry, Portumna Bridge via the Pike to N62 at Riverstown, Birr	AADT 3016, School Access
R490	A		From R491 at Cloughjordan to N52 at Borrisokane	AADT 1016, School Access
R490	A		From R491 at Cloughjordan to R445 at Moneygall	AADT 1016, access to Railway & Motorway
R491	A		From R445 at Lisbunney, Nenagh to R490 at Cloughjordan	AADT 1107, School Access
R493	A		From N52 via Puckane, Ballinderry, Terryglass, to N52 at Carrigahorig	AADT 948, School Access
R494	A		From N52 Nenagh via Newtown, Ballina & Birdhill to J27 on M7 at Birdhill	AADT 4300, School Access, Steep Inclines
R495	A		From N52 at Nenagh via Ballycommon to Dromineer	AADT 2026, School Access
R496	A		From R445 at Boher to R494 at Ballina	Retail/Commercial Access
R497	E		R497 Murgasty junction to N24 at Main Street Tipperary	AADT 1495, School Access
R497	A		From N52 Nenagh via Dolla to Inch Cross on R503 (Thurles Limerick Road)	Retail/Commercial Access, Steep inclines
R497	E		From Junction R503 at Milestone via Hollyford to Junction R505 at Ironmills Cross	Retail/Commercial Access Steep inclines
R499	A		From R445 at Toomevara via Dolla & Silvermines, to Roundhill (R445)	Retail/Commercial Access
R501	A, & B		From R498 at Main Street Borrisoleigh to N62 at Templemore	AADT 3516
R503	A & B		From Junction R498 at Killinan Thurles via Ballycahill, Upperchurch, Rearcross, Newport to Limerick County Bounds	AADT 4516, School Access
R504	A		From R503 at Shower, Newport to R445 at Birdhill	AADT 1536, School Access, Steep Inclines
R505	E		From R639 at Main Street, Cashel, via Dundrum, Annacarty & Cappawhite to County Bounds at Cahernahalla Bridge	AADT 3289
R515	E		From N24 Main Street Tipperary via Lattin, & Emly to Junction R516 at Bartoose Cross	AADT 2708
R659	B		N65 at the Square, Thurles to R660 at Holycross Bridge (Sugar Factory Road)	Retail/Commercial Access, School Access
R660	B		From N62 at Friar Street, Thurles to Holycross Bridge	AADT 2107
R660	E		Holycross Bridge to Junction R639 at Ladyswell St., Cashel	AADT2107
R661	E		From N74 at The Pike Tipperary via	AADT 2635

		Dundrum & Rathcannon to R660 at Holycross Village	
R662	E	From R515 at O'Brien Street, Tipperary, via Kilross to Ballywire Cross	AADT 1730
R665	D & E	Clonmel Borough Boundary at Dungarvan Road Roundabout via Knocklofty, Ardfinnan, Clogheen, Ballyporeen to Cork County Bounds at Curraghmore	AADT 3018
R668	E	Kilcommon Cross, Cahir, via Clogheen to The Vee carpark	ADDT 1485, School Access, Steep inclines
R670	E	From R640 at The Square, Cahir, to R665 at Ardfinnan	AADT 1931
R671	D	Dungarvan Rd. Roundabout to R688 at Western Road Clonmel	Commercial/Retail, School Access
R676	C	From N24 via New St., & Dillion Bridge to Coolnamuck Roundabout, Carrick-on-Suir. & Dillon Bridge via Main Street, Greystone St. to N24	Commercial/Retail Access School Access
R678	D	Jackson's Cross via Irishtown, O'Connell Street, Emmet Street, Parnell Street, Anglesea Street via the Quays to Irishtown, Clonmel	Commercial/Retail Access School Access
R680	D	From R707 at the Mall Clonmel via the Loretto Roundabout at Gas House Bridge, Old Bridge to R671 at Dungarvan Rd. Roundabout, Clonmel	Commercial/Retail Access School Access
R688	D	From J8 on M8 Cashel via Rosegreen, Clerihan to N24, at Clonmel Inner Relief Rd.	AADT 5674
R689	C & D	Fethard Road Roundabout on Clonmel Inner Relief Road via Lisronagh, Fethard, Killenaule, Ballynunty, Glengoole, Gortnahoo to Kilkenny Co. Bounds at Urard	AADT 3805
R690	C	From N76 at Ninemilehouse via Mullinahone to Killaghy	School Access
R691	C	Friar Street Cashel via Dualla, Ballinure, Laffansbridge to Knockavardagh Cross, Killenaule	AADT 1658, Steep inclines
R691	C	Main Street Killenaule, via Ballingarry to Kilkenny County Bounds at Harley Park	AADT 1658, Steep Inclines
R692	C & E	From R639 at Main Street, Cashel via J8 on M8 at Cashel to Main Street, Fethard	School Access, Steep inclines
R692	C	Main Street, Fethard to Junction with R690 at Mullinahone	Commercial/Retail, School Access
R696	C	From N24 at O'Mahony Ave, Carrick-on-Suir to Junction of N76 at South Lodge, Grangemockler	AADT 2917
R697	C	From N24 at Carrick-on-Suir to Cregg Bridge (Salted by Kilkenny Co. Co. on our behalf)	AADT 2030
R706	C & D	From N24 at Kilsheelan via Ormond Stores, Kiltinan to R 689 at Fethard	AADT 1500 Commercial/Retail, School Access
R932	E	From N74 at Hoare Abbey to Main Street, Cashel	AADT 2011 & School Access
L3620	D	R884 at Abbey Rd., via Marlfield to Junction R665 at Knocklofty	Commercial/Retail Access

L3505	E	Goatenbridge Road, Ardfinnan, to speed limits	Steep incline, approach to regional road R665
L4305	E	speed limits at Golden to N74	AADT 1996, steep incline, approach to N74
L5416	E	L5416 from the N-S-O at the Green, Cashel to Cashel National School	Schools Access
L1500	E	Circular Rd., Linking the R505 & R660 at The Rock of Cashel	Commercial/Retail Access
L3175	E	Link Rd Cahir, from N24 to R670	Schools Access
L1406	C	From R639 to entrance to Acorn Lodge Nursing Home	Motorway Bridge
L1501	E	From R692 to R639 at the Green Cashel	Hospital, & School access
L1301	E	From N74 at Golden to Ballygriffen Bridge	Access to Water Treatment
L4407	E	Connolly Park	Schools, Commercial/ Retail Access
L4406	E	Carronreddy	Schools, Commercial/ Retail Access
L8408	E	O'Connell Road	Commercial/ Retail Access
L3202	D	Red city to Darcy's Cross	Commercial/ Retail Access
L4156	B	Ballymoreen to Pouldine	Commercial/ Retail Access
L4252	B	Turnpike to N75	Access to Motorway

APPENDIX IV: Route Cards and Maps

ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - NT 2			
Rd No.	Description	Drive KM	Salt KM
N52	Salt Barn to Junction R445 at Ryan's Garage	1.50	
R445	Junction N52 via Streame Roundabout to Cudville Roundabout		2.30
R445	Cudville Road Via Ashe Road, Kickham Street to Pearse Street Junction		0.65
R497	Junction R445 at Pearse Street Via Dolla to R503 at Inch Cross		24.60
R503	Junction R497 at Inch Cross to Junction R497 at Milestone		1.60
R497	Junction R503 at Milestone Via Hollyford to Junction R505 at Ironmills		16.00
R497	Return to R503 at Milestone	16.00	
R503	Junction R497 at Milestone to junction at Barna for Upperchurch		7.70
L4137	R503 to Upperchurch Village to speed limits		1.10
	Return to R503	1.10	
R503	Return to Junction R497 at Inch Cross	9.30	
R503	Junction R497 to Kilcommon Cross		1.40
L2266	From R503 at Kilcommon X via Kilcommon to R497 at Reaska Creamery		4.70
R497/ 503	Reaska Creamery to Kilcommon Cross	2.30	
R503	From Kilcommon Cross to Rearcross		8.50
L2115	L2100 to Speed Limits		0.50
	Turn and return to Rearcross	0.50	
L2114	Toor Road to Speed Limits		0.50
	Turn and return to Rearcross	0.50	
R503	Rearcross to Junction Ballinahinch Rd at Newport		13.20
L2166	Black Rd/Ballinahinch Rd to Speed Limits		1.50
	Ballinahinch Rd to Shalee Rd	1.20	

L2110	Shalee Rd to Main street		1.70
L2100	Murroe Rd to Speed Limits		1.00
	Turn and return to Newport	1.00	
R503	Newport to Junction with R504 for Birdhill		1.40
R503	Junction R504 to Limerick Co. Bounds		3.20
R504	Turn and return to Shower Cross	5.20	
R503	Shower Cross to R445 at Birdhill	7.30	
R445	Return to Machinery Yard	20.90	
	DISTANCE	66.80	91.55
	Total	158.35	
	Route Efficiency	58%	

Base Nenagh Machinery Yard
Truck 172 -T-434 (6.0 cu. M. 7.8 Tonne)


LOUGH DERG
LEGEND
LIVE ROUTE
DEAD ROUTE
Comhairle Contae Thiobraid Árann
Tipperary County Council
ROUTE: NT2
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ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - NT 3			
Rd No.	Description	Drive KM	Salt KM
N52/ R445	Salt Barn to Junction R494 at Cudville Street	3.70	
R445	Cudville via Mitchel Street to Pearse Street		0.50
R498	Junction with Pearse Street via Kenyon Street, Stafford Street to R497		0.75
	Stafford Street Turn & Return to R498	0.70	
R498	Junction Stafford Street via Kilkeary to Ballinamona Cross		8.40
R499	Ballinamona Cross to Toomevarra	4.20	
R445	Junction R499 at Toomevarra to Junction R497 at Summerhill		11.20
R497	Junction Pearse Street to Junction old Birr Rd		0.75
L1115	Old Birr Rd to Speed Limit		0.70
	Return to R497	0.70	
R497	From Junction Old Birr Rd to N52 Roundabout		1.10
R497	Return to Junction with Pearse Street	1.85	
R445	Summerhill Junction to Mitchel Street		0.15
R445	Pearse Street to Junction Conlans Rd	0.50	
R494	From Conlans Rd Via N52 Roundabout, Portroe to Ballina		22.80
L2128	Boher rd to Speed Limits		1.50
	Turn and Return	1.50	
L2130	Grange Rd to Speed Limits		1.50
	Turn and Return	1.50	
R494	Ballina via Birdhill Roundabout to M7 Roundabout		6.40
	Turn and Return to Junction R445 at Birdhill Roundabout	2.20	
R445	from Junction R494 at Birdhill roundabout via Birdhill to Limerick Co. Bounds at Gooig		5.20
R445	Turn at return to junction R466 at Birdhill	4.50	
R466	from Junction R445 at Birdhill to Limerick Co. Bounds on O'Briensbridge Rd		3.00
R466	Turn at return to junction R445 at Birdhill	6.00	
R504	R445 at Birdhill to Junction R503 at Shower Cross Newport		7.30
R445	return to junction R445 at Birdhill	7.30	

R445	return to junction R494 at Birdhill Roundabout	0.70	
R445	Junction R494 at Birdhill Roundabout to Junction R496 at Four Roads		4.00
R496	From Junction R445 at Four Rds. to Junction R494 at Ballina		4.00
R445	return to junction R445 at Four Rds.	0.70	
R445	Junction R496 to Junction M7 at Tullaheedy		10.40
N52	Tullaheedy to junction R445	2.50	
R445	Junction N52 To Nenagh Machinery Yard		1.60
	DISTANCE	38.55	91.25

Total	129.8	
Route Efficiency	70%	

Base Nenagh Machinery Yard

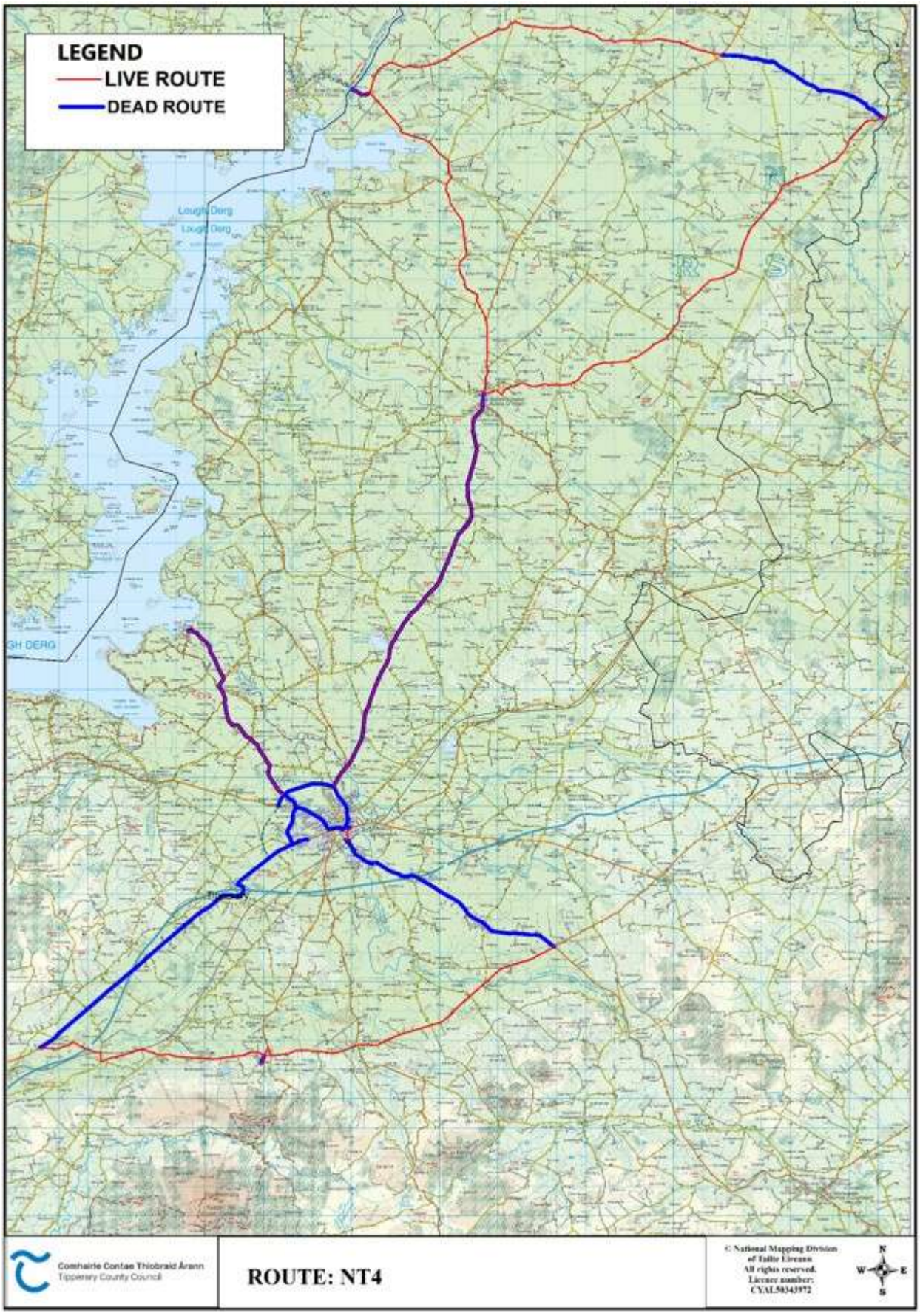
Truck 172 T 437 (6.0 cu. M. 7.8 Tonne)

ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - NT 4 -

Rd No.	Description	Drive KM	Salt KM
R445	Nenagh Salt Barn Via R445, to the Junction of R499 at Clarkes Cross	9.20	
R499	Junction R445 at Clarkes Cross to Silvermines		8.20
L2150	Main Street Silvermines		0.40
	return to R499	0.20	
L2116	County Road North of R499		0.65
	return to R499	0.65	
R499	Silvermines Via Dolla, Ballinamona Cross on R498		11.00
R498	Ballinamona Cross to Nenagh Railway station	8.40	
L1222	Railway Station via Martyrs Rd, to R445 Dublin Rd		0.55
R445	Link road via Pearse Street, Ashe Street, Conlan's Rd and R495 to Junction N52	2.90	
N52	Junction R495 Borrisokane Rd roundabout to Junction N65 at Borrisokane		18.70
N65	Borrisokane via carrigahorig To Bridge at Portumna		13.10
N65	Return to Junction with R489 at Portland	0.80	
R489	Junction N65 at Portland to Junction R438		13.30
R489	Junction R438 to Junction N52	6.10	
N52	From R489 at Riverstown via Ballingarry to Junction N65 at Borrisokane		17.90
N52	Return to Junction R 495 at Dromineer Roundabout	16.70	
R495	Junction N52 at Dromineer Rd roundabout To Dromineer		7.10
R495	Return to Dromineer Rd Roundabout	7.10	
R495/ 445	Return to Nenagh Machinery Yard	2.60	
	DISTANCE	54.65	90.90

Total	145.55	
Route Efficiency	62%	

Base Nenagh Machinery Yard
Truck 161-T-3016 (9.0 cu. M. 11.7 Tonne)


LEGEND
LIVE ROUTE
DEAD ROUTE
Lough Derg
Lough Derg
GH DERG
Comhairle Contae Thiobraid Árann
Tipperary County Council
ROUTE: NT4
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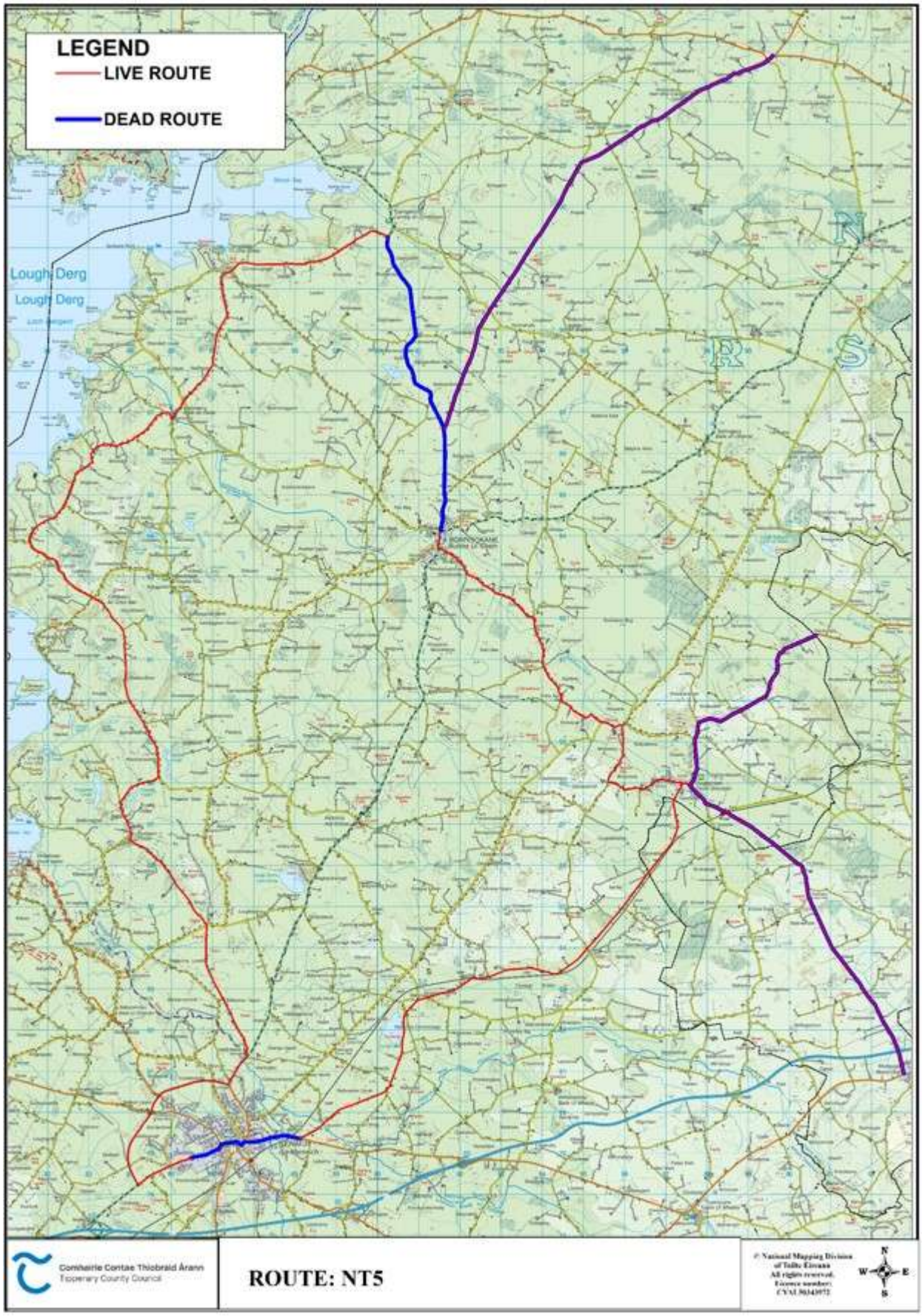
ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - NT 5 -			
Rd No.	Description	Drive KM	Salt KM
N52	Nenagh Salt Barn to Junction R493		6.80
R493	R493 From the Junction with N52 via Puckane, Ballinderry, Terryglass to Junction at N65 at Carrigahorig		29.10
N65	Carrigahorig to Junction R438 North of Borrisokane	5.20	
R438	Junction N65 to Junction R489		12.70
R438/ N65	Turn and return to Junction R490 at Borrisokane	15.50	
R490	Borrisokane to junction R491 At Main Street, Cloughjordan		6.40
R490	Junction R491 at Cloghjordan to Offaly Co Bounds south of Cloughjordan		2.60
R490	Offaly County Bounds to Junction with L south of Co. Bounds (all in Offaly)		0.80
R490	Junction south of Cloughjordan Railway Station (all in Offaly) Junction with R445 at Moneygall		5.8
R490	Turn and return to Junction R491 in at main street, Cloughjordan	9.20	
R491	Junction R490 at Cloghjordan to Co Bounds with Offaly North of Cloughjordan		5.50
R490	Turn and return to Junction R491 in Cloughjordan	7.90	
R491	Junction R490 at Main street Cloughjordan to Junction at R445 at Lisbunny (incl Km in Offaly)		14.10
R445	Junction R491 via Main street to Machinery Yard at Limerick Rd.	3.00	
	DISTANCE	40.80	83.80
	Total	124.6	
	Route Efficiency	67%	

Base Nenagh Machinery Yard
Truck 11-TN-1867 (6.0 cu. M. 7.8 Tonne)


LEGEND
LIVE ROUTE
DEAD ROUTE
Lough Derg
Lough Derg
Comhairle Contae Thiobraid Árann
Tipperary County Council
ROUTE: NT5

ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - NT 6 -			
Rd No.	Description	Drive KM	Salt KM
N62	Roscrea Depot to Junction R501 at Templemore		21.1
N62	Junction R501 to Golf Course Junction	0.4	
L3005	Golf Course Junction, via Church Avenue to Junction Railway Road		1.1
L3009	Railway Road to Railway Station		1.3
	Return to Church Ave	1.3	
L3007	Church Avenue to Church to R443		0.5
R433	Junction N62 at Templemore, to Laois County Bounds		10.0
R433	Turn & Return to Junction R502	10.0	
R502	Junction R433 at Templemore, to Templetuohy		6.9
R502	Turn & Return to Junction N62	10.0	
N62	Junction R433 to Bank Street	0.3	
L3009	Bank Street to Church Ave		0.4
L3009	Church Ave to The Mall	0.4	
L3013	The Mall, to Main street		0.3
L3320	Killea Rd to speed limits		1.0
L3066	Manna Street Turn and return to Templemore	1.0	
N62	Manna Street to R501	0.4	
R501	N62 at Templemore to R498 Borrisoleigh	9.0	
L3602	Main Street to School		0.6
L3602	Return to Junction R501 at Borrisoleigh	0.7	
R498	Junction R501 at Borrisoleigh To Junction L4143 at Currabaha Cross		6.5
R498	L4143 at Currabaha Cross to R499 at Ballinamona Cross		8.0
R499	R498 at Ballinamona Cross to R445 at Toomevarra		4.2

R445	Junction R499 at Toomevarra to the Tipperary Offaly co Bounds South of Moneygall		4.2
R445	Tipperary Offaly co Bounds South of Moneygall to Junction R490 at Main Street Moneygall (all in Offaly)		2.6
R445	Junction of R490 in Moneygall (including 7.8 Km in Offaly) to Templemore Rd. Roundabout on the N62 in Roscrea		13.9
R445	R445 from Templemore Road Roundabout to Laois Co Bounds (Including 1.0Km in between the Offaly Co Bounds at Mount Butler and the Laois Co Bounds)		5.1
R445	Turn & Return Junction R421 at Parkmore	6.5	
R421	Limerick Rd to Junction R491		0.6
R421	From R491 to Co Bounds at Dungar including Branch to Railway Station		4.1
R421	R421 Turn and return to N62	3.1	
N62	Junction R421 to Junction Old Dublin Road	0.3	
N62	Old Dublin Road to Roundabout on R445		1.2
R445	Turn & Return to Junction Colville Road	0.8	
L3115	Coleville Rd via Colaiste Pobail & Scoil Cronain, Rosemount street, Castle Street to R421		3.6
N62	Return to Roscrea Salt Depot	0.7	
	DISTANCE	44.86	97.20
	Total	142.06	
	Route Efficiency	68%	

Base: Roscrea Salt Depot
Truck 06 -TN -3305 (9.0 cu. M. /11.7 Tonne)

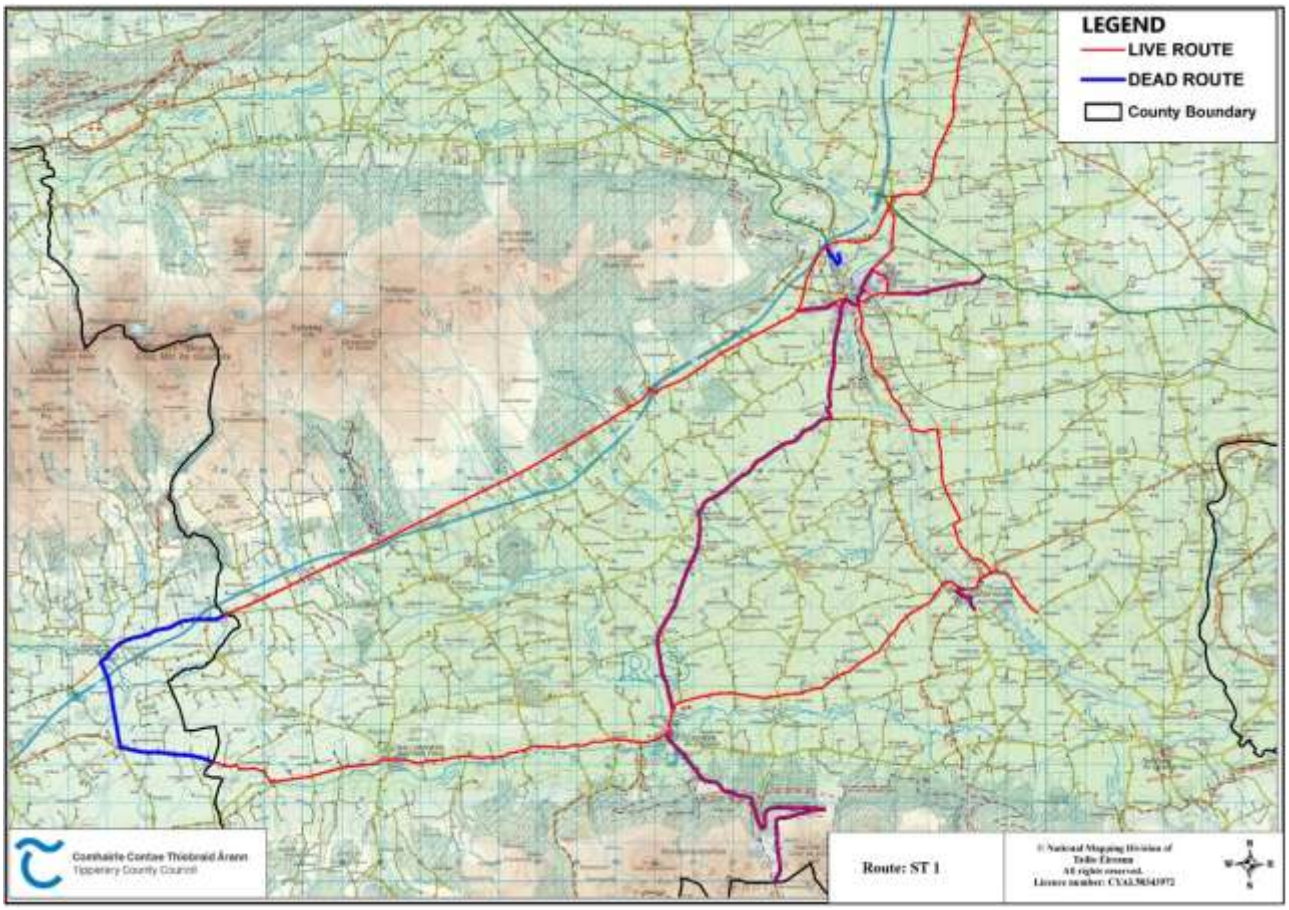

LEGEND
LIVE ROUTE
DEAD ROUTE
ROUTE: NT 6

ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - ST 1			
Rd No.	**Description**	**Drive KM**	**Salt KM**
R640	Cahir Salt Barn to Tipperary Road Roundabout	0.85	
N24	Tipperary Rd Roundabout to Cloughabreeda Roundabout at Kedrah Stud		2.57
R639	Cloughabreeda Roundabout at Kedrah Stud to New Inn		5.6
R639	Return to Junction R640 at Kedrah	5.8	
R670	From the N24 at Kedrah to the Square Cahir		3.3
R640	The Square Cahir to Knockagh Roundabout on the N24		3.3
R640	Knockagh Roundabout to the Junction L3175 with R640 at Butler Court	2.5	
L3175	From R640 at Butler Court via Cahir Community school to R670 at Barnora		0.85
R670	Link Rd to the Square Cahir	1	
R640	The Square Cahir to Cahir Bridge		0.31
R668	R668 Cahir Bridge via fire station to junction with Circular Road		1.00
R668	Junction at Buttimers to Junction R665 at Parson's Green, Clogheen		12.43
R668	R668 Clogheen to Circular Road at Buttimers	12.43	
R668	R668 Circular road to R913 at FRS Lissava		0.82
R913	R913 From FRS to Junction of R639 at Lissava	1.02	
R913	R913 From R639 via Cahir Bridge		1.3
R640	Cahir Bridge to The Square	0.3	
R670	R670 The Square Cahir to R665 at Ardfinnan		8.5
R665	Junction R670 at Ardfinnan Junction L3508 for Newcastle		0.1
R640	Return to junction R670	0.1	
R665	Junction R670 to via Main Street Ardfinnan to Junction L3503 for Goatenbridge		1
L3505	Goatenbridge Road to speed limits		0.73
L3505	L3505 Goatenbridge Road return to R665	0.73	
R665	Junction L3505, Ardfinnan to Junction R668 at Main Street, Clogheen		8.97
R668	Clogheen to the Co. Bounds at "The VEE"		8.46
R668	The VEE to Clogheen Return	8.46	
R665	Main Street, Clogheen via Ballyporeen to Tipp/Cork County Bounds at Curraghmore		12.6

R665 & R639	Tipp/ Cork Co. Bounds at Curraghmore to R639 at Kilbehenny to Limerick/Tipp county bounds at Brackbawn Bridge	8.2	
R639	R639 Brackbawn Bridge to Junction 11 on M8 at Tincurry		12.57
R639	R639 at M8 at Tincurry to N24 at Tipperary Road Roundabout		5.98
R639	Return to Cahir Salt Depot	0.85	
	DISTANCE	42.23	90.39
	Total	**132.62**	
	Route Efficiency	**68%**	

BASE: Cahir Depot

TRUCK 251 T 2125 / (Pre-wet fixed 9.0 cu. M. 11.7 Tonne) (3,000 Litre Brine)

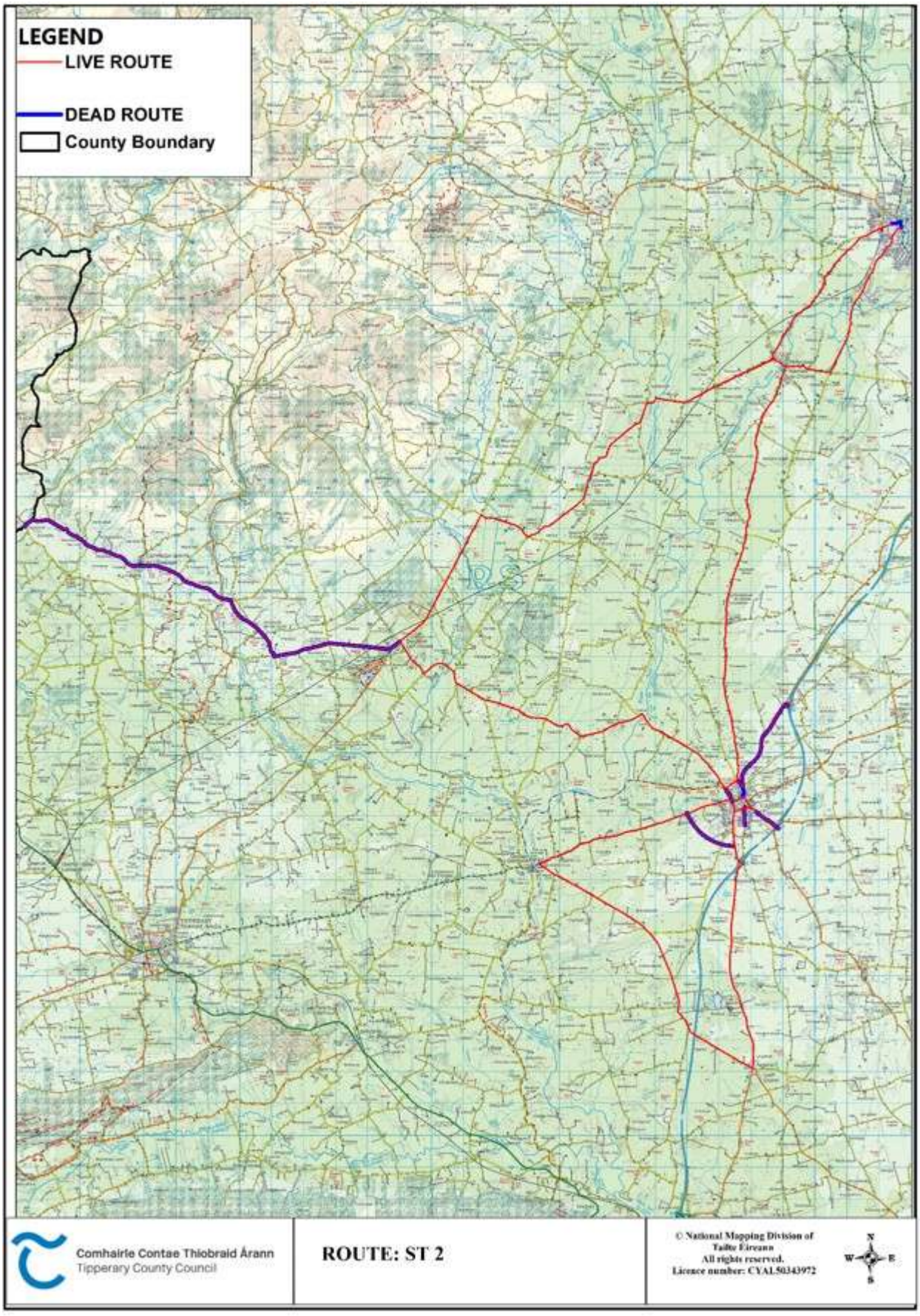


ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - ST 2			
Rd No.	**Description**	**Drive KM**	**Salt KM**
R692	Wallers Lot To M8 Roundabout		0.9
R692	Return to Wallers Lot	0.9	
R692	Wallers Lot To R639 at Main Street		0.5
R639	Junction R692 via Main Street to Lowergate Sq.		0.5
R639	Junction R505 at Lowergate, Cashel to R639 Cashel rd Roundabout		1.4
N74	Cashel Rd Roundabout at Junction R639 to Cork Road Interchange (J9) on M8		0.5
R639	Cork Rd Interchange(J9) on M8 at Owens & Biggs Lot, Cashel to Junction R687 at New Inn		6.9
L4305	R639 at New Inn to N74 at Golden		9.8
N74	Junction L4305 @ Golden to Junction R932 Tipp Rd Roundabout		5.0
N74	Tipperary Roundabout, to R639 at Cashel Rd Roundabout to M8		1.9
N74	Return to Junction R932 at Tipperary Rd Roundabout	1.9	
R932	N74 Roundabout at Hoare Abbey to R505 at Lowergate Cashel		1.7
R505	Lowergate Cashel to Camus Bridge		3.8
R505	Camus Bridge to junction L1293 at Knockavilla		5.8
R505	Junction L1293 at Knockavilla to Jct R661 at Dundrum		3.8
R661	from Junction R505 at Quirke's Cross Dundrum to Junction R505 at Golden Vale		0.4
R505	R661 at Golden Vale, Dundrum to Limerick Co. Bounds at Cahernahalla Bridge		13.2
R505	Return to Quirkes Cross Dundrum	13.6	
R661	Junction R505 Quirkes Cross, Dundrum Cross to Junction R659 at Holycross Bridge		17.0
R659	From Skehans Corner via Cabragh to Junction L4107 at Inisfallen Ave		6.2
L4107	Kinnanes to Bowes Corner	0.4	
R660	R660 From Bowes Corner via Bohernacrusha to Holycross Bridge		6.2
R660	R660 From Holycross Bridge to Junction L1500 Circular Rd. at The Rock Cashel		13.8
R660	from Junction Circular Rd L1500 to Junction R639 at Ladyswell St. Cashel		0.4
R639	R639 From Ladyswell street Via Main Street to Junction R505 at Lowergate Cashel		1.0

R505	From Lowergate to L1500, Circular Road	0.45	
L1500	From R505 via Circular Road to R660 at the Kiln		0.8
R660	The Kiln Hill from Circular Road to Ladyswell street	0.35	
R639	From R660 at Ladyswell St Cashel to J7 at M8 at Gortmakellis		3.6
R639	Return to junction L1501 at Friar Street	3.9	
L1501	Feehans Rd to Junction L5416 at the green		0.3
L5416	L-5416 From the Green Cashel to Cashel NS		0.6
L5416	Cashel NS to the Green	0.62	
L1501	Junction L5416 at the green to R639 at Boherclough		0.3
R639	Return to Wallers Lot Salt Barn	1.5	
	DISTANCE	23.62	106.2
	Total	**129.86**	
	Route Efficiency	**82%**	

Base Wallers Lot, Salt Barn, Cashel

TRUCK 141 T 647/SG7 / (Pre-wet demountable 9.0 cu. M. 11.7 Tonne)
(3,000 Litre Brine)


LEGEND
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DEAD ROUTE
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Tipperary County Council
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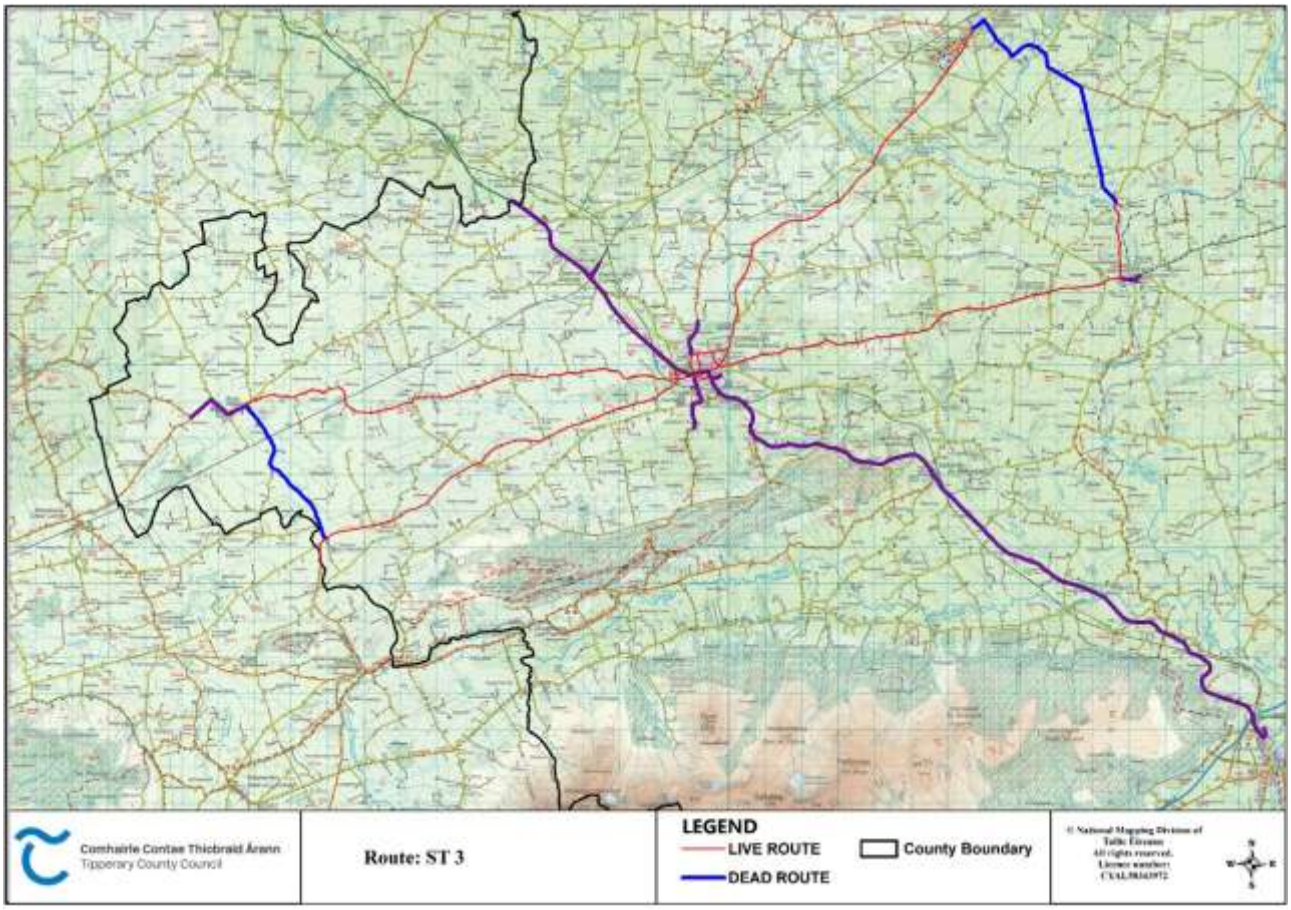
ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - ST 3			
Rd No.	**Description**	**Drive KM**	**Salt KM**
N24	Cahir Salt Barn to Bansha (junction L4306)		13.12
N24	N24 Junction L4306 at Bansha to Kavanaghs Cross		1.62
N24	N24 Kavanaghs Cross to Tipperary Speed limits		6.31
N24	Speed Limits S of Tipperary to Dunnes Stores R'bout to Limerick Junction		6.31
L81061	N24 to Limerick Junction Railway station		0.4
L81061	Return Limerick Junction Railway station to N24	0.4	
N24	Limerick Junction via Monard, Oola, to Russellstown (Limerick Co Bounds)		3.00
N24	Return to Junction N74 at Bank Place Tipperary	8.1	
N74	From N24 Cahir Road to Junction sweep Rd west of Kilfeacle Hill		5.95
N74	Sweep Rd Junction west of Kilfeacle Hill to east of Kilfeacle Hill		0.93
N74	From east of Kilfeacle Hill to Thomastown Cross		2.85
N74	N74 From Thomastown Cross to Junction L3405 at Golden		2.8
L4305	L4305 from speed limits Golden to Cornerstone on N74		0.42
N74	Main Street Golden to L 1301 at Castlepark cross Golden	0.6	
L1301	N74 From Golden to Ballygriffen Bridge		2.2
R505	Ballygriffen Bridge to Golden Vale Dundrum	7.2	
R661	Junction R505 at Golden Vale Dundrum to Carronreddy Roundabout Tipperary		12.1
R661	Junction with R661 at Carronreddy Roundabout to Junction R497 at Rosanna Rd		1
R497	Junction R661 at Rosanna Road, Tipperary to Speed Limits at Kingswell		0.85
R497	Turn & return to Rosanna Junction	0.85	
R497	Junction Rosanna Rd to Junction N24 at Main Street		0.55
R664	Main St. via Station Road to Golf Club Entrance		1.7
R664	Tipperary Golf Club to Abbey Street (Royal Hotel)	1.57	
R906	R906 Station Road to Bansha Road		0.46
N24	Link Road Junction to Pearse Park Junction	0.07	
L4411	Bansha Rd to Fire Station, Knockanrawley		0.3
L4411	Turn & return to N24	0.3	
N24	Junction to Pearse Park to Junction N74	0.3	

N74	From N24 Cahir Road to Junction for R661 at Connolly Park		0.3
L4407	Junction Connolly Park to Carronreddy Roundabout		0.4
R661	Carronreddy Roundabout to Connolly Park Junction	0.55	
L4406	Junction Connolly Park to Junction N74		0.4
N24	Junction Pike Corner to Junction R515 at O'Brien Street	0.9	
R515	Junction Main St Via Shronell, to Lattin		7.9
R515	Lattin via Emly to Junction R516 at Bartoose Cross		7.01
R515	Return to Emly	1.95	
L4110	Emly to Ballywire Cross	4.48	
R662	Ballywire Cross to Tipp Co-op Junction at O'Brien Street Tipperary		7.9
L8408	O'Connell road at Tipp co-op to N24 at Pearse's Garage		0.3
N24	Junction O'Connell road via main street to N74 at Cahir Road	0.9	
N24	Return to Cahir Salt Barn	20.7	
	DISTANCE	48.87	87.1
	Total	**135.95**	
	Route Efficiency	**64%**	

Base Cahir Salt Barn

TRUCK 251 T 2126 / (Pre-wet fixed 9.0 cu. M. 11.7 Tonne) (3,000 Litre Brine)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Tipperary County Council
Route: ST 3
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County Boundary

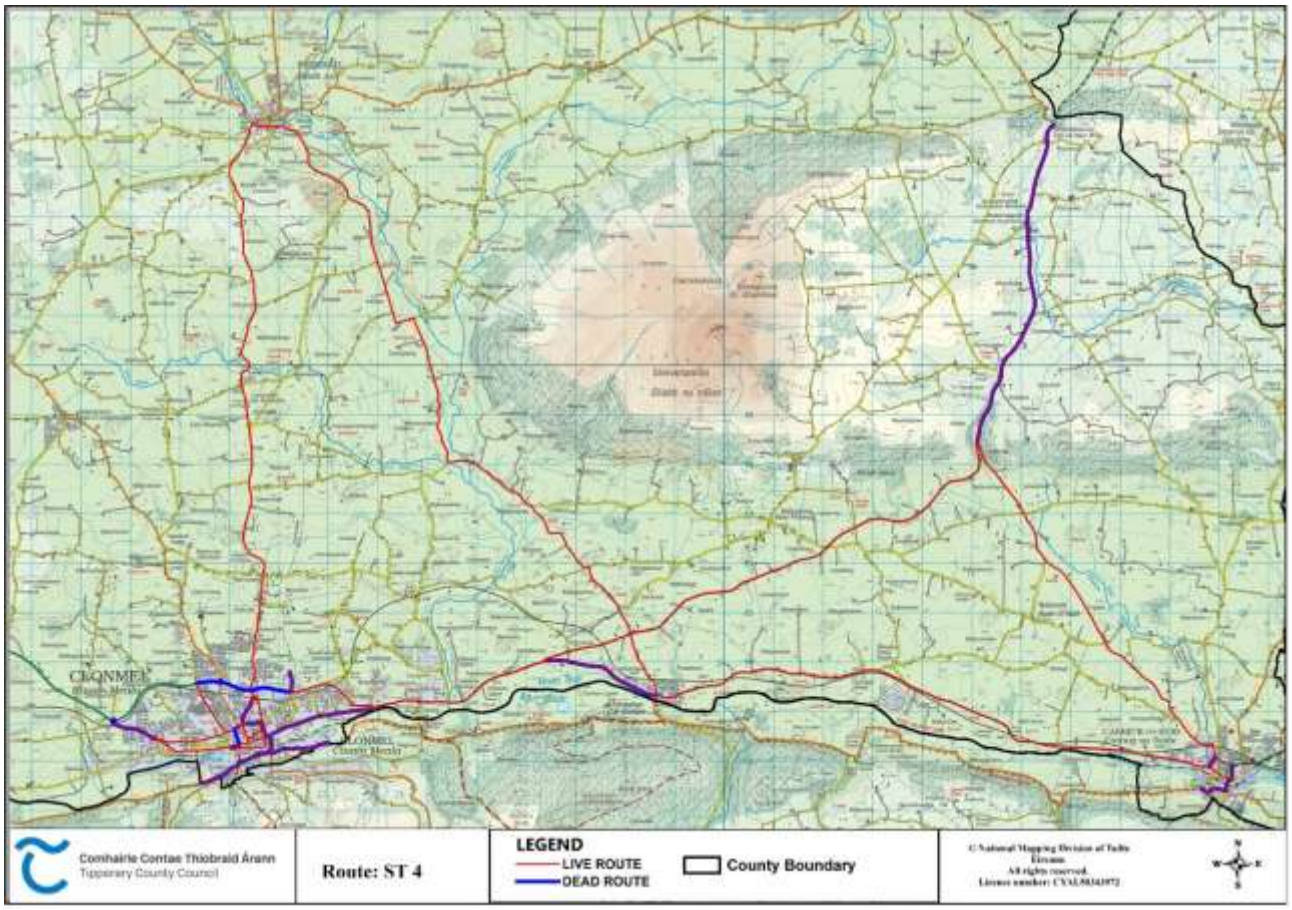
ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - ST 4			
Rd No.	**Description**	**Drive KM**	**Salt KM**
L3623	Carrigeen Depot to Carrigeen Roundabout		0.48
N24	Carrigeen Roundabout to Moangarriff Roundabout		2.00
R707	Moangarriff Roundabout via Davis Road, Dillon St, Queen St, Western Road to Cahir Rd Roundabout		5.03
R884	Cahir Rd Roundabout to Tobernaheena Roundabout	0.95	
R884	Tobernaheena Rd Roundabout via Abbey Road, Irishtown, O'Connell St, Emmett St. Parnell St, Anglesea St. and via the Quays to Irishtown		3.56
R884	Irishtown via West Gate, Bolton Street Queen Street to Heywood Rd Junction	0.75	
R688	Heywood Road, from Western Rd to the Inner Relief Rd		1.16
N24	Junction Heywood Rd to Fethard rd Roundabout	1.2	
R689	Fethard Road, via Oakville to Gladstone Street, Emmett St college St to High School on R707		1.6
L3603	Crescent Corner via Thomas Street to the Railway Station Roundabout		1.2
R689	Railway Station Roundabout to Oakville	0.75	
R707	R707 The High School via the Crescent to the Mall at Gas House	0.8	
R671	R707 at the Mall via Gas House Bridge to Loretto Roundabout		0.37
R680	Loretto Roundabout to Ronan's		1.2
R680	Return to Loreto Roundabout	1.2	
R671	Loretto Roundabout via Old Bridge to Dungarvan Rd Roundabout		1.67
R671	Return Via Old Bridge, The Mall Davis Rd to Moangarriff Roundabout	4.2	
N24	Moangarriff to Kilheffernan Roundabout		3.7
N24	Kilheffernan roundabout to Junction of R676, New Street Carrick-on-Suir		14.72
R676	R676 New St, Dillon Bridge to Coolnamuck Roundabout		2.57
R676	Turn and Return to Main Street	2.57	
R885	R885 Main St & Greystone St Carrick-on-Suir to Junction N24 at O'Mahoney Ave.		0.47
N24	O Mahoney Ave	0.2	
R696	O Mahony Ave to Junction N76 at Glenbower		8.51
N 76	Junction R696 at Lisadobber to Junction L2409 at Grangemockler		4.5
N 76	Junction L2409 at Grangemockler to R690 at Ninemilehouse		0.6
N 76	Turn and return to junction R696 at Glenbower	6.5	

N 76	Glenbower to Junction L6615 at Myladstown		1.4
N 76	L6615 at Myladstown to N24 at Kilheffernan		9.01
N24	Kilheffernan to Junction R706 at Kilsheelan	2.4	
R706	Junction N24 at Kilsheelan to via Ormond Stores & Kiltinan to Junction R692 at Ballroom Fethard		15.9
R689	Junction R690 at Ballroom Fethard Via Lisronagh, to Fethard Road R'bout on the N24		15.2
N24	Fethard Rd Roundabout to Carrigeen Depot	1.3	
	DISTANCE	22.82	94.85
	Total	**117.67**	
	Route Efficiency	**81%**	

Depot: Carrigeen Clonmel

TRUCK 132 OY 265 (Pre-wet 9.0 cu.m. 11.7 Tonne)

PREWET FIXED (3,000 Litre Brine)



ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - ST 5			
Rd No.	**Description**	**Drive KM**	**Salt KM**
L3623	Carrigeen Depot to Carrigeen Roundabout	0.48	
N24	Carrigeen Roundabout to Cahir road roundabout		4.65
N24	Cahir Rd Roundabout to Junction R687 at Rathkeevan X		3.8
N24	Rathkeevan Cross to Knockagh Roundabout		6.5
N24	Knockagh Roundabout to Cloughabreeda Roundabout	3.4	
R639	Cloughabreeda to junction R687 at New Inn	5.6	
R687	New Inn to Rathkeevan X (Incl. Marys Rd)		11
N24	Rathkeevan Cross to Cahir Rd Roundabout	3.6	
R884	Cahir Rd Roundabout to Junction L3620 at Abbey Road	1.4	
L3620	Junction R707 at Abbey Rd via Marlfield to Junction R665 at Knocklofty		5.5
R665	Junction L3620 at Knocklofty to Junction R670 at Ardfinnan		6.3
R665	Turn & return to Junction L3620 at Knocklofty	6.3	
R665	Junction L3620 at Knocklofty via the wood Rd to R671 Dungarvan Rd Roundabout		6
R671	From Dungarvan Rd R'bout to the Junction R688 at Western Road via Convent road		0.88
R688	western Road to Junction with Cashel Rd at Queen Street	1	
R688	Cashel Road, from Queen Street to N24 on the Inner Relief Road		1.1
R688	Cashel Road Roundabout to Ardgeeha Business Park		1.3
R688	From Ardgeeha via clerihan to Junction M8 at Prices Lot Cashel		20.65
R692	Junction R688 to junction R692 at M8		1
R692	Junction with M8/R688 to R689 at The Ballroom, Fethard		14.17
R689	Ballroom Junction via Main Street to Junction R692 at Lonergan's		0.4
R689	Turn and return to junction R692 at the Ballroom	1	
R689	Junction R692 to Junction L3202 at Market hill	2.5	
L3202	Red City from R692 at Market Hill to Darcy's X on R 688		6.52
R688	Darcy's Cross to Carrigeen Depot	11.41	
	DISTANCE	36.69	89.77

Total	126.46	
Route Efficiency	**71%**	

Depot: Carrigeen Clonmel

TRUCK 251 T 2439 / (Pre-wet fixed 9.0 cu. M. 11.7 Tonne) (3,000 Litre Brine)


LEGEND
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DEAD ROUTE
County Boundary
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Tipperary County Council
ROUTE: ST 5
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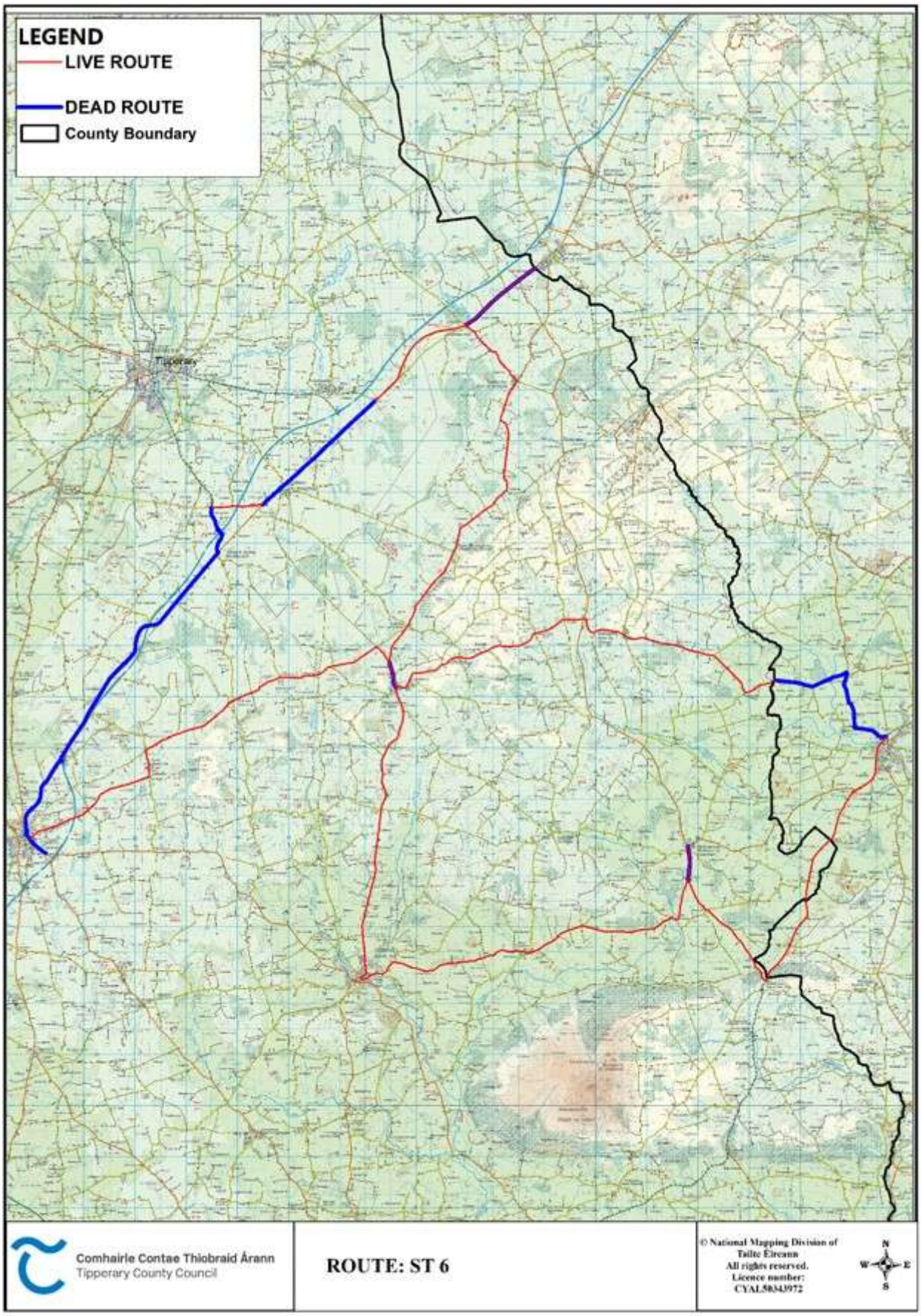
ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - ST 6			
Rd No.	**Description**	**Drive KM**	**Salt KM**
R692	Cashel Salt Depot to Junction R691 Dualla Rd. At Friar street	0.5	
R691	Dualla Rd via Dualla to Junction L1406		6.4
R691	Junction with L1406 at Dualla to Junction R691 at Knockavardagh X on R689		10.9
R689	Knockavardagh Cross, Killenaule to Junction R691 at Killenaule	1.1	
R691	Junction R689 at Killenaule via Sullivan's X to Ballingarry to KK Co Bounds at Harley park		17.2
R691	Harleypark to Junction R695 at Ballyclovan	3	
R695	Junction R691 at Clovan to N76 at Callan	3.7	
N76	R695 at Callan to Junction R692 at Ahenure		4.5
N76	Junction R692 Ahanure via Poulacapple to Junction R690 at Ninemilehouse (including 3.478 KM for KK Co. Co)		6.33
R690	Junction N76 at Ninemilehouse Via Mullinahone to Killaghy Castle		7
R690	Turn & Return to Junction R692 at Mullinoly	1.8	
R692	From Junction R690 at Mullinoly via Cloneen to R689 at Main Street Fethard		15.05
R689	Junction R692 at Fethard to Junction R691 at Knockavardagh Cross Killenaule		13.32
R689	Knockavardagh Cross, Killenaule to Junction L2201 at Ballynunty Village		1.62
R689	Junction L2201 at Ballynunty Village to Junction L2101 at Gortnahoo via Ballysloe & Glengoole		11.4
L2101	Gortnahoo to Junction R639 at Mary Willies		3
R639	Junction L2101 at Mary Willies to Kilkenny Co. Bounds at Fennor		3.4
R639	Turn & Return to Mary Willies	3.6	
R639	Mary Willies to Junction L4252 at the Turnpike		9.9
R639	The turnpike to junction L4156 at Ballymoreen Graveyard	15.2	
L4156	Ballymoreen Graveyard on N62 to Pouldine Cross		2
N62	Pouldine Cross to R639 at Horse & Jockey	2	
R639	Horse & Jockey to M8 at Gortmakellis	10.5	
R639	M8 to Wallers Lot Depot, Cashel	5.2	
	DISTANCE	46.6	112.02
	Total	**158.62**	
	Route Efficiency	**71%**	

Depot Wallers Lot, Cashel

TRUCK 132 OY 264 (Pre-wet 9.0 cu. m. 11.7 Tonne)

PREWET FIXED (3,000 Litre Brine)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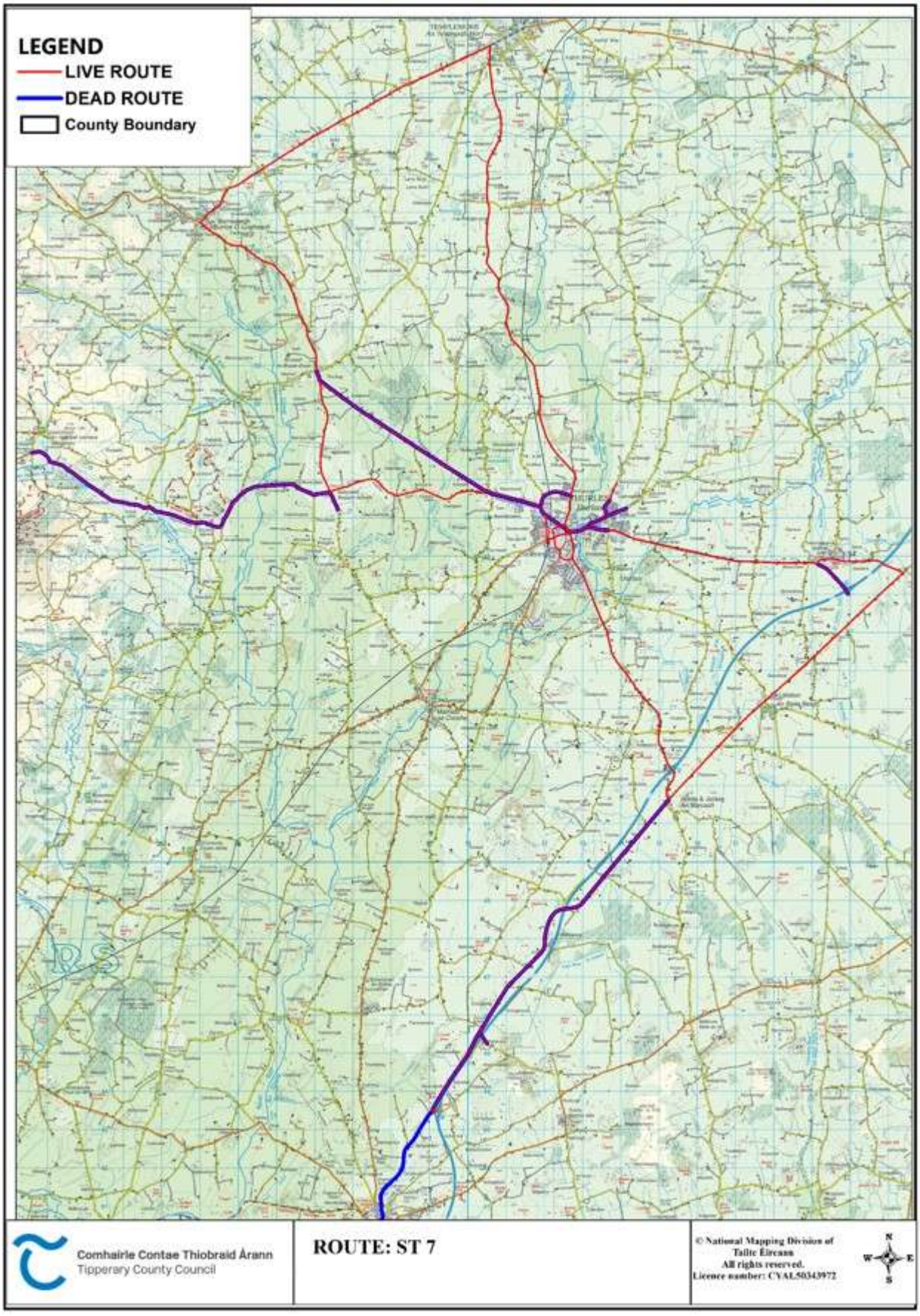
ROUTE CARD FOR PRECAUTIONARY TREATMENT ROUTE - ST 7			
Rd No.	**Description**	**Drive KM**	**Salt KM**
R692/M8	Cashel Salt barn to Junction R639 at Gortmakellis	5.2	
R639	Junction M8 to Junction L1406 at Acorn Lodge		2.4
L 1406	From Junction of R639 to access Road to acorn lodge		0.4
L1406	Turn & return to R639	0.4	
R639	Junction L1406 to Junction N62 at Horse & Jockey		8.1
R639	Horse & Jockey to Junction L4156 at Ballymoreen Cemetery		2.6
R639	Ballymoreen to junction L4252 at the Turnpike		6.1
L4252	Turnpike to Junction with N75		2.4
N75	Junction with L4252 to M8 Roundabout		1.3
N75	Turn & return to Junction L4252 for Twomileborris	1.3	
N75	Junction L4252 at Twomileborris to junction Friar Street at the Square, Thurles		6.7
N75	Junction Friar Street at the Square to Hayes Hotel, The Square		0.2
N75	Hayes Hotel to Junction Mitchel Street at the Pike	0.4	
L4008	The Pike Roundabout via Michel Street to Junction with Bohernamanna Rd		0.6
L4009	Junction Bohernamanna Rd to the Speed Limits at Thurles RFC		0.65
L4009	Return to Junction with Bohernamanna Road	0.65	
L4120	Bohernamanna Rd to Speed limits		1
L4120	Return to Junction Mitchel Street	1.8	
L4002	Junction Mitchel Street to Junction with Mill Rd on N75		0.35
N75	Junction Mill Rd to The Pike Roundabout to Junction N62 at The Square	0.6	
N62	The Square to Junction at Clongour Rd		0.8
L4107	Clongour Rd to Stradavoher, Inisfallen Ave, Castle Ave to N62 at the CBS School		1.5
N62	CBS to the Square to Junction at Friar Street		0.35
R660	The Square to Railway Bridge		0.35
L4027	Railway Bridge Via Bohernanave to Thurles Greyhound track		0.7

R498	Junction at Greyhound Track via LIT Roundabout, Jimmy Doyle rd (L4039) to the N62		1.5
N62	Jimmy Doyle Rd to the Square		2.2
R489	The Square and Parnell street To the LIT Roundabout to Junction R503 at Killinan		3.02
R489	Junction R503 at Killinan To Junction R501 at Borrisoleigh		10.8
R501	Borrisoleigh to N62 At Templemore		9
N62	Junction R501 at Templemore to Junction with Jimmy Doyle Road Thurles		12.5
L4039 & R498	Jimmy Doyle Road to LIT roundabout to Junction R503 at Killinan	2.5	
R503	Junction R498 at Killinan to Junction L4124 at Ballycahill		4.4
R503	Ballycahill to Junction with L4137 at Barna for Upperchurch		8.9
R503	Return to Ballycahill	8.9	
L4124	Holycross Rd to Speed Limits		0.8
L4124	Holycross Rd to Speed Limits	0.8	
L4124	Ballycahill to R498 at The Ragg		2.99
R498	Return to The Junction N62 at the Square, Thurles	3.3	
N62	Junction at the Square Thurles to R639 at Horse & Jockey		7.7
R660	Return to Cashel Depot	14.8	
	DISTANCE	40.65	100.31
	Total	**140.96**	
	Route Efficiency	**71%**	

Depot Wallers Lot, Cashel

Truck 172 -T-438 (Pre-wet demountable 9.0 cu. M. 11.7 Tonne)

(3,000 Litre Brine)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APPENDIX V: Salt Storage Facilities

			A	B		A + B = C
Ref*	Salt Depot	Depot Supervisor Name	Indoor Capacity (Tonnes)	Outdoor Capacity (Tonnes)	If salt is stored outdoors, is it kept covered by sheeting? (Y/N)	Depot Storage Capacity (tonnes)
TN01	Nenagh	Brendan Flannery	1500			1500
TN02	Roscrea	Kieran Stone	200			200
TS01	Cahir Depot	John O'Meara	600			600
TS02	Carrigeen Depot	Pat Kelly	600			600
TS05	Cashel area Depot	John Ryan	350			350
TS07	Hollyford Depot	Donal Kennedy		100	Y	100
TS08	Fethard Area Depot	Jim Horan		50	Y	50
TS09	Ballincurry Depot	Tom Fitzgerald		50	Y	50
TS10	Minimilehouse Depot	Stephen Smith		50	Y	50
TS11	Lakelands	Philip O'Dwyer	200			200
TS12	Kilsheelan	Pat Condon		50	Y	50
TS13	Ballagh	Jack O'Sullivan		50	Y	50
TS14	Clogheen	Christopher Ryan		50	Y	50
TS15	Carrick-on-Suir	Michael Holloway		30	Y	30
			3,450	430		3,880

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