



**Head Office**  
 The Mall  
 Maryborough Woods  
 Douglas  
 Cork, T12 K8YT  
 (021) 477 4940  
 www.wdg.ie  
 reception@wdg.ie

**Dublin Office**  
 Level 1, The Chase  
 Carmanhall Road  
 Sandyford  
 Dublin, D18 Y3X2  
 (01) 524 0191  
 www.wdg.ie  
 reception@wdg.ie

**Project:** Proposed Development at Ceann Scribe, Clontead More,  
 Coachford, Co. Cork.

**Project No:** 23028

**Document Title:** Flood Risk Assessment

**Document No:** 23028-XX-XX-XX-XX-RP-WDG-CE-003

**Author:** Ian Reilly MEng MIEI

Date	Revision	Status	Originator	Checked
04.03.2024	0	Planning	IR	MW

**Walsh Design Group** is a registered trading name of Browne Asset Solutions Ltd.

**Reg. No:** 476845

**Registered Office:** The Mall, Maryborough Woods, Douglas, Cork. T12 K8YT

**Directors:** Michael Walsh, Jamie Wallace, Patrick Beckett





## Contents

1.0	Introduction .....	1
1.1.	Site Description .....	1
1.2.	Proposed Development .....	3
2.0	Flood Risk .....	4
2.1.	OPW Flood Maps .....	4
2.2.	County Development Plan Flood Map .....	5
2.3.	Justification Test .....	7
2.3.1.	Plan-making Justification Test .....	7
2.3.2.	Development Management Justification Test .....	8
2.3.3.	Justification Test Conclusion .....	9
Appendix A	.....	A

**Walsh Design Group** is a registered trading name of Browne Asset Solutions Ltd.

**Reg. No:** 476845

**Registered Office:** The Mall, Maryborough Woods, Douglas, Cork. T12 K8YT

**Directors:** Michael Walsh, Jamie Wallace, Patrick Beckett





## 1.0 Introduction

Walsh design group (WDG) were appointed by Cork County Council to produce a Flood Risk Assessment (FRA) as part of a planning application for the proposed residential development of 26 dwellings at Ceann Scribe, Clontead More, Coachford, Co. Cork.

This report should be read in conjunction with the following accompanying drawings submitted with the planning application:

- 23028-XX-XX-XX-XX-DR-WDG-CE-001 Site Layout – Roads & Levels,
- 23028-XX-XX-XX-XX-DR-WDG-CE-002 Site Layout - Drainage,
- 23028-XX-XX-XX-XX-DR-WDG-CE-003 Site Layout – Water Supply,
- 23028-XX-XX-XX-XX-DR-WDG-CE-004 Site Layout – Proposed SuDS Features,
- 23028-XX-XX-XX-XX-DR-WDG-CE-500 Surface Water Drainage Typical Details,
- 23028-XX-XX-XX-XX-DR-WDG-CE-501 Irish Water Standard Details – Wastewater,
- 23028-XX-XX-XX-XX-DR-WDG-CE-502 Irish Water Standard Details – Water Supply (Sheet 1 of 2),
- 23028-XX-XX-XX-XX-DR-WDG-CE-503 Irish Water Standard Details – Water Supply (Sheet 2 of 2),
- 23028-XX-XX-XX-XX-DR-WDG-CE-504 Construction Details.

### 1.1. Site Description

This site proposed for development is a greenfield site and is located just north of the centre of Coachford village, County Cork, see Figure 1 for the site location. The site area within the application redline boundary is 1.01ha. The ITM grid coordinates at the approximate centre of the site are E545810, N573516.



Figure 1: Google Earth Satellite Photo of Coachford

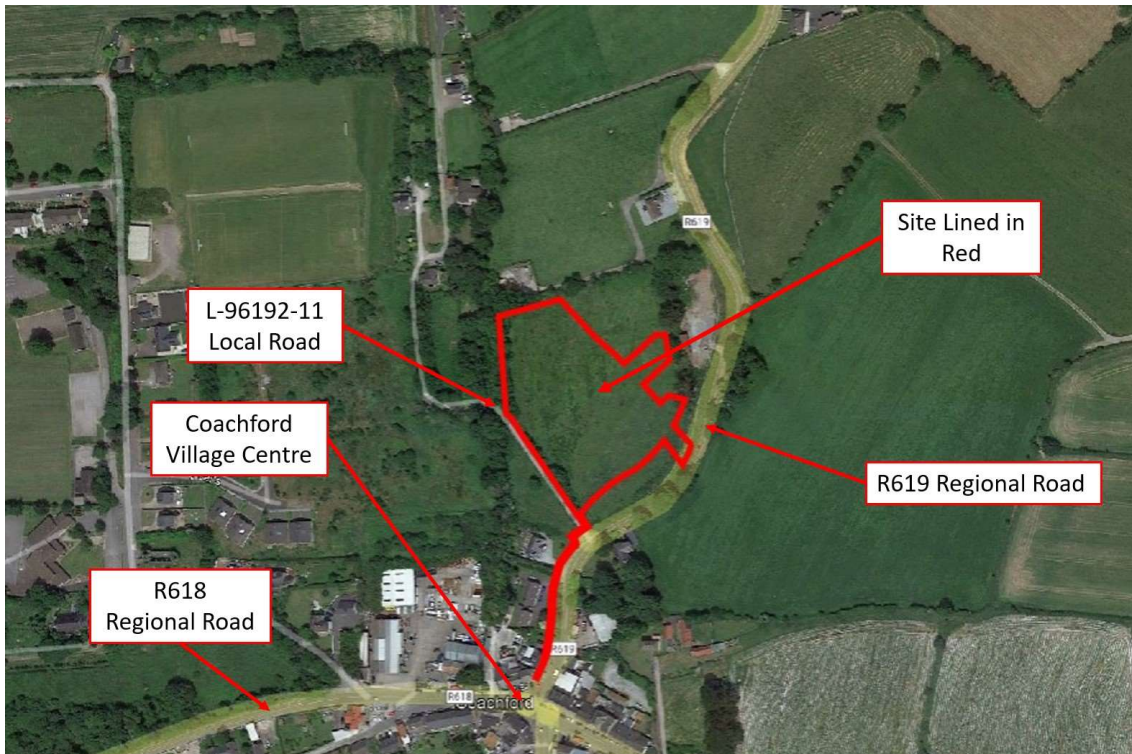


Figure 2: Google Earth Satellite Photo of the proposed development site.

The land is mostly grass covered at this time as is evident from the satellite photo of the site shown in Figure 2. The ground on the site rises from its lowest point of 70.2m OD near the junction of the R619 and the L-96192-11 in the southernmost corner to a high point of 77.2m OD near the northeast corner.



The eastern boundary of the site is formed by the R619 regional road, the southwestern boundary is formed by the L-96192-11 local road. The north and northwest boundaries are shared with a private driveway and a tree covered private plot respectively.

## 1.2. Proposed Development

The proposed development would consist of 26 dwelling units including 10 No. 1 Bed Apartments, 10 No. 2 Bed 2 Storey Townhouses and 6 No. 3 Bed 2 Storey Semi Detached Houses. A new vehicular access to the site is proposed off the R619 regional road. The proposed development will also include new roads, drainage, water supply, landscaping, boundary treatments, public lighting, electrical and telecommunications infrastructure and all other site development works entailed in a residential development.

Architectural, Engineering and Landscaping drawings are included in the planning documentation; an outline of the development is shown in the Architect's site layout in Figure 3.



Figure 3: Architect's Site Layout

## **2.0 Flood Risk**

A desktop study of the history of flooding and the probability of flooding at the site was carried out with the intention of assessing the flood risk in accordance with *The Planning System and Flood Risk Management Guidelines* (PSFRMG) as published by the Department of the Environment, Heritage and Local Government give guidelines on flood risk and development planning.

The guidelines recommend a precautionary, sequential approach to assessing and managing flood risk and, where possible, to avoid development of sites that are at risk.

The sequential approach to flood risk assessment relies on the identification of Flood Zones. These are geographical areas within which the likelihood of flooding is in a particular range. There are three types of flood zones, defined in the guidelines as follows:

Flood Zone A – Where the probability of flooding from rivers and the sea is highest (greater than 1% or 1 in 100 for river flooding or 0.5% or 1 in 200 for coastal flooding),

Flood Zone B – where the probability of flooding from rivers and the sea is moderate (between 0.1% or 1 in 1000 and 1% or 1:100 for river flooding and between 0.1% or 1 in 1000 and 0.5% or 1:200 for coastal flooding),

Flood Zone C - where the probability of flooding from rivers and the sea is low (less than 0.1% or 1 in 1000 for both river and coastal flooding). Flood zone C covers all areas of the plan which are not in Zones A or B.

When the flood zone applicable to the site has been identified the guidelines describe the developments that would be appropriate within that zone, considering the level of flood risk involved.

### **2.1. OPW Flood Maps**

The OPW's online resource, [Floodmaps.ie](http://Floodmaps.ie), was reviewed to assess the history and probability of all types of flooding at the proposed development site. Figure 4 shows an extract from the online flood map of the area around Coachford Village with the proposed site outlined in red.





Figure 4: Floodmaps.ie extract map of development site and surrounding area.

The interactive flood map allows the following layers to be switched on to illustrate whether any type of flooding impacts an area:

- CFRAM River Flood Extents with AEP of 10%, 1% and 0.1%,
- CFRAM Coastal Flood Extents with AEP of 10%, 1% and 0.1%,
- NIFM National Indicative Fluvial Mapping – Present day with low and medium probability,
- GSI Groundwater flooding probability Maps with low, medium and high probability,
- Past flood events – indicated with hazard signs on the map and the extent of the recorded flood events shown with a blue outline and dotted hatch pattern.

All of these layers are switched on in the extract shown in Figure 4.

A hazard symbol in Coachford Village indicates that there was flooding recorded in the village in the past. The 'past flood event local area summary report' (**Error! Reference source not found.**) lists the flood event as ID-14065 that occurred on the 23<sup>rd</sup> of February 2021. This was not recorded as a recurring event and there was no further detail provided in the usual forms of reports or press archives. The flood is marked in the village itself and the road level at the crossroads in the middle of the village, on the R618 is 62.2m OD. This level is 8.0m below the lowest part of the proposed development site. It is also clear that, according to the OPW, the site lies outside any areas that have a probability of flooding in any event, whether fluvial, coastal or groundwater, up to and including a 1 in 1000-year storm. This places the site in flood zone C where residential development is appropriate without requiring a justification test.

## 2.2. County Development Plan Flood Map

The Cork County Development Plan 2022-2028 (CDP) Volume 6 is a digital map browser that allows layers to be switched on or off in accordance with the viewer's requirements. Figure 5 and Figure 6 show excerpts from the CDP map browser with the development boundaries and flood zones A and B switched on.

Contrary to the OPW mapping system (Figure 4), the CDP map does show flood zones in Coachford that extend up along the R619 and L-96192 on the western side of the proposed development site.

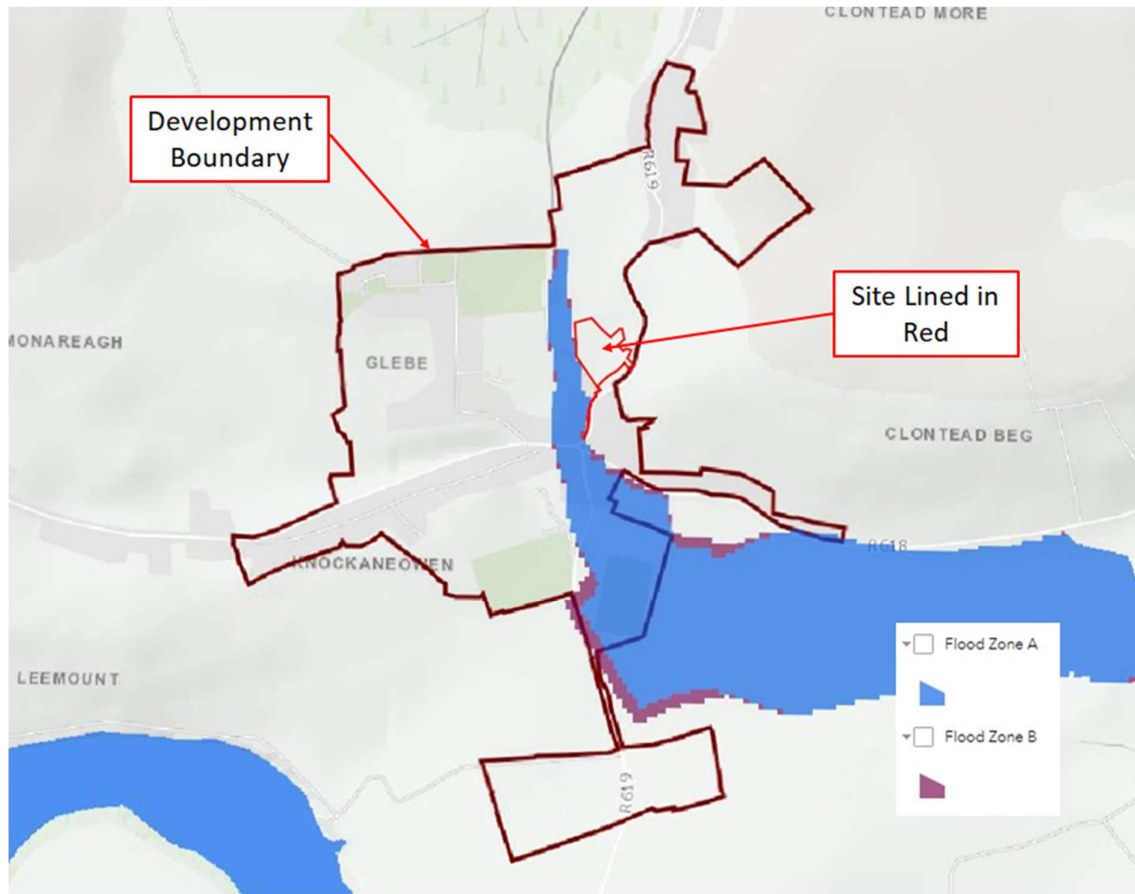


Figure 5: Cork County Development Plan 2022 - Map with Flood Zones and Development Boundary

The residential section of the proposed development is not directly impacted by the flood zones indicated on the map but it is proposed to construct a new footpath along the western verge of the R619 from the development southwards towards the village and this footpath is shown to pass through the projected flood zones A and B, see Figure 6.

Following discussions with CCC personal it has been established that CCC have appointed specialist consultants JB Barry consulting Engineers to study the causes of localised flooding in Coachford. The consultants have established that the 1400 x 1400 Culvert under the main street has adequate capacity to cater for exceptional storm events but that there is some debris within the culverts that should be removed. In addition it has been established that the stone culvert to the west of the Dairygold site should be replaced and funding is in place for these works.



Figure 6: Cork County Development Plan 2022 - Map of Coachford with Flood Zones

Table 3.1 of *The Planning System and Flood Risk Management Guidelines* classifies the vulnerability of land uses and types of development. The closest land use description to the public footpath in the table would be 'Local Transport Infrastructure' which is in the Less Vulnerable class.

Taking the the footpaths's less vulnerable classification and the fact that it may be, in part, within flood zone A, PSFRMG Table 3.2 (Figure 7) dictates that a justification test should be carried out.

	Flood Zone A	Flood Zone B	Flood Zone C
Highly vulnerable development (including essential infrastructure)	Justification Test	Justification Test	Appropriate
Less vulnerable development	Justification Test	Appropriate	Appropriate
Water-compatible development	Appropriate	Appropriate	Appropriate

Figure 7: PSFRMG Table 3.2 - Matrix of vulnerability versus flood zone to illustrate appropriate development and that required to meet the Justification Test.

## 2.3. Justification Test

### 2.3.1. Plan-making Justification Test

In the high level, Plan-making Justification Test which would have been carried out by Cork County Council prior to the zoning of the Development Boundaries, the flood risk would have

been assessed for Coachford. Volume 1, Chapter 11 of CDP states the following under “Flood Risks and ‘Zoning’”:

*‘Generally, proposals for new zoning which significantly conflict with the ‘Flood Zones’ have not been included as zoned land unless the proposed use or development satisfied the ‘Justification Test for Development Plans’ set out on page 37 of the Ministerial Guidelines. The Justification Tests are included within the updated SFRA’.*

Whilst the plan-making justification test is very high level, the flood risk to Coachford would have been assessed at the spatial planning stage and the development boundary around the village, which includes the proposed site, was considered to be appropriate at the time.

### **2.3.2. Development Management Justification Test**

The justification test for development management shall be carried out in accordance with the procedure in Box 5.1 of the PSFRMG as follows:

- 1. The subject lands have been zoned or otherwise designated for the particular use or form of development in an operative development plan, which has been adopted or varied taking account of these guidelines.**

The lands proposed for development are entirely within the CDP 2022-2028 development boundary, see Figure 5.

- 2. The proposal has been subject to an appropriate flood risk assessment that demonstrates:**
  - (i) The development proposed will not increase flood risk elsewhere and, if practicable, will reduce overall flood risk;**

The residential part of the development proposal, including all of the dwellings, new roads and green areas, comprises the majority of the land area enclosed within the application boundary and does not fall within the mapped flood zones A or B.

The part of the proposal which does partially fall within flood zone A is a concrete public footpath beside the R619. This footpath shall be 0.125m above the adjoining road level and 2.0m wide and shall be constructed along the western verge of the R619 between the development site and Coachford Village. There is currently no footpath beside that road and the western verge is mostly abutting the roadside boundary walls of private dwellings. The proposal includes taking a narrow strip of land from some dwellings to allow adequate width for the footpath and the construction of new garden walls.

The depth of flooding projected in the area by the CDP maps is unknown, however, the loss of ‘flood plain’ by the provision of the 2.0m width of footpath adjacent to and above the road level is considered negligible and will be counteracted by the widening of the public corridor, additional stormwater collection capacity, which will allow more surface area in the public realm for low level flood water to be diverted to the stormwater collection system.

The risk of flooding to the houses and gardens to the west of the R619 in this area can be eliminated by regular maintenance of the inlet pipe network where the stream to the rear of the houses is diverted underground immediately to the north of the pub yard.

A new storm sewer which will collect the attenuated runoff from the development lands to the north and direct it to the 1400mm x 1400mm culvert running eastwards within the village will eliminate the existing problem of excess water runoff from the zoned lands running down the R619 and entering the gardens of the houses to the west of the road.

**(ii) The development proposal includes measures to minimise flood risk to people, property, the economy and the environment as far as reasonably possible;**

The proposed development includes a new surface water drainage network, SuDS measures and attenuation storage that are designed to prevent flooding on the site or from the site during all rainfall events up to and including a 24-hour 100-year storm. 20% has also been added to rainfall quantities to allow for future climate change, see section **Error! Reference source not found.** of this report for further detail.

**(iii) The development proposed includes measures to ensure that residual risks to the area and/or development can be managed to an acceptable level as regards the adequacy of existing flood protection measures or the design, implementation and funding of any future flood risk management measures and provisions for emergency services access;**

The CDP map shows that, whilst the footpath may be partially within the projected Flood Zone A, the carriageway of the R619 is not completely within the flood zone until it reaches the centre of Coachford Village, at its intersection with the R618. Access to Coachford Village and its surrounding areas will not be affected by the addition of the proposed footpath.

**(iv) The development proposed addresses the above in a manner that is also compatible with the achievement of wider planning objectives in relation to development of good urban design and vibrant and active streetscapes.**

The R619 regional road currently approaches Coachford village without any footpath and narrow verges. At 2.0m in width, the proposed footpath will provide safe pedestrian connectivity from the development to the village for the new residents as well as the existing residents along the R619. Furthermore, the existence of a footpath with a 125mm high kerb is a passive traffic calming measure that informs drivers that they are entering a built-up area and slower speeds are appropriate.

### **2.3.3. Justification Test Conclusion**

Although the information available in the OPW's *Floodinfo.ie* map resource does not agree with the flood zones shown in the CDP map browser, this justification test was carried out for the sake of completeness. It has been established that the localised flooding within the village and identified in the CDP is primarily the result of debris partially blocking the existing 1400mm x 1400mm concrete culvert within the village and the poor condition of the stone

culvert to the west of the Dairygold yard. The proposed new storm collection system incorporating SUDs measures and the new sewer to be constructed under the R619 will alleviate the risk of runoff from the development lands causing flooding to the houses on the western side of the R619.

It is worth noting again that the residential section of the proposed development, including all housing, gardens, roads, greens etc. are outside of flood zones and only short sections of the proposed footpath to the village pass through the mapped flood zones.

The R619 regional road itself skirts the mapped flood zones until it reaches Coachford Village and the construction of a new footpath along its western verge is considered to add no flood risk to the development itself or the surrounding area.

## **Appendix A**

### **Flood Documents**

- Past Flood Event Local Area Summary Report



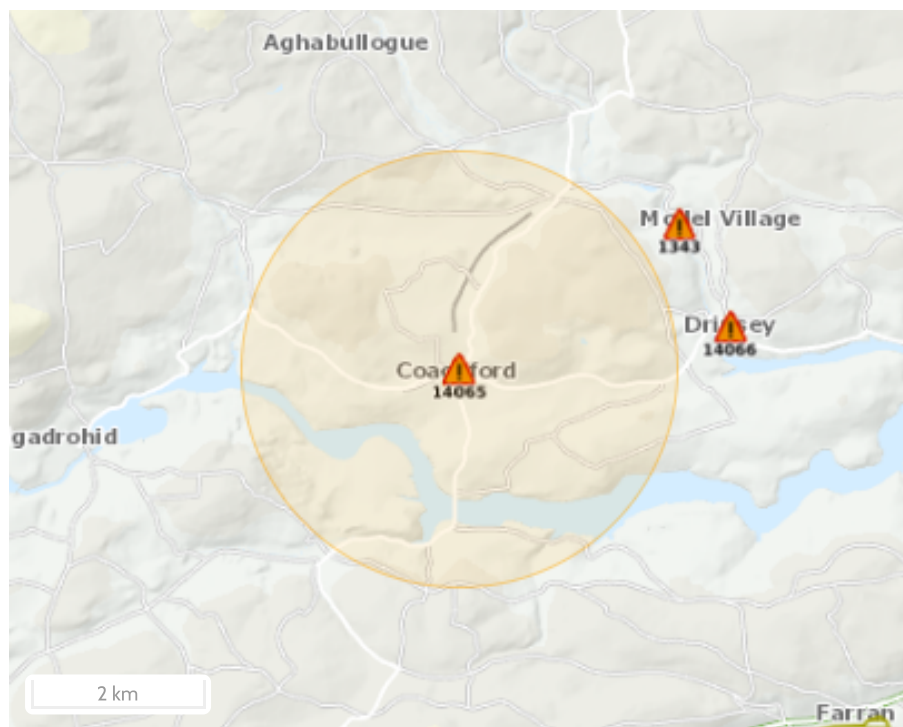




Report Produced: 6/2/2024 16:03

This Past Flood Event Summary Report summarises all past flood events within 2.5 kilometres of the map centre.

This report has been downloaded from [www.floodinfo.ie](http://www.floodinfo.ie) (the "Website"). The users should take account of the restrictions and limitations relating to the content and use of the Website that are explained in the Terms and Conditions. It is a condition of use of the Website that you agree to be bound by the disclaimer and other terms and conditions set out on the Website and to the privacy policy on the Website.



### Map Legend

- Single Flood Event
- Recurring Flood Event
- Past Flood Event Extents
- Drainage Districts Benefited Lands\*
- Land Commission Benefited Lands\*
- Arterial Drainage Schemes Benefited Lands\*

\* Important: These maps do not indicate flood hazard or flood extent. Their purpose and scope is explained on [Floodinfo.ie](http://Floodinfo.ie)

### 1 Results

Name (Flood_ID)	Start Date	Event Location
1.  Flooding at Coachford on 23/02/2021 (ID-14065) Additional Information: <a href="#">Reports (0)</a> , <a href="#">Press Archive (0)</a>	23/02/2021	Approximate Point