

# CARRICK ON SHANNON DESTINATION TOWNS SCHEME

## Preliminary Design Report

for

Leitrim County Council

July 2021

21014-01-002



Tionscadal Éireann  
Project Ireland  
**2040**



Bonneagar Iompair Éireann  
Transport Infrastructure Ireland

**ROADPLAN**  
CONSULTING

7, Ormonde Road  
Kilkenny.  
R95 N4FE

Tel: 056 7795800  
info@roadplan.ie

## TABLE OF CONTENTS

1.	INTRODUCTION.....	1
1.1	The Scheme .....	1
1.2	Scheme Need & Objectives .....	4
2.	EXISTING SITUATION .....	6
2.1	Horizontal Alignment.....	6
2.2	Vertical Profile.....	6
2.3	Cross-Section .....	6
2.4	Junction Forms .....	6
2.5	Traffic Flow and Road Capacity.....	6
2.6	Design Speed Calculation.....	9
2.7	Collision History .....	9
2.8	Drainage .....	11
2.9	Pavement.....	11
2.10	Utilities .....	11
2.11	Public Lighting .....	11
2.12	Road Safety Inspections .....	11
3.	PROPOSED SCHEME .....	12
3.1	Alignment Design.....	12
3.1.1	<i>Horizontal Alignment</i> .....	12
3.1.2	<i>Vertical Profile</i> .....	12
3.1.3	<i>Cross Section</i> .....	12
3.2	Junction Layouts.....	12
3.2.1	<i>N4 / Landmark Junction</i> .....	12
3.2.2	<i>Accesses</i> .....	12
3.3	Pedestrian and Cycle Facilities.....	12
3.4	Car Parking.....	12
3.5	Relaxations and Departures .....	12
3.6	Safety Barrier Risk Assessment .....	13
3.7	Proposed Drainage.....	13
3.8	Pavement.....	13
3.9	Kerbs, Footways & Paved Areas .....	13
3.9.1	<i>Kerbs</i> .....	13
3.9.2	<i>Footways</i> .....	13
3.9.3	<i>Tactile Paving</i> .....	13
3.10	Traffic Signs & Road Markings .....	13
3.11	Public Lighting .....	13
4.	ROAD SAFETY AUDIT .....	14
5.	ENVIRONMENTAL & ECOLOGY .....	14

6. ARCHEOLOGY, ARCHITECTURAL & CULTURAL HERITAGE ..... 14

APPENDICES

APPENDIX A - Drawings

APPENDIX B - Road Safety Audit

## 1. INTRODUCTION

### 1.1 The Scheme

The scheme is the The Carrick on Shannon Destination Town Project which will include the following works:

1. To undertake a public realm improvements scheme within the town, to enhance the existing streetscape between Cryan's Hotel and the Carrick Plaza Suites along Local road L3401-1. The nature of the public realm works includes, inter alia, the widening of footpaths, the provision of enhanced uncontrolled pedestrian crossings, the provision of new public lighting in addition to the existing lighting, to replace the existing road surface, to relocate the existing street furniture and signage, the provision of soft and hard landscaping measures and to alter the existing on street car-parking provision.
2. The replacement of the existing bus stop shelter with a covered structure along the N4 on the southern carriageway that will shelter people waiting on or arriving by bus while equally providing shelter to enjoy overlooking the public space along the river edge. External seating and improved landscaping of the area to the rear of this covered structure and the river walk.
3. The installation of a new covered bus shelter along Local Road L3401-1 to the front of the Primary Care Building as a bus departure area.
4. The relocation of the existing ESB Networks sub-station currently located in front of the Carrick Plaza Suites.
5. Improvements to external lighting of the following protected structures: Costello Memorial Chapel, St. George's Church and St Mary's Catholic Church.
6. The provision of 16 No. wayfinding signs to include additional hard/soft landscaping works in the vicinity of Sign No. 5 and 6 as indicated on the submitted documentation.

This preliminary design report deals with the proposed changes to the junction formed by the intersection of the National Primary Road N4 and the minor road located between the Landmark Hotel and Cryan's Hotel. The preliminary design of the scheme has been done by DHB Architects, and the section subject to this PDR is show on the following drawings:

Drawing number	Rev	Drawing Title
CDT-DHB-HML-DR-C-2000-04-2003	01	Site Layout Plan (1/2)
CDT-DHB-HML-ZZ-DR-C-2200-02-2200	01	Proposed Plan 1 / 2
CDT-DHB-HML-ZZ-DR-C-2200-02-2201	01	Proposed Plan 2 / 2

This report on the preliminary design has been prepared in order to comply with the requirements of TII DN-GEO-03030 'Guidance on Minor Improvements to Existing Roads'.

This scheme is located on the N4 in Carrick on Shannon as shown in Figure 1.1 below. The existng section of the N4 is a single carriageway with indented bays on either side of the carriageway providing roadside parking and bus set-down, and a third (centre) lane providing right-turn lanes and channelising islands with facilities for pedestrians crossing the N4.



Figure 1.1: The Location of the Scheme within Carrick on Shannon



Figure 1.2: A view of the scheme from the N4 east of the junction



Fig 1.3 Aerial View of location

The minor road of the junction is unnamed on mapping, but for the purposes of this report is called the Landmark Road.

A proposed development was recently completed on adjacent lands known as Flynn's Field. The development is a public car park (with adjacent Health Centre) and its location is shown in Fig 1.4 below.

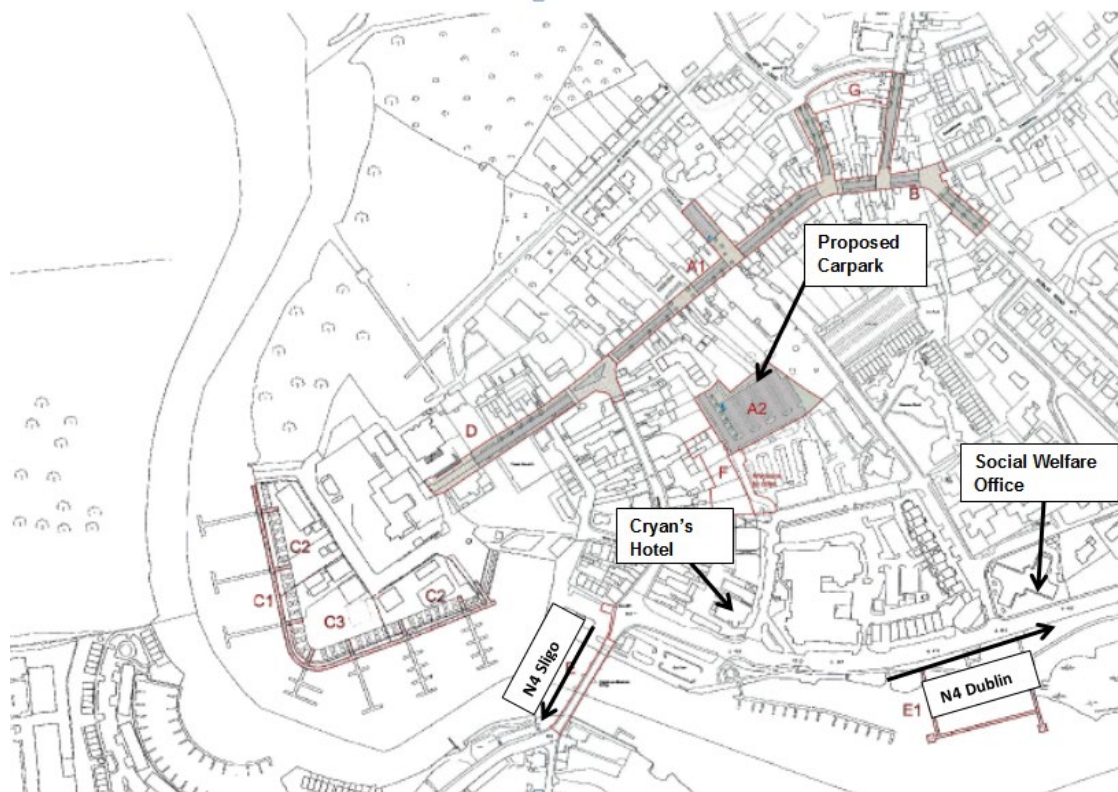


Fig 1.4 Proposed Development Location

The proposed car park contains 106 spaces. It is owned and operated by Leitrim County Council and is available as a public car park. Its layout is shown in Fig. 1.5 below.

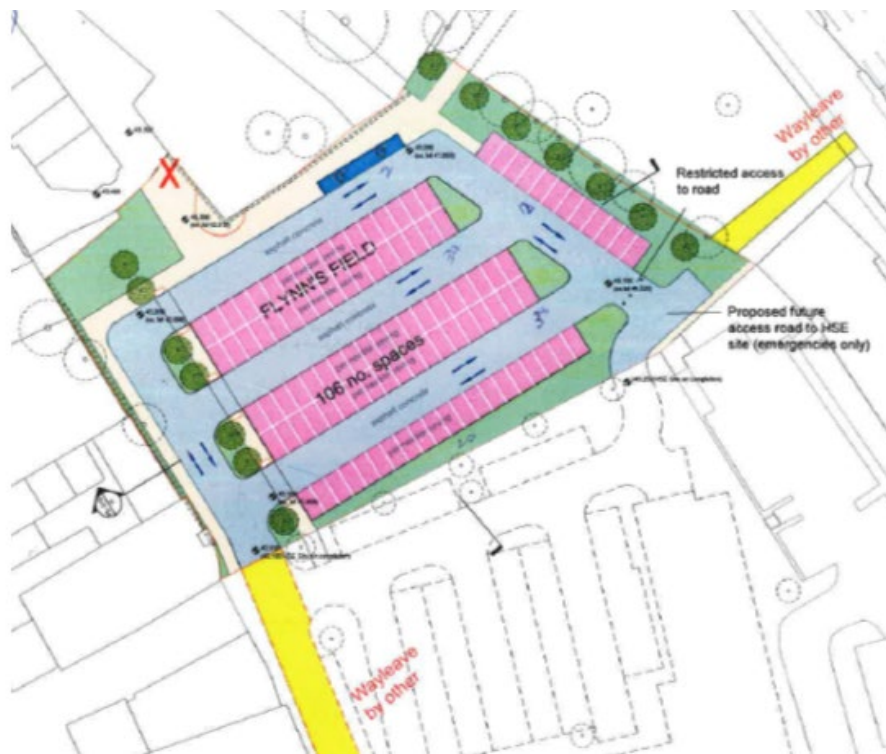


Fig 1.5 Car Park Layout



case however, it is proposed to retain the two-lane exit for the reason that it is needed to ensure sufficient capacity for traffic to exit the minor road.

TII DN-GEO-03030 is the Standard governing minor improvement to national roads. It describes a Minor Improvement Scheme as follows:

#### *Minor Improvement Scheme*

1.5 *A Minor Improvement Scheme is an upgrade to an existing section of sub-standard road less than 2km in length where a design element or combined set of design elements are improved. Minor Improvement Schemes vary in complexity, ranging from the removal of inappropriate adverse camber to the isolated improvement of sections of an existing road.*

This report should be read in conjunction with the scheme's Preliminary Design Drawings which can be found in Appendix A to this Report.



## **2. EXISTING SITUATION**

### **2.1 Horizontal Alignment**

The horizontal alignment of the N4 is generally straight, as is the horizontal alignment of the minor road within the area under consideration.

### **2.2 Vertical Profile**

The vertical profile of the N4 is generally flat in the area of the proposed scheme, and the vertical profile of the minor road is likewise.

### **2.3 Cross-Section**

The N4 is a kerbed single carriageway road. The average carriageway width through the scheme is approximately 10.0m, consisting of a three lane carriageway without hardshoulders. There are further indented areas used as on-street parking and as bus bays. Footpaths are present within the scheme extents, along both sides of both roads. There are no dedicated cycle lanes.

### **2.4 Junction Forms**

The public road junction formed by the N4 and the Landmark Road is a priority controlled junction, and has a two-lane approach on the minor arm. It also is served by a right-turn lane on the mainline N4. Road. Overall, the junction layout is quite good: visibility from the minor road is unobstructed and the arms intersect at right-angles.

There are uncontrolled pedestrian crossings on all arms of the junction: on the N4 east and west and on the minor arm. The crossings on the N4 each benefit from a channelising island in the centre of the road, providing a split crossing for pedestrians at each location.

### **2.5 Traffic Flow and Road Capacity**

Traffic surveys were undertaken in March 2019, consisting of manually classified counts at a number of junctions:

- the N4 / Landmark Road junction
- the Social Welfare junction
- the Shannonsid roundabout

Background traffic flows corresponding to the busiest peaks for background traffic were abstracted from the surveys and are shown in Fig 2.1. (HGV numbers are in brackets).

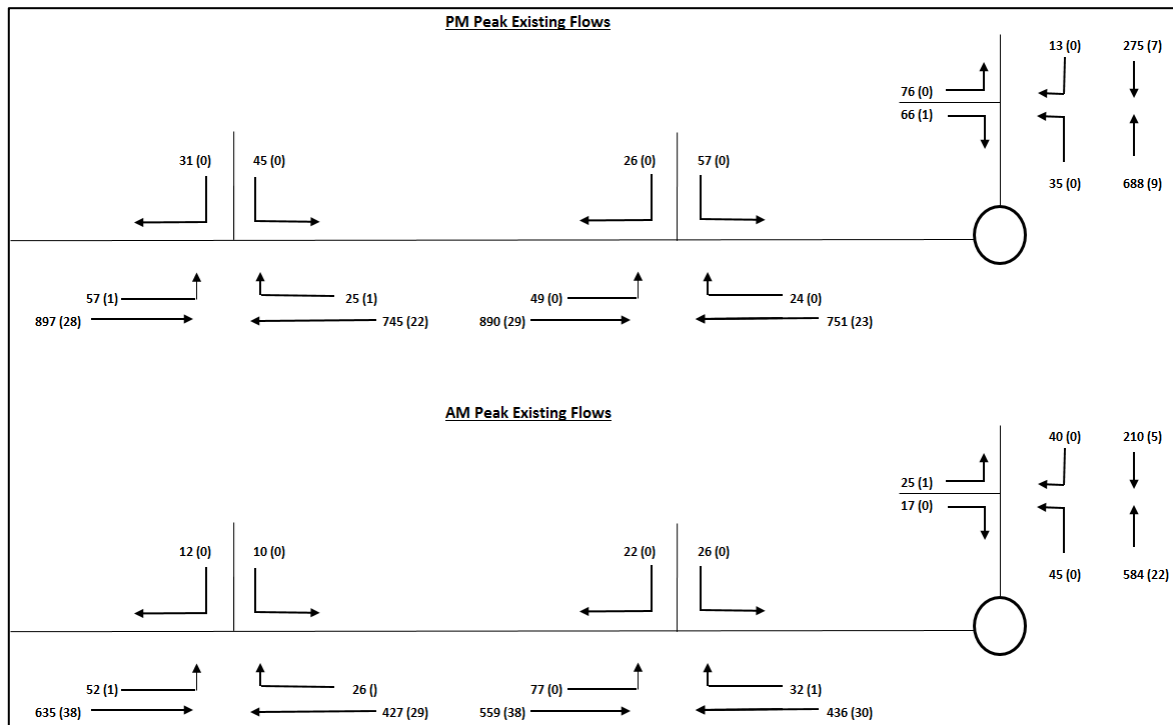


Fig 2.1 Existing Traffic Flows

The principal features of the traffic flows at the landmark junction are:

- o traffic flow on the N4 is heavy – it is in the region of 1,800 or so vehicles two-way in the peak hour;
- o background traffic flow is 34% higher in the p.m. peak than in the a.m. peak
- o turning volumes are relatively low, with left in movements being the predominant movement;
- o it would appear that some vehicles that enter by left-turn in the a.m. exit the area by another route in the p.m. This is probably due to the difficulty of exiting to the right directly onto the N4 at peak times.

The TRICS database was used to predict the trip generation to and from the health centre and the public car park (they were under construction at the time of the traffic surveys and neither was operational) for both the a.m. and p.m. peak periods, and the generated trips were distributed onto the junctions.

TII traffic growth factors (for Zone 102 of the TII National Traffic Model) were applied to the traffic matrix and capacity assessments were undertaken. Values for the following parameters were obtained:

**Ratio of Flow to Capacity (RFC)** is a factor indicating the flow on a junction arm relative to its capacity. An RFC of 1.0 means the junction has reached its ultimate capacity and an RFC of 0.85 means that the junction has reached its practical capacity.

**Avg. Queue** is the average number of vehicles queued over the time period on the junction approach.

**Queue delay** is the average number of seconds delay to each vehicle in the time period.

**Total Delay** is the total number of vehicle hours of delay to all vehicles at the junction over the time period.

It should be noted that the assessment was carried out on the basis of the retention of the existing two-lane approach to the junction from the minor road.

#### PM Peak – 2019 Existing

Approach	Predicted RFC value	Avg. Queue (vehicles)	Queue delay (secs/veh.)	Total Delay (veh. hrs.)
N4 (west)	-	-	-	0.436
Landmark Hotel	0.366	0	28	
N4 (east)	0.019	0	10	

#### AM Peak – 2019 Existing

Approach	Predicted RFC value	Avg. Queue (vehicles)	Queue delay (secs/veh.)	Total Delay (veh hrs.)
N4 (west)	-	-	-	0.122
Landmark Hotel	0.087	0	14	
N4 (east)	0.066	0	8	

The summary predictions show no queues and minimal delays in the a.m. and the p.m. peak hours in 2019.

#### PM Peak – 2019 with development

Approach	Predicted RFC value	Avg. Queue (vehicles)	Queue delay (secs/veh.)	Total Delay (veh hrs.)
N4 (west)	-	-	-	0.743
Landmark Hotel	0.488	1	36	
N4 (east)	0.060	0	10	

#### AM Peak – 2019 development

Approach	Predicted RFC value	Avg. Queue (vehicles)	Queue delay (secs/veh.)	Total Delay (veh hrs.)
N4 (west)	-	-	-	0.278
Landmark Hotel	0.164	0	16	
N4 (east)	0.104	0	8	

The summary predictions show small queues and some delays in the p.m. peak hour and no queues with small delays in the a.m. peak hour at the junction in 2019, with the development operational.

#### PM Peak – 2034 with development

Approach	Predicted RFC value	Avg. Queue (vehicles)	Queue delay (secs/veh.)	Total Delay (veh hrs.)
N4 (west)	-	-	-	1.208
Landmark Hotel	0.708	2	61	
N4 (east)	0.064	0	11	

#### AM Peak – 2034 with development

Approach	Predicted RFC value	Avg. Queue (vehicles)	Queue delay (secs/veh.)	Total Delay (veh hrs.)
N4 (west)	-	-	-	0.323
Landmark Hotel	0.199	0	19	
N4 (east)	0.119	0	9	

The summary predictions show small queues and medium delays in the p.m. peak hour and no queues with some delays in the a.m. peak hour at the junction in 2034, 15 years after development completion.

As is the convention, modelling has been done using 15-minute duration counts of background traffic and hourly trip predictions of development-generated traffic. If there were to be particular spikes in flows within these time periods (such as would occur were employees to finish work at exactly the same time) short-duration congestion could occur, and it may in fact be occurring at present. This is a normal occurrence in urban areas and the congestion dissipates quickly; the junctions overall have sufficient capacity.

The junction was assessed on the basis of the minor road approach retaining its two-lane entry. The assessment confirm that this is needed to ensure the junction operates within capacity.

## 2.6 Design Speed

The speed limit on the N4 through Carrick on Shannon Town is 50km/h, and the speed limit on the minor road is 30 km/h. In accordance with DMURS, and given the function and context of both roads, the design speeds are taken to be the same as the posted speed limits.

## 2.7 Collision History

Information on road collisions was taken from the Road Safety Authority website [www.RSA.ie](http://www.RSA.ie) which contains information on injury collision occurrence and is provided below in Figure 3.1. At the time the data was accessed, the time range of available collision records was 2005 to 2016 inclusive. An examination of the RSA collision database shows that there have been six injury collisions recorded in the area of the junction over that period.

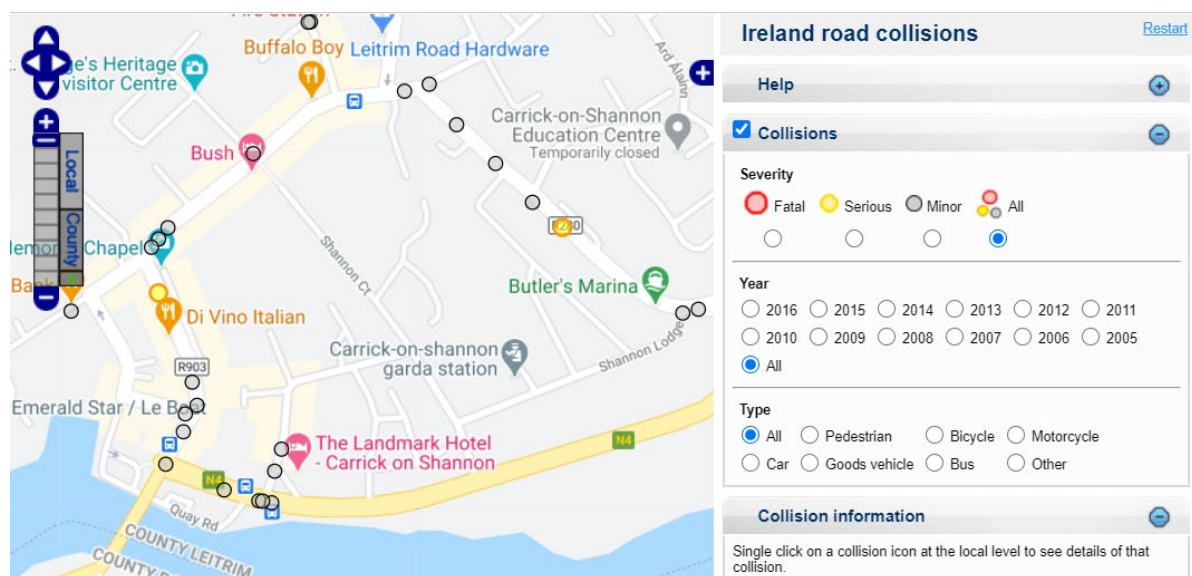


Fig 2.2: Road collisions

All were of minor injury severity, and all were pedestrian collisions. Three were directly at the junction, one was just to the west on the N4, and two others were on the minor arm.

All four collisions on the N4 occurred at night.

Details of the collisions are as follows:

Collision information		Collision information	
Severity	Minor	Severity	Minor
Year	2011	Year	2014
Vehicle	undefined	Vehicle	Car
Circumstances	Pedestrian	Circumstances	Pedestrian
Day of week	Saturday	Day of week	Friday
Time	2300-0300	Time	1000-1600
Speed limit	50 KPH	Speed limit	50 KPH
No. casualties - minor	1	No. casualties - minor	1
No. casualties - total	1	No. casualties - total	1

Collision information		Collision information	
Severity	Minor	Severity	Minor
Year	2011	Year	2012
Vehicle	Car	Vehicle	Car
Circumstances	Pedestrian	Circumstances	Pedestrian
Day of week	Sunday	Day of week	Sunday
Time	0300-0700	Time	2300-0300
Speed limit	50 KPH	Speed limit	50 KPH
No. casualties - minor	1	No. casualties - minor	1
No. casualties - total	1	No. casualties - total	1

Collision information		Collision information	
Severity	Minor	Severity	Minor
Year	2011	Year	2011
Vehicle	Car	Vehicle	Goods vehicle
Circumstances	Pedestrian	Circumstances	Pedestrian
Day of week	Sunday	Day of week	Monday
Time	1900-2300	Time	2300-0300
Speed limit	50 KPH	Speed limit	50 KPH
No. casualties - minor	1	No. casualties - minor	1
No. casualties - total	1	No. casualties - total	1

The TII Open Data Portal contains information on collision ratings of the various 1km sections of the national road network. This section of the N4 through Carrick on Shannon at the junction is identified by TII as having an Above Average Collision Rate (2016 to 2018) – see Figure 2.3.

cr2016_2018:FID	5019
cr2016_2018:OBJECTID	5020
cr2016_2018:Site_ID	N04LM_144.8
cr2016_2018:ROUTE	N04
cr2016_2018:Ch_S	144.005
cr2016_2018:Ch_E	144.765
cr2016_2018:Length_KM	0.759763
cr2016_2018:Ref_Pop	Urban Two Lane
cr2016_2018:Sub_Pop	junction approach TEN-T
cr2016_2018:Source_201	NTpM
cr2016_2018:AADT_17	9856
cr2016_2018:Operator	LM Local Authority
cr2016_2018:kmph_NTpM	30
cr2016_2018:Sinuosity	1.124043
cr2016_2018:Inj_COLL	2
cr2016_2018:INJ_Coll_R	24.374738
cr2016_2018:Threshold	Above Average Rate
cr2016_2018:SHAPE_Leng	759.762528
cr2016_2018:SHAPE_Le_1	759.762528

Fig 2.3: Collision Ratings

**2.8 Drainage**

A positive drainage system with gullies and drainage pipes exists within the scheme extents in Carrick on Shannon town. Under the proposed scheme, there is no change to the existing drainage layout.

**2.9 Pavement**

The road pavement was recently renewed. Surface deterioration such as surface cracking, ravelling and rutting were remedied by application of an inlay of varying depth. This improved the surface, strengthened areas where the pavement had failed and reshaped the road to improve surface drainage and IRI.

**2.10 Utilities**

There are existing public utilities located along both N4 and the Landmark Road, but none will be affected by the scheme.

**2.11 Public Lighting**

All areas within the scheme extents are currently covered by street lighting. The street lighting consists of post mounted lighting heads. The quality of the street lighting appears to be high.

**2.12 Road Safety Inspections**

A Road Safety Inspection (RSI) on the N4 was carried out by TII. The database of RSI issues held on the TII SharePoint was checked and it was found that no issues were identified on this section of the N4.

### **3. PROPOSED SCHEME**

The proposed scheme has been designed in accordance with the Design Manual for Urban Roads and Streets (DMURS). The DMURS provides guidance relating to the design of urban roads and streets.

#### **3.1 Alignment Design**

##### **3.1.1 Horizontal Alignment**

The existing horizontal alignment of the N4 is generally being retained.

##### **3.1.2 Vertical Profile**

The existing vertical profile of the N4 is being retained.

##### **3.1.3 Cross Section**

The existing cross-section of the roads is generally being retained.

#### **3.2 Junction Layouts**

The existing junction layouts of the N4 are generally being retained.

##### **3.2.1 N4 / Landmark Junction**

The following minor changes are being made:

- Tightening of the junction mouth
- Provision of enhanced crossing facilities for pedestrians

##### **3.2.2 Accesses**

All existing accesses onto the N4 are being retained.

#### **3.3 Pedestrian and Cycle Facilities**

It is noted that pedestrians cross the N4, mainly from the riverside car park. A controlled pedestrian crossing facility is provided closer to the bridge to serve that desire line. However, there is also a demand for crossing at the Landmark junction, and uncontrolled crossings are provided on each side of the junction, and both are provided with channelising islands.

There are no dedicated cycle facilities and none are to be provided under this scheme.

The overall layout of the proposed scheme is shown on the drawings in Appendix A.

#### **3.4 Car Parking**

There is extensive car parking in the area and no more is to be provided under the scheme. A large off-street car park has been constructed recently on the Flynn's Field site.

#### **3.5 Relaxations and Departures**

This scheme has been designed in accordance with DMURS. There are no Relaxations or Departures from DMURS in the design of the scheme.

### **3.6 Safety Barrier Risk Assessment**

There are no existing safety barriers within the scheme extents. Barriers are generally inappropriate in the urban area. None are needed, and none are to be provided.

### **3.7 Proposed Drainage**

The existing drainage layout is to be re-used, unchanged by the scheme.

### **3.8 Pavement**

The road pavement has recently been renewed and is unaltered by the scheme.

### **3.9 Kerbs, Footways & Paved Areas**

#### **3.9.1 Kerbs**

All kerbs located at the edge of carriageway and adjacent to footways or traffic islands will have an upstand of 125mm.

All kerbs located at the edge of carriageway and adjacent to parking areas and accesses will have an upstand no greater than 25mm.

All kerbs located at the edge of carriageway pedestrian crossings will have an upstand of no greater than 6mm.

#### **3.9.2 Footways**

All footways and parking areas will either be constructed in bituminous, concrete, stone or block paving materials.

#### **3.9.3 Tactile Paving**

Tactile paving with a blister surface will be provided at all pedestrian crossings to provide information to visually impaired pedestrians of the presence and alignment of crossing points within the scheme. The tactile paving will be provided in accordance with the recommendations set out in the "*Guidance on the use of Tactile Paving Surfaces (2005) published by the UK Department of the Environment, Transport and The Regions.*"

### **3.10 Traffic Signs & Road Markings**

Traffic signs (i.e. regulatory, warning and directional) and road markings will be provided in accordance with the relevant TII Publications and the Department of Transport, Tourism and Sport *Traffic Signs Manual* (TSM).

### **3.11 Public Lighting**

All areas within the scheme extents are currently covered by street lighting. All cables for the street lighting are currently underground.

Any changes to public lighting design will be carried out in accordance with DMURS, which requires street lighting to be designed in accordance with BS-5489. Lighting design will be produced using Lighting Class C3. In general, any lighting installation will use LED lanterns, chosen for their energy efficiency and long maintenance-free life. Lighting equipment will be controlled by a photocell.



#### **4. ROAD SAFETY AUDIT**

A Stage 1 Road Safety Audit was carried out in accordance with the DN-REQ-03034 and the recommendations of the audit will be incorporated into the preliminary design. A copy of the Road Safety Audit is contained in Appendix B.

#### **5. ENVIRONMENTAL & ECOLOGY**

An Appropriate Assessment Screening Report has been carried out.

It has been objectively concluded that:

- 1) The proposed scheme is not directly connected with, or necessary to the conservation management of the European sites considered in the assessment.
- 2) The proposed scheme is unlikely to indirectly significantly affect the Qualifying interests or Conservation Objectives of the European sites considered in the assessment.
- 3) The proposed scheme, alone or in combination with other projects, is not likely to have significant effects on the European sites considered in the assessment in view of their conservation objectives.
- 4) It is possible to conclude that there would be no significant effects, no potentially significant effects and no uncertain effects if the proposed scheme were to proceed.

It has been excluded, on the basis of objective information, that the proposed scheme, individually or in combination with other plans or projects, will not have a significant effect on a European site.

It is the view of the competent authority that it is not necessary to undertake any further stage of the Appropriate Assessment process.

#### **6. ARCHEOLOGY, ARCHITECTURAL & CULTURAL HERITAGE**

An archaeological assessment was carried out. It concluded that the construction works for the scheme will not impact on any known archaeological sites contained in the RMP for Leitrim.

## **APPENDICES**

## **APPENDIX A – Drawings**



THE DOCK

n.8

n.9

ST GEORGE'S

SN.6

n.6

TOWNSPARK

SN.5

n.5

BRIDGE STREET

n.4

QUAY ROAD

NEW ESB SUBSTATION LOCATION

HEALTH CARE CENTRE

SN.4

LOCATION OF NEW COVERED BUS SHELTER

COUNTY COUNCIL

n.7

MERCANTILE PLAZA

SN.3

CRYANS HOTEL

LANDMARK HOTEL

n.3

TOURIST INFORMATION

n.2

SN.2

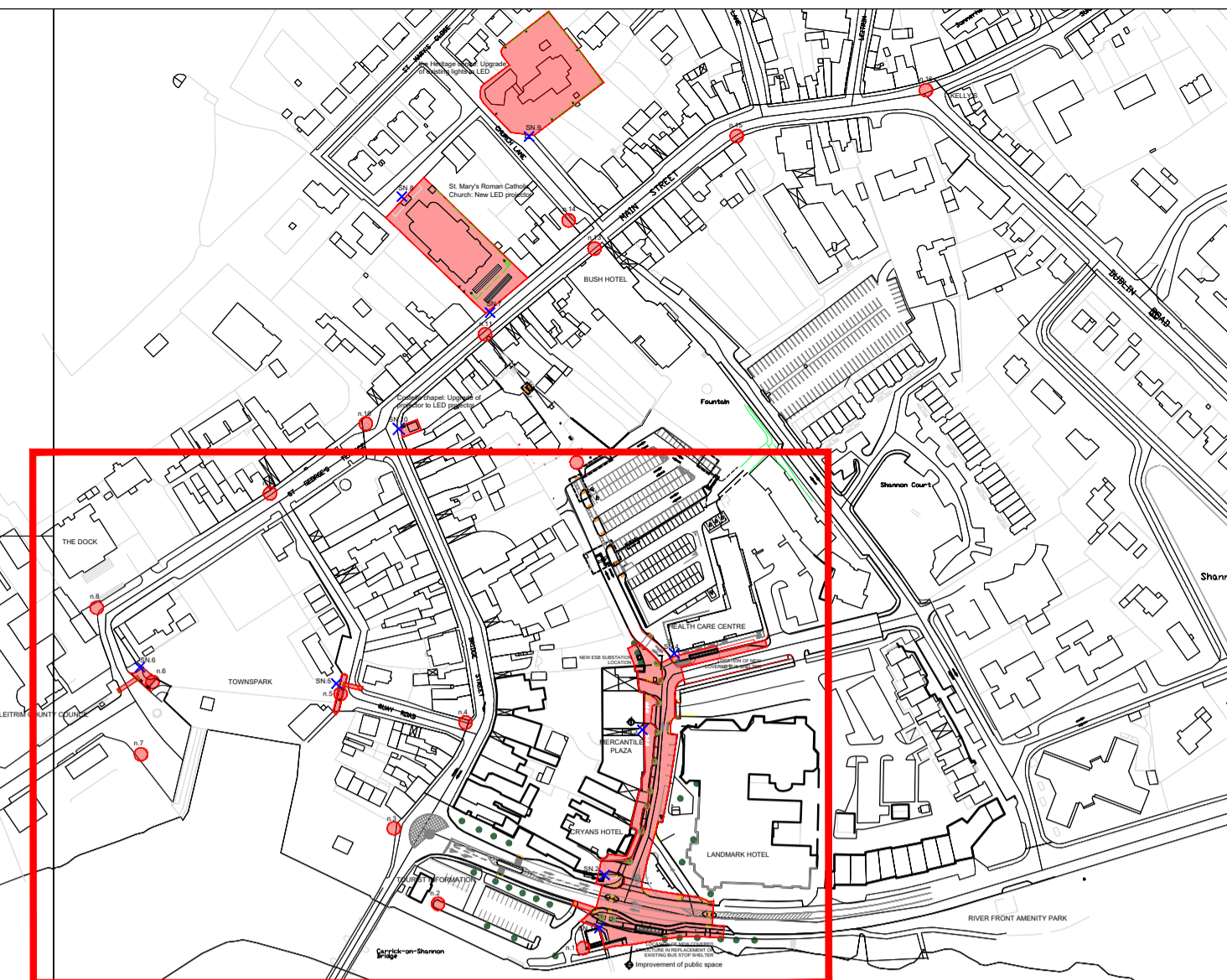
SN.1

n.1




LOCATION OF NEW COVERED STRUCTURE IN REPLACEMENT OF EXISTING BUS STOP SHELTER

Carrick-on-Shannon Bridge

Improvement of public space



Site Layout Plan  
1:500

-  Site Boundary
-  Signage location
-  Site Notices (SN.)

General Notes:  
This drawing is copyright to dhbArchitects.  
All dimensions are in millimeters.



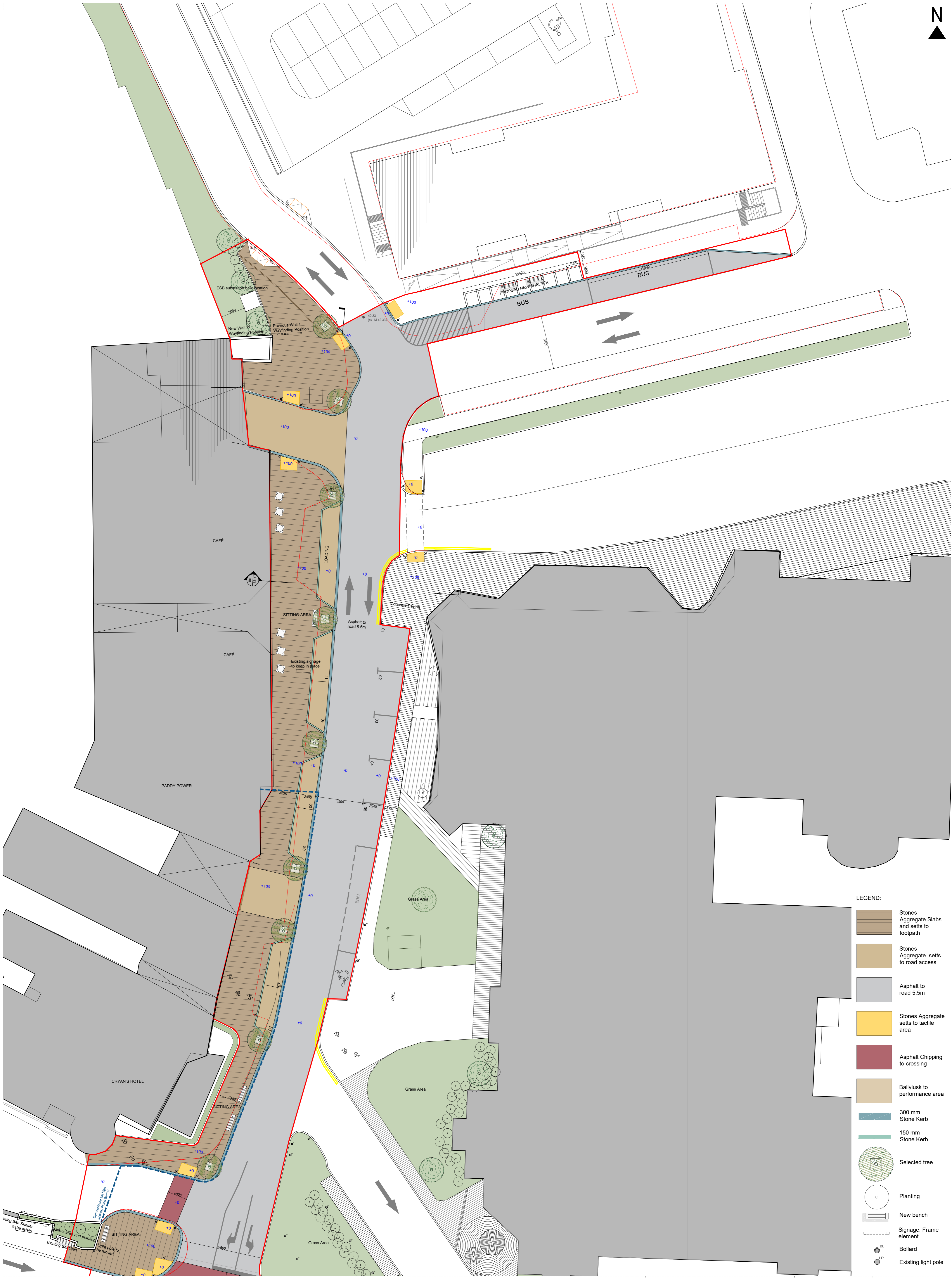
Revisions	Date
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	

**dhbarchitects**

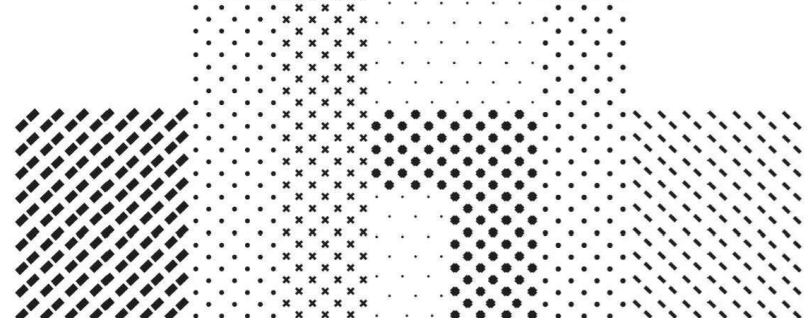
St. Catherine's Hall  
Catherine Street  
Waterford City  
X91 RX99, Ireland.  
+353 (0)51 858121  
info@dhbarchitects.ie  
www.dhbarchitects.ie



Project	Stage
Carrick Destination Towns	Part 8 Planning
Client: Leitrim County Council	Project No.: 20-03-CDT
Client: Leitrim County Council	Date: 19-07-2021
Drawing Title: Site Layout Plan (1/2)	Drawing No.: 2003
Scale: 1:500	Revision: 01
Drawn by: dhb	Approved by: dhb



- LEGEND:**
- Stones Aggregate Slabs and sets to footpath
  - Stones Aggregate sets to road access
  - Asphalt to road 5.5m
  - Stones Aggregate sets to tactile area
  - Asphalt Chipping to crossing
  - Ballylusk to performance area
  - 300 mm Stone Kerb
  - 150 mm Stone Kerb
  - Selected tree
  - Planting
  - New bench
  - Signage: Frame element
  - Bollard
  - Existing light pole



General Notes:  
This drawing is copyright to dhbArchitects.  
All dimensions are in millimeters.

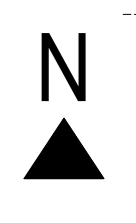
Revisions:	Date:
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	



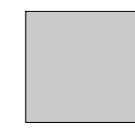
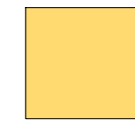



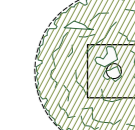
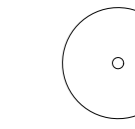





**dhbarchitects**

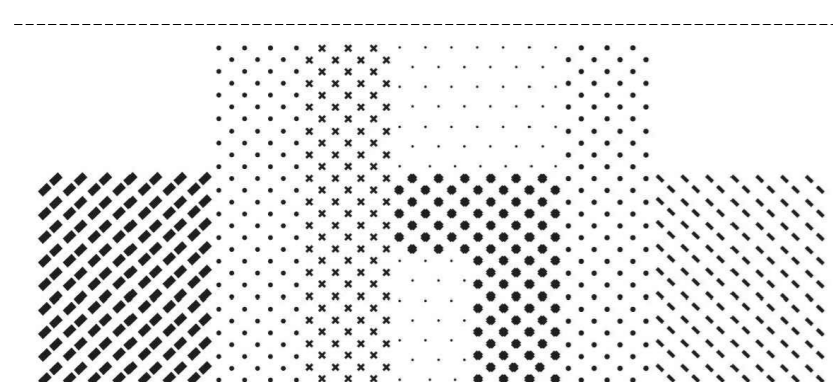
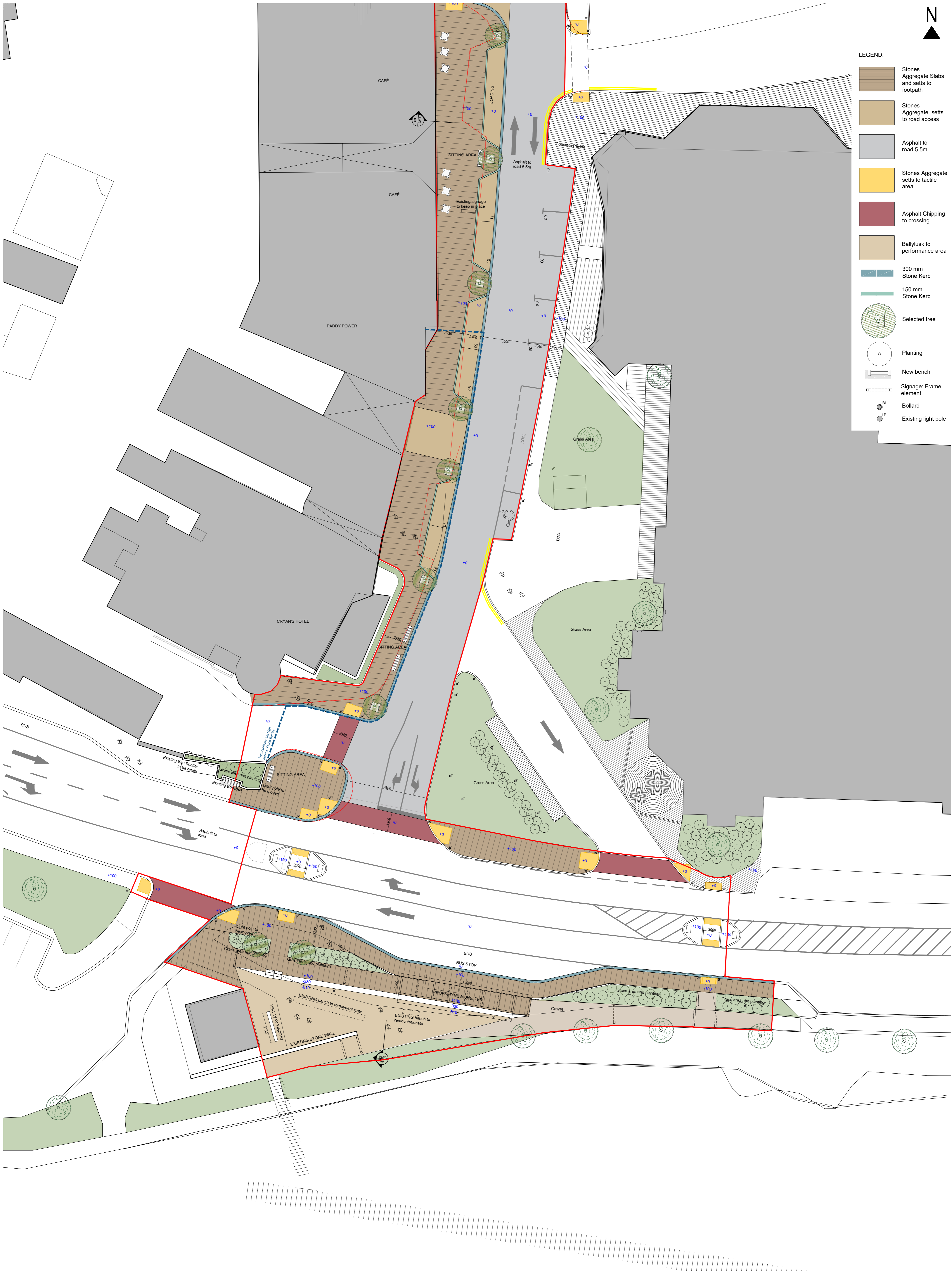
St. Catherine's Hall  
Catherine Street  
Waterford City  
X91 RX99, Ireland.  
+353 (0)51 858121  
info@dhbarchitects.ie  
www.dhbarchitects.ie



Project: Carrick Destination Towns	Stage: Part 8 Planning
Client: Leitrim County Council	Project No.: 20-03-CDT
Drawing Title: Proposed Plan 1/2	Date: 01-07-2021
Scale A1: 1:200	Drawing No.: 2200
Drawn by: dhb	Revision: 01
Approved by: dhb	



- LEGEND:**
-  Stones Aggregate Slabs and sets to footpath
  -  Stones Aggregate sets to road access
  -  Asphalt to road 5.5m
  -  Stones Aggregate sets to tactile area
  -  Asphalt Chipping to crossing
  -  Ballyusk to performance area
  -  300 mm Stone Kerb
  -  150 mm Stone Kerb
  -  Selected tree
  -  Planting
  -  New bench
  -  Signage: Frame element
  -  Bollard
  -  Existing light pole



General Notes:  
This drawing is copyright to dthArchitects.  
All dimensions are in millimeters.

Revisions:	Date:
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	



St. Catherine's Hall  
Catherine Street  
Waterford City  
X91 EX99, Ireland.  
+353 (0)51 858121  
info@dtharchitects.ie  
www.dtharchitects.ie



Project: Carrick Destination Towns	Stage: Part 8 Planning
Client: Leitrim County Council	Project No.: 20-03-CDT
Drawing Title: Proposed Plan 2/2	Date: 01-07-2021
Scale A1: 1:200	Drawing No.: 2201
Drawn by: dth	Revision: 01
Approved by: dth	

## **APPENDIX B – Road Safety Audit**

**21014-01-001**

**N4 Carrick Destination Towns**  
**ROAD SAFETY AUDIT STAGE 1 / 2**

**June 2021**

**ROADPLAN**  
CONSULTING

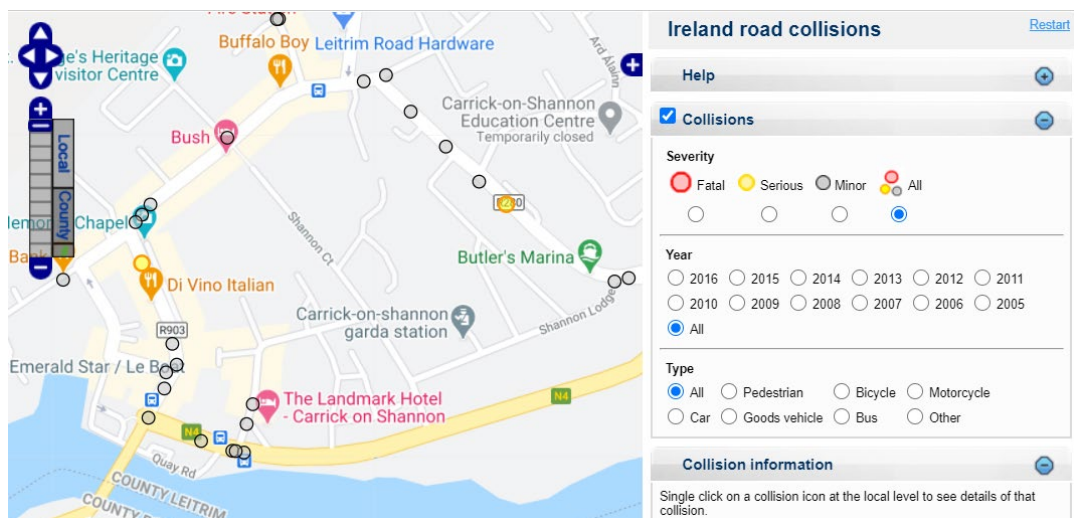
7, Ormonde Road  
Kilkenny  
R95 N4FE

Tel: 056 7795800  
info@roadplan.ie



## 1. INTRODUCTION

- 1.1 This report describes a Stage 1/2 Road Safety Audit carried out at the N4 at Carrick on Shannon, Leitrim on behalf of Leitrim County Council. In accordance with TII requirements relating to road safety audits carried out under restrictions relating to Covid-19, the audit was initially issued as an interim report. This is the final report following the completion of the site visit.
- 1.2 The audit team members were as follows:
- Dermot Donovan, BE CEng MIEI.  
Auditor Number DD50250
  - George Frisby, BE CEng MIEI  
Auditor Number GF51255
- 1.3 Both audit team members visited the site on the 13<sup>th</sup> May 2021. The audit comprised an examination of the drawings relating to the scheme supplied by Leitrim County Council and an examination of the site.
- 1.4 The proposed scheme entails the improvement of the public realm within the town of Carrick-on-Shannon. This audit is restricted to the works proposed at the junction of the N4 with the access road at the Landmark Hotel.
- 1.5 The speed limit of the N4 is 50 km/h and that of the minor road is 30 km/h.
- 1.6 An examination of the RSA collision database shows that there have been six injury collisions recorded in the area of the junction over the period 2005 to 2016.



All were of minor injury severity, and all were pedestrian collisions. Three were directly at the junction, one was just to the west on the N4, and two others were on the minor arm.

All four collisions on the N4 occurred at night.

- 1.7 This Stage 1 / 2 Audit has been carried out in accordance with the relevant sections of TII GE-STY-01024. The team has examined only those issues within the design relating to the road safety implications of the scheme and has therefore not examined or verified the compliance of the design to any other criteria.
- 1.8 All problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise accident occurrence.
- 1.9 Appendix A lists the audited drawings.

## 2. STAGE 1 / 2 AUDIT

### 2.1 Problem

The existing pedestrian island on the N4, on the west side of the junction, is to be moved slightly eastwards and to be enlarged in size. In addition, the kerb line radius on the west side of the junction mouth is to be decreased slightly and the kerb-to-kerb width of the minor road is to be narrowed to 8.28m. These changes may make turning more difficult for larger vehicles, particularly the following manoeuvres:

- Right turn out of the minor road;
- Right turn to the minor road;
- Left turn to the minor road.

Difficulty in turning could leave the occupants of a turning vehicle exposed to risk of being struck by a mainline vehicle travelling ahead through the junction. This is a potential problem; it cannot be ascertained until swept path assessment is done.

### Recommendation

Carry out a swept path assessment of the vehicle types expected to use the junction and, if necessary, amend the layout of the kerbed island and kerbed mouth of the junction to ensure that vehicles can turn with ease.

### 2.2 Problem

The drawings indicate that coloured markings are to be provided on the roads and streets at locations where pedestrian crossing facilities are provided: at two locations across the N4 (the locations of the traffic islands) and across the exits from the minor road. These may lead to uncertainty for road users in relation to priority between vehicles and pedestrians; a pedestrian may assume priority, and may step into the path of a vehicle; a vehicle, slowing down to allow a pedestrian to cross, would be at risk of being struck by a following vehicle, particularly on the N4.

### Recommendation

Ensure that the layout chosen does not give rise to uncertainty in relation to priority, particularly on the N4. Markings should comply with the layouts of the Traffic Signs Manual. The design standards (TII Standards or DMURS as appropriate) may provide additional guidance.

### 2.3 Problem

On the minor arm of the junction, the location at which vehicles are shown to stop coincides with the location where pedestrians are to cross. This could lead to conflicts between vehicles and pedestrians.

**Recommendation**

Consider maintaining the layout that exists at the site at present, where the pedestrian crossing is set back behind the first vehicle. Alternatively, set back the vehicular stop line behind the crossing, subject to both compliance with the Traffic Signs Manual and the availability of adequate sightlines for exiting drivers.

**2.4 Problem**

A one-way slip road is provided fronting the Landmark Hotel to facilitate drop-off. There is nothing to indicate to a driver on the N4 that this road is one-way outbound. A driver might attempt to turn right from the N4 into this road and, one becoming aware of the error, might reverse back on to the N4.

**Recommendation**

Provide road markings or signage to indicate prohibition on entry from the N4.

**2.5 Problem**

Roadside parking is to be provided in indented bays along the west side of the minor road. It may obstruct sightlines at the access from the new car park.

**Recommendation**

Ensure that adequate sightlines are available to drivers exiting the car park.

**2.6 Problem**

A bus set-down bay is to be located beside the public car park access. A bus may block visibility for a driver exiting the new car park.

**Recommendation**

Ensure that adequate sightlines are available to drivers exiting car park.

**2.7 Problem**

Facilities are not shown to be provided for pedestrians at the channelising islands at the crossings on the N4. This could increase the risk of pedestrian collisions.

**Recommendation**

- Tactile paving should be provided within the channelising islands.
- The width of tactile paving and drop kerbs should match the width of the crossing.

- Provide keep left signs on the islands.

## 2.8 **Problem**

At the right-angled bend on the minor road, on the inside of the bend, a footpath terminates on the east side of the minor road, and no connectivity is provided to pedestrians to continue their journey.

### **Recommendation**

Provide continuity to the footpath network.

## 2.9 **Observation**

Of the five collisions (all pedestrian) in the RSA database relating to this location, four are recorded as occurring at night. Therefore, the lighting design should provide a high standard of illumination at the junction.

**3. AUDIT TEAM STATEMENT**

3.1 We certify that we have examined the drawings listed in Appendix A and have inspected the site the scheme, as described earlier in this report. This examination has been carried out with the sole purpose of identifying any features of the design / scheme that could be removed or modified to improve the safety of the scheme.

Signed..... Dermot Donovan

Date .....29<sup>th</sup> January 2021.....

Signed..... George Frisby

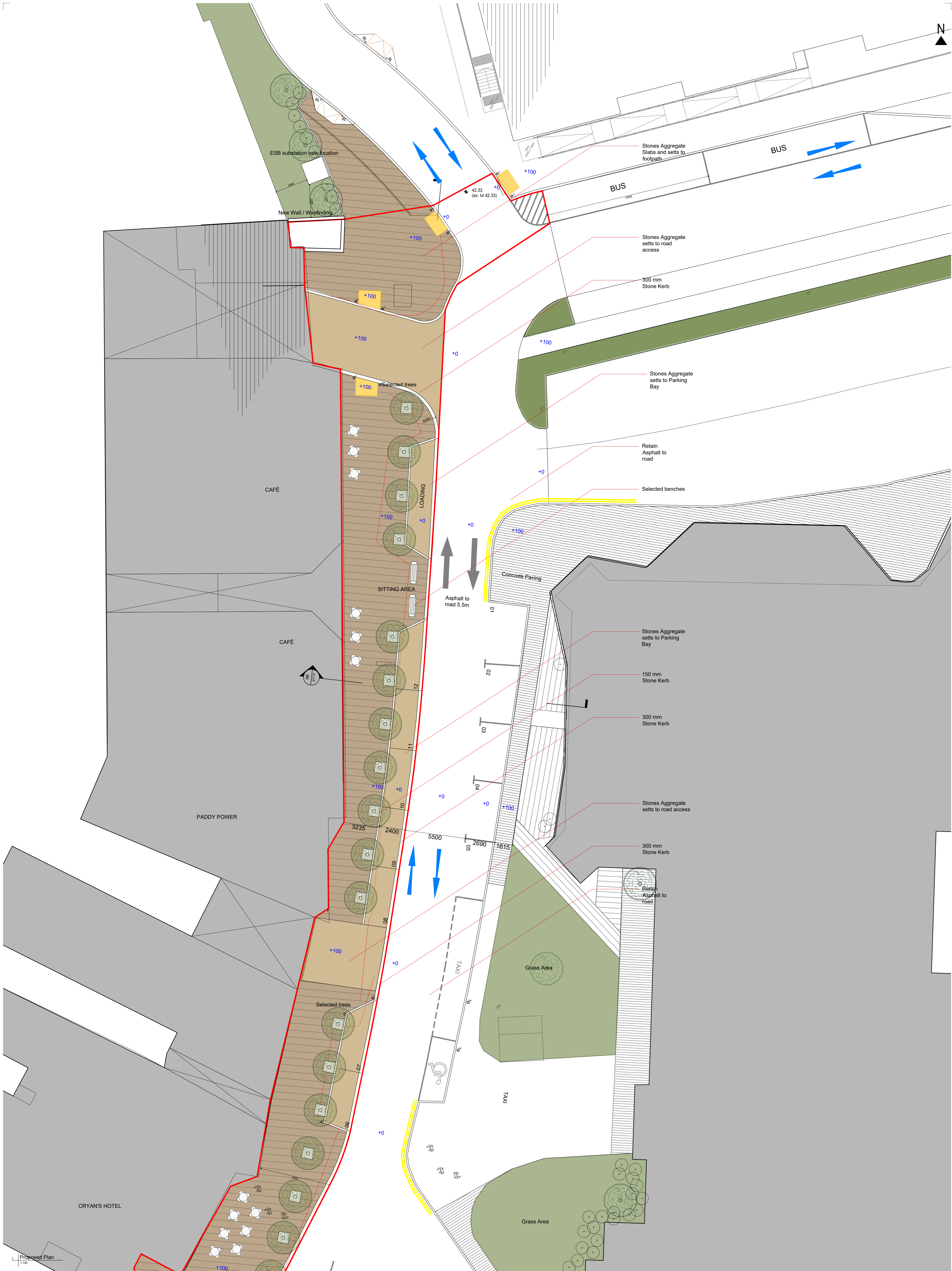
Date .....29<sup>th</sup> January 2021.....

## APPENDIX A

### List of Drawings Examined

The following drawing numbered have been provided electronically in PDF format by Leitrim County Council:

Drawing number	Rev	Drawing title
2200	02	Proposed Plan 1 / 2
2201	02	Proposed Plan 2 / 2



Proposed Plan  
1:150

Revisions:	Date:
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	

General Notes:  
This drawing is copyright to ddbArchitects.  
All dimensions are in millimeters.

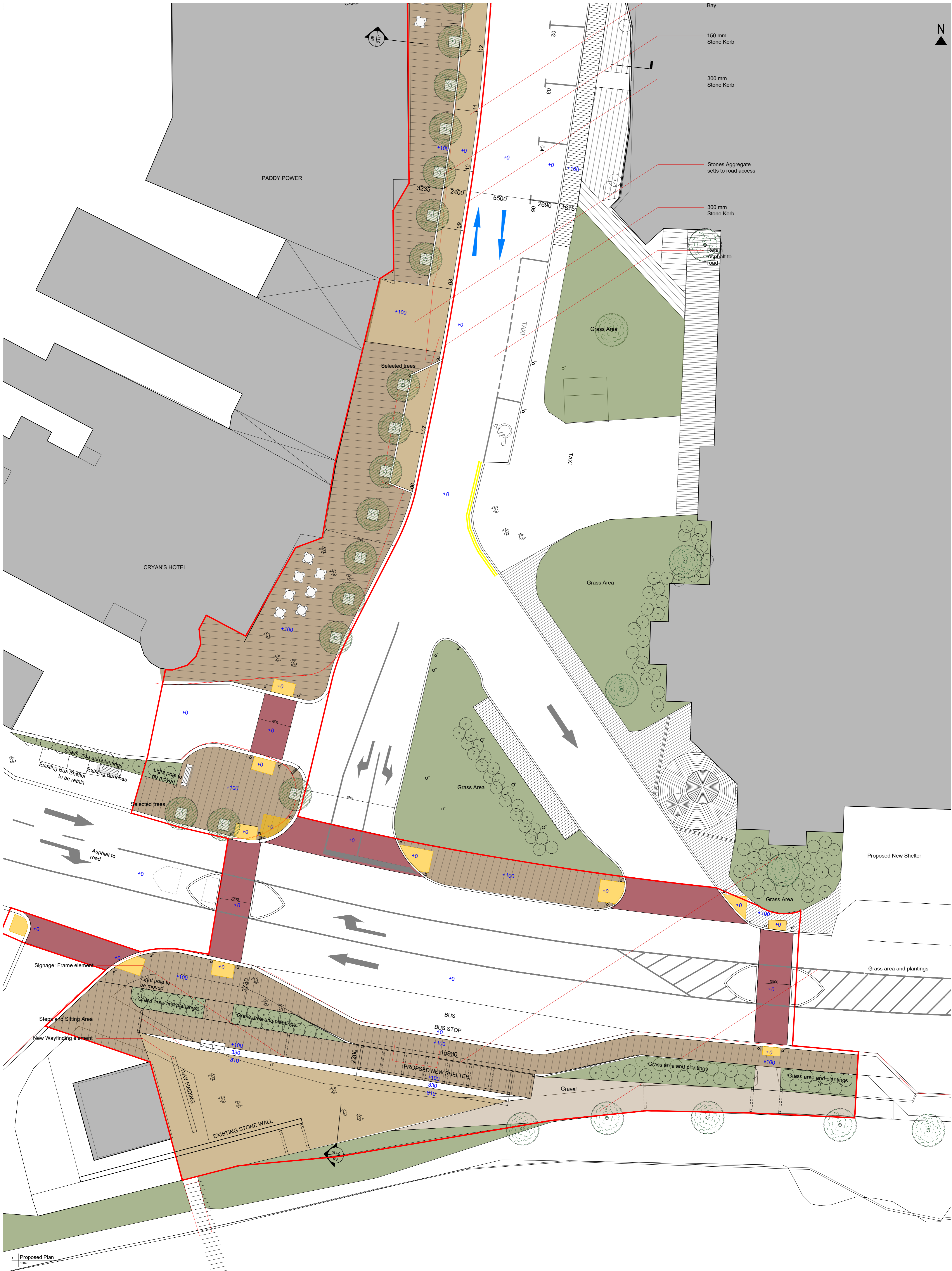
**ddbarchitects**

St. Catherine's Hall  
Catherine Street  
Waterford City  
X91 RXP9, Ireland.  
+353 (0)51 858121  
info@ddbarchitects.ie  
www.ddebarchitects.ie

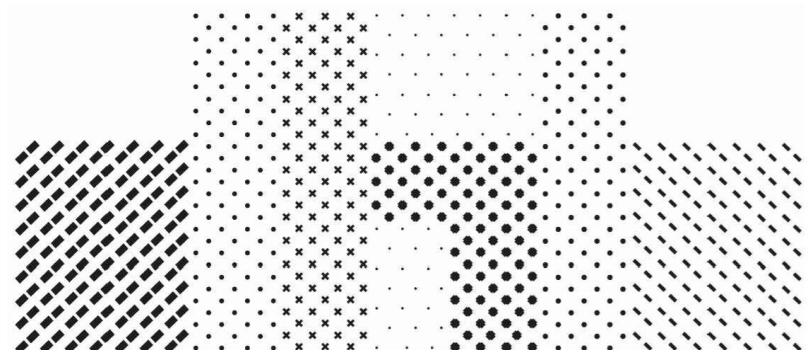


Project: Carrick Destination Towns	Stage: Part 8 Planning
Client: Leitrim County Council	Project No.: 20-03-CDT
Client: Leitrim County Council	Date: 04-11-2020
Drawing Title: Proposed Plan 1/2	Drawing No.: 2200
Scale: 1:150	Revision: 02
Drawn by: dhb	Approved by: dhb





1 Proposed Plan  
1:150



General Notes:  
This drawing is copyright to ddbArchitects.  
All dimensions are in millimeters.

Revisions:	Date:
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	

<b>dhbarchitects</b> St. Catherine's Hall Catherine Street Waterford City X91 RXP9, Ireland. +353 (0)51 858121 info@dhbarchitects.ie www.dhbarchitects.ie	Project: Carrick Destination Towns	Stage: Part 8 Planning
	Client: Leitrim County Council	Project No.: 20-03-CDT
Drawing Title: Proposed Plan 2/2	Drawing No.: 2201	Revision: 02
Scale: 1:150	Drawn by: dhb	Approved by: dhb



# SAFETY AUDIT FEEDBACK FORM

**Scheme:** N4 Carrick Destination Towns

**Document Number:** 21014-01-001

**Audit Stage:** Stage 1 / 2

**Date Audit Completed:** 29<sup>th</sup> January 2021

Paragraph No. in Safety Audit Report	To Be Completed By Designer			To Be Completed by Audit Team Leader
	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Describe alternative measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted.	Alternative measures or reasons accepted by auditors (yes/no)
2.1				
2.2				
2.3				
2.4				
2.5				
2.6				
2.7				
2.8				

**Safety Audit**

Signed off ..... **Design Team Leader**

Print Name .....

Date .....

**Safety Audit**

Signed off ..... **Employer**

Print Name .....

Date .....

**Safety Audit**

Signed off ..... **Audit Team Leader**

Print Name .....

Date .....

Please complete and return to:

Roadplan Consulting Ltd.  
7, Ormonde Road  
Kilkenny  
E-mail: info@roadplan.ie