

BALLINA FLOOD RELIEF SCHEME EIAR

Appendix 6.2: Construction Traffic Management Plan (CTMP)

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Appendix 6

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1 INTRODUCTION

1.1 Overview

This Construction Traffic Management Plan (CTMP) has been prepared for the Proposed Flood Relief Scheme (FRS) for which Mayo County Council is seeking consent in the town of Ballina (hereafter referred to as the 'Proposed Scheme'). It considers the potential impacts of construction related traffic generated as part of the Proposed Scheme and sets out the measures considered necessary to ensure that such traffic will be managed and monitored safely and efficiently throughout the construction phase. An assessment of the traffic impacts on the local network is provided in **Chapter 6: Traffic and Transportation**.

It will be the responsibility of the appointed Contractor to further update this CTMP prior to the commencement of the construction phase. The Contractor will be required to agree the contents of the CTMP with both Mayo County Council (MCC) and An Garda Síochána before the commencement of works on site. The Contractor will fully implement and maintain the CTMP throughout the construction phase.

1.2 Purpose and Scope

This CTMP seeks to demonstrate how the works can be delivered in a logical, considerate, and safe sequence with the incorporation of specific measures to mitigate and reduce possible impacts which may occur during the construction of the Proposed Scheme.

The objectives of this CTMP are to:

- Outline minimum traffic management measures to be implemented for the works.
- Demonstrate to the Contractor and suppliers the need to adhere to the relevant guidance documentation for such works.
- Provide the basis for the preparation of a final CTMP by the appointed Contractor to carry out the works.

If approval is granted for the Proposed Scheme, the CTMP will address the requirements of any relevant conditions, including any additional mitigation measures which are conditioned. The Employer's Representative will be responsible for ensuring that the Contractor manages the construction activities in accordance with the CTMP.

1.3 Implementation

Key to the implementation of the CTMP is the appointment of a suitably experienced and qualified person on-site (nominated by the Contractor) who will supervise the implementation of the plan. They will liaise with and update the supervising Employer's Representative team on the operation of the CTMP and any proposed improvements.

All site personnel will be responsible for following good practice and will be encouraged to provide feedback and suggestions for improvements. Site personnel will also be required to comply with the requirements of the Proposed Scheme's CTMP.

1.4 Document Revision(s)

The CTMP will be subject to on-going reviews, regular auditing and site inspections throughout the construction phase of the Proposed Scheme.

All the information required to further develop the CTMP will be highlighted in the specification for the construction contract. The Contractor will be required to include further details and/or confirmation, as described below. It will be a requirement of the contract, that the Contractors updated CTMP be prepared prior to commencement of construction.

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2 PROJECT DESCRIPTION

2.1 Introduction

The River Moy flows through Ballina and is the main source of flooding in the town. Ballina is located just upstream of the Moy Estuary and the reach of the Moy downstream of the Salmon Weir in Ballina is tidally influenced. There are several tributaries of the River Moy flowing within the town including the Quignamanger Stream, Bunree Stream (known locally as the Behy Road Stream), Brusna River, Tullyegan Stream and Knockanelo Stream. The current Proposed Scheme includes flood relief measures in Ballina for the River Moy and the following tributaries: Quignamanger Stream, Bunree Stream, Brusna River and the Tullyegan Stream.

The area in which the current Proposed Scheme will be located (red-line boundary area) is shown in **Figure 2-1**. This also includes the pre development 1% AEP (Annual Exceedance Probability) flood extents.

- The area of the proposed works are also shown in **Figure 2-1** and includes the area where physical works will be undertaken as part of the construction phase of the Proposed Scheme including, the location of areas required for:
- The development of flood defences i.e. flood walls, embankments including adjacent areas required for the construction of such defences.
- The upgrade of existing flood management infrastructure e.g. culverts, including areas to be disturbed during such upgrade activities.
- Compound areas to be used during the construction phase of the Proposed Scheme.
- Road lane closures required to facilitate construction works.

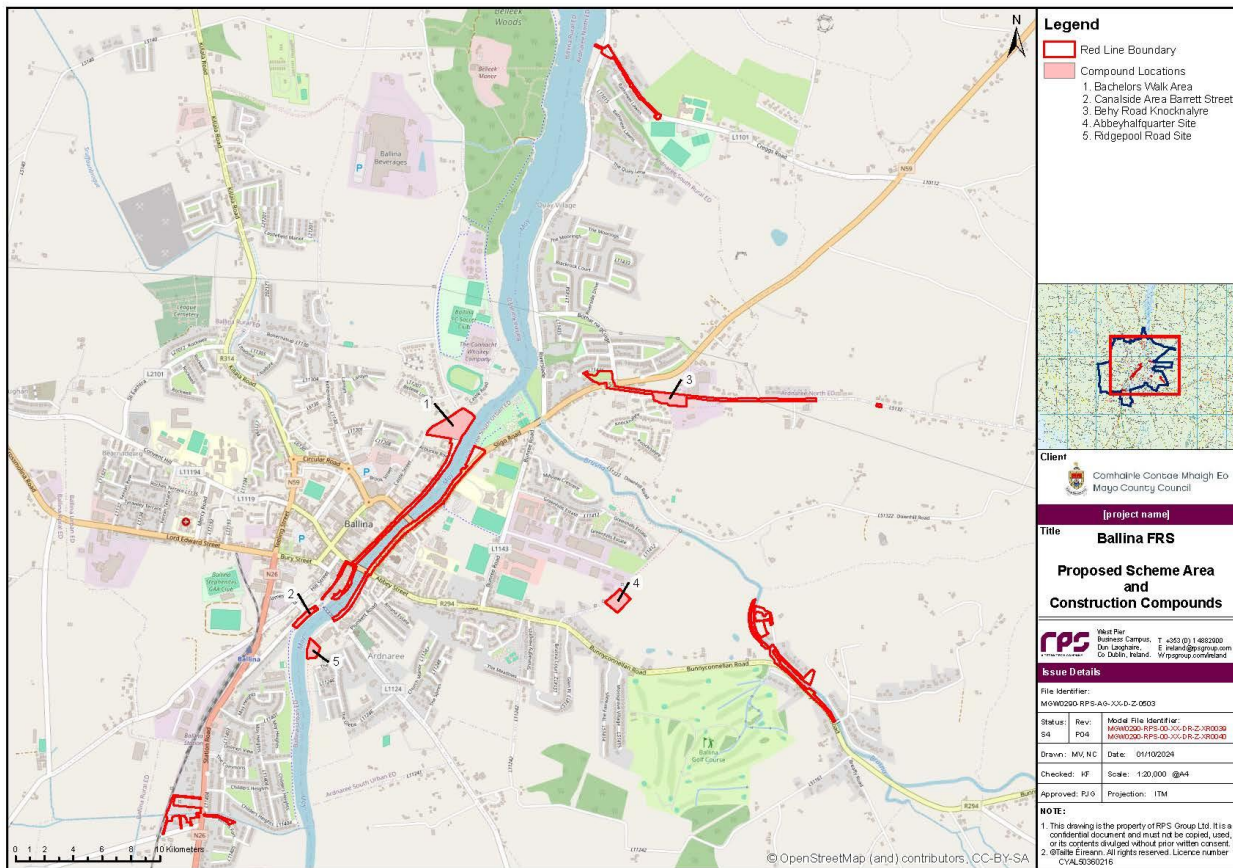


Figure 2-1: Ballina FRS Area of Proposed Works and Construction Compounds

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There are several bridges and structures to support road and rail routes across the tributaries to the River Moy. The bridges and structures relevant to the traffic management measures include:

- The Salmon Weir footbridge.
- The Upper Bridge (also known as the Ham Bridge).
- The Lower Bridge.

2.2 Overview of the Proposed Scheme

The following sections provide an overview of the works to be carried out on the River Moy and the tributaries. A summary of the Proposed Scheme is provided in **Table 2-1** with a description of the works to be carried out described in the sections that follow. Decommissioning is not envisaged for the Proposed Scheme.

Banks are referred to in terms of Left-Hand Side (LHS) or Right-Hand Side (RHS), which are the true left and true right banks facing downstream.

Table 2-1: Summary of Proposed Scheme

Watercourse	Location	Description of Works
River Moy	Pedestrian Bridge to Salmon Weir	New flood walls
	Barretts Street	Proposed storm water pumping station
	Ridgepool	New flood walls Tanking of the Weir Building Additional access to the river Repairs to quay wall as necessary Proposed storm water pumping station.
	Cathedral Road	Raised plaza to act as flood defence incorporating public realm elements.
	Emmet Street	Removal and reconstruction of existing wall using original stone. Replace existing railings with combination of new flood wall and glass wall
	Clare Street/Howley Terrace	New flood walls Accessible access at existing angling area Proposed storm water pumping station
	Bachelors Walk	New flood walls Proposed storm water pumping station
	General	Tree removal, cutting, pruning and bankside maintenance
Quignamanger Stream	Existing diversion culvert	New culvert
	Existing open reach	New flood walls Lowering of existing LBW Baffle/ stepped pool at D/S reach of drainage channel
	Outfall to River Moy	New culvert crossing of Quay Road and replacement of downstream culvert with open channel.
	General	Tree removal, cutting, pruning and bankside maintenance
Bunree Stream	Existing culverts and open reaches along Behy Road from Behy Business Park to N59	New culvert
	Existing culvert downstream of N59 I public open space	Replace existing culvert with open channel Regrade channel bank where possible to achieve a stepped/gentler slope
	Field bridge	New culvert
	General	Tree removal, cutting, pruning and bankside maintenance

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Watercourse	Location	Description of Works
Brusna River	Rathkip/ Shanaghy Area	Flood walls and embankments
	Bridge Crossing	Beam to act as flood defence
	General	Replacement of scour protection including bank retaining walls as required
Tullyegan Stream	Between N26 and railway crossing	Tree removal, cutting, pruning and bankside maintenance
	General	Flood walls and embankment
	General	Tree removal, cutting, pruning and bankside maintenance

2.3 Traffic Generated During Construction (Delivery of Materials to Site)

Table 2-2 below outlines an estimate of the number of construction-related traffic trips generated for the delivery of materials (only) to each of works area.

Table 2-2: Traffic Generated During Construction (Delivery of Materials to Site Only)

Watercourse	Estimated Number of Trips (Round Trips)
River Moy	802
Quignamanger	149
Bunree	162
Brusna	163
Tullyegan	173

2.4 Construction Programme

Construction activities are envisaged to take place during a single construction campaign lasting 36 months but could extend beyond this should unforeseen circumstances arise. All applicable constraints and mitigations will apply to any extended programme. This will be followed by a 15-month handover period. The activities planned for each of the areas within the Proposed Scheme are yet to be scheduled, but it is assumed that activities will run simultaneously within 3 to 4 different areas of the Proposed Scheme.

There will be restrictions on the construction programme to accommodate angling activities and fishing rights on the River Moy with construction activities to take place outside of angling season in some areas. There are also restrictions as a result of fish spawning season. Refer to **Figure 5-17 in Chapter 5: Project Description** for details.

The following restrictions are to be in place to accommodate fish breeding, angling and spawning seasons:

- Freshwater River Moy (Ridgepool and Salmon Weir):
 - **Year 1 (Y1)** – No instream works from January until the IFI peak angling season finishes at the end of July of Y1.
 - Instream works cannot occur until the end of Week 2 of August of Y1 in relation to sea lamprey habitat protection at specific points within the Ridgepool (Sites RP2A, RP8-RP8A, see **Appendix 9.6 of this EIAR** for locations).
 - **Year 2 (Y2)** – The access ramp / cofferdam work areas on the LHS in front of Ballina Manor Hotel / IFI Building / Otters Holt Apartments will remain in place for the remainder of Y1 and through Y2 until those works are completed. IFI have agreed that the works can continue through the angling season of Y2 so that the instream low flow period can be utilised to expedite the work schedule.
 - Instream works may continue on the Ridgepool Road side (RHS) of Ridgepool through Y2 subject to the restrictions set out in **Section 9.5.1.3 of Chapter 9 Aquatic Biodiversity** relating to sea lamprey habitat

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protection regarding the timing of placement of cofferdams that cover the reach that includes Sites RP8 to RP8A (see **Appendix 9.6 of this EIAR** for locations).

- Estuarine River Moy (main channel downstream of Upper Bridge, including Cathedral pool):
 - **Year 1 (Y1)** – No near-bankside works that could disturb the fishing amenity of Cathedral pool until at earliest **August 1st of Y1** of the work programme, i.e., no scaffolding or flood wall works along Emmet Street. This is to allow for the peak angling season to be undisturbed until the end of July.
 - **Year 2 (Y2)** – **No timing restrictions** for works in the estuarine River Moy (Cathedral Pool and downstream of Lower Bridge) as it is a transitional water and is not subject to timing restrictions for fish spawning waters.
- Quignamanger
 - No restrictions for the diversion culvert and flood walls along existing open section.
 - Instream works restricted to **May to September inclusive**.
- Bunree Stream
 - Instream works restricted to **May to September inclusive**.
- Brusna River –
 - Instream works (Bridge Upgrade) restricted to **July to September inclusive**.
 - Instream works (All works over or near water set back floodwall and embankment) restricted to **May to September inclusive**
- Tullyegan Stream
 - Instream works (floodwalls) restricted to **May to September inclusive**.

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3 CONSTRUCTION TRAFFIC MANAGEMENT PLAN

3.1 Overview

This section describes the measures that will be implemented to manage traffic on the road network during the construction of the FRS. The CTMP will be termed a 'Live Document', such that any changes to the outline construction programme or operations can be incorporated into the CTMP.

3.2 Programming

To reduce impacts on local communities and residents adjacent to the Proposed Scheme, the Contractor will be required to:

- Liaise with both Mayo County Council (MCC) to co-ordinate access and egress to the site.
- Schedule deliveries to and from the construction compounds such that traffic volumes on the surrounding road network are kept to a minimum.
- Develop a construction phase programme for the duration of the works.
- Incorporate any specific construction moratoria (for example, certain busy periods) as indicated by MCC into the construction programme.
- Interact with members of the local community to ensure that deliveries will not conflict with sensitive events such as funerals.
- Abide by restrictions associated with the angling season as outlined in **Section 2.4**.

3.3 Working Hours

As outlined in **Chapter 5: Project Description**, it is proposed that standard construction working hours will apply as follows:

- Monday to Friday: 08:00 to 19:00.
- Saturdays: 08:00 to 14:00; and no work on Sundays and Bank Holidays.

Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from the planning authority. Any works on public roads outside normal working hours will be subject to consultation with MCC and An Garda Síochána.

3.4 Proposed Construction Traffic Generation

3.4.1 Overview

As outlined in **Chapter 6: Traffic and Transportation, Section 6.9**, the potential impacts of the Proposed Scheme on the road network during the construction phases are:

- Impacts during construction due to the excavation and demolition of materials in order to facilitate construction.
- Impacts associated with the importing of construction materials, equipment, etc to the works areas, and the relevant movements of delivery and construction vehicles.
- Impacts during construction due to road closures, lane closures and diversions.
- Construction staff commuting to and from the construction site, compounds and working areas.
- General service traffic associated with construction activities (i.e. deliveries, visitors, traffic between compounds and working areas, etc.).

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3.4.2 Traffic Generation from the Proposed Scheme

As outlined in **Chapter 5: Project Description**, detailed information on anticipated traffic movements is not available. Indicative daily movements for one construction team operating on site are provided below:

- Six vehicles (cars/ light vehicles) will arrive on site in the morning (07:00 – 08:00) and depart in the evening (18:00 – 19:00).
- Up to two Heavy Vehicle (HV) will arrive and depart the site per hour throughout the typical working day (07:00 – 19:00).

The construction phase will generate an additional 24 no. HV trips per day (equating to no. 48 movements) and 6 no. additional light vehicle (LV) / car trips per day (equating to no. 12 movements) for each distinct site operating during the construction phase. This equates to a peak of 30 two-way trips, or 60 traffic movements / two-way flows per day.

The indicative daily movements of 48 movements for HV vehicles per day incorporates the following:

- Vehicle trips due to excavation and demolition of materials, importing of construction materials, construction staff commuting to and from the construction site, compounds and working areas and general service traffic associated with construction activities.
- Peaks in daily vehicle trips during construction due to construction programming.

The indicative daily movements of 12 movements for LV / cars per day includes workers arriving on site in the morning and departing in the evening.

As presented in **Table 3-1** below, the number of construction traffic trips generated for the delivery of materials (only) to each of the sites is 1 or 2 vehicle trips per day. The work areas are separate and are not expected to have a cumulative impact even if multiple work areas are being worked on simultaneously. The modelled daily traffic movements of 60 traffic movements / two-way flows per day is anticipated to be sufficient to cater for all traffic movements to each operating site.

Table 3-1: Traffic Generated During Construction (Delivery of Materials to Site Only)

Watercourse	Estimated Number of Trips (Round Trips)	Length of Programme (months)	Total Number of Working Days (5-day week)	Average Number of Trips Per Day
River Moy	802	25	500	2
Quignamanger	148	12	240	1
Bunree	170	18	360	1
Brusna	481	18	360	2
Tullyegan	173	6	120	2

The Contractor will ensure that any traffic impacts on the surrounding road network will be minimised as much as feasibly possible in order to avoid traffic disruption in the area.

3.5 Temporary Traffic Management

The Contractor will undertake consultation with MCC during the planning of all TTM measures for the Proposed Scheme.

The Contractor will provide advanced warning signs in accordance with Chapter 8 of the Department of Transport's Traffic Signs Manual (TSM) and its accompanying Design and Operation Guidance documents. The Contractor will also further develop this CTMP and issue it to MCC for agreement prior to the commencement of works on site. This CTMP will be developed by a qualified TTM designer in accordance with Chapter 8 of the TSM.

The Contractor will provide, erect, and maintain dedicated signage along all public roads affected by the works to ensure the smooth and safe control of traffic entering and exiting the works area and diversion routes. All temporary traffic signs will conform to TSM Chapter 8. All signs will be reflectorised and

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adequately illuminated by night in a manner approved by the Employer’s Representative and the Contractor will keep these signs clean and legible at all times.

No parking, unloading or blockages will occur on the access route adjacent to construction compounds. Such vehicles will be immediately requested to move to avoid impeding traffic flow.

3.5.1 Proposed Diversions Routes

The following section sets out initial traffic diversion routes in addition to overall TTM proposals for the Proposed Scheme. These proposals, and the routes identified, were determined through consultation with MCC, as outlined within **Chapter 6: Traffic and Transportation**. The Contractor shall be required to further examine and develop these initial proposals prior to the commencement of construction on site. Additionally, all proposals shall be agreed prior with MCC.

3.5.1.1 River Moy

As outlined in **Chapter 5: Project Description**, the proposed works on the River Moy include flood walls along the left and right bank of the river. These will start upstream of the salmon weir, at the pedestrian bridge and finish at Clare Street at Tom Ruane Park on the right-bank of the river (looking downstream). Flood defences on the left-bank of the river will begin at the existing flood defence at the Ballina Arts Centre and end at the old Ballina Dairies site north of Bachelors Walk. New walls will be constructed to replace existing walls where required. At Emmet Street the existing railings will be replaced with glass walls.

Bachelors Walk

Bachelor’s Walk is a two-way street with low traffic volumes. The proposed temporary traffic management to facilitate works at Bachelor’s Walk will be a lane closure along the River Moy for the duration of the works. Bachelors Walk will temporarily be a one-way street with a temporary traffic diversion via Nally Street and Arbuckle Row as shown in **Figure 3-1**.

Title: Proposed Traffic Diversion Routes (where required to facilitate works) for **Bachelors Walk**

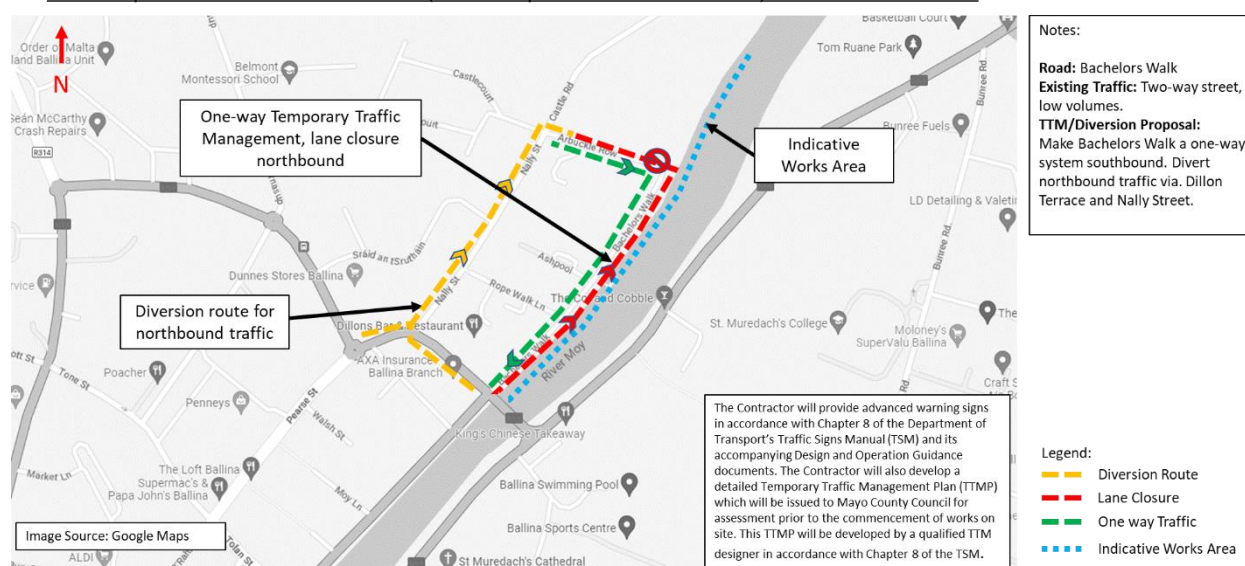


Figure 3-1: Proposed Traffic Diversion Route for Bachelors Walk

Barrett Street

Barrett Street is a one-way street with high traffic volumes. The proposed temporary traffic management to facilitate works at Barrett Street will be a road closure along Barrett Street and a lane closure (with stop/go or

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temporary traffic signals) on Tolan Street for the duration of the works (4 weeks). Works to be completed off-peak as traffic can build up quickly during peak hours in this area.

Barrett Street will be closed temporarily to facilitate the works with a temporary traffic diversion via Tolan Street, O’Rahilly Street and Bury Street as shown in **Figure 3-2**. On street parking along Barrett Street will be temporarily removed to facilitate the works. An alternative temporary parking area will be provided for the duration of the works. The road closure will commence at the junction of Tolan Street and Barrett Street and ends at the junction of Water Lane and Barrett Street. Local vehicular traffic will be permitted to access the alternative temporary parking and the Ballina Manor Hotel resident carpark.

Advance warning signage will be provided at Abbey Street (R294) and Cathedral Road, advising all HVs to route via Emmet Street.

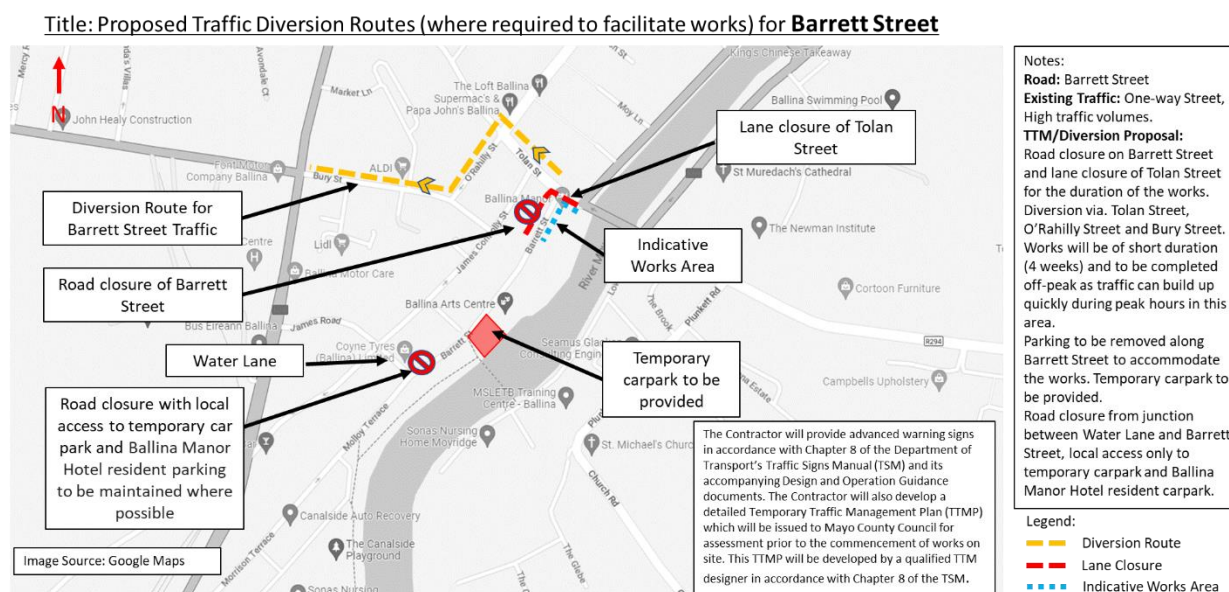


Figure 3-2: Proposed Traffic Diversion Route for Barrett Street

Ridgepool Road

Ridgepool Road is a one-way Street from the junction with Wests Road to the Upper Bridge and is two-way traffic south of junction with Wests Road. The proposed temporary traffic management to facilitate works at Ridgepool Road will be a road closure of the one-way section of the road with a temporary traffic diversion via Wests Road, Plunkett Road and the R294 Regional Road. The two-way section of Ridgepool Road will have a lane closure along the River Moy with stop/go or temporary traffic signals for the duration of the works as shown in **Figure 3-3**. Parking will be removed from along the riverside to accommodate the works.

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Title: Proposed Traffic Diversion Routes (where required to facilitate works) for **Ridgepool Rd**

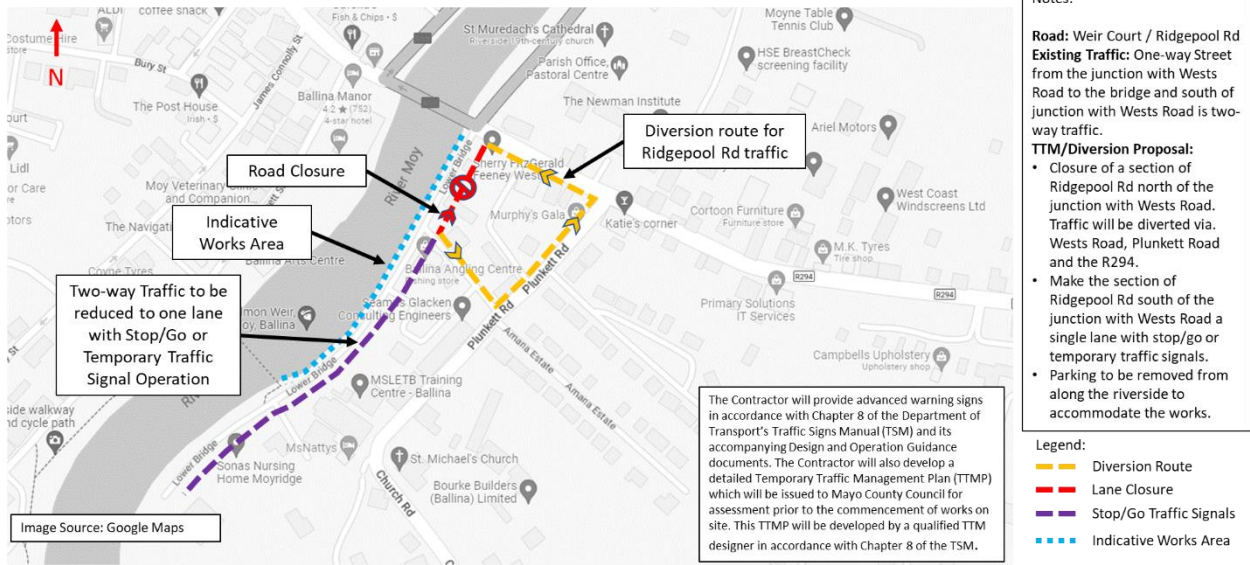


Figure 3-3: Proposed Traffic Diversion Route for Ridgepool Road

Clare Street / Howley Terrace (N59 Sligo Road)

The N59 (Clare Street / Howley Terrace) is a two-way street with high traffic volumes. The proposed temporary traffic management to facilitate works at Clare Street / Howley Terrace will be a lane closure along the River Moy for the duration of the works. Clare Street / Howley Terrace will temporarily be a one-way street northbound with a temporary traffic diversion for southbound traffic via Bunree Road and R294 Regional Road as shown in **Figure 3-4**. The priority of the junction between Bunree Road and the R294 Regional Road will need to be controlled to give priority to diverted traffic. Junction priority to be changed or controlled via Stop / go, traffic signals or vehicle controller as determined by the contractors TTM designer.

Title: Proposed Traffic Diversion Routes (where required to facilitate works) for **Clare St/Howley Tce (N59 Sligo Road)**

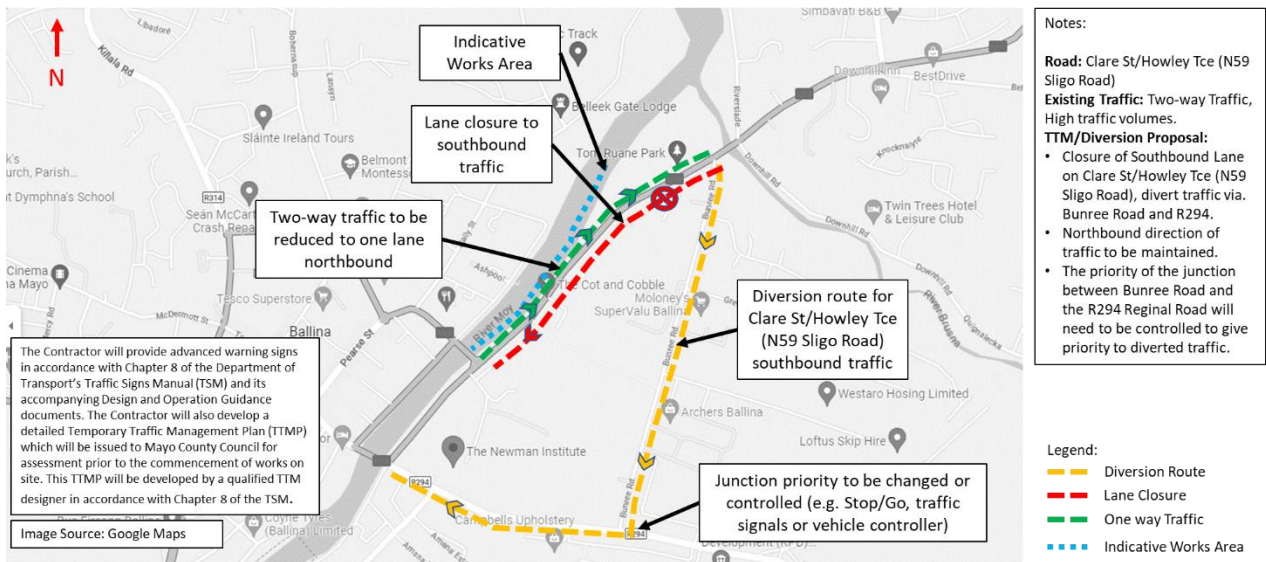


Figure 3-4: Proposed Traffic Diversion Route for N59 (Clare St/Howley Tce)

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3.5.1.2 Quignamanger Stream

As outlined in **Chapter 5: Project Description**, the proposed works on the Quignamanger consist of the replacement of the existing culvert along Creggs Road with a larger diameter culvert along Creggs Road. The new culvert will discharge into the open reach of the river at the current discharge location at the intersection of Creggs and Quay Roads. The existing flap valve at this point will be removed. Flood walls will be installed along the open reach of the channel. The existing culvert under Quay Road which conveys water to the River Moy will be replaced with a larger culvert.

Creggs Road is a two-way road. The proposed temporary traffic management to facilitate works along Creggs Road will be in two distinct sections. For the section of Creggs Road between Quay Road and Rathmeel Lawns, a section of Creggs Road will be closed with a temporary traffic diversion via Quay Road, Riverslade, Quignalecka, N59 National Road and Creggs Road as shown in **Figure 3-5**. For the section of Creggs Road between Rathmeel Lawns and the Culvert Inlet, a section of Creggs Road will be closed with a temporary traffic diversion via Quay Road, Riverslade, Quignalecka, N59 National Road and Creggs Road as shown in **Figure 3-6**. Access to local properties is to be maintained along Creggs Road.

Title: Proposed Traffic Diversion Routes (where required to facilitate works) for **Quignamanger / Creggs Road 01 of 02**

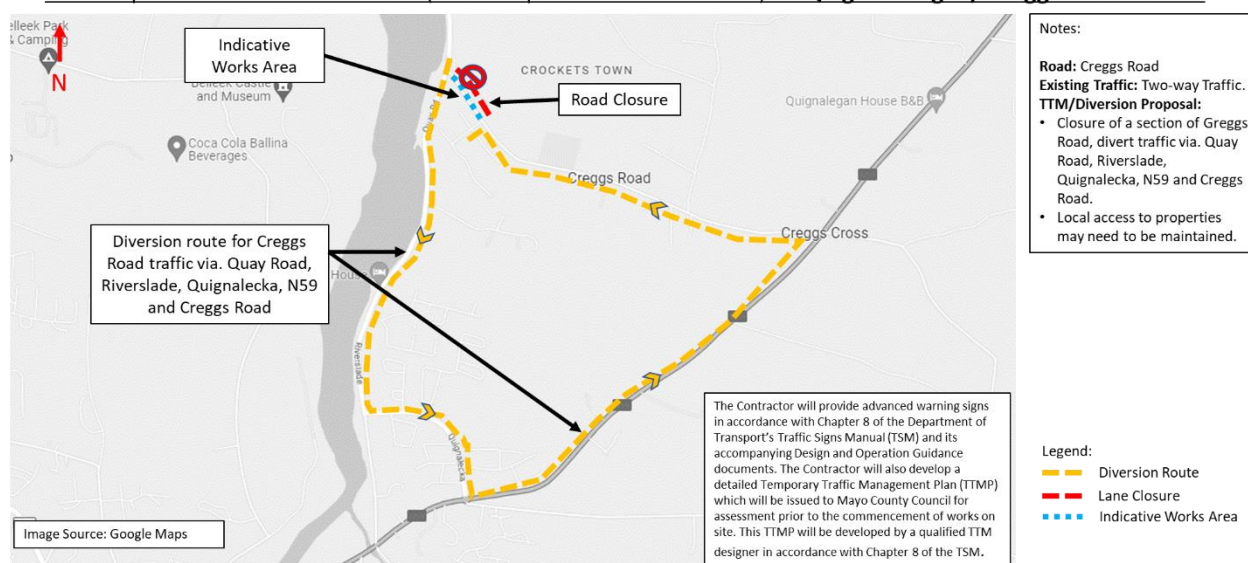


Figure 3-5: Proposed Traffic Diversion Route for Quignamanger / Creggs Road 01 of 02

Title: Proposed Traffic Diversion Routes (where required to facilitate works) for **Quignamanger / Creggs Road 02 of 02**

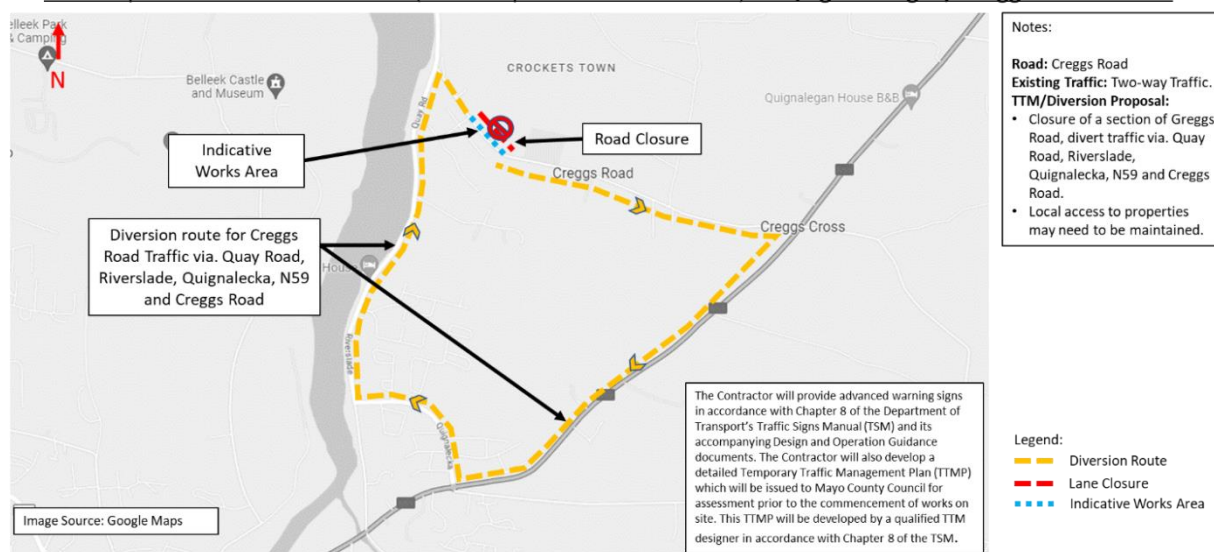


Figure 3-6: Proposed Traffic Diversion Route for Quignamanger / Creggs Road 02 of 02

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3.5.1.3 Bunree / Behy Road Stream

As outlined in **Chapter 5: Project Description, Section 5.4**, the proposed works include the installation of a new culvert which would replace the existing culvert and the existing sections of open channel. The culvert will follow the existing stream channel. The existing culvert downstream of the N59, which causes a constriction to flood flows, will be removed and an open channel on this section instead.

Behy Road (L-5132 Local Road) is a two-way street. The proposed temporary traffic management to facilitate works at Behy Road a lane closure along a section of Behy Road with stop/go or temporary traffic signal operation for the duration of the works. An advisory traffic diversion for through traffic will be northbound via L-10112 Local Road and Creggs Cross and southbound via L-51322 Local Road as shown in **Figure 3-7**. Access to local properties is to be maintained along Behy Road.

Title: Proposed Traffic Diversion Routes (where required to facilitate works) for Behy Road (L5132 Local Road)

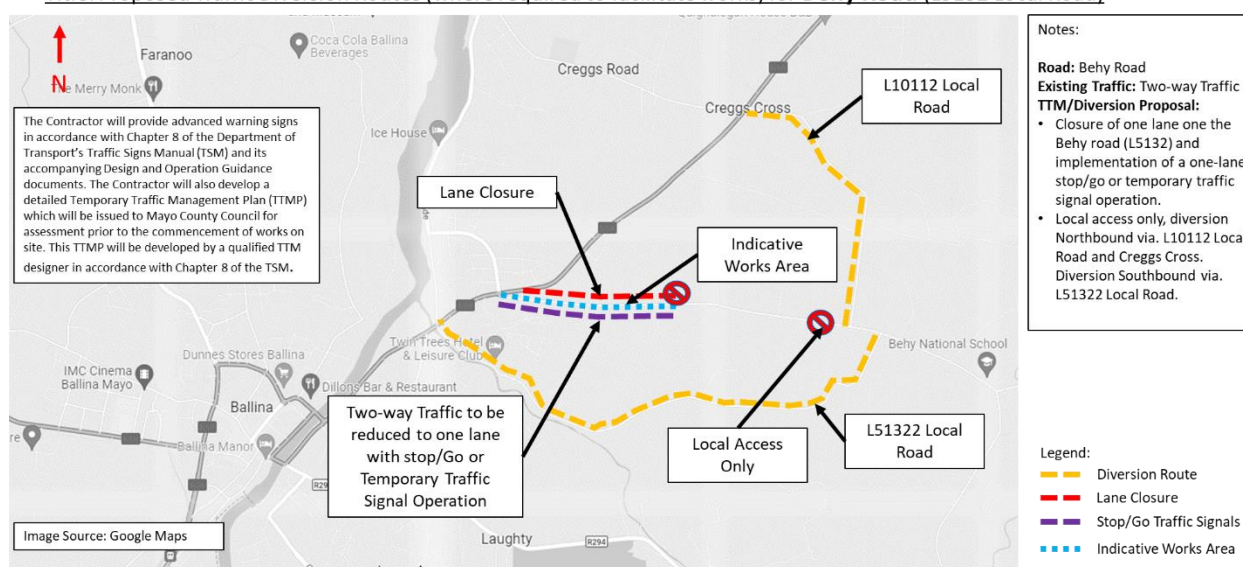


Figure 3-7: Proposed Traffic Diversion Route for Behy Road

3.5.1.4 Brusna (Glenree) River

As outlined in **Chapter 5: Project Description, Section 5.4**, the proposed works on the Brusna (Glenree) River include hard defences consisting of flood walls and embankments on both sides of the river. Works will also include a beam spanning the river in front of the bridge to prevent overtopping and remove any additional loading to the bridge. The access road to the bridge will also be raised by means of an embankment.

The proposed temporary traffic management to facilitate works along Brusna (Glenree) River will be in two distinct sections. For the section of the Proposed Scheme along Brusna River at Shanaghy/Rathkip, the narrow access road will be closed for the duration of the works with a temporary access road / haul route required to maintain access to the local properties as shown in **Figure 3-8**. For the section of the Proposed Scheme along the R294 Regional Road a lane closure along the Brusna River with stop/go or temporary traffic signals will be in place for the duration of the works as shown in **Figure 3-9**. A potential traffic diversion for through traffic will be at Bonniconlon, northbound traffic via the L6612 Local Road and R297 Regional Road and southbound via The L1125 Local Road and N26 National Road as shown in **Figure 3-9**.

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Title: Proposed Traffic Diversion Routes (where required to facilitate works) for R294 Regional Road 01 of 02

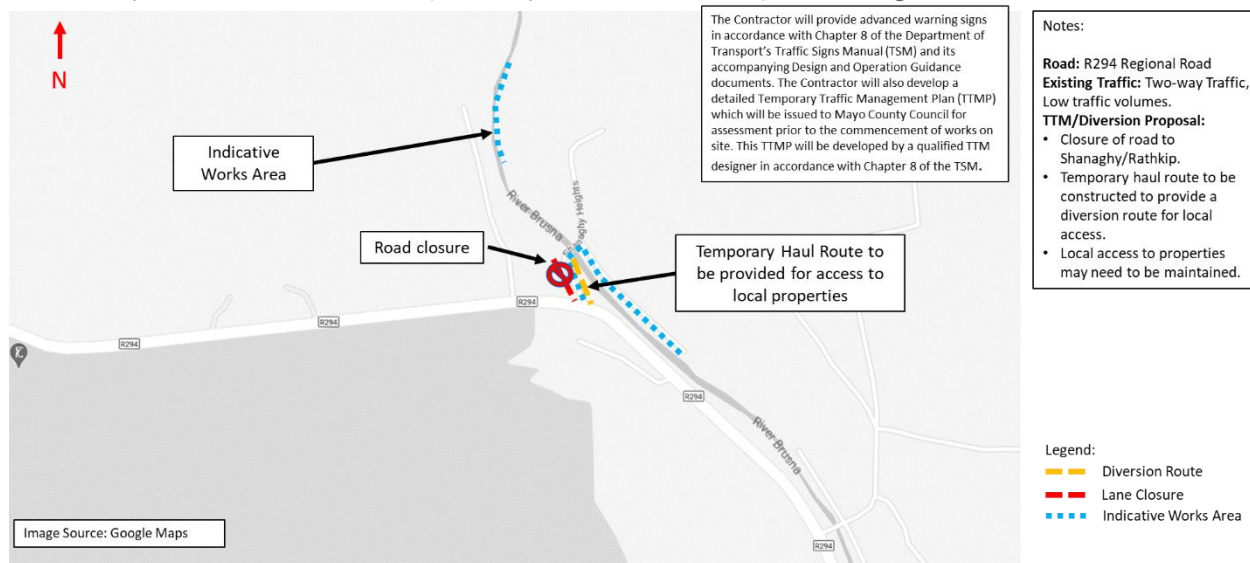


Figure 3-8: Proposed Traffic Diversion Route for R294 Regional Road 01 of 02

Title: Proposed Traffic Diversion Routes (where required to facilitate works) for R294 Regional Road 02 of 02

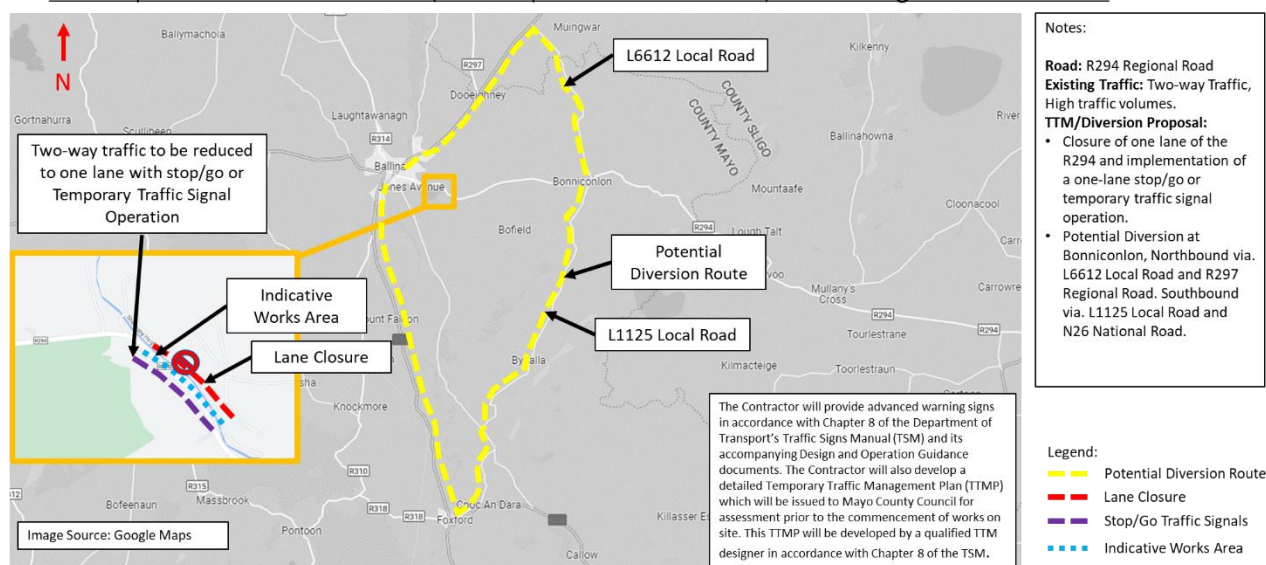


Figure 3-9: Proposed Traffic Diversion Route for R294 Regional Road 02 of 02

3.5.1.5 Proposed Diversions Summary

Figure 3-10 shows the seven work areas that have diversion routes, proposed and optional, for the Proposed Scheme. The proposed diversion routes and TTM measures overlap to a small degree on the R294 (Ridgepool Road and Clare Street / Howley Terrace) diversion routes. The work areas are separate and are not expected to have a cumulative impact even if multiple work areas are being worked on simultaneously. The Contractor will work closely with MCC to coordinate and schedule the work and plan all TTM measures for the Proposed Scheme.

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Title: Proposed Temporary Traffic Management Overview (Indicative)

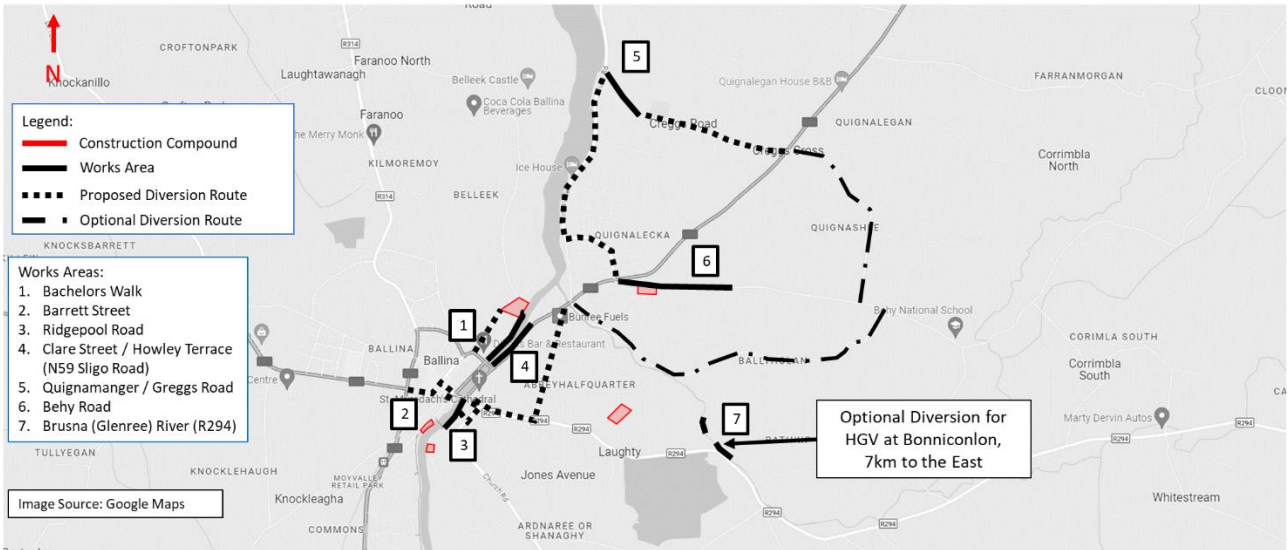


Figure 3-10: Proposed Temporary Traffic Management Overview

3.5.2 Proposed Temporary Traffic Management Measures

3.5.2.1 River Moy

Cathedral Road

Cathedral Road is a two lane, one-way directional road with high traffic volumes. The proposed temporary traffic management to facilitate works at Cathedral Road will be a lane closure along the Moy River for the duration of the works as shown in **Figure 3-11**. Parking will be removed from along the riverside to accommodate the works.

Title: Proposed Temporary Traffic Management Measures (where required to facilitate works) for Cathedral Road (N59)

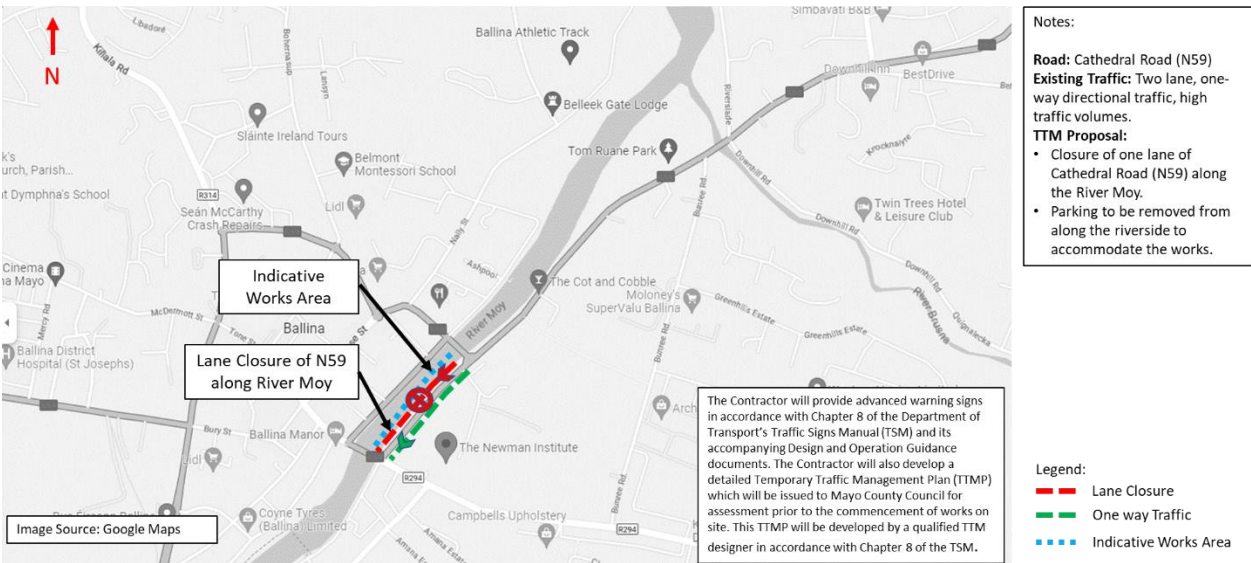


Figure 3-11: Proposed Temporary Traffic Management Measures for Cathedral Road (N59)

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Emmet Street (N59)

Emmet Street is a two lane, one-way directional road with high traffic volumes. The proposed temporary traffic management to facilitate works at Emmet Street will be a lane closure along the River Moy for the duration of the works as shown in **Figure 3-12**. Parking will be removed from along the riverside to accommodate the works.

Title: Proposed Temporary Traffic Management Measures (where required to facilitate works) for Emmet Street (N59)

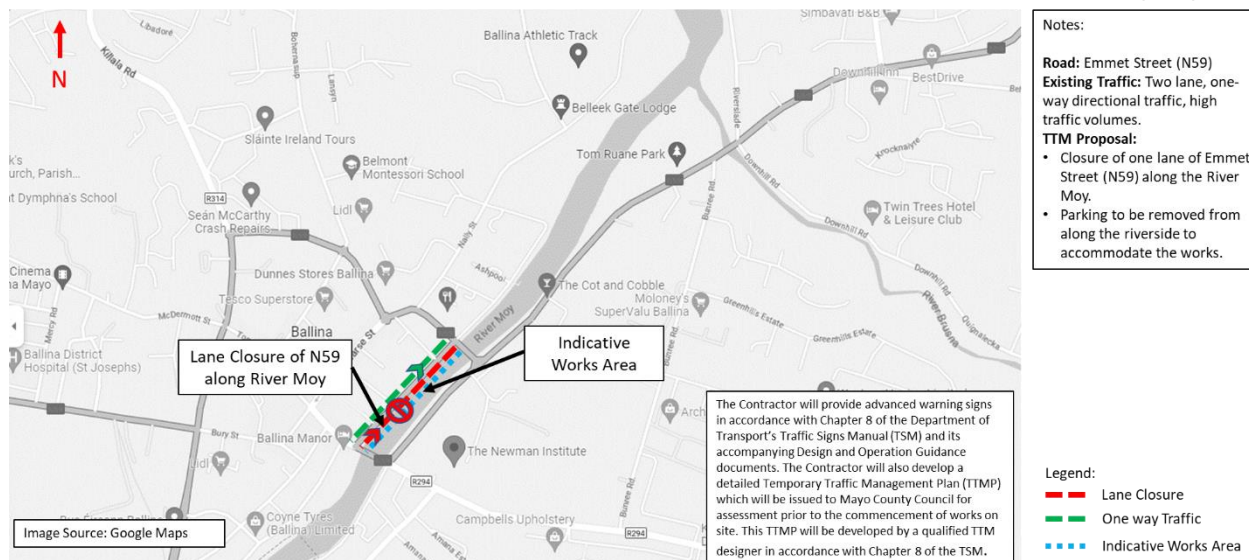


Figure 3-12: Proposed Temporary Traffic Management Measures for Emmet Street (N59)

3.6 Construction Compounds

The Contractor will set up the temporary construction compounds. Compounds will include site offices, welfare facilities, banded fuel storage areas, designated storage areas and construction parking. This compound will remain in place for the duration of construction.

The locations of the temporary compounds, as identified by MCC are shown in **Figure 3-13**, and listed below:

- Ballina Diaries site and adjacent boat club site.
- MCC lands on Barrett Street.
- Bourke Builders sites located on:
 - Ridgepool Road.
 - Behy Road.
 - Bonniconlon Road.

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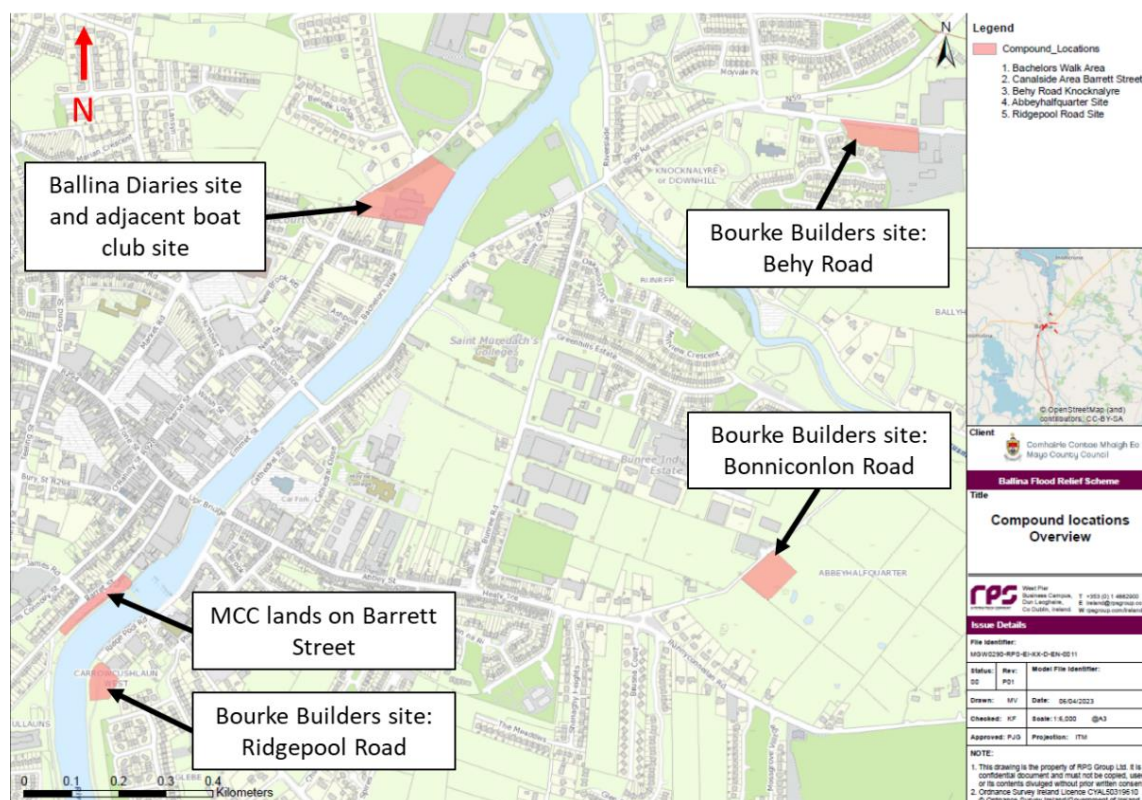


Figure 3-13: Temporary Construction Compounds

3.6.1 Haul Routes

Haul routes have been identified for the 5 no. number construction compounds. Delivery of materials and other infrastructure associated with the Proposed Scheme will be carried out using HV. Deliveries to the site will adhere to the hierarchy of roads where possible utilising the National Primary and Secondary Roads, Regional Roads then Local Roads.

The potential haul routes for the Proposed Scheme will vary depending on the Contractor's specific procedures and programme. All routes are subject to the agreement of MCC and TII where appropriate and alternative routes may be considered. However, for the purpose of this CTMP, potential routes are shown below

3.6.1.1 Ballina Dairies Site and Adjacent Boat Club Site

Construction traffic will access the Ballina Dairies site and adjacent boat club temporary construction compound via the N59 National Road as shown in **Figure 3-14**. Additionally, construction traffic will be prohibited from travelling on Castle Road or L-1120 Belleek Road. The Ballina Dairies site and adjacent boat club temporary construction compound may be accessed via Arbuckle Row, a vehicle controller / flagman may be required due to poor visibility at the intersection of Arbuckle Row and Bachelors Walk.

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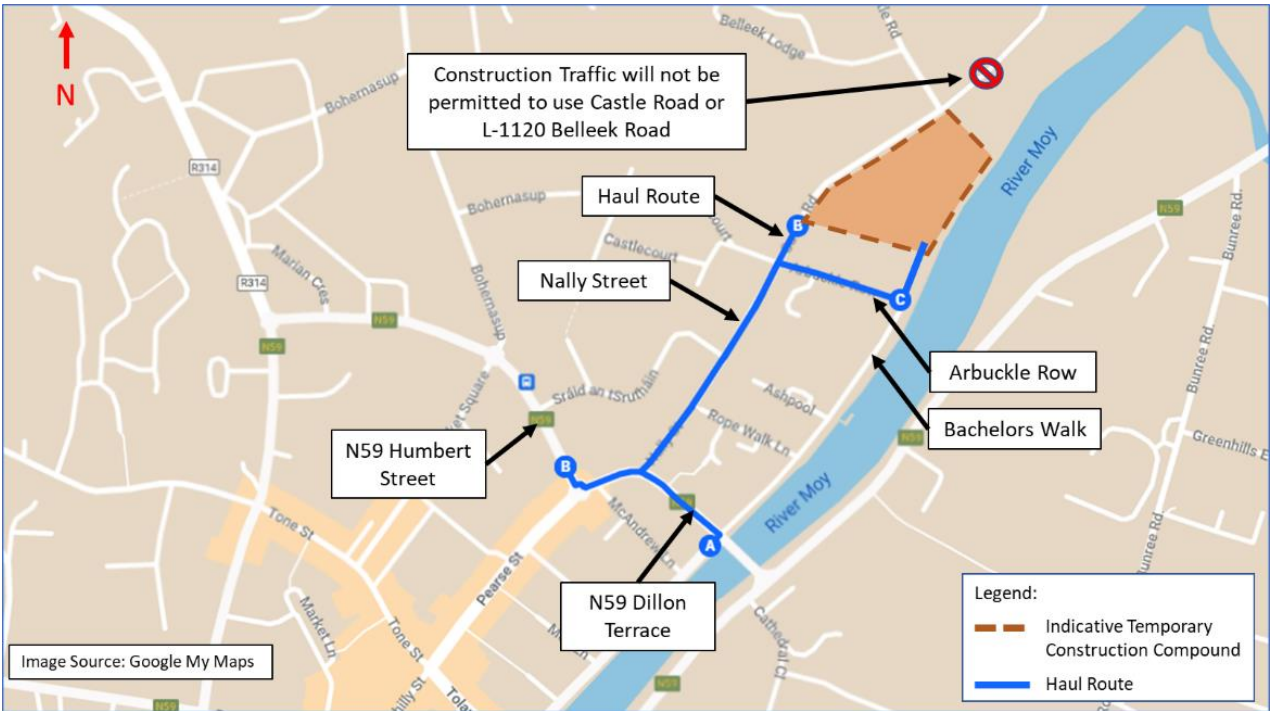


Figure 3-14: Haul Route for Ballina Diaries Site

3.6.1.2 MCC Lands on Barrett Street

Construction traffic will access the MCC lands on Barrett Street temporary construction compound either via the N26 National Road (James Road and Water Lane) or the N59 National Road (Tolan Street and Barrett Street) as shown in Figure 3-15.

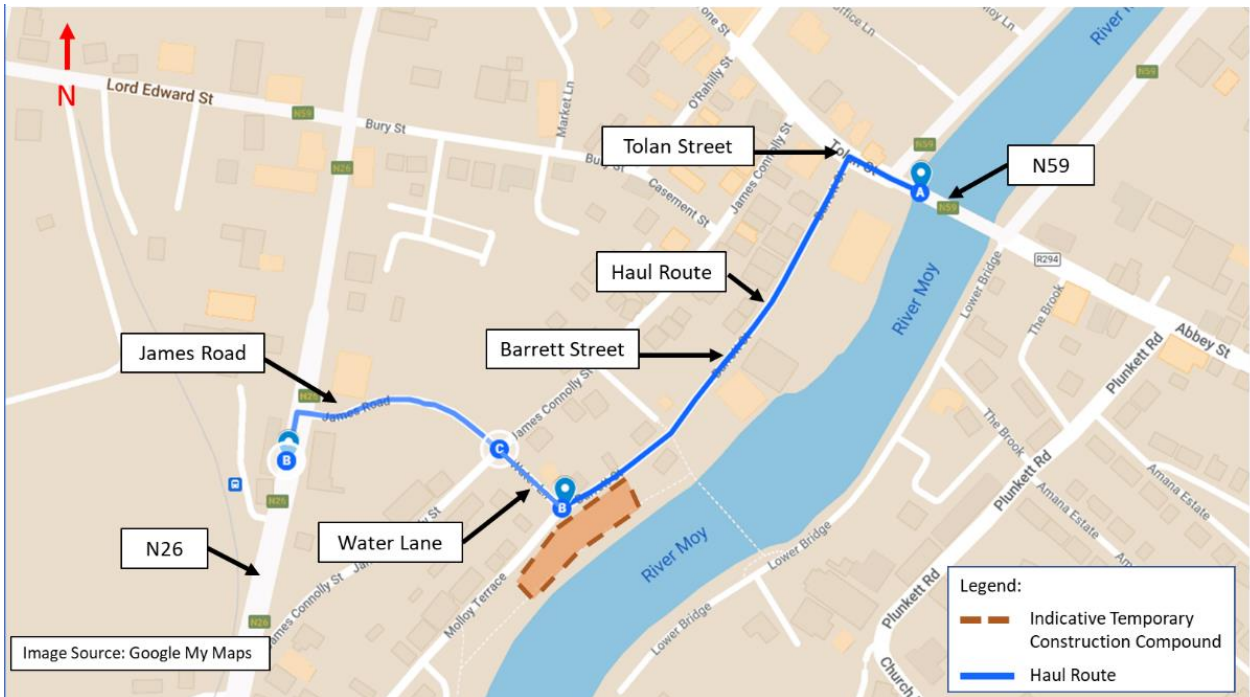


Figure 3-15: Haul Route for MCC Lands on Barrett Street

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3.6.1.3 Bourke Builders Site on Ridgepool Road

Construction traffic will access Bourke Builders temporary construction compound on Ridgepool Road via the R294 Regional Road and Plunkett Road as shown in **Figure 3-16**.

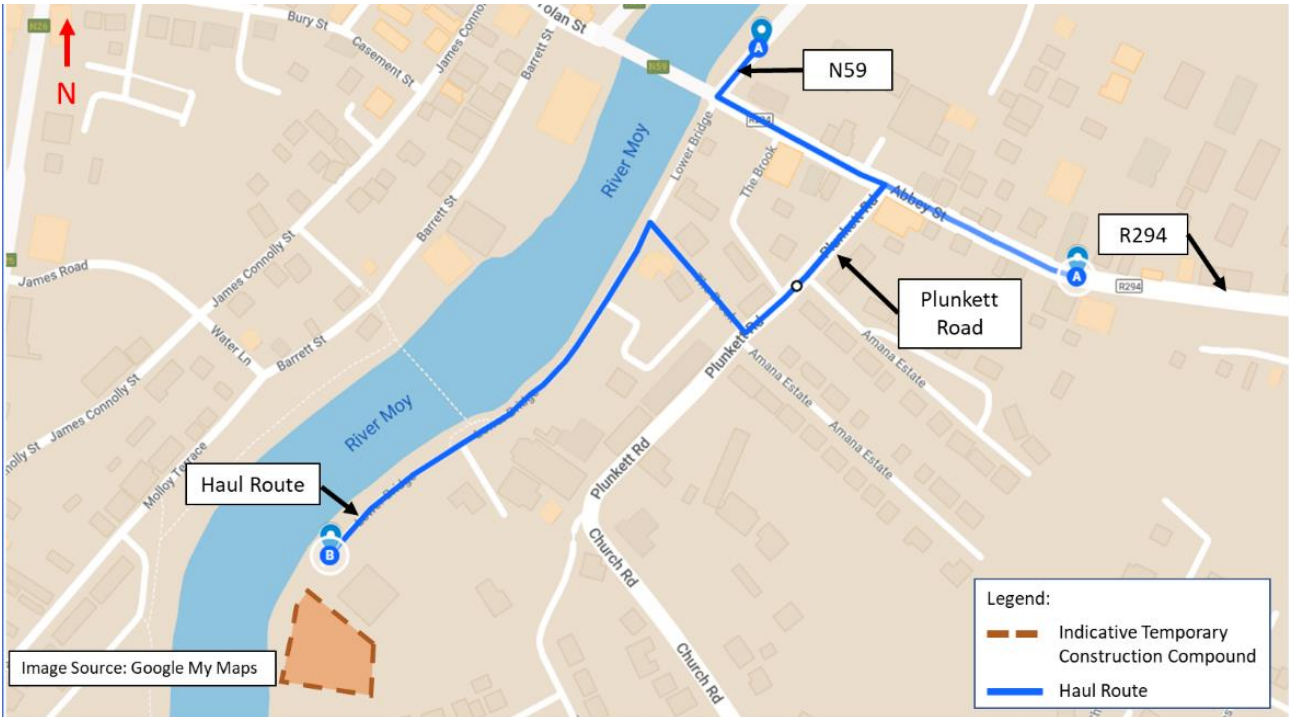


Figure 3-16: Haul Route for Bourke Builders site on Ridgepool Road

3.6.1.4 Bourke Builders Site on Behy Road

Construction traffic will access the Bourke Builders temporary construction compound on Behy Road via the N59 National Road as shown in **Figure 3-17**. Additionally, construction traffic will be prohibited from travelling east of the temporary construction compound on Behy Road.

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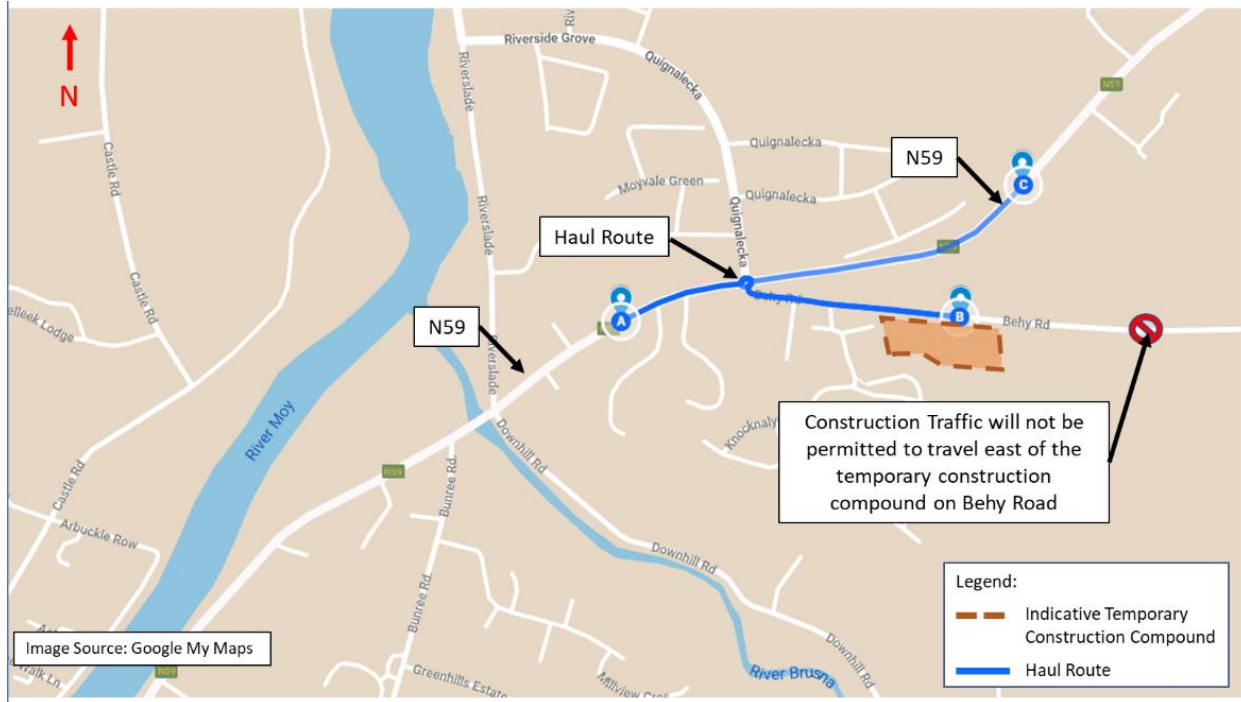


Figure 3-17: Haul Route for Bourke Builders site on Behy Road

3.6.1.5 Bourke Builders Site on Bonniconlon Road

Construction traffic will access Bourke Builders temporary construction compound on Bonniconlon Road via the R294 Regional Road as shown in Figure 3-18.

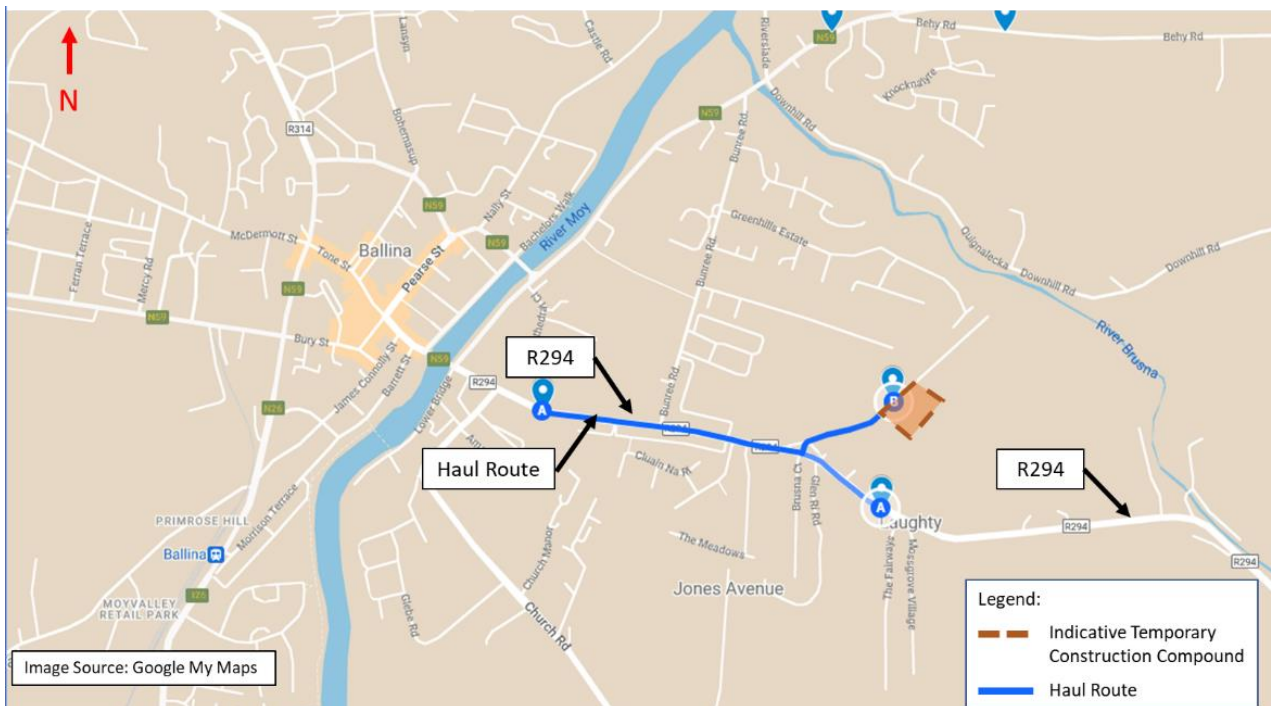


Figure 3-18: Haul Route for Bourke Builders site on Bonniconlon Road

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3.7 Site Management of Construction Stage Vehicles

The Contractor will ensure the safe and efficient management of site related traffic during construction. This will involve progressing the works with reasonable skill, care, diligence and proactively managing the works in a manner most likely to ensure the safety and welfare of those carrying out the construction works. Each element of the works will be constantly under review to ensure the safety and accessibility throughout the works.

If issues arise pertaining to construction traffic on site, the measures outlined in this plan will be reviewed and updated accordingly. The Contractor will ensure that all aspects of the works comply with good industry practice, codes of practice, statutory instruments, and all necessary consents.

3.7.1 Visitors

Visitors to site must first report to the compound office for induction and sign in. Visitors will be directed to the compound car park and shown the designated area to park their vehicle. Visitors must be supervised at all times whilst on site and sign out when leaving.

3.7.2 Plant and Equipment

The Contractor will ensure that all plant, equipment, and vehicles used during the works are operated by suitably competent personnel.

- Plant and equipment will only be operated by persons who have been trained in their specific use, and in possession of the appropriate Construction Skills Certification Scheme (CSCS) card.
- All work equipment has been tested and inspected in compliance with regulatory and site requirements.
- All plant will be inspected prior to use.
- All equipment will be checked before use and any defects reported.
- A banksman/ spotter will always be present for reversing site vehicles.
- All site construction plant will have a flashing beacon when in use.
- All guards and auxiliary devices will be in position on equipment.
- If required, barriers will be installed around equipment to protect others.
- Manufactures instructions will be followed at all times.

3.7.3 Unauthorised Arrivals

In the instance where any person enters the site unintentionally, they will not be permitted access unless authorised by site management.

Such persons will be instructed to turn in a safe manner to exit the site.

3.7.4 Compound Car Park/Site Offices

The Contractor will define designated parking bays within the site compounds. A reverse in/drive out policy will also be enforced within the car park. Reverse only signs will be erected to ensure all vehicles are reversed into the parking bay.

Once exiting the compound, all vehicles will stop and must yield to all traffic approaching either way. Directional and regulatory signage will be erected on exit of the compound.

3.7.5 Deliveries

Any deliveries to the compounds will be notified in advance to allow for staggered times into the compounds. This action will aim to prevent congestion at the construction compound entrances and any resulting queues

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forming along the cable route. All deliveries will be controlled by a delivery booking system which will ask delivery drivers to arrive at a designated time.

3.8 Road Condition

The extent of the HV traffic movements and the nature of the cargo may potentially create impact on the local public road network through:

- Fugitive losses from wheels, trailers, or tailgates.
- Localised areas of subgrade and wearing surface damage or failure.

The Contractor will ensure that:

- Loads of materials leaving the site will be evaluated and covered if considered necessary to minimise potential dust impacts during transportation.
- The Contractor will take all reasonable measures while transporting waste or any other materials likely to cause fugitive losses from a vehicle during transportation to and from site, including but not limited to:
 - Covering of all waste or materials with suitably secured tarpaulin / covers to prevent loss.
 - Utilisation of enclosed units to prevent loss.
- The roads forming part of the haul route will be monitored visually throughout the construction phase and a truck mounted vacuum mechanical sweeper will be assigned to roads along the haul route as required.

In addition, the Contractor will:

- Undertake a survey / inspection of the roads forming the haul routes prior to the construction phase to record the condition of these roads at that particular time.
- Such survey will comprise, as a minimum, video footage which shall confirm the condition of the road corridor immediately prior to commencement of construction. This will include footage of the road surface course, the appearance and condition of boundary treatments and the condition of any overhead services that will be crossed.

Upon completion of construction, the survey / inspection carried out at preconstruction phase will be repeated and a comparison of the pre and post construction road conditions will be carried out. Where such comparative assessments identify a section of road as having been damaged or as having deteriorated as a result of construction traffic, the road will be repaired to an appropriate standard.

The construction campaign is planned to take place over a 36-month period. The programme length for each works areas varies from 6 months to 25 months. The road condition surveys and inspection, frequency and extent may be agreed between the Contractor and MCC to reflect the construction programme and duration of works.

3.9 Recommended Traffic Management Speed Limits

Adherence to posted / legal speed limits will be emphasised to all staff and suppliers during induction training.

3.10 Road Cleaning

The Contractor will ensure that road sweeping is undertaken, if required, to remove any Proposed Scheme related dirt, debris and material deposited on the surrounding road network and along the haul route by construction / delivery vehicles. Road sweepers will dispose of material following sweeping of the road network, to a licensed waste facility.

As discussed in **Section 3.8**, the Contractor will assess loads of materials leaving the site and loads may be covered if considered necessary to minimise potential dust impacts during transportation. These measures may include but not limited to, covering of all waste or materials with suitably secured tarpaulin / covers and utilisation of enclosed units.

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3.11 Vehicle Cleaning

The Contractor will provide wheel washing facilities, and any other necessary measures to remove mud and organic material from vehicles exiting the site. These measures will be provided to prevent the transfer of mud and sediment to the surrounding road network and surface water drains, reduce air pollution and the spread of invasive plants.

3.12 Enforcement of CTMP

Throughout the construction phase, the Contractor will ensure that all project staff and material suppliers adhere to this CTMP. The Contractor will define and implement monitoring measures to confirm the effectiveness of the CTMP and compliance will be monitored by the Employer's Representative. Regular inspections / spot checks will also be carried out to ensure that all project staff and material suppliers follow the agreed measures adopted in the CTMP.

3.13 Noise & Vibration

The Contractor will ensure that noise and vibration levels from the construction traffic will not result in a nuisance to the area surrounding the permitted site. During the construction works the Contractor will use best practice and all required mitigation measures to prevent or minimise noise and vibration levels from construction traffic.

If significant noise or vibration activities are to be carried out, the Contractor will appoint a site representative who will be responsible for matters relating to noise and vibration. Such mitigation measures may include:

- Avoiding unnecessary idling and revving.
- Limiting or banning the use of horns.
- Avoiding excessive braking or accelerating.

The Contractor will closely monitor noise and vibration generated by construction traffic and implement appropriate mitigation measures and further monitor the effectiveness of such measures.

3.14 Emergency Procedures During Construction

The Contractor will maintain contact details of key personnel and will also outline emergency procedures and drills.

The Contractor will ensure that unobstructed access is provided along the local public road to all emergency vehicles in particular at the construction compounds accesses.

The Contractor will provide MCC and An Garda Síochána with contact details of the Contractor's personnel responsible for construction traffic management.

In the case of a traffic or road related emergency the following procedure shall be followed:

- Emergency Services will be contacted immediately by dialling 112 or 999.
- Exact details of the emergency / incident will be given by the caller to the emergency line operator to allow them to assess the situation and respond in an adequate manner.
- The emergency will then be reported to the Construction Site Manager and the Safety Officer.
- All construction traffic shall be notified of the incident (where such occurs off site).
- Where required, appointed site first aiders will attend the emergency immediately.
- The Safety Officer will ensure that the Emergency Services are enroute.

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3.15 Communication

The Contractor will ensure that close communication with MCC and An Garda Síochána is maintained throughout the construction phase. Such communications shall include:

- Submissions of proposed TTM measures for MCC comment and approval.
- An Garda Síochána must be consulted prior to the implementation of traffic control in accordance with Chapter 8 of the TSM.
- Information relating to local and community events that could conflict with proposed TTM measures and construction traffic, in order to implement alternative measures to avoid such conflicts.

The Contractor will also ensure that the local community is informed of proposed traffic management measures in advance of their implementation. Such information shall be disseminated by delivering leaflets to houses and businesses in the local area. Such information will contain contact information for members of the public to obtain additional information and to provide additional knowledge such as local events, sports fixtures, etc. which may conflict with proposed traffic management measures.

4 CONCLUSIONS

This CTMP will form part of the construction contract and is designed to reduce possible impacts which may occur during the construction of the Proposed Scheme.

The Contractor will ensure that the contents of this CTMP are implemented during the construction phase.

This CTMP will remain a 'live' document throughout the construction phase and the Contractor will develop the CTMP in line with any changes to the construction programme of sequence of operations.

The Contractor will update the CTMP prior to commencement of construction, will keep the CTMP updated throughout, will agree the CTMP with MCC and An Garda Síochána and will fully implement the CTMP.

The Employer's Representative will be responsible for ensuring that the Contractor manages the construction activities in accordance with this CTMP and will ensure that any conditions of planning are incorporated into the site specific CTMP.