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## MEATH COUNTY COUNCIL OLDCASTLE MAIN SQUARE PUBLIC REALM ENHANCEMENT SCHEME PRELIMINARY DESIGN REPORT



# OLDCASTLE MAIN SQUARE PUBLIC REALM ENHANCEMENT SCHEME

## PRELIMINARY DESIGN REPORT

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## 1.0 INTRODUCTION

### 1.1 BACKGROUND

In October 2022, Meath County Council appointed TOBIN Consulting Engineers to lead a team for the design, planning and construction supervision of the Oldcastle Main Square Public Realm Enhancement Scheme. The project follows on from the development of the public realm plan which was published in July 2021.

The public realm plan focused on upgrading the social, economic and heritage assets of the area. The plan included upgrades to the public realm, landscaping and streets of the town square and surrounding connecting roads.

The town needs an upgrade as it is currently a vehicle dominated space with no pedestrian priority. There is an abundance of clutter by means of bollards, overhead cables, poorly located street furniture and signage.

The enhancement scheme aims to deliver public realm improvements to the Town Centre, links to the long stay Railway Yard car park and a new pick-up area for Gilson National School.

The scheme is to be delivered in accordance with the NTA Project Approval Guidelines, phases 2 to 7.

### 1.2 SITE LOCATION

Oldcastle is located northwest of County Meath, close to the Cavan County border and the town centre is centred around a staggered priority junction of two regional roads i.e., R195 and R154.

The R195 runs north-south and the R154 runs east-west with Oldcastle being centrally located between Cavan Town and Mullingar. The site is in close proximity to other towns such as Kells and also close to tourist amenities such as the megalithic monuments in Loughcrew.

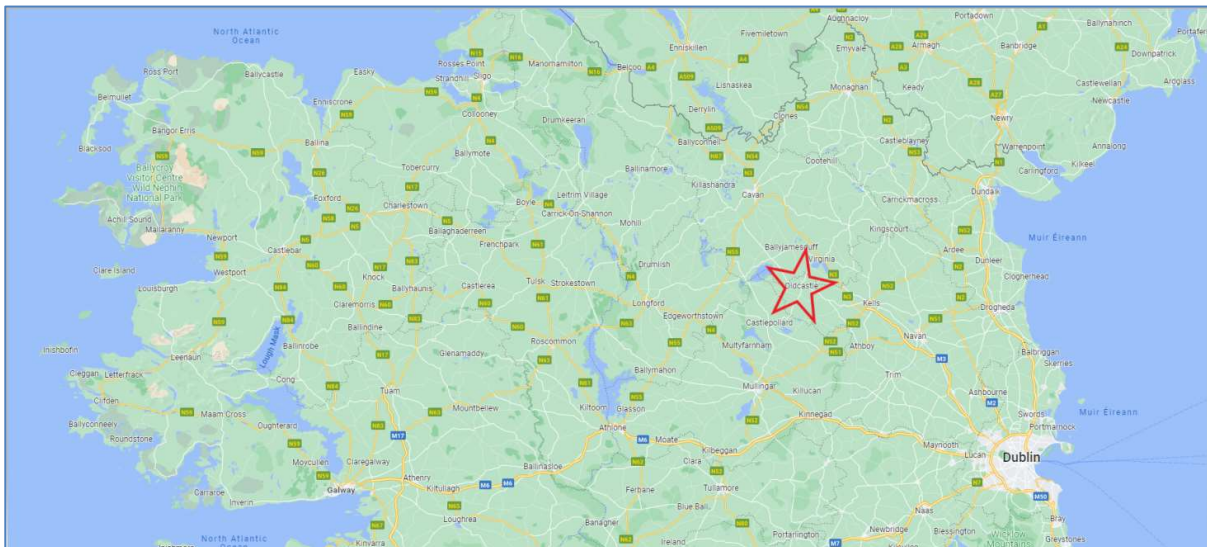


Figure 1 – Project Location

## 1.3 SCOPE OF WORKS

It is proposed that the deliverables of this project will consist of:

- Redesign of roadways and junctions,
- Creation of new open spaces,
- Improved and wider footpaths,
- New materials palette consisting of modular paving units,
- Improved visibility for traffic,
- Safer crossing points for pedestrians,
- The implementation of Traffic Calming devices and improvements to traffic flow,
- The implementation and review of time restricted parking within the town centre,
- Improved links to all parts of the town including the playground and Railway Yard car park,
- Improved street lighting within the project area,
- The installation of CCTV at the Railway Yard car park for improved security,
- The installation of Street furniture,
- Provision for the installation of Public Artwork / sculptures within the town centre,
- The Undergrounding of existing overhead cables,
- Enhancements to landscaping to include additional trees and vegetation,
- The installation of new signage and line marking,
- The construction of new asphalt road surfacing on the regional roads,
- The construction of a new drop off and pick up area at Gilson National School with new steps and crossing point.

## 1.4 PROJECT TEAM

The project team consists of:

Meath County Council – Project Manager

TOBIN Consulting Engineers – Civil and Structural Engineers, Quantity Surveyors and PSDP

Digby Brady – Landscape Architects

Ronan Meally Consulting Engineers – Mechanical and Electrical Engineers

## 2.0 DESIGN STRATEGY

### 2.1 PROJECT BRIEF

The project requirements are to rejuvenate the main square of Oldcastle and re-establish the area as the heart of the community it once was. The project aims to improve the quality of the public realm which will in turn attract tourism which will drive the retail and commercial sectors.

Meath County Council require the design consultant to deliver the scheme in accordance with the following design guidelines:

- Design Manual for Urban Roads and Streets (DMURS)
- Building for Everyone: A Universal Design Approach

- DTO Traffic Management Guidelines
- National Cycle Manual June 2011
- TII Design Manual for Roads and Bridges
- National Transport Authority Project Approval Guidelines December 2020

The project brief was guided by the 12 objectives of the previously published public realm plan. Those objectives were:

1. Improve footpaths and connections to all parts of the town.
2. Create more regular safe crossing points, especially in the main square.
3. Create a pedestrian space / square as a focus to the town centre.
4. Introduce traffic calming measures but do not create traffic jams.
5. Introduce timed restrictions for parking within the town centre.
6. Bring back into use derelict sites and building.
7. Improve links to north and setting of the playground.
8. Enhance the setting and interpretation of the heritage, linked to tourism.
9. Rationalise street furniture.
10. Set up a strategy to have underground cables.
11. Preserve and enhance trees and vegetation in appropriate positions in the town centre.
12. Improve street lighting through the town centre.

In meeting the above objectives, the design consultants are responsible for facilitating all necessary surveys required for the design. The consultant is also responsible for the preparation and submission of all planning documentation. As the project is run in accordance with the NTA Project Approval Guidelines (PAG), the consultant shall also prepare tender documents and supervise the construction contract.

## 2.2 DESIGN RATIONALE

### 2.2.1 Oldcastle Town Centre

Oldcastle is a vibrant town which is the focal point of the surrounding rural area. The public realm has developed in a haphazard fashion and does not serve its residents and visitors well. Pedestrian movements are difficult and dangerous due to the dominance of vehicles including HGVs, narrow footpaths, wide junctions and irregular alignments of junctions and junction priorities. The town has lost much of its identity with an overprovision of car parking in the centre of the town preventing more meaningful civic uses.

It is for these reasons that key design objectives are to:

- Create a main square as a focus to the town centre. This square should offer the space and flexibility for varied uses including seasonal markets, festivals etc.
- Create secondary open spaces where possible to allow for greater enjoyment of the public realm.
- Widen narrow footpaths where possible and improve the pedestrian flow. Links with surrounding areas are to be improved.
- Enhance pedestrian crossings and introduce traffic calming to aid in the safe movement of pedestrians, including those of limited mobility.

Many existing car parking spaces in the town centre are dangerous and cannot be safely reinstated. Car parking surveys have also revealed that many are often occupied for several

hours per day. The car parking therefore needs to be rationalised and time restrictions introduced so that those who need to can still safely park in the town centre and improve parking turnover for demand.

There is a considerable amount of clutter for example bollards, signage, planting boxes over tree pits etc that can be rationalised to make the streetscape more visually appealing.

A significant visual improvement would be achieved by diverting overhead cables underground where possible and by improving the street lighting.



Figure 2 – Design proposal

### 2.2.2 Railway Yard Car Park

To make any meaningful improvements to the town centre of Oldcastle will require a reduction in the number of car parking spaces. This can be offset by time restrictions preventing the occupation of a space for more than two hours and by greater use of the free long stay car park at the Railway Yard. Public consultation with local residents has revealed that while the car park is relatively close to the town centre it feels remote and unappealing. There are also concerns about antisocial behaviour and the safety of vehicles left there. To address these valid concerns the design includes proposals to:

- Widen footpaths where possible, in particular on Barrack St., and provide raised crossing points to create a safer and more user-friendly route for pedestrians including those of limited mobility.
- Visually screen and prevent access to the derelict site on Barrack St. through the use of selected hoarding to make the route more attractive and prevent antisocial behaviour there.
- Provide lighting and CCTV in the long stay car park to enhance security and safety.

As there is a significant number of vehicles which are parked in the town centre for long hours of the day, these vehicles are possibly employees of the town or commuters employed in neighbouring towns and cities. As it will be required that these vehicles be parked in the long



stay parking i.e., Railway Yard car park, the design will include for bus parking on Cobblers Street, in close proximity to the car park.

Currently there is no formal bus stop in the town and the bus is obstructing traffic while collecting commuters on the street. Providing a dedicated bus stop is essential for safety and efficiency of the design.

## 3.0 DESIGN CONSTRAINTS

### 3.1 ARCHITECTURAL AND CULTURAL HERITAGE

Meath County Council have carried out a heritage assessment on the site. The town centre falls within the Architectural Conservation Area (ACA) with 54 buildings being listed as protected structures. These buildings are found on Oliver Plunkett's Street, Cogan Street and Church Street.

Much of the history of the town is unknown beyond 200 years, i.e. The location of the castle and St Brides church are currently unknown. There seems to be potential for archaeological findings within the project area. With the nature of the construction works, it is recommended that a suitably qualified archaeologist monitors excavation works within the scheme.

The full report on the heritage study can be found in Appendix 1.

### 3.2 GEOMETRIC DESIGN

The town centre is governed by a 5-legged staggered junction which consists of 2 regional roads and Barrack Street. The regional road R195 runs north to south between Virginia and Castlepollard and is also known as Cavan Street north of the town centre and Oliver Plunkett's Street south of the town centre. The R154 runs west to east between Killashandra and Kells and these streets are named Church Street east of the town centre, and Cogan Street west of the town centre.

The R195 has been found to be consistently 7m wide with the R154 varying in width. The proposed design maintains the R195 at 7m wide while the R154 is redesigned to have a uniform width of 6m.

Barrack Street is currently a 2-way street with varying width below 7m. The proposed design intends changing this street to a 1-way street. The street is proposed to be 1-way northbound which eliminates the southbound conflict within the junction. There is a uniform width of 5.1m maintained on Barrack Street which accommodates a single carriageway and on-street car parking.

The proposed design follows the existing alignment and levels as far as possible with improvements to carriageway and footpath widths. All horizontal radii are in accordance with DMURS. The radii used in the preliminary design are small enough to promote lower speeds while also accommodating articulated heavy goods vehicles (HGVs) which are predominant on these regional roads.

Currently there are no traffic calming measures found in the town. The proposed design allows for raised table crossings on all legs of the junction which not only provides seamless crossing points for pedestrians but also have a dual purpose of traffic calming.

Kerb heights on the main thoroughfare are maintained at 125mm while kerb heights within the square are 50mm with all raised crossing points incorporating flush kerbs.

A junction is safer when all road users can read it and understand it. A legible junction design will be self-evident, self-explanatory, and self-enforcing.

All horizontal and vertical geometry will be finalised at detailed design stage and shall comply with TII and DMURS standards.

### 3.3 VISIBILITY AND SIGHTLINES

A visibility analysis was carried out for the junction in accordance with DMURS. Figures 2 and 3 show the appropriate visibility and stopping distances according to a specified design speed.

Based on the visibility splays determined from guidance in DMURS, a design speed of 30km/h at the junction was used as the site is very restricted due to existing building lines. Due to the nature of the junction and vertical deflections utilised, it is unlikely that vehicles will exceed the design speed of 30km/hr. The posted speed is currently 50km/h but it is the intention of Meath County Council to reduce this within the project area.

SSD STANDARDS			
<b>Design Speed (km/h)</b>	<b>SSD Standard (metres)</b>	<b>Design Speed (km/h)</b>	<b>SSD Standard (metres)</b>
10	7	10	8
20	14	20	15
30	23	30	24
40	33	40	36
50	45	50	49
60	59	60	65
<b>Forward Visibility</b>		<b>Forward Visibility on Bus Routes</b>	

Figure 3 – Visibility and Stopping Sight Distance Requirements from DMURS

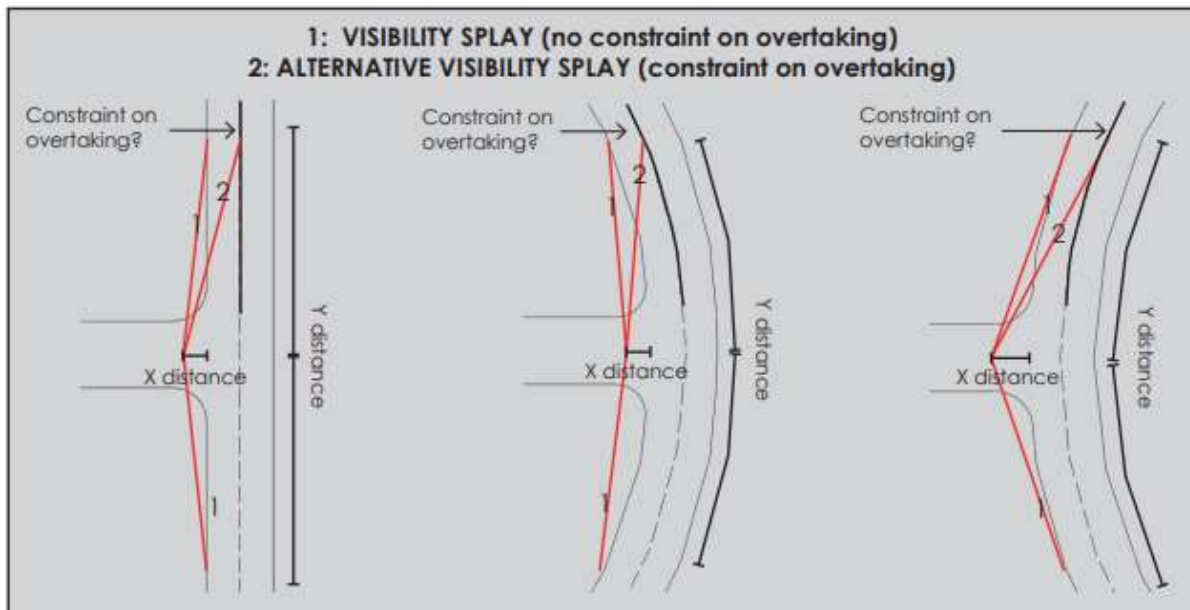


Figure 4 - Forward visibility splays in terms of X and Y distances

### 3.4 PAVEMENT DESIGN

The following guidance will be used in the pavement design of the scheme:

- Footways will be designed in accordance with DMURS and shall incorporate a rigid base pavement make up with a combination of slabs and setts.
- Shared spaces shall incorporate a rigid base pavement make up with modular paving.
- The carriageways will be designed in accordance with the TII's Design Manual for Roads and Bridges and in particular:
  - PE-SMG-02002 (old NRA addendum to HD 24/06) – Traffic Assessment
  - DN-PAV-03021 (old NRA HD 25-26/10) – Pavement & Foundation Design
- The thickness of capping and subbase shall be obtained from Figure 4.1 of DN-PAV-03021 (old NRA HD 25-26/10).
- The key element in the design of a road pavement is the volume of commercial vehicles travelling along the road measured in one direction (1-way flow). Commercial vehicles are defined as those over 3.5 tonnes gross vehicle weight. The structural wear caused by lighter traffic (i.e., bikes, cars and light goods vehicles) is negligible.
- Paragraph 4.5 of DN-PAV-03021 (old NRA HD 25-26/10) and PE-SMG-02002 (old NRA addendum to HD 24/06) specifies the Design Period for long life pavements as 40 years.
- Various pavement options are available, but for this scheme, the normal flexible pavement type is envisaged.

### 3.5 TRAFFIC SIGNS AND ROAD MARKING

Traffic signs and road markings will be designed in accordance with the current version of the Traffic Signs Manual at detailed design stage. A preliminary design is shown in the drawing pack. In accordance with the principles of DMURS, signage is kept to a minimum to avoid clutter. The existing signage arrangement adheres to this principle and minimal adjustment to signage is proposed.

## 3.6 FLOOD RISK / DRAINAGE

A Stage 2 flood risk assessment was carried out for the project to identify any flooding risks to the project area. The closest hydraulic feature to the site is the Oldcastle Stream, approximately 450m northwest of the site. This stream then outfalls into rivers further away. There is no past fluvial flooding recorded in the vicinity of the site.

There is one past pluvial flood event recorded 250m north of the site. this is a low-lying area and is prone to flooding during periods of heavy rainfall. It is concluded that the risk of fluvial and pluvial flooding is minimal.

The full report can be found in Appendix 2.

The site is currently serviced by concrete stormwater pipes and the surface water drainage is facilitated by gullies. It is anticipated to utilise the existing stormwater infrastructure where practicable for the scheme. The final provision of inlets is subject to a final drainage design. The details of the existing stormwater drainage system such as pipe diameters and depths are currently unknown, and it is intended that a ground penetrating radar (GPR) survey be carried out prior to detailed design.

## 3.7 LIGHTING

It is proposed that new public lighting using Heritage style lanterns on 8m black columns are installed. The lighting is designed to meet IS EN 13201:2015 class C3 and Meath County Council Public Lighting Technical Specification & Requirements. CCTV will also be introduced to the long stay car park for improved peace of mind.

The lighting report can be found in Appendix 3.

## 3.8 UTILITIES

Currently 3<sup>rd</sup> party data exists for the project area and the following services were found:

- EIR
- ESB
- Irish Water (Water and Foul)
- Stormwater

It is the intention of the designers to procure a GPR Survey for the site to determine accurate locations and depths of services prior to detailed design.

A utilities design will be carried out at detailed design stage, to rationalise service ducts if conflicts are found with the proposed layout plan. The design team will liaise with service providers and future proof the utilities where possible. Additional ducts would be installed during the construction stage and these ducts could be used in the future for new utilities to avoid excavation of the new paving scheme.

As the pavement make up would utilise a rigid base (concrete), there may be long term moratoriums put in place for excavations within the project area. Multiple overhead cables are visible within the town centre. These can be seen strung along the walls of buildings as well as across the street. The intention of the public realm design is to underground these cables for a cleaner look. The design team would liaise with the relevant service providers in this regard.

### 3.9 CAR PARKING SURVEY

The Oldcastle parking survey was carried out in January 2023 and covered the town centre for a 12-hour period. The survey obtained beat data for every 15 minutes. Key findings were that 39 vehicles were found to be parked in the town centre for more than 4 hours. These were not consumers but rather employees or commuters.

Inversely, it was found that the Railway Yard car park which has a capacity of 45 spaces, was underutilised with only 2 vehicles parked for over 4 hours. Consultations with the public revealed this may be due to the anti-social behaviour present in the area.

The proposed design retains 48 of the 85 spaces within the town centre i.e., 37 spaces were lost, of which 24 spaces were found to be unsafe. The net loss of car parking is 13 spaces. As mentioned, the Railway Yard car park has capacity for 45 vehicles. It is intended that those employees and commuters park their vehicles in the Railway Yard car park to free up spaces within the town centre for consumers. It is intended that the spaces within the town centre would have a time restriction of 2-hours placed on them.

The Railway Yard car park is also seen as a location where parents pick up scholars from Gilson National School. To avoid conflict within the car park, it is proposed that a new pick-up area be constructed across the school in the sports field.

The full report on the car parking survey can be found in Appendix 4.

### 3.10 APPROPRIATE ASSESSMENT SCREENING

An Appropriate Assessment (AA) Screening was carried out on the scheme in June 2023. The closest Natura 2000 sites were found approximately 7km away from the proposed scheme. It was found that there were no important features of conservation concern on or in close proximity to the proposed site. It was concluded the proposed scheme would not result in any significant impacts on the Natura 2000 network.

The full AA screening report can be found in Appendix 5.

### 3.11 ENVIRONMENTAL IMPACT ASSESSMENT SCREENING

An Environmental Impact Assessment Screening was carried out on the scheme in June 2023. The report has assessed the potential impact of the proposed development on the environment.

The proposed development does not fall under any category within Schedule 5 (10) of the Planning and Development Regulations (2001) for Mandatory EIAR. The EIA Screening Assessment considers that the overall impact on the receiving environment will be low. Therefore, it is not considered that an EIA is required at this time.

The full EIA screening report can be found in Appendix 5.

### 3.12 TREE SURVEY

A tree survey was carried out by a certified arborist in May 2023. The purpose of the survey was to provide details of the existing trees on the site and the potential impact the proposed works would have on the trees. The proposed design requires the removal of 7 trees due to clashes

with alignments and crossings. There are 28 new trees proposed for the scheme which far exceeds the number of trees lost due to the development.

The full tree survey report can be found in Appendix 6.

### 3.13 QUALITY AUDIT

A quality audit was carried out by independent consultants in June 2023. The Quality Audit included a walking audit, cycle audit, access audit and stage 1 road safety audit in accordance with DMURS. As the audit report was only received at the time of writing this report, the report is under review by the design team, and necessary amendments to issues raised will follow prior to and during the detailed design stage.

### 3.14 TOTAL SCHEME BUDGET

Project costs are managed in accordance with NTA Cost Management Guidelines (September 2021). A high-level cost estimate was carried out on the preliminary design and the construction costs associated with the scheme is **€3,010,468.00 EX VAT**. Every effort has been made to account for market fluctuations with regards to rates and construction costs. The order of magnitude cost estimate can be found in Appendix 7.



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## Appendix 1 - Archaeology

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**Appendix 2 - Flood Risk Assessment**

## Appendix 3 – Lighting

## Appendix 4 – Parking Survey

## Appendix 5 – EIA/AA Screening

## Appendix 6 – Tree Survey

## Appendix 7 – Cost Estimate



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