



Carroll & Browne Consultants
Design and Management

***PROPOSED WEIGBRIDGE FACILITY
AT M11 / JUNCTION 19***

***PLANNING AND ENGINEERING
SERVICES REPORT***



Carroll & Browne Consultants
10 The Square
Kilcock
Co. Kildare



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REPORT**

**CARROLL & BROWNE CONSULTANTS
10 THE SQUARE
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CO. KILDARE**

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1.0 Introduction

Preamble

- 1.1 Carroll & Browne Consultants is a firm of Consulting Engineers specialising in Civil Engineering, Structural Engineering, Planning and Project Management.
- 1.2 Carroll & Browne Consultants has been commissioned by BAM Civil Ltd / Wicklow County Council to prepare Part 8 Planning Documentation for a Weighbridge Facility at the N11/M11 Roads Depot at Junction 19, Cranagh, Redcross, Co. Wicklow.
- 1.3 This Planning and Engineering Services Report is intended to give context and background to the proposed development at Cranagh, Redcross, Co. Wicklow and to demonstrate the Proposed Developments compliance with the current Wicklow County Council Development Plan 2022-2028 (WDP), as well as National Policy and Guidance. By offering a well-supported understanding and rationale for the proposed development, this report aims to aid the Planning Authority in their evaluation of the planning application.

Development Description

- 1.4 The development will consist of:
- New entrance to Weighbridge Facility.
 - Weighbridge.
 - Weighbridge Admin building consisting of Entrance Hall, Office Area, Kitchen and WC.
 - Car parking spaces.
 - Landscaping.
 - Public Lighting.
 - Surface water system including on-site soakaways and oil separator.
 - Foul water system discharging to a new effluent treatment system located within the adjacent M11 Roads Depot.
 - Palisade security fencing including gates.
 - Water supply.

2.0 Planning Report.

Site Location

2.1 The site is location on the R772 Regional Road, to the immediate southeast of Junction 19 of the M11 Motorway.

2.2 The Site Location is shown on Figure 1.



Figure 1 – Site Location

Site Description

2.3 The site is largely a greenfield area with the proposed development occurring primarily on grasslands. There is an existing entrance to the M11 Roads Depot immediately to the north of the proposed facility, which will be utilised as the exit from the facility.

2.4 The existing site is shown on Figure 1.



Figure 2 – Existing Site

Requirement for Facility

- 2.5 The European Union, via Directive 96/53/EC, sets the maximum authorised dimensions in national and international traffic and the maximum authorised weights in international traffic. This ensures that no obstacles are created which would prevent the circulation of commercial vehicles between Member States. However Member States are entitled to set their own maximum authorised weights for domestic journeys. This Directive has been transposed into Irish Law by the Road Traffic (Construction & Use of Vehicles) Regulations 2003.
- 2.6 Maximum legal weights are determined by a number of factors, including the spacing between the axles, the outer axle and bogie spread, the number of tyres on each axle, and the type of suspension fitted. Vehicles with Road Friendly Suspension (RFS) and twin tyres on the drive axle are permitted higher weights than those without. The majority of vehicles with RFS operate on air suspension, but some rubber and hydraulic suspension may also count as road-friendly.
- 2.7 Loading of vehicles in excess of permitted limits can lead to:
- Damage of road pavement, bridge structures and culverts.
 - Safety implication for loaded vehicles and other road users vis-à-vis greater stopping distance requirements for said loaded vehicles.
 - Roadworthiness implications for over-loaded vehicles.
- 2.8 The proposed weighbridge facility is therefore required to enable checking of vehicle weights on the M11 corridor and generally within the eastern extents of County Wicklow in order to ensure that loaded vehicles comply with the 2003 Regulations.

Zoning

- 2.9 An examination of the site on the Zoning Map Viewer found that there is no Zoning designated on the site.
- 2.10 The proposed facility is located along the M11 east coast 'strategic transportation corridor'. Lands immediately adjacent to the M11 corridor, including the vicinity of interchanges, generally have a General Zone Type (GZT) classification of N1.1 or N1.6. These sub-categories apply to a zone that is intended to 'provide mainly for transport'.

Designated Sites

- 2.11 European designated sites refer to areas protected under European Union nature conservation legislation. These sites are designated under two main directives: the Birds Directive (2009/147/EC) and the Habitats Directive (92/43/EEC), collectively known as Natura 2000 Sites. Natural Heritage Areas (NHA) and Proposed Natural Heritage Areas (pNHA) are designated under the Wildlife (Amendment) Act 2000 and are established to protect and conserve various elements of Ireland's natural heritage, including habitats, flora, and fauna. The identification of these sites is relevant in the context of the projects as the planning application and Proposed Development would have to demonstrate that the proposals would not have a significant impact on the conservation objectives of the designated sites.
- 2.12 A Habitats Directive Stage 1 Screening Report has been prepared in support of this Part 8 Planning Procedure. The screening report evaluated the proposed Weighbridge Facility to determine whether or not significant negative impacts on Natura 2000 sites are likely to arise by virtue of the facility's implementation. The report concluded that the proposed facility, either individually or in combination with other plans and projects, shall not give rise to significant effects on the integrity of any Natura 2000 site.

Protected Structures

- 2.13 A desktop study of the subject site and surrounding area was undertaken to identify records of protected structures which are located within 1 kilometre of the proposed weighbridge facility.

2.14 The National Inventory of Architectural Heritage and Appendix 4 – Record of Protected Structures of the 2022-2028 Wicklow County Development Plan were utilised for the purposes of this desktop study. This study found no protected structures within 1km of the proposed facility. The nearest Protected Structures are approximately 2.5km to the east of proposed facility (Protected Structures Ref. Nr’s 36-01 to 36-06 inclusive as detailed in Appendix 4 of the Wick Co. Co. Development Plan 2022-2028).

Planning History

2.15 An examination of the Wicklow County Council Planning Portal found that there are no previous planning applications on the subject site.

Planning Assessment

Principle of the Development

2.16 The following section sets out the proposed developments compliance with the standards and objectives set out in the Wicklow County Development Plan 2022-2028.

Zoning

2.17 As stated above in Paragraph 1.14 of this report the subject site, due to its proximity to the M11 Road Corridor, has an N1.1/N1.6 zoning. These zoning objectives are detailed below.

Road, N1.1, would cover roads but also for example include service stations and bus stops.

Other, N1.6, is a catchall sub-category which would be used when a zone intended to provide mainly for transport uses does not sit well into any of the other sub-sub-categories i.e. N1.1 to 1.5 inclusive.

Design

2.18 The design of the proposed development has regard to the requirements associated with occasional/random checking of vehicle weights. The layout incorporates a weighbridge suitable for all vehicles on Irish roads and a small Admin Building incorporating an office and welfare facilities (WC and Kitchen/Canteen).

2.19 The proposed weighbridge is a 'ROC V4 Weighbridge' by Precia Molen', which is designed for all vehicle weighing applications. It weighbridge is composed of a modular structural concrete design.

Car Parking

2.20 The proposed facility will only have occasional use. When a HGV or a number of HGV's are directed to the facility they will be accompanied by 1 to 3 vehicles. There will be no members of the public visiting the facility.

2.21 The car parking for the Proposed Facility therefore will be required to accommodate the following, all on an occasional basis:

1. Vehicles accompanying vehicles that are to be weighed e.g. WCC personnel, An Garda Síochána, etc.
2. Maintenance personnel.
3. WCC Admin personnel.

2.22 A minimum of 3 car parking spaces will be required to facilitate the facility. It is proposed however to provide 7 car parking spaces as detailed on the Proposed Layout drawing.

Civil Engineering

2.23 An Engineering Services Report is included as Chapter 3 of this document.

3.0 Engineering Services Report

Introduction

- 3.1 This Report relates to the civil infrastructure for the proposed development of a site on the R772 to the southeast of Junction 19 on the M11 Motorway.
- 3.2 The Development consists of a weighbridge facility and small administration building comprising an office and welfare facilities (WC and Kitchen/Canteen).

Roads

- 3.3 The internal roads allow access to the weighbridge within the facility for HGV's. An Autotrack Analysis was carried out to ensure the layout facilitate the entry and exit of HGV's, both rigid and articulated vehicles.
- 3.4 The roads will incorporate precast concrete or extruded concrete kerbs.
- 3.5 The pavement will incorporate 40mm AC 14 close surface 70/100 des Surface Course on 60mm AC 20 Dense Binder Layer on 150mm AC32 Dense Base on 150mm Clause 804 Sub-base on Class 6F2 Capping Material. The thickness of Capping Material will be determined by CBR's taken at sub-formation level.
- 3.6 The R772 at the exit from the site has a speed limit of 80 kph. Junction Visibility requirements require a sightline of 120m (one step below desirable minimum) up and down the R772, from a distance of 3m back from the hardshoulder. This sightline requirement is met at the exit from the site.
- 3.7 Surface water run-off from roads within the development will be collected by gullies and from the gullies will discharge to the surface water sewer network. All roads are designed to ensure that sufficient cross-falls and gradients are available to drain all areas of the roads.

Surface Water Drainage

- 3.8 The rainfall data used in the design is site-specific and was obtained from Met Eireann. In accordance with recommendations of GSDSDS, a climate change factor of 20% was applied to the design of the surface water sewers. This was achieved by applying a 20% factor to the rainfall data obtained from Met Eireann.
- 3.9 The surface water collection network was designed in accordance with IS EN 752-4: Part 4 'Drain and sewer systems outside buildings' as published by the NSAI, to carry the 2 year rainfall event without surcharge. The design was carried out using the industry-standard software package 'Infodrainage'.
- 3.10 Self-cleansing flows of greater than 0.75m/s are provided.
- 3.11 The extent of roads within the proposed development is small and therefore it is proposed to dispose of surface water by way of soakaways designed to BRE Digest 365. An oil separator will be installed on the surface water networks prior to the proposed soakaways. A catchpit manhole will also be installed immediately up-stream of the interceptor (SWMH-A-03 detailed on Drawings 1459-P-2014) to trap silt or other deposits prior to water entering the oil separator.
- 3.12 The surface water drainage system operates entirely under force of gravity. Drains and gullies should be inspected on an annual basis, with covers lifted to ensure that manholes remain accessible. Where the inspection reveals evidence of silt or other deposits, these should be sucked out and disposed of appropriately. However, given the nature of the development and the anticipated low traffic volume within the facility, it is not anticipated that significant maintenance measures will be required for this infrastructure.

Water Supply

- 3.13 There is no public watermain in the vicinity of the site.
- 3.14 The intermittent use of the Admin Building will require minimal water usage and it is therefore proposed to take a water supply from the existing well serving the adjacent M11 Roads Depot.

Wastewater

- 3.15 Separate systems will be provided within the development for the collection and disposal of surface water run-off and wastewater.
- 3.16 There is no public sewer in the vicinity of the site.
- 3.17 The intermittent use of the Admin Building will result in minimal wastewater disposal from the facility and it is therefore proposed to discharge wastewater to a new effluent treatment system that is being installed (separately) in the adjacent M11 Roads Depot.
- 3.18 Wastewater sewers are designed to comply with the Irish Water Code of Practice for Wastewater.

Public Lighting

- 3.19 There is existing public lighting on the R772 from the existing entrance to the M11 Roads Depot northwards to the Junction 19 eastern roundabout. The existing public lighting will serve the exit from the Weighbridge Facility and M11 Roads Depot.
- 3.20 New public lighting will be installed as part of the development as detailed on Drawing 1459-P-203 Rev A - Proposed Services.
- 3.21 As the facility will be used intermittently it is proposed that a PIR will detect when the gate is opened and will light the way to the office. The remainder of the lights in the facility can then be manually switched on by way of a key switch on the side of the pillar.
- 3.22 The Public Lighting has been designed in accordance with ISEN12464-2:2014 - General requirements for areas and for cleaning at outdoor work places.
- 3.23 An Outdoor Light Report, Exterior Lighting ISOLUX layout and Exterior Lighting Layout is included as Appendix 1.

4.0 Conclusions

- 4.1 The Planning Report and Engineering Services Report detailed in Chapters 2 and 3 respectively have been prepared by Carroll & Browne Consultants to support a Part 8 Planning Procedure for a Weighbridge Facility adjacent to Junction 19 on the M11 Motorway.
- 4.2 The proposed development will allow Wicklow County Council and An Garda Síochána to weigh vehicles on the M11 road corridor and its environs to ensure that they are in compliance with Road Traffic (Construction & Use of Vehicles) Regulations 2003.
- 4.3 In summary, it is considered that the proposed facility results in a development which fully accords with the proper planning and development of the Roads Network, will allow Wicklow County Council to ensure compliance with the 2003 Regulations and will assist in the prevention of damage to the road networks within the County and particularly on the M11 Motorway.
- 4.4 There will be no discharge of surface water or wastewater to public sewers. Surface water discharge will be minimal and will be discharged to soakaways located within the proposed development. Wastewater will be disposed of to a new effluent treatment system located with the adjoining M11 Roads Depot.
- 4.5 Water will be provided from an existing well located within the adjoin M11 Roads Depot.
- 4.6 A Stage 1 Screening Report for Appropriate Assessment in accordance with the requirements of Article 6(3) of the EU Habitats Directive has evaluated the proposed Weighbridge Facility to determine whether or not significant negative impacts on Natura 2000 sites are likely to arise by virtue of the facility's implementation. The report found that the proposed facility, either individually or in combination with other plans and projects, shall not give rise to significant effects on the integrity of any Natura 2000 site and also that a detailed (Stage 2) Appropriate Assessment is not required.

Report by:



**Ger Browne - Chartered Engineer
Director
Carroll & Browne Consultants**

DATE: 21st February 2024

Appendix 1 – Public Lighting Report and Details



DATE: 4 January 2024
DESIGNER: Graham Sheehan
PROJECT No: SES 00624
PROJECT NAME: New Weighbridge Wicklow Carroll and Browne Consultants



Designed in accordance with ISEN12464-2:2014
General requirements for areas and for cleaning at outdoor work
places.
Table 5.1.3 Traffic areas for slow moving vehicles (max 10km/h.)

Outdoor Lighting Report

PREPARED BY: Sabre Electrical Services Ltd.
Unit 11 Bellevue Ind. Est.
Finglas
Dublin 11
Email: graham@sabrelighting.ie
Ph: 01 8110875

Layout Report

General Data

Dimensions in Metres Angles in Degrees
Grid Origin 465.0m x -64.0m
Area 135.0m x 66.0m
Sample Spacing 1.50m x 1.50m

Luminaires



Luminaire A Data

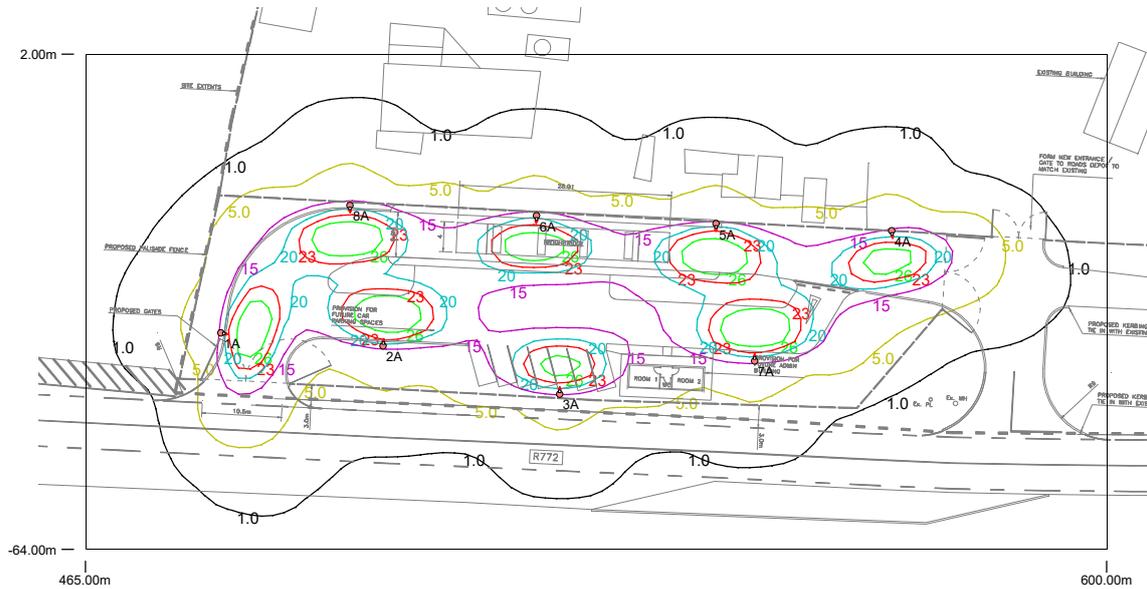
Supplier	C U Phosco
Type	P863-128-R2-740-W5-375-49W
Lamp(s)	740SS
Lamp Flux (klm)	7.61
File Name	P863-128-R2-740-W5-375-49W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	336.8, 24.3, 0.0
No. in Project	8

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	482.90	-35.13	8.00	350.00	5.00	0.00	0.40			
2	A	504.35	-36.86	8.00	87.00	5.00	0.00	0.40			
3	A	527.67	-43.29	8.00	90.00	5.00	0.00	0.40			
4	A	571.57	-21.53	8.00	276.00	5.00	0.00	0.40			
5	A	548.34	-20.58	8.00	268.00	5.00	0.00	0.40			
6	A	524.62	-19.52	8.00	268.00	5.00	0.00	0.40			
7	A	553.44	-38.88	8.00	90.00	5.00	0.00	0.40			
8	A	499.96	-18.15	8.00	271.00	5.00	0.00	0.40			

Horizontal Illuminance (lux)

Grid 1

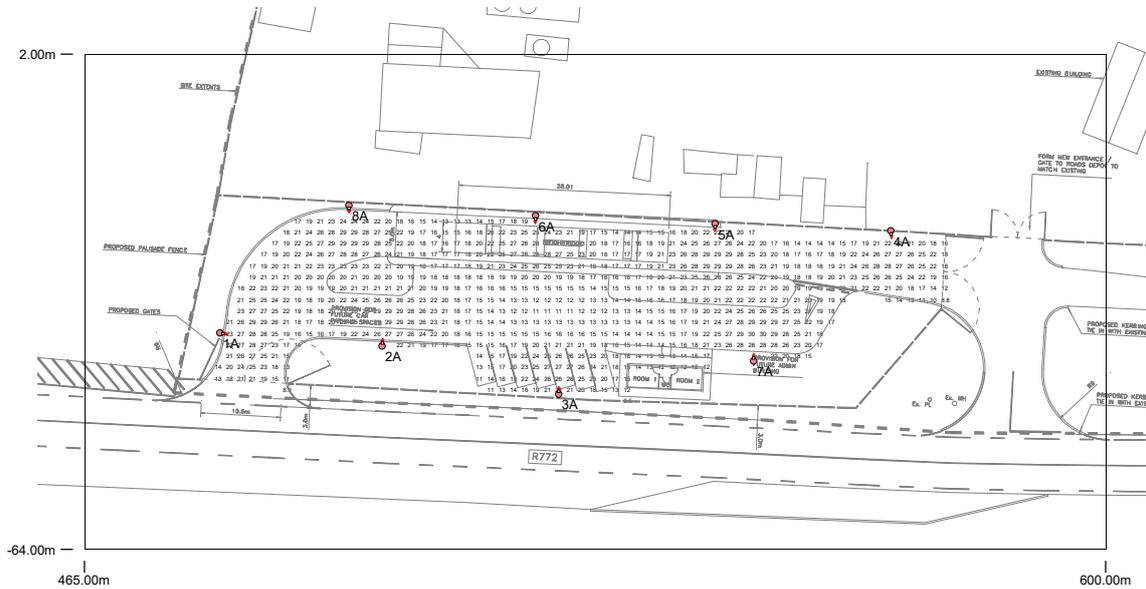


Results

Eav	20.04
Emin	8.53
E _{max}	29.64
Emin/E _{max}	0.29
Emin/Eav	0.43

Horizontal Illuminance (lux)

Grid 1



Results

Eav	20.04
Emin	8.53
Emax	29.64
Emin/Emax	0.29
Emin/Eav	0.43

TYPE A COLUMN DETAILS

HEIGHT	: 6m
BRACKET LENGTH	: Post-top
INCLINATION	: 5 Degrees
COLUMN QUANTITY	: 8

LANTERN DETAILS

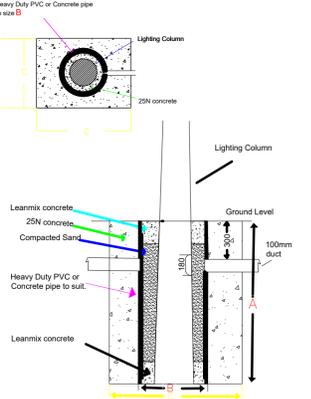
WATTAGE (OLO)	: 49w LED
MAKE & MODEL	: C.U.Phosco P863-128-R2-740-W5-375

No trees to be located within falling distance of P.L. columns.
Minimum set-back of columns is 800mm from face of kerb.
Public lighting cable chamber as per Local Authority P.L. Dept. specification.

2X16w NYC cable laid in ducting to I.S.10101:2020.
Single wall ducting, colour red to be used.
Manufactured from high density polyethylene (H.D.P.E.),
107mm external diameter, having a wall thickness of 5mm.
This ducting to have the words "Street Lighting" stamped on
seller size 5mm at 1m intervals. The lettering to face uppermost
in the trench. All works to Local Authority specification.
This is a circuit layout and not indicative of where ducts are to be laid.
Public Lighting Pillar (located at least 2m from ESB pillar)

Typical Base detail, to be checked
by site engineers.

COLUMN MOUNTING HEIGHT	12m	10m	8m	6m
COLUMN ROOT DEPTH	A 1.9m	1.7m	1.5m	1.0m
CABLE ENTRY DEPTH	0.3m	0.3m	0.3m	0.3m
ROOTING CONCRETE DEPTH				
COLUMN DOOR HEIGHT	1.5m	1.5m	1.5m	1.5m
COLUMN SLEEVE SIZE(mm) internal	B 450	400	400	300
EXCAVATION (width x length)	C 1000	800	600	400



NOTES
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THE CALCULATION SHOWN BY THIS DRAWING ASSUMES THAT THE WHOLE AREA BEING
CONSIDERED IS IN THE SAME PLANE, I.E. THERE ARE NO CHANGES IN GRADIENT OR
ELEVATION.

This drawing layout is based on calculated lighting levels, produced by Sabre Electrical Services Ltd., using Lighting
Really software. Any alterations to the layout or luminaire type used for the lighting design calculations, will require a
revised lighting design to be carried-out. A redesign may require approval from the Local Authority Public Lighting
Dept. prior to any alterations/modifications being implemented on site.

Sabre
ELECTRICAL SERVICES LTD.
Specialist Contractors
PUBLIC LIGHTING - FLOOD LIGHTING - SPORTS LIGHTING

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BELLVUE INDUSTRIAL ESTATE,
FINGLAS,
DUBLIN 11.
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- ?	GS	CHK
- ?	GS	CHK
- ?	GS	CHK
- ?	GS	CHK
- ?	GS	CHK
- ?	GS	CHK
- ?	GS	CHK
- ?	GS	CHK

REV DESCRIPTION INTS CHK'D DATE

CLIENT/CUSTOMER

Carroll and Browne Consultants

PROJECT

New Weighbridge Wicklow

TITLE

Public Lighting Layout

DRAWN G.S. SCALE 1:250@a1 DATE 09-01-24

DRAWING NUMBER SES 00624 ISSUE 1

BASE DRAWING NUMBER edit

DRAWING ORIGIN edit

DO NOT SCALE FROM THIS DRAWING

